



Reducing Energy Consumption in Everyday Life: A study
of landscapes of energy consumption in rural households
and communities in North Wales

by

Erin Mared Roberts

A Thesis submitted for the Degree of Doctor of Philosophy
Cardiff University

April 2016

Summary

Despite governmental efforts to constrain residential energy consumption over recent decades, energy use within our homes accounts for a third of overall British energy use, and its share is steadily rising. Much of the existing academic and policy literature surrounding household energy consumption has revolved around developing more energy efficient technologies and buildings, as well as encouraging households to purchase those more efficient technologies. Conversely, less attention has been paid to the ways in which these technologies and homes are actually used, and how this influences a household's energy consumption. Understanding how and why people use energy in the ways that they do, and how this varies according to spatial and temporal context, is critical to gaining an insight into the ways in which we might foster change and ultimately reduce domestic energy demand. In particular, this thesis sheds light on the dynamics of household energy demand in the rural sphere.

This thesis draws on the accounts of 11 households in 'deep' rural Gwynedd that were recruited on the basis of their composition, ranging from single-person households, young families and emptying nests, in order to explore how consumption practices are patterned through the lifecourse. By employing practice theory, and combining it with concepts from geographical and life-course perspectives; the thesis produces rich, spatio-temporal and relational accounts of how household energy use has changed – or remained the same - through time. This necessarily meant engaging with things that matter to people – be that through valued relationships with places, significant others or with things. The ways in which we consume are necessarily connected to ideas about who to be and how to live, and as such, may be deeply connected to people's identities. This has particular implications for policy interventions in that practices bound up with valued identities and ideals may prove resistant to change.

Acknowledgements

First and foremost, I would like to express my gratitude to the households that welcomed me into their lives and their homes; taking the time to share with me their experiences and on occasion, their delicious baked goods! I would also like to extend my thanks to the gatekeepers that helped me find people willing to take part in this research. This thesis would not have been possible without you.

I would like to take this opportunity to thank my supervisors, Professors Karen Henwood and Nicholas Pidgeon, for their unwavering patience and guidance throughout my PhD, and for supporting my career development more widely. I would also like to extend my thanks to the rest of the Energy Biographies Team - Karen, Chris, Fiona and Cat - whom have always been prepared to lend an ear to my academic woes and provided me with invaluable advice and support during the course of the PhD.

Additionally, I would like to acknowledge my fellow PhD students, Catherine, Sam and Luba, who have accompanied me on the PhD rollercoaster. I consider myself to be very fortunate for having shared this journey with you all.

On a personal note, I would like to thank my family, particularly my parents, for their steadfast support and encouragement during difficult times; you have always assured me that there is light at the end of the tunnel. Words cannot express how grateful I am to have had such a supportive network of friends and family around me. Last but by no means least, thank you Tom, for taking such good care of me as I have been writing up. I am especially grateful for your compassion and continued support during my moments of self-doubt; you have made these last few months much brighter.

Diolch i chi i gyd am eich cefnogaeth!

Table of Contents

<i>Declaration</i>	<i>ii</i>
<i>Summary</i>	<i>iii</i>
<i>Acknowledgements</i>	<i>iv</i>
<i>Table of Contents</i>	<i>v</i>
<i>List of Figures</i>	<i>ix</i>
<i>List of Tables</i>	<i>ix</i>
<i>List of Abbreviations</i>	<i>ix</i>
Chapter One - Introducing the Thesis	1
1. <i>Setting the Scene</i>	1
2. <i>Introducing the study</i>	3
3. <i>Aims & Objectives</i>	6
4. <i>Structure of the thesis</i>	6
Chapter Two - Literature Review	9
1. <i>Introduction</i>	9
2. <i>The Current Policy Climate</i>	9
2.1 <i>The Policy Landscape</i>	11
3. <i>Conceptualising Energy Consumption: Disciplines, Theories and Perspectives</i>	17
3.1 <i>The Cognitive Paradigm</i>	17
3.1.1 <i>Attitude-behaviour Models</i>	18
3.1.2 <i>Norm-based Approaches</i>	21
3.2 <i>The Contextual Paradigm</i>	24
3.2.1 <i>Social Structure and Consumption</i>	25
3.2.2 <i>The Socio-technical Approach</i>	28
3.3 <i>Searching for a Middle Ground: The Turn to Social Practice</i>	30
3.3.1 <i>Defining & Applying Practice</i>	31
3.3.2 <i>Critiquing Social Practice</i>	34
4. <i>Shedding Light on Household Energy Consumption: Concepts for Explaining Everyday Energyscapes</i>	36
4.1 <i>Life-course theory</i>	37
4.2 <i>The importance of place</i>	38
5. <i>Reflections</i>	39
Chapter Three - Methodology	40

<i>1. Introduction</i>	40
<i>2. Methodological Framework</i>	40
<i>3. Research Setting</i>	42
3.1 Defining Rurality	42
3.2 Choosing a Locality	43
3.3 Sampling & Recruitment	46
<i>4. Method</i>	50
4.1 Interviewing Households Apart and Together: Methodological Considerations	51
4.2 Individual Narrative Interviews	53
4.3 Household Narrative Interviews	57
4.4 A Reflexive Account of Researching 'at Home'	59
<i>5. Ethical Considerations</i>	61
5.1 Informed Consent	62
5.2 Confidentiality	65
<i>6. Data Analysis: Process, Interpretation and Representation</i>	67
6.1 A Note on Re-presenting Bilingual Data	72
<i>7. Reflections</i>	73
Chapter Four - Emplacing Energy: Practice in Place	74
1. Introduction	74
2. Distance & Mobility	74
2.1 Modal Choice: Locked-in?	78
2.2 Navigating Spatio-temporal Constraints	80
3. Infrastructure: Keeping Warm at the End of the Line	82
3.1 Off-grid Energy: Variable, Volatile & Vulnerable	83
3.2 Energy at Home	87
5. Reflections	93
Chapter Five - Spatio-temporal Entanglements: Narratives of Continuity and Change	96
1. Introduction	96
2. Eleri: A Secure Investment	97
3. Alys: Settling Back	102
4. Ceris: Keeping the Fire Going	107
5. Gwen: Getting the Balance Right	112

6. <i>Reflections</i>	116
Chapter Six - Unveiling Valued Relationships and Identities in a Biographical Context	119
1. <i>Introduction</i>	119
2. <i>Everyday Ethics; Unveiling Valued Identities & Relationships</i>	121
3. <i>Convenience, Control & Valued Competencies</i>	126
4. <i>Meaningful Materials: Valued 'Things'</i>	130
5. <i>Reflections</i>	134
Chapter Seven - Family, Energy and Everyday Life	136
1. <i>Introduction</i>	136
2. <i>The Evans Family</i>	137
2.1 Exploring Family Identity Through Media Ownership	137
2.2 Rules, Risk and Freedom: ICT & the Socio-spatial Ordering of the Household	139
2.3 Switching on, & Tuning out	141
3. <i>The Thomas Family</i>	142
3.1 Family Identity, Morality & Meaningful Energy Use	143
3.2 Translating Family Identity into Everyday Practice	146
3.3 Managing Tensions	148
4. <i>The Beckett Family</i>	150
4.1 Family Identity in the Not-so Empty Nest	151
4.2 Negotiating Privacy & Independence, Mutuality & Support	153
4.3 Same Principles, Same Practices?	156
5. <i>Reflections</i>	158
Chapter Eight - Conclusion	161
1. <i>Introduction</i>	161
2. <i>Key findings</i>	162
2.1 How does Living in a 'Deep Rural' Locality Shape the Performance of Energy Consuming Practices?	162
2.2 In What Ways do Energy Practices Develop and Change in Place and through Time?	164
2.3 How are Energy Practices Made Meaningful by Those That Perform Them?	165

2.4 To What Extent are Individual Identities and Household Arrangements Implicated in the Performance of Everyday Energy Practices?	166
3. <i>Evaluating the Study</i>	167
4. <i>Implications & Avenues for Further Research</i>	169
4.1 Implications for Policy	169
4.2 Theoretical Implications & Directions for Future Research	171
References	174
Appendices	219
<i>Appendix A – Information sheet for adults (English)</i>	219
<i>Appendix B – Ault consent forms (English)</i>	223
<i>Appendix C – Information sheet for children and young people (English)</i>	225
<i>Appendix D – Parental Consent for children/young people to participate (English)</i>	228
<i>Appendix E – Information sheet for adults (Welsh)</i>	232
<i>Appendix F – Ault consent forms (Welsh)</i>	236
<i>Appendix G – Information sheet for children and young people (Welsh)</i>	238
<i>Appendix H – Parental Consent for children/young people to participate (Welsh)</i>	241
<i>Appendix I – Welsh-English data translations chapter four</i>	245
<i>Appendix J – Welsh-English data translations chapter five</i>	254
<i>Appendix K – Welsh-English data translations chapter six</i>	270
<i>Appendix L – Welsh-English data translations chapter seven</i>	279

List of Figures

Figure 1	Breakdown of electrical demand in the UK domestic sector	3
Figure 2	Per capita domestic CO ₂ emissions by local authority 2012	5
Figure 3	Theory of Planned Behaviour (<i>Azjen, 1991</i>)	19
Figure 4	Value Belief Norm Theory (<i>Stern et al., 1999</i>)	23
Figure 5	Urban/Rural definition for MSOA in Wales	45
Figure 6	Regional map of participant household locations	46

List of Tables

Table 1	Basic information about participating households	50
Table 2	Transcription protocol	70
Table 3	Household heating systems	85

List of Abbreviations

The following abbreviations are used in this thesis:

CCC	Committee on Climate Change
CERT	Carbon Emissions Reduction Target
DBEIS	Department of Business, Energy and Industrial Strategy
DECC	Department of Energy and Climate Change
DEFRA	Department for Environment, Food and Rural Affairs
ECO	Energy Companies Obligation

EPC	Energy Performance Certificate
GHG	Greenhouse gas emissions
IHD	In-house displays (Smart metering)
ONS	Office of National Statistics
SAP	Standard Assessment Procedure
WAG	Welsh Assembly Government
WG	Welsh Government

Chapter One

Introducing the Thesis

1. Setting the Scene

Energy – where we get it, how we harness it and how much we pay for it – is one of the defining political concerns of our time. How society produces and consumes energy is intimately bound up with issues of resource depletion, biodiversity loss and climate change for example; concerns which lie at the root of contemporary environmental policy in the UK. In an effort to avoid dangerous climate change and to show leadership on the international stage, the UK Government introduced the Climate Change Act in 2008. This piece of legislation formally commits the UK to achieving an 80% reduction in national greenhouse gases (from the 1990 baseline) by 2050. Meeting this target however, will require significant changes to the current energy system. The UK Government now faces the challenge of transitioning towards an energy system that is secure (in terms of providing and maintaining a reliable supply of energy provision); affordable (to ensure that everyone has access to, and can afford energy in their everyday lives); and lower-carbon (reducing CO₂ emissions from the generation and distribution of energy) (CCC, 2010). The challenge which the British government, and indeed governments worldwide, now face has been dubbed the so-called ‘energy trilemma’, which refers to the challenge of ‘keeping the lights on, at an affordable price, while decarbonising [the] power system’ (DECC, 2014a).

Currently, households account for 23% of national carbon emissions (CCC, 2014) as well as roughly a third of total energy consumption in the UK (DECC, 2013a). The domestic sector’s share in overall energy consumption has been steadily rising over the past three decades, with present levels being 6 per cent higher than those reported in 1990 (DECC, 2013b). Although there has been a general upward trend in residential consumption, overall energy use in the domestic sector has fluctuated considerably during this time period (DBEIS, 2016). Initially, consumption levels crept up gradually until 2004 before generally declining until 2009 (DECC, 2013c), which coincided with the 2007/8 recession and its associated steep hike in energy prices (Hole, 2014). Following this slump, energy consumption levels have become increasingly more erratic (DECC, 2013c). This is largely

due to the fact that the residential sector is particularly responsive to external temperature variations, as peaks and troughs in household energy consumption largely mimic highs and lows in mean air temperature. In addition to energy prices and temperature variations, domestic energy demand is also determined by a growing UK population and a 20% increase in the number of households (DECC, 2013b), while energy efficiency improvements in the fabric of buildings and more energy efficient appliances have played their part in lowering demand (DBEIS, 2016).

The vast majority of energy used at the household level is dedicated to space heating, which accounts for roughly two thirds of total domestic energy consumption, with the remainder being dedicated to water heating, lighting and appliances, and cooking (DECC, 2012b). Discounting fluctuations due to variable weather conditions, the proportion of energy dedicated to space heating has remained relatively stable over the last three decades, despite improvements being made in the energy efficiency of dwellings. The use of electricity, however, has increased over 25 per cent during this time period, and is increasingly becoming an important component of domestic energy use and expenditure. Electrical demand now accounts for 18 per cent of total energy use in the residential sector (DECC, 2012b), and this upward trend is largely owed to rising levels of disposable income, which has resulted in a significant growth in the ownership of consumer electronics¹ and appliances since the 1970s (DBEIS, 2016). While it is difficult to make economic predictions due to uncertainties regarding the state of the global economy, annual real household disposable income has been estimated to grow an average 2.0% from 2011 to 2026 inclusive (Hole, 2014 - citing National Grid, 2011). Moreover, with the UK population projected to grow by 9.7 million over the next 25 years (ONS, 2015), and with the number of UK households predicted to continue rising, reducing overall energy demand in the domestic sector is thus crucial if the UK government's carbon reduction targets are to be met.

¹ Including information and communication technologies, otherwise known as ICTs.

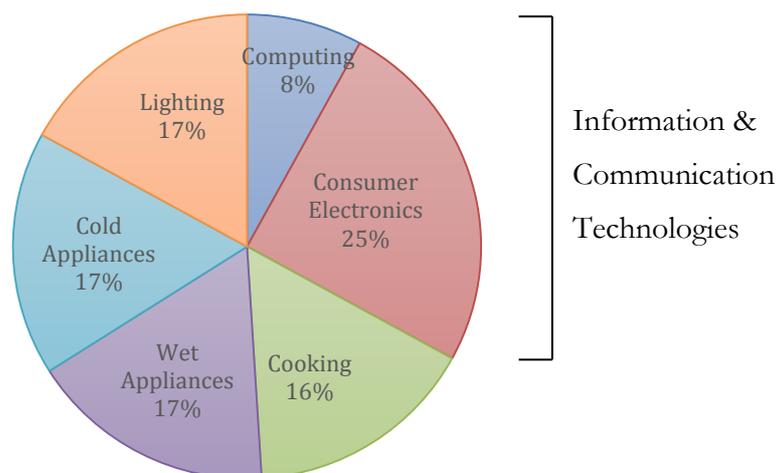


Figure 1: Breakdown of electrical demand in the UK domestic sector

Source: DECC, 2012b

While information regarding overall domestic energy use provide a simple barometer of the levels of energy used in UK homes over time, it only shows a small part of the energy story (DECC, 2013c). For example, such aggregate information hides the variation in carbon emissions between different fuel types, and does not reveal much in terms of energy spending, given that fuel prices vary according to fuel type (*Ibid.*). More importantly however, such information provides little insight into the role that energy consuming services play in people’s everyday lives. This is particularly important given that academic researchers and policymakers alike are beginning to give credence to the potential role of households themselves in reducing energy demand. It has thus become clear that greater attention needs to be paid to the ways in which people consume energy, and perhaps more importantly, how they can effect change.

2. Introducing the study

This study is connected to the ESRC funded ‘Energy Biographies’ project at Cardiff University (Henwood *et al.*, 2015). Led by Professor Karen Henwood, the Energy Biographies team have developed an innovative biographical approach to understanding how and why particular energy intensive lifestyles and practices develop against the backdrop of individual life-course trajectories. In doing so, the project aims to identify

openings for change across the life-course as a means of influencing significant reductions in domestic energy use. In line with the aforementioned approach, a set of preliminary aims had already been devised for the PhD research prior to my involvement, which was to develop an understanding of the role of family culture(s) and intergenerational transmission in the development of energy consuming practices. While this broad aim formed the basis of the study, I was also encouraged to make use of my interdisciplinary background in human geography and planning to further develop it.

Whilst my interest in people-environment relations led me to take up an undergraduate degree in 'Human Geography' at Aberystwyth University, it wasn't until my masters degree in 'Sustainability, Planning and Environmental Policy' at Cardiff University that I began to take interest in the role of energy in shaping these relations. During my time at Cardiff, I particularly became interested in how identity, place and practice combine to create unique cultural landscapes with their own set of opportunities and barriers to change. These academic interests, along with my own experiences of growing up in a small village in rural Wales (discussed in more detail in Chapter 3), fuelled my desire to explore the complex socio-cultural practices that mould everyday energy consumption in the rural sphere, and how these may persist or change generationally.

As the highest emitters of domestic CO₂ per head of capita in Britain (*see* Figure 1), rural dwellers face a series of considerable, inter-locking challenges in the coming transition to a low-carbon society. This 'distinct carbon emissions geography' (Markantoni & Woolvin, 2015) has been attributed to the legacy of an ageing and inefficient housing stock, the retraction of local services (including transport) in favour of more centralised service provision, higher rates of car ownership and use, and the limited distribution of the gas network in rural areas (Milbourne, 2011). This potent combination could affect the degree to which rural dwellers are willing to recognise, and accept the need for change, and indeed, whether they feel able to change at all. Indeed, it is important to remember that structural disadvantage can be exacerbated by personal circumstances (Consumer Focus Wales, 2011), which vary across the life-course and which differ from household to household. Moreover, prevailing popular imaginaries of rurality - in which the countryside is regarded as a desirable and idyllic place to live - could play a significant role in whether rural dwellers are likely to undertake any 'transitional activities' to address these challenges (Phillips & Dickie, 2014). When it comes to rural household energy consumption

however, little attention has been paid to the personal circumstances, nor the everyday lives of rural households; whether their forms of dwelling, time geographies and cultural practices have any implications for the coming transition to a low-carbon society (Cowell, 2011).

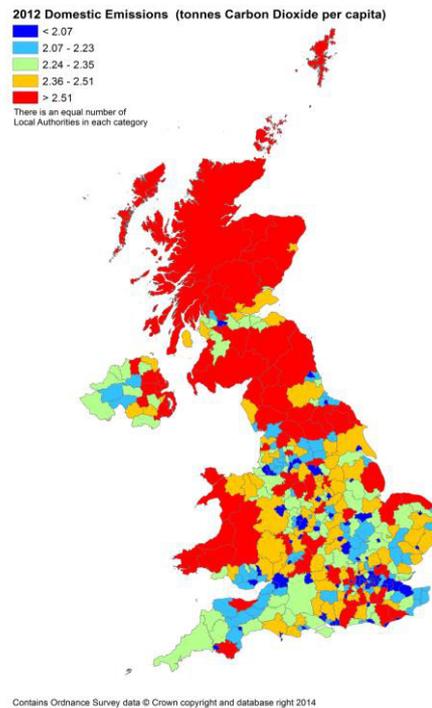


Figure 2: Per capita domestic carbon dioxide emissions by local authority in the UK, 2012

Source: DECC, 2014b

A detailed understanding of rural dwellers' everyday energyscapes is of great value to both the UK and devolved governments, given that a significant minority – 18% - of the British population reside in the countryside. In Wales, the proportion of rural dwellers rises significantly to 33.9%, which accounts for just over a million people; with one in every eight living in the sparsest context (Pateman, 2011). An understanding of the everyday lives of these people – as the highest domestic carbon emitters in Britain – is thus integral if Wales is to successfully reach its carbon reduction targets and contribute to the collective effort to transition to a low-carbon, secure and equitable energy system.

3. Aims & Objectives

This study brings together two issues that are pertinent to research and policy agendas, but which have rarely been considered together; how everyday energy practices in the domestic sphere develop and change, and the role of rural areas in the transition to a sustainable and equitable energy system. The overarching aim of this thesis is to understand those complex social practices that shape energy consumption in rural households; how they are emplaced in geographical settings, and how they have evolved through time, informed by sunk investments in infrastructure, as well as habitual behaviours that are negotiated both on an everyday basis and throughout the life-course. Four research questions were devised in order to achieve this aim:-

1. How does living in a 'deep rural' locality shape the performance of energy consuming practices?
2. In what ways do energy practices develop and change in place and through time?
3. How are energy practices made meaningful by those that perform them?
4. To what extent are individual identities and household arrangements implicated in the performance of everyday energy practices?

4. Structure of the thesis

This thesis is organised into eight chapters, including this introductory chapter. The **Literature Review**, presented in **Chapter 2**, contextualises the thesis in the relevant policy and academic literature. the emissions reduction targets set by the UK Government, and the role of the Welsh Government in delivering them. The chapter then moves on to critically examine relevant consumption related research within the fields of economics, social-psychology and sociology. The critical examination is assisted by the deployment of relational theorising in lifecourse and cultural geography.

In **Chapter 3**, I detail the **Methodological approach** taken in this study. The chapter begins by discussing the epistemological and ontological underpinnings of the thesis, before providing the rationale for the interpretive qualitative approach taken. The

methods employed to gather data and their practical application at each stage of data collection are then reflexively discussed, culminating in a detailed discussion of ethical considerations for the research. The chapter concludes following a discussion of the procedures undertaken to analyse and (re)present the bilingual research material.

Chapter 4 is the first of four substantive chapters. Entitled **‘Emplacing Energy: Practice in Place’**, this chapter addresses research question one; *‘How does living in a ‘deep rural’ locality shape the performance of energy consuming practices?’*. To attend to this question, the chapter is organised according to two main areas of practice; mobility and heating. The chapter explores participants’ narratives of spatial, social, structural and institutional constraint, paying particular attention to how their everyday materialities have informed inherently unsustainable consumption trajectories. In particular, the chapter produces insights into the contribution of socially and biographically patterned attachments in shaping energy intensive lifestyles that are widely accepted as ‘normal’ in the countryside.

Chapter 5, ‘Spatio-temporal Entanglements: Narratives of Continuity and Change’ addresses research question two; *‘In what ways do energy practices develop and change in place and through time?’* This chapter builds upon the last by exploring how practices develop over time and in place. By drawing upon the ‘case biographies’ of four participants, this chapter examines the situated yet ever shifting patterns of energy demand across the life-course. Whether they have experienced what could be deemed as a smooth transition or an unresolved/ unexpected one, the changing circumstances within each of these cases reveal tensions and conflicts between different values around which meaningful identities are built, which go some way in supporting increasing levels of domestic energy demand.

Chapter 6, ‘Unveiling Valued Relationships in a Biographical Context’, addresses research question three; *‘How are energy practices made meaningful by those that perform them?’* To attend to this question, this chapter draws upon the notions of identity and affective attachments to examine biographical narratives of ‘what matter’ to people in order to understand how energy demand is textured through time. The chapter is organised into three sections; the first section examines narratives of ‘everyday ethics’ as a means of engaging with the *meanings* behind biographically patterned ‘ways of doing’; notions of ‘good’ (effortful) and ‘bad’ (wasteful) practices are explored in section two, as a means of understanding the *skills* that support valued forms of identity in the face of wider societal change; finally, the chapter examines the relationship between people and *materials* in the

accomplishment of subjectively meaningful practices. In doing so, this chapter produces insights into the connections and disconnections that participants perceive between themselves and their significant others of different generations.

Chapter 7, 'Family, Energy and Everyday Life', addresses research question four; *'To what extent are individual identities and household arrangements implicated in the performance of everyday energy practices?'* This chapter uses data drawn from three very different family households - both in their composition and stage in the family life-cycle - in order to explore how energy practices are contingent upon dynamic familial processes. By drawing upon the notions of family identity, mutuality and independence, this chapter produces insights into the complex interconnections between personal and shared identities, wider moralizing discourses and societal norms which are pertinent to the development of energy intensive lifestyles.

The eighth and final chapter, the **'Conclusion'**, returns to each of the four empirical chapters and their related research questions, and discusses the contribution of the thesis. The limitations of the study and its implications in terms of policy making are then discussed. The chapter concludes with a discussion of the potential for further research.

Chapter Two

Literature Review

1. Introduction

This chapter provides the background context to the thesis. The chapter begins by outlining the emissions reduction targets set by the UK Government, and the role of the Welsh Government in delivering them (section 2). I then go on to detail the various regulatory and policy programmes for reducing emissions from the residential sector in Wales, highlighting how tackling climate change is a multi-level endeavour that necessitates co-operation between sub-state, nation-state and international governments. Section 3 goes on to examine the role of people in reducing energy demand by examining the major bodies of literature related to pro-environmental behaviour. These literatures are split into three broad categories. Section 3.1 examines cognitive perspectives of pro-environmental behaviour, which are predominantly based within the disciplines of economics and psychology. In section 3.2 the focus shifts to structural or contextual perspectives of pro-environmental behaviour, which conceptualise energy consuming behaviour as embedded in and shaped by broader social and technical systems. The final part of section 3 (3.3), details emerging work from theories of social practice. In taking a practice theoretical perspective forward, the final section, section four, outlines a series of concepts from life-course theory and geography, which complement a practice-based approach, and which might aid me during data analysis.

2. The Current Policy Climate

With the passing of the Climate Change Act in 2008, the UK became one of the first nation-states to introduce a legally binding carbon reduction target of 80% by 2050 relative to 1990 levels, along with an interim 2020 target of at least 34%. In addition, the Act established an independent Committee on Climate Change (CCC), to advise upon four-year carbon budgets set by the UK and devolved Governments in their efforts to achieve their emissions reductions targets.

While the UK Government is responsible for carbon emissions reduction targets, some of the policies implementing the UK's climate change strategy are devolved matters.

Devolution in the UK is complex, as each of the administrations in Wales, Scotland and Northern Ireland have different devolved competencies, which inevitably means that each of them have a slightly different relationship with Whitehall. The reserved models² of devolution in Northern Ireland and Scotland arguably provide their respective nations with greater governing powers than the conferred model in Wales. The latter necessitates that specific powers be given to the devolved administration while the former assumes the right of devolved administrations to govern unless a given area is explicitly reserved by the UK Government, such as energy policy. Whilst the National Assembly for Wales has been granted primary legislative powers in twenty devolved areas since 2011, compared to the other devolved nations, the extent of the Assembly's autonomy is rather limited (Royles, 2011). Consequently, the nature of the competencies devolved to Welsh Ministers has inevitably shaped the Welsh Government's approach to tackling climate change.

The Welsh Government's most comprehensive policy activity to tackle climate change developed during the third and fourth Assemblies (2007-11 and 2011 onwards). During the third Assembly, the 'One Wales' coalition between Welsh Labour and Plaid Cymru set the ambitious target of 'annual carbon reduction equivalent emission reductions of 3% from 2011 in areas of devolved competence' (WAG, 2007: 31). The 3% target covers direct emissions from all sources in Wales, including emissions associated with the end-use of electricity, but excluding emissions from heavy industries and power generation covered by the EU Energy Trading Scheme. The longer-term target set by the coalition was to achieve a 40% reduction in GHG emissions by 2020, and an 80% reduction by 2050 (compared to the 1990 baseline) (WAG, 2010). To this end, and in response to the to the statutory obligations placed upon the Welsh Government by the Climate Change Act, the Climate Change Strategy for Wales was developed and published in 2010, which along with its adaptation and emissions reduction delivery plans set the framework for delivering the ambitious targets set in 2007 (Royles & McEwen, 2015). The documentation highlights the different policy, regulatory and legislative tools at the EU and UK levels which directly contribute to realising the 3% target (accounting for approximately 40% of the necessary reductions), and anticipates that 30% of the target

² The plural has been used here as both nations (i.e. Northern Ireland and Scotland) have slightly different variants of the reserved approach and the powers 'reserved' by the UK Government also differs across the two nations.

will be met by the Welsh Government's own policies in areas of devolved competence, and a further 30% from wider sectoral contributions (WAG, 2010).

As is the case with the rest of the UK, the residential sector is a significant contributor to greenhouse gas emissions in Wales, accounting for almost a quarter of the country's emissions (WWF Cymru, 2015). With only 0.6% of the housing stock in Wales being replaced with new-build each year, as much as two thirds of the current housing stock will still be standing in 2050 (WAG, 2010). As such, reducing emissions in the residential sector is crucial if the WG's ambitious climate change targets are to be met. This not only means improving the energy efficiency of dwellings, but also involves supporting the diffusion of low-carbon micro-generation technologies within the sector, and helping households to change the ways in which they use energy in their everyday lives.

The following section provides an overview of the various regulatory and policy programmes in place in the UK, and in Wales in particular, for reducing emissions from the domestic sector; focusing on how they interact with each other to meet the policy aspirations of the UK and Welsh Governments (WG) respectively, with regards to domestic energy demand reduction.

2.1 The Policy Landscape

Energy efficiency has a key role to play a major role in domestic energy demand reduction programs, and in the case of the UK, current national standards are the result of wider commitments made at a supranational level. For example, the European Union Energy Performance of Buildings Directive promotes the energy performance of buildings within the European Community (2002/91/EC, EPBD), calling for a national methodology for the calculation of the energy performance of buildings; the setting of minimum energy performance standards for both private and social housing (as a devolved area of competence, in Wales these are covered by the Building Regulations: Part L³ and the Welsh Housing Quality Standard respectively); the production of energy performance certificates (EPC) when new and existing buildings are put onto the market for purchase

³ As of January 2012, Building Regulations were devolved to Wales

or for rental; and regulations to require inspections of heating and air conditioning systems (NAO, 2008). Each EU Member-State must determine these separately, applying it to all buildings, both new and recently renovated.

Since 1993, the Standard Assessment Procedure (SAP) has been the method employed to assess and compare the environmental performance of dwellings within the UK. SAP quantifies a dwelling's performance in terms of energy per unit floor area, a fuel cost based energy efficiency rating and carbon emissions. EPCs were introduced in England and Wales in 2007, and present the energy efficiency as well as environmental (CO₂) impact rating of a domestic dwelling on a scale from A to G – with the most efficient homes being in band A, and the least efficient being in band G. The certificate also includes recommendations on ways to improve the energy efficiency of the property and reduce energy costs. Providing owners and occupiers with information regarding the building's energy performance is increasingly viewed as an effective means of carbon reduction. Underlying this assumption is the idea that the information provided by EPCs will become important in the decision-making processes of prospective purchasers and tenants, which in theory, should incentivise building owners to take measures to improve the energy efficiency of their dwellings.

As previously stated, most of the housing stock in Britain, and in Wales in particular, are among the most inefficient in Europe. Interventions to improve the energy efficiency of such dwellings are believed to be particularly costly, which is the primary reason that the UK Government has introduced financial incentives via market measures to facilitate the uptake of high-cost interventions (*e.g.* the Green Deal Finance the complementary ECO programme) and micro-generation technologies (*e.g.* Feed-in-Tariffs). The Energy Company Obligation (ECO), and the now expired Green Deal (2013-2015) programmes have been key elements of the central government's strategy for achieving a large-scale reduction of carbon emissions from the existing buildings in the UK (Rosenow & Eyre, 2012). These programmes were developed to encourage investment in costly domestic efficiency improvements, whilst engaging new sources of private sector finance, thus overcoming the financial barriers that are commonly associated with the low uptake of efficiency measures (Ofgem, 2009). Whereas the Green Deal was a financing mechanism that let people pay for energy-efficiency improvements through savings on their energy bill, ECO is a supplier obligation scheme (which has replaced the former Carbon

Emissions Reduction Target - CERT) that places an obligation on large energy suppliers to fund three different grant schemes; an Affordable Warmth Obligation, targeting low-income and vulnerable households to achieve heating savings; a Carbon Emissions Reduction Obligation, targeting hard-to-treat homes; and a Carbon Saving Communities Obligation, targeting those that live in the UK's most deprived areas.

In the devolved administrations, schemes are currently in place that deliver energy efficiency and sustainable energy solutions with the support of ECO funds. Initiatives in place for individual households in Wales include a demand-led energy efficiency programme focused on those in or at risk of fuel poverty - Nyth/Nest⁴ - and an area-based domestic energy efficiency programme - Arbed (meaning 'to save' in Welsh). Both schemes aim to improve the energy efficiency of buildings for those who are most vulnerable and living in the least energy efficient homes (WAG, 2010). They offer expert advice as well as full home energy assessments and customised improvements at little or no cost to the householder. Measures can include; loft, cavity and external wall insulation; new gas boilers; central heating systems; and micro-renewable technologies such as ground-source heat pumps as part of the package to assist those in fuel poverty.

A recent report commissioned by World Wide Fund for Nature (WWF) Wales (2015) has demonstrated that the savings made from energy efficiency programmes in Wales (including ECO, CERT, Green Deal, Feed-in-Tariffs, Nyth and Arbed) between 2007 and 2014 have been less than optimal. While the residential sector is on-target for its annual 3% reduction commitment, progress towards the 40% residential target has been much slower. The report estimates that in order to meet this target, 2.2 million additional energy efficiency installations will be required between 2015 and 2020, which is almost 3 times the number of installations made between 2007-2014. Despite gaining some ground then, fiscal measures are failing as they have yet to inspire a high enough proportion of households to improve the energy efficiency of their homes. The enduring discrepancy between the potential and actual uptake of domestic efficiency measures has been dubbed the 'energy efficiency gap' (McNamara & Grubb, 2011). McNamara and Grubb offer an illustrative example in the form of space heating, which along with water heating, makes up the largest proportion of household energy use. Due to advances in heating

⁴ Nyth/Nest replaced the previous Home Energy Efficiency Scheme in tackling fuel poverty

technologies and improved insulation techniques, there was almost a 50% increase in the efficiency of space and water heating within the UK residential sector between 1970 and 2006. Despite this 50% gain in efficiency however, residential energy use had remained steady during the same period, due in large part the authors assert, to growing levels of energy demand. This is due to a variety of factors, including an increase in the overall number of households, and an increasing supply of energy-demanding devices and technologies. These factors in combination has meant that efficiency gains have only served to slow the trend of gradually rising energy demand; clearly, policies must extend beyond the dwelling efficiency agenda to affect a reduction in domestic energy demand.

Along with the push for improvements in the fabric of buildings, the UK Government employs several strategies to push for improvements in the energy efficiency of products and appliances. Such strategies are, once again, mainly driven by EU legislation that introduced clear minimum performance standards and labelling schemes (DEFRA, 2007). Efficiency strategies focusing on energy-using appliances hone in on two key themes; improving the performance of products and services (Eco-Design Framework Directive – 2009/125/EC), and shifting consumption trends towards goods with lower environmental impacts via the implementation of EU Energy Labels (Energy Labelling Framework Directive – 2010/30/EU). Like the aforementioned Energy Performance Certificate for domestic dwellings, the EU Energy Label displays the efficiency of a given appliance or product on a lettered ranking efficiency scale. White goods, light bulbs and other domestic technologies (*e.g.* televisions) are all required to have an energy label when they are sold within the EU.

Underlying the labelling agenda for both buildings and products is the assumption that people are rational, utility-maximising thinkers, who base their decision-making not only on energy costs in the present, but on potential future costs as well. Within this understanding, people are expected to take notice, read and understand the information provided by energy labels, and use this information to choose more energy and cost efficient technologies. In theory, the increased demand for more efficient products should put pressure on manufacturers and retailers to offer more energy efficient products. While this has certainly been the case, positive technological advances can be unbalanced by wider shifts in consumer preferences (Burgess & Nye, 2008). In their review of the literature on energy labelling for example, Burgess and Nye found that in some cases,

efficiency savings lead to greater levels of consumption as consumers use their appliances more, purchase larger appliances or simply spent their money on other things which lead to higher levels of energy demand. This so-called ‘rebound effect’ highlights the need to bear in mind that ‘the relationship between energy, technology and consumer behaviour is complex and multi-faceted’ (p. 4458).

Another information-based demand reduction strategy involves helping households to better manage their own energy consumption. Once again, the mandate for doing this originates from the supranational level, whereby EU Directives specifically recommend intelligent metering systems so that consumers can access their own data to better regulate their own energy consumption (Darby, 2010). Consequently, ‘smart’ metering has emerged as a key policy strategy to reduce overall demand for energy and promote demand side flexibility at the UK-level, which, it is argued, will reduce the overall investment costs of the transition to a low-carbon energy system (Bolton & Foxon, 2013). According to current UK Government policy, energy suppliers are required to install smart meters in every domestic and business property by 2020 (DECC, 2013). While meters, in their ‘basic’ form have for many years been a part of the electricity system in Britain, ‘smart’ meters differ in that they provide accurate, near real-time information to energy providers whilst allowing consumers to monitor their energy consumption using an in-home display (IHD). Underlying the smart meter initiative is the assumption that IHDs will give consumers ‘more control over their energy use and spending’ whilst also helping to meet the government’s environmental and energy security objectives (DECC, 2012). Implicit in this understanding then, is the expectation that providing consumers with feedback via IHDs will endow them with the necessary information to enable them to reduce their overall energy consumption, shift it away from periods of peak demand and respond flexibly to periods of over supply (Buchanan, Russo & Anderson, 2015).

Evidence from empirical studies of policy interventions involving personalised feedback has demonstrated that the provision of information can influence energy consuming behaviours to some extent. Research conducted by Mansouri *et al.*, (1996), and Brandon & Lewis (1999) for example, suggests that people are open to receiving feedback about their energy consumption, and are likely to act upon this newly-acquired information. On a similar note, evidence suggests that interventions involving digital feedback from smart energy monitors can promote a sense of empowerment among households, enabling them

to seek expert advice or assistance to reduce their energy consumption (Hargreaves *et al.*, 2010; 2013). A review by Boardman and Darby (2000) however, indicates that while such a strategy is indeed successful in the short-term - depending on the socio-economic status and composition of a household - monitors can reinforce 'normal' levels of consumption. Thus, as noted by Hargreaves and colleagues (2010), making and keeping energy visible is not enough to encourage demand reduction at the household level. The authors go on to assert that energy consumption in households is much more complex than the linear way of thinking suggests, as it is dictated by diverse rationalities, performed by multiple householders, often in complex dynamic negotiations with each other that are continuously subject to change. As such, they conclude, further research on the dynamics of household energy cultures is urgently needed in order to shed light on how household interactions and dynamics influence and shape energy demand.

So far, this section has provided an overview of the various government programmes currently in place that aim to reduce energy consumption in the residential sector in Wales. It has shown that policy interventions at the EU, UK and sub-state level largely focus on regulation, financial instruments, and awareness raising through the provision of information in order to influence the transition to a low-carbon future. As such, demand-side policy-making has primarily been based on a rationalist 'information deficit model' (Burgess *et al.*, 1998). The underlying assumption of such approaches is that improving awareness via the provision of information is key to promoting the purchase of more energy efficient buildings, products and appliances, as well as encouraging more sustainable behaviour. Indeed, most of the policies and programmes listed above are based on the understanding that when provided with the 'correct' information, rational consumers will make the 'right' decisions (Hinton, 2010). However, as noted by Lorenzoni *et al.*, (2007), while information can help change attitudes and understanding surrounding energy consumption, it does not necessarily lead to change. People are not 'empty recipients' of information, but rather are actors that interpret and use (or not) new information on the basis of social influence and previous experiences (Gram-Hanssen *et al.*, 2007). Indeed, empirical research has shown that the provision of information frequently leads to *inaction* as individuals may choose to actively resist it; either due to lack of trust in the source of the information, or due to the responsibilities placed on the individual (Burgess *et al.*, 1998; Hargreaves *et al.*, 2008; Owens, 2000). Critics of this rational choice-based 'information-deficit model' thus assert that it is an ineffective policy

strategy, given that its underlying assumptions are simplistic, ignoring the heterogeneous nature of the public, which interpret and use (or ignore) information in diverse ways (Whitmarsh, O'Neill & Lorenzoni, 2011).

3. Conceptualising Energy Consumption: Disciplines, Theories and Perspectives

3.1 The Cognitive Paradigm

Cognitive perspectives on human behaviour are descended from neoclassical economic theory, which is underpinned by the belief that humans, or consumers, behave in a rational and consistent manner. In this view, individuals are believed to be 'utility maximisers' (Wilson & Dowlatabadi, 2007), who calculate the costs and benefits of available choices, and act in ways that are optimal to them within their financial constraints. Put simply, individuals are believed to behave in a predictable manner as they prioritise their own self-interest through calculative action. The process of calculating the net costs and benefits of different alternatives has two distinct components; one is a set of beliefs (*i.e.* expectations) about the outcomes of a choice, and the other is an evaluation of those outcomes (*i.e.* value) (Jackson, 2005). Jackson (2011) illustrates this process in the example of a person deciding to travel to work by car, which largely rests upon the person's expectations that the journey will be cheaper and shorter by car than by public transport, and their positive evaluation of those outcomes. This feature of rational choice models often leads to their being referred to in the literature as 'expectancy-value' (EV) models (*Ibid.*).

Another standard feature of economic assumptions of rational choice lies in the role of information in determining behavioural outcomes (Darnton, 2008). In order to make rational, utility-maximising decisions for example, people are assumed to be in receipt of complete or perfect information about the costs, benefits and impact of their actions (Jackson, 2005). Models based on assumptions of rational choice thus result in a linear understanding of human action in which information generates knowledge (or awareness), which shape attitudes, which in turn lead to behaviour (Kollmuss & Agyeman, 2002). This understanding of human action has formed the basis of numerous

communicative campaigns devised by policy-makers across Europe to fill a perceived 'information vacuum' (Wilhite & Ling, 1995) among the population. When applied to promoting pro-environmental behaviour change then, this linear model assumes that educating people about environmental issues will translate into pro-environmental action. Evidence from energy conservation research during the last three decades however, has shown that while public awareness and concern regarding environmental degradation has steadily grown, only a few people actively take steps to alter their behaviour in everyday life (Blake, 1999). This discrepancy between people's knowledge of/concern about environmental issues, and their taking action to reduce their environmental impact has since been termed the 'value-action gap' (*Ibid.*).

Numerous theoretical frameworks have since been developed to further unpack the relationship between people's environmental concerns and their resulting behaviours in order to explain the disparity between values and actions. In particular, a range of 'adjusted' social psychological models have sought to go beyond basic assumptions of rational choice by seeking to link individual characteristics, such as attitudes, values, morals and norms, to individual behaviour (Hinton, 2010). While space precludes a comprehensive review of this vast body of literature (*see* Jackson, 2005 for more detail), in what follows, I provide a brief overview of the two most dominant psychological models, which are, attitude-behaviour and norm-based models.

3.1.1 Attitude-behaviour Models

Attitude-behaviour models have long dominated social-psychological approaches to explain and predict general human behaviour. The *Theory of Reasoned Action* (TRA - Fishbein & Ajzen, 1975), and the *Theory of Planned Behaviour* (TPB - Ajzen, 1991) are two of the most widely used of these models, both in terms of explaining behaviour in general as well as pro-environmental behaviour. The attitudinal component of these models are based on an EV calculation, and in the case of the earlier models (such as the TRA), it is the dominant factor (Darnton, 2008). Thus according to the TRA, an individual's beliefs about behavioural outcomes, and their evaluation of those outcomes determine their attitude towards a given behaviour. Bridging the gap between an individual's attitudes and behavioural outcomes is the construct of behavioural intention, that is, the individual's

intention to act; according to the TRA, behavioural intention is the direct antecedent of behaviour. In addition to the influence of attitudes, behavioural intention is also shaped by the individual's beliefs about what others think about the given behaviour. The inclusion of subjective norms to the TRA thus make it an 'adjusted' EV model (*see* figure 2). Later models based on EV theory carried on this trend of including additional variables, and as they became more extended (or 'adjusted'), so the relative influence of attitudes in predicting behavioural outcomes declined (Darnton, 2008). This pattern can be seen in Ajzen's extension of the TRA to formulate the widely used TPB (1991), which incorporated an additional independent variable in the form of 'perceived behavioural control' (*see* figure 2). Drawing similarities with Bandura's (1977) self-efficacy concept, perceived behavioural control refers to the extent to which a given behaviour is perceived by the individual to be difficult to perform. This can depend not only on whether the individual possesses the required skill or task-based knowledge to perform the behaviour, but also depends on external factors such as the availability of facilities and infrastructure (Heiskanen *et al.*, 2009).

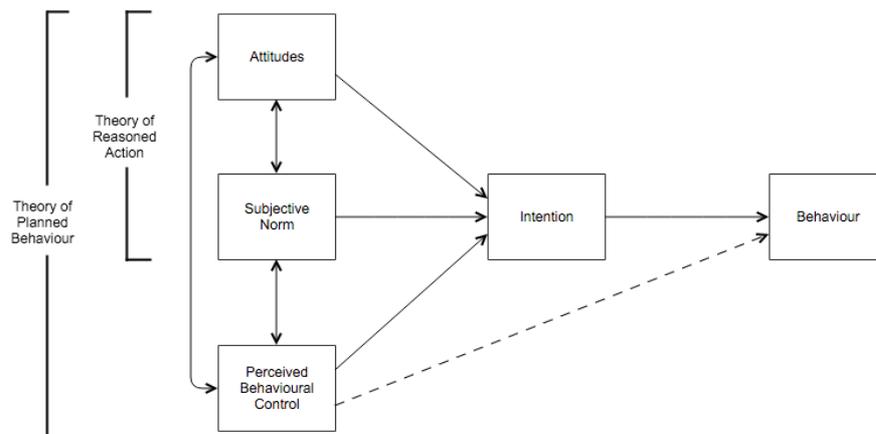


Figure 3: Theory of Planned Behaviour
Source: Adapted from Ajzen (1991)

To date, the TPB has been widely adopted to predict a variety of environmentally significant behaviours, including; car use (Bamberg & Schmidt, 2003), the use of public transport (Heath & Gifford, 2002), recycling and waste disposal (Mannetti, Pierro & Livi 2004; Davis *et al.*, 2006), and domestic energy conservation (Harland, Staats & Wilke, 1999; Gill *et al.*, 2010). Many of these studies, however, tend not to measure behavioural

outcomes, as their main focus lies in measuring the relationship between attitudes, intentions and perceived behavioural control (Jackson, 2005).

As an adjusted EV model, the TPB is subject to the same critique as its simpler predecessors. One of the key assertions of this critique is that human behaviour is much more complex than the TPB suggests. Attitudinal factors, for example, are often found to be relatively minor contributors to behavioural outcomes (Darnton, 2008; Kollmuss & Agyeman, 2002). Evidence from social-psychological research has demonstrated that a wide range of motivations (*i.e.* social, moral, emotional, altruistic *etc.*) that serve to influence human behaviour (*e.g.* Blake, 1999, Owens, 2000, Hinchliffe, 1996). As such, the simplistic notion of a purely self-interested individual that underpins all EV models does not hold true.

Another criticism of the TPB relates to its failure to account for the role of external or situational factors (*i.e.* material and monetary resources, social constraints *etc.*), which serve to enable and constrain certain behaviours. While it could be argued that the ‘perceived behavioural control’ and ‘subjective norms’ goes some way to doing this, they only account for external influences inasmuch as they are subjectively encountered. For the TPB to better account for external influences then, the inclusion of dedicated variables for external factors is required.

Finally, while the TPB is the best-known and most widely used social-psychological model of behaviour, its underlying assumption that all behaviour is derived from cognitive deliberation blinds it to the role of non-deliberative influences in shaping pro-environmental conduct. A prime example of a non-deliberative factor is that of habit. Habit refers to unconscious, non-reflective processes, which work as effective strategies for going about one’s daily life with minimal effort (Schäfer & Bamberg 2008). Habits form when people perform the same acts repeatedly and to a satisfactory level, at which point they lose their reasoned character and become habitual, which makes them particularly difficult to change. While majority of social-psychological models do not feature habit, those that do – such as Triandis’ *Theory of Interpersonal Behaviour* (TIB - 1979) - show habit to be one of many factors that interact to determine behaviour. While Triandis’ model defines habit as resulting from the frequency of past behaviour, others, such as Darnton and colleagues propose a three-part definition, in which habit ‘requires frequency, automaticity and contextual stability’ (p. 25), hereby linking habit formation to

external or situational factors. The TIB differs from the TPB in that it is a ‘dual path’ model, whereby behaviour can result either from a deliberative path, or from a habitual path, based on how often one has undertaken the behaviour in question before. As such, the TIB recognises that people’s behaviours can sometimes be unplanned and unconscious (Darnton *et al.*, 2011). Of the few studies that have accounted for routinised action in relation to pro-environmental behaviour, research has shown that when habits are strong, intentions are less likely to predict behavioural outcomes (Bamberg & Schmidt, 2003; Darnton *et al.*, 2011; Verplanken, van Knippenberg, & Moonen, 1998).

3.1.2 Norm-based Approaches

While attitude-behaviour models view behaviour to result from cognitive deliberation of information, another group of models focus more directly on the role of normative factors (*i.e.* morals and social norms) in shaping pro-environmental decision-making. Social-psychological research that explores the effect of social influences on behaviour assert that it is through social comparison with significant others – family, friends and neighbours for example - that people validate the correctness of their opinions and decisions, which in turn influences their behaviour (van der Linden, 2014). For example, in the context of energy consumption, empirical research has shown that people often alter their use of energy when provided with normative information regarding the average home energy usage in their neighbourhood, so as to conform to the in-group norm (Schultz *et al.*, 2007).

Norm-based models usually distinguish between two types of norm; descriptive and injunctive norms (Cialdini *et al.*, 1991). A descriptive norm is based on what people actually do; put in simpler terms, a descriptive norm is based on an individual’s perception of the behaviour of referent others (*i.e.* family, friends, peers). An injunctive norm on the other hand involves an individual’s perception of whether a given behaviour is socially approved or disapproved within the culture. Critically, descriptive and injunctive norms affect intentions and behaviour independently, and as such, understanding the relationship between these two concepts is vital for communicating social information. To illustrate, van der Linden (2014), gives the example of a communication campaign seeking to reduce frequent flying: if campaign materials merely state that CO₂ emissions

are on the rise because people commonly choose to fly short distances rather than use alternatives, such as public transport (a descriptive norm), it is unlikely that they will have the desired effect given that it does not necessarily communicate that such behaviour is undesirable (an injunctive norm). Consequently, rather than discouraging this sort of behaviour, the message that is conveyed could easily be misread as; '*it's okay because everyone's doing it*' (van der Linden, 2014; 23). Therefore, if communication campaigns are to be effective, descriptive and injunctive norms must be aligned (Cialdini, 2003).

In addition to social norms, moral norms - which refer to the idea that some behaviours are inherently 'right' or 'wrong' regardless of their social consequences - are also believed to be important predictors of altruistic and pro-environmental behaviours. Social and moral norms are closely linked, as social and cultural learning play an important role in shaping moral beliefs (van der Linden, 2014). We learn what is right and wrong from those around us, and over time, as these ideas are internalised, they gradually become personal or moral norms. Even though their origins lie in social group norms, personal norms exercise influence over behaviour independently from the expectations of others (Manstead, 2000), and have been found to play a particularly important role in the prediction of behaviours with a moral or ethical component such as environmental behaviour (White *et al.*, 2009). Steg and Vlek (2009) distinguish between three specific lines of research; those that are concerned with the value-basis of environmental beliefs and behaviour (*e.g. Value Theory* - Schwartz, 1992); those that have focused on the role of environmental concern (*e.g. New Environmental Paradigm* - NEP - Dunlap & van Liere, 1978); and those that focus on moral obligations to act pro-environmentally (*e.g. Norm Activation Theory* - NAT - Schwartz, 1977). A particularly influential framework that combines the insights from all three lines of research is Stern and colleagues' (1999) *Value-Belief-Norm* (VBN) theory (*see* Figure 3). Like the NAT, the VBN proposes that personal norms are the direct antecedents of pro-environmental behaviour, which arise from beliefs regarding the individual's awareness of the environmental consequences of their actions, and their feelings of personal responsibility for those consequences. VBN theory postulates that personal norms are dependent on more specific belief structures about human-environment relations (an individual's ecological worldview - NEP), which are in turn dependent upon a relatively stable set of personal values (Value Theory).

While the VBN theory can explain relatively ‘low cost’ environmental behaviour and ‘good intentions’ such as willingness to change behaviour (Stern *et al.*, 1999), its explanatory power diminishes when in situations characterised by high behavioural costs, or strong constraints on behaviour, such as reducing car use (Steg & Vlek, 2009). This difference suggests that behaviour does not result from internal processes alone, and points to the role of situational and contextual factors in limiting the strength of the norm-behaviour relationship (Turaga, Howarth, & Borsuk, 2010). Understanding the influence of these factors on behaviour is therefore crucial, particularly when seeking to promote pro-environmental behaviour change. For example, if situational and contextual factors leave little room for personal determinants to influence a given behaviour, policy instruments such as information campaigns that target these actions, are likely to fail (Michelsen & Madlener, 2010).

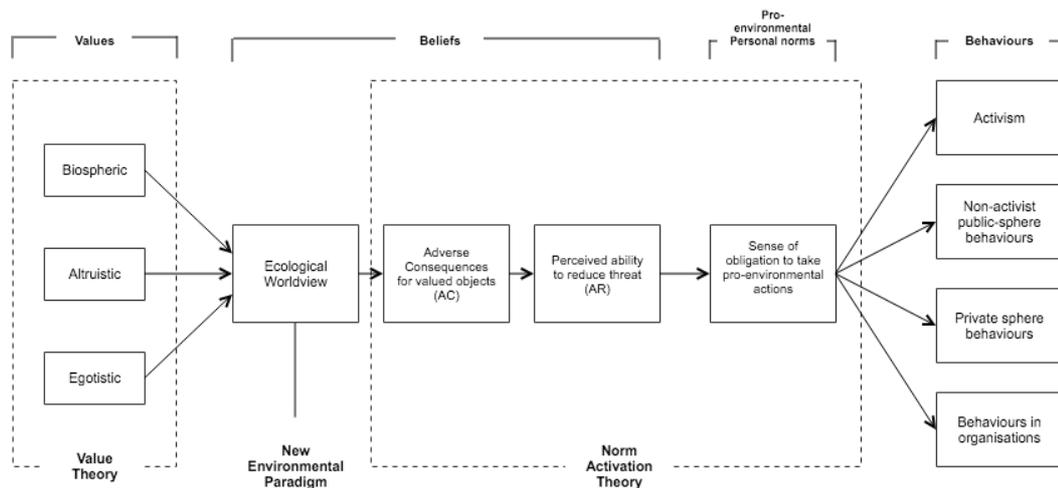


Figure 4: Value-Belief-Norm Theory
Source: Adapted from Stern *et al.*, (1999) *cf.* Creamer (2015)

In light of both attitude-behaviour and norm-based models' shortcomings with regards to explaining environmentally significant action, some researchers have sought to identify contextual and situational variables that disrupt the assumed linear transition from attitudes/values to behaviour. Within this literature, context has come to mean a variety of things; some take context to mean an individual's social network (*e.g.* Olli *et al.*, 2001), while others take it to mean facilitating conditions, such as the provision of recycling facilities, or the availability of public transport services for example (*e.g.* Martin *et al.*, 2006).

In each case, contextual or situational variables have been shown to play a significant role in enabling or constraining individuals' pro-environmental behaviours (Steg, 2008). Despite the evidence and growing recognition that contextual variables are important in shaping pro-environmental behaviour however, the majority of social-psychological models continue to attribute variances in behaviour to predominantly dispositional factors (*i.e.* attitudes, values, morals and beliefs). With the addition of numerous determinants to explain pro-environmental behaviours, psychological models have gradually become more complex over time; however, due to their underlying assumptions regarding the nature of human action, they continue to exhibit a degree of linearity⁵. As highlighted throughout this section however, pro-environmental behaviours are rarely the product of deliberative, linear processes, which is the primary reason why the models discussed within this subsection are often unable to fully explain pro-environmental behaviour.

The shortcomings of cognitive perspectives have in part contributed to the development of an alternative approach to understanding human action, in which greater emphasis is placed on the role of structure and context in shaping behaviour. It is to this alternative approach that the following section now turns.

3.2 The Contextual Paradigm

The contextual perspective of human action developed across the loosely linked fields of sociology, cultural geography, anthropology, and science and technology studies during the 1990s. In contrast to the cognitive approaches, specifically those that expect action to flow from intention, contextual perspectives (Burgess *et al.*, 2003), as the name suggests, embed context fundamentally within their understanding of the social world. Within contextual approaches, individual agency is framed and constrained by external structures, which include; rules and standards that guide social behaviour, cultural norms and expectations, institutions, infrastructures and other material manifestations of social life (Hinton, 2010; Jackson, 2005). Given that context limits our ability to act in certain ways; human action is understood to be both social and situated (Bulkeley & Gregson, 2009). In terms of illustrating this perspective's understanding of the roles of social actors in a

⁵ With the exception of those models such as the TIB that recognize non-deliberative action

transition to a lower carbon energy system, the most relevant lines of inquiry are studies of the social and cultural aspects of consumption and complimentary strands of research on the coevolution of socio-technical systems and conventions of normality (Nye, Whitmarsh & Foxon, 2011).

3.2.1 Social Structure and Consumption

Since the mid-1980s, the sociology of consumption has been concerned with questions of identity and its related problematics, resulting in a focus on the communicative and symbolic aspects of consumption that ‘express and mediate social relations, structures and divisions’ (Rief, 2008; 3). More recent work within sociology however, suggests that the conspicuous and symbolic aspects of consumption have been grossly overemphasised. Supporters of this view argue that a great deal of everyday consumption is inconspicuous in nature, as part of the ordinary, mundane routines of millions of households (Gronow & Warde, 2001). These repetitive actions require little conscious thought and reflection, and are influenced not by cultural preferences and identity, but by convenience, habit, practice, social norms and institutional contexts (Jackson, 2005). Much of our everyday consumption choices are thus rendered invisible - both to our peers and to ourselves - by these habitual routines. Energy in particular presents us with a further challenge, as it (in the form of electricity and gas) enters our homes unseen, hidden within pipes and wired networks (Hargreaves *et al.*, 2010). As such, it has been argued that energy is ‘doubly invisible’ to households (Burgess & Nye, 2008), as it is an abstract force that people have great difficulty in connecting to their everyday actions. This literature offers several concepts that are particularly useful to understanding the social dynamics of energy demand.

Wilhite & Lutzenhiser (1999) identify four clearly relevant and interrelated social dynamics that they believe play a significant role in shaping energy demand. The first of these relates to the **embeddedness of consumption patterns**. Wilhite and Lutzenhiser argue that people are compelled to consume in the conditions of late capitalism given that ‘the entire social fabric is constructed in such a way as to encourage the association of consumption with the good life’ (p.285). They go on to suggest that this plays a significant part in shaping energy demand, as webs of social relations are dependent upon this logic of

consumerism, which is best understood as a 'cultural condition in which economic consumption becomes a way of life' (Evans & Jackson, 2008; 7). Lifestyles based on the logic of consumerism are thus, according to Evans and Jackson, characterised by high levels of economic consumption, which translates into high levels of material consumption and accelerating environmental degradation.

A second social driver of high levels of consumption, and closely linked to the first relates to the dynamics of **status marking and display**. Wilhite and Lutzenhiser assert that an individual's standing in the community is displayed through 'culturally-appropriate arrangements of items that allow the person (or family units) to be differentiated from persons of "other sorts"' (p. 301). This is often termed a process of 'distinction' in which class boundaries are defined and maintained through the display of tastes (*i.e.* cultural preferences) that are learned early in life, and which inform different styles of consumption, or life-styles (Bourdieu, 1984). The economist Veblen (1899) first recognised the important role of 'conspicuous' modes of consumption in the process of social stratification, marking members of higher social standing as distinct from those of lower social standing. However, while the use of material goods in the expression of culture (and self-identity) continues to be important, most contemporary scholars now believe that in the conditions of late capitalism, pluralism has supplanted any hierarchical system of judgement (Featherstone, 1991; Shove & Warde, 2002). As such, scholars understand products and lifestyles to be imbued with social meanings that vary both across and within each society (Wilhite & Lutzenhiser, 1999). For example, while appropriating and using a wide range of status enhancing goods and services is a key component of modern consumerist lifestyles, a range of contemporary social movements concerned with promoting ethical, 'green' or sustainable consumption go against the grain (Hards, 2013). By only consuming certain products (such as local or organic food) and rejecting others (such as mobile phones, computers and cars), individuals who ascribe to the values promoted by these social movements set themselves apart through their practices of 'green distinction' (Horton, 2003), 'conspicuous conservation' (Sexton & Sexton, 2011) or 'positional non-consumption' (Hards, 2013). Along with this plurality of taste and lifestyles, it has been argued by Shove and Warde (2002) that a rise in cultural 'omnivorousness' (Peterson & Kern, 1996) - described as an openness to appreciating everything - has significant implications in terms of the volume of goods consumed. These authors argue that omnivorousness implies constant innovation through the

replacement of older goods with newer ones, thereby increasing energy demand indirectly through the sheer number of items being used.

In addition to status marking and display, the dynamics of **sociality and conventionality** are also believed to be key drivers of escalating energy demand (Wilhite and Lutzenhiser, 1999). They argue that in all cultures, people expect their social interactions to take place in certain ways; they understand what social conventions are and how they are expected to behave. While their previous mechanism of status and display insinuated a person's standing out from the crowd as it were, this suggests rather the opposite. Hards (2013) for example, asserts that conforming to the expectations of the in-group, or upholding the appearance of normality, plays a significant role in managing stigma-risk (in terms of mockery and embarrassment) – particularly in the presence of guests. Hards' contentions are not only supported by her own empirical work on energy consumption, but also connect to insights from the work of Wilhite and Lutzenhiser (1999), who describe how, in Scandinavia, for a guest to imply that they are cold constitutes a 'social crisis' for the host. Studies of heating practices in Britain have similarly indicated that those with cold homes are likely to be judged as stingy, poor or miserly (Hitchings and Day, 2011). From this perspective, domestic energy demand is believed to derive from culturally ingrained conventions and expectations which are situational, and inextricably linked to wider social and political contexts (Shove, Warde & Southerton 1998). For example, sociologists, and anthropologists in particular, have gone some way to show that everyday domestic actions, such as space heating/cooling (Wilhite *et al.*, 1996) and lighting (Bille, 2012; Linnet, 2011; Wall & Crosbie, 2009), are socially and culturally contingent. It has thus been suggested that living a worthwhile life, or 'a life without shame' (Jackson, 2008 citing Sen, 1998) in the conditions of late capitalism requires an ever-greater bundle of goods and services to meet the minimum standard.

Security and convenience is the last of the social dynamics identified by Wilhite and Lutzenhiser. They argue that in contemporary lifestyles, convenience is one of the most important determinants of purchase and use patterns. For some, the turn to convenience is linked to the progressive erosion of collective spatiotemporal rhythms (Giddens, 1991), which has resulted in the commonly held perception that 'the pace of daily life is accelerating and that there is an increasing shortage of time' (Southerton, 2003; 6). Indeed, sociological studies have found that individuals often have to 'juggle' between competing

demands on their time (Thompson, 1996), which often leads to feelings of being rushed or harried by a perceived time squeeze (Southerton 2003). In social worlds where people increasingly feel that they have insufficient time to accomplish things that are important to them, saving time becomes a matter of concern (Shove, Warde & Southerton, 1998). Increasingly convenience underpins the purchase of a plethora of goods and devices that reduce the amount of labour required in the routine accomplishment of domestic tasks (*Ibid.*). A complementary, but more defensive view of consumption focuses more on catering to just-in-case scenarios (Shove & Warde, 2002). According to Wilhite and Lutzenhiser, the over-dimensioning of objects, devices and appliances has to be understood in terms of risk-management against an uncertain future. For example, having a large refrigerator that can hold a lot of food can accommodate unexpected visitors and reduce the frequency of shopping trips. They go on to argue that by consistently choosing oversized goods and devices, consumers redefine what is considered 'normal', and as standards gradually increase, so does energy demand.

3.2.2 The Socio-technical Approach

Another strand of the contextual literature, predominantly drawn from science and technology studies, pays attention to how technologies and infrastructures – including, electricity and gas grids, as well as water systems - shape our ability to act in certain ways. From the socio-technical systems perspective, cultural conventions and systems of provision co-evolve in a 'ratchet-like' process of socio-technical change which has led to increasingly energy-intensive lifestyles and built environments that to some extent 'lock' us into particular consumption trajectories (Hinton, 2010; Seyfang & Smith, 2007). Research conducted by Elizabeth Shove (2003) illustrates this by using the notion of 'comfort' in relation to the development of air conditioning systems; highlighting the mutually reinforcing developments in scientific classifications of what constitutes 'comfortable' indoor temperatures, building design and people's expectations of comfort. Such studies have, through a focus on socio-technical processes, explored 'how expectations and practices change, at what rate, and in what direction, and with what consequence for the consumption of environmentally critical resources such as energy and water' (Shove, 2003; 16).

Implicit within this approach is the assumption that successful intervention within socio-technical systems results in change. However, introducing new rules or infrastructures do not always create new practices instantaneously (Strengers, 2010), as socio-technical systems are not easily steered (Shove & Walker, 2007). As such, Guy (2006) argues that research on energy consumption should explore the ‘circumstances in which energy-efficiency practices do or do not flourish, and to search for stories about successful technical change’ (p. 657). In other words, assuming that innovation leads to increased consumer demand, and consequently a system change, is over-simplistic (Shove, 2003). A range of studies tracing the historical emergence of showering as a popular activity demonstrate this contention; despite having access to reliable water and electricity sources for a considerable amount of time, showering remained unpopular (Bushman & Bushman, 1988; Southerton *et al.*, 2004; Hand *et al.*, 2005). Hand *et al.* (2005) argue that over time, showering became popular as it became socially valued due to its association with speed, immediacy and convenience coupled with conceptions of ‘personal health, moral well-being and social respectability’ (Southerton *et al.*, 2004; 43-45). Within this literature then, agency is distributed throughout the socio-technical system, rather than residing purely with individuals; as noted by Smith and Stirling (2007), ‘social practices and technological artefacts shape and are shaped by one another’ (p. 351). Moreover, it also illustrates the complicated, contingent and social nature of technological transitions (Hinton, 2010); practices develop historically, informed by technological innovation, social contexts, as well as the temporal demands of everyday life. Social and technical systems thus mould the carbon intensity of social life in dynamic and complex ways.

Much like their cognitive counterparts however, contextual perspectives have been subject to much criticism, albeit for the opposite reasons. While cognitive approaches have been critiqued for their relative simplicity and linearity, contextual approaches have been accused of overstating the importance of structures in guiding everyday life. The on-going structure-actor debate has since resulted in calls for alternative theoretical perspectives that acknowledge and account for the roles of both individuals and socio-technical structures in the shaping of energy demand. Among those that are keen to move beyond the actor-structure dualism, theories of social practice have offered an alternative, and increasingly popular approach to understanding changing patterns of energy use.

3.3 Searching for a Middle Ground: The Turn to Social Practice

In this section, I introduce a series of novel approaches to understanding consumption that attempt to move beyond the structure-agency dualism; these are social practice theories. Here, I use the plural to signify the diversity within this loosely connected group of theories, as there is no single, unified practice paradigm, rather, there are a variety of approaches that are united by some common ideas.

It is possible to distinguish between two broad generations of practice theorists. The first generation laid the theoretical foundations for later practice theories in the 1970s and 1980s, and was led by prominent social theorists such as Bourdieu (1984; 1990) and Giddens (1984; 1991). Those foundations were later mapped, tested and built upon by a second generation of theorists (Schatzki, 1996; Schatzki *et al.*, 2001; Reckwitz, 2002; Warde, 2005), whose theories of social practice have since come to occupy a salient theoretical space across the social sciences and humanities (Halkier, Katz-Gerro, & Martens, 2011). Giddens outlined the basic premise of the practice approach when he stated that ‘the basic domain of study...is neither the experience of the individual actor, nor the existence of any form of societal totality, but social practices ordered across space and time (1984; 2). For practice theorists then, the practical carrying out of social life takes centre-stage. In this view, our everyday actions are not seen as the result of people’s attitudes, values and beliefs, nor are they believed to be shaped by structures and institutions; instead, they are understood to be embedded within and occurring as part of social practices (Hargreaves, 2011). In other words, practices are the main source of order in social life (Schatzki *et al.*, 2001).

Warde’s (2005) seminal article *Consumption and Theories of Practice* is widely regarded as the first ‘programmatic’ application of practice theoretical perspectives to the field of consumption studies. One of the inspirations leading up to the development of Warde’s article relates to on-going debates within the sociology of consumption regarding the shortcomings of existing foci as well as the theoretical approaches employed within the discipline (Halkier, Katz-Gerro, & Martens, 2011). Specifically, Warde and his colleagues argued that the symbolic and communicative paradigm that dominated the discipline during the 1990s had obscured the fact that most consumption is routinized, habitual, ‘ordinary’, and inconspicuous (Gronow & Warde, 2001). By emphasising doing over

thinking, the material over the symbolic, and embodied practical competence over ‘expressive virtuosity’, theories of social practice not only offered a theoretical alternative to models of individual choice and contextual constraint, but also provided a means of unveiling phenomena that was usually overlooked in cultural analyses of consumption (Welch & Warde, 2015; 86-7).

Through a practice lens, consumption is reconceptualised as a ‘moment in every practice’ (Warde, 2005; 137) or a by-product of everyday life (Strengers, 2010), and energy is conceptualised as an ingredient of social practices (Shove & Walker, 2014). In this view, people consume energy, not for its own sake, but as part of the routine accomplishment of everyday practices, examples of which include, cooking, commuting to work, and watching TV (*Ibid.*). Early adopters of this line of thinking, such as Shove and her collaborators, used it to examine leisure practices such as Nordic Walking (Shove & Pantzar 2005), as well as digital photography and floorball (Shove & Pantzar, 2007). More recently however, practice theoretical perspectives have increasingly been applied to the study of energy consumption practices in everyday life (Gram-Hanssen, 2010; 2011; Hargreaves, 2011; Røpke, 2009; Shove & Walker, 2010; Strengers, 2010).

3.3.1 Defining & Applying Practice

While many varieties of practice theory exist, there are points of convergence among (Reckwitz, 2002). First, practices can be understood as coordinated entities, or in Schatzki’s words, a ‘temporally unfolding and spatially dispersed nexus of doings and sayings’ (1996; 89). Important to note here is that practices consist of both doings and sayings, suggesting that a practice-based perspective should be concerned with both practical activity and representations (Warde, 2005). To say that these doings and sayings ‘hang together’ to formulate a nexus suggests a level of coordination, which occurs in time and space.

A practice, according to Reckwitz’s (2002) oft-cited definition is;

‘a routinized type of behaviour which consists of several elements, interconnected to one another: forms of bodily activities, forms of mental activities, ‘things’ and their use, a background knowledge in the form of

understanding, know-how, states of emotion and motivational knowledge. A practice – a way of cooking, of consuming, of working, of investigating, of taking care of oneself or of others, etc. – forms so to speak a ‘block’ whose existence necessarily depends on the existence and specific interconnectedness of these elements, and which cannot be reduced to any one of these single elements’

(Reckwitz, 2002; 249)

From this definition it is clear that a practice can be seen as the coming together of interconnected elements to form a routinized pattern or ‘block’ of activity. Practices contain within them forms of bodily and mental knowledge that are embodied within practitioners, who, through performance, perpetuate (and potentially transform) the practices that they ‘carry’. As such, there is a recursive relation between recognisable doings that are relatively stable (practice-as-entity) and the carrying out of a practice (practice-as-performance), in which people, in the form of ‘bodies/minds’ (Reckwitz, 2002), play a key role as carriers and performers of practice.

Along with the aforementioned embodied components, Reckwitz’ description explicitly accounts for the central role of materials or ‘things’ in the performance and reproduction of practices (Halkier, Katz-Gerro, & Martens, 2011). In developing his own ‘ideal type’ of practice theory, Reckwitz argued that earlier practice theorists had not adequately accounted for the material dimension of social practices, especially in light of the explosion of technical artefacts, such as computers, mobile phones, tablets and so on, in contemporary society (Spaargaren, 2006). Within this conceptualisation, materials, things, technologies and infrastructures are conceptualised as active elements of practice in their own right. This has been of key importance to the development of practice theories as we know them today, and in particular, their application to studies of consumption. Practices are thus not purely social, given that much of social life is intertwined with material infrastructures, devices and artefacts that configure and co-constitute much of what we do (Shove & Walker, 2014).

Despite its usefulness, the above formulation of practice is difficult to apply empirically (Spaargaren, 2006) due its ‘idealized’ and ‘abstract’ nature (Warde, 2005). Shove, Pantzar & Watson (2012) however, provide a somewhat more straightforward conceptualisation of practice, which is comprised of only three elements, which are;

- **Materials**, which include objects, technologies, bodies and infrastructures
- **Competencies**, which encompass both tacitly and formally learned knowledge and skills
- **Meanings**, which encompass cultural conventions, social expectations, and symbolic meanings

To provide an illustrative example of the three element model at work, in what follows, I will briefly discuss it in relation to the practice of laundering. The material element of laundry practices includes appliances and equipment (*e.g.* washing machine, tumble dryer, drying racks, clothing line, irons and ironing boards), consumables (*e.g.* fabric detergents and conditioners), and domestic infrastructures (*e.g.* plumbing and electrics). Knowledge of when and how often to launder is obviously needed (competencies), and the necessary skills include, being able to recognise when clothes are dirty or in need of washing, and possessing the knowledge to adequately operate the appliances and equipment for washing, drying and ironing. Finally, these skills are intrinsically linked to cultural conventions of cleanliness (meanings), along with the related notions of freshness and hygiene, which have gradually led to increases in the frequency of laundering over time (*see* Shove 2003). These elements are linked together by individuals when carrying out a practice. While laundering is a widely shared practice however, not everyone launders in the same way; practices are internally differentiated (Warde, 2005) according to the particular configurations of different materials, meanings and competencies at hand.

As is evident in the above example, the three components of Shove and colleagues' (2012) framework are broad categorisations containing a variety of aspects that are prone to overlap. Shove, Pantzar and Watson defend their decision to put forward their condensed framework by asserting that such a simple formulation is empirically useful, particularly when conceptualising stability and change, as it does so in a way that highlights the recursive relation between the performance of practices (*i.e.* practice-as-performance) and the organisation of practices (*i.e.* practice-as-entity). Indeed, by focusing on the interactions between the three elements of practice, Shove and colleagues assert that researchers can identify 'careers' of practice through time, from their infancy to their 'fossilisation' (Shove & Pantzar, 2005). Careers in this sense can be understood to consist of a series of recognised stages through which a practice develops. Practices form when, through performance, links are made between their constitutive elements. If these links

are sustained, the practice persists, if these links are broken however, the practice withers and dies, as skills are lost and the infrastructures and configurations of social life that made them possible change (Hui & Spurling, 2013). In this way we can see that the careers of practices-as-entities depend upon the performances of carriers, which change over time as ‘individuals are constantly taking up and dropping out of different practices as their lives unfold’ (Shove, Pantzar & Watson, 2012; 66). As such, the careers of practices are intimately bound with the careers of carriers; and it is ‘by following the careers of carriers as commitments develop and wane [that] we get a sense of how some practices become more deeply anchored and embedded in society while others disappear’ (Shove, Pantzar & Watson, 2012; 64). As such, this perspective offers two ways of engaging with practice change through time; the first, focuses on the careers of practices-as-entities, and the second focuses on an individuals’ engagement in careers-in-practice over biographical time.

3.3.2 Critiquing Social Practice

As previously stated, theories of social practice attempt to find a middle-ground between methodological individualism and methodological holism by focusing on practical action. Consumption - of objects, services, and resources such as water and energy - is conceptualised as a moment in almost every practice, and is thus a means to an end rather than a means in itself. In other words, people consume in the course of accomplishing valued social practices (Shove & Spurling, 2013). Practices are organised around ‘shared practical understandings’ (Schatzki, 2001; 3) that are ‘internalized’ by individuals, who are conceptualised as the ‘carriers’ of various practices. This tendency to view individuals as merely the ‘carriers’ of practice, however, has garnered criticism, and has led some researchers to contend that the cultural dimension of practice has been under-theorized (Sayer, 2013; Spaargaren, 2011). Specifically, it has been argued that conceptualising the role of individuals in this way ignores their ‘dynamic, normative or evaluative relation to practices’, thus rendering them no more than ‘passive’ dupes (Sayer, 2013; 170).

In some ways then, in their efforts to find a middle ground between agency and structure, some practice theorists have inadvertently perpetuated a long-standing tendency in sociology to treat people as if they have little to no autonomy. According to Sayer (2013),

such a conceptualisation not only obscures individuals' evaluative capacities, but also their attempts to act according to their valuations. To be clear, Sayer does not argue that valuations always translate into actions, nor does he contend that practice change always results from conscious decisions; rather, he merely states that 'people can still evaluate [practices], and sometimes this may lead them to resist changes or turn them to their own ends' (p. 172). In light of these arguments, this thesis aims to shed light on the ways in which individual agency shapes (and is shaped by) everyday practices.

A second criticism of practice theory, and of particular importance to this thesis given my interest in the social dynamics of practices at the household level, relates to the perceived shortcomings of using shared practices as a unit of analysis. Despite the focus on collective conventions, theories of social practice have been, rather ironically, critiqued for leaving forms of social interaction under-studied and under-theorised (Bartiaux, 2012; Hargreaves, 2011; Nye & Hargreaves, 2010; Røpke 2009; Warde, 2005). Indeed, having recognised the absence of such dynamics within the practice-based literature, Hargreaves (2011) has called for 'a greater understanding of the role of social interactions and power relations in the grounded performance of practices' (p.79). Of particular interest for Hargreaves, and indeed for this thesis, is how social relations and interactions might shape the transmission of practices between participants from one individual to another, how practices are negotiated and performed in specific situations, and how these processes may shape the development of future practices in less environmentally damaging ways.

To summarize, what is thus needed is a social practice approach that engages with the performance of practices in particular contexts, and one that is sensitive to the social dynamics involved in the everyday carrying out of practices over time. In what follows I draw on concepts from geography and life-course research that are complimentary to a practice approach as a means of developing new understandings of household energy consumption.

4. Shedding Light on Household Energy Consumption: Concepts for Explaining Everyday Energyscapes

A practice-based perspective brings into view the uneven processes that shape the development of various practices and the socio-technical systems upon which they rely. In doing so, a practice approach highlights the existence of constraints that can limit how far individuals are able to change their own lives (Henwood *et al.*, 2015). However, while structural constraints often limit what individuals are able to do or achieve, it does not necessarily mean that people are rendered helpless. Individuals often improvise and adapt to the conditions in which they find themselves, and in times of great personal change such as those encountered during life-course transitions, this can result in significant shifts in identity and its accompanying relational dynamics (Hards, 2011, 2012; Henwood *et al.*, 2015; Groves *et al.*, 2016a; 2016b).

As previously mentioned in Chapter 1, this thesis is connected to the wider Energy Biographies project, which affirms that a biographical approach informed by practice theory can help us better understand continuity and change in terms of energy practices, not only at the societal level, but over individual lifetimes as well. Like the wider study, I have adopted a narrative way of conceptualising biography that brings into view the means by which identities and values are formed. In this sense, biography is not simply a pre-given, but rather is understood to be a process that is always in the making. This notion of biography brings with it the implication that our personal and collective identities are not predetermined or fixed, but as emerging in relationships with others (*i.e.* people and objects) in time and place – the latter of which being a concern that sets this study apart from the wider project. In order to develop my own biographical lens, I drew upon complementary concepts from biographical or life-course theory and geographical theories of place, in order to explore lived biographical experiences in a more relational way, and to avoid simplistic assumptions that what happened to an individual in the past necessarily predisposes them to a particular way of doing. I will now go on to discuss the established perspectives on life-course and place that have contributed to the development of my own theoretical lens.

4.1 Life-course theory

Biographical or life-course approaches explore the interplay of personal dynamics and wider social and structural forces that reach backwards as well as forwards in time (Chamberlayne *et al.*, 2000). Such a perspective provides researchers with a platform to further develop an understanding of the dynamic relationship between individual and collective lives (*e.g.* networks of family and friends), as well as broader patterns of social change (Neale, Henwood & Holland, 2012; 5). The strength of this approach is that it allows researchers to identify the various mechanisms that shape life-course trajectories (a term similar to that of career) and explore the causes and consequences of change in specific spatio-temporal contexts. Elder (1998) sets out four dominant and interrelated principles in the life-course approach that are conceptually useful for this study, which are:

1. **Historical time and place** – the life course of individuals is embedded in and shaped by the historical times and places they experience over their life-time.
2. **Timing in lives** - the developmental impact of a succession of life transitions or events is contingent on when they occur in a person's life.
3. **Linked lives** - lives are lived interdependently, and social and historical influences are expressed through this network of shared relationships. As inherently social beings our lives are often affected by events in the lives of those around us.
4. **Human agency** - individuals construct their own life course through the choices and actions they take within the opportunities and constraints of history and social circumstances.

Given that understanding how social dynamics shape everyday practices lies at the heart of this thesis, the concept of 'linked lives' (Giele & Elder, 1998) is especially useful, as it highlights the interdependencies between ourselves and others in a series of complex and constantly shifting networks (Nilsen & Brannen, 2014). Individuals and practices form a part of wider relational networks both within and beyond the home. Implicit within this understanding then, is a focus on relationships. Our lives intersect and overlap with one

another, and it is often only through positioning ourselves in relation to others that our practices can become apparent. As such, agency and identity should be understood relationally, which is often only possible to identify through a focus on our individual narratives (Mason, 2004). Exploring how we have changed in relation to others, or as a result of others, is thus a central concern for this study.

4.2 The importance of place

Another important aspect of the life-course approach is the understanding that the life-course of individuals are shaped by the historical and spatial contexts in which they have, at some point in their lives, found themselves. The reciprocal relation between the individual and the social as evident within both practice theory and life-course studies is one that is also shared by theories of place (Massey, 2005; Ingold, 2008; Pink, 2012). In this line of thinking, places are not understood as bounded containers of everyday life; rather, they are ‘a constellation of processes’ (Massey, 2005; 141) that are always in the making. Such a view of place thus begs further thought on the ways in which local interactions, individual perceptions and embodied experiences are implicated in the constitution of lived spaces (Pink, 2012).

Anthropologist Tim Ingold (1993; 2000) offers us one way of conceptualising the relationship between people and place through his notion of the taskscape. Taskscape as the name suggests is related to that of landscape; ‘just as the landscape is an array of related features, so – by analogy – the taskscape is an array of related activities’ (Ingold, 2000; 195). Using this conceptual tool, Ingold stresses that ‘human life is a process that involves the passage of time’, and that this ‘life process is also the process of formation of the landscapes in which people have lived’ (p.189). As such, the landscapes of everyday life – from the micro-geographies of the home to places further afield – are part and parcel of dynamic change processes, as these lived spaces are always under construction. The notion of taskscape thus implies a movement through space and time, and provides a useful theoretical lens through which to read the everyday performances of practices as mediated between different matters of concern.

5. Reflections

This chapter began by providing an overview of the various government programmes currently in place that aim to reduce energy consumption in the residential sector in Wales. It has shown that policy interventions at the EU, UK and sub-state level largely focus on regulation, financial instruments, and awareness raising through the provision of information in order to influence the transition to a low-carbon future. Such a policy approach however, disregards the complex nature of human decision-making and action, which necessitates a different way of conceptualising how and why people consume in the ways that they do. The literature review thus turned to examine the various ways in which human action has been conceptualised within the social sciences. These were structured into three broad groups; cognitive, contextual, and practice perspectives. Having reviewed the strengths and weaknesses of each approach, I decided that a practice perspective would underpin the conceptual framework employed in this study. The shortcomings of theories of social practice however, meant that an integrated approach, drawing upon complementary concepts from life-course studies and geographical research was necessary to bring agency – through relational mediation - back into practice theory

Chapter Three

Methodology

1. Introduction

This chapter outlines the methods employed to gather data, and the methodological underpinnings that informed these choices. The chapter first introduces the methodological approach taken by this thesis. The selection of the research context then follow (Section 3), providing the necessary background to the research project as well as details of the sampling strategy and recruitment. Section 4 details the methods employed for the study and for the sake of methodological transparency, the practical application of each stage of the data collection will be discussed. In Section 5, I detail ethical considerations for the research before concluding with Section 6, which details the procedures undertaken to analyse and present the research material.

2. Methodological Framework

Situated in the interpretivist philosophical tradition, qualitative research is concerned with understanding the ways in which people make sense of, interpret, and communicate their social world (Bryman, 1988; Denzin & Lincoln, 2000). Qualitative researchers are thus attentive to the life worlds and voices of individuals and groups (Atkinson *et al.*, 2001), and grant their subjects space for reflection on their own lived experiences and a means of expressing themselves in their own words. In doing so, qualitative researchers do not seek a single, universal ‘truth’, but rather understand knowledge to be partial and situated (Haraway, 1991). This distinct ontological position asserts that knowledge about the social world is constructed at the intersection between personal experience and social, cultural and historically situated norms and understandings. Given that individuals are understood to have an active role in the construction of social reality (Hodkinson, 2008), qualitative researchers assert that their accounts should be regarded as authentic and valid sources of knowledge.

Qualitative inquiry is a broad church, encompassing many sub-disciplines, each with their own preferred approaches and types of data (Atkinson, 2005). My own methodological interest lies in narrative inquiry, whose central tenet rests on the belief that people give meaning to their lives through the stories they tell. In this way, storytelling is understood as a 'natural way of recounting experience' for ourselves as well as for others (Moen, 2006). To study narratives, then, is to study how people experience and make sense of the world. This is not to say that experiences always have a coherent narrative structure - that they have a clearly demarcated beginning, middle and an end - but rather that experiences are (re)constructed as narratives (Flick, 1997).

With its origins in literary criticism, the interest in narrative spread into the humanities and social sciences during the 1970s, and has been gathering momentum ever since (Elliott, 2005). Contemporary narrative research is an interdisciplinary field that is characterised by a richness of theoretical understandings as well as of procedures and techniques for producing and analysing data (Andrews, Squire & Tsamboukou, 2013). Along with diversity however comes complexity and difference, particularly in relation to what narrative researchers see themselves as studying. A central theoretical debate within the field relates to whether researchers focus their analysis on content of narratives or on their structure (Reissman, 2008). The approach taken within this thesis lies firmly within the former, given my interest in investigating people's experiences of change and its pertinence in terms of energy consumption.

Narrative inquiry is underpinned by three key features, which make it particularly fitting to my research. First, and as already stated, is that people organise their lived experiences into stories; narratives thus have a temporal dimension. Second, narratives are inherently social, given that what stories are told not only depend upon the teller's values and experience (both past and present), but also upon the audience for whom the story is being told. Third, narratives are situated and context dependent, as stories are shaped by the social, cultural, and historic settings in which they are located. A narrative approach thus enables researchers to "see different and sometimes contradictory layers of meaning, to bring them into dialogue with one another, and to understand more about individual and social change" (Squire, Andrews & Tsamboukou, 2008; 5). In light of these features, it was decided that a narrative methodology fit well with the concerns of this study.

3. Research Setting

This section serves to introduce the rationale for selecting the regions of Dwyfor and Meirionnydd, located in the rural county of Gwynedd in North-West Wales as a research setting. This section begins with a brief discussion of the definition of rurality, before moving on to introduce the research setting, with reference to its appropriateness in relation to the aims of the thesis. My personal connection to the research area will also be briefly discussed, as it played a significant role in the selection of the research setting. A brief description of the area in terms of demographics will also be provided to further contextualise the research site.

3.1 Defining Rurality

Despite being commonly used in everyday language and discourse, defining the word *rural* - be it in lay terms, for academic or for official purposes - is a complex and difficult task (Woods, 2005). Reaching a consensus among the field of rural studies in particular has proven difficult, due in part to the sheer diversity of interest in understanding rural lives and lifestyles, and reflecting the wider theoretical shifts experienced within the social sciences during the late 20th century (Cloke, 2006).

Traditionally, rural areas have been defined according to their statistical indicators, such as population and building density, land use and economy (Halfacree, 1993; Woods, 2005). Underpinning these descriptive or materialist approaches is a particular set of preconceptions about what rural places should be like, and which set the rural in direct opposition to the urban. These assumptions not only share much with lay understandings of urban/rural differences, but also inform decisions regarding the official classification of areas as either urban or rural (Woods, 2005). Defining rural places in this way, however, has its weaknesses, not least because it assumes that urban and rural places can neatly fit into distinct dichotomous categories (Brown & Schafft, 2011). In doing so, materialist or descriptive accounts reveal very little about the social and economic processes that shape rural places - some of which are associated more with 'urban' lifestyles than with rural ones (Cloke, 2006). Such accounts thus fail to take into account the inherent heterogeneity of rural places (Woods, 2005).

Another approach to understanding the rural emerged from the ‘turn to culture’ within the wider social sciences, which foregrounded questions of identity, representation, meaning and difference (Cloke, 2006). The understanding of rural as a social construction sees attention shift away from the structural/statistical characteristics of rural areas towards a recognition of rurality as a ‘world of social, moral and cultural values in which rural dwellers participate’ (Cloke & Milbourne, 1992; 360), and through which they define themselves (Woods, 2005). Such an approach invites the study of the ‘interconnections between socio-cultural constructs of rurality and nature – which appear to be so important in the reproduction of geographical imaginations of rural space – and the actual lived experience and practices of lives in these spaces’ (Cloke, 2006; 21).

British rural geographer, Keith Halfacree, however, suggests that materialist and representational definitions should be seen as ‘interwoven rather than mutually exclusive’ (2006; 47), hereby finding a middle ground between both approaches. Inspired by Henri Lefebvre’s ideas on space (Lefebvre, 1991), Halfacree (2006) understands rural space as constituted of a complex mix of representations (*i.e.* ideas, images, discourses and symbols – both official and lay) and locality (*i.e.* the material dimension of rural space), which are seen to intersect in practice (*i.e.* everyday lives of rural dwellers), thus recognising rurality as a process, as continuously in-the-making, rather than as a definitive and unchanging entity. It is this understanding of rurality that I follow in this study.

3.2 Choosing a Locality

In order for the boundary of the study to be defined, it was first necessary to engage with official definitions (*i.e.* descriptive accounts of locality) of what constitutes rural space. Given that this study is centred on rural areas in Wales, the definition of rural used in this thesis is partly derived from the 2011 Rural-Urban Classification (ONS, 2011) for England and Wales, and partly from the Rural Wales Observatory (WRO2009) classification of ‘deep rural areas’.

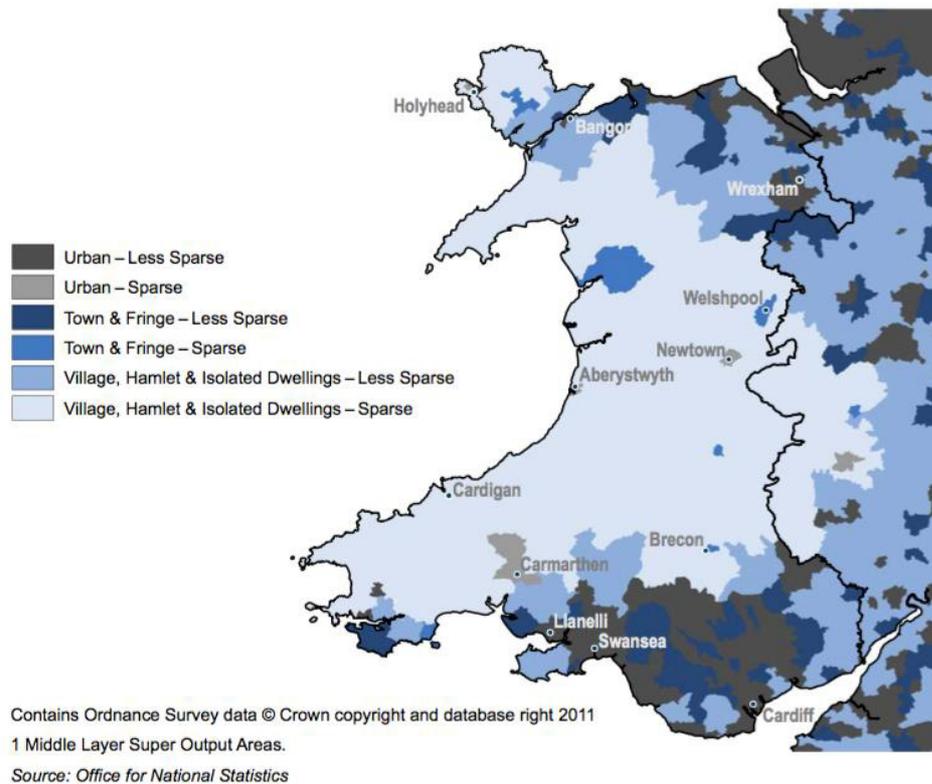


Figure 5: The Urban/Rural Definition for MSOAs in Wales
Source: Pateman (2011)

According to the RUC2011 definition, a settlement is deemed rural if their resident population is less than 10,000 people⁶. Once identified as rural, settlements are then assigned into one of four categories, which are split into two groups according to the broader settlement context in which they are located, ranging from sparse to less sparse (*see* Figure 4). In addition to the RUC2011 definition, ‘deep rural’ areas are identified as communities with fewer than 1,000 households, which are located at least 30 minutes drive-time from a centre with a population of more than 10,000 people⁷ (WRO, 2009). This helped to distinguish the sparsest settings. Two broad areas were distinguished as possible study regions; one to the north and the other to the south.

⁶ This population threshold is used by England, Wales, Scotland and Northern Ireland for purposes of statistical continuity.

⁷ Whilst this initial definition was later refined as their project changed, this initial definition of ‘deep rural’ localities is what I use in my own study.

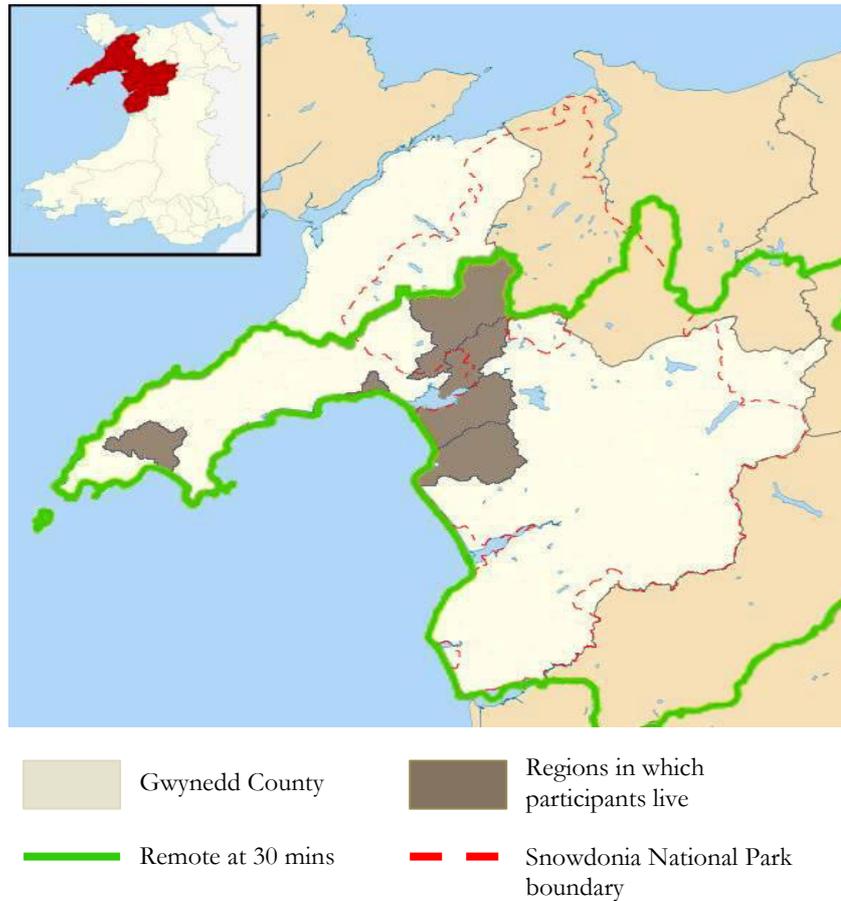


Figure 6: Map showing regions in which participating households live
Source: My own

My decision to focus on Ddwfor-Meirionnydd regions of Gwynedd in North-West Wales (*see* Figure 5) largely boiled down to my personal connection to the area. Within the interpretive social sciences, the relationship between the researcher and the research setting has long been understood to be central to the research process at every stage, from accessing groups to the interpretation and representation of the data. When it comes to the issue of gaining access to research settings, it has often been suggested that researchers working on ‘familiar territory’ (Mannay, 2010) have an advantage over those that are less familiar, given that they already have an in-depth knowledge of the history, language(s) and socio-cultural nuances of their chosen setting, and are able to navigate these appropriately (Bonner & Tolhurst, 2002; Hammersley & Atkinson, 2007). Furthermore, the ‘researcher near’ (Mannay, 2010) may find it easier to locate potential participants by drawing on their extensive existing knowledge of the social setting, and are able to draw

upon an expansive network of existing contacts to reach them. In addition, researchers working on familiar territory can also draw upon shared cultural resources (*i.e.* identities, values and experiences) to build rapport and facilitate ease of access. Being perceived as ‘one of us’ could thus result in people being more willing to participate in social research. Given that I had spent the first 18 years of my life in a small village in Meirionnydd, I felt that my position as a ‘local’ was a strength to the research process⁸.

3.3 Sampling & Recruitment

In order to recruit participants to take part in the study, I drew on techniques commonly used within qualitative inquiry - specifically, purposive sampling. Purposive sampling, as Patton (2002) reminds us, involves purposefully selecting a small number of information-rich cases in order to yield insights and in-depth understanding of the focus of the research. Informal gatekeepers were primarily used as a way of accessing potential participants, as having a person who can ‘vouch’ for the researcher can be integral to the research’s success (Devers & Frankel, 2000). However, as Baker and Weller (2003) remind us, when using gatekeepers, we must first consider to whom we require access. My interest in diversity meant that I required access to households of varying backgrounds and composition - a wide net to cast indeed. The only stipulation for the participants, in order to retain relevance to the research question, was that they lived in the study area.

A range of suitable gatekeepers were initially considered - each with links to energy projects within the research area. Potential gatekeepers included key figures in the local authority’s energy department and a further education establishment, as well as the local Pathfinder programme representative. After consultation with each of the gatekeepers it became apparent that was able to facilitate access to the intended sample within the proposed time frames, while the other gatekeepers were only able to partially meet these requirements. The decision was therefore taken to utilise only the one gatekeeper, so as to reduce the complexity of accessing the sample. This did run the inherent risk that should this gatekeeper withdraw or be unable to facilitate the promised access, I would

⁸ See section 4.4 for a reflexive account of how my positionality as a cultural insider researching at ‘home’ inevitably shaped the research.

have struggled to gain access to my sample. Thankfully it transpired that this was not the case. In an effort to help guard against the potential withdrawal of the gatekeeper the other two gatekeepers agreed that they would be able to provide assistance if needed.

Having established contact with the local Pathfinder officer, I was directed to a community group in the Meirionnydd region that had a particular interest in energy conservation at the household level. In early 2012, I made contact with the group, which had recently begun undertaking an ‘energy descent project’ with 20 households taking part, and began attending their monthly meetings and project-related events as much as my work schedule would permit me. Attendants of the energy group were aware of my PhD project from the outset, and were interested to hear how the project was developing. I was invited to give an informal talk about the aims of my research at one of the group’s monthly meetings, which I saw as an opportunity to generate some interest among the core members. In all, five of what were then the ‘core’ households of the group, showed an interest in taking part in the research.

Another opportunity to generate further interest in the project presented itself in the form of an annual sustainability fair⁹, organised and run by the aforementioned community group. Given that I was interested in achieving as diverse a sample as possible - *i.e.* households of different compositions that engage with issues of energy consumption in different ways - I viewed the fair as another opportunity in which to generate interest in the project, this time from the wider community (*i.e.* those that were perhaps less involved in a formalised energy descent project). The community group kindly offered me a desk at the fair, and in the interests of reciprocity, I offered to help out with the logistics of setting up and closing down on the day (something that I have continued to do on an annual basis ever since).

I set up an information desk at the fair, where I spoke to attendants about the research and handed out bilingual information sheets to interested parties (*see* Appendix A and E). Those that were interested in participating were invited to provide their contact information (telephone number, email address *etc.*) on a sign-up sheet. Although this strategy did generate a lot of interest, not everyone who showed interest signed up. Many people took it as an opportunity just to talk, whilst others who seemed interested would

⁹ Held in the community hall of a large, well serviced village in Meirionnydd.

promptly move away if I attempted to talk to them, perhaps thinking that I was trying to sell something. I had not anticipated such a reaction to my presence, and upon reflection, I could have approached this differently, perhaps by presenting myself in a less formal way. Despite these issues however, a face-to-face recruitment method such as this worked well, with eighteen people showing interest in participating.

Of the eighteen people who did show interest and take information sheets, twelve gave me their contact details (including the original four 'core' households of the community group), and six stated that they would initiate contact with me using the contact details that I had provided on the forms. In all cases however, contact was never initiated. Of the twelve that did provide their contact details, two were not eligible on the basis that one did not live within the boundaries of the study area and the other was not permanent resident. I initiated contact with the remaining ten households via email and telephone, which resulted in eight out of ten responding and agreeing to take part in the study.

Upon receiving replies, interviews were arranged according to the participant's preferred time, date and location via telephone and email. In two instances however, interview arrangements never came to fruition. While both participants had upon initial contact offered to participate in the research, my (repeated) attempts to arrange interviews with them were met with silence. At this point I interpreted their silence to mean that neither individual wished to continue taking part in the study, and had thus withdrawn their participation. Whilst the withdrawal of two households from the study was frustrating, I had already anticipated such an event arising, and was ready to draw upon other purposive techniques for recruitment.

As the initial interviews with the remaining six households were underway, I continued my efforts to find more households through snowballing, whereby participants were asked whether they knew of any other households that would be interested in taking part. A further two households were recruited using this method. Additionally, I was able draw upon my personal and professional networks as a research tool to recruit a further three households. My sample was thus formed in relation to the social spaces I used to recruit participants, their social networks, and my own position as a 'researcher near' (Browne, 2005; Mannay, 2010).

In all, the sample consisted of eleven households (*see* table 1), each from very different backgrounds and of very different compositions. Participating households comprised of; two single person households; two double occupancy households (1 young couple and 1 retired couple); three households that had young children (1 nuclear family, 1 reconstituted family and 1 single-parent family); two households with teenagers or young adults present (both nuclear families); and one extended family household arrangement. Unsurprisingly, most of the households were from the Meirionnydd region with three being from Dwyfor (Pen Llŷn). The inherent geographical spread within the sample demonstrates how far and wide social networks spanned, allowing me to gain insights into the ways in which different settlement types feature in shaping energy demand. The variation, ranging from isolated farmhouses, hamlets and villages to small towns, were integral to this end.

Table 1 Basic information about the participating households

Household	Family Members	Age	Occupation	Round 1	Round 2
Beckett	Ian	61-70	Self-employed – Full-time	✓	✓
	Isabel	51-60	Self-employed – Part-time	✓	✓
	Lowri	21-30	Self-employed – Full-time	✓	✓
Butler	Gwen	61-70	Retired	✓	✓
	Michael	61-70	Retired	✓	✓
Davis	Dylan	41-50	Employed – Full-time	✓	✓
	Alys	31-40	Employed – Full-time	✓	✓
	Lois	6-10	Primary School Student	Declined	Declined
	Guto	0-5		N/A	N/A
Dreyer	Peter	51-60	Self-employed – Full-time	✓	Unavailable
	Rhian	51-60	Employed – Part-time	✓	✓
	Glesni	21-30	University Student	Unavailable	✓
	Cai	17-20	University Student	Unavailable	✓
	Dyfed	11-16	Secondary school Student	Declined	✓
Evans	Ffion	21-30	Employed – Part-time	✓	✓
	Siôn	11-16	Secondary school Student	Declined	Declined
	Awel	6-10	Primary school Student	N/A	N/A
Grey	Eleri	31-40	Self-employed – Full-time	✓	✓
	Carl	21-30	Self-employed – Full-time	Declined	Declined
Griffiths	Megan	31-40	Self-employed – Full-time	Joint	✓
	Bryn	31-40	Self-employed – Full-time	Interview	✓
	Gethin	11-16	Primary school Student	Unavailable	✓
	Catrin	6-10	Primary school Student	Declined	✓
	Owain	0-5		N/A	N/A

Gwylm	Eluned	51-60	Employed – Part-time	Joint	✓
	Glyn	51-60	Self-employed – Full-time	Interview	✓
Hughes	Ceris	61-70	Employed – Part-time	✓	✓
Smith	Jon	51-60	Self-employed / Part-time Student	✓	✓
	Grace	31-40	Homemaker	✓	✓
Thomas	Richard	31-40	Self-employed – Full-time	✓	✓
	Sioned	17-20	University Student	Unavailable	Unavailable
	Delyth	17-20	A level Student	Sibling-	✓
	Lisa	11-16	Secondary school Student	group	✓
	Alex	11-16	Secondary school Student	Interview	✓
	Eva	0-5		N/A - Present	N/A - Present

4. Method

As discussed in the literature review (Chapter 2), an understanding of people as relational subjects, living interdependent ‘linked lives’ underpins this research. As such, the question of whether to interview more than one family member was particularly important. Family researchers have long recognised the advantages afforded by incorporating interview data from multiple perspectives into their research (Reczec, 2014). Doing so, it is argued, offers a way of exploring how different family members experience everyday life, and reveals household dynamics that could otherwise be overlooked. The most common approaches to obtaining multiple perspectives are; separate interviews with each family member, dyadic or group interviews with multiple family members, and a combined approach that uses both separate and dyadic/group interviews. This study has adopted the latter of these approaches, as I have opted to interview family members both together and apart. This choice was underpinned by my interest in exploring presently ‘linked lives’ within the domestic sphere; that is, the interweaving of biographies and how these shape family dynamics, interactions and communication in relation to energy consumption. These were key consideration for the study; particularly in relation to research question four (To what extent are individual identities and household arrangements implicated in the performance of everyday energy practices). It was hoped that conducting interviews with each member of the household (within reason) both together and apart, would shed light upon the complex dynamics of daily life by exploring the often-competing stories of individual

members, as well as the jointly negotiated, carefully woven collective accounts. Interviewing households both together and apart however, have important methodological and ethical implications, which I will now go on to discuss.

4.1 Interviewing Households Apart and Together: Methodological Considerations

4.1.1 Interviewing Households Apart

When interviewing households apart, it is important to consider whether interviews take place concurrently, at the same time in separate rooms, or sequentially, that is one household member after the other. Both approaches have their own set of advantages and disadvantages. For example, interviewing concurrently is argued to provide greater privacy for participants and removes the possibility that either researcher or interviewee will unknowingly be influenced by any prior interviews. Conversely, the strength of interviewing sequentially, particularly in households of multiple generations, is its utility in gaining access to younger members (Black *et al.*, 2011). Both interview types do have their own confidentiality issues however, as participants can still disrupt each other; for example participants who finish concurrent interviews early may check in on the other interview, disrupting its flow and possibly breaching confidentiality (Reczec, 2014). Such dangers thus make it necessary for the researcher to set the parameters of the interview carefully with all household members prior to data collection. The decision to interview either concurrently or sequentially however, most often rests upon logistic considerations and researcher resources (*Ibid.*). In the case of this doctoral research, being the only interviewer meant that it was impossible to interview household members concurrently.

In addition, including children and adolescents raises a new set of ethical and methodological challenges. It is widely recognised that children have varying competencies and interests, and that there is no one ‘magic method’ of carrying out research with them (Punch, 2007; 219). Those that conduct research with children and young people often advocate using creative methods to engage them with the subject matter (Harden *et al.*, 2000). This is based on the assumption that younger people, particularly children, find it difficult to express themselves verbally to unfamiliar adults

(*Ibid.*). However, as Punch (2002) reminds us, researchers should not assume that all young people are incapable of engaging with the methods used in research with adults;

‘By using traditional ‘adult’ research methods, such as participant observation and interviews, [young people] can be treated in the same way as adults and display their competencies. Thus, they are not being patronized by using only special ‘child-friendly’ techniques.’

(Punch, 2002; 330)

Interviewing young people as sibling groups has similarly been advocated as a way of reducing the possibility of children feeling intimidated by the interview encounter, and countering power imbalances between researcher and researched (Punch, 2007). Moreover, interviewing young people in groups is additionally thought to allow for more depth and breadth of responses, as members of the group may prompt, challenge or question each other (*Ibid.*). Sibling group interviews do have their own set of shortcomings however, for example, power struggles between different birth order positions can be challenging for the researcher to control (*see* Punch, 2007).

With these arguments in mind, I drew up a flexible interview schedule that included an ‘ice breaker’ drawing task as a means of facilitating reflection on the subject matter, and which included the possibility of interviewing siblings as a group. Consideration was given to the developmental levels of members, with initial questions and themes being prepared so as to engage children as well as adolescents (Anderson, 2000).

4.1.2 Interviewing Households Together

It has been argued that interviewing more than one household member together can increase the complexity of accounts, add depth to the research by revealing elements of negotiation and conflict, and enable the dynamics of relationships within households to be explored (Milburn, 1995; 36). Valentine (1999a) advocates interviewing all members of a household in studies of domestic situations rather than relying on one person’s testimony, which may not reflect the experiences of every member but also does not show the negotiated and contested nature of household relationships. Generating group

accounts with multiple generations however, adds another analytical dimension to explorations and understandings of family practices over time (Harden *et al.*, 2012).

Interviewing households together, however, can be problematic. On a practical level, group interviews are notoriously difficult to arrange, particularly in relation to finding a mutually convenient time that suits everyone (Valentine, 1999a). Moreover, not everyone will necessarily want to participate. Even when household interviews have successfully been arranged, conducting group interviews can be harder for the researcher to control or contain the dynamics within the group (Harden *et al.*, 2012). Problems are further compounded when interviewing multiple generations, as concerns stem from the existence of generational power relations and their potential for silencing the voice(s) of younger members of the household (Harden *et al.*, 2010). Curtis (2007) however contends that the presence of a parent/sibling can create a sense of comfort and support for a child in a joint interview situation, allowing them to express their views more openly than in an individual interview. What is certain, then, is that while recognizing generational power relations is important, it is by no means clear how these will play out within the research process (Harden *et al.*, 2010).

4.2 Individual Narrative Interviews

4.2.1 Interviews with Adults

Episodic narrative interviews (Squire, 2008) were conducted to elicit people's personal stories regarding their everyday practices relating to energy consumption; how these have developed over time, and how they relate to specific living arrangements and the wider community with which participants identify. This interview schedule drew heavily on the work of the Energy Biographies Project, with minor alterations having been made to better adapt it to the needs of my own research. Questions were designed to make visible those taken-for-granted everyday practices that consume energy; creating a space for reflection on the goods and services, practices and living arrangements that influence a household's energy consumption.

Individual narrative interviews took place in participants' homes between late November 2012 and early February 2013. Interviews were divided into three parts that were designed

to cover a wide range of topics that related to experiences of energy consumption. The first section of the interview explored participants' background, the community in which they now lived, and if they were aware of any energy-related interventions in their area. The second section of the interview involved eliciting detailed descriptions of everyday energy use (*i.e.* participants' routines and those of the rest of the household), how this might change at different times of the year (*i.e.* holidays), and of the similarities and difference between family members within and beyond the household.

The final part of the interview focused on futures, asking participants how they anticipated their energy might change in the future. Participants were encouraged to think about how their lives might change in the coming 5/10 years, and how these changes might impact their energy use. Unsurprisingly, some participants found it easier than others to discuss their future. For example, the Thomases wanted to become homeowners, and to have land to grow their own food and derive their energy from passive sources. Likewise, households with young children could foresee their energy consumption ratcheting up as their children enter their teens, whilst households with older children foresaw their energy consumption drastically reduce as the nest empties. For a few participants however, past experiences of unexpected events, or their current lifecourse stage, made it difficult for them to think of and plan for the future (*see also* Shirani *et al.*, 2015).

4.2.2 Interviews with Young People

Five out of eleven households in the sample had young people present. Within these households and where possible, I invited young people to 'opt in' to the study if they so wished (either individual interview or as a sibling group) after gaining the consent of their parents. Only one sibling group - three adolescents in the Thomas family - took up this offer. After an initial conversation with the siblings to discuss the purposes of the study, what participation would entail, and to offer them the opportunity to ask questions, the siblings verbally assented to participate and collectively chose to be interviewed together (*see* section 4.1 for a more detailed discussion of this process). Creative methods were not used in the interview given that the siblings did not seem to have any difficulty in discussing energy use and home life in our pre-interview conversation. Moreover, using a

creative technique could have potentially been difficult to control in a group interview setting (Punch, 2002).

The interview was thematically structured around themes of home life (*i.e.* living arrangement, daily routine, rules and responsibilities); school life (*i.e.* school day routine, energy use interventions at school (if any)); hobbies and friends (*i.e.* what sort of hobbies they had (if any), and spending time with friends outside of school). The final part of the interview, much like adult interviews, focused on the future; asking the siblings to discuss what they hoped to do after leaving school, and how it might change their energy use. The interview was conducted in the public space of the living room. While the siblings' parents were not present in the room during the interview, they were always in the immediate vicinity.

Going into the sibling interview I had concerns regarding the possibility of older members of the sibling group speaking over or for younger members of the group (Punch, 2007). While at times this did happen, I tried to encourage quieter siblings to contribute their views (Bloor *et al.*, 2001) without assuming an authoritative role, which could negatively impact their enthusiasm to take part. What surprised me however, was that the eldest siblings, Delyth and Lisa, would at times take on a facilitative role, by asking their brother and sister questions about their experiences and opinions (*i.e.* "What do you think Alex?"). As such, I felt that the group interview format worked well, as the siblings would often prompt each other to recall certain shared experiences, and were confident in agreeing or challenging each other's accounts.

4.2.3 On the Importance of Being Flexible

Adapting interviewing techniques to suit particular individuals, settings and contexts is often considered necessary by those that conduct social research, particularly when the research involves families in the domestic sphere (Bushin, 2007; Punch, 2009). Private space in the home for example is often limited, and the researcher must accept 'less than ideal' settings in which to conduct interviews, which may in turn, have consequences in terms of confidentiality (Bushin, 2007). Put simply, while interviewing different household members separately seems simple enough, in practice, the presence of other

household members can be disruptive to the interview process. In my own research, every interview was conducted in a 'public' space, usually that of the kitchen/dining room or the living room. Other than the odd interruption of others passing through the interview space, I (fortunately) did not experience many issues with regards to interview disruption from other household members. I did, however, experience scheduling difficulties with two households in particular, which I will now go on to discuss.

Having initially contacted the Griffiths and the Gwilyms to negotiate their participation, I arranged to meet both families at their preferred time and place (*i.e.* mid-week at their respective homes) to conduct the first round of interviews. Upon arrival I was greeted by Bryn into the Griffiths' home and Glyn into the Gwilyms' respectively. Both men proceeded to apologise for their partners' absence, as they had not yet arrived home from work. Given that their partners were the 'gatekeepers' to the household, I was ethically bound to ensure that each participant was voluntarily consenting to participation, and decided to give both men a copy of the information sheet to read and discussed with them what participation would involve (*see* section 4.1). Upon gaining their verbal and written consent, it was decided that their individual interview would commence, given that neither man was entirely sure when their partner would arrive home, and I did not want to overly intrude on their evening.

In both cases, interviews took place in the social space of the kitchen. Roughly a third of the way through each interview however, the men's partners arrived home. At this point I stopped the interview (and paused the audio-recording) to introduce myself, to hand over the information sheets and consent forms, and to explain, as I had previously done with their partners, what the research was about and what participation would entail. In both cases however, the newly arrived partners asked if it was necessary to be interviewed separately, at which point I got the impression that time was of the essence. The Griffiths had young children to feed and put to bed, and were preparing their evening meal, as were the Gwilyms - albeit without the presence of any children. In both cases I let the couple decide how best to proceed, that is, whether they would be interviewed separately as planned, or whether the newly arrived partners would join in with the interviews that were already underway. I decided to do this as I recognised that the logistics of conducting separate interviews often means that one person has to 'keep out of the way' in their own home, which could be physically difficult to achieve given the circumstances (*i.e.* layout

of the home and location in which the interview was taking place) (Morris, 2001). In addition, giving participants the choice was also felt to ‘empower’ them (Heaphy & Einarsdottir, 2012). Offering the choice however, resulted in both couples deciding to proceed in a couple-interview format, which upon reflection, could have been avoided by my offering to return at a later time to conduct the second interview. Proceeding in this way however, did have its benefits, particularly in relation to partners’ jogging each other’s memories and in the creation of richer accounts (Valentine, 1999b). Other than omitting the biographical part of the interview for the missing partners (Megan and Eluned), interviewing these two couples together was not felt to have adversely impacted the data.

4.3 Household Narrative Interviews

The second round of interviews took place approximately six months following the first (late Summer 2013) following the initial analysis of the first round of interviews. These interviews differed from the first round in that they involved interviewing the household together as a group (where possible and appropriate).

The household interview was separated into three main sections. The first section involved asking participants whether or not they had experienced any changes in the intervening period between interviews. Most people had experienced some change, while some had been relatively minor (*i.e.* the purchase of a bike), others had experienced major life changes (*i.e.* one participant had become pregnant). Discussions revolved around how these changes impacted daily routines, if at all, whether they had any long-lasting impacts, and what those would be. Opening the interview in this way served as an ‘ice breaker’, which established an informal, conversational style to the interview that put both researcher and interviewees at ease.

In the second part of the interview, households were asked to reflect on the tentative themes drawn from the first round of interviews, such as those relating to transport and to community. This should not be understood as simply a process of validating the findings but as an opportunity to gain further insight and refine the tentative themes that were evolving through my initial data analysis. In households with younger members, care was taken to involve each member by framing questions in a way that would engage both adults and young people. For example, I asked families about the ways in which distance

featured in their lives, and specifically engaged younger household members by asking about their wider social networks – how often they saw friends, how did they stay in contact *etc.* Making topics accessible in this way ensured that I was engaging each participant in reflecting on their own experiences in relation to that of the rest of the household.

In the third and final section, participants were presented with a poster for writing a set of ‘Energy Rules’¹⁰ for their household. The poster contained prompts such as “Always...”, “Never...”, “It’s strictly...” to aid participants in the task. Part of the reasoning for using this prompt was to; (i) encourage playful engagement with the study topic (everyday energy use) in a way that was accessible to multiple generations and would potentially balance out power relations between parents and children, and; (ii) bring group dynamics into focus, allowing for the observation of the interplay of different personalities in household decision-making within multi-occupancy households. During the task, I observed the interactions between household members as they negotiated what to put on the poster. Participants largely chose to note down the energy saving practices that they already engaged in, with both younger and older household members taking part with great enthusiasm. From my observations, it seemed that younger household members found this method particularly engaging, perhaps as it empowered them by allowing them to have their say (*see also* Gabb, 2008). Additionally, filling in an ‘Energy Rules’ poster became a safe way for family members to discuss tensions within the household, as siblings, parents, children and partners alike would playfully challenge each other on their bad behaviour. Humour was part and parcel of this as well, as participants would either attempt to ‘fit’ their answers to the prompts, or challenge them in humorous ways (*i.e.* “Try using local shops **only**”). These interactions and discussions revealed much about households’ ways of doing, particularly in relation to what was considered to be ‘necessary’ energy consumption.

Given the different household compositions - with two households consisting of only a single-person for example - I was concerned that such a task would seem trivial to participants. While it was important to consider how households were differently positioned in relation to the interview activity, I felt it equally important not to impart my

¹⁰ The ‘Energy Rules’ poster was developed by the Energy and Co-designing Communities team at Goldsmiths (Gaver *et al.*, 2015).

own judgements as to the suitability of the interview, choosing instead to ask each household whether or not they wanted to do it. While most households were happy to take part in the activity, two households opted out of the 'Energy Rules' task¹¹. While there were some people who did not wish to partake in the 'Energy Rules' task, those choosing to participate did so in different ways. For some participants this task felt more natural, as they could readily engage with the set task. For example, several households were able to create more than ten rules, while others struggled to produce four, the main reason to this being that they struggled to engage with the predefined phrases. I attempted to prompt these households by asking questions about energy saving measures, specifically, what they considered to be simple/difficult energy saving measures and whether they already did anything to save energy around the house – all the while reminding them that they did not have to finish the task in its entirety. Despite these shortcomings, the 'Energy Rules' poster was generally successful in generating rich discussions regarding household dynamics that specifically related to the consumption of energy.

4.4 A Reflexive Account of Researching 'at Home'

One of the central tenets of good research practice within the interpretive social sciences involves 'accepting the inevitable role of the researcher in the research process' (Henwood & Pidgeon, 1992; 106), and acknowledging that all knowledge produced within the research encounter is the fruit of collaboration between researcher and researched. The practical implication of this is that it requires the researcher to be reflexive about their practice at every stage of the research, from inception through to culmination (Flick, 2014). While I have tried to provide a reflexive account of each step of the research process, one element of my position as a 'cultural insider' must be discussed.

By far, the most significant aspect of my positionality that would have an impact on the research process is my proximity to the research setting, that is, my familiarity. As previously noted, there are many benefits to the insider status, particularly in relation to

¹¹ The Gwilyms (both in their late fifties) opted out of the task on the basis that they felt that it was perhaps better suited to families with young children that were learning about energy at school than to a household such as theirs. Likewise, Ceris Hughes (60s) declined to fill in an Energy Rules poster.

ease of access, immediate legitimacy in the field, expediency of rapport building and a nuanced perspective for observation, interpretation and representation being only a few (Chavez, 2008). However, as DeLyser (2001) reminds us, familiarity can signal problems too, as asking the simplest questions can present great challenges. Moreover, the insider status, when unchecked, can complicate or overwhelm the researcher role, and can cause difficulty in recognising patterns due to overfamiliarity (Chavez, 2008).

While I consider myself to be a 'local', I use the word insider with the caveat that, as Narayan (1993) reminds us, we all belong to several communities simultaneously - albeit to varying degrees - which makes us both insider and outsider at the same time. Indeed, the 'apparent insider' can prove to be an outsider as well, as the researcher's characteristics (*i.e.* gender, age, class, ethnicity, education *etc.*) and personal experiences might differ substantially from the people they are studying (DeLyser, 2001; 442). Thus our insiderness, much like our identity, is neither fixed nor static, but is rather a permeable social location that is experienced, expressed and negotiated between multiple actors (Chavez, 2008). According to these arguments, absolute notions of insiderness and outsidership are inadequate, and in many ways impossible. However, as Mannay (2010) asserts, 'to ignore questions of proximity is to assume that knowledge comes from nowhere allowing researchers to become an abstract concept rather than a site of accountability' (p.2). While the above arguments render the absolute insider/outsider dichotomy inadequate, the concept of insiderness does retain methodological usefulness (*Ibid.*). As such I will now go on to provide a reflexive account of my research experience, paying particular attention to how my own positionality shaped interview encounters.

Having been socialised within the study region (Banks, 1998), I shared with participants local knowledge, language(s) and cultural competencies specific to the research setting, and was thus a 'cultural insider' (Ganga & Scott, 2006) researching 'at home' (Jones, 1997 – cited in Hall, 2014). Having said this, the level of 'sameness' between participants and myself varied dramatically – age, gender, household arrangement, educational experience and position in the life-course were among these differences. As such, I often felt myself sliding along the insider-outsider continuum (Hellawell, 2006), as my positionality shifted depending on what locality I was in, to whom I was speaking to, and the topic under discussion.

Maintaining distance when researching ‘at home’ has been cited as potentially problematic (Chavez, 2006; Hall, 2009; 2014). Even though I was no longer a permanent resident of the region as I now reside in Cardiff, I was ‘at home’ by my own and by my participants’ definition. This served to create an almost instant rapport with participants, who were eager to ‘place’ me within their wider social networks. For example, during fieldwork I was often asked questions about my personal life, particularly in relation to where I was from, who my relatives were, which schools I had attended and so on. While for some this questioning might seem intrusive, I understood it to be a common cultural practice in this part of the world, and regarded it as part and parcel of building rapport and balancing out power relationships (to a degree) in a reciprocal manner. It is however, important to consider how self-disclosure on the part of the researcher influences relationships with participants and the material that emerges from the interview (Josselson, 2007).

Answering questions about myself, who I am (see above) as well as about aspects of daily life (*i.e.* what I had been up to the previous week/day *etc.*) inevitably had an effect on the research material, as topics from informal chats prior to the interview found their way into them. This was advantageous as participants drew upon our informal chats to illustrate how their experiences were similar or different to mine. In some instances, participants asked me to elaborate on something that I had said prior to the interview in order to illustrate a point of similarity or difference, and in these cases I answered as openly as I saw fit (*see also* Hall, 2009). As a result of my own self-disclosure, then, the interview took on a more relaxed, conversational nature, which helped facilitate exchange and put participants at ease.

5. Ethical Considerations

As a Economic and Social Research Council (ESRC) funded project, I followed the guidelines outlined in the ESRC’s Research Ethics Framework as well as those provided by the British Sociological Association (BSA, 2002). In addition to adhering to the above ethical guidelines, the study was also given ethical approval by the Cardiff University School of Social Sciences research ethics committee. However, as Bryman (2012) reminds us, adhering to ethical standards set by institutions and ethics committees does not

necessarily guarantee that all possible ethical dilemmas have been dealt with. As such, researchers should remain vigilant for ethical problems that might arise during the research process (Guillemin and Gillam, 2004). This section details the ethical issues encountered during the research process and how they were managed.

5.1 Informed Consent

The principle of voluntary informed consent and the right to withdraw from participation at any point is central to ethical research practice in the social sciences (Wiles *et al.*, 2007). According to BSA guidelines this implies ‘a responsibility on the sociologist to explain as fully as possible, and in terms meaningful to participants, what the research is about, who is undertaking and financing it, why it is being undertaken and how it is to be promoted’ (BSA, 2002). However, as Homan (1991) reminds us, implementing the principle of informed consent in social research ‘is easier said than done’ (p.73), as social research is by its very nature exploratory, which makes change difficult to anticipate. As such, gaining informed consent should be seen as an on-going process that must be renegotiated between researchers and researched throughout the research process (Miller & Bell, 2002).

An information sheet detailing the aims and objectives of the research, what participation would involve, and how the data would be stored and used was sent to prospective participants digitally. This information was reiterated verbally prior to each interview before any audio-recording equipment was turned on, where I emphasised the participants’ right to stop the recording and the interview at any point. At this stage, potential participants were encouraged to ask questions about any aspect of the research that they were unsure about. None did so, which I took to be a positive response. By going over the information sheets with participants verbally, I ensured that they were as informed as possible about the remit of the research and what participation would mean for them.

A debriefing period immediately followed each interview in which I asked participants how they found the interview experience, whether they would like any information omitted from the transcript and if they had any further comments to make. Participant feedback about being interviewed was overwhelmingly positive, with many likening being

interviewed to “having a chat with a friend”. No participant took up the offer to omit anything from their transcript, which may be due to the non-sensitive nature of the topics discussed during the interviews. When it came to Phase 2 interviews, participants were updated with information about the project’s development and their participation was verbally reconfirmed.

The process of gaining ‘informed’ consent however, is further complicated when working with groups, dyads, families or households, as relying on one person to act as ‘gatekeeper’ to the rest of the household/group/dyad/family means that it can be difficult to be certain that *every* member has voluntarily consented to take part (Valentine, 1999a). This is particularly the case when it comes to working with dependents (*i.e.* children and young people), as researchers must seek parental permission to involve children and young people under the age of 18 in their studies. Researchers often rely on parents to ask the child to participate, which by no means guarantees that the child has voluntarily agreed to take part (*Ibid.*). In light of such issues, Alderson (1995) asserts that social researchers should ask for the consent of both parents and child to take part, suggesting that children be given the option to ‘opt in’ rather than ‘opt out’ of the project. Before doing so however, the researcher should consider whether the child has the requisite capacity to consent to and participate in the study (Skelton, 2008).

In the case of my own research, five households contained at least one young person under the age of 18. Access to each household had initially been negotiated with a parent (the father in the case of the Davies and Dreyer families, and the mother in the case of the Evans, Griffiths and Thomas families). As was the case with adult participants, information sheets designed for children and young people (*see* appendix C and G) were sent in an email to the household ‘gatekeeper’ prior to my initial visit. A parental information sheet was also provided in the email to aid parents in explaining the research to their children (*see* appendix D and H). This also provided parents with additional information, such as examples of the questions being asked, that aided them in deciding whether they wished their children to participate. Prior to having any contact with children/young people, discussions with parents encompassed the age of the child, whether or not the child would be able to understand, and contribute to, the project, and

indeed whether they believed their child would *want* to take part. The Griffiths, Dreyer¹², Davies and Evans families each had one child/young person that was deemed eligible to take part, that is, they were felt to have sufficient capacity to understand the substantive nature of the research. Upon initial discussions with parents and having obtained their written consent, the younger members of the households that were eligible to take part were invited to talk to me (informally) in the parents' presence in order to gauge whether or not they wished to take part. In all cases it quickly became clear that the children/young people were not interested in participating.

The fifth family, the Thomases, presented a different set of challenges however, as three out of four siblings were eligible to take part. Upon gaining written parental consent, I arranged to talk informally to the siblings as a group about the research, as this was felt to create a less intimidating and more relaxing atmosphere in which the siblings could state whether or not they wanted to participate (Punch, 2009). Upon discussing the content of the information sheet and answering any questions that the young Thomases had, their 'assent' was verbally obtained and permission to audio-record the interview was given. It is important to note however, that gaining informed and voluntary assent in this way could have had the opposite of the desired effect, as children/young people may also feel pressure from their siblings to take part (Valentine, 1999a). Upon reflection, and in order to minimise the potential for unintended coercion, it might have been better to have negotiated participation with each sibling *separately* prior to the interview (Lewis, 2009).

During the pre-interview discussion and the sibling-group interview (round 1 interviews), the youngest child, Eva (aged 0-5), was present. While Eva lacked the capacity to provide an informed understanding of the subject matter, her presence was important both as a way of eliciting conversations with her siblings and for ensuring that she did not feel excluded. While I have framed her involvement as 'passive', she was actively involved in helping to steer conversations and providing moments of reflection for the older children. Her involvement was, however, 'passive', in that her perspectives were not captured in their own right. In essence her presence was more facilitative than substantive.

¹² While the Dreyers had three children, two were above the age of 18, and thus did not need parental permission to take part in the research. However, they were both unavailable at the time of the initial interviews, but were present for the family-group interviews in phase 2.

On reflection, the project could have been refined to better meet the needs of younger household members, which was something that was not as well thought through as it could have been when the project was conceptualised. Having said this, respecting the decision of children/young people is paramount to ethical research practice (Valentine, 1999a), and I have endeavoured to ensure that this is the case throughout the study. As with adults, the assent of the child/young person was renegotiated at each stage of data collection.

5.2 Confidentiality

Protecting participants' rights to privacy by anonymising their accounts is a common practice in qualitative research. Assuring participants that they can expect confidentiality is considered important for creating and reinforcing trusting relationships that are integral to the research process (Hall, 2014). However, as Tolich (2004) reminds us, 'confidentiality is like an ice berg; only the tip is known, but what lurks unseen, below the surface, is also a source of potential harm' (p. 101).

Traditional assurances of confidentiality are harder to keep in research involving connected persons (*i.e.* research involving multiple family/household members or people who live and operate within the same community). The stories we tell not only involve family members, friends, and co-workers, but also the places where our lives unfold, both past and present; and as Josselson (2007) reminds us, simply changing the name of the participant is not enough to ensure that they will not be identified. Kaiser (2009) shares in this concern, and argues that while some identifiers are easily recognised and 'dealt with', such a combination of unique traits can sometimes be used to identify participants resulting in what she terms 'deductive disclosure' (p. 1636). Despite these concerns however, qualitative research codes and guidelines continue to focus on traditional or 'external confidentiality', all the while failing to acknowledge that 'potential breaches of confidentiality exist among a sample of informants who know each other intimately' (Tolich, 2004; 105), which is an issue in community and family research. For example, interviewing families together and apart raises issues of what Tolich terms 'internal confidentiality', because even when all family members have given their consent to be

interviewed, ‘there is still the problem of how to retain confidentiality *between* family members’ (Bjørnholt & Farstad 2014; 6 – emphasis my own).

In the case of this study, and according to convention, assurances of confidentiality were provided in written form (*i.e.* information sheets & consent forms) and reiterated verbally prior to the interviews at each stage. In light of the issues raised in the discussions above, I verbally explained to participants the difficulties and limitations of maintaining confidentiality both *within* and *between* households (Hall, 2014)¹³, and assured them that every effort would be taken to minimise the chance of ‘deductive disclosure’. Participants seemed accepting of this and no issues were raised. Efforts to anonymise data were explained to include changing the name and identifiable characteristics of participants, along with the names of significant others and places mentioned during interviews. In some cases however, this meant making significant alterations to certain participant/household details in order to prevent them from being recognised. Despite this altering of information, every effort was taken to retain the original meaning and significance of the data.

Maintaining the confidentiality of participants was at the forefront of my mind during data collection, as the literature had informed me that conducting research with people who know each other, be that through the wider community or more intimately, is fraught with tensions. Valentine (1999b) for example, describes doing research with families as an ‘ethical minefield’ as participants have little control over what other family members disclose about them, whether in their presence or in their absence (Hall, 2014). As such, researchers are faced with several ‘ethically important moment[s]’ (Guillemin & Gillam, 2004) during interviews, as ‘members of the same family [...] may have different sensitivities even to seemingly innocuous questions (Margolin *et al.*, 2005; 159). Whilst sensitive topics were rarely mentioned, I was careful not to disclose details of what was discussed in separate interviews during the family interview setting, unless the participant themselves chose to do so of their own accord, so as to avoid causing any potential upset.

A second concern for this study was that of maintaining confidentiality between different families (Hall, 2014; *see also* Ellis, 1995). This is a particularly pertinent issue given the

¹³ *i.e.* that ‘despite using convincing pseudonyms and changing details, it is plausible that participants could be able to recognise themselves and possibly others’ within any texts produced from this research. (Hall, 2014; 2185).

recruitment strategies used for gaining access to participants (*i.e.* self-selection, snowballing and use of personal networks). As a result of these recruitment strategies, some of the families who took part in the research knew each other, albeit to varying degrees, as they had ‘overlapping social circles’ (p. 2184). As such, Hall (2014) urges researchers to recognise and anticipate that participants could mention each other in passing, or may casually enquire about others taking part in the research out of politeness, curiosity or simply to make conversation. If such a circumstance were to have arisen where a participant would enquire about another, which luckily it did not, I was prepared to remind them, as Hall suggests, that no information could be disclosed, and that the privacy of everyone involved in the research would be upheld to the best of my abilities.

6. Data Analysis: Process, Interpretation and Representation

The interviews provided me with hours of rich audio data that needed to be converted or translated into written text in order to be analysed. Whilst transcription is often reported to be an arduous and time-consuming process (Bryman, 2012), personally transcribing my own material helped me familiarise myself with the data, which is considered essential to its interpretation, and representation (Lapadat, 2000; 204). In addition, transcribing my own material enabled me to assess my interviewing style, providing me with the scope to alter my approach in future interviews if need be. Whilst transcribing my own data was at times a pleasure and at others a chore, I also felt that it was *necessary*, given that the study had been conducted bilingually ‘at home’. As such, my position as a ‘researcher near’, coupled with my extensive experience of ‘living across languages’ both professionally and personally (Temple & Young, 2004) meant that I was best placed to transcribe the data.

As with any other act of translation, transcription is a ‘process that is theoretical, selective, interpretive and representational’ in nature, reflecting both practical and theoretical concerns (Davidson, 2009; 37). Converting spoken word into written word inevitably involves some form of data reduction (Lapadat, 2000), as researchers make choices regarding what is considered relevant data, and how best to (re)present it (Davidson, 2009; Kvale, 1996). Oliver and colleagues identify two main transcription conventions, which are; (i) naturalised (or verbatim) transcription, whereby the researcher attempts to retain as much detail as possible by transcribing every pause and utterance – voluntary or

otherwise; and (ii) denaturalised transcription, which is less concerned with conversational mechanics and more concerned with the substance of the interview, that is ‘the meanings and perceptions created and shared during a conversation’ (2005; 1277). While advocates of the naturalistic style posit that transcribing in this way produces a more faithful account of the interview - facilitating researcher familiarity with the data (Halcolm & Davidson, 2006) – critics argue that quotes drawn from verbatim transcripts are often difficult to read (Davidson, 2009). Given that my analytical interest lay not in the mechanics of speech, but in the stories created and shared during the interviews, I felt that an exact transcription was not necessary, so long as the content remained true to the original meaning (Oliver, Serovich & Mason, 2005). Having said this, some verbatim features (*i.e.* pauses, laughter, sighs *etc.*) were included in the transcripts where appropriate and contextually relevant. As such, I would situate the transcription style adopted in-between naturalised and denaturalised conventions. The transcription protocol used for this study (*see* Table 2) was drawn partly from the literature (namely, MacLellan, MacQueen & Neiding, 2003 and MacLean, Meyer, & Estable, 2004) and partly from conventions used by Thomas (2013).

Table 2: Transcription protocol

Item	Protocol
Inaudible speech	[Inaudible segment]
Emphasis	<u>Underlined</u>
Brief pause	(...)
Interruptions in speech	Interru-
Mispronunciations, slang, informal contractions, Welsh-in-English & vice versa	Transcribed as participant says them
Filler words (<i>e.g.</i> um, yeah)	Transcribed where they are meaningful, or deemed important to the context (<i>e.g.</i> indicating uncertainty or discomfort). Elsewhere they are ignored
Emotional Content	Transcribed when contextually important, where they will be written as [laughs], [sighs], [said in a sarcastic tone] <i>etc.</i>
Gestures	Not transcribed
Prosodic features (<i>e.g.</i> pitch, loudness)	Not transcribed

Discussing irrelevant information (e.g. the weather today)	Not transcribed. Summarised as [<i>e.g.</i> talking about the weather]
Reported speech	Put in quotations (<i>e.g.</i> she said “what’s going on?”)
Irrelevant text has been omitted	[...]

Whilst transcription is already a complex task, it is further complicated when dealing with large amounts of bilingual or multilingual data (Halai, 2007), as is the case with this research. As previously noted, I understand translation (both from spoken to written word, and from one language to another) to be inextricably bound to the researcher-translator’s socio-cultural positioning, as translation inevitably involves making decisions that have a direct impact on how the data is interpreted and later reported.

Equivalence, that is the degree to which a target-text bears the closest possible resemblance to the source-data, is a central concern in both transcription and translation (Ross, 2010). Whilst every researcher strives for equivalence in their transcripts, Ross - drawing on the work of House (2006) - states that equivalence when translating from one language to another is particularly hard to achieve given that it is; (i) socially and historically determined, (ii) affected by constraints of specific languages, linguistic and social conventions, and (iii) shaped by the researcher-translator’s comprehension, creativity and implicit theories (pp. 6). Furthermore, given that meanings are constructed as well as expressed through language, expecting to always find absolute equivalencies across languages and cultures is a fruitless endeavour (Jagosh & Bourdreau, 2009). In light of these arguments, and for practical purposes¹⁴, I decided to keep interview transcripts in their original or source language for analysis; choosing only to translate into English the sections of Welsh-medium interviews that would be presented in the final thesis¹⁵. More detail on this process will be elaborated further on in this discussion.

¹⁴ Researchers that choose to translate full interviews are essentially doubling their workload (Rossman & Rallis, 1998). Given the resource constraints of Doctoral research I opted not to translate full interviews.

¹⁵ At times when Welsh words defied translation I resorted to transliteration, that is ‘replacing the words of one language with the words of another because an exact translation is not possible’ (Halai, 2007; 352). An example of this would be the Welsh word “hiraeth”, which does not have an equivalent word in English. In such a case, the ‘untranslatable’ word was used in the ‘target-language’, with a footnote explaining the meaning of the word.

Making sense of the large amount of rich and often messy data produced in qualitative research can seem a daunting task for students and more experienced researchers alike (Coffey & Atkinson, 1996). There is not a single nor correct approach to analysing such data, thus researchers must find 'artful' and productive ways to organise, inspect and interpret their materials (*Ibid.*). Ultimately, analytic choices should be based on what methods will generate the most sufficient answers to the aims of the research (Saldaña, 2011).

The complexity and richness of my own research materials necessitated more than one analytic strategy for me to be able to adequately 'disentangle' the data (Flick, 2014). I thus drew upon two differing, yet complimentary, approaches drawn from biographical and narrative research traditions. This enabled me to understand the data both thematically, across the sample, as well as through individual and household case studies (Thomson, 2007). While analysing the data thematically allowed me to compare cases across the data set, analysing individual cases enabled me to better examine how biographies are shaped by structural factors, that is socio-technical systems and the cultural, historical and geographical contexts in which they are embedded, both in and through time (Henderson *et al.*, 2012). I will now go on to discuss the analysis process.

The process of disentangling the data began with importing transcripts into the computer assisted qualitative data analysis software (CAQDAS) package NVivo (version 10) for coding purposes. The use of CAQDAS in qualitative analysis has long been met with both enthusiasm and reservation from the academic community. Critics of CAQDAS object to the overly prescriptive approach to analysis that such software packages encourage, which in their view has implications when interpreting the data (Coffey & Atkinson, 1996; Weitzman, 2000). The reported advantages of using such packages however, include; the quick and efficient management of large amounts of textual material, improved consistency and analytic rigor, and ease of navigation and retrieval of codes (Spencer, Ritchie & O'Connor, 2003). Using CAQDAS as a 'facilitative tool' (*Ibid.*) aided me greatly in the process of segmenting, sorting, managing and retrieving large amounts of textual data with relative speed and ease.

Through NVivo I was able to code my data and move beyond a surface level understanding. Yet I feel it incumbent to identify that coding is not a one off incident, but rather an iterative process, which requires the researcher to constantly revisit the data.

This process began with open coding, which entails dividing and categorising the data according to the content and the concepts embedded within them, with codes ranging from descriptive to more conceptual categorisations. This process entailed constant comparison within and between codes to ensure a good 'fit' with the data. Keeping theoretical memos was part and parcel of this process, allowing me to note down new thoughts and insights as themes emerged and developed. Building upon this process of open coding, the analysis proceeded by grouping these codes into broader and more theoretically relevant meta-themes. This process continued until no new codes, themes or insights were recognised, that is, theoretical saturation had been reached. While the above approach to coding could be described as 'grounded', that is, data-driven, it is important to note that researchers do not approach analysis as empty vessels. We bring our own set of assumptions - theoretical and otherwise - to the data, and so analysis cannot be dissociated from the researcher's prior knowledge. The emergent theoretical account is thus derived from a constant 'flip-flop between ideas and research experience' (Henwood & Pidgeon, 1992; 104).

Of particular concern for my own research was the need to tease out meaning within its context, which could be lost if the data became too fragmented. In order to guard against over-fragmentation a wide coding protocol was adopted, where I sought to reduce abstraction and retain meaning and context by coding in paragraphs as opposed to sentences or on a line-by-line basis as recommended by some authors (*e.g.* Charmaz, 2006). Highlighting larger chunks of text in this way, whilst on the surface seemed rather unruly given that many extracts were inevitably coded at multiple nodes, this strategy provided sufficient context for interpretation.

In addition to this, I also considered individuals and households as cases. In order to build individual case narratives, I drew upon techniques used in qualitative longitudinal research (Holland *et al.*, 2006; Henwood & Shirani, 2012) for studying biographical data and case histories (Thomson *et al.*; 2004; Henderson *et al.*, 2012), as developed in energy research by the Energy Biographies Team (case studies - Butler *et al.*, 2014) for investigating individual narratives of biographical change and its implications in terms of energy consumption. The process of analysis of case studies involved familiarising myself with each interview (both individual and household), and identifying themes pertinent to each

participating individual inductively. Individual case narratives were constructed by using what Saldaña (2003) has termed ‘through lines’, which ‘describe, connects, and summarizes the researcher’s primary observations of participant change’ (p.151). In taking decisions as to which through lines to follow, I focused, as did Butler and colleagues (2014), on aspects of the person’s narrative relating to ‘that which they identified as sustainable and unsustainable practices within their lives’, which help ‘open up thinking about how and why particular paths are followed, while others are not’ (p. 173). Individual case narratives were then put into conversation with each other (Thomson, 2007) to build household cases.

6.1 A Note on Re-presenting Bilingual Data

I encountered few difficulties when translating excerpts for use in the final thesis as I was not aiming for linguistic equivalency, but instead for contextual or ‘inexact equivalence’ (Halai, 2007). In order to do so I followed the example set by Halai, whose translation practice sets out to meet three following requirements;

- i. It must make sense in the target-language
- ii. It must convey the spirit and the manner of the original
- iii. It must be easily read

Throughout this process I noted my translation-related choices in my research diary so that I could reflect and refine my interpretation of the source text. This is a further method of ensuring the validity of my interpretation, and safeguarding against the misrepresentation of participant narratives (Young and Ackerman, 2001). Following this rationale, I had originally intended to present Welsh-medium in its original form side by side with the respective English translation, so as to retain the richness of the data in the original language (González y González & Lincoln, 2006). However, the word limit of the thesis was felt to be too constraining for such a (re)presentation strategy, which would in addition reduce the readability of the thesis and disrupt its flow. As such, I chose to indicate in the thesis where excerpts had been translated by noting in the footnote that the extract is (i) a translation, and (ii) that the original material can be found in the appendices.

7. Reflections

This chapter has outlined the methodological underpinnings of the research undertaken and discussed the methods used. The full account of the data collection phase from its inception through to analysis stages and beyond, demonstrates that the research was undertaken in a sensitive, responsible and systematic way. The following chapters will present the findings of the research.

Chapter Four

Emplacing Energy: Practice in Place

1. Introduction

This chapter begins the substantive section of the thesis by addressing research question one:

1. How does living in a ‘deep rural’ locality shape the performance of energy consuming practices?

In order to understand how and why energy practices develop in certain ways it is necessary to examine the landscape in which they are embedded. This means considering the role of space and time in forming the context of everyday life, as every action takes place some-*where*, some-*when*. This is particularly significant for a study of social practices, as noted by Lawrence Buell (2011), ‘the where of existence precedes the what of social practice’ (p.44), that is, that the social and physical contexts in which practices are embedded determine the meanings, skills and materials that are available (Hall, 2011). Consequently, when considering the everyday lives of ‘deep rural’ dwellers, it is not only the physical context that bears significance when it comes to energy consumption but rather how it is locally interpreted and navigated (Bartiaux, 2012). It is in this vein that analysis of the data took shape.

Two broad themes emerged from the data that were directly linked to two areas of practice; mobility and heating practices. The first theme, which will be discussed in section two, is that of distance and its role in shaping mobility practices. The second theme, considered in section three, explores how infrastructure, both in the macro and micro-context, influences heating practices, particularly in relation to those who live off-grid.

2. Distance & Mobility

Unsurprisingly, distance, i.e. between places of residence and centres of employment, recreation and education, was a dimension of place that was discussed in depth by participants, as it shaped their everyday mobilities;

We're at least twenty miles -one way that is- thirty [miles] even from centres of work. Caernarfon is the closest to here, Bangor even. So it effects your chances of finding work if you want to live here, and it effects the time you spend away from home, and the cost of course.

(Dylan, 40s, remote hamlet)¹⁶

Here, Dylan highlights the limited employment opportunities in his locality, which forces rural residents to travel significant distances to work on a daily basis. Indeed, for economically active participants¹⁷, including those that were self-employed, commuting and/or long-distance work-related travel could exceed sixty miles a day. Dylan also draws our attention to the interconnected nature of time and space, as time spent travelling detracts from time that could be spent with family or achieving other goals. Finally, there is also an economic dimension to Dylan's narrative, as he hints towards the costly nature of such mobilities; a dimension that I will return to later on in this section.

One of the most significant points raised by most participants was the centrality of the car to their everyday mobilities. Indeed, each participating household had access to at least one car, with six out of 11 households having access to two. The car was often deemed to be "necessary" (Alys, 30s, remote hamlet)¹⁸, with participants often presenting themselves as having little or no alternative; "we have to drive everywhere, we don't have a choice" (Eluned, 50s, small village)¹⁹. For some, the car had become a "symbol that you're not confined to your square mile like it used to be way back when" which they believed that the desire for a car had become "ingrained in the psyche here" (Rhian, 50s, isolated dwelling)²⁰. Clearly then, the use of the car had become ingrained into the social norms of the localities in which these people live, making it difficult for them to imagine alternative ways of getting around;

¹⁶ All of Dylan's excerpts used in this chapter are my interpretations from the source Welsh-language data. To see the source data used for this chapter, please see Appendix I.

¹⁷ 13 out of 19 economically active participants mentioned using the car for commuting or work-related travel (including 7 self-employed participants, and 2 seasonal workers – 20 year old Cai and 22 year old Glesni)

¹⁸ All of Alys' excerpts used in this chapter are my interpretations from the source Welsh-language data. To see the source data used for this chapter, please see Appendix I.

¹⁹ All of Eluned's excerpts used in this chapter are my interpretations from the source Welsh-language data. To see the source data used for this chapter, please see Appendix I.

²⁰ All of Rhian's excerpts used in this chapter are my interpretations from the source Welsh-language data. To see the source data used for this chapter, please see Appendix I.

Everything is further away more or less. If you live in a town or something you can walk to the shops [...] But [here] everyone drive cars. Even though it's only a mile and a half to the nearest shop, people would rather go in their car than use a bike or walk. People think they have to use the car, that it can't be helped, that they have to take the car everywhere [...]

(Cai, 20s, isolated dwelling)²¹

The prevalence of car use in the sample clearly shows that such patterns of everyday mobility are heavily reliant on a system of automobility, which has set in train new socialities, of commuting, family life, community, and leisure (Urry, 2004; 28), particularly in rural Britain. For example, the growth of car ownership during the latter half of the twentieth century encouraged new journeys to be made that were previously not possible in a system of public mobility (*Ibid.*), which meant that people ventured further from their places of residence than ever before. In rural places, the consequent weakening of geographical ties between residences and workplaces meant that long-distance commuting became a viable alternative to out-migration (Green, Hogarth & Shackleton 1999; Milbourne & Kitchen, 2014). For those who dwell in the countryside then, car ownership can be viewed as being both economically and socially beneficial (Lucas & De Vine, 2008). Despite the increased flexibility afforded by a system of automobility however, the limited availability of skilled employment opportunities and the prevalence of low wage sectors in remoter areas means that out-migration is still a reality for some, particularly in the case of economically active young people (Stockdale, 2004);

A co-worker of mine, her contract is coming to an end soon and she's said that she's moving away after that. The cost is too much. Say that she gets a job in Caernarfon, she'd have to travel sixty miles a day, which is what, a tenner to fifteen pounds a day [in petrol costs] maybe? So that's the best part of a hundred pounds a week just on petrol. So what you get is people of working-age leaving the community -they have to leave. You know, the Dwyfor-Meirionnydd electorate has the lowest average income in the UK, and so between earning less [here] and the fact that everything costs more because of transport costs -you know, it effects the cost of food and fuel that arrive here- it's just unsustainable [...]

(Dylan, 40s, remote hamlet)

²¹ All of Cai's excerpts used in this chapter are my interpretations from the source Welsh-language data. To see the source data used for this chapter, please see Appendix I.

Reflecting on the experiences of a colleague, Dylan provides a valuable insight on occasions where out-migration is very likely. Drawing attention to the economic dimensions of place once again, he highlights the dual issue of lower than average incomes and the higher costs of raw materials, which have social implications as young people are forced out of the area. Dylan asserts that remaining in the area is both socially and economically “unsustainable”. It could be additionally argued that the greater demand for mobility and a reliance on cars in particular, makes staying in rural areas environmentally unsustainable. This issue was raised more explicitly by Bryn, who believed that “there is a limit to how green you can be, especially when you live in the countryside. Everyone’s in a car aren’t they?” (Bryn, 30s, small accessible village)²².

Evident within these narratives is a sense that rural dwellers, whilst privileged enough to live in the countryside, are at an inherent disadvantage, which begs the question; why remain?

It doesn’t make sense does it? It must be that people want or choose to stay here, and there are plenty of people who choose not to aren’t there? And that’s a pity.

(Dylan, 40s, remote hamlet)

Evidently, how people relate to a place is particularly important. For example, notions of home, heritage and family featured strongly in discussions with participants like Dylan, who had been brought up in the area and had family living nearby. These notions were equally present in the narratives of incomers (both recent and long-established) who have familial connections to Wales that extend into the past (e.g. Michael), and in the case of some, project into the future (e.g. Ian & Grace). Consequently, this strong sense of attachment and belonging served to ‘root’ people in a place that necessitates a great deal of everyday (auto)mobility (Gustafson, 2001; 2006; Milbourne & Kitchen, 2014).

²² All of Bryn’s excerpts used in this chapter are my interpretations from the source Welsh-language data. To see the source data used for this chapter, please see Appendix I.

2.1 Modal Choice: Locked-in?

Thus far I have demonstrated how meaningful attachments to place can influence more energy intensive travel practices, particularly for those who live in deep rural communities. Almost every participant in the sample noted that they relied on personal motorised transport for most of their everyday journeys, which was particularly interesting given that each household was within a two-mile radius of the nearest bus stop or train station. Despite being so close to sources of public transport however, only a handful of participants admitted to having ever used them. Rather than using public transport for their everyday mobilities however, these individuals used it for those infrequent, longer distance journeys to visit family and friends or for holidays. Why then, in the presence of alternative modes of transport, do most households rely on cars for their everyday journeys?

For most participants, their use of the car as the primary mode of transport was related to the perception that the quality and coverage of public transport services could not meet their daily needs, particularly when it came to commuting. A key part of this issue was the perception that bus and rail operators had failed to integrate their services effectively;

Trains and buses are never convenient. They run on the same timetables so they're always running parallel to each other, rather than working together if you know what I mean -so if you can't catch a train you can catch a bus or wait for half an hour for the next one- but usually there's a two hour wait between a bus and a train [laughing] it's just dumb!

(Megan, 30s, small accessible village)²³

According to Megan, the lack of integration between bus and rail services is the product of privatisation, as public transport is provided by commercial operators who compete for fares, resulting in a concentration of bus and rail services at peak hours “rather than trying to fill in the gaps”. Like many other Western European countries, the UK has introduced market elements into rural public transport systems in a bid to make them more commercially viable (Gray, Farrington & Kagermeier, 2008). With less than half of the operational costs being covered by ticket sales (*Ibid.*), these services are often state subsidized. Due to the heterogeneity of rural settlement patterns, which vary considerably

²³ All of Megan's excerpts used in this chapter are my interpretations from the source Welsh-language data. To see the source data used for this chapter, please see Appendix I.

between accessible rural towns and villages to deep rural hamlets and isolated dwellings, commercial operators are more likely to concentrate their services along main roads with higher population densities. By concentrating their services at peak times (both daily and seasonally), bus and rail operators service a greater number of passengers along these routes, which maximise tickets sold. Indeed, services were reported to be few and far between by households situated in smaller villages and hamlets, as exemplified by the following quote;

If I had to rely on a bus instead of a car, I'd find it difficult to reach clients outside the village because of the time limit you know -just because the service isn't every ten minutes- it doesn't work like in the city.

(Bryn, 30s, small accessible village)

Once again the entanglement between spatial and temporal elements of place serve to reinforce energy intensive practices, as the speed, flexibility and convenience associated with the car makes it a more attractive mode of transportation. Indeed, several participants noted that using public transport to travel to work was particularly difficult given that the services that were available to them locally often were not direct services to their chosen destination. For them, a single journey could involve changing between several services, making what would otherwise be a straightforward journey into a convoluted and complicated chain by public transport.

If you don't have a car, you have to go from A to B to C just to get to your destination.

(Ceri, 60s, small accessible village)

One participant in particular, Jon, stated that he had once attempted to use public transport to get to Bangor, some 40 miles from his home, while his car was off the road. In order to travel such a distance, Jon needed to make 3 connections per journey. Whilst the journey to Bangor had been relatively uneventful, the return journey was anything but;

The Llandudno to Bangor bus was ten minutes late, and by the time we got to Caernarfon I think it was running half an hour behind schedule. I lost the connection to Porthmadog -there's a lack of information around Caernarfon bus station and on buses- but I did get a bus as far as Porthmadog but then I ended up having to hitch a lift to get back home.

(Jon, 50s, small accessible town)

According to Bruinsma, Rietveld & van Vuuren (1999) reliability is an important consideration in the choice of transport mode and route (p. 360). In Jon's case, the negative experience of missing a critical connection had since made him wary of using public transport to get to Bangor again, as he feels that he needs to have "an assuredness that [he's] going to make [his] connections", which bus and rail operators cannot guarantee. Indeed, experiences like these serve to reinforce norms associated with habitual car use, as the car is perceived to be the only reliable and convenient option when it comes to meeting the transportation needs of households, and in some cases, of the wider family.

Other ways of getting around, such as cycling and walking, were similarly dismissed by participants, based on the distances between destinations as well as the limited infrastructure in place. For example, safety was a concern for Eluned (50s, small hamlet), as the narrow and winding roads in her area lack pavements, which make it dangerous for her to walk or cycle to the nearest shop some two to three miles away. For Bryn (30s, small accessible village) and Lowri (20s, isolated dwelling), the mountainous topography of the landscape rendered it difficult, even for those in peak physical condition, to viably cycle some of their short-to-medium distance journeys.

Evidently, time and space are inseparable when considering mobilities, as temporal constraints in relation to responsibilities within and beyond the home, coupled with distance between places, are key considerations when it comes to modal choice for participants.

2.2 Navigating Spatio-temporal Constraints

In considering everyday mobility practices, the data suggests that households manage the multiple and sometimes conflicting demands on their time by employing different strategies to limit the amount of journeys made on a daily or weekly basis. One such strategy was that of trip synchronisation and trip chaining in order to manage the temporal demands of home, work and family life. For example, Eluned (50s, small hamlet) noted that she would regularly "run a few errands", such as the food shop, on her way home for work. Ffion (20s, small village) would routinely take her elderly grandmother shopping to a nearby town every Monday, and would simultaneously shop for her own household. In

a similar vein, Bryn (30s, small accessible village) synchronised the family food shop with his son's football training;

The children often go to after school clubs and so on -not every night, but on Monday night I take our son to play football, so I have about three quarters of an hour to do the food shop, so it's rush, rush, rush at the Co-op. But it's great 'cause it's so quick -just for the basics you know- run 'round the shop -out- collect him- and then back home. Pffew! That's how I like to shop! [laughs]

(Bryn, 30s, small accessible village)

Virtual mobilities afforded by access to the Internet (Milbourne & Kitchen, 2014), also played a significant part in strategies to reduce corporeal mobility. Ten out of eleven participating households had access to the Internet, which was deemed to be a necessity in the countryside. For those who were self-employed or worked from home regularly, having access to the internet was integral to their jobs. For some, digital media such as Skype were important tools for work-related communication;

I had my first Skype meeting last Friday morning. I've done video conferencing before but not Skype. I know that the connection isn't brilliant here, but it's better than having to travel isn't it?

(Dylan, 40s, remote hamlet)

I haven't had that many meetings over Skype [yet], but when I have it's saved me two hours' travelling, and like god knows how much diesel! (...) I think that's great.

(Lowri, 20s, isolated dwelling)

Digital social media such as Skype and Facebook were also used for a range of communicative purposes beyond the workplace. For instance, Megan and Alys noted that Facebook had become the primary communicative tool used by organisers of their children's after-school clubs. Skype was used by Grace (40s, small accessible town) to keep in contact with her eldest daughter who had gone travelling, as well as relatives who lived abroad. Facebook was also important to young people within the sample, as distances between settlements meant that it was difficult to maintain face-to-face contact with their friends. As such, most participants felt that internet connectivity and its communicative benefits have become integral to youngsters' social lives;

Cai If I want to go somewhere with a mate, I can't just walk next-door - knock on the door and ask [...]

Glesni I think that as soon as we had [internet] it became almost impossible to live without it, 'cause everyone lives so far apart, everyone's friends are scattered all over the place, you can't go to the pub and know that everyone's there. You have to organise things more, sort out lifts, who's driving, which buses to catch -stuff like that- just so that you can meet up. Maybe 'cause we're in the countryside we need the contact more and more, you know, with the wider world.

(Cai & Glesni, 20s, isolated dwelling)²⁴

Whilst these virtual mobilities dissolved distances at a click of a button, it is worth noting that virtual travel does not replace the need to be physically mobile, but rather, is complementary to it. For example, it is impossible for any of the participants in the sample to have worked from home in a complete sense, as their jobs ultimately involve a degree of face-to-face, or 'co-present interaction' (Urry, 2002) – be it with colleagues or with clients. Likewise, while social media serves as a platform for young people to be virtually co-present, it does not replace the need for face-to-face social contact.

3. Infrastructure: Keeping Warm at the End of the Line

Once again, infrastructural constraints, this time in relation to the gas grid, were raised by participants as a dimension of place that plays a significant part in the shaping of household energy consumption;

It's geography that is the greatest force and power. We're off mains gas aren't we? We're at the end of the line in terms of the grid.

(Dylan, 40s, remote hamlet)

Nine out of the eleven households were off the mains gas network (see Table 1); none by choice. While the electricity network is very complete in both urban and rural areas, the gas grid is not as well developed (Groenenberg *et al.*, 2011), with large swathes of rural Wales being beyond its reach.

²⁴ All of Cai and Glesni's excerpts used in this chapter are my interpretations from the source Welsh-language data. To see the source data used for this chapter, please see Appendix I.

Within my sample, households that were beyond the reach of the mains gas network, perhaps unsurprisingly, tended to be located in smaller, more remote settlements and isolated dwellings (*see* Table 1). However, there were some that were off-grid in more sizeable communities, such as Jon, who relied on bottled LPG given that mains gas was unavailable in the otherwise well-serviced seaside town in which he lived. For all of these households there is little prospect of ever being connected to the gas grid given their geographical distance from the existing network and the inherent costs involved with their connection.

3.1 Off-grid Energy: Variable, Volatile & Vulnerable

Unlike their counterparts that are connected to the mains gas network, off-grid households do not benefit from having a fuel supply that is always ‘on tap’. Instead, they are reliant on purchasing alternative fuels, such as liquefied petroleum gas (LPG) and heating oil, which is most often physically delivered to their homes by a local supplier. While Megan and Bryn were fortunate enough to be able to purchase LPG in person from a local depot, many participants noted that their fuel(s) of choice was transported over sometimes-considerable distances in order to reach their homes. For example, Jon’s LPG delivery was by far the furthest travelled, as it was delivered from Leamington Spa, a distance of over a hundred and fifty miles away from his home by the sea. According to Jon, the distance travelled by fuel deliveries undoubtedly has an impact on the price he pays for gas.

Given that they had a more expensive per calorie (primary) energy source (Baker, 2011; Consumer Focus Wales, CFW, 2011), several households stated that they would resort to supplementary heating in order to extend their fuel supply. Indeed, Ffion, Dylan, and Ceris²⁵ all stated that they would wait until it was “cold enough” (Ffion) to start using the central heating, relying instead on the fireplace/ log burner to keep heating prices down. In a similar vein, Michael noted how increasing LPG prices over the years had led him to do the same;

²⁵ *See* Chapter 6 for an in-depth discussion of Ceris’ situation

When we first moved here, which was sixteen years ago, bottled gas was about forty-six pounds for a big cylinder. It's now about a hundred and fifty -it was up by about a hundred and ten at least- but I expect it'll go up again. So it's more than doubled, its probably gone up by two hundred and twenty percent, which is probably -in terms of our consumption- probably another two or three hundred pound a year. But we [recently] had a lot of trees blow down over there, so we're now gearing up to produce more wood for our wood burner, so we'll probably rely more on the wood burner stove, which only heats one room [...]

(Michael, 60s, isolated dwelling)

Like Michael, many other households reported acquiring free firewood in a similar manner; Peter largely uses off-cuts from his carpentry business to fuel his Rayburn, and Glyn and Eluned manage their own patch of woodland from which they source their firewood. The couple also salvage wood from skips, roadsides, public land and from commercial logging operations conducted in the nearby forest; "it's better than letting them rot isn't it?" (Glyn). Such practices of sourcing wood converts what would otherwise be a waste product into a free source of energy. According to Glyn, collecting firewood in this manner is "part of the culture [here]". Indeed, another participant from the same region, Ceris, also noted that she collects firewood in much the same way. Collecting firewood from commercial sources such as forestry land, however, carries with it questions of legality and permissions, even when harvesting offcuts with no commercial value.

Household	Composition	House type	Age of house	Connection to gas grid	Space Heating	Water Heating
Beckett	3 adults	Detached, isolated	18th century, Solid wall	Off-grid	Wood (Rayburn) Wood-burning stove	Solar panels Wood (Rayburn)
Thomas	2 adults, 3 adolescents, 2 children	Mid-terrace (3 storey), small accessible town	19th century (estimate), solid wall	Yes	Central Heating – Mains Gas	Immersion heater
Butler	2 adults	Detached, isolated	1990s	Off-grid	Central Heating – Bottled Gas Wood-burning stove	Solar panels
Hughes	1 adult	Semi-detached bungalow, small village	Post-war	Off-grid	Central Heating – Bottled Gas Wood & Coal (open fire)	Immersion heater
Grey	2 adults	Mid-terrace, large accessible village	19th century (estimate)	Yes	Central Heating – Mains Gas	Immersion heater
Evans	1 adult 2 children	Semi-detached, small village	19th century (estimate), solid wall	Off-grid	Central Heating – Oil Wood & Coal (open fire)	Immersion heater
Gwilym	2 adults	Detached, hamlet	1850, solid wall	Off-grid	Electric storage heaters Electric under floor system Wood-burning stove (x2)	Immersion heater Wood-burning stove
Smith	1 adult	Detached bungalow, small accessible town	1980s	Off-grid	Central Heating – Bottled Gas	Immersion heater
Griffiths	2 adults 3 children	Semi-detached, small accessible village	1980s-1990s (estimate)	Off-grid	Central Heating – Bottled Gas	Immersion heater
Davies	2 adults 2 children	Detached farm-house, remote hamlet	Unknown, solid wall	Off-grid	Central Heating - Oil Wood-burning stove	Immersion heater
Dreyer	2 adults 3 adolescents	Detached, isolated	1650, solid wall	Off-grid	Wood & Coal (Rayburn) Wood-burning stove	Wood & Coal (Rayburn) Immersion heater

Another, albeit unexpected, issue relating to being off the mains gas network was brought to my attention during the second round of interviews by Ffion, a young single mother of two that lived in a small village located just within the borders of Snowdonia National Park. Like many of those on her street, Ffion periodically purchases logs in bulk (“if you want to get them cheap, you have to buy them in bulk”), a couple of bags of coal and heating oil in order to heat her home²⁶. In the months between our interviews however, some unnerving events had been unfolding in the village and surrounding areas that had put Ffion on edge;

Ffion²⁷ I’ve just spent £160 on logs, whether they stay there is another thing. There’s a lot of stealing going on around here!

Erin Is there?

Ffion Flippin’ heck yes! I want a bolt on the door! [...] All of the school’s oil has been stolen [...] Lots of people [in the area] have had theirs stolen, and it’s not like the oil [tanks] are by the road or anything - they’re out of the way. Petrol and diesel too you know, and red diesel being stolen from farms -it’s awful!

The potential risk of energy theft was brought even closer to home for Ffion when her next-door neighbour realized that someone had been stealing from his log store, which prompted her to reflect on the security of her own; “it’s easy [for anyone] just take a few logs every few days, but it all mounts up (...) I’m going to put a lock on my store now!”. The theft of heating energy as well as petrol and diesel from the surrounding area was particularly unsettling for Ffion given that she had recently purchased logs in bulk and had half-filled her oil tank at that time;

Ffion I panicked one day and thought- “oh my god, what if someone steals my oil?” -‘cause it’s easy to do you know, the tank’s by the road [...] and I was thinking “if someone steals this, I won’t have any money to buy any more” [...]

Here, Ffion draws out the vulnerability of off-grid households that are dependent on the bulk storage of heating fuels such as oil, logs, and in some cases, LPG. As noted earlier,

²⁶ Heating oil served as her primary fuel source for central heating while coal and wood were supplementary fuels used on the open fire.

²⁷ All of Ffion’s excerpts used in this chapter are my interpretations from the source Welsh-language data. To see the source data used for this chapter, please see Appendix I.

fuelling an off-grid home is generally more expensive, particularly when it comes to heating oil. The price of heating oil can be quite volatile as it is dependent upon crude oil rates, which are subject to peaks and troughs. For example, in the UK, the price of heating oil peaked in mid-2008 and again in 2012, and despite a slight drop in price the following year, heating oil rates continued to be high (DECC, 2015; 6). Along with low population densities, consistently high crude oil practices have, perhaps unsurprisingly, been mirrored by increasing rates of heating oil theft as domestic fuel tanks become attractive prospects for thieves who are looking to make an easy profit (North Yorkshire Police, 2012).

Ffion's concerns in the above extract were rightly placed, as her oil tank is visible from the main road and easily accessible, heightening the possibility of it being targeted by thieves (*Ibid.*). Consequently, Ffion felt compelled to contact her insurance provider in order to ensure that the content of her oil tank was covered in case it might be stolen. In doing so, she ensured her ability to continue heating her home and keep her family warm.

3.2 Energy at Home

Along with infrastructures that deliver energy, the physical structure of the home also determines how energy is used on a daily basis. For instance, the majority of the households in the sample live in detached or semi-detached houses that tend to be older properties with solid wall construction. Such properties have implications in terms of energy losses, and due to their very structure, are limited in their potential for improvement (CFW, 2011). In particular, two of the participating households that lived in such hard to heat and treat homes did not have a central heating system, which significantly impacted their everyday heating practices.

Both the Dreyers and the Gwilyms own their own homes and have been living in their current properties for over 20 years. The decision not to install a central heating system was largely related to each households' financial situation at the time of their moving in, as well as social conventions regarding the appropriate way to heat historic homes. What follows are vignettes of the Dreyer and Gwilym households that serve to illustrate the ways in which their heating practices are shaped by the characteristics of their dwellings, followed by a concluding discussion.

3.2.1 The Dreyers²⁸

Rhian and Peter Dreyer, both in their mid fifties, live in a detached, isolated property in the Botwnnog area, along with their 14-year-old son, Aled, and are joined by their elder children, 22-year-old Glesni and 20-year-old Cai during holidays, as they both attend university during term time. Their home is an old one, dating back to 1650; it has unlined, solid walls and small windows, characteristics which play a significant role in the way in which they heat their home.

Peter The walls take in a lot of heat -they hold a lot of heat- but they lose a lot of heat too, we know that. We often find that if the Rayburn has extinguished over night we don't notice because the house keeps its heat so well, but when we used to go on holiday every Christmas for a week or two, the house would get so cold while we were gone. It would take a good two days to get warm again. So then you realise how important the walls really are. If I wanted to reduce the amount of energy I use in the house, I'd line all the walls, but then you'd lose the history of the house.

The Dreyers seem content with their home the way it is, with Peter stating that he would not change the way he heats his home, as "it's an old house and that's how it works".

The Dreyers use coal and wood as their primary fuel sources for space and water heating, which are supplemented by electricity. Their primary source of space heating is a wood-burning stove, which is located in the central space of the living room. According to Peter, he and Rhian had considered adding in a central heating system when they were refurbishing the property in the 1980s, but ultimately decided against it. Instead the couple adopted a more traditional heating style that took advantage of the thermal mass of the solid walls, which absorb warmth during the day and radiate it at night. Despite this however, and with nothing but portable electric heaters to heat the upper portion of the house, the bedrooms are much cooler than the main living areas. According to Peter, "it's very nice and very healthy too, to have colder rooms and corridors and have a warm living room, you know, not having the whole house at the same temperature. I don't think that's very healthy". Indeed, each member of the household stated that they did not notice the

²⁸ All of the Dreyer's excerpts used in this chapter are my interpretations from the source Welsh-language data. To see the source data used for this chapter, please see Appendix I.

cooler temperature of their home, precisely because they were used to it. However, both Cai and Glesni noted that they would suddenly become aware of the temperature when they had friends come over; “sometimes when friends come over we’ll go upstairs to watch a film or something, and I notice that it’s quite cold there, especially when they ask me for a blanket” (Glesni).

In the kitchen stands a Rayburn range, which they acquired second-hand when they purchased the property in the 1987. The range is fuelled with coal and wood, and is used for both space and water heating. However, when Glesni and Cai return home during the holidays the Rayburn is supplemented by an electric immersion heater due to the greater demand for hot showers. According to Rhian the range is too inefficient to be a source of primary heat or, indeed, for any sort of cooking; the family rely on an electric cooker instead.

Two years prior to the initial interviews, the Dreyers had switched their electricity provider to ‘Good Energy’, a company that supplies electricity derived from 100% renewable sources. Despite switching energy supplier to one that delivered renewable electricity, Rhian believes that their household “isn’t very sustainable at all!”. Whilst Rhian did not offer an explanation for this belief, it could be speculated that her view is derived from the aforementioned inefficiency of the Rayburn, which requires large quantities of coal and wood in order to operate effectively.

3.2.2 The Gwilyms²⁹

Glyn and Eluned Gwilym, both in their late-fifties, live with their two cats in an end-of-terrace property in a small hamlet within the borders of Snowdonia National Park. The Gwilyms’ home is also a historic property, and was formerly owned by the local church. Built in 1850, it has solid stone walls which are prone to damp. The house is built on higher ground and is exposed to the prevailing wind, making the building prone to draughts as well. In the absence of a central heating system, Eluned describes their house as “a cold place even in the summer”, as she often has to “pile on a lot of clothes” and

²⁹ All of Gwilyms’ excerpts used in this chapter are my interpretations from the source Welsh-language data. To see the source data used for this chapter, please see Appendix I.

wrap up in a blanket to keep warm. However, once they get a fire going “it gets much better, they are stone houses after all”.

Drawing similarities with the Dreyers, Glyn and Eluned heat their home in a variety of ways. The Gwilyms have electric storage heaters (installed before their arrival) as their main mode of space heating. The couple leave the storage heaters on throughout the day on a low temperature, so that their home is supplied with a constant dry heat, which serves to “keep the place airy” (Eluned). According to Eluned, “it’s a hell of a trick to keep the dampness out in these old stone houses”, which requires the aforementioned constant heat. Additionally, Eluned believes that it is cheaper to keep the storage heaters on throughout the day rather than turning them off and on again, a practice that would also mean that they would take a longer time to warm up.

Eluned What we tend to do is to leave [the heaters] on. Once they’re on, I leave them on because once you turn them off it costs more to turn them back on again, and it takes time to warm up.

While ‘airing’ the house tackles the dampness, it does not address the issue of draughtiness and the cold, which are pet hates for Eluned in particular.

Eluned I can’t stand draughts. I don’t like draughts at all. I find this house is cold in terms of the draught. I don’t want to be freezing. My brother you see, dear Lord I think I get a cold every time I visit him -it’s a terrible place, there’s no heat nor light anywhere!

For this, the Gwilyms have different heating systems for different spaces. For example, in the kitchen/conservatory (a more recent edition, located at the back of the property), Eluned and Glyn have installed an electric under floor heating system, which they have found to be prone to “hot spots” as they noticed that “the cats would fight for the warmest tiles” (Eluned). Consequently, the kitchen is where the couple spend most of their time during the day (particularly in the summer), as it is sheltered from draughts by the rest of the house and receives a lot of natural light. In the larger space of what the couple call the “middle room” (living room), there is a large wood-burning stove, which provides hot water for the household as well as supplementary space heating. This used to be where the Gwilyms would spend their evenings; however, it proved difficult to maintain a comfortable temperature in such a large and draught-prone space, particularly during the winter. Indeed, following the cold winter of 2010, Eluned decided that she “will not suffer

any more” and demanded that they refurbish the smaller space of “the shop”³⁰ to become a sitting room. As part of the refurbishment, the couple installed a second wood-burning stove into the “the shop”, as the space is less prone to draughts, and “warms up quickly” once a fire has been lit.

3.2.3 Negotiating Warmth: Flows & Meanings

Evident in both the Gilyms’ and Dreiers’ narratives is the tendency to anthropomorphise their homes, whereby their solid walled buildings take on a certain ‘character’ that requires a particular type of ‘care’. Both households acknowledge and accept that such care is necessary in order to make their homes habitable; they thus adapt their own lifestyles to suit the ‘needs’ of their buildings, which in turn shapes their expectations of thermal comfort. This is exemplified by Peter’s claim that “it’s an old house and that’s how it works”, and Eluned’s assertion that “they are stone houses afterall”.

In both narratives then, the buildings themselves are arguably presented as ‘inanimate actants’ exerting their influence in a distributed assemblage of practice (Strengers, Nicholls and Maller, 2014; 14). Specifically, both Dreyers and Gwilyms convey the material agency of their buildings through certain ‘meanings about their needs’ (*Ibid.*), such as the need to be kept at a constant, low temperature in order to keep the draught, cold and damp at bay, thus providing a liveable environment.

Whilst both households shared many meanings regarding the ‘needs’ of their homes and their expectations of thermal comfort, their thermal management styles differed somewhat. Maintaining the ‘needs’ of their house was relatively straightforward for the Gwilyms, as they would simply keep their storage heaters on at a low temperature at all times to ‘air’ their house. Their use of wood burners (for their radiant heat), as well as the under floor heating on the other hand, was related to keeping the most occupied room, rather than the entire building, at a comfortable temperature. The Gwilyms’ primary method of thermal management could thus be described as requiring relatively low levels of corporeal involvement, as turning storage heaters on requires less participation than more active heating practices such as a fire (*see* Vianni and Taggart, 2014). For the Dreyers,

³⁰ Eluned and Glyn often call the sitting room “*the shop*” as this part of the building used to be the village shop many decades ago

the maintenance of their home's 'needs' as well as their own required a greater level of physical exertion, as they had a more active thermal management style that was necessary due to their use of the Rayburn and stove as their primary heating sources. Like the Gwilyms' use of the storage heaters, the Dreyer's Rayburn had to be tended every day so that the solid walls of their home would continue absorbing and radiating heat as they had originally been intended to do.

Also evident in both households' narratives are the flows of air within their homes, the qualities of which are perceived in different ways. Discussions about movements of air in and around the house were once again related to the 'character' of the dwelling as well as the needs of its inhabitants.

The Gwilyms described the character of their home as being cold and draughty. They identified their favourite space to be the conservatory, the warmest part of the building, with its under floor heating and large windows permeated by flows of light and warmth from the sun. The couple highlighted the character or 'feel' of other rooms as well, demonstrating the ways in which they engaged with and managed flows of air and warmth around the house. For example, during bad weather, the couple would light the stove of the larger living room in the early afternoon, as it would take longer for the room to warm up. The smaller size of the sitting room ("the shop") however, meant that it would warm up quickly, thus the couple did not need to light the stove until later on in the evening.

The Dreyers, on the other hand, exhibited a somewhat different understanding of the flows of air and temperature that constitute their home. Whilst Eluned Gwilym stressed her hatred of feeling cold, having colder rooms, particularly when it came to bedrooms and corridors, was deemed to be healthy by Peter, and was accepted as normal by the rest of the Dreyer household. In the presence of guests, however, the usual flows of air and temperature that constitute the 'feel' of their rooms suddenly become problematic, as the lower internal temperature of their home would be deemed unusual or abnormal by societal standards (*see* Hards, 2013).

Both households' understanding of the 'character' of their homes and the 'feel' of the spaces within them, were thus made in relation to the flows of air and temperature in and around the building. For the Gwilyms, gusts of cold air were both unwelcome and unwelcoming, whilst for the Dreyers it was felt to be healthy and normal. These findings

reaffirm Pink and Leder-Mackley's (2016) assertion that practices should not be thought as unified entities, but instead, should be viewed as dispersed and dependent upon the unique and shifting configuration of domestic environments (p.237).

5. Reflections

This chapter set out to understand how and why energy practices develop in certain ways, by exploring the link between the performance of practices, and the meanings and interpretations given to them in the context of the place in which they are performed. In order to do so, I drew upon narrative-biographical methods to provide powerful insights on the relationship between people, place and practices that were grounded in the everyday experience of my participants. With a focus on distance and infrastructure, this chapter has demonstrated that an affective attachment to place, both in terms of popular imaginaries, and as part of personal and shared identities, can encourage participation in practices that are more carbon-intensive (*see also Groves et al., 2016*).

The chapter began by examining the role of distance in shaping everyday mobility practices of rural dwellers. Distances between places of residence and places of work and leisure were felt to necessitate high levels of physical mobility. For every household in the sample, personal transport played a major part in the fulfilment of this need, and having more than one car was considered normal if not necessary, particularly for those households with multiple earners. In the narratives set throughout section 2, it is possible to see interconnections between social, structural and institutional investments that have combined to (re)produce widely accepted patterns of mobility in the countryside. For example, housing and labour markets, investments (or lack thereof) in public transport infrastructure, and commitments within different life domains (*i.e.* work, leisure and home life) all play a role in cementing the car as the dominant mode of transportation. The combination of limited opportunities for employment, and the higher costs of raw materials were felt to have detrimental effects in terms of social cohesion (*i.e.* less time spent with family), household finances (*i.e.* large percentage of wages spent on petrol), and in terms of environmental sustainability (*i.e.* given the high levels of car ownership).

Such findings raise questions as to why people would decide to move to/remain in places and in homes that are likely to place them at a disadvantage. Upon closer inspection, it became clear that the ways in which participants interpreted their localities played a significant role in their residential decision-making. Through their narratives it was possible to see the interplay between biographically rooted emotional attachments - to both place and (imagined) community - and popular imaginaries associated with the rural (and with rural Wales in particular) that served to root them in place despite its inherent disadvantages. Such a finding does not, however, seek to portray these people as 'dupes' to their affective attachments, as participants illustrated a number of ways in which they navigated the tensions related to their everyday mobility practices.

In section 3, entanglements between the infrastructural investments in the gas grid, cultural imaginaries of a rural idyll, and the British penchant for older homes with 'character', can also be seen to have implications for space heating which are pertinent to energy consumption. Being off-grid not only carries with it greater financial and environmental costs, but also a sense of vulnerability; owing to the volatility of crude oil prices - which directly impact the price of heating oil and bottled gas - and to the need to store large amounts of fuel in less than secure settings. The majority of households within the sample had a variety of different heating systems and fuels, which allowed them to manage tensions between the need to keep warm and high heating costs by using readily available and cheap supplementary fuels, such as wood and coal. In particular, practical capabilities for sourcing wood were projected as culturally ingrained practices, owing to the wooded landscapes that surrounded most of the participating households, and in some cases, to the occupation of certain individuals. Being resourceful and foraging could be associated with exercising personal agency in the face of structural constraints. Such practices could thus be seen to be meaningful, not only in terms of personal agency and identity, but also as part of a shared identity; one that is connected to place (*i.e.* rurality). Whether or not the outcome of such practices is pertinent in terms of sustainability however, remains questionable.

Drawing upon the narratives of two off-grid households, section 3.2 illustrated that in addition to wider infrastructural constraints, everyday heating practices were largely dependent on the fabric (or character) of the building itself, particularly in relation to its perceived needs. Both households' understanding of the 'character' of their homes and

the ‘feel’ of the spaces within them, were made in relation to the flows of air and temperature in and around the building. While both households lived in similar properties however, their interpretations of these flows, and thus their ways of managing their own thermal comfort were very different. Such findings challenge the understanding of practices as unified entities, and instead encourage an understanding of practices as dependent upon the unique and constantly changing environments in which they are embedded. These findings also show us that changes that might serve to reduce energy costs are not always aesthetically or culturally desirable. The current drive to improve the efficiency of homes may not always be as effective on older off-grid homes, not only because of the substantial financial costs involved, but also because the affective attachments that people develop to the buildings in which they live.

From the narratives presented in this chapter, we are able to see that people are rational actors in as much as they are able to articulate and justify their actions. The rationale on which these people based their decisions is more complex and multifaceted than the primarily economic understanding of rationality present in the narrative of contemporary energy policy. Indeed, this chapter has shown that participants’ decisions of how to live are intimately bound to their understanding of *who* and *where* they are, as well as *what matters to them* in their relationships with other people, spaces and places, rather than how best to maximise utility. In developing future energy-related policies, policy-makers need to understand people as relational beings whose decision-making processes are much more complex than currently envisaged.

Chapter Five

Spatio-temporal Entanglements: Narratives of Continuity and Change

1. Introduction

The previous chapter examined how energy practices develop in relation to the landscape in which they are embedded. By focusing on two practice areas in particular, that of mobility and heating, it showed how space and time, the physical and the social are deeply entwined, serving to enable or constrain certain trajectories of action. This chapter continues this line of inquiry by using a biographical approach to examine how individual trajectories develop over space and time, and in doing so, addresses my second research question:

1. In what ways do energy practices develop and change in place and through time?

Using the notion of transition as an organising concept, this chapter is concerned with how meanings, skills and materials differ according to one's location in the life-course, and whether this bears any significance in the performance of energy consuming practices. Departing from the thematic structure of the previous chapter, this chapter analyses the narratives of four participants, which are presented as 'case biographies'. Case biographies were selected as they offer 'compelling account of the person, of how and why events unfolded as they did and of the transformation over time' (Butler *et al.*, 2014:5). The participants whose interviews were selected for analysis were chosen for the insights that they bring in understanding change through time that influence particular consumption trajectories. Each participant was subject to very different circumstances and were at different stages of the life-course, which, as will be evident over the course of the chapter, influenced the topics discussed during their respective interviews.

The chapter begins by looking at the narrative of a young woman, Eleri, whose past decisions in relation to the purchase of her home, coupled with her aspirations for the future have set her on a particular path (section two). Section three considers the story of Alys, whom after the birth of her first child, decided to return to her roots in the countryside. Unexpected events in the workplace had impacted Ceris significantly in the months leading to our initial interview, the effects of which will be discussed in section

four. Finally, section five examines how the transition to retirement, and its associated wealth of time, has impacted Gwen.

2. Eleri: A Secure Investment

Eleri³¹ is in her early thirties, and lives with her partner, Carl, in a large, well-serviced village where two estuaries meet. Having grown up on a farm three miles away, Eleri has lived in the locality for most of her life, and along with Carl, runs her own catering business situated some 10 miles away. Seven years ago, the couple decided to invest in a terraced house in order to boost their income by letting it out to tenants. However, following an unexpected turn of events three years later, Eleri and Carl decided to move in to the house themselves, and have been living there ever since. At the time of our first interview, the couple were looking to sell their house and were “saving up for a deposit” in order to purchase a larger property nearer to their workplace. Much of Eleri’s account is characterised by a need to make financial savings, which she achieves by making small changes to the way that she consumes energy in her everyday life. In order to understand *how* Eleri uses energy however, we must first look to her past, and more specifically, to the decisions that she made in the earlier stages of her residential trajectory.

Eleri’s narrative began with her transition to homeownership. Then in her mid-twenties, Eleri felt that “it was time” to purchase her own house, not for herself to live in, but for the specific purpose of renting the property to prospective tenants. At the time of her purchase, Eleri was in a stable relationship, enjoyed secure employment and could afford the prices of the local housing market; factors which could have contributed to it being the ‘right time’ for her to invest in bricks and mortar. However, according to McKee (2012) our ‘choices are inevitably constrained’ (p. 859), not only by individual agency but by structural dimensions, such as housing policies, that have profoundly shaped preferences for property ownership in industrial and post-industrial economies, including that of Britain. The British preference for homeownership is evident in Eleri’s account as it seems to represent the next logical step in her residential trajectory, perhaps serving as a symbolic marker of her successful transition to adulthood (*see* Calvert, 2010). Whilst

³¹ All of Eleri’s excerpts used in this chapter are my interpretations from the source Welsh-language data. To see the source data used for this chapter, please see Appendix J.

Eleri had already flown the nest, the traditional signifier of independence according to Jones (1995), her living arrangements did not offer the same degree of long-term security that is associated with homeownership (*see* McKee, 2012). Buying-to-let could thus represent a sound financial investment, providing Eleri with security and stability whilst allowing her to retain a degree of flexibility to pursue other opportunities, such as travelling the world (*see* Arnett, 2004).

Reflecting on her property purchase, Eleri noted that the local housing market played a decisive role in her decision making process;

Erin What made you buy this house then?

Eleri You know what (...) the price was definitely one thing. We looked at a few houses close to where I was living at the time (...) the prices are a bit higher in the town than they are in the village (...) and some of the other houses we saw in the village needed so much work. We wanted something that only needed a quick lick of paint before letting it out straight away, and this was the best out of a bad bunch really. We didn't buy this house with the intention of living in it you see [...]

Here, Eleri explains that her choices were constrained by many factors, such as her financial resources, the local housing market, and her desire to let the property out as soon as possible. As illustrated in the above extract, Eleri's decision making was predominantly guided by an economic concern. Given her role as a buy-to-let landlord, the interplay between financial investment and returns feature strongly throughout Eleri's narrative, becoming particularly evident as she discusses preparing the property for the rental market.

Whilst a general upgrade with minimal financial investment was her primary concern, many of the decisions made regarding improvements and the purchase of appliances had secondary, energy saving, benefits. For instance, the installation of double-glazing and loft insulation were two of the most significant improvements made to the property; improvements which Eleri recognised as having direct benefits in terms of energy efficiency. She demonstrated this awareness by mentioning the property's Energy Performance Certificate (EPC), which, according to the European Energy Performance of Buildings Directive (EPBD), any individual that is building, selling or leasing a property is required to have. Whilst Eleri stresses that the property's energy rating is "between a B

and a C, which is quite energy efficient”, she also notes that according to the EPC, more could be done;

Eleri They said that we could put extra insulation or something underneath the floor, ‘cause the house is so old the tiles are directly on the soil so there isn’t anything- you know, to keep the heat in (...) But that was going to cost something like four thousand pounds, and it would only save ninety quid a year or something ridiculous like that [...]

Eleri is clearly reluctant to invest more money to improve the energy efficiency of the property, and alludes to a belief that the current energy rating is sufficient. It seems that the substantial financial cost of installation renders floor insulation a ‘bad investment’, especially given the limited financial returns that it is likely to provide, even though, as a landlord, she would not be the one that would be benefitting from it. The dual notions of ‘good’ and ‘bad’ investments continue as Eleri discusses her choices regarding the purchase of appliances for her rental property.

Eleri When we had done the house up and were ready to rent it out we bought a fridge-freezer, a washing machine and a cooker -brand new- and we paid extra to get a five year warranty on all of them. We haven’t had any issues at all with the fridge-freezer -touch wood- in these last five years, so it’s still like new (...) The tenants dropped a tin of paint on the halogen cooktop -smashed it- but her house insurance paid for that, so that’s brand new (...) And the washing machine -[sigh]- we’ve had a lot of trouble with it, but we’ve got two months left on the warranty I think, so if anything else goes wrong in the next two months, then I just have to call the repairman and he fixes it for free, but I won’t be renewing the warranty again. I think I’ll have to buy a new one.

Erin When you were buying them did you look at their energy rating at all?

Eleri Not really (...) It was the price that I was concerned with at the time [...] Yeah (...) because I wasn’t going to be the one using them anyway -tenants were ‘gonna be the ones using them, and that’s what I was able to afford at the time [...]

The above extract clearly demonstrates that Eleri’s responsibilities as a private landlord clearly shaped her purchasing decisions. Eleri seems to demonstrate a concern for the maintenance and durability of the appliances, preferring to repair them rather than purchasing new ones as she “resent[s] going out to buy more”. Here, the purchase of the warranties can be likened to ‘good investments’, especially given the trouble that she has

experienced with the washing machine. Additionally, Eleri's final comment regarding the intended use of appliances, offers a further insight into her decision-making process, as she alludes that her purchasing decisions might have been different had she been buying the appliances for herself. Such an attitude is illustrative of the 'split incentive dilemma' (Charlier, 2014), which in this case may be partly due to the fact that Eleri's responsibilities did not extend to paying the property's energy bill, thus making her less likely to be concerned about the efficiency of the appliances (*see* Davis, 2010). However, there are risks involved for the landlord when the responsibilities for paying the energy bills fall upon the tenants, as illustrated in the extract below.

Eleri We put a prepayment meter in when we renovated the house, so you pay for your gas and electricity in "Spar" and you put your key into the meter to use it (...) Scottish Power installed it for free, so that tenants wouldn't run up any debts [...]

It seems that Eleri believes that the installation of a prepayment meter minimises the risk of tenants defaulting on their energy bills, illustrating a longstanding concern for many private landlords, given that a tenant's debt would be transferred to them upon the failure to pay. Despite understanding that "it's obviously more expensive to buy gas and electricity this way", it seems that Eleri believes that prepayment tariffs are useful, as they allow tenants to manage their energy budgets more effectively. Indeed, many of the participants that had previous experience of using prepayment tariffs also shared this discourse of consumer empowerment, stating that prepayment meters gave them a greater sense of control over their finances. However, installing these meters inevitably constrains tenants' choice of tariff, which is suggestive of wider discourses linking low-income consumers with an inability budget appropriately (*see* Colton, 2001).

Thus far we have seen that Eleri's decisions regarding the overall energy efficiency of her rental property were guided by the principles of maintaining the property to a good standard in order to attract tenants and generate income. However, the choices made during this time would later come to shape Eleri's personal energy use, as she takes an unexpected turn in her residential trajectory.

Having secured their first tenant in 2008, Eleri and Carl gave up their jobs in order to travel the world, with their rental property being their only source of income. Upon their return, the couple set up their current business and moved into a "very cold" static

caravan on the Eleri's family farm, in order to "save some money" to place a deposit on her first home together. This initial short-term arrangement, however, extended into a two year stay before the couple came to the conclusion that they "couldn't live in a caravan any more", culminating in their decision not to renew their tenants' contract so that they could move into Eleri's rental property. This move transformed the property from being a secure investment that provided a stable source of income into the couple's first foothold on the property ladder, serving to propel them towards a better house. Eleri and Carl now found themselves living in a property that had originally been intended for the rental market, and were subject to the same (infra)structures that they had put in place for their tenants. Unlike their past tenants however, the couple could invest to change the infrastructures of the house to suit their needs, such as removing the prepayment meters in favour of less expensive methods of payment. Despite her preference for monthly billing however, Eleri had retained the property's prepayment meter;

Eleri Well, if I wasn't moving house and if I didn't have to pay -I don't know how much it costs to change back to a quarterly tariff mind- then I would change back because I know it's cheaper.

It seems that the couple's desire to move on to a more suitable home had made Eleri reluctant to further invest in the property, even if such an investment could reduce their monthly outgoings on energy bills. For example, whilst installing the prepayment meter was free of charge, Eleri was unsure whether or not its removal would incur a cost, which she evidently did not deem worth spending. Instead, the prepayment meter played a key role in changing Eleri's habitual routines.

Eleri When we'd just moved in I took a look at [the meter] on the first morning before going for a shower, and when I checked again afterwards I saw that the shower had cost me 20p. I was like "oh my God!", I have to cut down the time I spend in the shower you know. So I used to wash my hair every morning, but now I wash my hair every three days maybe -but I'll still have a quick shower every day- so on the days when I do wash my hair it will obviously cost me 20p [...]

Here we can see how that Eleri used the prepayment meter to monitor the cost of taking a daily shower in particular, which led her to adopt strategies to minimise her consumption by making small changes such as limiting the time she spent in the shower and washing her hair every third day. What is important to note however, is that rather than reconfiguring practices associated with expectations of comfort and cleanliness, the

above extract demonstrates the non-negotiability of showering as an everyday practice, despite the cost (*see* Strengers, 2009); indeed, Eleri did not consider changing the frequency of showering from a daily event to one that occurs every other day, as she believed that doing so “sounds ming”³². As such, whilst monitoring the cost of showering did result in some changes to her routine practice, it did not challenge Eleri’s understanding of what it means to be clean (Strengers, 2008). Moreover, Eleri’s motivation to make financial savings was not an issue of affordability, rather, it was directly related to the plans that she and Carl had for the future. From Eleri’s narrative then, it is possible to see how consumption practices in the present are bound up with decisions made in the past and aspirations for the future.

3. Alys: Settling Back

Alys³³ is in her mid-thirties and lives with her husband and two young children³⁴ in a small hamlet in the Llŷn Peninsula. Alys and her husband both come from nearby villages in the region, and have only ever made short-distance moves in and around Pen Llŷn. Prior to living at their current house, the couple had settled in a market town by the sea, twelve miles from their current home. Whilst they enjoyed living in their terraced house, the couple were always “eager to move back to the area, more into the Llŷn that is”. When asked to reflect on how and why she wanted to return, Alys constructed a personal narrative that centred upon her personal rootedness in the locality.

Alys I grew up on a farm near Aberdaron, attended the local [primary] school and received my education in the medium of Welsh. I then went on to the local secondary school and college before going to university in Bangor [...] so in terms of when I was growing up - obviously we’re in a rural area- that’s important to me -family’s important- so staying in the locality has always been the priority for me rather than following any particular career.

Here we can see that Alys’ narrative is fundamentally about identity as she emphasises her strong attachments to family, community and place; conveying what was important to her

³² A colloquial term for ‘disgusting’

³³ All of Alys’ excerpts used in this chapter are my interpretations from the source Welsh-language data. To see the source data used for this chapter, please see Appendix J.

³⁴ Aged 8 and 3 at the time of the first interview

in relation to where she aspired to live. Clearly, her narrative ‘performs personal and social/cultural identity work’ (Mason, 2004; 165) that creates a biographical continuity, which Alys uses to legitimise her residential aspirations to return.

It wasn’t until they had their eldest child in 2005 that the couple began looking for a home in earnest. Being close to their network of family and friends was deemed “incredibly important” by Alys, particularly given that she and Dylan were establishing their own family. Alys emphasised the benefits of returning particularly with reference to her children by drawing on the proximity to grandparents, aunts, uncles and cousins, belonging to a “Welsh [speaking] community”, and the “quality of local schools -again in the medium of Welsh”, as key points to support her view that she had chosen a good place to raise a family. While Alys had always planned to return to her home region, it is clear that her transition to parenthood added another layer of complexity to her return narrative. Indeed, her reasons for return now had an additional dimension that encompassed her children’s educational needs, as well as being in close geographical proximity to their familial networks. However, while the couple were eager to return to their home community, house prices in their preferred area proved to be unaffordable;

Alys Unfortunately house prices were ridiculous. We never would have been able to afford to buy a house of this size. This house belongs to my family you see, my parents had been renting it out to holidaymakers and for short-term leases. So when tenants were moving out and the house became empty it was offered to us, so we took our chance and moved in.

Alys’ continual references to her relationships with other people have featured strongly throughout her narrative of return, which draw our attention to how social expectations associated with intergenerational commitments between parents, children and grandparents, as well as context, i.e. the local housing market, constrain and/or enable particular trajectories (*see* Ni Laoire, 2008). Indeed, as illustrated by the above extract, had it not been for Alys’ parents’ intervention, the couple’s residential trajectory would have taken a markedly different path.

Whilst Alys’ first concern was being close to her social networks, she also acknowledged that doing so incurred a cost in both time and money. The location of their new home meant that the family had to travel considerable distances every day. Alys’ work travel pattern in particular often exceeds fifty miles a day, and in order to gain access to childcare

services and leisure activities for the children, the family must travel “for a good twenty minutes” (a distance of roughly twelve miles), to get to the nearest market town. As she and her husband are both in full-time employment, Alys deems it necessary for them to each have a car, the running and maintenance of which takes “a large chunk” out of the couple’s earnings.

Alys [...] going back to thinking about applying for work, people that are from Pen Llŷn have the attitude that [...] if you want to stay you have to be prepared to travel quite a bit every day, but that’s the price I’m willing to pay in order to stay here. That’s more important to me than a salary or a career.

From the above extract it is possible to see links between the social, structural and institutional dimensions that have combined to influence Alys’ transport practices. Clearly, rural housing and labour markets combine to create the conditions that make it necessary for the labour force to be more mobile (*see* Monk *et al.*, 1999; Marsden *et al.*, 2005). Moreover, institutional investments in road infrastructure coupled with the comparatively low cost of motoring in relation to public transport fares have resulted in the car being the dominant mode of transportation (*see* Gray *et al.*, 2001). Indeed, Alys’ contention that “we have to have two cars” alludes to the powerful position that the car has obtained within rural areas in particular (*see* Chapter 4). Undoubtedly, the perceived advantages of speed, cost, control, and convenience associated with personal transportation make car ownership an attractive prospect that offers freedom and independence to those in areas where public transport services are limited. These factors combine, making it difficult for Alys to consider alternative modes of transport as she is ‘constrained by [her] perception of what is possible or reasonable to expect’ (Farrington & Farrington, 2005). Indeed, instead of considering alternative modes of transportation for some of her journeys, Alys adopts a different strategy by “think[ing] twice before getting in the car”. Here, she emphasises the importance of taking the time to find alternative strategies to making wasteful journeys, which according to Alys is something that her husband has yet to have learned;

Alys Dylan’s more likely to jump in the car whereas I’m more likely to think of ways to avoid going [to town] today or something. Dylan does this on a regular basis, where he comes back [from town] and then remembers that he needs something else, and so he’ll just go and get it instead of trying to think first.

Aside from her journeys to work and back, we can see that Alys is rather mindful about how often she uses the car. Her concern may be linked to her prior comment regarding the temporal and financial resources needed to keep two cars running, thus making multi-purpose journeys a more efficient use of resources. Alys believes that her attitudes were influenced in part by her mother, who lives and works on a farm, and “won’t just pop into town. She has to have more than one reason to go”. Here we can see a form of intergenerational continuity within Alys’ family in relation with values of not being wasteful (*see Shirani et al., 2015*), rendering single-purpose journeys as an excessive use of time, effort and money. However, Alys also acknowledges generational differences in relation to practice, as she states that she is of a generation that is “used to driving for work, so if you want to go [anywhere] you have to go in a car so you accept it”.

Thus far, I have traced the motivations that have influenced Alys’ return to her home region, and have explored her reflections regarding the effects that her residential move had in relation to her daily mobilities. In doing so, I have considered the personal, social, and structural dimensions that made the move possible and explored how these influence what constitutes as ‘normal’ rural travel practices (*see also* Chapter 4). The discussion now turns to the previously mentioned competing demands of work and family life, as they play a key role in temporally organising household consumption practices within the home.

Alys describes her life as “literally being in a routine”, as having a routine was viewed as important for the children, whilst also serving as a practical way to “help get the day started”. What quickly became evident as Alys recounted her typical workday routine was that the television viewing had become an integral part in getting things done in the morning.

Alys We have a little someone who gets up very early -our daughter wakes up at six o’clock every morning- so she knows that she can come downstairs and watch television until Dylan and I get up around 6.30. Also, because there’s a bit of a rush in the mornings given that we both work full time -maybe it’s for the wrong reasons- and especially now with “Cyw” on S4C [laughs]³⁵ (...) But you can get one of [the children] ready for school, and then send them in front of the telly while you get the other one ready -and I know it’s completely wrong

³⁵ ‘Cyw’, Welsh for “chick”, is a Welsh-language children’s television block aimed at young children and shown on S4C (Sianel 4 Cymru/Channel 4 Wales).

and goes against everything [laughs]- but it does help structure the mornings.

Drawing parallels with the work of Evans, Jordan and Horner (2011), here we can see that watching the television plays a functional role in regulating the young family's routines. Of particular interest is how Alys utilised the television to keep her children occupied while she could dedicate her attention to other tasks, such preparing food, doing the laundry, having her daily shower, and getting the family ready for school and work. This also resonates with the work of Götz, Bachmann & Hofmann (2007) who have suggested that such practices may be due to parental perceptions that paint television viewing as a safe activity for children, allowing parents to dedicate themselves to other household tasks. It has been posited elsewhere that such arrangements regarding household television use can be linked to whether parents perceive time as a resource that is plentiful or scarce (Jordan, 1992; Evans, Jordan & Horner, 2011).

Also evident in Alys' narrative is a reflexive awareness of moral pressures associated with constructs of 'good' parenting (*see* Shirani, Henwood & Coltart, 2012), which view children's prolonged exposure to television as a risk to children's development and wellbeing. When talking about her use of the TV as a tool to keep her children occupied, Alys alludes to a belief that, as a parent, she is behaving unwisely (*see* Butler, 2010), as watching television is not viewed as an ideal activity for her children. Moreover, Alys demonstrates a concern with the amount of time that her eldest child spends watching television as it is "switched on quite early in the morning, and in the evenings and weekends too". Whilst the family did not have any specific rules regarding their children's screen time, Alys found a way of curtailing their television use by only having one television in the house.

Alys We decided that we would only have a television in the parlour. We deliberately don't have a television in the kitchen so that it doesn't distract anyone during dinner. So that was a deliberate decision that we made, that we don't have a television in the kitchen nor in the bedrooms either.

Here we can see that the placement of the television reveals much about the relationship between people and the spaces they occupy (Wacjman, 2008). Whilst Alys deems the presence of the television in the public space of the living room to be helpful to organising and accomplishing everyday family life, its placement elsewhere is seen as disruptive.

Once again, we can see the influence of wider discourses regarding the negative effects of media on children and on family unity (see Livingstone, 2007), reflected in the limitation and spatial arrangement of technologies within Alys' home. As such, Alys' story seems to support the contention that the acquisition and use of technologies (and thus the related energy consumption) in the home is bound up with prevailing imaginaries of idealised family life (Spinney *et al.*, 2012; 2642). Such idealised imaginaries have implications, in that energy consumption in the domestic setting is not part of reflexive awareness of moralities that might otherwise play a part in the reproduction of everyday practice. What is deemed non-negotiable in the sphere of everyday consumption is bound up with the temporal and spatial dynamics of everyday energy demand.

4. Ceris: Keeping the Fire Going

Ceris³⁶, is in her early sixties, and works part-time for the local health board. She lives in, a small village nestled in the foothills of Snowdonia, where she has lived most of her life, bar a few years spent at university. At the time of our first interview, Ceris had been living in her small semi-detached bungalow for six years, after applying for a council house following her separation from her husband. Like many other properties built during the early post-war period, Ceris' semi-detached bungalow had little by way of maintaining thermal comfort other than an open fireplace, providing dedicated heat to only one room. Ceris described her home during this time as being a "very cold house", due in part to the lack of a central heating system, but also due to the "state of next door". The adjoining property, a private home, was in a state of severe disrepair having been abandoned for quite some time, which seemed to have a negative effect when it came to maintaining Ceris' property at a comfortable temperature. Ceris coped with such material constraints by acclimatizing herself to the cold;

Ceris I just hardened myself to the cold really. So I tend to find myself being a bit more on the cold side rather than the warm.

³⁶ All of Ceris' excerpts used in this chapter are my interpretations from the source Welsh-language data. To see the source data used for this chapter, please see Appendix J.

As a social housing tenant, Ceris had little control over the fabric of the building itself, which left her with no other alternative but to accept and adapt to her situation. In the absence of a central heating system, Ceris adopted practical strategies to cope with the cold. Such strategies included; using a portable electric heater and a hot water bottle to supplement the warmth of the open fire; wrapping up in a dressing gown, fleece blanket or a coat when indoors; and spending most of her time in the warmest part of the house, the living room. Through Ceris' narrative thus far, we can appreciate the role of structural factors, *i.e.* tenure and dwelling type, in shaping her personal energy consumption. However, as Ceris' story continues, it will become evident that her practices aren't shaped by tenure and dwelling type alone, but rather are contingent upon the interplay between structural, economic and wider social attributes. Indeed, after moving into the bungalow, events within Ceris' work life resulting directly from the 2007/8 economic downturn, would come to shape how she understood her energy consumption.

Having initially been in full-time employment, Ceris had to reduce her working hours (and income) by half following the restructuring of the local NHS health board, which rendered her workplace vulnerable to closure. The resulting climate of uncertainty at work, coupled with being on a reduced income prompted Ceris to "be a bit more careful with [her] wages", as she now regarded herself to be on a "real economy streak".

Ceris I really have to watch what I spend on. For example –before- I would sometimes put on a small load to wash, but now I watch what I'm doing. It does make you realise that you have to cut back on a few things -I have become more aware that someone has to cut back a little bit- adapt to your means as they say.

In this extract, Ceris describes how changes to her financial situation had led her to change her laundering practices. Now that her income had been halved, making cost savings had become a matter of necessity for Ceris. Interestingly, despite the material constraints and the financial hardship that she was experiencing, Ceris did not portray herself as being at a disadvantage. Instead, she presents us with a narrative of resilience, whereby she empowers herself by adapting to her means and adopting more frugal consumption patterns. In a similar vein to Eleri's narrative, Ceris exercised control over her finances by using the prepayment meter that she had inherited with the property as a monitoring tool; stating that having a meter allows her to "keep an eye" on her finances, and gives her "an idea of what I need to put in every week";

Ceris Say that I wanted to put [clothes] on to wash, I'll check to see how much money is left in the meter [first]. I'll just wait until I have a full load -even though I have a half load waiting. If [the washing machine] is going on then I might as well put a proper load in [...]

From the above extract, we can see that the prepayment meter provides a highly visible and immediate link between fuel cost and expenditure (*see* Anderson, White & Finney, 2010), allowing Ceris to evaluate and adapt her practices accordingly. Clearly, Ceris' motivation to conserve was driven by matters of affordability, given that she would rather adopt more efficient energy practices such as only washing full loads of laundry, rather than changing her payment preferences.

Three years into her tenancy, another significant change was on the horizon for Ceris, as the housing association (HA) provided her property with a new kitchen, combi-boiler, and central heating system. These changes were part of the HA's wider improvement programme, which required them to update their housing stock in order to adhere to Government policy and targets to improve their energy efficiency;

Ceris When the housing association came 'round I only had a fireplace. They gave me a choice of either an electric fire or gas [central heating], and I think that in some places they offer a wood burner and oil -but here they just offered [bottled] gas or electric [...]

As evident in the above extract, the somewhat limited and expensive choices offered to Ceris may be indicative of the role of location in shaping the fuel types available to rural consumers; reflecting the higher costs involved when installing mains gas infrastructure in rural areas (Office of Fair Trading (OFT), 2011). Indeed, according to Consumer Focus Wales in 2010, 16 per cent of homes in Wales were not connected to the mains gas network, the majority of which were in rural areas, which relied on more expensive fuels such as Liquid Petroleum Gas (LPG) and oil (CFW, 2010). Ceris noted that as part of the stock improvement programme, the HA were also “getting rid of fireplaces” throughout their housing stock. Going against the trend of fireplace removal, however, Ceris had managed to retain her fireplace, and chose to have the LPG-fired central heating system, as she “wouldn't want electric heaters”; a statement that could be related to wider popular associations of electric heating systems being inefficient and more expensive to operate, thus making them undesirable (*see* Parkhill *et al.*, 2013). Whilst Ceris recognised that LPG was a more costly fuel option, she had long accepted that there was no other

viable option for her. When asked whether or not she felt that being off-mains gas was a significant issue for her, Ceris replied;

Ceris Well I don't think of it as a problem, 'cause you just accept that [mains gas] isn't available and so you just have to go with whatever is available. That's how I look at it anyway, because I get gas cylinders delivered, and I think it's a very good service 'cause all you need to do is just phone them up and they deliver it -so I don't see it as a problem.

Being unable to access mains gas thus had a strong influence on Ceris' attitude towards her circumstances (*see* Anderson, White & Finney, 2010; Hill, Sutton & Hirsch, 2012). Her acceptance seemingly stemmed from her perception that she had little control over what services were available in her location; this was her reality. Ceris seems satisfied with the service that she is currently receiving from her supplier. Her contentment seems to stem from the straightforward nature of ordering cylinders, which she can easily do over the telephone whenever they are required. This preferred purchasing pattern may be related to Ceris' perception that "the cost of all [heating] fuels are rising", which could further impact her already precarious financial situation. Ceris' narrative thus presents us with a paradox, as purchasing smaller quantities of fuel that can be bought as required may seem to be financially advantageous for those living on low incomes, however, such purchasing practices are rarely cost-efficient (*see* FREE, 2010).

When asked whether or not she would consider switching her heating fuel provider due to rising fuel prices, Ceris replied; "yes I have thought about it -but having said that I just think that what [providers] offer come in swings and roundabouts, so I don't know- but I will say that I'm definitely more careful these days". It seems that Ceris' reluctance to switch suppliers stems from her perception that what suppliers have to offer in terms of cost savings are similar, and likely to be temporary in nature. This rather sceptical perception and lack of engagement with the market draws parallels with the findings of Lomax and Wedderburn (2009), and the work of Anderson and colleagues (2010); both of which conclude that changing energy supplier is rarely based on financial circumstance alone. Indeed, it could be argued that Ceris' low propensity to switch provider may stem from her aforementioned positive relationship with her current supplier. As such, rather than using the market to alleviate her situation, Ceris instead chose to ration her use of the central heating system.

Ceris I don't rush to put the central heating on. I'd maybe get up and fill a hot water bottle and keep warm. I tend to be wearing a coat when I'm at home (...) and maybe 'cause I didn't used to have central heating, it's kind of made it a bit of a luxury, so I don't tend to put it on all the time.

The above extracts seems to suggest that Ceris' past experience of material constraint continues to influence not only her attitude, but her practices with regards to space heating as well, as her comfort practices have changed very little since the refurbishment. In order to keep costs down, Ceris continued to use the open fire, which she used to supplement the warmth provided by the central heating. Moreover, Ceris justifies her limited use of the central heating by arguing that "the house is small, even if you put the central heating on it doesn't need to be on for long". It therefore seems that for Ceris, the convenience and immediate warmth associated with central heating, coupled with her current experience of financial constraint has rendered central heating as non-essential. Comparing her circumstances with that of other social housing tenants and members of the wider community, Ceris felt that fireplaces have a key role to play in alleviating the pressures faced by those with similar, limited financial means;

Ceris There are a lot of houses now that don't have fireplaces, and I feel that getting rid of the fireplaces was a big mistake 'cause I know that when they were renewing the council houses, people weren't given the choice - "what do you want a gas fire or an electric one?" - But I think the biggest mistake was taking out the fireplaces, 'cause you can go look for some wood and maybe get a bag of coal to last - at least then you'll have some warmth. Getting coal isn't a problem, you can get a bag of coal in any garage or supermarket, and like I said, living in the countryside, there are plenty of trees that have fallen down [...] Not everyone can afford to fill a tank of oil to get some warmth, whereas when you have a fireplace you can do something about it and keep a fire going.

Through Ceris' narrative it is possible to see the significance of national policy at play, as the removal of open fireplaces from social housing stock was facilitated in this case by the Welsh Housing Quality Standard (WHQS - briefly mentioned in Chapter 2), which requires all social landlords in Wales to improve their housing stock to a reasonable standard by 2020. The removal of open fires was undoubtedly due to their inefficiency in terms of space heating and airtightness, which have a detrimental effect on the energy efficiency of the home. Whilst such improvements were put in place to ensure that all dwellings are suitable for the needs of existing and future residents (Stats Wales, 2014),

the above extract suggests that investments made to improve the energy performance of social housing may not always be suitable, nor meet the needs of those on lower incomes. Indeed, the interventions suggested by the WHQS may in fact lock people in to heating systems which they cannot afford, thereby exacerbating issues such as fuel poverty and poor health. Such a finding leads me to conclude that our current ‘one-size-fits-all’ approach to demand-side policy-making does not have the appropriate nuance that is necessary to meet the needs of a spatially and socio-economically differentiated population. What may work in one place, and for one community, may not always be appropriate for another. A successful policy to reduce energy demand will require a different set of tools depending on whether it is applied in an urban or a rural setting.

Thus far we have seen that Ceris’ everyday landscape has been shaped by a combination of different factors, including unexpected changes in her personal, material and financial circumstances. These intersecting and unanticipated transitions not only have had a direct impact on Ceris’ everyday routines and practices, but potentially have longer-term consequences, as Ceris had “been thinking about retiring [soon], but I foresee that I’ll have to carry on working”.

5. Gwen: Getting the Balance Right

Gwen is in her mid-sixties, retired, and lives with her husband, Michael, in a secluded house overlooking the Dwyryd Estuary. Originally from mid Wales, Gwen’s work-life had driven her many residential relocations both nationally and internationally before she ended up in north Wales, where she met Michael in 1985. Reflecting on their move to their current home, Gwen noted that where they moved to largely rested upon Michael, as he “worked locally”, whereas she “spent a lot of time travelling” across Britain with her job, and thus was rarely home during the week. Over time, however, Gwen felt that she was “getting a bit tired” of “working away all the time”, and decided to give up her career in favour of a local job with a daily commute of only three miles. Gwen continued to work locally for another eight years, gradually reducing her workload before both she and Michael retired at state pension age in 2009. The transition to retirement presented the couple with an opportunity for change, particularly with regards to their transport practices.

Gwen Since we were retired we just got the one car, whereas before we had two -and that works out as long as we both put down in the diary what we've got on a particular day.

Here, we can see that keeping a communal diary gives the couple ample opportunity to plan and negotiate their travel practices ahead of time, which often involves either sharing a lift or using the train, with the nearest station being a mile away. Gwen, however, describes using public transport as being “a bit tricky around here”, given the infrequent services and convoluted journeys. Here it is possible to see how material, personal and social processes combine to shape particular possibilities for change. Gwen's pathway to retirement gradually freed her from the temporal and spatial pressures associated with her work, reducing the need to be geographically mobile and providing her with a newfound ‘wealth in time’ (Reisch, 2001). This wealth in time facilitated the transition from a two-car to a single car household, however, it could not have been feasible had Michael not retired at the same time as Gwen, thus highlighting the role of significant others in shaping opportunities to reduce energy demand (*see Groves et al., 2016a; Shirani et al., 2014*). Additionally, this narrative demonstrates how efforts to reduce personal transport-related energy demand might be mitigated by structural developments, characterised by a spatial unevenness of investment in transport infrastructure that has resulted in the car becoming the most convenient and accessible mode of transportation for rural dwellers (*see Butler et al., 2014*).

According to Gwen, the couple's lifestyle, particularly since they had retired, had been influenced by their interest in and commitment to sustainability; an interest which had remained consistent for Gwen since her involvement in environmental protection groups “quite early on” in her life. Since retiring, the couple had become involved with the running of several community-run environmental groups, which often means that the couple are “quite busy” as they do a “lot of to-ing and fro-ing and meetings and so on”, placing increasing pressure on their time budgets;

Gwen We're finding that we're spending days and days on all this stuff - when we are retired you know- I keep telling him we need to retire again because it's getting unmanageable really, and it's not fun [...] So that's a bit of a downside that we've got to resolve really, 'cause it's not sustainable for our health and wellbeing [laughs].

Clearly, Gwen's post-retirement trajectory has been influenced by demographic shifts over the last three decades that have influenced wider societal discourses and cultural

values on active ageing. Such discourses view post-retirement ‘work’, i.e. paid work or volunteering, as a means to provide temporal structure to those adjusting to retirement, which is also thought to be beneficial to the health and wellbeing of retirees while also benefitting the community (Griffin & Hesketh, 2008). However, it seems that the temporal pressures associated with the couple’s civic commitments go against Gwen’s expectations of retired life, which is characterised by greater levels of temporal flexibility. Indeed, Gwen’s story highlights continuities, in terms of temporal pressures, between her working and post-retirement life (*see* Thompson *et al.*, 2011), which could potentially work the couple’s efforts to reduce their travel-based energy consumption.

Indeed this was a pressing concern for the couple as they had purposefully bought a “more efficient car” to reduce their carbon emissions. The couple’s interest in sustainability thus has a bearing on the way they manage their mobilities, particularly given that they have to travel for considerable distances to access cultural amenities that they both enjoy, such as attending theatre and ballet performances, as well as visiting family in mid-Wales and the south of England. As such, Gwen and Michael also engage in much longer distance travel than that required by their civic commitments, albeit on a monthly rather than daily basis. Whilst the couple are less inclined to use public transport for short trips, they do make use of the train for longer distance journeys, as “it’s probably cheaper and less stressful than driving”, but often “takes a bit of planning”. Their journeys to the south of England in particular have become increasingly frequent as the couple have taken on the additional responsibility of caring for Gwen’s mother-in-law;

Gwen I suppose one thing is we’re going to [the south] more often to visit [Michael’s] mother because she’s 93 and hasn’t been so well this year. She’s had a couple of falls and she lives on her own still –quite independent- but she’s, you know, if she’s on her own a lot she doesn’t eat so well, so she just needs a bit more looking after [...]

Again, Gwen’s narrative shows us how demographic trends have influenced the societal expectations placed upon older people. In particular, more people over the age of 65 are feeling the social pressure to take on informal caring responsibilities whether for partners, children, grandchildren, and increasingly, their own parents (*see* Szmigin & Carrigan, 2001; Hulme, 2012).

The issue of holiday travel was raised in the second phase of data collection which involved a household interview with Gwen and Michael together. As part of their

sustainability ethos the couple “[have] tried not to fly too much” in recent years. However, recent events meant that both Gwen and Michael felt that their energy consumption in relation to holiday travel, particularly flying, had been “worse than average”, as the couple had recently flown to New York whilst Michael had also flown to Iceland earlier in the year. Clearly, these trips were at odds with the couple’s environmental values, so what motivated them to choose to travel to such a distant destination?

Michael I think we’re reaching the stage where time’s creeping on and you think, well there are some places in the world that you really would like to visit or experience, and it may not accord with your principles of reducing energy consumption but if you don’t do it now then maybe you won’t ever have the chance to do it=

Gwen Well I had a big birthday this year so we went to -I’d never been to New York=

Michael So we went to the States -we flew to the States this year=

Gwen And we haven’t flown to North America for a long, long time.

In the above excerpt Michael positions the couple’s international trips almost as a necessity, or rather, a last chance opportunity for them to experience meaningful places before they become too old or infirm to do so. Here we can see how this narrative of making the most of the time you have could be influenced by wider social discourses in relation to the physical decline associated with the process of ageing, which are, in direct contention with the couple’s travel aspirations (*see* Szmigin & Carrigan, 2001). Indeed, how the couple saw their future had a direct effect on their energy consumption as Gwen concludes that “there are some decisions that you can’t -you know, you have to go with it don’t you? You can’t be perfect can you? [laughs] You can only do your best”. This future-oriented concern in relation to time and health status continues in Gwen’s narrative as she stated that she often discusses the future with her husband Michael, which leads them to think about what happens when they get “very doddery”;

Gwen I think if you were looking at the really doomsday scenario where one of us would [...] become ill or infirm -or things that would make it more difficult for us to physically live where we are- you know, you need when the best of the will in the world you need a car, and as long as we’re able to drive, then we feel we can continue to live here. [...] It’s things like that -I wouldn’t say it concerns us particularly- but there’s things we talk about, like “can we continue living here into our eighties?” Hopefully we can -that’s what we’d like- you know, but we don’t plan. I’d like to live the rest of my life

here and I'm hoping I'll be fortunate enough, but we don't know what's coming down the road. I can't imagine anything else you know -I mean financially we're fairly fortunate, unless we get another few financial crashes. Our families are around, we've got good friends and neighbours. It's health I suppose that's your most valuable commodity.

Gwen views having access to personal transport as a key requirement for maintaining independence in later life, as losing the ability to drive would render the couple unable to continue living in such an isolated place. Consistent with the literature on rural ageing, Gwen recognises that the physical and/or mental decline associated with the biological process of ageing would eventually make their relocation necessary. Gwen is confronted with uncertainty when looking into future as she wants to remain in her house, but “doesn't know what's coming down the road”, and thus prefers not to plan ahead. In thinking ahead then, Gwen attempts to keep the future largely ‘absent from her everyday consciousness’ (Phillips & Dickie, 2014; 80) to protect against anxiety at the prospect of having to move elsewhere.

6. Reflections

This chapter set out to examine the situated yet ever shifting patterns of energy demand across the life-course. The chapter drew upon the narratives of four individuals, each at a different stage within the life-course, to illustrate the ways in which past experiences and future expectations in terms of life-course transitions - coupled with the previously developed understanding of practices as dependent upon the landscapes in which they are embedded (*see* Chapter 4) - play a significant role in shaping energy consumption patterns in the present. While each of the narratives varies in content, owing to differences between participants in terms of life-course stage, there are also commonalities between each case. Whether they have experienced what could be deemed as a smooth transition or an unresolved/unexpected one, the changing circumstances within each of these cases caused conflicts between different values around which meaningful identities are built.

Eleri's narrative, for example, begins as a linear or ‘upward’ progression that was meant to culminate in the purchase of her first family home with her partner. Throughout her interviews, Eleri presented herself as a shrewd investor, as her decisions are always made in relation to her future goal. Her progression however, was disrupted, as upon her return

from her travels and due to the lack of available accommodation, Eleri was forced to move into the property, which was intended to supplement her income. As a result of this unexpected turn of events, it is possible to see within Eleri's narrative of her current consumption practices, tensions between her sense of self as a shrewd investor and her aspirations for the future, as she refuses to invest in more energy saving measures, even though it will save her money, given that she intends to move on to a new home very soon.

Alys' story, like Eleri's, is also one of progression, albeit in a cyclical sense, as Alys' return to her home region had been a long-term goal made more immediate by her transition to parenthood and the support she and her husband received from her family. Even though she had progressed down her anticipated path however, it did not come without its own set of contradictions. In Alys' narrative it is possible to see difficult-to-resolve tensions between her idealised imaginary of family life in her home region and the realities of making it happen (*i.e.* commitments in various life domains resulting in a 'time squeeze', which are alleviated by turning to 'bad parenting practices' in order to manage her (and her family's) time effectively).

Ceris' tale is one of adaptation and resilience, as she has weathered several unforeseen events in both her home and work life. Throughout her narrative there is a constant effort to grasp a sense of self-efficacy/agency in light of broader changes thrust upon her by her employer and her housing association. To cope with the uncertainty of her situation, Ceris exercises control by adapting to her financial means, and drawing upon a repertoire of practical capabilities (*i.e.* foraging for firewood and fire-tending skills; alternative strategies of keeping warm) to balance her need to save money by using energy more efficiently. Ceris' narrow focus on the present, along with her relative silence about the future, seem to illustrate a sense of anxiety that perhaps stems from her recent experiences of decline (in terms of her work-life).

For Gwen, the expected and gradual transition to retirement opened up opportunities that would enable her to make changes that would support her sense of care for the environment. Among these changes were her and her partner's decision to own a single, more efficient car, and their increased involvement in a series of local community groups. Her expectations (*i.e.* having more leisure time and less stress) and experiences (*i.e.* getting busier) of retired life however, did not match, particularly in light of her mother-in-law's

ailing health. While Gwen reflexively engaged with these tensions, they were by no means easy to address. Gwen and Michael could not easily withdraw from their civic commitments for example, just as their caring for Michael's elderly mother was non-negotiable. The tensions between Gwen's care for the environment and her love of travelling however, were disavowed, as she and Michael justified their recent trip to North America for a special occasion by stating that they aren't perfect and are doing the best in light of their circumstances (*i.e.* progressing age).

What each of these narratives also show us, is that decisions that have a bearing on energy consumption are not only made in relation to past experiences (*i.e.* who I *used* to be), but are made in relation to future expectations (*i.e.* who I *want* to be) as well. Expectations of the future are particularly important given that they shape how much individuals are willing to invest, both financially and emotionally, in the present. Such a finding builds upon the conclusions of chapter 4, as it shows that policy-makers should understand decision-making processes as being far more complex than simply being driven by economic rationality.

This chapter has also provided an insight into how policies aimed at improving the energy performance of buildings can negatively effect those that are most vulnerable rural residents. Ceris' story in particular illustrates how current policies aimed at improving the energy efficiency of social housing force people to live in less flexible ways, which can place low income, off-grid households that are at risk of fuel poverty in even more precarious positions. Flexibility, particularly when it comes to heating the home, means that those that are less well off are better able to cope during colder periods. This highlights once again, why it is necessary to develop policies that are more sensitive to the different opportunities and challenges that people face in rural settings.

Chapter Six

Unveiling Valued Relationships and Identities in a Biographical Context

1. Introduction

As discussed in chapters 4 and 5, lived experiences and the social and spatial contexts in which they are embedded are important considerations when investigating how energy practices develop, are maintained, and perhaps most importantly, to identify how they might be changed.

Practice theory goes some way in doing this, as its focus is on understanding practical routines and recognising the role of structures (both social and technical) in mediating everyday practices. In their practice theory approach, Shove, Panzar and Watson (2012) understand practices as being made up of three interdependent elements; materials (objects, and infrastructures), competencies (skills and practical knowledge) and meanings (socially shared ideas, norms and expectations), and understand social change as arising from the making and breaking of links between these three elements. Their approach, however, does not consider the lived experiences of individuals in and of themselves, as they seek to understand why practices change at a societal, rather than at an individual level.

In order to understand why individuals engage in certain practices and not in others, it is integral to recognise that people, like practices, are relational beings. As noted by Butler, Parkhill & Pidgeon (2014), understanding practices as constitutive of connections or relationships with 'others' – people, places, things and events in and through time - is integral to understanding why some retain the loyalty of individuals whilst others do not. This requires understanding practices, not just as structures that shape and are shaped by social realities, but as social arrangements that *matter* to people in ways that are not only instrumental, but also constitutive of identity and agency (Groves *et al.*, 2016b drawing on the work of Sayer, 2011).

Some practice theorists acknowledge that practices can be inherently meaningful to individuals through the concept of ‘internal rewards’, which relate to the feeling of competence and satisfaction one gets from performing a practice ‘well’ according to socially accepted standards (Warde, 2005; Shove, Panzar & Watson, 2012; 75). In their work on the psychosocial patterning of engagement in practices, Groves and colleagues understand the inherent rewards of practice to be rooted in emotional connections or ‘attachments’ that are products of biographical experiences in and through time, and through which individual identity is formed (2016b; 4). They argue that understanding internal rewards in this way highlights the importance of not only social structures but of relationships (understood as emotional connections) in forming personal values, identity and agency (*Ibid.*).

This chapter draws upon these concepts in order to understand how they play out in narratives of ‘what matter’ to people, particularly in relation to changing biographical and social contexts. In doing so, this chapter sheds further light on the complexities and nuances of engagements in as well as defection from practices.

The structure of this chapter is inspired by the three elements of practice, as put forward by Shove and her colleagues (2012) - that is, meanings, competencies and materials – a structure which was chosen in order to draw out differing narratives of attachment. Section 2 uses narratives of ‘everyday ethics’, that is the moral guidelines that inform our conduct (Hall, 2011) - the meanings element of practice - as a route to engaging with important relationships or emotional attachments, and how these in turn shape practices that are constitutive of identity. Section 3 examines valued competencies and their role in supporting valued forms of identity in the face of wider societal change. These two sections in particular draw out the connections and disconnections that participants perceive between themselves and their significant others (family and friends) of different generations, particularly in relation to the wider social changes that they have lived through. The final section of this chapter (section 4) takes a look at meaningful materials, that is domestic objects that are integral to everyday practices that are valued by participants, and the relationships that are implicated within them.

2. Everyday Ethics; Unveiling Valued Identities & Relationships

Participants drew upon a variety of narratives to explain why they consume energy in the ways that they do. Examples of such narratives were often linked to concerns regarding the environment; the need to be a responsible consumer; the family; and the management of time and of money. Such concerns were often interwoven when discussing the logic of everyday energy practices (Hall, 2011), as participants sought to discursively construct their identities as both practical and moral consumers. Bordering both practical and moral concerns, the ethic of frugality and thrift, that is, handling resources efficiently in order to avoid the generation of wastes, was by far the most commonly held ideal associated with energy practices. Participants often rooted such values in their upbringing, by drawing upon past family experiences of hardship;

I think to a large extent my attitudes towards energy use are determined by my parents who are a post war generation -or who grew up mostly in a post war generation. My father was born in 1936, so he grew up during the war, when austerity was the word -and it was [...] Its been seventy years since the war was over (...) So yeah, we have greater flexibility and greater affluence now so we're not as stringent, but I think there's an underlying -at least for me- of not wasting, you know? I want my children to finish the food that they're given, and you know to eat their plate clean [...] Using more than we need to and trashing it -no. So I think that again comes from my upbringing, which comes from my parents' generation, and you either sort of what is it? You repair, re-use, recycle. So, you know, hand me downs -[we] don't have all the latest things 'cause we don't need all the latest things -as a family, we're not very materialistic- but that's because my upbringing was not very materialistic, it was quite frugal, and so my parents learnt to say no, and I learnt to accept it [...]

(Richard, 40s)

In the above excerpt, Richard sheds light on how intergenerational experiences of austerity has shaped his own habits. He builds a moral identity for himself based on the normative values of the past, which are discursively constructed to be morally superior to those of the present. Indeed, Richard's ethic of frugality and thrift has been invaluable to him, particularly since the arrival of an unexpectedly large energy bill during the winter of 2012. According to Richard, the arrival of the unwelcomed bill prompted a series of family discussions during which the family assessed and sought to moderate their behaviour;

described by Richard as having to “sort of stop using energy in order to be able to afford it in the future”. Strategies discussed included drawing on the skills that Richard had learned during childhood, such as dressing in layers; turning off unused devices and lights; closing doors; and restricting living space to a single room. It thus seems that when it comes to energy-using practices, Richard judges whether his family’s behaviour is wasteful not only based on earlier cited normative ethics, but also on the basis of financial cost. Richard’s narrative however, is primarily one of intergenerational continuity, as he draws out various ‘temporal, relational and intergenerational connections’ (Hall, 2015; 15), that serve to link the past with the present, and the present to the future.

Whilst many people rooted their ‘ways of doing’ in a similar manner to Richard, his case was rather unique given the relative lack of friction between his values and those of the rest of his family (*see* Chapter 8). Most interviews featured discussions of differences or friction between participants’ own ways of doing and those of their significant others, be that their partner, parent or child(ren). One such participant was Isabel (50s), who lives with her husband, Ian (60s), and one of their four adult children, Lowri (20s), in a detached property in the foothills of Snowdonia. Rather than ascribing her value of thrift and frugality to her parents and her childhood, Isabel believes that her “tight-fisted” attitude when it comes to electricity resulted from “being quite poor and having lots of children”. Expanding on this, she noted that the they have “never splurged on electricity” as a family, as using it “needlessly” is a “complete waste of money”. Offering an example of what she understood as needless energy use, Isabel recalled the conflict that arose regarding the cleanliness practices of one of her children during their teenage years;

It all came to a head when one of our daughters was about fourteen and needed two or three baths a day. I got really cross and cut the plug off the immersion, and we haven’t had an immersion heater since. So all our hot water is from wood [...]

(Isabel, 50s)

In the above excerpt, it is clear that Isabel’s understanding of appropriate bathing or showering practice, and those of her then fourteen year old daughter were not aligned. Gram-Hanssen (2007) in her study of teenage consumption of cleanliness, offers a potential explanation for the differing views of mother and daughter, as her study found that adolescents’ understanding of cleanliness is strongly influenced by their peers. Gram-Hanssen found that respondents felt a strong social pressure from their peers to adhere

to certain standards of cleanliness, which would often result in more frequent showering and laundering practices, suggesting that teenagers aspire to position themselves well within the bounds of normality within their peer network. Whilst daily bathing/showering is considered well within the bounds of normality for Isabel, her daughter's "need" for two to three baths a day was associated with excessive or wasteful consumption of electricity (and its aforementioned financial cost). Isabel's interference with her daughter's bathing practices through her subversive actions (*see* Collins, 2015) seems to have been a last resort in getting her to comply with familial norms; actions that Isabel proudly states have had positive lasting consequence in terms of household sustainability.

Within both these exemplars lies a strong normative and moral understanding of what constitutes mindful (i.e. 'good') and wasteful (i.e. 'bad') energy use. Such notions were not only made in relation to biographical experiences but also in relation to the actions of significant others through social comparison. Both exemplars view waste in terms of excessive or unnecessary consumption, on both moral and financial grounds. The following exemplar however shows that what is deemed as 'bad practice' has the potential to extend beyond the mere notion of excess;

Eleri We won't stop doing something because it's using too much energy if you know what I mean (...) Like when we first moved into the house (...) Carl's sister was living nearby by herself, so Carl went to see her one evening and she was cold in her own house and she was sitting there under a quilt. So he said, "What are you doing? It's freezing here", you know (...) "Oh I'm trying to save money", so she wouldn't put the heating on because of that (...) We also visit friends quite often, and if it's cold they offer a blanket, you know (...) which is fair enough really [...]

Erin That's interesting, what you said about your friends offering you blankets. Is that something that happens often?

Eleri Well I don't know actually (...) It was a bit of a joke to begin with, we were like "A blanket?!" [sarcastically] (...) But then, why not? People are definitely struggling more and more with money. But we have other friends -when we visit them we have to strip 'cause it's so hot there, 'cause the heating is on all of the time.

Normative assumptions in relation to being a ‘good host’ are evident in the extract above, as Eleri alludes to a set of social expectations that one should adhere to when entertaining guests. Implicit within Eleri’s narrative is the belief that guests should arrive in a comfortably heated home, which is discussed in relation to significant others’ breach of convention. For example, while some of her friends kept the heating on “all the time”, prompting their guests to remove a layer of clothing, others would offer their guests blankets if it was cold. This reference to being too cold or too warm bares similarities with the tale of Goldilocks by suggesting that a comfortably heated home, the ‘just right’ element of the tale, lies somewhere between these opposing extremes. Failure to adhere to the exacting norms that exist around hospitality could result in stigmatisation (*see* Hards, 2013), as keeping a home too warm becomes ascribed with notions of extravagance, excess and waste, while keeping a home too cold is often associated with being ‘stingy’, poor or miserly (*Ibid.*). The last sentence of Eleri’s quote, however, suggests that social norms within her community are changing. Eleri seems to be more accepting of the use of blankets to keep guests warm as “people are definitely struggling more with money”, perhaps implicating the economic downturn of 2007/8 in the changing ethics of everyday consumption within her community (*see* Hall, 2015).

The notion of stigmatised practices and their related identities are not only confined to discussions of heating practices, but are also discussed in relation to household lighting. Eluned and Glyn Gwilym for example, both of whom were in their late fifties at the time of their interview, discussed at length their preference for a well lit home;

Eluned I don’t like it, you know, if you’ve got a dark place -a dark house even when the lights are on- it’s what old people do. Old people tend to have one little light on in the entire house -I hate that feeling. I want light to around me. It’s all right to [turn the lights down] in the evening [Directed at Glyn], but every time we go to your mother’s I start to think “Gosh, is she at home? There’s not a single light on anywhere!”

³⁷ All of Eleri’s excerpts used in this chapter are my interpretations from the source Welsh-language data. To see the source data used for this chapter, please see Appendix K.

Glyn That's part of the culture isn't it -for her age- for her generation that is

Eluned Yes. You don't put lights on -and you think, "Gosh, I don't like that feeling" -of being old- not for me anyway. So I like having light -switching it on. I like to show that I'm here and something is going on here. To me that's important, just to show that there's life here.

(Eluned & Glyn, 50s)³⁸

Evidently, lighting plays an important part in Eluned's perception of domestic environments. Light, for Eluned, has positive connotations with the bustle of a lively and welcoming home, whilst a poorly lit house, such as that of Glyn's elderly mother, is perceived negatively and viewed as uninviting. While it is well known that lighting practices are mediated through culture (Bille, 2012; Linnet, 2011; Whilhite *et al.*, 1996), the above excerpt suggests that lighting cultures also differ between generations. In this case, the limited use of light seems to be symbolic of the actions of older consumers; a social category that Eluned evidently does not identify with. Hitchings and Day (2011), in their study of the winter warmth practices of older consumers, similarly found that participants in their study sought to distance themselves from being identified as 'old', and suggest that this may be due to the fact that being considered an elderly person is fraught with stigma in wider society. Indeed, Day and Walker (2013), argue that the image of an older person living on a low income, using outdated or inefficient heating systems and appliances is stereotypically associated with fuel poverty and vulnerability in British culture.

Implicit within such images is a perception of elderly consumers as stubborn, poor, frail or miserly, and whose comfort practices (and hence energy consumption) fall below 'normal' standards. Such images were also inherent within the narrative of another middle-aged couple, Michael and Gwen Roberts (60s), in relation to the resistance of Michael's elderly mother to replacing her thirty-year-old boiler. According to Michael, her refusal derives from her belief that she does not need a new one "or that it's a waste of money"; money that "needs to go on the children you know" (Gwen). In essence, this

³⁸ All of Eluned and Glyn's excerpts used in this chapter are my interpretations from the source Welsh-language data. To see the source data used for this chapter, please see Appendix K.

suggests that whilst younger consumers might interpret older consumers' actions to be 'stingy' or miserly, they may in fact be expressions of intergenerational care, motivated by a concern for the future of their children and/or grandchildren rather than by a sense of environmental responsibility.

So far this chapter has been concerned with the logics that underlie participants' everyday acts of domestic energy consumption. Evident within the narratives presented in this section is what Sarah Hall dubs a 'constant intermingling of the past and the present' (2016; 8), as participants reflected on those memories and experiences that have informed their understanding of 'good' and 'bad' practice.

3. Convenience, Control & Valued Competencies

One of the main features drawn out in discussions of 'good' practices in particular, was that of consuming in more effortful and mindful ways. Here, participants seemed to gain a sense of satisfaction from acts of consumption that require greater levels of physical and mental (i.e. being "careful" or creative) exertion (see also Groves *et al.* 2016b, for similar findings). Such narratives were often tinged with nostalgia, as they related their ways of doing, their skills in particular, to those of past generations; skills that were believed to have been undermined by the drive towards convenience within contemporary society. Narratives were thus fraught with intergenerational continuities as well as tensions, as participants would often compare their own practices with those of other generations.

One such participant was Eluned (50s), who reflected upon how her upbringing in a frugal household has given her little love for gadgets, unlike her daughter;

My parents weren't materialistic in any way and I think that's been passed down to me. I don't have to have new gadgets, I don't like gadgets to tell you the truth, I think they're a terrible waste -a marketing man's dream. My daughter is completely different you know, she wouldn't think twice about buying a bread maker. I can make my own bread, but she has bought a bread machine and has found that she's eating too much bread and has gained weight! So I bought it from her. It's handy if you're too late to buy bread from the shops, but I'm not a gadget person. I see filling a house with gadgets

to be a nuisance. You can do a lot with just a knife around the kitchen. You don't need gadgets [...]

(Eluned, 50s)

In the extract above, Eluned draws our attention to generational continuities as well as changes within her own family. In particular, she highlights the continuities between herself and her parents by stating that neither she nor they were materialistic or wanting of new things. Indeed, earlier in the interview, Eluned had noted that she could not remember her mother ever having anything new, as “it wasn't part of her mentality”, which evidently contrasts with her daughter's seemingly frivolous purchase. In particular, she associates the conveniences afforded by kitchen gadgets, such as the bread maker, with the development of excessive or wasteful consumption, as well as a lack of skillful engagement associated with more traditional methods of food preparation. Moreover, it seems that Eluned views owning “gadgets” as a means of stripping individuals of agency by furthering their dependence on technology. Here the notion of internal rewards derived from engaging in practice, described by Shove, Panzar & Watson (2012), as the sense of satisfaction that one gains from performing a practice well, has potential in analysing Eluned's narrative. Groves and colleagues (2016b) for example, posit that individuals may find practices internally rewarding as they support ‘modes of being and doing that support their sense of who they are’ (p. 8). In this sense, it could be argued that Eluned gains satisfaction from traditional methods of food preparation and preservation as they not only support her identity as a thrifty consumer, but also give her a sense of self-efficacy, which is supported by her claim that she doesn't “need” gadgets.

The notion that certain practices support valued ways of being continues to be useful in examining others' narratives as well. For Ceris³⁹ (60s), being able to light a fire was particularly important, not only for its symbolic meaning but also its utilitarian one (*see* Chapter 6). For her, the skills she had learned from her father, such as learning to use the cinders from the previous night to create a “red hot fire”, were symbolic of her identity as a thrifty person. As the interview progressed however, it became clear that some of the skills that Ceris valued, were not as valued elsewhere;

³⁹ All of Ceris' excerpts used in this chapter are my interpretations from the source Welsh-language data. To see the source data used for this chapter, please see Appendix K.

One thing I won't do is buy firelighters, 'cause all you need is some paper and some dry kindling. Maybe this is old-fashioned, but at the end of the day if you buy two packets of firelighters which is about £2 every week, well (...) At the end of the day people just think that they're faster, but lighting a fire like they used to do, you know, twisting the paper and such -that doesn't take two minutes.

(Ceris, 60s)

Ceris' narrative draws our attention to ways in which labour-saving materials, firelighters in this case, whilst are popular, do not necessarily save time nor effort. Viewing them as financially wasteful, Ceris notes that "people just think that they're faster", when in reality it takes little time and effort to use "old-fashioned" methods and materials such as paper and dry kindling. Ceris' ability to light and tend to a fire without the help of what could be deemed as 'unnecessary' aids (firelighters), is supportive of a meaningful identity associated with thrift, which is positioned as going against the grain. Indeed, her observation that housing associations are removing domestic fireplaces in favour of less engaged methods of heating (*see* Chapter six for more detail), serves to exemplify what she perceives as a shift towards convenience and the de-valuing of "old-fashioned" skills.

Effortful practices are meaningful in that they support a sense of identity and agency, and are associated with greater levels of physical as well as mental exertion. Creativity is an important facet of the aforementioned mental exertion, which features strongly in the following two exemplars. Peter⁴⁰ (50s), for example, is a father of three who prides himself on "always buy[ing] second-hand" because "it's cheaper, and if something still works then why not?". Peter does not like to throw anything away, "even if it breaks down", preferring instead to repair goods until they can no longer be fixed, at which point he "pulls parts out" for creative re-use in the future, much like his father and father-in-law had done before him. Indeed, like many others in the study, Peter believes that his aversion to waste was instilled in him by his parents, who were born "during a time when there was a need to re-use stuff because there was no money to buy new things". Constructing an identity of a thoughtful, engaged and responsible consumer, Peter expresses sadness and dismay at the thought of throwing anything away, particularly if devices are still in working order;

⁴⁰ All of Peter's excerpts used in this chapter are my interpretations from the source Welsh-language data. To see the source data used for this chapter, please see Appendix K.

I hate things like when my son says things like, “I want a new phone”. What’s wrong with the old one? “It’s old” he’ll say, it’s only been three years! “Well it’s old isn’t it?” -and you just think wow! So I tell him, “if you wait another year there will be something else out that you haven’t even thought of yet” [laughs] You know, with something new in it -that’s what’s funny isn’t it? We don’t know what we need yet if you know what I mean [laughs]

(Peter, 50s)

In the excerpt above, Peter positions himself in opposition to mainstream consumers (such as his teenage son) who do not consume in a sustainable manner (*see* Cherrier, Black & Lee, 2011). Specifically, Peter is critical of what he perceives to be the prioritisation of newness and novelty within consumer culture, whereby upgrading and its associated wastes have become the norm, which makes for careless consumers. His critique, however, is directed at both consumers and producers, as manufacturers, businesses and marketers are implicated in the promotion of ‘unnecessary wants’, and the de-valuing of creative re-use as a practice.

The proliferation of wasteful modes of consumption at the expense of more effortful, creative and care-filled practices was also present in Ian’s narrative, this time in relation to the exploitative nature of consumer culture (*see* Cherrier, 2009). Ian, like Peter, prides himself on his ability to fix broken goods, after having mentioned earlier in the interview that he had fixed his wife’s broken wind-up radio by carving a new wooden handle for it. However, when his washing-machine broke down due to a malfunctioning computer chip, Ian experienced difficulties in getting it repaired;

What’s happened a lot in the last few years is this kind of electronic whiz-kidder, and [when] the washing machine broke down [the mechanic] said “Oh you’ve got to buy a new washing machine”, so I said “The washing machine works perfectly well. Just because there’s a chip gone -why wouldn’t you just replace the chip?” (...) “Oh no we can’t do that”, you know, this sort of thing (...) And the same with cars -that cars are becoming much more computer organised, and not only is it becoming more difficult to sort it out yourself, it also means that you have to pay somebody over the odds to fix it et cetera et cetera. All that stuff is evil actually. We’ve got the capacity and the skills as a species to make things much better than they are and we choose not to because we want people to keep buying new [things], and that’s naughty.

(Ian, 60s)

In the excerpt above, Ian expresses resentment towards mainstream consumerism, which he links to his diminishing sense of self-efficacy, as it is “becoming more difficult to sort [things] out yourself”. There is a distinct sense in the narrative above that meaningful skills, such as the ability to repair broken goods, are less valued in contemporary consumer society, and have been replaced with a less thoughtful and engaged mode of consumption. Ian’s critique, perhaps more so than Peter’s, is directed at producers, as Ian alludes to their role in advancing wasteful consumption practices. Indeed, Ian is convinced that many products “are designed with a built-in obsolescence”, that is to say, products that have been intentionally designed to have a limited functional life, with the objective of generating demand for replacement (*i.e.* new) products (Guiltinan, 2009); a production practice which Ian evidently views as “evil” and “naughty”.

4. Meaningful Materials: Valued ‘Things’

Thus far I have examined the ethics and morals that underlie everyday energy use, and how these combine with care-filled and effortful practices in the creation of meaningful identities. This, the final section, is concerned with the symbolic meanings of valued domestic objects in the accomplishment of subjectively meaningful practices.

Perhaps unsurprisingly, pre-payment and smart meters were often cited by participants as valued devices that are directly linked to energy use. The value of energy meters seemed to derive from their utilitarian function, in that they allowed their owners to keep an eye on their energy consumption. Some, such as Eluned (60s) and Rhian (50s), shared memories of their parents’ use of pre-payment meters during their childhood, and how these meters were integral to their family’s management of financial resources during a time of constraint. Working out the financial costs of energy was similarly meaningful to current users of pre-payment and smart meters in their endeavour to avoid unnecessary or wasteful energy use. For example, Richard Thomas and Dylan Davies, both in their forties, noted that since the introduction of the smart meter into their respective homes, their awareness of their respective households’ energy consumption had increased;

The smart meter is a brilliant device isn't it? It's dangerous you know (...) I check it all the time and when I see it go up I go around shouting, "What's on in this place?!" I usually start to walk around looking for what's been left on, 'cause at this time of year you can get it down to about 4p an hour. That's the lowest it'll go, and that must be due to the fridge or to other minor things [...]

(Dylan, 40s)⁴¹

It's this device that really makes it for me [...] The [button] I use more than anything is how much [energy is] costing us. So electricity cost us £5 yesterday and gas cost us £2. So I'll keep looking at that to see how we're doing on an energy use and cost basis. And then, of course, you've got the green, amber and red for, you know, what's going on at the moment. I don't know what the threshold is, but my preference is for green. If it's on red and I don't know why it's on red, I will go through the house and find what is on. OK if the laundry is going, fine. If the cooker is going, fine. If the water heater is on, fine. How long has the water heater been on? If its been on all day, I'm going to turn it off [...]

(Richard, 40s)

For these individuals, energy meters were seen as a way of re-connecting with the costs associated with energy use, particularly when bills are paid by monthly direct debit, which "desensitises the whole thing" (Richard). Drawing similarities with the findings of Hargreaves *et al.*, (2010; 2013), the smart meter had made the costs of energy more salient for Richard and Dylan, and had resulted in an increased familiarity with a baseline of energy consumption for their respective households. Both the cost and traffic light settings assisted them in distinguishing between 'good' (necessary) and 'bad' (unnecessary/wasteful) practices (2013; 130), and prompted them to seek out and turn off unused lights, appliances and devices. As such it seems that smart meters were more than just instrumentally useful; they were made meaningful by Richard and Dylan as a material that had become integral to the enactment of their identities as prudent household managers.

Whilst Richard and Dylan's narratives relate to the utilitarian value of the smart meter as a device that empowers them to take control of their own energy consumption, other participants found meaning in materials that were integral to creating a sense of

⁴¹ All of Dylan's excerpts used in this chapter are my interpretations from the source Welsh-language data. To see the source data used for this chapter, please see Appendix K.

homeliness and comfort. For example, wood burning stoves and open fires were particularly valued by participants, both in relation to their utilitarian and symbolic meanings. When it comes to their utilitarian value, for most households stoves and open fireplaces were supplementary sources of heat, providing localised warmth to a single room. Participants often spoke of their usefulness in relation to keeping heating costs down; “we might use the wood burner stove to save more money on the gas, so I mean, the cost of fuel is certainly a factor there” (Michael, 60s) (*see also* Ceris’ discussion in Chapter 6). These material artefacts were additionally valued for the inherent pleasure that they provided, despite the effortful engagement, this time couched in terms of drudgery as opposed to skill (*see Groves et al., 2016b*);

I’d find it really difficult without a fireplace, I really would. My first job now will be to lay the fires before I do anything else. You know, gathering the kindling -there’s a lot of work involved in that, but I do like my fire.

(Eluned, 50s)

In the middle of winter I’m not at all keen on going out and getting more logs for the wood burner, though at other times I quite enjoy it -it’s quite nice to do. But when the weather is filthy and so on -emptying the ash when the weather is bad [...] So it’s slightly less convenient, but it’s far outweighed by the pleasure you get from a wood burning stove.

(Michael, 60s)

Ffion (20s) in particular provided a more detailed account of the meanings she ascribed to her wood-burning stove;

I have a log burner, but it doesn’t warm the whole house -it’s wasted heating really- but it’s a novelty in the winter. Like the other night, I was ill so the kids went to my parents’ house and I sat in front of the fire with some tomato soup (...) The fire only warms this room, it doesn’t heat anywhere else. In other words the warmth just goes up the chimney. But the kids weren’t home, it was only me here, so it wasn’t bad was it? I didn’t need to heat anywhere else only the living room. So yeah, it’s nice in the winter to have a log burner. It’s company if anything, you know, it’s like (...) I don’t know. It’s company. It feels right to have a fire going on a cold day. That’s how it should be

(Ffion, 20s)⁴²

⁴² All of Ffion’s excerpts used in this chapter are my interpretations from the source Welsh-language data. To see the source data used for this chapter, please see Appendix K.

In the extract above there seems to be a tension between the “novelty” of a seasonal fire and its inherent inefficiency. Ffion reconciles this tension by framing her use of the stove as an occasional luxury; indicating that in the absence of her children, heating the entire house would have been more wasteful. The log burner serves a third purpose in this case, as Ffion views the fire as a companion in the absence of her children. While Ffion does not offer a deeper explanation as to why she feels that the fire is particularly comforting, she seems to draw upon contemporary imaginaries of the ideal home to discursively construct the fireplace as ‘intrinsic to seasonal practices of home-making’ (Devine-Wright *et al.*, 2014; 295).

A homely atmosphere is achieved in multiple ways. While for some it involves the warmth and glow of the fire (*see* Devine-Wright *et al.*, 2014), for others, sound can equally be as important. Indeed, several participants revealed that they used audio devices, most often the radio, habitually as they went about their everyday lives. For many participants, listening to the radio was a means of connecting them with distant places and allowing them to keep up with the happenings of wider society. For example, Isabel (50s) listens to Radio 4 and Radio Cymru “all the time”, and views it as her “contact with the outside world [...] a source of music and kind of (...) inspiration”. For Michael (60s), the radio was integral to his everyday routine, as at seven o’clock every morning he would listen to the “Today Program” as he enjoyed “being up to date on what’s happening”, and would “miss it if I didn’t have the opportunity [to listen]”. Dylan (40s) however, related his habitual use of the radio, day and night, to his past experience of living alone;

I used to live by myself in Anglesey for about five years. It was a really small house, smaller than this room, so really small. Anyway, it was the middle of nowhere but (...) I don’t know if it’s because I come from a big family or what, but I just liked to have some sort of noise in the house, you know? So I had the radio on all the time. The TV at that time was quite poor -it only worked for an hour so- I didn’t use it that much [...] I think on a farm at least there’s always someone coming and going you know? And having brothers and sisters and your dad in and out of the house, you know, he was always on the yard working -and the noise of the farmhands -in and out- tractors, people calling by (...) There was always a buzz about the farm you know, and that’s why I like some sort of noise about the house. The sound of a quiet house is a bit spooky isn’t it? [Laughs]

(Dylan, 40s, small hamlet)

Evidently, sound is an integral component of a homely atmosphere for Dylan, which he relates back to his upbringing on a busy farm. His experience of living alone in a small, isolated house however was markedly different, leading Dylan to use radio sound to compensate for the lack of noise around him. Dylan's radio consumption can thus be seen as creating a link to his past in order to resist feeling isolated and lonely (*see* Tacchi, 1998). The radio and its sound, however, continue to occupy a meaningful place in Dylan's everyday life despite his circumstances having changed, which suggests that such a practice has indeed become a “habit”.

5. Reflections

This chapter set out to demonstrate the situated nature of everyday ethics in relation to household energy use. Throughout the chapter, moral understandings of ‘good’ and ‘bad’ energy practices were textured through biographical experiences. For many, this was derived from their formative years and directly linked to their parents’ generation, whilst for others, experiences that took place later on in life had been more influential. In almost all cases individual experiences were either linked to personal circumstance (*i.e.* financial constraint) or to a historical period of austerity (*i.e.* post WWII); conditions which necessitated more mindful and resourceful (or creative) modes of consumption, and which were associated with less wasteful consumption patterns.

By drawing upon their personal memories and experiences, as well as wider societal imaginaries of a romanticised past, participants constructed for themselves meaningful identities based on an ethic of frugality and thrift. Drawing parallels with the work of Hall (2016), participants rarely spoke about the topic of sustainability in terms of wider societal change, but rather expressed concern about wastefulness in and of itself. Indeed, comparisons were often drawn between the care-filled and effortful (*i.e.* good) practices of the past and what was perceived as the excessive and wasteful (*i.e.* bad) actions of the present. For the exemplars featured in this chapter, engaging in practices that required a greater level of physical and mental exertion imbued them with a sense of familial continuity with past generations, as well as a sense of satisfaction and self-efficacy in the face of societal transformations. This co-construction of personal identity, practice and

place seems to challenge the notion of convenience as being important to the development of more energy-intensive lifestyles from a practice theory perspective.

However, as noted by Warde, different practices ‘convey different levels of internal and external rewards’ (2005; 148). Whilst participants professed to finding more effortful practices internally rewarding, those more visible practices, such as heating, lighting and cleanliness practices were judged on whether or not they fit with the ‘norm’ of the community in which they took place. This often leaves those that cannot (or will not) meet exacting ‘normal’ standards of consumption, either through excess or insufficiency, open to judgement and stigma (*see* Hards, 2013). This is a particularly pertinent finding in terms of policy schemes aimed at improving energy efficiency in the residential sector (*see* Chapter 2), as it seems that their success will largely be based upon the value that people subjectively place upon them. Whether these schemes will be viewed in a positive or negative light will largely depend upon the socio-economic resources and consumption norms of the particular communities in which they are interpreted. As such, policy-makers need to be aware of the diversity of interpretations that their schemes are likely to be subjected to, and try to tailor their interventions to meet the differing needs of each community.

The role of certain domestic objects in the creation and maintenance of meaningful identities was also explored during the course of this chapter. Here it was demonstrated that ‘things’ are valued not only for their practical use, but also for their symbolic value in relation to individual identities and situated practices of home making. Indeed, the examples set in section 4 suggest that, once again, memories and experiences play a significant role in the relationship between people and materials in the accomplishment of subjectively meaningful practices. The empirical data presented in this chapter therefore supports the wider conclusions of the Energy Biographies project, as the meaning of practices seem to be much broader and deeper than what social practice theory suggests (*see* Groves *et al.*, 2016b). This has particular policy relevance in that practices that are inherently associated with subjectively meaningful identities, memories and ideals may prove particularly resistant to change.

Chapter Seven

Family, Energy and Everyday Life

1. Introduction

The following chapter builds on the last by examining energy consumption through the ‘intricate ways that individuals experience family lives’ (Gabb, 2009; 49), whereby ‘knowledge of the symbolic and practical dimensions of the everyday life of families is essential’ (Christensen, 2009; 434). This will be achieved by exploring the everyday dynamics of household practices evident in the subtle interplay between identities (individual and collective), routines, roles, and relationships, which are subject to change across the life-course. As such, this chapter addresses the last of my research questions;

4. To what extent are individual identities and household arrangements implicated in the performance of everyday energy practices?

Such processes, however, are hard to capture, due to the fluidity and relational messiness inherent within them. According to Gabb, case study analysis is a useful starting point for mining this relational messiness, as it illustrates ‘how biography, experience, social processes and normalising discourse shape, and are shaped by, everyday interactions’ (2009; 49).

The following sections adopt a ‘family case study’ approach, drawing upon three very different family-households in order to explore how energy practices are contingent upon dynamic familial processes. These three households each stand to exemplify different stages within family life-cycle, and consist of; a young single mother with two young children (section 2); a large religious family (section 3); and a not-so-empty nest (section 4). These households were chosen in order to unpick different family identities, relationships and their related practices have implications on the co-ordination of everyday energy consuming practices.

2. The Evans Family

The Evans family⁴³ consist of Ffion, a single mother, and her two children; 11-year-old Siôn and 6-year-old Awel⁴⁴. In order to balance her childcare commitments with the need to provide financially for the family, Ffion, who is in her late twenties, works part-time at the local primary school, whilst also doing some shift-work at a local cafe. Her daughter, Awel, attends the village primary school while her son attends a secondary school a short bus ride away.

The Evans family currently rent a three-bed terraced property in the small village in the foothills of Snowdonia where Ffion has lived her entire life. Being close to family is important to Ffion, as she maintains a close relationship with her parents and wider family network, whom she routinely sees two or three times a week. Unfortunately, neither of the children felt that they wanted to take part in the study, and as such I was only able to gain Ffion's perspective on the household's energy consumption. On both occasions that I interviewed Ffion, I was invited to sit by the dinner table in the communal space of the kitchen-diner, where the interviews took place.

2.1 Exploring Family Identity Through Media Ownership

What immediately became clear during my conversations with Ffion was the prominent role that Information and Communication Technologies (ICT) played in the Evans family's everyday lives. Ffion's home is among the most media-rich of all the participating households, containing; three televisions, two iPhones, two iPads, two game consoles, two (relatively unused) laptops, two DVD players and a radio. These media devices were highly valued by Ffion, as she claimed that she "couldn't live without any of it", particularly when it came to the Internet and television; "you forget how much you use them -the telly and things- if I didn't have the telly for a day I'd be lost, sorry, but I say that to everyone [laughs] -I'd be lost!". Ffion used these devices for a myriad of things, such as the television for entertainment, the radio for "company", and her iPad in order to shop for clothes, as "there aren't any shops around here". Additionally, Ffion displayed

⁴³ All of the Evans family's excerpts used in this chapter are my interpretations from the source Welsh-language data. To see the source data used for this chapter, please see Appendix L.

⁴⁴ Ages stated were at time of the initial interview

a familiarity with the same type of technologies and media content (i.e. Facebook) as her son, who predominantly used his iPad, iPhone and gaming console⁴⁵ to connect with friends and play games. Ffion's daughter however had fewer devices than the rest of the household, and displayed limited competence and a relative apathy when it came to the use of media devices as "she can't use a remote to be honest".

Discussing her reasons for buying ICT devices, a prevalent theme in her narrative of ICT acquisition is her motivation to be a 'good parent', which quickly became apparent during her discussion of ICT and its everyday use in her home.

Ffion I like the Internet and gadgets and stuff, not because I want to be "with it" as they say [laughs], but because they have them at school. So if I didn't buy these gadgets for them and let them use them, I don't think they'd develop those skills at school in the same way because they wouldn't be able to do it at home as well.

Ffion provides her children, particularly her son, with a multitude of ICT devices, such as their laptop and iPads, and believes that buying such devices is necessary for their development at school. Her concerns may be linked to the increasing integration of ICT devices in contemporary classrooms and the emphasis on developing ICT skills within the educational system. Underlying this is a pressure on parents to be involved with their children's education by providing ample opportunity to develop digital literacy at home (*see* O'Hara, 2011). By providing her children with a media-rich environment, Ffion believes that she is investing in their digital competencies, hereby giving them an 'educational edge' helping them 'move to the front of the class' (Buckingham & Scanlon, 2005; 42). Despite her provision of ICT for educational advancement however, the use of ICT in Evans household was mainly characterised as either a means of communication, or a leisure activity, rather than for educational purposes.

A second factor influencing the entrance of media into the home for Ffion was related to her son's need to 'fit in' with his peer group; "there is a peer pressure isn't there? Of everyone having iPhones". Indeed, in order to fit in it seems that one must have a plethora of (expensive) technologies at hand, as Ffion noted that Siôn has "got everything that's going, he's got a PS Vita -which he never uses. He got it from his Dad for Christmas- he's

⁴⁵ Like many newer generation gaming consoles, Siôn's PlayStation had internet capability which allows it to be used as a media hub rather than purely for gaming. Ffion

got a PlayStation [3], a telly, a laptop, an iPhone and an iPad”. Evidently, the possession of many devices is a marker of social prestige and status among adolescents (*see* Gram-Hanssen, 2005). The possession of ICT, however, does not necessarily translate into actual use. According to Ffion, while Siôn uses his PlayStation, iPad and iPhone extensively, he rarely uses his PS Vita nor does he use his laptop (presumably because they had become obsolete), which Ffion deems wasteful. In her efforts to give these devices a new lease of life, Ffion is eager to pass them to her younger daughter who “barely has any [devices], poor thing”. She has been met with resistance from Siôn however, who according to Ffion, is reluctant to part with his possessions, despite not having used them for a long time. Here, discrepancies lie between what Ffion deems to be wasteful practice (i.e. not putting resources to use), and Siôn’s desire to have control over the fate of what are his material possessions.

What can be gleaned thus far is that the Evans household’s media use is simultaneously shaped by Ffion’s ethic of care to her children, and what has been deemed a trend of privatisation and individualisation when it comes to domestic ICT ownership (Röpke, 1999). The growing significance and proliferation of domestic mass media in contemporary western households has been linked to gradual shifts in the cultural conception of childhood over the past century, and changes in the balance between communal family life and private life (Livingstone, 2007). Both these trends have been shaped by the continual processes of innovation and marketing of technologies, which have resulted in the multiplication and diversification of media goods within the home (Livingstone, 2002; 2007).

2.2 Rules, Risk and Freedom: ICT & the Socio-spatial Ordering of the Household

Where technologies are placed reveals much about the social relations of a household, which is critical to understanding the role of technology in everyday life. Unlike the other participating households with children of a similar age, both Siôn and Awel had their own television set and DVD players in their bedrooms, while Ffion used the television in the space she inhabited the most, the living room. This had implications on the time they

spent together, as there was little discussion of ‘family time’ other than when they ate together. Ffion did not offer a direct insight into the individualistic arrangement of her household, however, during a later discussion about Siôn’s latest technological acquisition, an iPad, she offered a clue as to why this may be.

Ffion [Siôn] got an iPad for his birthday ‘cause he really needs one and ‘cause they’re handy (...) and it stops him from using mine!

Whilst I have already discussed Ffion’s motivation to be a ‘good parent’ and its relation to ICT acquisition, this extract also draws out how having unrestricted access to technologies, specifically the iPad, is important to Ffion. Whilst Awel really “isn’t bothered” with ICT and is happy to play with her soft toys, it seems that Siôn’s greater operational competency and preoccupation with gaming and social networking has made it necessary for him to have his own television and iPad, out of Ffion’s way. This draws similarities with Røpke’s contention that in contemporary consumer culture, individuals ‘do not want to have their freedom of choice restricted by the actions of other family members’ (1999; 411), leading to households having more than one television, computer, phone etc. Thus, according to Kennedy and Wellman (2007), contemporary households are comprised of semi-autonomous actors (including children and adolescents), as each household member is given the freedom to withdraw and engage in solitary pursuits, usually in their own rooms. Consequently, contemporary media practices have become more personalised and dispersed within the more private spaces of the home (Gram-Hanssen, 2005; Livingstone, 2007).

As previously mentioned, the Evans household is unique among participants being one of only two households that provided their children with media-rich bedrooms. The majority of participating households lived in what Livingstone (2007) calls ‘traditional homes’, containing less media that were placed in more communal areas. These arrangements reflected the parents’ beliefs regarding the negative effects of media on their children, and on family unity. As such these households were much more likely to regulate their children and adolescents’ use of ICT, and thus, albeit indirectly, their energy consumption. However, whilst the provision of media-rich bedrooms for the children in the Evans household may have solved the issue of conflicting ICT practices, it had also hindered Ffion’s ability to regulate the children’s ICT consumption. In particular, Ffion expresses concern about her son “constantly” using his games console;

Ffion You sometimes know in the morning if he's been on the Playstation or something when he's not supposed to 'cause his eyes are like saucers and he's grumpy. So I take the Playstation out of his room the next night, and OK, he listens for a week, but then everything goes back to the way it was [laughs]

It is clear from the above extract that Ffion's concerns are about Siôn's health and wellbeing in relation to the length of time he spends consuming ICT, rather than the underlying energy consumption related to his practices. Whilst she has not set any formal rules with her son, she does however, expect him to understand when it is 'too late' to be gaming and chatting to his friends. It is only when these expectations aren't met that Ffion asserts her parental authority and removes the Playstation and iPad from his bedroom. However this intervention does not produce any lasting change, and Siôn's ICT use continues to be a source of frustration for Ffion.

2.3 Switching on, & Tuning out

Thus far I have established the motivations that underpin the Evans family's acquisition of ICT devices, as well as well as how the socio-spatial arrangement of media devices within their home shapes the social relations of the household. What has yet to be explored, however, are the ways in which Ffion reflects on the use of energy in ICT practices, especially given that her home in such a media-rich environment.

Ffion Well with electricity I have a key [...] So we spend about fifteen a week on electricity, so compared to my sister who's hardly ever home -they spend twenty quid a week- we're home more than them, so I don't see fifteen as bad. I usually put twenty quid in [the meter] every week but I have a lot left over every time [...]

Interacting with her traditional prepayment meter allows Ffion to manage her weekly budget and keep track of her electricity consumption. Ffion sets a baseline for acceptable consumption by comparing her weekly expenditure on electricity with that of her sister, leading her to conclude "paying fifteen quid a week isn't bad with everything on". It is clear then, that personal standards of acceptable consumption in Ffion's case are set in relation to that of her social network. Furthermore, the feedback she gained from checking her meter allowed her to adapt her consumption practices in relation to her

weekly budget. Ffion illustrated this as she described rationing her electricity when it began to run low:

Ffion I'll sweep the house instead of using the Hoover [...] Because I can get a bit obsessive with that sometimes, but I hate sweeping [laughing], especially when the electricity is running low (...) What else? (...) I won't use the heating. We'll use blankets instead.

Ffion describes the household's media use as "everything [being left] on all day", with her son's devices in particular, never being turned off, even when he is asleep or at school. Interestingly, Ffion does not mention cutting back on the household's media consumption practices, despite her frequent references to her household's extensive consumption of ICT. Additionally, Ffion does not seem to be overly concerned about the financial cost, nor the resulting energy consumption of their media practices, choosing instead to adapt her practices relating to (thermal) comfort and cleanliness (sweeping floors). This lack of consideration regarding the financial costs of ICT practices (their constant use as well as their standby consumption) was consistent with every participating household, drawing resonance with other studies exploring young people's understanding of ICT and its associated energy consumption (Gram-Hanssen, 2005; Christensen *et al.*, 2014). This may be due to the aforementioned pervasiveness of ICT in contemporary households' consumption practices (*see* section 7.2.1), hereby making a media-rich household, and the resulting energy consumption, necessary (*see* 7.2.2). Conversely, this may be linked to the perception that energy use in relation to ICT is negligible when compared to that of space and water heating. A further barrier is also recognised by Christensen and colleagues, who suggest that adolescents and young people find it difficult to see 'the relevance of addressing their use of ICT as a subject of energy saving' (2014; 92). It is clear, then, that more research is needed not only on households' use of ICT and its associated meanings, but also on their perceptions on the relevance of ICT in efforts to reduce energy consumption.

3. The Thomas Family

The Thomas household is a large one, consisting of Richard and Grace, both in their early forties, and four of their children; Delyth, Lisa, Alex, and Hannah, aged 17, 15, 13, and 4

respectively. Richard and Grace also have an older daughter, Catherine (19), who had moved out of the family home prior to our meeting.

The Thomases live in the small, well-serviced town on the shores of Tremadog Bay. The family currently rent a three storey mid-terraced house that was originally intended for the seasonal rental market. Richard, who is self-employed works regular hours running his business from premises situated a short walk away in the town centre. Grace's "workplace is at home", where she and the youngest child, Hannah, spend most of their time. The Thomas household has what can best be described as a 'traditional' division of labour, with Richard fulfilling the role of the financial provider, and Grace, the domestic manager. Alex and Lisa go to a secondary school in a nearby town, whilst their eldest, Delyth, attends sixth form college a little further afield.

All but the eldest and the youngest child were interviewed. Initial interviews were conducted in the dining room downstairs, while the family interview was conducted in the living room upstairs.

3.1 Family Identity, Morality & Meaningful Energy Use

Each family member noted particular characteristics that shaped their family identity, which extended to include distinctive family values and practices. At the core of this identity is the family's strong Christian faith, which underpins the way in which they appoint meaning to objects as well as practices. This is perhaps unsurprising given that each religion provides its followers with a 'set of norms, institutions, traditions and moral values that provide the basis for an individual to establish and maintain a secure identity' (Coşgel & Minkler, 2004; 5). Indeed, studies have shown that an individual's religious beliefs play a significant role in shape their attitudes towards the environment (Hope & Jones, 2014; Minton, Kahle & Kim, 2015; Wardekker, Petersen & van Der Sluijs, 2009) as well as the ways in which they consume with reference to media and services such as information and communication technologies (ICT) and the internet (Nyland & Near, 2007). However, it is necessary to exercise caution when such claims are made, as the impact of one's religious beliefs on the ways in which they consume is highly dependent on the individual's religious commitment, that is, how important religion is in their lives (Kaynak & Eksi, 2011). To complicate matters further, Christian values differ greatly

between denominations, with only some of which demonstrating pro-environmental attitudes (Hope & Jones, 2014).

Richard and Grace are very committed to their faith. Both come from religious families, are committed churchgoers, are well-respected members of their congregation, and are very active in organising church events and activities for younger members of the church. During her first interview, Grace drew upon her theocentric beliefs in combination with her own upbringing in order to illustrate the meanings that she attaches to her own energy use and wider resource consumption. In doing so, Grace also reflects on her decision to have a large family, and what this might mean for her own energy use;

Grace I'm very devoted to my faith (...) And spirituality itself [...] I mean, maybe this seems like a strange thing to bring up in an interview about energy use, but I would just explain that for me, the relationship between the earth and human beings is a deliberate one. So I believe that the earth and all of its resources have been provided for the purpose of human life, and that the destiny of humankind is closely tied with our earth and its resources. So this effects my energy use in two ways. One, I'm very grateful for the earth and its resources. I feel it's a great gift and I feel in a way that it's my job -that I must respect it 'cause I believe it's a Creation, that the earth is an intentional, deliberate creation -so something for me to respect and be grateful for and use wisely, you know, to be a steward of it -also to consider other people and that they -you know, these things were made to be shared not just for one person to think "OK well I'm comfortable thank goodness!" [laughs] So in one way that causes me to be thoughtful about the ways in which I use energy, while on the other hand (...) I believe that the earth is meant to sustain human life, which is why my husband and I feel very comfortable about having children. You know, I've met some people who have a belief similar to mine and that leads them to feel like humans are the enemy of the earth and, you know, we should just curtail our numbers and not put a strain on the earth. So that's where my- sort of my faith impacts my energy use. It's in two ways. I think that the earth and its resources are there to be used, and they're to be used to benefit people (...) But I do think that we're to use it wisely.

In the above extract Grace draws upon a creation narrative to draw attention to the relationship between people and the environment. Grace views the environment and its natural resources as a 'gift' to humanity from a divine Creator, which must be cared for to ensure continued human flourishing (Hope & Jones, 2014). The notions of

responsibility, respect and stewardship directly arise from this worldview, as Grace frames humanity as the caretakers of Creation. This duty of care extends beyond the environment to others through the “thoughtful” management and “wise” use of resources that “were made to be shared”. Grace’s account also touches upon the inherent tensions between the subjects of population growth and environmental sustainability as she reflects on her decision to have a large family. Earlier in the interview, Grace described herself as being “very devoted to family”, and that to her, family represents “the [very] source of joy in life”. She had reflected on her own upbringing within a large and loving family, which engaged in a “lot of family time” and being together; characteristics which she has sought to emulate within her own family. In the above extract, Grace draws upon the creation narrative as a means of resolving the inherent tension between having many children, which is traditionally considered a blessing in many religions (*Ibid.*), and environmental sustainability.

From the above discussion it is possible to see how Grace’s religious beliefs have structured the meanings that she associates with energy consumption in contrasting ways. While Grace feels that her family are “entitled” to use resources (including energy) in the routine accomplishment of their everyday lives, her narrative seems to also suggest that her beliefs place a moral restraint on her consumption practices for the benefit of others.

In addition, Grace notes that what matters to her are “relationships [rather] than achievements or acclaim or you know even material things or status symbols [...] so it’s more about life than lifestyle if you know what I mean”. Here, she frames her spirituality in direct opposition to materialism, something that her husband (“we don’t placate our children with gadgets, but with time and attention” because “having all the latest things doesn’t necessarily bring any happiness”) and children (“we’ve chosen to value time instead of possessions”- Lisa) also do. This rejection of purchasing new technologies does not stem from a concern for the environment nor for conserving energy, but rather, from their religiously informed ideology regarding ‘the good family’ (Edgell & Docka, 2007). Within this family-oriented rhetoric, the Thomas’s Christian faith provides them with a moral code that prioritises collective wellbeing rather than individualistic ideologies and mainstream mores. Indeed, Richard’s aforementioned statements could be interpreted as a criticism of fast-paced fashion associated with the development of domestic technologies, which ‘creates a rapidly changing and continuous sequence of new wants’

(Haddon, 1992; 52). Richard's contention that "want and use without regard is kinda how we got into this mess in the first place as a society" certainly seems to support this.

It is important to note, however, that the Thomas's do not reject the ownership of entertainment media and information and communication technologies (ICT). Instead, the family reject the 'constantly raising standards' associated with technological advancement (Håkansson & Sengers, 2013), and choose instead to focus on relationships and being satisfied with what they have.

3.2 Translating Family Identity into Everyday Practice

During a typical weekday, busy school and work schedules mean that most of the family are out of the home environment for a significant portion of the day. This leaves the family with pockets of time in the morning and evening routines, which they can spend together as a family. Breakfast and the evening meal have thus become important times for family togetherness, as according to Grace, they are "a great time for very low-key education", during which parents and children have "conversations and communicate opinions" to each other. As such, she and Richard have "asked that the TV does not go on" during these times so that the family are more "attentive to one another" (Grace). Another way in which the Thomas's facilitate togetherness is through 'family night';

Richard Monday night is our family night so we spend time together as a family. I don't know if you would have seen it, but the Gwynedd Council recently promoted something called "Amser Ni, Our Time", which I thought was remarkable. They'd identified the need that families need to spend a bit more time together and it was, "don't care what you do it could be fifteen- twenty minutes- half an hour- an hour an evening -whatever- but just spend time as the family". Just you know, talk, play, walk, watch a movie -just spend time together as a family- which is something that we as a church have been doing since the sixties, you know. One night a week nobody goes out, the phone's off the hook -it's just us, and we spend time together as a family 'cause, you know, busy schedules -sometimes you can go a week without seeing some people or talking and just being together.

'Family night' is a religiously informed weekly ritual in the Thomas household, and is based on two interrelated themes; the first being that the hurried pace of modern lifestyles have contributed to the fragmentation of family life within contemporary society (*see* Daly 1996; 2001). Second, and based on the Thomas' aforementioned cohesive ideal of family life, spending quality time together is believed to enhance the collective wellbeing of the family, as social interaction is 'essential for a healthy social order' (Edgell & Docka, 2007; 28). Family time can thus be seen as a purposive practice organised and facilitated by Richard and Grace in order to enhance family unity and cohesion by teaching their children a set of moral values that reinforce their familial identity (*see* Shaw & Dawson, 2001).

Within separate family members' discussions of this ritualised practice it quickly became evident that ICT and entertainment media are seen as a "distraction" (Lisa) when it comes to family togetherness. According to 17-year old Delyth in particular, family time has "more lasting consequences" than simply watching films and "[not] really talking to each other". Indeed, it seems that media use for the purposes of 'family night' had been limited in the Thomas household. Approved activities included having family discussions, playing board games, sharing a meal, as well as the occasional use of entertainment media for their *collective* consumption. While both adults and adolescents appreciated this time spent together, as highlighted by Richard in the above excerpt, they also acknowledged that this practice was rather *different* from the norm. This difference from the norm, in relation to their peers, was something that Lisa, Alex and Delyth highlighted;

Lisa A lot of my friends, at least in school, have TVs in their bedrooms which we've never had [...] they also have-

Alex Cell phones with YouTube or-

Lisa Phones and iPods and stuff like that [...] Anyway (...) A lot of my friends have Sky (...) So they tend to watch different programs than I do. Like I don't watch soaps, I don't watch E4, its got 'Friends' (...) 'Big Bang Theory' -I don't watch those (...) I don't watch a lot of ITV programmes [either] [...]

Delyth One difference for me is that because of religion and things I just have certain standards about what I want to watch, and so those shows don't really fit into that category [...]

[Later on in the interview]

Alex Yeah, I think that its family and a bit of religion has come into that (...) Like Delyth said, with you know TV, we have certain standards for media, language, dress, appearance [...]

Delyth I think also, how using our time is important and you know. There's a certain amount of hours in a day that you could be doing [stuff] and I think if you have a perspective of "how [do] we want to like develop talents and abilities?" Rather than, you know, how many shows you watch a day [...]

In the excerpt above, Lisa and her siblings compare themselves to their friends, who unlike them, have access to their own personal media. The Thomas's live in what Livingstone (2007) calls a 'traditional home', whereby the family share ICT devices, which include; 2 desktop computers (one of which is broken), a netbook with a broken screen⁴⁶, a multiplayer gaming console, a flat screen television, and 2 handheld gaming devices. All of these devices are located in the living room, where the family spend most of their time, presumably for ease of access, and so that children and adolescents' consumption can be monitored and policed by both parents and siblings. Like their peers, Delyth, Lisa and Alex use computers on a daily basis to do a myriad of things, such as homework, including scripture studies for church⁴⁷, playing games and keeping in touch with friends and relatives. With "seven people trying to have their turn" (Lisa), priority was given to their parents and those that had homework to do, and because their ICT devices were shared communally, the siblings felt that "it does always seem like there's something on" (Delyth), as parents and children would negotiate their use of the shared resources in the evenings.

3.3 Managing Tensions

Despite presenting shared family values, tensions were present between different members' individual practices and familial principles. For example, during the interviews the adolescents rather unsurprisingly reflected upon their media practices the most, particularly in relation to their use of ICT for entertainment (gaming) and communication (social media) purposes. As such, ICT use featured strongly in their understanding of energy. With friends living further afield, Delyth, Lisa and Alex recognise the communicative benefits

⁴⁶ Given that the broken desktop's monitor was still working, the family connected it to the netbook (which had a broken screen), hereby extending the lifespan of the netbook.

⁴⁷ Admittedly an exception to the wider norm

of using social media, and indeed enjoy using it, but were mindful not to become “addicted to it” (Alex). In particular, the siblings seemed to be quite critical of the time that they each spent on these devices, as exemplified by the following quote;

Delyth I think if I were to improve my energy consumption -I think [it’s] perhaps not more of what I use but like how I use it. Like I think I could personally use Facebook once a week instead of a number of times a week, or you know, instead of feeling like I have to constantly check my emails, so like just doing it once a day [...] I think in this like modern day society [we] feel like everything should be instant you know?

Inherent within the siblings’ narratives is a clear tension between their everyday use and enjoyment of ICT, promoted and sustained by Western popular culture (“I love Facebook, you know, [for] Facebooking my friends” – Lisa), and their familial identity, which rejects these norms and values, and instead, prioritises family togetherness over other forms sociability. On a similar note, Grace reflected upon tensions between familial values and work, as she discussed the strategies she employed to balance caregiving with housework.

Grace spends most of her time at home with her two youngest children, and thus sees her home as her workplace. Along with childcare responsibilities, much of her daily routine is filled with household chores, such as doing the laundry for the household as well as the family business⁴⁸, vacuuming and keeping the house tidy. However, balancing these responsibilities can be a difficult task, as Grace needs to divide her time and attention between them;

Grace I would like to say that I’m a person who wouldn’t use TV as a babysitter, but I’m sure if I could see a video of myself, you know, if I could watch myself in my work during the day, I’m sure I do rely on that (...) up to three times a day or more. But if the children are restless and I want to get on with something else, it’s like, “well why don’t you just watch your favourite program?” [laughs]

The television has become central to Grace’s childcare practice during work and school hours, due to resource constraints (time/ attention) and the need to balance household chores and childcare responsibilities (Evans, Jordan & Homer, 2011). Using the

⁴⁸ Which account for “between twenty and thirty loads a week”, depending on whether the family are washing bedding and so on.

television as a passive babysitter frees up time for Grace to go about her household chores whilst keeping her children safely occupied. Evidently there is a moral aspect to this practice, which goes against familial values as well as wider societal discourses about responsible parenting (Briggs, 2006), and which Grace finds difficult to reconcile.

4. The Beckett Family

The Beckett household consists of Ian, a self-employed environmental consultant in his mid-sixties, and Isabel, an artist in her late-fifties. The couple have four adult children, all of whom had flown the nest. Ian and Isabel met during their time at university, and have been married for thirty-five years or so. The Becketts live in a secluded historic property with a large garden, situated in a lush, green valley in Snowdonia, and have been living there since the early 1980s.

In 2012 the couple's youngest daughter, Lowri, in her mid-twenties at the time, had returned to live with her parents. Prior to moving in with her parents, Lowri had been living independently whilst working in the South West of England. After gaining some experience, Lowri decided to return to the 'parental nest' in order to set up her own business as a freelance community project manager.

The Beckett household are thus an unusual case within the sample, as they are an extended family household rather than a typical nuclear family. Such a living arrangement consists of a family, i.e. two or more persons who are related by blood or marriage, and at least one other relative⁴⁹ (de Vaus, 2004 – cited in Klocker, Gibson & Borger, 2012), making for larger than average households. It could thus be argued that these households show great promise when it comes to emissions reduction given that household size (among other factors such as gender, generation, age, and the fabric of dwellings) has been shown to have a significant effect on domestic energy consumption (*Ibid.*).

While larger households are more likely to have higher total household energy consumption, the consumption per person is in fact proportionally lower than those that

⁴⁹ Here, I employ the expansive definition of extended family household as put forward by Klocker, Gibson and Borger (2012), which includes aunts, uncles, cousins, grandparents, and adult children returning to the parental home (with or without a partner and children).

reside in smaller households due in large part to the sharing of practices such as doing the laundry and cooking (Gibson *et al.*, 2011). However, current research on the material cultures of extended family households, suggest the potential for energy savings within larger households are largely dependent on the social relations within the home. For instance, Klocker, Gibson and Borger (2012) identify two broad modes of extended family living, which are termed ‘living together but apart’⁵⁰ and ‘living together’, which have different implications for energy and resource consumption. The Beckett household fit within the latter mode (living together), as they live together in a ‘more complete sense’, sharing communal spaces and household resources between what are essentially two household ‘units’.

4.1 Family Identity in the Not-so Empty Nest

The topic of sustainability surfaced frequently during my interviews (both individual and collective) with the Beckett family. In particular, a concern for the environment, issues of social justice and a left wing political ideology formed the ‘glue’ that holds together a family identity.

From a very early age, Ian has wanted to work in the environment; “I wanted to save the world” he said during our first interview, before proudly stating that while people often do change their minds as time goes by, “I never did”. While he believed that much of this was “self-generated”, Ian also acknowledged the impact that his upbringing had in shaping his interests, particularly through his lifelong involvement with an environmental education charity, Forest School Camps. Isabel has had what she describes as a “life of protesting against decisions that I’ve felt are wrong”, using Margaret Thatcher’s reduction of milk for school children as an example, and feels strongly about “doing actions for things that I consider are right”. She believes that such political activity has given her ample opportunity to “actually have a say on a bigger scale” without getting involved in any “real politics”. Both Ian and Isabel have been longstanding and active members of multiple environmental charities such as Friends of the Earth, Greenpeace and Forest

⁵⁰ Defined as an extended family that lives under the same roof, but in a practical sense, live apart, as different family ‘units’ occupy self-contained areas and live quite independently of each other (Klocker, Gibson & Borger, 2012; 2246)

School Camps, the latter of which Lowri, like her father, has been involved in since childhood. According to Isabel, Lowri has “really taken on the mantle” and is “as interested as we are” in issues regarding energy, society and environment. Indeed, through her work with community groups, Lowri, like her parents, hopes to help facilitate local actions in response to wider issues such as social inequality and climate change.

A more recent development for the Becketts has been their involvement with a local ‘green group’ since its conception in 2010. As of 2013, the family have been volunteering along with six other households, to take part in an energy decent project run by the group. The project aims to get the households to “challenge each other and ourselves” to overcome the barriers that they believe hinder their ability to reduce their energy consumption (Isabel); something that Ian and Isabel have been thinking about for “many decades actually” (Ian). The Becketts’ daily efforts to live sustainably include growing fruits and vegetables in their garden; keeping hens and geese; purchasing organic food when possible; purchasing food from local suppliers⁵¹; repairing broken appliances rather than purchasing new ones; purchasing electricity from Green Energy’s 100% renewable tariff; and generating electricity and hot water via solar panels and PVs.

As a family of “talkers” (Lowri), the Becketts regularly engage in long conversations about sustainability and the strategies they could employ to further reduce their carbon footprint. This usually involves Isabel coming up ideas, many of which are creative if not controversial, while Ian’s skill lies in “working out how to do [it]”, and indeed, “whether it’s worth doing” (Ian). Indeed, the Becketts present themselves as rather relaxed and “pretty egalitarian” (Ian) when it comes to household decision making. Isabel in particular framed this process as an organic one that developed through their regular conversations as the family “discuss a lot. We talk a lot about things, and then at some point that’ll just flip into “OK that’s a decision, it’s done now””. While the family regularly engage in long conversations about strategies to reduce their carbon footprint, for Lowri at least, the final say when it comes to household decision-making lies with her parents;

Erin So is there a particular person responsible for making decisions about utilities, appliances or technologies?

⁵¹ The family purchased food at the village shop and purchased lamb from a local farmer.

Lowri In this house -it's my parents'- and it's really a mutual decision between them, and I think it's very clear that at the moment that my living here is temporary and so I don't think -I wouldn't feel that they should consult me on these things- but then again I know that they make decisions in line with my principles anyway so I don't feel like I need to badger them [laughs]

Here Lowri distances herself from the decision-making process of the Beckett household, as the family's living arrangement is a short-term one. Lowri's reluctance to involve herself in decision making processes thus could be her way of maintaining a sense of autonomy as a separate 'household unit'. This finding draws similarities with Klocker, Gibson & Borger's contention that while those that live in extended family households are motivated by an ethic of care, mutuality and support their domestic lives are concurrently shaped by an individualist value system that emphasises privacy and individual autonomy (2012; 2243). These seemingly contradictory value systems played a significant part in shaping the Becketts' domestic energy consuming practices, as will be evident in the following section.

4.2 Negotiating Privacy & Independence, Mutuality & Support

The values of mutuality and support were clearly evident in the social, spatial and material organisation of the Beckett household. As a family that 'lived together' (Klocker, Gibson & Borger, 2012), the Becketts shared communal spaces (living room, kitchen), domestic technologies (cooker, washing machine) and infrastructures (plumbing, wood burners) as well as two cars. All three household members noted that along with this sharing of resources, there was an equitable division of household labour; "we share the cooking, we share the washing up, and we share the cleaning" (Ian) as they "all live together as adults" (Lowri). Practices such as cooking the evening meal for example, were generally assigned by a weekly rota system, whereby household members took turns to cook. Reflecting on their cooking routine, Isabel noted how it had changed since the (re)introduction of Lowri into the Beckett household;

Isabel So, Ian does Monday, Tuesday, Wednesday generally because I do Welsh on a Monday and yoga on Tuesday and Wednesday, and then I do four days a week. But now Lowri's moved in, she's taken over

Wednesday and Thursday -so she's taken those two middle days so then I'll do three days, Ian will do two [...]

Here we can see that the household's cooking practices are dependent upon individual routines as well as values of mutuality; for instance, if Isabel is unable to cook on a Monday due to other commitments, Ian or Lowri will do so instead. As individual routines are susceptible to change on short notice, the household rota was thus used more as a rough guide that was up for negotiation. Indeed, Lowri noted that it was this "freedom" to negotiate was "one of the reasons why at 27 I can actually bare to live at home!". Here we can see how narratives of mutuality are tempered with values of individuality, as shared practices required negotiation as not to hinder individual autonomy. Indeed, independence in the form of having "our own space" to retreat to (Isabel) and a "life apart" (Lowri), were deemed to be very important to all members of the Beckett household.

Nowhere were the values of individuality and privacy more evident in the Beckett household than in the practice of laundering. While the Becketts are happy to wash each other's clothing on occasion, their laundering practices generally reflected the social relations within the household. For instance, Isabel would usually sort, and wash her own as well as Ian's clothes (although Ian would sometimes do it too), while Lowri likewise sorted and washed hers separately. While women had similar drying practices, as they both avoid tumble drying and ironing their clothes after drying, they demonstrated differing knowledges of the 'right' way to wash their clothes, which have implications in terms of energy used;

Isabel Yeah we do have a debate about [laundry] 'cause I do everything in the washing machine at thirty [degrees]. Lowri uses the forty (...)

[Ian gasps mockingly]

Lowri No! If I put on a load for you I put it on thirty! [laughs] [...]

[Later on in the discussion]

Lowri I have started doing it on thirty more, but I'd say it's about half and half. If I think the things are really, really dirty, then I'll put them on forty 'cause I've noticed they come out sometimes and they're not clean.

Isabel The difference between thirty and forty -I mean if you're gonna be doing that you should be doing it on sixty- if they need a really good wash, sixty=

Lowri But I notice the difference because on this washing machine the setting is thirty degrees you get a short wash -forty degrees and you get a standard long wash- and so that's the difference. If they did a long wash on thirty I'd use that.

Isabel They do do long wash on thirty -just don't press the short wash button- that's how it works

Lowri Sorry boring! Anyway its psychological.

[Ian jokingly intersects]

Ian What is good is that it means that these two are very much in tune with what's going on, and what each of them are doing. So when Lowri goes and does a wash, Isabel listens out and then scuttles into the washroom and she changes it so that it's on a wash that she wants it, and vice versa you see.

Whilst laundering practices have been shown to be informed by societal conventions of cleanliness (Shove, 2003), they are also moral expressions about how to be, as individuals challenge, resist or conform to norms and conventions that reinforce their identities (Pink, 2005; 2007). Doing the laundry is thus a highly personal and emotional business (Higginson, Thomson & Bhamara, 2014). Temperature features prominently in the Becketts' debate regarding the 'right' way to wash their clothing. While Isabel washes everything at a low temperature, Lowri selected temperatures according to whom the clothing belonged to (i.e. washing her parents' clothing at 30°C, and her own at 40°C) and the state it was in, with those items that require more thorough cleaning needing to be washed at a higher temperature, in order to achieve the desired clean result. Evidently, there are varying competencies held by mother and daughter when it comes to the settings on their (shared) washing machine, as Lowri clearly was not aware that she could change the duration of the 30°C wash, which led her to conclude that setting the machine at a lower temperature would not produce adequately clean clothes.

In addition, what is particularly interesting in the above excerpt is the moral struggle between mother and daughter that, as jokingly highlighted by Ian, results in both parties undermining each other's efforts to wash their clothes in their own way. According to Collins (2015), acts of subversion like this may have significant environmental

ramifications, as the inability to manage conflicting personal and familial values may result in feelings of helplessness and ambivalence as the status quo is maintained.

4.3 Same Principles, Same Practices?

Flying was another topic that was broached by each household member in their discussions of their efforts to reduce their carbon emissions. After spending some time “tinkering” with carbon footprint calculators, Ian came to the conclusion that replacing inefficient domestic appliances would not drastically reduce their footprint; instead he states that the family “shouldn’t be travelling by airplane full stop”. Despite his love of travelling, Ian believes that it is a problematic practice, and he now gives himself a “very hard time about flying anywhere” and tries not to do it. This was a view that was also shared by Isabel and Lowri, who had decided that she “probably won’t fly any more”. During the first interview with Lowri however, it quickly became evident that while the family agreed that their air travel should be reduced, they differed in practice;

Lowri Mum and Dad do take a long trip every couple of years -and actually it’s gone down a great deal- but, they’ll go to Australia or they’re going to Africa or they went to the Galapagos -and I can totally see why they do it- ‘cause when I went travelling it [was] like one of the most memorable times of my life and (...) I dunno (...) I don’t understand why -I don’t judge them at all because I know they’re trying their best and everyone just has a different threshold of what they’re prepared to sacrifice or perceive as a sacrifice- so I don’t judge them for it, but I find it interesting (...) why we share the same view but they feel that that’s something they’re prepared to do and I don’t [...]

Evident in the above extract are tensions between culturally valued holiday practices, such as travelling to exotic locations, and a pro-environmental self-identity. Here, the cultural value of ‘omnivorousness’ (Peterson & Kern, 1996), that is, having openness to appreciating or experiencing everything, might be linked to a strong desire to travel, to visit, experience and accumulate knowledge of new and unfamiliar places and cultures. This wanderlust is hardly a new phenomenon, as O’Reilly likens the desire to seek out the novel to the Grand Tours of the 17th and 18th centuries, ‘particularly [in] its focus on gaining an education’ (2006; 1004). According to Randles and Mander (2009), like the Grand Tours of old, travelling to far-away destinations (often by air) in contemporary

society is a means of accumulating social and cultural capital, and is an activity that is 'enjoyed disproportionately by higher income and higher social class groups'. (p.111). Indeed, with higher levels of disposable income and the proliferation of low-cost airlines during the late twentieth century, long-distance independent travel has become a commonly accepted rite of passage for young middle-class people in particular. According to O'Reilly, these experiences are deemed meaningful, as they are considered to be both educational and character forming, making for a cultured individual with a strong sense of self and identity (2006; 1004), and marking the transition from adolescence to adulthood.

Whilst travelling for Lowri was "one of the most memorable times in my life", it seems that her orientations have changed since her return, as for her, travelling is now more strongly associated with environmental degradation (a finding similar to that of Carfagna *et al.*, 2014). However, Lowri's experiences are in direct contrast to her parents', as they like many of their generation, prioritised work and family responsibilities during their youth, as Isabel noted during a different discussion that she and Ian "were quite poor and had lots of children" when they were young. Now that they are both semi-retired, the couple have the time and the financial resources to allow them to travel to exotic destinations, something which their daughter had the privilege of doing earlier in her life. While their desire to fly is a source of guilt and anxiety for Ian and Isabel, particularly given their identities as environmentalists, it does not seem to stop them from flying entirely. This finding draws parallels with the work of Barr and colleagues (2010), who also found that even those that identify as committed environmentalists, may not be willing to give up flying, as it would 'impinge on their lifestyle choices regarding their travel pursuits' (p. 478). Isabel and Ian manage these tensions by using alternatives to flying, such as trains, to get to closer destinations, whilst reducing the frequency of holidays to more exotic locations. Managing the tensions between the desire to travel and their environmental commitments has, however, become even more difficult for the family as of late, as one of Lowri's siblings emigrated to Australia in 2012.

Lowri in particular describes her decision to "probably" not fly again as a difficult one, and likens it to having to "choose between your family and your ethics". When discussing the difficulties of practicing a sustainable lifestyle during the family interview, Isabel also

reflected on her frustration in trying to reconcile the need to reduce her air travel with wanting to see her children;

Isabel One thing that makes me fed up is when I make a rule, like we're gonna cut down on flying, and then I end up flying -and I'm gonna be flying again this year- which I keep saying will be one of the last times I fly, but actually with our son in Australia and a daughter possibly moving to New Zealand I know I'm going to do more flying.

Clearly a discrepancy lies between visiting distant loved ones and commitment to environmentalism, which makes for a highly emotive topic of discussion. Drawing similarities with the findings of Randles and Mander (2009), it seems that for Isabel at least, putting a halt on journeys to visit her children abroad is non-negotiable.

5. Reflections

This chapter set out to explore the ways in which household arrangements, identities and interactions are implicated in the co-ordination of everyday energy consuming practices. In order to do so, three family case studies were presented in order to illustrate the relational messiness inherent within the social structure of the family. I begin the discussion with the notion of family identity, which played a key role in structuring the three family narratives.

It was difficult to ascertain whether or not the Evans family had a cohesive shared identity, but they did share a distinct set of consumption values, such as their mutual appreciation for ICT. High levels of independence were integral to the enactment of family in the Evans household, as there was little to no talk of 'family time' within Ffion's narrative. Unlike the Evans family, the Thomases had a strong and cohesive sense of a family identity that centred on a theology that encourages respect for the planet, and restraint in using its resources. One of the key tenets of their theology was related to the importance of a formalised 'family time', which discourages individualised consumption. Like the Thomases, the Becketts also had a cohesive shared identity that centred on their mutual interests in the environment and in social justice. Their household character lies somewhere between the characters of the Evans and Thomas families, as the Becketts

value elements of both mutuality and independence, owing largely to their composition as an extended family-household.

Through these households' narratives it is possible to see complex interconnections between personal and shared identities, wider moralizing discourses and societal norms, which shift along the family life cycle. For example, each household narrative is shaped by discourses regarding 'good parenting' and idealised notions of family life (albeit in very different ways), which influence the ways in which the households are organised and which have difficult implications in terms of energy demand.

Discourses of intensive parenting (Shirani, Henwood & Coltart, 2011) shape Ffion's as well as Richard and Grace's accounts. For Ffion, this meant providing her son with the latest ICTs so that (i) he could develop his computing skills for educational purposes, and (ii) he would not be stigmatised by his peers. For Richard and Grace however, this meant keeping a 'traditional' household in which ICTs are collectively shared and policed, and which prioritises 'family time' over the virtual world. Despite the shared values within each family however, tensions exist between these normative discourses and personal identity projects of each member of the household. By providing her son with a multimedia bedroom, she had unintentionally made it more difficult to exercise control over what she deemed to be his excessive use of ICT. Likewise, Grace experienced tensions between her identity as a caregiver and her identity as a household manager, which led her to engage in practices that did not match her understanding of 'good parenting'.

Tensions also exist for children/young people within these households. Despite not being able to hear Siôn's perspective, it could be argued that his practices, like those of Delyth, Alex and Lisa Thomas, are influenced by peers as much as they have been influenced by their parents. The normative discourses that influence these young people however, are often at odds with those that influence their parents, creating tensions between personal and shared identity projects. A clear example of this would be in the Thomas children's enjoyment of using ICT, to stay in touch with their friends and for their leisure, but also feel guilty about using 'so much' of it.

The Beckett household differs from the Evans and Thomas families. Even though they

are a family unit, as an adult who has lived independently of her parents, Lowri's presence in the Beckett home is transitional. Despite not being a 'traditional nuclear family', their account too, has been shaped by normative discourses of parenting and idealised family life. For Ian and Isabel, this meant having the opportunity to welcome their adult daughter back into their home (known in popular discourses as 'boomeranging'), in order to support her until she found a place for her own. For Lowri however, returning to the parental home created a tension between the independence of emerging adulthood and the mutuality of living with one's parents (albeit temporarily), which resulted in her distancing herself from household decision-making. Despite demonstrating a cohesive shared identity centred around mutual interests, family members can also demonstrate different interpretations of the same consumption practices, as illustrated by Isabel and Lowri's disagreements about laundering and flying for example (*see also* Linnet, 2009).

Drawing upon a biographical lens to analyse the data presented in this chapter has brought into view the means by which meaningful identities are formed. Rather than being fixed or static, our personal and collective identities are continuously in the making; emerging through relationships with others in and through time (*see* Henwood & Shirani, 2012), which have a bearing on the practices that individuals and households engage in. In highlighting the relational messiness inherent in everyday energy consumption at the household level, this chapter has demonstrated that the changing engrained practices may be less straightforward than is currently envisaged by demand-side policies. Policy-makers therefore need to be sensitive to the complex web of relationships that underpin people's engagements in certain practices.

Chapter Eight

Conclusion

1. Introduction

Understanding how and why people use energy in the ways that they do, and how this varies according to context, is critical to gaining an insight into the ways in which we might foster change and ultimately reduce domestic energy demand. In particular, this thesis aimed to shed light on the dynamics of domestic energy demand in the rural sphere. By drawing on concepts from practice theory and biographical research traditions as developed by Henwood *et al.*, (2015), this study has explored how people make sense of how they use energy against a backdrop composed of social networks, life-course transitions, technologies and practices. Four research questions were devised in order to achieve this aim;

1. How does living in a ‘deep rural’ locality shape the performance of energy consuming practices?
2. In what ways do energy practices develop and change in place and through time?
3. How are energy practices made meaningful by those that perform them?
4. To what extent are individual identities and household arrangements implicated in the performance of everyday energy practices?

In this, the final chapter, I summarise the main findings of the study, and use them to formulate a series of practical recommendations. In addition, this chapter outlines directions for possible future research, acknowledges the boundaries within which the present findings should be interpreted, and outlines the contributions of this study to the field of energy research.

2. Key findings

2.1 How does Living in a ‘Deep Rural’ Locality Shape the Performance of Energy Consuming Practices?

This research question was primarily addressed in the first empirical chapter (chapter four), which considers the ways in which the physical context of one’s everyday life is interpreted and navigated on a daily basis. Perhaps unsurprisingly structural constraints in terms of the lack of public transport and the limited distribution of the gas network⁵² were discussed at great length by participants, which informed the organisation of the chapter.

For most households in this study, the distances between places of residence and places of work, retail and leisure necessitated a great deal of everyday mobility. Being on the move in the countryside, however, was considered to be a difficult task without the aid of a car, given that for the majority of participants, various commitments within different life domains (*i.e.* work, school, leisure and home life) could not be met with the limited provision of reliable public transport at their disposal. It was shown that the car as a technology (material) was valued by participants, not only for its utility, but also for the freedom that driving a car entails, which has, as Rhian pointed out, become “ingrained in the [local] psyche”.

Despite the benefits that car ownership provided (*i.e.* the opportunity to maximise economic opportunities - getting to work) however, participants recognised that their mobile lifestyles were not only environmentally detrimental, but were, in many ways, personally detrimental too. From the narratives presented in this chapter, one gets the sense that distance necessitates both time and money to traverse, resulting in less time to spend with family (social disadvantage), and a greater proportion of wages being dedicated to purchasing fuel (financial disadvantage). This is not to say that the participants of this study were passive victims. While the structures that constrained their actions could not be changed, participants exercised agency in the ways in which they managed the tensions between the need to be mobile and the temporal demands of their various social commitments. Strategies such as trip-chaining, trip synchronisation and digital mobilities

⁵² As noted in chapter one, this is well-known in rural studies

were used by participants in order to save money or save time (*see also* Milbourne & Kitchen, 2014).

In the latter half of chapter four, I moved on to discuss households that were off the gas grid, and what this meant in terms of everyday practice. The narratives presented in this subsection highlighted the vulnerability of off-grid households to fuel prices in particular – the likes of which are heavily dependent on the volatile crude oil market. However, most of the off-grid households had multiple heating systems that operated on different fuels, providing households with options that promote flexibility, and in the case of those with less financial means, resilience (*see also* Wrapson & Devine-Wright, 2014). Participants practiced a range of different strategies to minimise money spent, which involved; knowing when it's “cold enough” (*i.e.* seasonally appropriate) to turn the central heating on and relying on the fireplace/ log burner until then; and being resourceful – in terms of collecting firewood for example – which was “part of the [local] culture” according to some.

An unexpected finding connected to the notion of vulnerability relates to the narrative of a single person, Ffion, who relayed to me her personal experiences of fuel theft in her locality. While she was not a victim of the crime herself, many people in her community – friends, neighbours, and even employers – had been. The experience had clearly had an effect on Ffion, as the constant fear of having her fuel stolen heightened her sense of vulnerability.

A final insight developed in this chapter related to two households in particular, the Gwylms and the Dreyers, whose narratives illustrated that in addition to wider infrastructural constraints, everyday heating practices were largely dependent on the ‘character’ of the building itself, particularly in relation to its perceived ‘needs’. Both households’ understanding of the ‘character’ of their homes and the ‘feel’ of the spaces within them, were made in relation to the flows of air and temperature in and around the building. While both households lived in similar properties however, their interpretations of these flows, and thus their ways of managing their own thermal comfort were very different. For example, for the Gwylms, gusts of cold air were both unwelcome and unwelcoming, whilst for the Dreyers it was felt to be healthy and normal. These findings reaffirm Pink and Leder-Mackley’s (2016) assertion that practices should not be thought

as unified entities, but instead, should be viewed as dispersed and dependent upon the unique and shifting configuration of domestic environments (p.237).

2.2 In What Ways do Energy Practices Develop and Change in Place and through Time?

This research question was addressed in chapter five, which set out to examine the situated yet ever shifting patterns of energy demand across the life-course by using a biographical lens (Butler *et al.*, 2014). The chapter drew upon the ‘case biographies’ of four individuals, each at a different stage within the life-course, to illustrate the ways in which past experiences and future expectations in terms of life-course transitions play a significant role in shaping energy consumption patterns in the present. The narratives demonstrated that the changing circumstances brought on by life-course transitions, expected or otherwise, often involved tensions between the values around which meaningful identities are built, and future aspirations are forged. Eleri the shrewd investor, Alys the home-bird, ever-resilient Ceris, and ethical Gwen, each were able to acknowledge and reflexively engage with these tensions, around which they told their stories.

Each of their narratives were tales of adaptation to ever changing circumstances, whether in terms of learning to economise and live within one’s means (Eleri and Ceris), or learning to balance commitments within different life domains (Alys and Gwen). Adapting to new circumstances by drawing on a repertoire of new as well as old practices could be likened to exercising agency in the face of change, as participants attempt to maintain their sense of who they are in the wake of transitions.

These findings resonate in part with the contention that transitions are moments in which people are likely to experience changing circumstances that prompt them to reflect on the types of lifestyle that they would like to have (Thompson *et al.*, 2011). Transitions however, do not occur as neatly bounded occurrences, but instead, are demonstrated by the case biographies to be interlinked over time. This finding supports those of Burningham and colleagues (2014), who argue that rather than being static ‘moments’ of change, transitions are in fact on-going and fluid, as practices continue to shift and change over time.

2.3 How are Energy Practices Made Meaningful by Those That Perform Them?

This research question was addressed in chapter six, which details narratives of ‘what matters’ to people as they sought to explain the underlying logic of why they consume energy in the ways that they do. By investigating narratives of everyday practice, I was able to shed light on how emotional investments in everyday practices were textured through biographical experience and relationships with significant others.

What immediately became clear over the course of the analysis was that when people talked about what matters to them, they did so by talking about their relationships with other people - particularly family and friends, but also neighbours and colleagues. Indeed, there was a relational dimension present within the narratives of each and every participant. Moral judgements of ‘good’ and ‘bad’ energy practices for example were textured through biographical experiences and memories that were shared with or shaped by significant others. Participants most often referred to memories of parental ways of doing as they sought to explain their own ‘ethic of consumption’ (Hall, 2015).

The most widely used ethic of consumption related to the notions of thrift, frugality and an aversion to waste. These notions were often associated with the practices of earlier generations (*i.e.* parents and grandparents) and were generally regarded in a positive manner. Comparisons were often drawn between the care-filled and effortful (*i.e.* good) practices of the past and what was perceived as the excessive and wasteful (*i.e.* bad) actions of the present. For the exemplars featured in this chapter, engaging in practices that required a greater level of physical and mental exertion imbued them with a sense of familial continuity with past generations, as well as a sense of satisfaction and self-efficacy in the face of societal transformations. Narratives of what matters to people thus extend to encompass not only relationships with significant others but also relationships with practices that allow them to exert agency and independence in a changing world.

Rather paradoxically however, when entertaining guests, it seems that this positive valuation of frugality and thrift was turned on its head, as evidenced in Eleri’s discussion of heating practices, and Eluned and Glyn’s discussion of lighting practices. This

demonstrates that the explanatory logic behind certain practices is situated, and dependent upon the social relations of that particular point in space and time. Indeed, this was also evident in Ffion and Dylan's respective discussions of their use of the fireplace and radio, in which excessive or wasteful practices (*i.e.* keeping the radio on all night or keeping a fire going) were reformulated as necessary in the absence of significant others. Dylan's narrative in particular highlights the role that memories and experiences play in the accomplishment of subjectively meaningful practices. As such, it was demonstrated that practices and the materials that they depend on are valued not only for their practical use, but also for their symbolic value in relation to individual identities and situated practices of home making.

2.4 To What Extent are Individual Identities and Household Arrangements Implicated in the Performance of Everyday Energy Practices?

This research question was addressed in the final empirical chapter (chapter seven), which draws on the collective narratives of three very different family households in order to explore how energy practices are contingent upon dynamic familial processes at different stages of the family life-course.

Whether or not each of the families explicitly stated that they had cohesive identity, it became clear over the course of the analysis that the differing relational styles of each household played a significant part in shaping their everyday practices. Relational styles were shaped on the one hand by personal values, and on the other, by wider moralizing discourses and societal norms regarding idealised family life. High levels of independence, for example, were integral to the enactment of family in the Evans household, which was reflected in a media-rich home environment and the family's personalised and dispersed media practices (*see also* Gram-Hanssen, 2005; Livingstone, 2007). In contrast, the Thomas household had a strong and cohesive identity that centred on mutuality, which was shaped by a theology that values family time above material wants. Finally, and despite having a unified identity centring on shared interests in the environment and in social justice, the Beckett household's relational style was somewhat in-between mutuality and

independence, which I argue, reflects the household's more advanced stage in the family life-cycle.

Regardless of whether their relational style was based on mutuality or independence, each of the household narratives contained within them tensions between collective and personal values. For example, in the Evans household, Ffion provided her son with the latest media devices so that; (a) he would develop the skills to use them; (b) so that his peers would not mock him; and (c) so that her own freedom and choice to use various media devices would not be restricted. In providing her son with a media-rich bedroom however, Ffion found it more difficult to exercise her parental authority when it came to her son's media practices. On a similar note, in the Thomas household, Grace's narrative contained within it tensions between her roles as a caregiver and household manager that compelled her to engage in practices (*i.e.* using the television as a babysitter) that did not match her values regarding quality time and her understanding of 'good' parenting. In the Beckett household, tensions existed for Ian, Isabel and Lowri, as they had to manage tensions between their desires to travel and to visit far-away family on the one hand, and their environmental commitments on the other.

3. Evaluating the Study

This research was exploratory in nature, and as such, one of its defining features is its small sample of diverse household arrangements. The diversity of the sample was a strength in that it allowed for a variety of household compositions and circumstances to be examined, which fit in line with the intention of the study, and provided an insight into the everyday energy consuming practices of rural households in North West Wales. The diversity of the sample is however, also a limitation, as the broad focus has not allowed for in-depth insights on any particular household arrangements to be developed. Some avenues could not be explored in the same depth to which they would have been had the focus of the research been narrower. Future research might benefit from taking a more narrow focus, by exploring one or two types of household composition in greater depth for example.

While the research design was largely successful in providing an insight into the energy consumption habits of rural households, there were a few areas where it could have been

improved. For example, while the majority of adults and adolescents were keen to be involved in the study, encouraging younger children to take part proved to be more difficult. The difficulties encountered could be due to a variety of reasons, including my position as a relative stranger, and to the research being about energy consumption - a difficult topic to engage with, even for adults. More time therefore should have been spent in understanding each participating household's character so that opportunities to engage the family as a whole could have been more readily identified. Additionally, greater preparatory work, such as talking to the gatekeeper in advance and emphasising the whole-family approach, might have enabled this.

The variance in access afforded by households was also mirrored in their relative engagement with the chosen methods of inquiry. As previously indicated in chapter three, methods were selected on the belief that they would readily engage a broad range of households. The large diversity of the sample necessitated methods that could be utilised by a range of individuals. During the fieldwork it became apparent that while these methods did, on the whole, work with the households in the study, the level of engagement within and across households varied considerably. The energy poster task worked well with those households comprised of young families or multiple occupancies. For those living by themselves or being the sole individuals participating in the study in households of multiple occupation, this method proved problematic. The poster task in this study worked well for groups but proved problematic for individuals. Future studies should consider carefully how composite methods can work with diverse populations.

The energy rules poster was predominantly used as a device to elicit talk about energy conservation practices households already did or aspired to do. Although the use of the energy rules poster proved to be a successful way of engaging participants in discussion of their everyday practices/ future aspirations, they could have been used in conjunction with other methodological approaches, such as walk-through tours of the home for example (*e.g.* Pink, 2006; Pink and Mackley, 2012), in order to stimulate further insights on the everyday dynamics of household energy use.

Alternative methods, specifically creative methods, might also have aided in engaging more children and young people in the study. Children and young people might also have been more inclined to participate if greater attention had been given to designing child friendly materials from the outset. This was an area where I feel greater energy could have

been invested to promote greater engagement. The large diversity of age in the households could have been accommodated by the provision of a range of materials that met the needs of different levels of comprehension. Further to the provision of more age-friendly materials, more thought could have been given to alternative participative methods that encouraged creativity such as visual and experiential mediums that would be more engaging for young audiences. This said, and as noted in chapter three, it is important to note that the use of such approaches would have to be made on an individual basis and not solely be based on the age of the child (Punch, 2002; 2007). Differing levels of capacity and interests would necessitate a toolbox of possible methods. In short, a range of different strategies and methods should be employed in future research in order to engage younger people.

A final limitation of the study is the short time between the two stages of the research (*i.e.* the six month period between the individual interviews and the household interviews). This provided some time for participants to reflect on their perspectives and allowed emergent themes to be further explored. However, if a greater longitudinal study could be undertaken with regular participant contact (*i.e.* every three months) it would allow for life events, both significant and mundane, to be explored as they unfolded. The nature of contact could vary to explore different aspects of energy consumption and draw on multiple methods that might be relatively drawn upon by participant. An example of this might be, energy diaries, or visual elicitation methods (*see* Henwood *et al.*, 2015).

4. Implications & Avenues for Further Research

4.1 Implications for Policy

The ways in which people get things done on a daily basis depend upon technical appliances and infrastructures that consume energy. People value technologies that play a supportive role in the accomplishment of everyday life, both at a practical level - that is, for the services that they provide - and at a more emotional level. Practices and technologies are connected to ideas about who to be and how to live, and as such, may be deeply connected to people's identities (*see* chapters five, six and seven). This has particular implications for policy interventions in that practices bound up with valued identities and ideals may prove resistant to change.

In addition, this thesis has also demonstrated that people's attachments to place - both in terms of locality and in terms of dwellings - necessitate certain ways of living that are dependent upon particular technologies and infrastructures. While the ways in which people get things done are in some ways the result of infrastructural as well as social 'lock-in', it by no means suggests that rural dwellers are the passive victims of these structures. Indeed, as evidenced in chapters four, five and six, rural people exert agency in the face of constraint in a variety of ways - be that by adapting their travel practices, or by engaging their creativity and resourcefulness in terms of keeping warm. In light of these findings, policy interventions could benefit from learning about the dynamics of agency embedded in place-based contexts in their endeavours to reduce rural energy demand.

Another noteworthy finding of potential policy relevance relates to the seeming importance of practices that require more effortful engagement in their accomplishment (*see* chapter six). These practices are valued because of their connection to normative frameworks that are integral to notions of self-identity and agency, and are themselves seen as part of leading a life worth living. In line with the recommendations of Henwood *et al.*, (2015), this suggests that policymakers need to be sensitive to the complex relationships that underpin people's engagements in certain practices, particularly those that relate to significant others and valued forms of experience.

The households in this study had diverse and flexible heating systems that were easily regulated and managed by each family. Based on the presented analysis, it would be inadvisable for policymakers to undertake blanket policy measures, such as the removal of fireplaces in housing association properties as reported by Ceris in chapter five. These policies inadvertently reduce the flexibility afforded to household and subsequently result in households facing dichotomous decisions over whether to heat a home or not. Wrapson and Devine-Wright's (2014) assert that 'a narrow focus on the economic and environmental benefits of [heating] systems does not take into account the full range of services home heating systems provide'. By having a range of potential options to heating part, or all, of a household it is possible for individuals to better manage their needs within their economic circumstances. This is felt to be particularly important for rural households that are off the gas network, as they are often heavily dependent on fuels whose prices fluctuate considerably.

4.2 Theoretical Implications & Directions for Future Research

As indicated elsewhere, this study builds on the work of Energy Biographies and draws on their approaches. Perhaps inevitably then, there is some overlap between the conclusions resulting from this study and those of the Energy Biographies project. While many of my conclusions are consistent with those of my colleagues, the specific focus on rural households that this study has taken has also generated some novel insights, particularly in terms of the importance of place in shaping energy consuming practices. The following discussion provides an overview of the theoretical contributions of this research, before moving on to detail issues for further research as highlighted by this study.

Like my colleagues, I set out to contribute to a rich and diverse body of literature that sits at the intersection of research on everyday life and energy consumption. The aims of both projects were ambitious; to enrich and enliven current theoretical debates within the field, and to produce relevant and useful empirical findings for policy-makers concerned with energy demand reduction. While practice theory formed the basis to both projects, it was felt that theoretical insights from other areas of research could produce new and valuable insights on matters that practice theory does not engage with - such as subjectivity, individual agency, emotions and dynamic relationships - as they do not align with its current theoretical commitments. In doing so, both projects contribute to emerging debates within the practice theory community regarding its future theoretical development (*e.g.* Schäfer, 2014), albeit in subtly different ways.

The analysis presented in this thesis has benefitted from concepts drawn from biographical or life-course theory, particularly in relation to conceptualising energy practices as partially resulting from dynamic relationships that are historically embedded, as analysis by the Energy Biographies has shown (Henwood *et al.*, in press). Understanding practices in this way has enabled me to better appreciate the role that emotional investment – or “what matters” to people – plays in practice change and continuity at an individual and household level (*see also* Henwood *et al.*, in press). By examining narratives of attachment we can develop a better understanding of how people make sense of their everyday energy consuming practices, and see how people can ‘develop capacities for taking contextually meaningful action’ (Henwood *et al.*, 2015; 47). This brings us to the

matter of agency, which in this case, is conceptualised neither as a rational actor nor a passive dupe. Instead, agency emerges from relationships and forms of identity that are bound to particular practices (*Ibid.*). Agency is thus dynamic, relational and always in the making.

My work differs from the wider Energy Biographies project in that it is explicitly concerned with the role of place in shaping everyday energy consumption. One way in which the relationship between people and place has been explored throughout this thesis has been to focus in on place attachment as a particular form of emotional investment. In doing so my work understands place to not only as being comprised of a multitude of relationships (Massey, 2005), but as a relationship in itself. This study has actively engaged with the importance of place in a way that allows us to explore the subjective meaning that it is given by its inhabitants and how these relate to their everyday lives. Previous practice-based research on energy consumption has failed to examine this subjective experience and has instead focused primarily on the technical, material or infrastructural barriers to action that exist. As such, this study contributes to a reimagining of practice theory by highlighting the importance of geography and of place in everyday sense making.

To sum up, the biographical lens employed in this thesis has enabled me to focus in on relational dynamics (*i.e.* between an individual and their significant others; between people and practices that matter; between people and places that matter), which has enabled me to reimagine practice change (and continuity) in a manner that does not embody a reductionist approach where individuals are passive agents. Practice should be viewed as a skilled accomplishment of reflexive beings that are able to adapt and mediate numerous practices in the context of changing relationships. This is not to say that people are rational decision makers, nor passive dupes, but rather that agency is textured through relationships in time and place. Finally, the analysis in this thesis has shown that practices are integral to maintaining personal or shared patterns of affective attachment, which in turn demonstrates that the meanings of practices are much more complex than currently envisaged by practice theory (*see also* Groves *et al.*, 2016b).

Moving away from theoretical contributions to specific issues for further inquiry, this thesis set out to account for a range of household dynamics and practices. While I have, on the whole, been successful in this endeavour, given the issues encountered in arranging interviews particularly with young people, I would suggest that future research should

look to explore energy practice with younger generations. Specifically consideration should be given to methods that engage young people effectively. To effectively engage this audience consideration should be given to meaningfully embedding young people in the design of research from its inception.

On a final note; in terms of the substantive matters discussed in this study, it is apparent that the off-grid existence of many rural households also leaves them vulnerable to fuel theft in a way that those in urban environments are less susceptible. While this was only mentioned by one person (*see* Ffion, chapter four), the narrative relayed indicated that such theft was a common issue in her local area. With rising fuel prices, the economic impact on victims of such thefts is considerable and can result in instances of fuel poverty in the case of vulnerable groups. In addition to the economic impact, the psychological fear of such theft - both for those who have experienced it, and for the wider community - can also be detrimental, intensifying a sense of vulnerability. I would urge future researchers to pay greater heed to issues of justice, equity and vulnerability in relation to energy systems, such as energy theft and fuel poverty.

References

A

Ajzen, I. 1991. 'The theory of planned behavior'. *Organizational Behavior and Human Decision Processes*, 50; pp. 179–211

Alderson, P. 1995. *Listening to children: ethics and social research*. Barking: Barnardo's

Anderson, W., White, V., & Finney, A. 2010. "You just have to get by": Coping with low incomes and cold homes. Bristol: Centre for Sustainable Energy

Andrews, M., Squire, C. & Tamboukou, M. 2013. *Doing narrative research*. London: SAGE

Armitage, C.J., & Conner, M. 2001. 'Efficacy of the Theory of Planned Behaviour: a meta-analytic review'. *British Journal of Social Psychology*, 40(4); pp. 471-499

Arnett, J.J. 2004. *Emerging adulthood: The winding road from the late teens through the twenties*. Oxford: Oxford University Press

Atkinson, P. 2005. 'Qualitative Research – Unity and Diversity'. *Forum: Qualitative Research Sozialforschung*, 6(3); Article 26

Atkinson, P., Coffey, A., Delamont, S., Lofland, J., & Lofland, L. 2001. *Handbook of ethnography*. London: SAGE

B

Baker, W. 2011. *Off-gas consumers: Information on Households without mains gas heating*. London: Consumer Focus

Bamberg, S., & Schmidt, P. 2003. 'Incentives, morality or habit? Predicting students care use for university routes with models of Ajzen, Schwartz and Triandis'. *Environment and behavior*, 35(2); pp. 264-285

Bamberg, S. 2003. 'How does environmental concern influence specific environmentally related behaviors? A new answer to an old question'. *Journal of Environmental Psychology*, 23(1); pp. 21-32

Bandura, A. 1977. 'Self-efficacy: Toward a unifying theory of behaviour change'. *Psychological Review*, 84(2), pp. 191-215

Banks, M. 2001. *Visual methods in social research*. London: SAGE

Baker, J., & Weller, S. 2003. "Is it fun?" developing children centred research methods'. *International Journal of Sociology and Social Policy*, 23(1/2); pp. 33-58

Barr, S., Shaw, G., Coles, T., & Prillwitz, J. 2010. "A holiday is a holiday": practicing sustainability at home and away'. *Journal of Transport Geography*, 18(3); pp. 474-481

Bartiaux, F. 2009. *Between school, family and media: Do the children carry energy-saving messages and practices?* In: Act! Innovate! Deliver! ECEEE Summer Study Proceedings.

Bartiaux, F. 2012. *Researching on energy-consumption practices: Adding social interactions and geographical characteristics to the social theories of practice*. Presented at: the MILEN International Conference 2012 'Advancing the research and policy agendas on sustainable energy and the environment', University of Oslo. Available online: http://www.eceee.org/conference_proceedings/MILEN/MILEN-2012/Presentations/Francoise-Bartiaux/paper [Accessed: 20-06-2013]

Bartiaux, F., & Salmon, L.A. 2014. 'Family dynamics and social practice theories: an investigation of daily practices related to food, mobility, energy consumption, and tourism'. *Nature and Culture*, 9(2); pp. 204-224

Bille, M. 2012. 'Energy Saving Technologies and the Battle of Atmosphere'. International Congress on Ambiances. Montreal, Canada; International Ambiances Network. pp. 135-140. Available online: <https://halshs.archives-ouvertes.fr/halshs-00745854/document> [Accessed: 10-04-2016]

Bjornholt, M., & Farstad, G.R. 2014. "Am I rambling?" on the advantages of interviewing couples together'. *Qualitative Research*, 14(1); pp. 3-19

Blake, J. 1999. 'Overcoming the 'value-action gap' in environmental policy: Tensions between national policy and local experience'. *Local Environment: The International Journal of Justice and Sustainability*, 4(3); pp. 257-278

Bloor, M., Frankland, J., Thomas, M., & Robson, K. 2001. *Focus Groups in Social Research*, London: SAGE

Boardman, B., & Darby, S. 2000. *Effective Advice: energy efficiency and the disadvantaged*. Environmental Change Institute: University of Oxford, UK

Bolton, R., & Foxon, T. 2013. *Negotiating the energy policy 'trilemma' – an analysis of UK energy governance from a socio-technical systems perspective*. IGOV Workshop: Theorising Governance Change for a Sustainable Economy: London

Bonner, A., & Tolhurst, G. 2002. 'Insider-outsider perspectives of participant observation'. *Nurse Researcher*, 9(4); pp. 7-19

Bourdieu, P. 1984. *Distinction: A Social Critique of the Judgement of Taste*. London: Routledge

Brandon, G., & Lewis, A. 1999. 'Reducing household energy consumption: A qualitative and quantitative field study'. *Journal of Environmental Psychology*, 19(1); pp. 75-85

Bridge, G., Bouzarovski, S., Bradshaw, M., & Eyre, N. 2013. 'Geographies of energy transition: Space, place and the low-carbon economy'. *Energy Policy*, 53; pp. 331-340

Briggs, M. 2006. 'Beyond the audience: Teletubbies, play and parenthood'. *European Journal of Cultural Studies*, 9(4); pp. 441-460

British Sociological Association (BSA). 2002. *Statement of Ethical Practice*. Available online: <http://www.britisoc.co.uk/the-bsa/equality/statement-of-ethical-practice.aspx>
[Accessed 16-04-2016]

Browne, K. 2005. *An Introduction to Sociology (third edition)*, Cambridge: Polity Press

Brown, D.L., & Schafft, K.A. 2011. *Rural People and Communities in the Twenty-first Century: Resilience and Transformation*. Cambridge: Polity Press

Bryman, A. 1988. *Quantity and quality in social research*. London: Unwin Hyman

Bryman, A. 2012. *Social Research Methods*. Oxford: Oxford University Press

Bruinsma, F.R., Rietveld, P., & van Vuuren, D.J. 1999. 'Unreliability in public transport chains'. Proceedings of 8th World Conference on Transport Research. Available online: <http://papers.tinbergen.nl/98130.pdf> [Accessed 10-04-2016]

Buchanan, K. Russo, R., & Anderson, B. 2015. 'The question of energy reduction: The problem(s) with feedback'. *Energy Policy*, 77; pp. 89-96

Buckingham, D., & Scalnon, M. 2005. 'Selling Learning: Towards a Political Economy of Edutainment Media'. *Media, Culture and Society*, 27(1); pp. 41-58

Buell, L. 2011. *The Future of Environmental Criticism: Environmental Crisis and Literary Imagination*. Oxford: Blackwell

Bulkeley, H., & Gregson, N. 2009. 'Crossing the threshold: Municipal waste policy and household waste generation'. *Environment and Planning*, 41(4); pp. 929-945

Burgess, J., & Nye, M. 2008. 'Rematerialising energy use through transparent monitoring systems'. *Energy Policy*, 36; pp. 4454–4459

Burgess, J., Harrison, C., & Filius, P. 1998. 'Environmental communication and the cultural politics of environmental citizenship'. *Environment and Planning A*, 30; pp.1445-1460

Burgess, J., Bedford, T., Hobson, K., Davies, G., & Harrison, C. M. 2003, '(Un)sustainable consumption'. In: F. Berkhout, M. Leach, and I. Scoones (Eds.), *Negotiating Environmental Change: New Perspectives from Social Science*. Cheltenham: Edward Elgar

Bushin, N. 2007. 'Interviewing children in their homes: developing flexible techniques and putting ethical principles into practice'. *Children's Geographies*, 5(3); pp. 235-251

Bushman, R., & Bushman, C. 1988. 'The early history of cleanliness in America'. *Journal of American History*, 74(4); pp. 1213-1238

Butler, C. 2010. 'Morality and Climate Change: is leaving your T.V on standby a risky behaviour?'. *Environmental Values*, 19(2); pp. 169-192

Butler, C., Parkhill, K., & Pidgeon, N. 2014. 'Energy consumption and everyday life: Choice, values and agency through a practice theoretical lens'. *Journal of Consumer Culture*, 19; DOI: 10.1177/1469540514553691

Butler, C., Parkhill, K.A., Shirani, F., Henwood, K., & Pidgeon, N. 2014. 'Examining the Dynamics of Energy Demand Reduction through a Biographical Lens', *Nature and Culture*, 9(2); pp. 164-182

C

Calvert, E. 2010. *Young People's Housing Transitions in Context*. Southampton: Centre for Population Change, University of Southampton

Carfagna, L.B., Dubois, E.A., Fitzmaurice, C., Ouimette, M.Y., Schor, J.B., Willis, M., & Laidley, T. 2014. 'An emerging eco-habitus: The reconfiguration of high cultural capital practices among ethical consumers'. *Journal of Consumer Culture*, 14(2); pp. 158-178

Cialdini, R. B., Reno, R. R., & Kallgren, C. A. 1990. 'A focus theory of normative conduct: recycling the concept of norms to reduce littering in public places'. *Journal of Personality and Social Psychology*, 58(6); pp. 1015-1026

Cialdini, R. B. 2003. 'Crafting normative messages to protect the environment'. *Current Directions in Psychological Science*, 12(4); pp. 105-109

Chamberlyne, P., Bornat, J., & Wengraf, T. (eds.) 2000. *The Turn to Biographical Methods in Social Science*. London: Routledge

Charlier, D. 2014. *Split Incentives and Energy Efficiency: Empirical Analysis and Policy Options* Document de travail ART-Dev 2014-07

Charmaz, K. 2006. *Constructing Grounded Theory: A Practical Guide through Qualitative Analysis*. London: SAGE

Chavez, C. 2008. 'Conceptualizing from the inside: Advantages, Complications, and Demands on Insider Positionality'. *The Qualitative Report*, 13(2); pp. 474-494

Cherrier, H. 2009. 'Anti-Consumption Discourses and Consumer-Resistant Identities'. *Journal of Business Research*, 62(2); pp. 181-190

Cherrier, H., Black, I.R., & Lee, M. 2011. 'Intentional Non-Consumption for Sustainability: Consumer Resistance and/or Anti-Consumption?'. *European Journal of Marketing*, 45(11-12); pp. 1757-1767

Christensen, T.H. 2009. 'Connected presence' in distributed family life'. *New Media and Society*, 11(3); pp. 433-451

Christensen, T.H., Mourisk, R., Breukers, S., Mathijssen, T., & Heuve, H.V.D. 2014. *Young people, ICT and energy – status and trends in young people's use and*

understanding of ICT and energy consumption. *D2.1 Technical Report on the Organisation and Outcomes of Focus Groups and the Mapping Exercise*. Intelligent Energy Europe. Available online:

http://vbn.aau.dk/files/201886616/UseITsmartly_WP2_report_D2.1_FINAL.pdf

[Accessed 14-12-2014]

Cloke, P. 2006. 'Conceptualizing rurality'. In Cloke, P., Marsden, T. and Mooney, P. *Handbook of Rural Studies*, London: SAGE

Cloke, P., & Milbourne, P. 1992. 'Deprivation and Lifestyles in Rural Wales II: Rurality and the Cultural Dimension', *Journal of Rural Studies*, 8(4); pp. 3259-372.

Coffey, A., & Atkinson, P. 1996. *Making sense of qualitative data: Complementary research strategies (and social thought)*, London: SAGE

Collins, R. 2015. 'Keeping it in the family? Re-focusing household sustainability'. *Geoforum*, 60(1); pp. 22-32

Colton, R. D. 2001. 'Prepayment Utility Meters, Affordable Home Energy, and the Low Income Utility Consumer', *Journal of Affordable Housing and Community Development Law*, 10(3); pp. 285-305

Committee on Climate Change (CCC). 2010. Building a low-carbon economy – the UK's innovation challenge. London: Committee on Climate Change

Committee on Climate Change (CCC) 2014. *Meeting Carbon Budgets – 2014 Progress Report to Parliament*. Available online: https://www.theccc.org.uk/wp-content/uploads/2014/07/CCC-Progress-Report-2014_web_2.pdf [Accessed 16-04-2016]

Consumer Focus Wales (CFW) 2011. *Off-gas consumers and microgeneration*. Available online: <http://www.consumerfocus.org.uk/wales/publications/off-gas-consumers-and-microgeneration> [Accessed 12-04-2016]

Coşgel, M., & Minkler, L. 2004. 'Religious identity and consumption'. *Review of Social Economy*, 62(3); pp. 339-350

Cowell, R. 2011. 'Environmental Sustainability of, by and for Rural Wales'. In: P. Milbourne (Ed.), *Rural Wales in the Twenty-First Century: Society, Economy and Environment*. Cardiff: University of Wales Press

Creamer, E. 2015. 'Community': the ends and means of sustainability?: Exploring the position and influence of community-led initiatives in encouraging more sustainable lifestyles in remote rural Scotland. PhD Thesis. University of Edinburgh

Curtis, P. 2007. *Space to care: Research with children in hospital settings*. Paper presented at the Children's Participation in Research Processes: Putting theory into practice, University of Sheffield

D

Daly, K. J. 1996. *Families and time: Keeping a hurried culture*. London: SAGE

Daly, K.J. 2001. 'Deconstructing Family Time: From Ideology to Lived Experience'. *Journal of Marriage and Family*, 63(2); pp. 283-294

Darby, S. 2010. 'Smart metering: what potential for householder engagement?' *Building Research and Information*, 38(5); pp. 442-457

Darnton, A. 2008. *GSR Behaviour Change Knowledge Review. Reference Report: An overview of behaviour change models and their uses.* Available online: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/498065/Behaviour_change_reference_report_tcm6-9697.pdf [Accessed 16-04-2016]

Darnton, A, Verplanken, B, White, P., & Whitmarsh, L. 2011. *Habits, Routines and Sustainable Lifestyles: A summary report to the Department for Environment, Food and Rural Affairs.* Available online: [http://randd.defra.gov.uk/Document.aspx?Document=HabitsRoutinesSustainableLifestylesEVO502FinalSummaryReportNov2011\(2\).pdf](http://randd.defra.gov.uk/Document.aspx?Document=HabitsRoutinesSustainableLifestylesEVO502FinalSummaryReportNov2011(2).pdf) [Accessed 16-04-2016]

Davidson, C. 2009. 'Transcription: Imperatives for Qualitative Research'. *International Journal of Qualitative Methods*, 8(2); pp. 35-52

Davis, G., Phillips, P.S., Read, A.D., & Iida, Y. 2006. 'Demonstrating the need for development of internal capacity: Understanding recycling participation using the Theory of Planned Behaviour in West Oxfordshire, UK'. *Resources, Conservation and Recycling*, 46(2); pp. 115-127

Davis, L. W. 2010. 'Evaluating the slow adoption of energy efficient investments: Are renters less likely to have energy efficient appliances?' NBER Working Paper (No. 16114). Available online: <http://www.nber.org/papers/w16114> [Accessed 10-04-2016]

Day, R., & Walker, G. 2013. 'Energy vulnerability as an assemblage'. In: K. Bickerstaff, H. Bulkeley, and G. Walker (Eds.), *Energy and Justice in a Changing Climate*. London: Zed books

Department of Business, Energy & Industrial Strategy [DBEIS]. 2016. Energy Consumption in the United Kingdom: 2016, DBEIS Factsheet. Available online: <https://www.gov.uk/government/statistics/energy-consumption-in-the-uk> [Accessed 01-09-2016]

DeLyser, D. 2001. 'Do you really live here? Thoughts on insider research'. *Geographical Review*, 91(1/2); pp. 441-453

Denzin, N. K., & Lincoln, Y. S. 2000 *Handbook of Qualitative Research*. London: SAGE

Department of Energy and Climate Change [DECC] 2012a. *Research Report – Smart Meters: research into public attitudes*. Available online: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48381/5424-smart-meters-research-public-attitudes.pdf [Accessed 16-04-2016]

DECC. 2012b. Energy Consumption in the United Kingdom: 2012, DECC Factsheet. Available online: <https://www.gov.uk/government/statistics/energy-consumption-in-the-uk> [Accessed 01-09-2016]

DECC. 2013a. *Smart meters: a guide*. Available online: <https://www.gov.uk/guidance/smart-meters-how-they-work> [Accessed 16-04-2016]

DECC. 2013b. Energy Consumption in the United Kingdom: 2013, DECC Factsheet. Available online: <https://www.gov.uk/government/statistics/energy-consumption-in-the-uk> [Accessed 01-09-2016]

DECC. 2014a. *Delivering UK Energy Investment*. Available online: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/331071/DECC_Energy_Investment_Report.pdf [Accessed 16-04-2016]

DECC. 2014b. *Local Authority CO2 emissions estimates 2012*. Available online: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/322819/20140624_Statistical_release_Local_Authority_CO2_emissions.pdf [Accessed 16-04-2016]

DECC. 2015. *Fossil Fuel Price Assumptions*. Available online: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/477958/2015_DECC_fossil_fuel_price_assumptions.pdf [Accessed 12-04-2016]

Department for Environment, Food and Rural Affairs [DEFRA]. 2007. *UK Energy Efficiency Action Plan*. London: DEFRA

Dever, K.J., & Frankel, R.M. 2000. 'Study design in qualitative research 1: Developing questions and assessing resource needs'. *Education for Health*, 13(2); pp. 251-261

Devine-Wright, P., Wrapson, W., Henshaw, V., & Guy, S. 2014. 'Low Carbon Heating and Older Adults: Comfort, Cosiness and Glow'. *Building Research and Information*, 42(3); pp. 288-299

Dreier, O. 2009. 'Persons in structures of social practice', *Theory and Psychology*, 19(2); pp. 193-212

E

Economic and Social Research Council (ESRC). 2016. *Research Ethics Framework*. Available online: <http://www.esrc.ac.uk/funding/guidance-for-applicants/research-ethics/> [Accessed 16-04-2014]

Edgell, P., & Docka, D. 2007. 'Beyond the Nuclear Family? Familism and Gender

Ideology in Diverse Religious Communities'. *Sociological Forum*, 22(1); pp. 25-50

Elder, G.H. 1998. 'The Life Course as a Developmental Theory'. *Child Development*, 69(1); pp. 1-12

Elliot, J. 2005. *Using narrative in social research: Qualitative and quantitative approaches*. London: SAGE

Ellis, C. 1995. 'Emotional and ethical quagmires in returning to the field'. *Journal of Contemporary Ethnography*, 24(1); pp. 68-98

Evans, C.A., Jordan, A.B., & Horner, J. 2011. 'Only two hours? A qualitative study of the challenges parents perceive in restricting child television time'. *Journal of Family Issues*, 32(9); pp. 1223-1244

Evans, D., & Abrahamse, W. 2009. 'Beyond rhetoric: the possibilities of and for 'sustainable lifestyles''. *Environmental Politics*, 18(4); pp; 486–502

Evans, D., & Jackson, T. 2008. *Sustainable Consumption: Perspectives from Social and Cultural Theory*. RESOLVE Working Paper 05-08. Available online: http://resolve.sustainablelifestyles.ac.uk/sites/default/files/RESOLVE_WP_05-08.pdf [Accessed 12-04-2016]

F

Farrington, J., & Farrington, C. 2005. 'Rural accessibility, social inclusion and social justice: Towards conceptualisation'. *Journal of Transport Geography*, 13(1); pp. 1-12

Featherstone, M. 2007. *Consumer culture and postmodernism (Second edition)*. London: SAGE

Fishbein, M., & Ajzen, I. 1975. *Belief, attitude, intention and behaviour*. Reading: Addison-Wesley

Flick, U. 1997. *The Episodic Interview: small scale narratives as approach to relevant experiences*. Available online: <http://www.lse.ac.uk/methodology/pdf/qualpapers/flick-episodic.pdf> [Accessed 12-04-2016]

Flick, U. 2014. *An Introduction to Qualitative Research (fifth edition)*. London: SAGE

G

Gabb, J. 2008. *Researching intimacy in families*. Basingstoke: Palgrave Macmillan

Gabb, J. 2009. 'Researching family relationships: a qualitative mixed methods approach'. *Methodological Innovations Online*, 4(2); pp. 37-52

Ganga, D., & Scott, S. 2006. 'Cultural "Insiders" and the issue of positionality in qualitative migration research: Moving "Across" and moving "along" researcher-participant divides'. *Forum: Qualitative Social Research Sozialforschung*, 7(3).

Gaver, W., Michael, M., Kerridge, T., Wilkie, A., Boucher, A., Ovale, L., & Plummer-Fernandez, M. 2015. *Energy Babble: Mixing Environmentally-Oriented Internet Content to Engage Community Groups*. Available online: https://research.gold.ac.uk/11392/1/BABBLE_Gaver2015.docx [Accessed 16-04-2016]

Gibson, C., Waitt, G.R., Head, L.M., & Gill, N. 2011. Is it easy being green? On the dilemmas of material cultures of household sustainability. In: R. Lane, and A.W. Gorman-

Murray (Eds.), *Material Geographies of Household Sustainability*. Surrey: Ashgate Publishing Limited

Giddens, A. 1984. *The Constitution of Society*. Cambridge: Polity Press.

Giddens, A. 1991. *Modernity and self-identity: Self and society in the Late Modern Age*. Cambridge: Polity Press

Giele, J. Z., & Elder, G.H. 1998. *Methods of Life Course Research. Qualitative and Quantitative Approaches*. London: Sage

Gill, Z.M., Tierney, M.J., Pegg, I.M., & Allan, N. 2010. 'Low-energy dwellings: the contribution of behaviour to actual performance'. *Building Research and Information*, 38(5); pp. 491-508

Gonzalez y Gonzalez, E., & Lincoln, Y.S. 2006. 'Decolonizing Qualitative Research: Non-traditional reporting forms in the academy'. *Forum: Qualitative Social Research Sozialforschung*, 7(4).

Goodman, M.K., Goodman, D., & Redclift, M. 2009. *Environment, politics and development working paper series – Department of Geography, King's College London*. Available online: <http://www.kcl.ac.uk/sspp/departments/geography/research/Research-Domains/Contested-Development/GoodmanetalWP20.pdf> [Accessed 16-04-2016]

Gorman-Murray, A., & Lane, R. 2011. *Material Geographies of Household Sustainability*. Surrey: Ashgate

Götz, M., Bachmann, S., & Hofmann, O. 2007. 'Just a babysitter? Functions of television viewing in the daily life of children up to 5 years old from a parental perspective'. *Televizion*, 20; pp. 35-39

Gram-Hanssen, K., Bartiaux, F., Jensen, O.M., & Cantaert, M. 2007. 'Do homeowners use energy labels? A comparison between Denmark and Belgium'. *Energy Policy*, 35(5); pp. 2879-2888

Gram-Hanssen, K. 2007. 'Teenage consumption of cleanliness: how to make it sustainable?'. *Sustainability: Science, Practice, and Policy*, 3(2); pp. 15-23

Gram-Hanssen, K. 2005. Teenagers consuming ICT. In: ECEEE 2005 Summer Study Proceedings, *Energy Savings: What Works and Who Delivers*. Stockholm: European Council for an Energy-Efficient Economy

Gray, D., Farrington, F., Shaw, J., Martin, S., & Roberts, D. 2001. 'Car dependence in rural Scotland: Transport policy, devolution and the impact of the fuel duty escalator'. *Journal of Rural Studies*, 17(1); pp. 113-125

Gray, D., Farrington, J., & Kagermeier, A. 2008: Geographies of rural transport. In R. Knowles, J. Shaw, and I. Docherty (Eds.), *Transport geographies: mobilities, flows and spaces*, London: Blackwell

Green, A.E., Hogarth, T., & Shackleton, R.E. 1999. 'Longer distance commuting as a substitute for migration in Britain: A review of trends, issues and implications'. *International Journal of Population Geography*, 5(1); pp. 49-67

Griffin, B., & Hesketh, B. 2008. 'Post-retirement work: The individual determinants of paid and volunteer work'. *Journal of Occupational and Organizational Psychology*, 81(1); pp. 101-12

Gronow, J., & Warde, A. 2001. Introduction. In: J. Gronow, and A. Warde (Eds.), *Ordinary consumption*. London: Routledge

Groves, C., Henwood, K., Shirani, F., Butler, C., Parkhill, K., & Pidgeon, N. 2016a. 'Energy Biographies: Narrative Genres, Lifecourse Transitions, and Practice Change'. *Science, Technology and Human Values*, 41(3); pp.483-508

Groves, C., Henwood, K., Shirani, F., Butler, C., Parkhill, K., & Pidgeon, N. 2016b. 'Invested in unsustainability? On the psychosocial patterning of engagement in practices'. *Environmental Values*. 24(6) pp.

Guillemin, M., & Gilliam, L. 2004. 'Ethic, Reflexivity, and "Ethically Important Moments" in Research'. *Qualitative Inquiry*, 10(2); pp. 261-280

Guiltinan, J. 2009. 'Creative Destruction and Destructive Creation: Environmental Ethics and Planned Obsolescence'. *Journal of Business Ethics*, 89(1); pp. 19-28

Gustafson, P. 2001. 'Roots and Routes: Exploring the Relationship Between Place Attachment and Mobility'. *Environment and Behaviour*, 33(5); pp. 667-686

Guy, S. 2006. 'Designing urban knowledge: competing perspectives on energy and buildings', *Environment and Planning C*, 24; pp. 645-659

H

Haddon, L. 1992. Explaining ICT consumption: The case of the home computer. In: R. Silverstone, and E. Hirsch (Eds.), *Consuming Technologies: Media and Information in Domestic Spaces*. New York: Routledge

Håkansson, M., & Sengers, P. 2013. Beyond Being Green: Simple Living Families and ICT. In: Proceedings of the SIGCHI Conference on Human Factors in Computing Systems; Paris

Halai, N. 2007. 'Making use of bilingual interview data: some experiences from the field'. *The Qualitative Report*, 12 (3); pp. 344-355.

Halcolm, E.J., & Davidson, P.M. 2006. 'Is verbatim transcription of interview data always necessary?'. *Applied Nursing Research*, 19(1); pp. 38-42

Halfacree, K.H. 1993. 'Locality and social representation: space, discourse and alternative definitions of the rural', *Journal of Rural Studies*, 9(1); pp. 23-37

Halfacree, K.H. 2006. 'Rural space: constructing a three-fold architecture'. In Cloke, P., Marsden, T. and Mooney, P. (eds) *Handbook of rural studies*, London: SAGE

Halkier, B., & Jensen, I. 2011. 'Methodological challenges in using practice theory in consumption research. Examples from a study on handling nutritional contestations of food consumption'. *Journal of Consumer Culture*, 11(1); pp. 101-123

Halkier, B., Katz-Gerro, T., & Martens, L. 2011. *Applying Practice Theory to the Study of Consumption: Theoretical and Methodological Considerations*. Available online: https://www.academia.edu/2405463/Applying_Practice_Theory_to_the_Study_of_Consumption_Theoretical_and_Methodological_Considerations [Accessed 16-04-2016]

Hall, S.M. 2009. *A mile of mixed blessing: an ethnography of boundaries and belonging on a south London street*. Department of Sociology. London School of Economics Doctoral Thesis.

Hall, S.M. 2011. 'Exploring the 'ethical everyday': An ethnography of the ethics of family consumption'. *Geoforum*, 42(6); pp. 627-637

Hall, S.M. 2014. 'Ethics of Ethnography with Families: A Geographical Perspective'. *Environment and Planning A*, 46(9); pp. 2175-2194

Hall, S.M. 2015. 'Everyday Ethics of Consumption in the Austere City'. *Geography Compass*, 9(3); pp. 140-151

Hall, S.M. 2016. 'Everyday Family Experiences of the Financial Crisis: Getting By in the Recent Economic Recession'. *Journal of Economic Geography*. 16(2); pp. 305-330

Hammersley, M., & Atkinson, P. 2007. *Ethnography: Principles in Practice*, Oxon: Routledge

Hand, M., Shove, E., & Southerton, D. 2005. 'Explaining Showering: a discussion of the material, conventional and temporal dimensions of practice', *Sociological Research Online*, 10(2)

Haraway, D. 1991. *Simians, Cyborgs and Women: The Reinvention of Nature*. London: Routledge

Hards, S.K. 2013. 'Status, stigma and energy practices in the home'. *Local Environment*, 18(4); pp. 438-454

Harden, J., Scott, S., Blackett-Milburn, K., & Jackson, S. 2000. 'Can't Talk, Won't Talk?: Methodological Issues in Researching Children?'. *Sociological Research Online*, 5(2).

Harden, J., Backett-Milburn, K., Hill, M., & MacLean, A. 2010. 'Oh, what a tangled web we weave: experiences of doing 'multiple perspectives' research in families'. *International Journal of Social Research Methodology*, 13(5); pp. 441-452

Harden, J., MacLean, A., Backett-Milburn, K., & Cunningham-Burley, S. 2012. 'The 'family-work project': Children's and parents' experiences of working parenthood'. *Families, Relationships and Societies*, 1(2); pp. 207-222

Hargreaves, T. 2011. 'Practice-ing behaviour change: Applying social practice theory to pro-environmental behaviour change'. *Journal of Consumer Culture*, 11(1); pp.79–99

Hargreaves, T., Nye, M., & Burgess, J. 2008. 'Social experiments in sustainable consumption: an evidence-based approach with potential for engaging low-income communities'. *Local Environment*, 13(8); pp. 743-758

Hargreaves, T., Nye, M., & Burgess, J. 2010. 'Making energy visible: a qualitative field study of how householders interact with feedback from smart energy monitors'. *Energy Policy*, 38(10); pp. 6111-6119

Hargreaves, T., Nye, M., & Burgess, J. 2013. 'Keeping energy visible? Exploring how householders interact with feedback from smart energy monitors in the longer term'. *Energy Policy*, 52; pp. 126-134

Harland, P., Staats, H., & Wilke, H.A.M. 1999. 'Explaining proenvironmental intention and behaviour by personal norms and the theory of planned behavior'. *Journal of Applied Social Psychology*, 29(1); pp. 2505-2528

Hawkins, G. 2006. *The Ethics of Waste: How we relate to rubbish*. Sydney: University of New South Wales Press

Hawkins, G. 2011. 'Discussion: Interrogating the Household as a Field of Sustainability'. In Lane, R. and Gorman-Murray, A. (eds), *Material Geographies of Household Sustainability*. London: Ashgate

Heath Y., & Gifford, R. 2002. 'Extending the Theory of Planned Behavior: predicting the use of public transportation'. *Journal of Applied Social Psychology*, 32(10); pp. 2154-2189

Heiskanen, E., Rask, M., Mourik, R., Bauknecht, D., Brohmann, B., & Vadovic, E. 2009. *Basic approached to studying energy-related behaviour change*, Available online: <http://blogs.helsinki.fi/energiakurssi/files/2009/02/heiskanen-ym-review-chapter.pdf> [Accessed 16-04-2016]

Heaphy, B., & Einarsdottir, A. 2012. 'Scripting Civil Partnerships: interviewing couples together and apart'. *Qualitative Research*, 13(1); pp. 53-70

Hellawell, D. 2006. 'Insider-out: analysis of the insider-outsider concept as a heuristic device to develop reflexivity in students doing qualitative research'. *Teaching in Higher Education*, 11(4); pp. 483-494

Henderson, S., Holland, J., McGrellis, S., Sharpe, S., & Thomson, R. 2012. 'Storying Qualitative Longitudinal Research: sequence, voice and motif'. *Qualitative Research*, 12(1); pp. 16-34

Henderson, S., Holland, J., McGrellis, S., Sharpe, S., & Thomson, R. 2012. 'Using case histories in qualitative longitudinal research', *Timescapes Methods Guide Series*, Guide No 6. Series editors: B. Neale and K. Henwood

Henwood, K., Gorves, C., & Shirani, F. in press. 'Relationality, entangled practices, and psychosocial exploration of intergenerational dynamics in sustainable energy studies'. Accepted for publication in *Family, Relationships and Society*, L. Jamieson (Ed.), Special Issue on *Environment, Sustainability and Nature*

Henwood, K., & Pidgeon, N. 1992. 'Qualitative research and psychological theorizing'. *British Journal of Psychology*, 83(1); pp. 97-111

Henwood, K., Pidgeon, N., Groves, C., Shirani, F., Butler, C., & Parkhill, K. 2015. *Energy Biographies Research Report*. Available online: <http://energybiographies.org/our-work/our-findings/reports/> [Accessed 16-04-2016]

Henwood, K., & Shirani, F. 2012. "Researching the temporal". In H. Cooper (Ed.), *Handbook of Research Methods in Psychology*, APA Publications, Vol 2, chapter 13

Higginson, S., Thomson, M., & Bhamra, T. 2014. "For the times they are a-changin": the impact of shifting energy-use practices in time and space'. *Local Environment*, 19(5); pp. 520-538

Hill, K., Sutton, L., & Hirsch, D. 2012. *Living on a low income in later life*. London: Age UK

Hinchliffe, S. 1996. 'Helping the Earth begins at home: The social construction of socio-environmental responsibilities'. *Global Environmental Change*, 6(1); pp. 53-62

Hinton, E. 2010. Review of the literature relating to comfort practices and socio-technical systems. London: King's College.

Hitchings, R., & Day, R. 2011. 'How older people relate to the private winter warmth practices of their peers and why we should be interested'. *Environment and Planning A*, 43(10); pp. 2452-2467

Hobson, K. 2003. 'Thinking habits into action: the role of knowledge and process in questioning household consumption practices'. *Local Environment*, 8(1); pp. 95–112

Hodkinson, P. 2008. 'Grounded Theory and inductive research', in Gilbert, N. (eds) *Researching Social Life (Third Edition)*, London: SAGE

Hole, N. 2014. *The Policy Implications of Everyday Energy Consumption: The Meanings, Temporal Rhythms and Social Dynamics of Energy Use*. PhD Thesis, University of Exeter

Holland, J., Thomson, R., & Henderson, S. 2006. Qualitative longitudinal research: A discussion paper. *Working Paper, 21, Families and Social Capital Research Group LSBU*, London. Available online: <http://www.lsbu.ac.uk/families/workingpapers/familieswp21.pdf> [Accessed 15-09-2016]

Homan, R. 1991. *The Ethics of Social Research*. London: Longman

Hope, A.L.B., & Jones, C.R. 2014. 'The impact of religious faith on attitudes to environmental issues and Carbon Capture and Storage (CCS) technologies: A mixed methods study'. *Technology in Society*, 38; pp. 48-59

Horton, D. 2004. 'Green distinctions: the performance of identity among environmental activists', *The Sociological Review*, 51(2); pp. 63-77

House, J. 2006. 'Text and context in translation'. *Journal of Pragmatics*, 38(3); pp. 338-358

Hulme, A. 2012. *Next Steps: Life transitions and retirement in the 21st century*. Calouste Gulbenkian Foundation

I

Ingold, T. 2000. *The Perception of the Environment: Essays on livelihood, dwelling and skill*. London: Routledge

Ingold, T. 2008. 'Bindings against boundaries: entanglements of life in an open world'. *Environment and Planning A*, 40; pp. 1796-1810

J

Jackson, T. 2005. *Motivating sustainable consumption: a review of evidence on consumer behaviour and behavioural change*. ESRC Sustainable Technologies Programme. Guildford: University of Surrey.

Jackson, T. 2011. 'Confronting consumption: challenges for economics and for policy (Chapter 10)', in Dietz, S., Michie, J. and Oughton, C. (eds) *Political Economy of the Environment*, London: Routledge

Jagosh, J., & Boudreau, J.D. 2009. 'Lost and found in translation: an ecological approach to bilingual research methodology', *International Journal of Qualitative Methods*, 8(2); pp. 102-114

Jones, G. 1995. *Leaving Home*. Buckingham: Open University Press

Jordan, A. 1992. 'Social class, temporal orientation and mass media use within the family system'. *Critical Studies in Mass Communication*, 9(4); pp. 374-368

Josselson, R. 2007. 'The ethical attitude in narrative research: Principles and practicalities'. In Clandinin, D.J. (eds), *The handbook of narrative inquiry*. London: SAGE

K

Kaiser, K. 2009. 'Protecting Respondent Confidentiality in Qualitative Research'. *Qualitative Health Research*, 19(11); pp. 1632-1641

Kaynak, R., & Eksi, S. 2011. 'Ethnocentrism, Religiosity, Environmental and Health Consciousness: Motivators for Anti-Consumers'. *Eurasian Journal of Business and Economics*, 4(8); pp. 31-50

Kennedy, T.L.M., & Wellman, B. 2007. 'The Networked Household'. *Information, Communication and Society*, 10(5); pp. 645-670

Klocker, N., Gibson, C., & Borger, E. 2012. 'Living together but apart: material geographies of everyday sustainability in extended family households'. *Environment and Planning A*, 44(9); pp. 2240-2259

Kollmuss, A., & Agyeman, J. 2002. 'Mind the Gap: why do people act environmentally and what are the barriers to pro-environmental behaviour?', *Environmental Educational Research*, 8(2); pp. 239-260

Kvale, S. 1996. *InterViews – An introduction to qualitative research interviewing*. London: SAGE

L

Lapadat, J.C. 2000. 'Problematizing transcription: Purpose, paradigm and quality'. *International Journal of Social Research Methodology*, 3(3); pp. 203-219.

Lefebvre, H. 1991. *The Production of Space*, London: Wiley-Blackwell

Linnet, J.T. 2011. 'Money can't buy me hygge: Danish middle-class consumption, egalitarianism and the sanctity of inner space'. *Social Analysis*, 55(2); pp. 21-44

Linnet, J.T. 2009. 'The Intersubjectivity of Family Consumption: Intra-Family Consumer Identity and the Family Scape'. *Advances in Consumer Research*, 36; p. 891

Livingstone, S. 2002. *Young People and New Media: Childhood and the Changing Media Environment*. London: SAGE

Livingstone, S. 2007. 'Strategies of parental regulation in the media-rich home'. LSE Research Online:: <http://eprints.lse.ac.uk/1019> [Accessed 17-11-2014]

Lomax, N., & Wedderburn, F. 2009. *Fuel Debt and Fuel Poverty: A case study of financial exclusion*. Friends Provident Foundation; Dorking

Lorenzoni, I., Nicholson-Cole, S., & Whitmarsh, L. 2007. 'Barriers perceived to engaging with climate change among the UK public and their policy implications', *Global Environmental Change*, 17(3-4); pp. 445-459

M

- MacLean, L., Meyer, M., & Alam, E. 2004. 'Improving accuracy of transcripts in qualitative research'. *Qualitative Health Research*, 14(1); pp. 113-123
- Mannay, D. 2010. 'Making the familiar strange: can visual research methods render the familiar setting more perceptible?' *Qualitative Research*, 10(1); pp. 91-111
- Mannetti, L., Pierro, A., & Stefano, L. 2004. 'Recycling: Planned and self-expressive behaviour', *Journal of Environmental Psychology*, 24(2); pp. 227-236
- Mansouri, I., Newborough, M., & Probert, D. 1996. 'Energy consumption in UK households: impact of domestic electrical appliance'. *Applied Energy*, 54(3); pp. 211-285
- Manstead, A. S. R. 2000. The role of moral norm in the attitude-behavior relation. In: D. J. Terry, and M. A. Hogg (Eds.), *Attitude, behavior, and social context: The role of norms and group membership*. Mahwah, NJ: Lawrence Erlbaum Associates
- Margolin, G., Chien, D., Duman, S.E., Fauchier, A., Gordis, E.B., Oliver, P.H., Ramos, M.C., & Vickerman, K.A. 2005. 'Ethical issues in couple and family research'. *Journal of Family Psychology*, 19(1); pp. 157-167
- Markantoni, M., & Woolvin, M. 2015. The role of rural communities in the transition to low-carbon Scotland: a review. *Local Environment*, 20(2); pp. 202-219
- Marsden, T., Franklin, A., & Kitchen, L. 2005. Rural Labour Markets: Exploring the Mismatches, Research Report 7, Wales Rural Observatory. [Online] Available online: http://www.walesruralobservatory.org.uk/sites/default/files/LabourMarketReport%20v2_0.pdf [Accessed 03-01-2015]

Martin, M., Williams, I.D., & Clark, M. 2006. 'Social, cultural and structural influences on household waste recycling: A case study', *Resources, Conservation and Recycling*, 48(4); pp. 357-395

Mason, J. 2004. 'Personal narrative, relational selves: Residential histories in the living and telling'. *The Sociological Review*, 52(2); pp. 162-179

Massey, D. 2005. *For Space*. London SAGE

McLellan, E., MacQueen, K.M., & Neidig, J.L. 2003. 'Beyond the qualitative interview: Data preparation and transcription'. *Field Methods*, 15(1); pp. 63-84

McKee, K. 2012. 'Young People, Homeownership and Future Welfare'. *Housing Studies*, 27(6); pp. 853-862

McNamara, S., & Grubb, M. 2011. *The Psychological Underpinnings of the Consumer Role in Energy Demand and Carbon Abatement*. Available online: <http://www.econ.cam.ac.uk/dae/repec/cam/pdf/cwpe1126.pdf> [Accessed 16-04-2016]

Michelsen, C.C., & Madlener, R., 2010. *Integrated theoretical framework for a homeowner's decision in favor of an innovative residential heating system*. FCN Working Paper No. 2/2010. Institute for Future Energy Consumer Needs and Behavior, RWTH Aachen University. February. Available online: https://www.rwth-aachen.de/global/show_document.asp?id=aaaaaaaaagvbx [Accessed: 12-02-2016]

Milbourne, P. 2011. 'Conclusion: Continuity and Change in Rural Wales'. In: P. Milbourne (Ed.), *Rural Wales in the Twenty-First Century: Society, Economy and Environment*. Cardiff: University of Wales Press

Milbourne, P., & Kitchen, L. 2014. 'Rural Mobilities: Connecting Movement and Fixity in Rural Places'. *Journal of Rural Studies*, 34; pp. 326-336

Milburn, K 1995. 'Never mind the quantity, investigate the depth'. *British Food Journal*, 7; pp. 36-38

Miller, T., & Bell, L. 2002. 'Consenting to what? Issues of Access, Gate-Keeping and Informed Consent'. In Mauthner, M., Birch, M., Jessop, J. and Miller, T. (eds). *Ethics in Qualitative Research*. London: SAGE

Minton, E.A., Kahle, L.R., & Kim, C.H. 2015. 'Religion and motives for sustainable behaviors: A cross-cultural comparison and contrast'. *Journal of Business Research*, 68(9); pp. 1937-1944

Moen, T. 2006. 'Reflections on the Narrative Research Approach'. *International Journal of Qualitative Methods*, 5(4); pp. 56-69

Monk, S., Dunn, J., Fitzgerald, M., & Hodge, I. 1999. 'Finding work in rural areas: bridges and barriers'. Available online: <https://www.jrf.org.uk/report/finding-work-rural-areas-barriers-and-bridges> [Accessed 10-04-2016]

N

National Audit Office (NAO). 2008. *Programmes to reduce household energy consumption*. London: The Stationery Office

Narayan, K. 1993. 'How native is a 'native' anthropologist?'. *American Anthropologist*, 95(3); pp. 671-686

Neale, B. 2007. Study overview: Timescapes blueprint. Available online: http://www.timescapes.leeds.ac.uk/assets/files/TIMESCAPES_Blueprint.pdf [Accessed: 28.07.2012]

Neale, B., Henwood, K., & Holland, J. 2012. 'Researching lives through time: an introduction to the Timescapes approach'. *Qualitative Research*, 12(1); pp. 4- 15

Nilsen, A., & Brannen, J. 2014. 'An Intergenerational Approach to Transitions to Adulthood: The Importance of History and Biography'. *Sociological Research Online*, 19(2)

Ni Laoire, C. 2008. 'Settling back? A biographical and life-course perspective on Ireland's recent return migration'. *Irish Geography*, 41(2); pp. 195-210

North Yorkshire Police. 2012. *Police uncover suspected fuel theft operation*. Available online: <http://www.northyorkshire.police.uk/8732> [Accessed: 12-04-2016]

Nye, M., & Burgess, J. 2008. *Promoting durable change in household waste and energy use behaviour - Working Paper for Department for Environment, Food and Rural Affairs*. Available online: <https://www.empowermentinstitute.net/index.php/docman-default-enabler/behavior-change-research/96-promoting-durable-change-in-household-waste-and-energy-use-behavior/file> [Accessed: 16-04-2016]

Nye, M., Whitmarsh, L., & Foxon, T. 2011. 'Sociopsychological perspectives on the active roles of domestic actors in transition to a lower carbon electricity economy'. *Environment and Planning A*, 42(3); pp. 697-714

Nyland, R., & Near, C. 2007. Jesus is My Friend: Religiosity as a Mediating Factor in Internet Social Networking Use. In: The AEJMC Midwinter Conference; Reno, Nevada.

Available online:
<https://www.google.co.uk/url?sa=t&drct=j&dq=andesrc=sandsource=webandcd=1&ndcad=rja&duact=8&ved=0ahUKEwjWis-I-ITMAhUJ1xoKHemMAfcQFggcMAAandurl=http%3A%2F%2Fciteseerx.ist.psu.edu%2Fviewdoc%2Fdownload%3Fdoi%3D10.1.1.168.4424%26rep%3Drep1%26type%3Dpdf&usg=AFQjCNEk15IvzhBmZGQhWyR6gHsd-X-yAandsig2=BwAREHob3t10cfU7LZxjgQ> [Accessed: 10-04-2016]

O

Office for National Statistics [ONS]. 2011. *Rural-Urban Classification 2011 (RUC2011)*. Available online:
<http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/guide-method/geography/products/area-classifications/2011-rural-urban/index.html> [Accessed 16-04-2016]

ONS. 2015. National Population Projections: 2014-based Statistical Bulletin. Available online:
<http://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/bulletins/nationalpopulationprojections/2015-10-29> [Accessed 02-09-2016]

OFGEM. 2009. *A review of the first year of the Carbon Emissions Reduction Target*. London: OFGEM

O'Hara, M. 2011. 'Young Children's ICT Experiences in the Home: Some Parental Perspective'. *Journal of Early Childhood Research*, 9(3); pp. 222-231

Oliver, D.G., Serovich, J.M., & Mason, T.L. 2005. 'Constraints and opportunities with interview transcription: towards reflection in qualitative research'. *Social Forces*, 84(2); pp.

1273-1289.

Olli, E., Grendstad, G., & Wollebaek, D. 2001. 'Correlates of environmental behaviors', *Environment and Behavior*, 33(3); pp. 191-208

O'Reilly, C.C. 2006. 'From drifter to gap year tourist: Mainstreaming backpacker travel'. *Annals of Tourism Research*, 33(4); pp. 998-1017

Owens, S. 2000. 'Commentary'. *Environment and Planning A*, 32(7); pp. 1141-1148

P

Palmer, J., Boardman, B., Bottrill, S., Darby, M., Hinnells, G., Killip, G., Layberry, R., & Lovell, H. 2006. *Reducing the Environmental Impact of Housing*. Consultancy study in support of the Royal Commission on Environmental Pollution's 26th Report on the Urban Environment. University of Oxford: Environmental Change Institute

Parkhill, K., Demski, C., Butler, C., Spence, A., & Pidgeon, N. 2013. 'Transforming the UK Energy System: Public Values, Attitudes and Acceptability – Synthesis Report'. London: UKERC

Pateman, T. 2011. 'Rural and Urban Area: Comparing Lives using Urban/Rural Classifications' *Regional Trends*, 43(1); pp. 11-86

Patton, M.Q. 2002. 'Two decades of developments in qualitative inquiry: A personal, experiential perspective'. *Qualitative Social Work*, 1(3); pp. 261-283

Peterson, R.A., & Kern, R.M. 1996. 'Changing Highbrow Taste: From Snob to Omnivore'. *American Sociological Review*, 61(5); pp. 900-907

Philips, M., & Dickie, J. 2014. 'Narratives of transition/non-transition towards low carbon future within English rural communities', *Journal of Rural Studies*, 34; pp. 79-95

Pink, S. 2005. 'Dirty laundry: Everyday practice, sensory engagement and the constitution of identity'. *Social Anthropology*, 13(3); pp. 275-290

Pink, S. 2007. The Sensory Home as a Site of Consumption: Everyday Laundry Practices and the Production of Gender. In: E. Casey, and L. Martins (Eds.), *Gender and Consumption: Domestic Cultures and the Commercialisation of Everyday Life*. Aldershot: Ashgate

Pink, S. 2012. *Situating Everyday Life: Practices & Places*. London: SAGE

Pink, S., & Leder-Mackley, K. 2016. 'Moving, Making and Atmosphere: Routines of Home as Sites for Mundane Improvisation'. *Mobilities*, 11(2); pp. 171-187

Pink, S., & Leder-Mackley, K. 2012. Video and a Sense of the Invisible: Approaching Domestic Energy Consumption Through the Sensory Home. *Sociological Research Online* 17; pp 1-3

Punch, S. 2002. 'Research with Children: The same or different from research with adults?'. *Childhood*, 9(3); pp. 321-341

Punch, S. 2007. "I felt they were ganging up on me": Interviewing siblings at home'. *Children's Geographies*, 5(3); pp. 219-234

Punch, S. 2009. *Introduction to Research Methods in Education*. London: SAGE

Q

R

Randles, S., & Mander, S. 2009. Practice(s) and ratchet(s): A sociological examination of frequent flying. In: S. Gössling, and P. Upham (Eds.), *Climate change and aviation: Issues, challenges and solutions*. London: Earthscan

Reckwitz, A. 2002. 'Toward a theory of social practices: a development in culturalist theorizing'. *European Journal of Social Theory*, 5(2); pp. 243-63

Reczek, C. 2014. 'Conducting a multi family member interview study'. *Family Process*, 53(2); pp. 318-335

Reid, L. A., Sutton, P., & Hunter, C. J. 2010. 'Theorizing the meso level: the household as a crucible of pro-environmental behaviour'. *Progress in Human Geography*, 34(3); pp. 309-327

Reisch, L.A. 2001. 'Time and Wealth: The role of time and temporalities for patterns of consumption'. *Time and Society*, 10 (2-3); pp. 367-385

Reissman, C.K. 2008. *Narrative Methods for the Human Sciences*. London: SAGE

Rief, S. 2008. 'Outlines of a critical sociology of consumption: Beyond moralism and celebration', *Sociology Compass*, 2(2); pp. 560-576

Ritchie, J., Spencer, L., & O'Connor, W. 2003. 'Carrying out qualitative analysis'. In Ritchie, J. and Lewis, J. (eds), *Qualitative Research Practice: A guide for social science students and researchers*. London: SAGE

Røpke, I. 1999. 'The dynamics of willingness to consume'. *Ecological Economics*, 28; pp. 399-420

Røpke, I 2009. 'Theories of practice – New inspiration for ecological economic studies of consumption'. *Ecological Economics*, 68; pp. 2490-2497

Rosenow, J., & Eyre, N. 2012. 'The Green Deal and the Energy Company Obligation – will it work?'. Paper Presented at the 9th BIEE Academic Conference. Available online: http://eng.janrosenow.com/uploads/4/7/1/2/4712328/rosenow-eyre-2012-the-green-deal-and-the-energy-company-obligation_.pdf [Accessed 16-04-2016]

Ross, J. 2010. 'Was that infinity or affinity? Applying insights from translation studies to qualitative research transcription'. *Forum: Qualitative Social Research Sozialforschung*, 11(2).

Royles, E. 2011. A Small Nation but a Global Leader amongst Sub-state Governments? Investigating the Welsh Assembly Government's climate change and sustainable development activity. In N. McEwen, W. Swenden, and N. Bolleyer (Eds.), *Multi-level Government and the Politics of Climate Change*. Edinburgh University Press, Edinburgh.

Royles, E., & McEwen, N. 2015. 'Empowered for Action?: Capacities and constraints in sub-state government climate action'. *Environmental Politics*, 24(6); pp. 1034-1054

S

Saldana, J. 2003. *Longitudinal qualitative research: Analysing change through time*. Oxford:

Altamira Press

Saldana, J. 2009 *The coding manual for qualitative researchers*. London: SAGE

Sayer, A. 2013. 'Power, sustainability and well being: an outsider's view', in Shove, E. and Spurlin, N. (eds) *Sustainable Practice: Social theory and climate change*, London: Routledge

Schäfer, M., & Bamberg, S. 2008. *Breaking habits: Linking sustainable consumption campaigns to sensitive life events*. In proceedings of: Sustainable Consumption and Production: Framework for Action, 10–11 March 2008, Brussels, Belgium. Conference of the Sustainable Consumption Research Exchange (SCORE!) Network, supported by the EU's 6th Framework Programme

Schatzki, T., Knorr Cetina, K., & von Savigny, E. 2001. *The Practice Turn in Contemporary Theory*. London: Routledge

Schultz, P.W., Nolan, J.M., Cialdini, R. B., Goldstein, N.J., & Griskevicius, V. 2007. 'The Constructive, Destructive, and Reconstructive Power of Social Norms'. *Psychological Science*, 18(5); pp. 429-434

Seyfang, G., & Smith, A. 2007. 'Grassroots innovations for sustainable development: towards a new research and policy agenda?'. *Environmental Politics*, 16(4); pp. 584-603

Sexton, S.E., & Sexton, A. 2011. 'Conspicuous conservation: The Pirus effect and willingness to pay for environmental bona fides'. Available online: http://are.berkeley.edu/fields/erep/seminar/s2011/Prius_Effect_V1.5.3.pdf [Accessed 16-0-2014]

Shaw, S.M., & Dawson, D. 2001. 'Purposeful leisure: Examining parental discourses on family activities'. *Leisure Sciences*, 23(4); pp. 217–231

Shirani, F., Butler, C., Henwood, K., Parkhill, K., & Pidgeon, N. 2013. 'Disconnected Futures: Exploring notions of ethical responsibility in energy practices'. *Local Environment: The International Journal of Justice and Sustainability*, 18(4); pp. 455-468

Shirani, F., Groves, C., Parkhill, K., Butler, C., Henwood, K., & Pidgeon, N. 2015. Energy stories - re-thinking moments of change. Energy Biographies Working Paper 17-02. Available online: <http://energybiographies.org/wp-content/uploads/2012/09/Energy-Stories-re-thinking-moments-of-change.pdf> [Accessed: 12. 03. 2015]

Shirani, F., Henwood, K., & Coltart, C. 2012. 'Meeting the challenges of intensive parenting culture: Gender, risk management and the moral parent'. *Sociology*, 46(1); pp.25-40

Shove, E. 2003. *Comfort, Cleanliness and Convenience: The social organization of normality*, Oxford: Berg

Shove, E. 2003. 'Converging conventions of comfort, cleanliness and convenience'. *Journal of Consumer Policy*, 26(4); pp. 395-418

Shove, E., & Spurling, N. 2013. *Sustainable Practices: Social theory and climate change*. London: Routledge

Shove, E., Pantzar, M., & Watson, M. 2012. *The Dynamics of Social Practice: Everyday Life and How It Changes*. London: SAGE

Shove, E., & Walker, G. 2007. 'CAUTION! Transitions ahead: politics, practice, and sustainable transition management'. *Environment and Planning A*, 39(4); pp. 763-770

Shove, E., & Walker, G. 2014. 'What is energy for? Social practice and energy demand'. *Theory, Culture and Society*, 31(5); pp. 41-58

Shove, E., & Warde, A. 2002. Inconspicuous consumption: the sociology of consumption, lifestyles and the environment. In: Dunlap, R., Buttel, F., Dickens, P. and Gijswijt, A. (Eds.), *Sociological Theory and the Environment: classical foundations, contemporary insights*. Lanham MA: Rowman and Littlefield

Skelton, T. 2008. 'Research with children and young people: exploring the tensions between ethics, competence and participation'. *Children's Geographies*, 6(1); pp. 21- 36

Smith, A., & Stirling, A. 2007. 'Moving outside or inside? Objectification and reflexivity in the governance of socio-technical systems'. *Journal of Environmental Policy and Planning*, 9(3); pp. 351-373

Southerton, D. 2003. 'Squeezing Time: Allocating Practices, Coordinating Networks and Scheduling Society'. *Time and Society*, 12(1); pp. 5-25

Southerton, D., Warde, A., & Hand, M. 2004. The limited autonomy of the consumer: implications for sustainable consumption. In: D. Southerton, H. Chappells, and B. Van Vliet (Eds.), *Sustainable consumption: the implications of changing infrastructures of provision*. Cheltenham: Edward Elger

Spaargaren, G. 2006. *The Ecological Modernization of Social Practices at the Consumption Junction*. Paper presented at the ISA-RC-24 conference "Sustainable Consumption and Society", Madison/Wisconsin, June 2–3, 2006

Spaargaren, G. 2011. 'Theories of Practice: Agency, Technology and Culture: Exploring the relevance of practice theories for the governance of sustainable consumption practices in the New World Order'. *Global Environmental Change*, 21(3); pp. 813-822

Spinney, J., Green, N., Burningham, K., Cooper, G., & Uzzell, D. 2012. 'Are we sitting comfortably? Domestic imaginaries, laptop practices and energy use'. *Environment and Planning A*, 44(11); pp. 2629-2645

Squire, C., Andrews, M., & Tsamboukou M. 2008. 'Introduction: What is narrative research?' In Andrews, M., Squire, C. and Tsamboukou, M. (eds) *Doing Narrative Research*. London: SAGE

Steg, L. 'Promoting household energy conservation'. *Energy Policy*, 36(12); pp. 4449-4453

Steg, L., & Vlek, C. 2009. 'Encouraging pro-environmental behaviour: An integrative review and research agenda'. *Journal of Environmental Psychology*, 29; pp. 309-317

Stern, P. C., Dietz, T., Abel, T., Guagnano, G. A., & Kalof, L. 1999. 'A value-belief-norm theory of support for social movements: the case of environmentalism'. *Human Ecology Review*, 6; pp. 81-97

Strengers, Y. 2010. *Conceptualising everyday practices: composition, reproduction and change*. Carbon Neutral Communities: Melbourne

Strengers, Y., & Maller, C. 2015. *Social Practices, Intervention and Sustainability: Beyond behaviour change*, London: Routledge

Stockdale, A. 2004. 'Rural Out-Migration: Community Consequences and Individual Migrant Experiences'. *Sociologica Ruralis*, 44(2); pp. 167-194

Strengers, Y. 2008. Challenging comfort and cleanliness norms through interactive in-home feedback systems. In: Pervasive 2008 Workshop Proceedings; pp. 104-108. Available Online: <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.362.2686&rep=rep1&type=pdf> [Accessed: 15/04/15]

Strengers, Y. 2009. Bridging the divide between resource management and everyday life: Smart metering, comfort and cleanliness. Unpublished PhD Thesis

Szmigin, I., & Carrigan, M. 2001. 'Time, consumption, and the older consumer: An interpretive study of the cognitively young'. *Psychology and Marketing*, 18(10); pp. 1091-1116

T

Tacchi, J. 2001. Nostalgia, Radio Listening and Everyday Life. MEDIA@LSE Electronic Working Papers. Available online: <http://www.lse.ac.uk/media@lse/research/mediaWorkingPapers/pdf/EWP01.pdf> [Accessed: 10-04-2016]

Temple, B., & Young, A. 2004. 'Qualitative Research and Translation Dilemma'. *Qualitative Research*, 4(2); pp. 161-178

Thomas, M. J. 2013. Public and expert perceptions of sea-level change on the Severn Estuary. PhD Thesis, Cardiff University

Thompson, C.J. 1996. 'Caring consumers: Consumption meanings and the juggling lifestyle'. *Journal of Consumer Research*, 22(4); pp. 388-407

Thompson, S., Michaelson, J., Abdallah, S., Johnson, V., Morris, D., Riley, K., & Simms, A. 2011. 'Moments of change' as opportunities for influencing behaviour: A report to the Department for Environment, Food and Rural Affairs'. London: DEFRA

Thomson, R. 2007. 'The qualitative longitudinal case history: Practical, methodological and ethical reflections'. *Social Policy and Society*, 6(4); pp. 571-582

Tolich, M. 2004. 'Internal Confidentiality: When Confidentiality Assurances Fail Relational Informants'. *Qualitative Sociology*, 27(1); pp.101-106

Triandis, H.C. 1979. 'Values, attitudes and interpersonal behavior'. *Nebraska Symposium on Motivation*, 27; pp. 195-259

Turaga, R.M.R., Howarth, R.B., & Borsuk, M.E. 2010. 'Pro-environmental behaviour: Rational choice meets moral motivation' / *Ecological Economics Reviews*, 1185; pp. 211-224

U

Urry. 2002. 'Mobility and Proximity'. *Sociology*, 36(2); pp. 255-275

Urry. 2004. 'The 'System' of Automobility'. *Theory, Culture and Society*, 21(4-5); pp. 25-39

V

Valentine, G. 1999a. 'Doing household research: interviewing couples together and apart'. *Area*, 31(1), pp. 67-74

Valentine, G. 1999b. 'Being seen and heard? The ethical complexities of working with Children and Young People at home and at school'. *Ethics, Place and Environment*, 2(2); pp. 141-155

van der Linden, S. 2014. Towards a new model for communicating climate change. In: S. Cohen, J. Higham, P. Peeters, and S. Gössling (Eds.). *Understanding and governing sustainable tourism mobility: Psychological and behavioural approaches*. London: Routledge

Verplanken, B., Aarts, H., van Knippenberg, A., & Moonen, A. 1998. 'Habit versus planned behaviour: a field experiment', *British Journal of Social Psychology*, 37(1); pp. 111-128

Vitterso, G. 2003. 'Environmental Information and Consumption Practices – A case study of households in Fredrikstad'. Progressional Report No.4. Available online: http://www.sifo.no/files/file48548_fagrapport2003-4.pdf [Accessed 16-04-2016]

W

Wacjman, J. 2008. 'Life in the fast lane? Towards a sociology of technology and time'. *The British Journal of Sociology*, 59(1); pp. 59-77

Wales Rural Observatory (WRO). 2009. *Deep rural Localities*, Available online: http://www.walesruralobservatory.org.uk/sites/default/files/DeepRuralReport_Oct09_0.pdf [Accessed 16-04-2016]

Wall, R., & Crosbie, T. 2009. 'Potential for reducing electricity demand for lighting in households: an exploratory socio-technical study'. *Energy Policy*, 27; pp. 1021–1031

Warde, A. 2005. 'Consumption and theories of practice'. *Journal of Consumer Culture*, 5(2); pp. 131-153

Warde, A., Shove, E., & Southerton, D. 1998. *Convenience, Schedules and Sustainability*. Available online: <http://www.lancaster.ac.uk/fass/projects/esf/convenience.htm> [Accessed 16-04-2016]

Wardekker, J., Petersen, A., & van Der Sluijs, J.P. 2009. 'Ethics and public perception of climate change: Exploring the Christian voices in the US public debate'. *Global Environmental Change – Human Policy Dimension*, 19(4); pp. 512-521

Weitzman, E.A. 2000. 'Software and Qualitative Research'. In Denzin, N.K. and Lincoln, Y.S. (eds), *Handbook of Qualitative Research*, London: SAGE

Welch, D., & Warde, A. 2015. Theories of practice and consumption research. In: L.A. Reisch, and J. Thørgersen (Eds.), *Handbook of Research on Sustainable Consumption*. Cheltenham: Edward Elgar

Welsh Assembly Government (WAG). 2007. One Wales: A progressive agenda for the government of Wales. Available online: https://www.google.co.uk/url?sa=t&andrc=jandq=andesrc=sandsource=webandcd=2andndcad=rjaanduact=8andved=0ahUKEwixu9yI75PMAhWGRhQKHRk1B3AQFggI&Eandurl=https%3A%2F%2Fwww.hefcw.ac.uk%2Fdocuments%2Fpolicy_areas%2Fwidening_access%2FOneWales%2520English.pdf&andusg=AFQjCNFPf6aAt0jCFSddbzINvm_m2RO5hgandsig2=C8A58QxaLvIEVqJrlX9sEA [Accessed: 10/02/2015]

Welsh Assembly Government (WAG). 2010. Climate Change Strategy for Wales. Cardiff: Welsh Assembly Government.

Wheelock, J., & Oughton, E. 1996. 'The household as a focus for research'. *Journal of Economic Issues*, 30(1); pp.143–159

White, K.M., Smith, J.R., Terry, D.J., Greenslade, J.H., & McKimmie, B.M. 2009. 'Social influence in the theory of planned behaviour: The role of descriptive, injunctive, and in-group norms'. *British Journal of Social Psychology*, 48; pp.135–158

Whitmarsh, L.E., O'Neill, S., & Lorenzoni, I. 2011. Climate change or social change? Debate within, amongst and beyond disciplines. *Environment and Planning A*, 43(2); pp. 258-261

Wiles, R., Prosser, J., Bagnoli, A., Clark, A., Davies, K., Holland, S., & Renold, E. 2007. *ESRC National Centre for Research Methods Review Paper*. Available online: <http://eprints.ncrm.ac.uk/421/1/MethodsReviewPaperNCRM-011.pdf> [Accessed 17-04-2016]

Wilhite, H., & Ling, R., 1995. 'Measured energy savings from a more informative energy bill'. *Energy and Buildings*, 22; pp. 145–155

Wilhite, H., & Lutzenhiser, L. 1999. 'Social loading and sustainable consumption'. *Advances in Consumer Research*, 26(1); pp. 281-287

Wilhite, H., Nakagami, H., Masuda, T., Yamaga, Y., & Haneda, H. 1996. 'A cross-cultural analysis of household energy use behaviour in Japan and Norway'. *Energy Policy*, 24(9); pp. 795-803

Wilson, C., & Dowlatabadi, H. 2007. 'Models of decision making and residential energy use'. *The Annual Review of Environmental and Resource*, 32; pp. 169-203

Woods, M. 2005. *Rural Geography: Processes, Responses and Experiences in Rural Restructuring*. London: SAGE

World Wildlife Fund (WWF) Cymru. 2015. Progress towards residential energy reduction targets in Wales. Report produced by Energy Saving Trust for WWF Cymru, July, 2005. Available Online: http://assets.wwf.org.uk/downloads/150724_final_report_copy.pdf [Accessed: 02/02/2016]

X

Y

Young, A., & Ackerman, J. 2001. 'Reflections on validity and epistemology in a study of working relations between deaf and hearing professionals'. *Qualitative Health Research*, 11(2); pp. 179-189

Z

Appendices

Appendix A – Information sheet for adults (English)



Information Sheet



Reducing Energy Consumption in Everyday Life:

A study of landscapes of energy consumption in rural households and communities in North Wales

Cardiff University

Invitation

You are being invited to take part in a research project studying energy use within the School of Social Sciences and School of Psychology at Cardiff University. Further information on the project is provided below; please read through this information carefully to make an informed decision on participation. If you have any questions please feel free to contact Erin by phone (07511105135) or email (RobertsEM4@cardiff.ac.uk).

Who is the researcher and who is funding the study?

My name is Erin Roberts and I'm doing this research for my PhD (a sort of postgraduate degree). I'm funded by the Economic and Social Research Council (ESRC), but I'm completely free to choose how I collect and analyse the data.

Background and Aims of the Research Project

This research project examines how families and communities think about and use energy. Its aim is to provide an understanding of the complex negotiations required to achieve a reduced level of energy consumption.

Domestic energy use has become a major policy target within recent decades, as it represents a link between global environmental problems and individual behaviour. However, to most of us, the energy that fuels our existence is largely *invisible*. It is therefore increasingly important to investigate how and why people use energy in

the way that they do; forming a deeper understanding of how we engage with different (technological and behavioural) interventions aimed at reducing energy consumption. Understanding our energy usage across time as well as across different settings is key to understanding how we can reduce our energy consumption.

What will your participation involve?

Participation involves two stages:

- **Personal Interviews:** Interviews will take between 1 and 2 hours. The interview will involve a guided discussion about your energy use, including past and present usage as well as your daily routines.
- **Family/ household interviews:** Six months after the personal interviews a second follow up group interview with your household will take place. This group interview will take about two hours. The interview will involve group oriented tasks and a guided discussion about living arrangements and energy use.

The interviews will, with your permission, be audio recorded and transcribed at a later date for analysis. Interviews can take place at a time and location of your choosing; I'm happy to come to your home to conduct the interviews.

You can withdraw from the research at any time without needing to give a reason; to do so just contact me on the details provided below. If any data has already been collected I will contact you to check if you are happy for this data to be included in the study, or whether you wish to withdraw this information. In the eventuality that I am unable to contact you the data will remain included in the study (please note every possible means will be taken to contact you - phone, letters and emails).

If you have any concerns about how the research is conducted you can contact either myself, my supervisors, or the Cardiff University School of Social Sciences ethics committee chair at any time – contact details are provided at the bottom of this form.

Who is being interviewed?

Interviewees will be from different locations in North Wales. It is hoped that every member of a volunteering household are be willing to participate.

Anonymity and Confidentiality

All possible steps will be made to anonymise participants. During transcription of the interviews a pseudonym (fictitious name) will be used in place of your real name. In all related publications, participants' quotes will be anonymised with only non-identifying generic terms (such as gender, age, etc.) and/or the alias used to describe

participants. The digital interview recordings and word-processed transcripts will be stored on a secure server at Cardiff University.

Who will have access to the data?

All data will be transcribed by myself. The recording and typed transcript will be shared between the myself and my two supervisors – named below. You may ask to see the data or request that it be destroyed at any time after the completion of the study. Once I have completed the study, all data set will be retained securely for subsequent reuse by the “Energy Biographies” research team; all data will be anonymised.

NB Energy Biographies is the name of the wider project to which Erin’s PhD study is linked; it is co- funded by the Economic and Social Research Council and Engineering and Physical Sciences Research Councils – http://psych.cf.ac.uk/understandingrisk/research/energy_biog.html.

How will the data be used?

The data will be used for in my thesis, conference presentations, reports for government (and other agencies), academic publications, teaching purposes and other potentially unspecified instances. If you agree to data being stored for secondary use then it may be used for other wider academic research.

Research Governance:

This study has been given ethical approval from the Cardiff University School of Social Sciences Research Ethics Committee (REC). For more information please contact the researcher or her supervisors.

Participation:

To take part in this study, or if you have any questions, please contact Erin Roberts by phone (07511105135) or email RobertsEM4@cardiff.ac.uk

Key Contacts

Postgraduate Researcher: Erin Roberts
E-mail: RobertsEM4@cardiff.ac.uk
Tel: 07511105135

Primary Supervisor: Professor Karen Henwood
E-mail: henwoodk@cardiff.ac.uk

Secondary Supervisor: Professor Nick Pidgeon

E-mail: pidgeonn@cardiff.ac.uk

Cardiff University School of Social Sciences Ethics Committee Chair:

c/o Professor Tom Horlick-Jones , Cardiff University School of Social Sciences,
Glamorgan Building, King Edward VII Avenue, Cardiff, CF10 3WT

Tel: (02920) 879 051

Appendix B – Ault consent forms (English)



Consent Form



School of Social Sciences and School of Psychology

Cardiff University

Consent Form – Confidential Data

		Tick Box
1	I confirm that I have read and understood the information sheet about the study. I have had the opportunity to consider the information, ask questions and have had those questions answered satisfactorily.	
2	I understand that my participation is voluntary and that I am free to withdraw at any time without explanation or consequence.	
3	I agree to take part in the study. I understand that my participation will involve taking part in an interview that will be recorded with audio equipment.	
4	I agree to assign copyright of my data outputs to Miss Erin Roberts (Postgraduate researcher), and that anonymised data obtained from the interview may be utilised in discussion with other researchers, in any ensuing presentations, reports, publication, websites, broadcasts, and in teaching.	
5	I understand that, at the end of this study, I will be provided with additional information and feedback about the purpose of this study.	
6	I understand that my interview transcripts will be retained for subsequent reuse by the Energy Biographies research team on completion of the postgraduate researcher's doctoral thesis, and that the researcher will ask me for my permission to retain any other data (such as photographs).	

I, _____ (**PRINT NAME**), consent to participate in the study conducted by Miss Erin Roberts, School of Social Sciences, Cardiff University.

Signed: _____ Date: _____

Consent Form – Participant Database

1	I am willing for my name and contact details to be held in a list (database) so that I may be contacted in the future and asked further questions, as agreed below.	
2	I understand that I am consenting only to receive a request to answer further questions and that I am under no obligation to answer these questions.	
3	I understand that this list will be used only for the purpose described here, and will not be made available to anyone beyond those agreed below.	
4	I understand that I may remove my name from the list at any time by emailing Miss Erin Roberts (RobertsEM4@cardiff.ac.uk) and that any contact I receive due to the list will contain details of how to remove my name from the list.	

I, _____ (**PRINT NAME**) consent to enter my contact details onto the list held by Miss Erin Roberts, Professor Karen Henwood and Professor Nick Pidgeon, School of Social Sciences and School of Psychology, Cardiff University.

Signed: _____

Date: _____

Appendix C – Information sheet for children and young people (English)



Information Sheet



This informed assent form is for children and young people up to the age of 16.



Using Energy in our Homes



Introduction



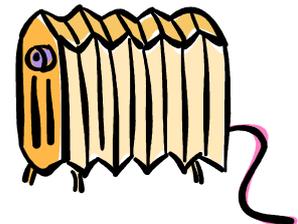
My name is Erin Roberts, and my job is to research how and why we use energy in the way that they do. I want to see how we use energy differently over time, and in different places (like home and school), so that I can understand how we can use less energy.



I'm giving you this information so that you can choose whether you'd like to take part in my study; it is entirely up to you if you want to take part in the study and you can leave at any time you like without needing to give a reason. Information about the study is being given to both you and your parents/guardians. Your parents/guardians will need to give permission for you to take part in the study. If they're happy for you to take part then you can do so, but the final choice is up to you; no one will be disappointed if you don't want to take part. You can discuss anything in this form with your parents

or friends or anyone you feel comfortable talking to. You do not have to decide immediately.

There may be some words you don't understand or things that you want me to explain more about because you are interested or concerned. Please ask me to stop at any time, and I will take the time to explain.



Why is this research being done?



I want to understand how people think about and use energy in their homes, at school, or out and about with friends. By getting you to think about energy differently, you could help change, and reduce, the amount and the way we use energy in our homes.

Why are you asking me?



I want to understand how adults and children use energy in their homes; that means you, your brothers and sisters, your parents, and your grandparents. I want to see if we use more or less energy as we get older, and why that is. This makes your point of view very important.

What do I have to do?



I would like to talk with you about the energy we use at home. We will be talking about your routines, going to school, what you do at home and your hobbies. You can talk about whatever is important to you, and remember, there are no “right” or “wrong” answers when it comes to your opinion.

Is everybody going to know about this?



We will not tell other people that you’re taking part in this research, and we won’t share information about you with anyone who does not work on the study.

Information collected from the research will be put away and no-one but me and researchers in the team I work with will be able to see it. Your real name won’t be used; instead a false name will be used so no one will know who you are. Only the researchers will know the name allocated to you, and that information will be kept in a secure, password-protected computer.

Will you tell me the results?



When we have finished the research, I will sit down with you and your parent(s)/guardian, and tell you what we have learnt. I will also give you some writing about the results and what they mean.

Afterwards, we will be telling more people, scientists and others, about the research and what we have found. We will be doing this by thinking carefully about what you have said, and by writing and sharing reports, and by going to meetings with people who are interested in the work we do. What you tell us will be interesting to many people, so we will keep it safely. This will make it possible for us to write about it again in the future.



Can I choose not to be in the research? Can I change my mind?



You do not have to be in this research, no one will be disappointed with you if you say no. It's your choice. You can think about it and tell us later. You can say "yes" now, and change your mind later and it will still be okay.

Who can I talk to or ask questions to?



You can ask me questions at any time by e-mail (address below), or you can ask questions and share your concerns with me during the interview.



Erin Roberts

E-mail address: RobertsEM4@cardiff.ac.uk

Telephone: 07511105135

Appendix D – Parental Consent for children/young people to participate (English)



Parental Consent



Reducing Energy Consumption in Everyday Life:

A study of landscapes of energy consumption in rural households and communities in North Wales

Cardiff University

Purpose

You are being asked to allow your child to be in a research study conducted by Erin Roberts from Cardiff University. The study aims to understand how and why people of different ages consume energy in the home in order to inform a transition to a less intensive level of consumption.

Study Procedures

If you decide to allow your child to take part in the study, he/she will take part in a discussion about energy use in the home. During this discussion, your child will be encouraged to think about their energy consumption, with questions covering their daily routines, going to school, their home life and their hobbies. Your child can choose what they want to talk about and what's most important to them. These interviews will be audio recorded and transcribed at a later date.

Your child will have the choice to participate or not: if they wish to take part, then they may do so. Similarly, if you and your child give consent to participate, you or your child may revoke that consent later on in the study without needing to give a reason. If any data has already been collected I will contact you to check if you are happy for this data to be included in the study, or whether you wish to withdraw this information. In the eventuality that I am unable to contact you the data will remain included in the study (please note every possible means will be taken to contact you - phone, letters and emails).

Benefits

There may be no direct benefits for your child; however, the information from this study may benefit other people now or in the future.

Costs

There are no costs to you or your child for taking part in this study.

Anonymity and Confidentiality

All possible steps will be made to anonymise participants. During transcription of the interviews a pseudonym (fictitious name) will be used in place of your child's real name. In all related publications, participants' quotes will be anonymised with only non-identifying generic terms (such as gender, age, etc.) and/or the alias used to describe participants. The digital interview recordings and word-processed transcripts will be stored on a secure server at Cardiff University.

How will the data be used?

All data will be transcribed by myself. The recording and typed transcript will be shared between the myself and my two supervisors – named below. You may ask to see the data or request that it be destroyed at any time after the completion of the study. Once I have completed the study, all data set will be retained securely for subsequent reuse by the "Energy Biographies" research team; all data will be anonymised.

NB: Energy Biographies is the name of the wider project to which Erin's PhD study is linked; it is co-funded by the Economic and Social Research Council and Engineering and Physical Sciences Research Councils – http://psych.cf.ac.uk/understandingrisk/research/energy_biog.html.

Voluntary Participation/ Withdrawal

Your child's participation in this study is voluntary. You may decide that your child may participate in this study, and then change your mind without needing to give a reason. You are free to withdraw your child from the study at any time.

If any data has already been collected I will contact you to check if you are happy for this data to be included in the study, or whether you wish to withdraw this information. In the eventuality that I am unable to contact you the data will remain included in the study (please note every possible means will be taken to contact you - phone, letters and emails).

Research Governance:

This study has been given ethical approval from the Cardiff University School of Social Sciences Research Ethics Committee (REC). For more information please contact the researcher or her supervisors.

Participation:

If you are happy for your child to participate in this study please complete the form below pass this to Erin Roberts. If you have any questions, please contact Erin Robert by phone (07511105135) or email RobertsEM4@cardiff.ac.uk.

Key Contacts

Postgraduate Researcher: Erin Roberts
E-mail: RobertsEM4@cardiff.ac.uk
Tel: 07511105135

Primary Supervisor: Professor Karen Henwood
E-mail: henwoodk@cardiff.ac.uk

Secondary Supervisor: Professor Nick Pidgeon
E-mail: pidgeonn@cardiff.ac.uk

PARENTAL CONSENT FORM: Please read through the following statements and complete the form as appropriate.		
By signing this document you agree to the following;		Please Initial Each Box
1	I consent to my child(ren) (named below) participating in the study by Miss Erin Roberts, School of Social Sciences, Cardiff University.	
2	I understand that my child's interview transcripts will be retained for subsequent reuse by the Energy Biographies research team on completion of the postgraduate researcher's postdoctoral thesis, and that the researcher will ask me for my permission to retain any other data (such as photographs).	
Parents/guardian details.		
Forename(s)	Surname	Contact number
Address:		
Details of child(ren)/young person(s).		
Forename(s)	Surname	Age
SIGNED		
DATE		
		 CARDIFF UNIVERSITY PRIFYSGOL CAERDYDD

Appendix E – Information sheet for adults (Welsh)



Taflen Wybodaeth



Lleihau Defnydd Dyddiol Egni:

Astudiaeth o dirweddau defnydd ynni mewn teuluoedd a chymunedau gwledig yng Ngogledd Cymru

Prifysgol Caerdydd

Dalen Gwahoddiad a Gwybodaeth

Gwahoddir chi i gymryd rhan mewn prosiect ymchwil ar ddefnydd ynni a chynhelir gan Ysgol y Gwyddorau Cymdeithasol a Ysgol Seicoleg ym Mhrifysgol Caerdydd. Darparir rhagor o wybodaeth am y prosiect isod ynghylch a'r hyn y byddai eich cyfraniad yn golygu, fel y gallech wneud penderfyniad gwybodus ynghylch a cymryd rhan.

Pwy yw'r ymchwilydd a phwy sy'n ariannu'r astudiaeth?

Fy enw i yw Erin Roberts, a rwyf yn gwneud yr ymchwil hyn er mwyn derbyn gradd Doethur. Mae'r astudiaeth yn cael ei ariannu gan Cyngor Ymchwil Economaidd a Chymdeithasol (ESRC), ond rwyf yn rhydd i ddewis sut i gasglu a dadansoddi y data.

Cefndir ac Amcanion y Prosiect Ymchwil

Bydd y prosiect ymchwil yn archwilio sut mae teuluoedd a chymunedau yn meddwl am, ac yn defnyddio ynni, gyda'r bwriad o ddeall y trafodaethau cymhleth sydd eu hangen i gyflawni lleihad mewn defnydd ynni.

Mae defnydd ynni domestig wedi dod yn darged polisi maer o fewn y degawdau diwethaf, gan ei fod yn cynrychioli cysylltiad rhwng problemau amgylcheddol bydeang ac ymddygiad unigol. Fodd bynnag, i'r rhan fwyaf ohonom, mae'r egni sy'n tanio ein bodolaeth yn gudd. Felly mae'n bwysig ymchwilio, sut a pham y mae pobl yn defnyddio ynni yn y ffordd maent yn ei wneud; mae hyn yn ffurfio dealltwriaeth dyfnach o sut ydym yn ygysylltu gyda gwahanol ymyriadau (technolegol ac ymddygiadol) gyda'r nod o leihau'r defnydd o ynni. Mae deall ein defnydd ynni ar draws amser yn o gystal ag ar draws gwahanol leoliadau yn allweddol i ddatblygu ein dealltwriaeth o sut y gallwn leihau ein defnydd ynni.

Beth yw'r disgwyliad o'ch cyfraniad?

Mae cyfranogi yn cynnwys dau gam:

- Cyfweiliad personol: Disgwylir iddo bara rhwng 1 a 2 awr. Bydd y cyfweiliad yn cynnwys trafodaeth am eich defnydd o ynni, gan gynnwys y defnydd presennol, gorffennol, yn o gystal a'ch trefn dyddiol.
- Cyfweiliad teulu: Cynhelir y cyfweiliad yma hyd at chwe mis ar ôl cyfweiliadau personol. Disgwylir iddo bara am 2 awr. Bydd y cyfweiliad yn cynnwys tasgau grŵp a thrafodaeth dan arweiniad ynghylch trefniadau byw a defnydd ynni.

Caiff y sesiynau eu recordio'n ddigidol, gyda'ch caniatâd, a'u trawsgrifio nes ymlaen er mwyn eu dadansoddi. Cewch ddewis amser a lleoliad cyfleus i gynnal eich cyfweiliad: Rwyf yn hapu i ddod i'ch cartref i wneud hyn.

Fe gewch dynnu'n ôl o'r ymchwil ar unrhyw amser heb orfod rhoi rheswm; er mwyn gwneud hyn, cysylltwch â mi gan ddefnyddio'r manylion a roddir isod. Os fydd unrhyw ddata eisioes wedi'i gasglu, mi wiriaf gyda chi i weld os ydych yn hapus i'r ymchwil gynnwys y data, neu a ydych yn dymuno i mi beidio defnyddio'r data. Yn y posibilrwydd na allaf gysylltu â chi, fe fydd y data yn parhau i fod yn yr astudiaeth (bydd pob ymdrech yn cael ei gymryd i gysylltu â chi – dros y ffôn, llythyrau a negeseuon e-bost).

Yn ychwanegol, os oes gennych unrhyw bryderon ynghylch a sut cynhelir yr ymchwil, gallwch gysylltu a, naill ai yr ymchwilydd, ei goruchwylwyr, neu cadeirydd pwyllgor moeseg Ysgol y Gwyddorau Cymdeithasol Prifysgol Caerdydd, ar unrhyw adeg – cewch hyd i'r manylion cyswllt ar waelod y ffurflen hon.

Pwy sy'n cael eu cyfweld?

Bydd y cyfweleion yn cael eu cynnal yng Ngogledd Cymru. Y gobaith yw y bydd pob aelod o'r cartref gwirfoddol yn gallu/ yn fodlon cymryd rhan.

Anhysbysrwydd a Chyfrinachedd

Bydd pob ymdrech yn cael ei wneud i gadw'ch data yn anhysbys. Bydd ffugenw yn cael ei ddefnyddio wrth drawsgrigio'r cyfweiliad. Ym mhob cyhoeddiad cysylltiedig, defnyddir y ffug enw hyn i gadw dyfyniadau cyfranogwyr yn anhysbys, gyda dim ond termau generig (megis rhyw, oedran ac ati) i ddisgrifio'r cyfranogwr. Ceir y recordiau digidol o'r cyfweiliadau, a'r trawsgrifiadau eu storio ar weinyddwr diogel ym Mhrifysgol Caerdydd.

Pwy fydd yn cael mynediad at y data?

Ni fyddaf yn cyflogi copi'ydd proffesiynol; yn lle hynny, byddaf yn trasgrifio y data fy hun. Mi fyddaf yn rhannu'r recordiad a'r trawgrifiad gyda fy oruchwylwyr – a enweir

isod. Cewch ofyn ofyn i weld y data, neu ofyn am ei ddinistrio ar unrhyw adeg ar ôl cwblhau'r astudiaeth. Yn dilyn diwedd glo fy astudiaeth, bydd yr holl ddata anhysbys yn cael ei gadw yn ddiogel i'w hailddefnyddio yn hwyrach ymaen gan dîm ymchwil 'Bywgraffiadau Ynni'.

DS Bywgraffiadau Ynni yw enw'r prosiect ehangach sy'n gysylltiedig; mae wedi ei gydariannu gan y Cyngorau Ymchwil Economaidd a Chymdeithasol (ESRC) a Peirianeg a'r Gwyddorau Ffisegol (EPSRC) - http://psych.cf.ac.uk/understandingrisk/research/energy_biog.html).

Sut fydd y data yn cael ei ddefnyddio?

Bydd y data yn cael ei ddefnyddio ar gyfer fy nhraethawd ymchwil, cyflwyniadau mewn cynadleddau, adroddiadau ar gyfer llywodraeth (ac asiantaethau eraill), cyhoeddiadau academaidd, dibenion addysgu ac enghreifftiau amhenodol eraill. Os cytunwch i'ch data gael ei storio am ddefnydd eilaidd, yna gellir ei ddefnyddio mewn ymchwiliadau academaidd ehangach.

Llywodraethu Ymchwil

Mae'r astudiaeth hon wedi cael cymeradwyaeth foisol gan Pwyllgor Ymchwil Moeseg (REC) Ysgol y Gwyddorau Cymdeithasol yn Brifysgol Caerdydd. Am ragor o wybodaeth cysylltwch â mi neu fy oruchwylwyr.

Cyfranogiad:

I gymryd rhan yn yr astudiaeth hon, neu os oes gennych unrhyw gwestiynnau, cysylltwch â mi drwy ffonio (07511105135) neu gyrrwch ebost at RobertsEM4@cardiff.ac.uk.

Cysylltiadau Allweddol

Ymchwilydd Ôl-raddedig: Erin Roberts
E-bost: RobertsEM4@cardiff.ac.uk
Ffôn: 07511105135

Goruchwyliwr Cynradd: Prof. Karen Henwood
E-bost: henwoodk@cardiff.ac.uk

Goruchwyliwr Eilaidd: Prof. Nick Pidgeon
E-bost: pidgeonn@cardiff.ac.uk

Cadeirydd Pwyllgor Moeseg Ysgol y Gwyddorau Cymdeithadol Prifysgol Caerdydd:

c/o Professor Tom Horlick-Jones, Cardiff University School of Social Sciences,
Glamorgan Building, King Edward VII Avenue, Cardiff, CF10 3WT

Ffôn: (02920) 879 051

Appendix F – Ault consent forms (Welsh)



Ffurflen Caniatâd



Ysgol Gwyddorau Cymdeithasol ac Ysgol Seicoleg

Prifysgol Caerdydd

Ffurflen Caniatâd – Data Cyfrinachol

		Ticiwch y Bocs
1	Rwy'n cadarnhau fy mod wedi darllen a deall y daflen wybodaeth am yr astudiaeth. Rwyf wedi cael cyfle i ystyried y gwybodaeth, a chael unrhyw bryderon wedi eu hateb mewn modd boddhaol.	
2	Rwyf yn deall fod cymryd rhan yn wirfoddol a chaf dynnu yn ol ar unrhyw adeg heb esboniad na chanlyniad.	
3	Rwyf yn cytuno i gymryd rhan yn yr astudiaeth. Rwyf yn deall fydd dy nghyfranogiad yn golygu cymryd rhan mewn cyfweiliad a fydd yn cael ei gofnodi gyda offer sain.	
4	Rwyf yn cytuno i aseinio hawlfraint fy allbynnau data i Miss Erin Roberts (Ymchwilydd ôl-raddedig), a fod y data dienw a gafwyd o'r cyfweiliad efallai yn cael ei ddefnyddio mewn trafodaeth gyda ymchwilydd eraill, mewn unrhyw gyflwyniadau dilynol, adroddiadau, cyhoeddiadau, gwefannau, darllediadau, ac i bwrpas addysgol.	
5	Rwyf yn deall fod ar ddiwedd yr astudiaeth, caf dderbyn gwybodaeth ychwanegol ac adborth am bwrpas yr astudiaeth hon.	
6	Rwyf yn deall y bydd trawsgrifiadau'r cyfweiliad(au) yn cael eu cadw i'w hailddefnyddio yn hwyrach ymlaen gan dîm ymchwil Bywgraffiadau Ynni ar ôl cwblhad traethawd doethuriaeth yr ymchwilydd ôl-raddedig, ac y bydd yr ymchwilydd yn gofyn i mi am fy nghaniatâd i gadw unrhyw ddata arall (megis ffotograffau).	

Rydw i, _____ (**EICH ENW**), yn cytuno i gymryd rhan yn yr astudiaeth a gynhaliwyd gan Miss Erin Roberts, Ysgol y Gwyddorau Cymdeithasol, Prifysgol Caerdydd.

Llofnod: _____ Dyddiad: _____

Ffurflen Caniatâd – Cronfa Data Cyfranogwyr

1	Rwyf yn fodlon i fy enw a manylion cyswllt gael eu cynnal ar restr (cronfa ddata) fel y gellir fy nghysylltu yn y dyfodol er mwyn gofyn cwestiynau pellach , fel y cytunwyd isod.	
2	Rwyf yn deall fy mod yn cytuno i dderbyn cais i ateb cwestiynau pellach yn unig, ac nid ydwyf o dan unrhyw rwymogaeth i ateb y cwestiynau hyn.	
3	Rwyf yn deall y bydd y rhestr hon yn cael ei ddefnyddio dim ond at y diben a ddisgrifir yma, ac ni fydd y gwybodaeth ar gael i unrhyw un y tu hwnt i'r rhai a cytunwyd arnynt isod.	
4	Rwyf yn deall y gallaf dynnu fy enw oddi ar y rhestr ar unrhyw adeg drwy anfon e-bost i Miss Erin Roberts (RobertsEM4@cardiff.ac.uk) ac y bydd unrhyw gyswllt pellach o ganlyniad i ddarparu manylion o sut i dynnu fy enw oddi ar y rhestr.	

Rydw i _____ (**EICH ENW**), yn cytuno i gadw fy manylion cyswllt ar y rhestr a gedwir gan Miss Erin Roberts, Professor Karen Henwood a Professor Nick Pidgeon, Ysgol y Gwyddorau Cymdeithasol ac Ysgol Seicoleg, Prifysgol Caerdydd.

Llofnod: _____ Dyddiad: _____

Appendix G – Information sheet for children and young people (Welsh)



Taflen Wybodaeth



Ysgol Gwyddorau Cymdeithasol ac Ysgol Seicoleg

Prifysgol Caerdydd

Mae'r taflen wybodaeth hon ar gyfer plant hyd at 16 mlwydd oed.



Defnyddio Ynni yn y Cartref



Cyflwyniad



Fy enw i yw Erin Roberts, ac fy ngwaith i yw ymchwilio sut a pham mae teuluoedd a chymunedau yn defnyddio ynni yn y ffordd y maent yn ei gwneud. Rwyf eisiau gweld sut yr ydym yn defnyddio ynni mewn ffordd gwahanol dros gyfnod o amser, ac mewn amryw o lefydd (fel yn y cartref ac yn yr ysgol), er mwyn i mi ddeall sut y gallwn ddefnyddio llai o ynni.



Rwyf yn mynd i roi gwybodaeth i ti, ac am dy wahodd i fod yn rhan o'r astudiaeth. Gallet ddewis os wyt eisiau bod yn rhan o'r astudiaeth ai beidio, a cei adael ar unrhyw adeg heb orfod rhoi rheswm. Bydd dy rhieni / gwarcheidwad angen rhoi eu caniatâd i ti gymryd rhan yn yr astudiaeth. Os ydyn nhw'n fodlon i ti gymryd rhan, yna fe elli di wneud hynny; mae'r dewis terfynol i fyny i ti, fydd neb yn siomedig os dwy ti ddim am gymryd rhan. Fe gei di drafod unrhyw beth yn y ffurflen hon gyda dy rieni, ffrindiau, neu unrhyw un ti'n teimlo yn gyfforddus i siarad â. Does dim rhaid penderfynu ar unwaith.

Efallai y bydd rhai geiriau dwyt ti ddim yn deall, neu rhywbeth wyt am i mi esbonio fwy am, gan fod gennynt ddiddordeb ynddo. Gofynna i mi stopio ar unrhyw adeg, a byddaf yn cymryd amser i egluro y testun dan sylw.

Pam rydw i yn gwneud yr ymchwil hyn?



Rydw i eisiau deall sut mae pobl yn meddwl am, a defnyddio ynni yn eu cartrefi, yn yr ysgol, neu allan gyda ffrindiau. Drwy dy gael di i feddwl am ynni yn wahanol, fe elli di helpu i newid, a lleihau y swm, a'r ffordd yr ydym yn defnyddio ynni yn ein cartrefi.

Pam ydych chi yn gofyn i mi?



Dwi eisiau deall sut mae oedolion a phlant yn defnyddio ynni yn y cartref; sy'n golygu ti, dy frodyr a chwiorydd, dy rieni, a dy deidiau a neiniau. Dwi eisiau gweld os ydym ni yn defnyddio mwy neu lai o ynni wrth i ni fynd yn hyn, a pham. Mae hyn yn gwneud dy safbwynt di yn bwysig iawn.

Beth sy'n rhaid i mi wneud?



Hoffwn siarad hefo ti am yr ynni a ddefnyddiwn yn y cartref. Byddwn yn siarad am eich arferion, yr ysgol, bywyd bob dydd yn y cartref a dy hobiau. Cei siarad am beth bynnag sy'n bwysig i ti, a cofia, does dim ateb 'cywir' neu 'anghywir' pan ddaw at dy farn.



Cyfrinachedd: Ydi pawb yn mynd i wybod am hyn?

Ni fyddwn yn dweud wrth bobl eraill dy fod wedi cymryd rhan yn yr ymchwil hon, a ni fyddwn yn rhannu dy wybodaeth gyda neb tu allan i'r ymchwil.

Bydd y gwybodaeth amdanat ti a gesglir fel rhan o'r ymchwil yn cael ei gadw dan glo, a ni fydd neb ond yr ymchwilwyr yn ei weld. Ni fydd dy enw go iawn yn cael ei ddefnyddio, n hytrach bydd enw ffug yn cael ei ddefnyddio felly ni fydd neb yn gwybod pwy wyt ti. Dim ond Erin fydd yn gwybod dy ffug enw di, a fydd y gwybodaeth yn cael ei gadw mewn cyfrifiadur wedi ei ddiogelu gyda cyfrinair.



Rhannu y Canfyddiadau: A wnewch chi ddweud wrthyf y canlyniadau?



Pan fyddwn wedi gorffen y gwaith ymchwil, mi fyddwn yn eistedd i lawr gyda ti a dy rieni, ac yn dweud wrthyf beth rydym wedi ei ddysgu. Byddaf hefyd yn rhoi taflen gwybodaeth am y canlyniadau a beth maent yn golygu i ti a dy deulu. Byddwn wedyn yn rhannu'r canlyniadau gyda fwy o bobl, gwyddonwyr

eraill ac yn y blaen, am yr ymchwil a'r hyd rydym wedi canfod. Byddwn yn gwneud hyn drwy feddwl yn galed am yr hyn rwyd wedi ei ddweud, ac wrth ysgrifennu a rhannu adroddiadau, a thrwy fynd i gyfarfodydd gyda phobl sydd a diddordeb yn y gwaith a wnawn. Mae beth sydd gen ti i'w ddweud yn ddiddorol iawn i lawer o bobl, felly byddwn yn ei gadw yn ddiogel. Bydd hyn yn ei gwneud yn bosibl i ni ysgrifennu amdano eto yn y dyfodol.

Hawl i Wrthod neu Tynnu'n ôl: Gallaf i ddewis peidio a bod yn rhan o'r ymchwil? Alla i newid fy meddwl?



Nid oes rhaid i ti fod yn rhan o'r ymchwil, fydd neb wedi ei siomi os wyt yn dewis dweud "na". Dy ddewis di yw e. Fe allet ti feddwl am y peth a dweud wrthym dy ddewis yn hwyrach ymlaen yn yr ymchwil. Fe allet ddweud "ie" nawr, a newid dy feddwl nes ymlaen, a fydd hynny yn iawn.

Pwy i Gysylltu: Gyda phwy y gallaf siarad neu ofyn cwestiynau i?



Fe gei ofyn cwestiynau i mi ar unrhyw adeg drwy e-bost (cyfeiriad isod), neu gei di ofyn cwestiynau a rhannu dy bryderon gyda mi yn ystod y cyfweiliad.



Erin Roberts

E-bost: RobertsEM4@cardiff.ac.uk

Ffôn: 07511105135

Appendix H – Parental Consent for children/young people to participate (Welsh)



Taflen Gwybodaeth i Rieni



Lleihau Defnydd Dyddiol Egni:

Astudiaeth o dirweddau defnydd ynni mewn teuluoedd a chymunedau gwledig yng Ngogledd Cymru

Prifysgol Caerdydd

Pwrpas

Rydym yn gofyn am eich caniatâd i gynnwys eich plentyn mewn astudiaeth ymchwil a cynhelir gan Erin Roberts o Brifysgol Caerdydd. Cynhelir yr astudiaeth i ddeall sut a pham mae pobl o wahanol oedrannau yn defnyddio lefelau uchel o ynni yn y cartref, er mwyn lleihau ein defnydd o ynni yn y dyfodol.

Gweithdrefnau'r Astudiaeth

Os byddwch yn penderfynu caniatáu eich plentyn gymryd rhan yn yr astudiaeth, bydd ef/ hi yn cymryd rhan mewn trafodaeth am ddefnydd ynni yn y cartref. Yn ystod y drafodaeth, bydd eich plentyn yn cael eu hannog i feddwl am eu defnydd o ynni. Bydd cwestiynau yn cynnwys son am eu arferion dyddiol, mynd i'r ysgol, eu bywyd cartrefol, ffrindiau a'u diddordebau. Gall eich plentyn ddewis beth maent am siarad amdano, yn ôl yr hyn sydd fwyaf pwysig iddynt. Caiff y sesiynau eu recordio'n ddigidol, a'u trawsgrifio nes ymlaen er mwyn eu dadansoddi.

Bydd eich plentyn yn cael y dewis i gymryd rhan neu beidio: os ydynt yn dymuno cymryd rhan, yna gallant wneud hynny. Yn yr un modd, os ydych chi a'ch plentyn yn rhoi caniatâd i gymryd rhan, gallech chi ne eich plentyn diddymu'r caniatâd nes ymlaen yn yr astudiaeth heb orfod rhoi rheswm. Os fydd unrhyw ddata eisioes wedi'i gasglu, mi wiriaf gyda chi i weld os ydych yn hapus i'r ymchwil gynnwys y data, neu a ydych yn dymuno i mi beidio defnyddio'r data. Yn y posibilrwydd na allaf gysylltu â chi, fe fydd y data yn parhau i fod yn yr astudiaeth (bydd pob ymdrech yn cael ei gymryd i gysylltu â chi – dros y ffôn, llythyrau a negeseuon e-bost).

Budd-daliadau

Ni fydd unrhyw fudd-daliadau uniongyrchol ar gyfer eich plentyn, fodd bynnag, efallai y bydd y gwybodaeth a gesglir yn yr astudiaeth hon o fudd i bobl eraill yn awr neu yn y dyfodol.

Costau

Ni does unrhyw gostau i chi na'ch plentyn am gymryd rhan yn yr astudiaeth hon.

Anhysbysrwydd a Chyfrinachedd

Bydd pob ymdrech yn cael ei wneud i gadw'ch data yn anhysbys. Bydd ffugenw yn cael ei ddefnyddio wrth drawsgrigio'r cyfweiliad. Ym mhob cyhoeddiad cysylltiedig, defnyddir y ffug enw hyn i gadw dyfyniadau cyfranogwyr yn anhysbys, gyda dim ond termau generig (megis rhyw, oedran ac ati) i ddisgrifio'r cyfranogwr. Ceir y recordiau digidol o'r cyfweiliadau, a'r trawsgrifiadau eu storio ar weinyddwr diogel ym Mhrifysgol Caerdydd.

Sut fydd y data yn cael ei ddefnyddio?

Ni fyddaf yn cyflogi copi'ydd proffesiynol; yn lle hynny, byddaf yn trasgrifio y data fy hun. Mi fyddaf yn rhannu'r recordiad a'r trawgrifiad gyda fy oruchwylwyr – a enweir isod. Cewch ofyn ofyn i weld y data, neu ofyn am ei ddinistrio ar unrhyw adeg ar ôl cwblhau'r astudiaeth. Yn dilyn diwedd glo fy astudiaeth, bydd yr holl ddata anhysbys yn cael ei gadw yn ddiogel i'w haildefnyddio yn hwyrach ymaen gan dîm ymchwil 'Bywgraffiadau Ynni'.

DS Bywgraffiadau Ynni yw enw'r prosiect ehangach sy'n gysylltiedig; mae wedi ei gydariannu gan y Cyngorau Ymchwil Economaidd a Chymdeithasol (ESRC) a Peirianeg a'r Gwyddorau Ffisegol (EPSRC) - http://psych.cf.ac.uk/understandingrisk/research/energy_biog.html).

Cyfranogiad Gwirfoddol/ Tynnu yn ôl

Mae cyfranogiad eich plentyn yn yr astudiaeth hon yn hollol wirfoddol. Efallai y byddech yn penderfynu y gall eich plentyn gymryd rhan yn yr astudiaeth, ac yna'n newid eich meddwl heb orfod rhoi rheswm. Rydych yn rhydd i dynnu eich plentyn o'r astudiaeth ar unrhyw adeg.

Os fydd unrhyw ddata eisioes wedi'i gasglu, mi wiriaf gyda chi i weld os ydych yn hapus i'r ymchwil gynnwys y data, neu a ydych yn dymuno i mi beidio defnyddio'r data. Yn y posibilrwydd na allaf gysylltu â chi, fe fydd y data yn parhau i fod yn yr astudiaeth (bydd pob ymdrech yn cael ei gymryd i gysylltu â chi – dros y ffôn, llythyrau a negeseuon e-bost).

Llywodraethu Ymchwil

Mae'r astudiaeth hon wedi cael cymeradwyaeth foisol gan Pwyllgor Ymchwil Moeseg (REC) Ysgol y Gwyddorau Cymdeithasol yn Brifysgol Caerdydd. Am ragor o wybodaeth cysylltwch â mi neu fy oruchwylwyr.

Cyfranogiad

Os ydych yn fodlon i'ch plentyn/ plant gymryd rhan yn yr astudiaeth hon, llenwch y ffurflen isod, a'i roi yn ôl i mi. Os oes gennych unrhyw gwestiynau, cysylltwch â mi drwy ffonio (07511105135) neu e-bost (RobertsEM4@cardiff.ac.uk).

Cysylltiadau Allweddol

Ymchwilydd Ôl-raddedig:	Erin Roberts E-bost: RobertsEM4@cardiff.ac.uk Ffôn: 07511105135
Goruchwyliwr Cynradd:	Prof. Karen Henwood E-bost: henwoodk@cardiff.ac.uk
Goruchwyliwr Eilaidd:	Prof. Nick Pidgeon E-bost: pidgeonn@cardiff.ac.uk

FFURFLEN CANIATAD RHIENI:		
Darllenwch trwy'r datganiadau canlynol a chwblhewch y ffurflen fel y bo'n briodol.		
Drwy lofnodi'r ddogfen hon rydych yn cytuno i'r canlynol;		Llofnodwch y bocs
1	Rwy'n rhoi caniatâd I fy mhentyn/ plant (a enwir isod) gymryd rhan yn yr astudiaeth gan Miss Erin Roberts, Ysgol y Gwyddorau Cymdeithasol a Ysgol Seicoleg, Prifysgol Caerdydd.	
2	Rwy'n deall y bydd trawsgrifiadau cyfweiliad fy mglentyn/ plant yn cael ei gadw ar gyfer eu aildefnyddio yn dilyn cwblhâd traethawd yr ymchwilydd, gan tîm ymchwil Bywgraffiadau Ynni. Bydd yr ymchwilydd yn gofyn I mi am fy nghaniatâd I gadw urhyw ddata arall (megis ffotograffiau).	
Manylion Rhiant/ Gwarcheidwad.		
Enw(au)	Cyfenw	Rhif Cyswllt
Cyfeiriad:		
Manylion y plentyn (plant) / person (pobl) ifanc.		
Enw(au)	Cyfenw	Oedran
LLOFNOD		
DYDDIAD		
		 

Appendix I – Welsh-English data translations chapter four

Page no.	Name/s	Translation used in thesis	Source language data
73	Dylan	“We’re at <u>least</u> twenty miles -one way that is- thirty [miles] even from centres of work. Caernarfon is the closest to here, Bangor even. So it effects your chances of finding work if you want to live here, and it effects the time you spend away from home, and the cost of course.”	“A be mae o’n olygu hefyd ynde, mi ydan ni <u>o leiaf</u> ugain milltir un ffordd – wel mwy ‘na hynny – trideg milltir, o ‘rwth canolfannau gwaith, ti ’n gwybod, wedyn ‘sa chdi ’n sôn am Gaernarfon ydi’r agosaf i fan hyn [...] Bangor hyd yn oed. So mae o’n effeithio ar dy gyfleon gwaith di, os ti ‘sho byw yma, a mae o’n effeithio ar yr amser o adra, a’r gost wrth gwrs ynde.”
	Alys	The car was often deemed to be “necessary”	“...mae’n rhaid i ni gael dau gâr... mae hynny ‘n hanfodol.”
	Eluned	“We have to drive everywhere, we don’t have a choice.”	Eluned “... fedri di ’m byw mewn lle fel hyn os dwyt ti ’m yn dreifio, fedri di ddim.” Glyn “A wedyn ti...mae gan fan hyn lot o geir yn does, ‘chos mae’n rhaid ‘ni gael yn does...” Eluned “Mae’n rhaid cael, does na’m dewis, does na ddim dewis ‘de a mae huna’n costau drud mewn cefn gwlad ynde...”
	Rhian	Car as a “symbol that you’re not confined to your square mile like it used to be way back when” which they believed that the desire for a car had become “ingrained in the psyche here”	“Wel dwi ’m yn gwybod be ‘di o, rhywbeth fatha ‘sdi mewn ardal amaethyddol mae bywyd ‘di <u>bod</u> yn galed yn y gorffennol ‘lly – a wedyn dwi’n meddwl, ‘run fath a mae bobl yn adeiladu byngalos mewn ffordd ynde – ddim isio byw mewn hen dy a’r ffasiwn yna ‘lly – dwi’n meddwl fod yr ‘run teip o beth yn wir

			hefo ceir aballu am wn i. Dwi 'm yn gwybod – ‘sa ’r genhedlaeth ‘di pasio a mae pobl yn <u>dal</u> i feddwl car ‘lly, mae o fatha rhyw symbol o bod chdi ddim yn gaeth i dy filltir sgwâr ddim mwy fel yr oedd hi ers talwm – dwi’n siŵr bo hynna ’n dal yn seice ‘lly [chwerthin].”
74	Cai	“Everything is further away more or less. If you live in a town or something you can walk to the shops [...] But [here] everyone drive cars. Even though it’s only a mile and a half to the nearest shop, people would rather go in their car than use a bike or walk. People think they have to use the car, that it can’t be helped, that they <u>have</u> to take the car everywhere”	“Mae bob dim jyst yn bellach mwy neu lai. Os ti ’n byw mewn tref neu rhywbeth, elli di gerdded i’r siop neu rhywbeth fel ‘na ond - ‘da ni i gyd yn fan ’ma ’n mynd ar ein beics dydan – a pobl erill - mae nhw ’n jyst dreifio car, er bod o ‘mond milltir a hanner i’r siop agosaf, neith bobl fynd hefo car yn lle mynd ar beic neu cerdded ‘lly. A wedyn bod pobl yn meddwl bo’n rhaid i nhw fynd yn car, bod gennyn nhw ‘m help ‘lly, bo’n <u>rhaid</u> i nhw fynd yn car i bob man.”
	Dylan	“A co-worker of mine, her contract is coming to an end soon and she’s said that she’s moving away after that. The cost is too much. Say that she gets a job in Caernarfon, she’d have to travel sixty miles a day, which is what, a tenner to fifteen pounds a day [in petrol costs] maybe? So that’s the best part of a hundred pounds a week just on petrol. So what you get is people of working-age leaving the community -they <u>have</u> to leave. You know, the Dwyfor-Meirionnydd electorate has the lowest average income in the UK, and so between earning less [here] and the fact that everything costs more because of transport costs -you know, it effects the cost of food and fuel that arrive here- it’s just unsustainable”	“Mae fy nghyd-weithwraig i rŵan ar hyn o bryd – mae genna ni flwyddyn ar ôl ar y cytundeb, a mae hi ’n dweud mae hi ’n symud wedyn ynde, achos mae hi ’n wirion iddi hi fod yn talu – a duda bo hi ‘fo job yn Gaernarfon ynde, bod hi ’n chwedeg milltir bob dydd, sef be, ‘tennar’, pymtheg punt y dydd ella – [...] mae hynny ’n jyst yn gan-punt yr w’sos jyst ar betrol yndi? Wedyn be ti ’n gael ydi pobl weithgar mewn cymuned yn gadael ynde, mae nhw ’n <u>gorfod</u> gadael pan mae cyflogau yma. Mae’r etholaeth Dwyfor-Meirionnydd ydi’r etholaeth hefo ’r incwm o holl etholaethau’r Deyrnas Unedig. ‘The lowest average income’ – drwy’r Ddeyrnas Unedig i gyd – a wedyn rhwng bod ni ’n ennill llai, a bod hi ’n costio mwy i fyw yma oherwydd y costau trafaelio a wedyn mae hynny ‘n effeithio ar gost y deunydd crai sy’n

			cyrraedd ‘ma. Mae’r bwyd a’r tanwydd yn cyrraedd ‘ma, mae o’n ddrytach dydi, a ‘sdi wedyn mae o’n jyst anghynladwy.”
75	Bryn	“There is a limit to how green you can be, especially when you live in the countryside. Everyone’s in a car aren’t they?”	“Dwi’n teimlo fel mae ‘na ‘limit’ i faint o wyrdd ti ’n medru bod, yn enwedig yn byw’n cefn gwlad. Er enghraifft ‘da ni ’n tueddu i gyrru ceir – pob un ohonyn ni, achos y natur o gallu dianc o’r lle ‘ma, wel mentro i lle bynnag – mae pawb mewn ceir dydi?”
	Dylan	“It doesn’t make sense does it? It must be that people <u>want</u> or <u>choose</u> to stay here, and there are plenty of people who choose not to aren’t there? And that’s a pity.”	“[...] dydi o ddim yn gneud ‘sense’ nadi, mae’n rhaid bod rhywun <u>isio</u> neu’n <u>dewis</u> aros ‘ma tydi, a mae ‘na lot yn dewis peidio yn does, dyna d’ir bechod ynde.”
76	Megan	“Trains and buses are never convenient. They run on the same timetables so they’re always running parallel to each other, rather than working together if you know what I mean -so if you can’t catch a train you can catch a bus or wait for half an hour for the next one- but usually there’s a two hour wait between a bus and a train [laughing] it’s just dumb!”	“Dydi’r bysiau a’r trenau jyst byth yn gyfleus, a mae nhw ’n rhedeg yr ‘run amserlen, so mae’n myn yn paralel, so yn hytrach na gweithio hefo ’u gilydd so ti ’n gwybod, os ti methu dal trê, wel ti ’n gallu cael y bws, neu aros am hanner awr tan y trê nesaf. Ond mae dwy awr rhwng y bws a’r trê yn [chwerthin] jyst ‘dumb!’”
77	Bryn	“If I had to rely on a bus instead of a car, I’d find it difficult to reach clients outside the village because of the time limit	“‘Da ni ddim i gyd yn byw wrth ochr ‘bus stop’ er enghraifft – er ‘da ni’ m yn rhy bell yn byw yn fan ’ma wrth gwrs. Ond tase

		you know -just because the service isn't every ten minutes- it doesn't work like in the city.”	ni 'n gorfod dibynnu ar y bws fel heb car, fyswn ni 'n ffeindio fo 'n anodd cyrraedd gwaith allan o'r pentref, achos y 'time limit' ynde. Ie, jyst bod y gwasanaeth dim bob deg munud ynde – 'di o'm yn gweithio fel tase ti mewn dinas.”
78	Bryn	“The children often go to after school clubs and so on -not every night, but on Monday night I take our son to play football, so I have about three quarters of an hour to do the food shop, so it's rush, rush, rush at the Co-op. But it's great 'cause it's so quick -just for the basics you know- run 'round the shop -out- collect him- and then back home. Pffew! That's how I like to shop! [laughs]”	“Ie – sôn am siopau hefyd, o ni isio dweud – pan 'da ni 'n neud 'bulk buy', ie so 'online', neu trwy 'r 'catalogue' 'ma unwaith y mis gyda'r grŵp 'ma. Ond 'da ni hefyd yn gwneud – ar ôl ysgol, mae 'na lot o pethau gyda'r plant weithiau ynde, dim pob noson ond nôs Lun, dwi'n mynd a'r mab i Bermo – pêl-droed – so genna i rhyw tri chwarter awr i wneud siopa, so rush, rush, rush i'r Co-op. Ond mae'n grêt, achos mae o mor 'quick – just basics' ynde, rhedeg drwy y siop, allan, 'nôl fo, a 'nôl adref pffew! Fel 'na, dyna sut dwi'n hoffi siopau ynde [chwerthin].”
79	Dylan	“I had my first Skype meeting last Friday morning. I've done video conferencing before but not Skype. I know that the connection isn't brilliant here, but it's better than having to travel isn't it?”	“Oedd genna i gyfarfod skype bora dydd gwener er enghraifft, yn un cyntaf, dwi 'm di g'neud un o'r blaen. Dwi 'di neud “video conferencing” ond dw i'm 'di neud skype o'r blaen. Ia ysdi petha fel 'na, a dwi'n gwybod nad ydi skype 'im yn gweithio'n ofnadwy o dda yma, ond ysdi mae'n well na gorfod trafaelio yn tydi.”
	Cai	“If I want to go somewhere with a mate, I can't just walk next-door -knock on the door and ask”	“os dwi 'sho gofyn i'n ffrind neu rhywbeth, da chi 'sho mynd i rhywle – alla i ddim rili jyst cerdded drws nesaf, cnocio'r drws a gofyn”

	Glesni	<p>“I think that as soon as we had [internet] it became almost impossible to live without it, ‘cause everyone lives so far apart, everyone’s friends are scattered all over the place, you can’t go to the pub and know that everyone’s there. You have to organise things more, sort out lifts, who’s driving, which buses to catch -stuff like that- just so that you can meet up. Maybe ‘cause we’re in the countryside we need the contact more and more, you know, with the wider world.”</p>	<p>“Dwi’n meddwl ei fod o. Dwi’n meddwl cyn gynted a ‘da ni ‘di cael o, mae’n amhosib byw hebddo fo, ‘chos mae pawb yn byw ar wahân – mae ffrindiau pawb ‘di gwasgaru drost fatha Pen Llŷn ‘lly – a fedri ‘di ’m rili mynd i pub neu rhywle a gwybod bod pawb yna. Ti ’n gorfod cysylltu hefo pawb i drefnu pethau fwy – trefnu liffts, pwy sy’n dreifio, pa fys ‘da ni ’n dal – pethau fel ’na ‘lly, er mwyn cyfarfod yn rhywle. Ac ella achos bo chdi ’n ganol y wlad, ti ‘sho y cysylltiad yna fwy a fwy, fatha hefo ’r byd mawr o dy gwmpas ‘lly.”</p>
80	Dylan	<p>“It’s geography that is the greatest force and power. We’re off mains gas aren’t we? We’re at the end of the line in terms of the grid.”</p>	<p>“Daearyddiaeth y lle ydi’r maint a’r grym mwyaf ynde, ‘sdi ‘da ni off gas tydan – ‘da ni ’n ben draw’r lein o ran y rhwydwaith grid, yn isel ‘ma – pethau felly.”</p>
84	Ffion	<p>Ffion I’ve just spent £160 on logs, whether they stay there is another thing. There’s a lot of stealing going on around here!</p> <p>Erin Is there?</p> <p>Ffion Flippin’ heck yes! I want a bolt on the door! [...] <u>All</u> of the school’s oil has been stolen [...] <u>Lots</u> of people [in the area] have had theirs stolen, and it’s not like the oil [tanks] are by the road or anything -they’re out of the way. Petrol and diesel too you know, and red diesel being stolen from farms -it’s awful!</p>	<p>Ffion “So dwi newydd wario £160 ar ‘logs’- os neith nhw aros yna ‘di ’r peth arall, mae na lot yn dwyn o gwmpas lle ‘fyd” =</p> <p>Erin =“Oes?”</p> <p>Ffion “Flippin heck’ oes. So dwi ‘sho ‘bolt’ ar y drws.”</p> <p>Erin “Dwi heb glywed am huna.“</p> <p>Ffion “Jyst helpu eu hunan- Mae oil yr ysgol wedi cael ei ddwyn i gyd. Oedd huna drost...gwylia Pasg diwethaf? Neu cyn- ar ôl? Dwi ’m yn cofio. Neu gwyliau ‘half term’ ar ôl Pasg- oes na wyliau ‘half term’ ar ôl Pasg? Oes. Gaeth oil- oedd o’n ofnadwy’n Beddgelert ‘de, mae <u>lot</u> o bobl di cael...a ti ’n gwybod di ’r oil ddim wrth ochr</p>

			ffordd na 'imbyd, mae o allan o'r ffordd. Petrol, ti 'n gwybod o ffarm- diesel, diesel coch yn cael ei ddwyn o ffarm- o mae'n 'awful'."
85	Ffion	I panicked one day and thought- "oh my god, what if someone steals my oil?" -'cause it's easy to do you know, the tank's by the road [...] and I was thinking "if someone steals this, I <u>won't have any</u> money to buy anymore"	"Gefais i banics rhyw ddiwrnod, nes i- 'Oh my God' be os 'di rhywun yn dwyn oil fi, 'cause mae'n hawdd 'neud- dwi'n gwybod fod o wrth ochr ffordd [...] Ond nes i checkio Insurance fi 'n syth ynde- o ni 'n jyst meddwl 'Oh my God' be os 'di rhywun yn dwyn- 'chos o ni newydd lenwi'r tanc pan nath hyn ddigwydd yn yr ysgol...Wel na o ni 'n llenwi fo actually- o ni 'di llenwi fo i'r hanner- ac o ni 'n meddwl 'sa na rhywun yn dwyn hwnna- genna i <u>ddim</u> pres i...gael o eto, so o ni 'n meddwl, checkia Insurance fi [chwerthin] jyst rhag ofn. 'Sa genna i ddim heating wedyn! So, oedd rhaid i mi jecio huna de."
86-87	Peter	"The walls take in a lot of heat -they hold a lot of heat- but they lose a lot of heat too, we know that. We often find that if the Rayburn has extinguished overnight we don't notice because the house keeps its heat so well, but when we used to go on holiday every Christmas for a week or two, the house would get so cold while we were gone. It would take a good two days to get warm again. So then you realise how important the walls really are. If I wanted to reduce the amount of energy I use in the house, I'd line all the walls, but then you'd lose the history of the house."	"Achos da ni 'di cadw waliau moel, a mae hwn yn gweithio dwy ffordd. Mae'n gweithio bod y waliau yn cymryd lot o wres ac yn dal lot o wres, ond mae nhw 'n colli lot o wres hefyd, da ni 'n gwybod hynny. Ond o ni 'n ffeindio, ti 'n gwybod, os di Rayburn yn diffodd dros nôs da ni ddim yn ffeindio'n hawdd iawn, achos mae'r tŷ yn cadw gwres mor dda. Pan da ni 'n mynd- oedden ni 'n arfer mynd Nadolig ar ei gwyliau am wythnos neu pythefnos- ti 'n dod yn ôl a mae'r tŷ mor oer, a mae'n cymryd dau diwrnod i gynhesu wedyn. A wedyn ti 'n sylweddoli pa mor bwysig ydi waliau ynde. Ond dwi'n gwybod os faswn i'n trio

			lleihau yr ynni da ni 'n rhoid 'mewn i gynhesu'r tŷ, faswn i'n leinio'r waliau i gyd tu mewn. A fasa ti 'n golli lot o'r tŷ hanesyddol fyset- ti 'n gwybod fyset ti 'n ei golli fo."
87	Peter	<p>"it's an old house and that's how it works".</p> <p>"it's very nice and very healthy too, to have colder rooms and corridors and have a warm living room, you know, not having the whole house at the same temperature. I don't think that's very healthy"</p>	<p>"Felly mae'n hen dy a dyna sut mae'n gweithio ynde. Ia."</p> <p>"Achos o fy mhrofiad i, wedi bod yn braf iawn, a wedi bod yn iach iawn hefyd i gael ystafelloedd oer neu coridor oer a cael ystafell byw cynnes, ti 'n gwybod, dim 'run un gwres trwy 'r tŷ- ddi ddim yn meddwl bod hynny 'n iach iawn. Na dw i'm yn meddwl bod o 'di effeithio arna ni."</p>
	Glesni	"sometimes when friends come over we'll go upstairs to watch a film or something, and I notice that it's quite cold there, especially when they ask me for a blanket"	"... pan mae'n ffrindiau i draw weithiau, 'da ni 'n mynd i llofft ne rhywbeth i watchad ffilm, a dwi'n sylwi bod hi 'n oer yna, lle mae nhw 'n dweud – o, oes gen ti flanced? [chwerthin]"
88	Rhian	Despite switching energy supplier to one that delivered renewable electricity, Rhian believes that their household "isn't very sustainable at all!"	<p>Erin "A sut ydych chi 'n cynhesu'r tŷ yma?"</p> <p>Rhian "O ia reit [chwerthin]- o ni 'n meddwl os neith hi ofyn huna i mi, da ni ddim yn gynaliadwy o gwbl [chwerthin]."</p>
88	Eluned	Eluned describes their house as "a cold place even in the summer", as she often has to "pile on a lot of clothes" and wrap up in a blanket to keep warm. However, once they get a fire going "it gets much better, they are stone houses after all"	<p>"... da ni 'n gwynebu gwynt yn fan hyn 'sdi, mae o yn le oer a yn yr Haf mae o'n oer ynde. Wedyn ti 'n cael blanced rownd yn gynnes ..."</p> <p>Erin "Pan da chi yn fan 'ma da chi 'n dueddol o ddefnyddio'r 'storage heaters' yn gweddill y tŷ?"</p>

		The couple leave the storage heaters on throughout the day on a low temperature, so that their home is supplied with a constant dry heat, which serves to “keep the place airy”. According to Eluned, “it’s a hell of a trick to keep the dampness out in these old stone houses”, which requires the aforementioned constant heat.	Eluned “Na, ‘chos y tueddiad ydi i adael o ymlaen, unwaith dwi ‘di rhoid nhw ymlaen, gadael nhw ymlaen achos erbyn i ti rhoid o i ffwr, a wedyn mae o’n costio i roid yn ôl, a wedyn mae o’n cymryd amser i gynhesu ‘nôl. Ti ’bo ‘di nhw ddim ar uchel genna i o gwbl, ‘di nhw ‘mond ar rhyw ddau, tri achos, jyst i gadw’r lle yn ‘airy’, ia? ‘Chos y peth ydi ‘mewn hen dai cerrig, mae cael gwared o tamprwydd yn ufflwn o gamp ‘de mewn tŷ cerrig. A wedyn ti ’n teimlo weithia wffff, mae isio- wedyn unwaith fydda i ‘di neud tân mae llefydd yn altro ‘llu, ond tai cerrig ydi nhw ynde, a pan fyddan ni ’n cael y ffasiwn ddŵr a fyddan ni ’n gael, dyna sut ti ’n gwybod na tŷ cerrig ydi o. A dwi ’m yn meddwl gaeth o’i adeiladu- dwi’n meddwl yn eithaf sydyn yn ôl yn un wyth pum deg ⁵³ felly gaeth o’i adeiladu, a dwi ’m yn meddwl ei fod wedi ’w adeiladu yn dy da iawn iawn dwi ’m yn meddwl. A hefyd, Glan Wern oedd enw’r cau cyn adeiladu fan hyn da ni ’n gwybod hynny. Wedyn, gwern, lle gwlyb di o’n de.”
88-89	Eluned	Eluned believes that it is cheaper to keep the storage heaters on throughout the day rather than turning them off and on again, a practice that would also mean that they would take a longer time to warm up. “What we tend to do is to leave [the heaters] on. Once they’re on, I leave them on because once you turn them off it costs more to turn them back on again, and it takes time to warm up. They’re not at a high temperature at all, they’re only at ‘two’ or ‘three’, just to keep the place airy”	
89	Eluned	Eluned and Glyn have installed an electric under floor heating system, which they have found to be prone to “hot	Erin “O ydi? Be wnaeth i chi feddwl am yr ‘underfloor heating?’”

⁵³ 1850s

	<p>spots” as they noticed that “the cats would fight for the warmest tiles”</p>	<p>Eluned “Ffrind i mi, sy’n trydanwr ddaru sôn, ‘cause ti ’n meddwl mewn gegin ti ’n meddwl o ‘sa ti ‘sho ‘radiator’ yn fan hyn a ‘radiator’ yn fan ’na a ti ’n gwybod? A wedyn ddeudodd o- a ddoth o ‘ma a ddaru o osod o i ni, a fuodd o’ m dau funud, a oedd o’n deud rhag ofn i ni peidio a’i wneud o’n iawn ddaru o neud o i ni, am- na i ei dalu o ond ddaru o neud job dda iawn i ddeud y gwir ynde. Mae gen ti ‘hot spots’ ‘ma- yr unig reswm da ni ’n gwybod am yr ‘hot spots’ ‘chos mae’r cathod yn cwffio am y teils, ia wedyn da ni ’n gwybod lle mae hi ’n boeth ofnadwy ‘chos fan ’no mae’r cathod yn ffraeo amdanyn nhw ia? Wedyn ti ’n gwybod mae ‘na rhai darna’n boethech na’i gilydd ‘llu pan mae nhw ’n cwffio.”</p>
--	---	--

Appendix J – Welsh-English data translations chapter five

Page no.	Name/s	Translation used in thesis	Source language data
96	Eleri	<p>Reflecting on her property purchase, Eleri noted that the local housing market played a decisive role in her decision making process;</p> <p>Erin What made you buy this house then?</p> <p>Eleri You know what (...) the price was definitely one thing. We looked at a few houses close to where I was living at the time (...) the prices are a bit higher in the town than they are in the village (...) and some of the other houses we saw in the village needed so much work. We wanted something that only needed a quick lick of paint before letting it out straight away, and this was the best out of a bad bunch really. We didn't buy this house with the intention of living in it you see [...]</p>	<p>Erin “Be wnaeth neud i chdi brynu'r tŷ yma yn sbesiffig yn y pentref?”</p> <p>Eleri “Ti 'n gwybod be.... [sigh] dwi'n meddwl pris yn un peth...'naethom ni sbio ar ychydig o dai yn 'dre a 'chydig o dai yn y pentref 'chos bo nhw 'n agos i tŷ mam a dad - lle o ni 'n byw ar y pryd hefyd ym... a mae prisiau yn dre dipyn uwch na yn y pentref ym...ac oedd rhai o'r tai erill gaethom ni weld yn Penrhyn hefo gymaint o waith hefyd arnyn nhw ag oedden ni isio rhywbeth lle fyswn ni 'n medru jyst rhoid côt o baent sydyn a cael tenant i fewn yn syth bin...ym...a hwn oedd fel the 'best out of a bad bunch' rili...ym ond 'naethom ni 'rioed brynu'r tŷ i fyw ynddo fo ti 'n gweld...”</p>

97		<p>Whilst Eleri stresses that the property’s energy rating is “between a B and a C, which is quite energy efficient”, she also notes that according to the EPC, more could be done;</p> <p>Eleri They said that we could put extra insulation or something underneath the floor, ‘cause the house is so old the tiles are directly on the soil so there isn’t anything- you know, to keep the heat in (...) But that was going to cost something like four thousand pounds, and it would only save ninety quid a year or something ridiculous like that [...]</p>	<p>“ ... mae tŷ ni ’n fan hyn yn- t’ bo mae gennym ni ‘double glazing’ mae gennym ni- mae Carl ‘di rhoi ‘extra insulation’ yn yr atig i fyny grisiau a ballu ... so mae tŷ ni ar ym ... rhwng B a C so mae’ o’n reit ‘energy efficient’ fel naethon nhw ddeud ‘sw ni ’n medru rhoid ... ym ... ‘extra insulation’ ne r’wbath ar y llawr ... ym achos dwi’n meddwl bo’r teils- ‘chos bo’r tŷ yma mor hen mae’r teils ar y pridd mewn ffordd a does na ddim byd....ti ’n gwybo be dwi’n feddwl? Ond oedd hynny ’n mynd i gostio fatha...dwi’n meddwl oedd y job yn costio pedair mil (£4,000) ag oedd o’n mynd i safio £90 y flwyddyn ne wbath ‘ridiculous’ fel ’na...”</p>
		<p>The dual notions of ‘good’ and ‘bad’ investments continue as Eleri discusses her choices regarding the purchase of appliances for her rental property.</p> <p>Eleri When we had done the house up and were ready to rent it out we bought a fridge-freezer, a washing machine and a cooker -brand new- and we paid extra to get a five year warranty on all of them. We haven’t had any issues at all with the fridge-freezer -touch wood- in these last five years, so it’s still like new (...) The tenants dropped a tin of paint on the halogen cooktop -smashed it- but her house insurance paid for that, so that’s brand new (...)</p>	<p>Eleri “Pan nathom ni brynu’r tŷ yn barod i’w rentio fo allan nathom ni brynu ym ‘fridge-freezer’, ‘washing machine’ a ‘cooker’... ‘brand new’ ‘llu ... a nathom ni gymryd fatha ‘warranty’ pum mlynedd- fatha talu ‘extra’ i gael y pum mlynedd warrant ar y...nwyddau i gyd ‘llu...a wedyn dani ’m ‘di cael dim- ‘touch wood’ [taps table] dim problemau o gwbl hefo’ ‘fridge-freezer’ yn y pum mlynedd- dim o gwbl so mae hi fatha newydd...ym...nath y ‘cooker’- nath y tenants ollwng y pot paent ar ben y top yr halogen top a smashio hwnnw...ond nath hi dalu am un...nath ‘Insurance’ tŷ hi ne wbath gyfro hwnnw so pan nathom ni symud i mewn i’r tŷ ...oedd ‘na gaead t’ bo ‘brand new’ arno fo a eto mae hwnna ’n edrych fel</p>

	<p>And the washing machine -[sigh]- we've had a lot of trouble with it, but we've got two months left on the warranty I think, so if anything else goes wrong in the next two months, then I just have to call the repairman and he fixes it for free, but I won't be renewing the warranty again. I think I'll have to buy a new one.</p> <p>Erin When you were buying them did you look at their energy rating at all?</p> <p>Eleri Not really (...) It was the price that I was concerned with at the time [...] Yeah (...) because I wasn't going to be the one using them anyway - tenants were 'gonna be the ones using them, and that's what I was able to afford at the time [...]</p>	<p>newydd- y 'washing machine' dan ni 'di cael [sigh] lot o broblemau 'fo hi ond mae genna i ...ddau fis dwi'n meddwl ar y 'warranty' ...ym so os di wbath yn mynd yn fwy- t' bo wbath yn mynd yn 'wrong' yn y dau fis nesa then dwi jyst yn ffonio'r boi Jason Clark a mae o'n trwsio hi am ddim i fi ond dwi ddim am 'renewio'r warranty' eto so dwi'n meddwl wrach fu rhaid i mi brynu 'washing machine' newydd.”</p> <p>Erin “Pan oeddet ti 'n prynu rhain oeddet ti 'n sbïo ar 'energy ratings' a ballu?”</p> <p>Eleri “Ym [sigh]...Dim rili 'de... pris ar y pryd y pris o ni 'n mynd am dan ti 'n gwybo be dwi'n feddwl.”</p> <p>Erin “Mae hynny digon teg tydi?”</p> <p>Eleri “Ia...yndi...ym just achos o ni'm yn mynd i fod yn defnyddio nhw beth bynnag – tenants oedd yn defnyddio nhw ond o ni'm – dyna o ni 'n medru fforddio ar y pryd...”</p>
98	<p>The above extract clearly demonstrates that Eleri's responsibilities as a private landlord clearly shaped her purchasing decisions. Eleri seems to demonstrate a concern for the maintenance and durability of the appliances, preferring to repair them rather than</p>	<p>“... dwi'n fin efo 'mhres 'de [laughs] dwi yn 'de... ond pan dwi'n cael rhywbeth newydd dwi'n 'exceition'n' lân ti 'n gwybo be dwi'n feddwl- a dwi'n jyst dwi'n 'grudgio' mynd allan i brynu un...so...”</p>

	<p>purchasing new ones as she “resent[s] going out to buy more”.</p>	
	<p>However, there are risks involved for the landlord when the responsibilities for paying the energy bills fall upon the tenants, as illustrated in the extract below.</p> <p>Eleri We put a prepayment meter in when we renovated the house, so you pay for your gas and electricity in “Spar” and you put your key into the meter to use it (...) Scottish Power installed it for free, so that tenants wouldn’t run up any debts [...]</p> <p>Despite understanding that “it’s obviously more expensive to buy gas and electricity this way” [...]</p>	<p>“Ym [sigh]...iawn...da ni ’n [sigh] ers pan oedden ni ’n rentio'r tŷ allan dani 'di rhoid fatha ‘prepaid meters’ i fewn so ti 'n prynu dy 'lectric yn Spar a prynu dy gas yn Spar a ti 'n rhoid dy gerdyn i fewn yn yr ‘meter’ i gael y trydan a'r nwy 'llu...ym...a nath Scottish Power newid hynnu i ni achos bo ni 'im isio'r tenant redeg dyledion i fyny gatho ‘ni 'r ‘meters’ i fewn am ddim a wedyn ‘obviously’ mae'n ddrytach prynu trydan a nwy fel ‘na na 'sa chdi 'n talu ‘direct debit’ bob mis neu bob chwarter ne be' bynnag...ond i newid yn ôl i'r ‘meters’ yna fysa ‘ni 'n gorfod talu so dyna pam dani heb neud ond mae'r fatha'r ‘supply’ a bob dim yn ‘brilliant’ dani 'rioed di cael dim problemau 'fo nhw o gwbl jyst bod o dipyn bach yn ddrud.”</p>
99	<p>Eleri had retained the property’s prepayment meter;</p> <p>Eleri Well, if I wasn’t moving house and if I didn’t have to pay -I don’t know how much it costs to change back to a quarterly tariff mind- then I would change back because I know it’s cheaper.</p>	<p>“Wel os faswn i ddim yn symud tŷ- gobeithio symud tŷ a 'swn i'm yn gorfod talu...dwi 'm yn gwybod yn iawn faint mae o'n gostio i newid ‘meters’ yn ôl i fel mod i'n medru talu o bob mis then 'swn i'n ei newid o nol 'chos dwi'n gwybod fod o'n rhatach ym...”</p>
99-100	<p>Eleri When we’d just moved in I took a look at [the meter] on the first morning before going for a shower, and when I checked again afterwards I saw that the shower had cost me 20p. I was like “oh</p>	<p>“...am bod ni ar y ‘prepaid meter’ dwi’n gweld fatha dani ’n dod i lawr grisiau yn bora a dwi’n checio faint o t ‘bo faint o credit sy genna i ar ôl yn y ‘lectric a pan nathom ni symud i fewn i’r tŷ yn cychwyn ... nes i gael ‘look’ arno fo fatha’r bora cyntaf ne</p>

		<p>my God!”, I have to cut down the time I spend in the shower you know. So I used to wash my hair every morning, but now I wash my hair every three days maybe -but I’ll still have a quick shower every day- so on the days when I do wash my hair it will obviously cost me 20p [...]</p>	<p>wbath fel ‘na a mynd am ‘shower’ ... a ddois i allan a nath y ‘shower’ gostio 20p i fi... ag o ni fatha ‘Oh my God’ rhaid i fi gytio lawr ar faint mor hir dwi’n ‘shower’ ti ’n gwybod be dwi’n feddwl? Wedyn o ni ’n arfer golchi ngwallt bob bora wan fyddai ’n golchi bob tri diwrnod wrach a fyddai’n cael ‘quick shower’ a wedyn ar y diwrnod pan fyddai ’n golchi ngwallt ‘obviously’ wrach neith o gostio 20p i fi ond...mae ‘na petha bach genna i fatha’n ymwybodol o ti ’n gwybod be dwi’n feddwl? Ond ym ia ...”</p>
100	Alys	<p>Alys I grew up on a farm near Aberdaron, attended the local [primary] school and received my education in the medium of Welsh. I then went on to the local secondary school and college before going to university in Bangor [...] so in terms of when I was growing up -obviously we’re in a rural area- that’s important to me -family’s important- so staying in the locality has always been the priority for me rather than following any particular career.</p>	<p>“... dwi yn hogan ffarm o Aberdaron... wedi mynd i ysgol leol a ‘di cael fy addysg i gyd drwy gyfrwng y Gymraeg... ar ôl mynd i ysgol gynradd, mynd i ysgol uwchradd yn Botwnnog, wedyn ymlaen i Coleg Meirion-Dwyfor ac yna ymlaen i Coleg Normal yn Bangor oedd o ar y pryd, yn gwneud gradd mewn cyfathrebu. Ar ôl hynny nesi neud cwrs gweinyddol yng Ngholeg Menai am flwyddyn, a cyn cael swydd fatha cynghorydd gyrfa ‘dan hyfforddiant hefo cwmni gyrfa... O ran pan o ni ’n tyfu ‘fyny felly ’n amlwg oedd... ardal wledig- oedd hynny ‘n bwysig i fi, teulu’n bwysig felly wrth gynllunio be o ni ‘sho neud yn y dyfodol, y flaenoriaeth oedd gallu aros yn lleol yn hytrach na mynd i ddilyn rhyw yrfa penodol hefyd i ddeud y gwir wrtha chdi.”</p>

101	<p>Alys emphasised the benefits of returning particularly with reference to her children by drawing on the proximity to grandparents, aunts, uncles and cousins, belonging to a “Welsh [speaking] community”, and the “quality of local schools -again in the medium of Welsh”, as key points to support her view that she had chosen a good place to raise a family.</p>	<p>“I fi yn bendant, mae’r manteision lot yn fwy na’r anfanteision o ran t’bo bo ni ’n teulu mewn ardal wledig...darpariaeth sydd ar gael yn yr ysgolion, eto drwy gyfrwng y Gymraeg- byw mewn cymuned Gymraeg, ym ffrindiau’...”</p>
	<p>Alys Unfortunately house prices were <u>ridiculous</u>. We <u>never</u> would have been able to afford to <u>buy</u> a house of this size. This house belongs to my family you see, my parents had been renting it out to holidaymakers and for short-term leases. So when tenants were moving out and the house became empty it was offered to us, so we took our chance and moved in.</p>	<p>“Yn anffodus, oedd prisiau tai aballu yn <u>hurt</u> o uchel a ‘sa ni <u>byth</u> ‘di gallu ‘fforddio <u>prynu</u> tŷ y maint ‘sy genno ni felly. Felly tŷ yn y teulu- yn fy nheulu i ydi o mewn ffordd...a’n rhieni wedi bod yn ei osod o i ymwelwyr a wedyn wedi bod yn rentu o am gyfnodau... A wedyn, oedd na bobl yn mynd o ‘ma, a wedyn...gafon ni ’r cynnig na wan ma’n cyfle ni os oedden ni isio dod yn ôl bod y t? ’n wag felly... Felly <u>lwcus</u> tu hwnt...ia, ia.”</p>
	<p>Alys’ work travel pattern in particular often exceeds fifty miles a day, and in order to gain access to childcare services and leisure activities for the children, the family must travel “for a good twenty minutes” (a distance of roughly twelve miles), to get to the nearest market town. As she and her husband are both in full-time employment, Alys deems it necessary for them to each have a car, the running and</p>	<p>“... mae’n rhaid i ni gael dau gâr... mae hynny ’n hanfodol. A t’bod, dyna lle mae ‘chunk’ mawr o’n cyflog ni yn mynd, ond fel dwi’n deud sawl gwaith heno, dyna ‘di ’r pris, ond i <u>fi</u> mae’n bwysicach cael byw yn yr ardal yma... a hyd yma, bod yn lwcus bod fi yn gallu byw a gweithio a dilyn gyrfa yn y maes yna o’r pen yma felly ynde.”</p>

		<p>maintenance of which takes “a large chunk” out of the couple’s earnings.</p>	
102	<p>Alys [...] going back to thinking about applying for work, people that are from Pen Llŷn have the attitude that [...] if you want to stay you have to be prepared to travel quite a bit every day, but that’s the price I’m willing to pay in order to stay here. <u>That’s</u> more important to me than a salary or a career.</p> <p>Indeed, Alys’ contention that “we <u>have</u> to have two cars”</p>	<p>“O ran yr anfantais... y <u>costau</u> o ran trafaelio felly, ym eto mynd yn ôl i feddwl neud cais am swydd ac yn y blaen, os ti ‘di cael dy eni a dy fagu yma, yna ti hefo ’r agwedd, wel mae’n <u>rhaid</u> i chdi fynd os ti ‘sho mynd i gael gwaith ne be bynnag, mae’n rhaid i chdi fynd o ‘ma felly... ne’ mae’n rhaid i chdi drafaelio ychydig yn ddyddiol os lici di, ond dyna ‘di ’r pris dwi’n fodlon dalu er mwyn cael byw yn yr ardal yma- mae <u>huna’n</u> bwysicach i fi na... be ‘di ’r cyflog ne’ swydd os lici di felly...”</p>	
	<p>Alys adopts a different strategy by “think[ing] twice <u>before</u> getting in the car”. Here, she emphasises the importance of taking the time to find alternative strategies to making wasteful journeys, which according to Alys is something that her husband has yet to have learned;</p> <p>Alys Dylan’s more likely to jump in the car whereas I’m more likely to think of ways to avoid going [to town] today or something. Dylan does this on a regular basis, where he comes back [from town] and then</p>	<p>“Ia, mae na wahaniaeth... ‘sw ni’n meddwl ddwywaith <u>cyn</u> neud o i gymharu a ella ‘sa Dylan - Mae Dylan yn fwy o ‘jump’ yn car a mynd felly, lle fyswn i fatha’n meddwl oes na ffordd lle fedra i beidio ne osgoi mynd heddiw ne beth bynnag felly ynde... Fedraf i’m rhoid enghraifft i chdi ond ella, ti ’n gwybod yn aml iawn neith Dylan [chwerthin] fynd ac ella dod yn ei ôl a penderfynu, o dwi isio rhywbeth arall- fedraf i’m rhoid enghraifft be, a wedyn neith o jest mynd felly yn de yn hytrach na trio <u>meddwl</u>. Fatha dwi’n deud mae mam dal yn meddwl fatha argoel fawr mae Pwllheli’n bell, mae hi ‘mond n mynd t’bod fatha dwi’n deud, unwaith yr w’sos os hynny felly ‘de. So dwi’n meddwl fod o ‘fo ’r cenhedlaeth a hefyd yn agwedd ni o ran fatha... o ia,</p>	

		remembers that he needs something else, and so he'll just go and get it instead of trying to <u>think</u> first.	fyddai 'm yn hir... so dwi'n meddwl oherwydd bod ni 'di arfer mynd o ran gwaith- yn dod yn ôl i be o ni 'n deud, t'bod eto o ran os ti isio mynd, ti jest... ti 'n gorfod mynd i car a derbyn. Mae'n rhaid i chdi drafaelio 'llu ynde."
102-103		Alys believes that her attitudes were influenced in part by her mother, who lives and works on a farm, and "won't just pop into town. She has to have <u>more</u> than one reason to go".	"Dwi'n meddwl mae mam yn t'bod gwaredu dwi'n meddwl gymaint dwi'n trafaelio, ond o ran gweithio –' cos 'di byw a gweithio ar y ffarm, t'bo ella 'sa nhw 'm yn mynd o na am w'sos gyfer, jest mynd i Bwllheli i neud neges unwaith yr w'sos, ella unwaith bob pythefnos a mae hi dal i waredu. Neith hi 'm mynd i dre a jest picio... mae'n rhaid iddi gael <u>mywy</u> na un rheswm i fynd felly ynde, lle fysa ni fatha... 'O dwi 'di anghofio hyn a mae isio hyn'... o, 'jump' i car, deuddeg milltir i Pwllheli i nôl ella jest rhyw ambell peth..."
103		Alys also acknowledges generational differences in relation to practice, as she states that she is of a generation that is "used to driving for work, so if you want to go [anywhere] you have to go in a car so you accept it".	"Fatha dwi'n deud mae mam dal yn meddwl fatha argoel fawr mae Pwllheli'n bell, mae hi 'mond n mynd t'bod fatha dwi'n deud, unwaith yr w'sos os hynny felly 'de. So dwi'n meddwl fod o 'fo 'r cenhedlaeth a hefyd yn agwedd ni o ran fatha... o ia, fyddai 'm yn hir... so dwi'n meddwl oherwydd bod ni 'di arfer mynd o ran gwaith- yn dod yn ôl i be o ni 'n deud, t'bod eto o ran os ti isio mynd, ti jest... ti'n gorfod mynd i car a derbyn. Mae'n rhaid i chdi drafaelio 'llu ynde."
		Alys describes her life as "literally being in a routine", as having a routine was viewed as important for the children,	Alys "...da ni 'n byw mewn, llythrennol mewn rwtin ynde [chwerthin]."

		<p>whilst also serving as a practical way to “help get the day started”. What quickly became evident as Alys recounted her typical workday routine was that the television viewing had become an integral part in getting things done in the morning.</p>	<p>Erin “O OK, diddrol, elli di ddeud mwy am hynny?” Alys “Mae rwtin yn bwysig iddyn <u>nhw [y plant]</u>, a hefyd dwi’n meddwl bod o jest- ne ‘sa o ran jest cael trefn yn boreau ac yn y blaen felly ynde. Dim bo ni ’n <u>hollol</u>, hollol ‘strict’, ond ti ’n teimlo bo chdi- dim yn hollol gaeth ‘llu ond mae o’n help i’r diwrnod gychwyn [chwerthin], mor rhwydd a phosib os oes na ‘sense’ yn huna ‘llu.”</p>
103-104		<p>Alys We have a little someone who gets up very early - our daughter wakes up at six o’clock every morning- so she knows that she can come downstairs and watch television until Dylan and I get up around 6.30. Also, because there’s a bit of a rush in the mornings given that we both work full time -maybe it’s for the wrong reasons- and especially now with “Cyw” on S4C [laughs]⁵⁴ (...) But you can get one of [the children] ready for school, and then send them in front of the telly while you get the other one ready -and I know it’s completely wrong and goes against everything [laughs]- but it does help structure the mornings.</p>	<p>“Mae gennym ni rhywun sy’n deffro yn gynnar ofnadwy, mae hi ’n deffro tua chwech bob bora. A wedyn, mae hi ’n gwybod geith hi ddod i lawr a rhoid teledu ymlaen, ac ella fydd hi’n reit hapus nes fydda ni ella ’n codi hanner awr wedi chwech i saith aballu ynde. A hefyd, oherwydd mae hi ’n dipyn bach o ‘rush’ arna ni yn bora gan bod y ddau ohono ni ’n gweithio llawn amser- ym ella bod hyn am y rhesymau anghywir- ond mae o’n jest rhywbeth o leiaf- yn enwedig hefo Cyw ar S4C bellach [chwerthin], mae o jest yn... OK ti ’n cael trefn ar un wedyn dos di i sbio ar teledu wan, a dwi’n gwybod fod o’n hollol ‘wrong’ a mynd yn groes i bob un dim [chwerthin]... Ond bod o’n help bod o yna ynde, dyna ydi o.”</p>

		<p>Alys We decided that we would only have a television in the parlour. We deliberately don't have a television in the kitchen so that it doesn't distract anyone during dinner. So <u>that</u> was a deliberate decision that we made, that we don't have a television in the kitchen nor in the bedrooms either.</p>	<p>“Yndi, ond be nathon ni neud penderfyniad ohono oedd felly na dim ond yn parlwr fysa na deledu ynde. Da ni ‘di ar bwrpas peidio cael yma yn gegin er mwyn cael... ar ran pan mae pobl yn dod yma, fama da ni’n tueddu i fod felly. Amser swper ac yn y blaen ynde, fel bod na’m byd yn mynd a sylw felly, so oedd <u>hwna</u> ’n benderfyniad natho ni, bod ni ddim yn cael teledu yn y gegin, nag yn y llofftudd chwaith...”</p>
105		<p>Ceris coped with such material constraints by acclimatizing herself to the cold;</p> <p>Ceris I just hardened myself to the cold really. So I tend to find myself being a bit more on the cold side rather than the warm.</p>	<p>“Pan oeddwn i ‘di symud i fyw yma ymdwi ‘di bod yma chwech rŵan yndo, so tair blynedd cyntaf oedd gennai ‘imbyd ag oedd o’n oedd hi ’n dy oedd o’n dy oer ofnadwy achos doedd na’m wrth bod drws nesa fel mae o ynde oedd o’n dy oer iawn iawn...a wedyn ym...a jyst caledu’n hyn rili i’r oerni... ..ia...wedyn so dwi’n tueddol braidd i fod...fwy ar ochr fod rhy oer na boeth ynde i fi ’n hun ynde.”</p>
106	Ceris	<p>The resulting climate of uncertainty at work, coupled with being on a reduced income prompted Ceris to “be a bit more careful with [her] wages”, as she now regarded herself to be on a “<u>real</u> economy streak”.</p> <p>Ceris I really have to watch what I spend on. For example –before- I would sometimes put on a small load to wash, but now I watch what I’m doing. It does make you realise that you have to cut back on a few things</p>	<p>“Wel beth sy ‘di digwydd ydi bo fi ‘di gorfod bod ychydig bach mwy ofalus hefo fy nghyflog ac yn gorfod cwtogi ar rhai pethau oherwydd bod y cwmni dwi’n gweithio iddo wedi neud rhyw gamgymeriad mawr â’n nghyflog. A wedyn mae genna i waith talu ‘nôl, so rili dwi ar hyn o bryd ar ‘economy streak’ go iawn ynde.”</p> <p>Erin “Gan adlewyrchu ar ein cyfweiliad cyntaf ni, sut nath diarad am eich defnydd ynni chi wneud i chi deimlo?”</p> <p>Ceris “Wel ‘aru fo neud fi – ar y pryd wrth gwrs – ar ôl i chdi fynd, ‘aru fo yn bendant yn neud fi feddwl amdano fo...”</p>

		<p>-I have become more aware that someone has to cut back a little bit- adapt to your means as they say.</p>	<p>Yn trio meddwl be ‘sa orau rili, ond wrth gwrs, amser yn mynd heibio a anghofio amdano fo – fel o ni ’n egluro gynna – camgymeriad wedi bod hefo fy nghyflog i – bo fi ’n rili gorfod watchad be dwi yn wario felly ar - wrach ‘sw ni, jyst fel enghraifft – dwi ’m yn gwybod os ydi o’n berthnasol – wrach ‘sw ni ’n neud llwyth o olchi, llwyth bach ynde, ond rŵan dwi jyst yn watchad be dwi’n neud. Mae o yn neud i rhywun sylweddoli bo rhaid i chdi weithiau bod yn torri i lawr ar bethau. Eto fyth yn ôl ‘wan, am bod hyn ‘di digwydd ydw i yn fwy ‘aware’, math yna o beth, bod rhywun yn gorfod torri ‘lawr ‘chydig bach ynde rili – ‘adapt to your means’ math o beth fel mae nhw ’n dweud ynde...”</p>
		<p>In a similar vein to Eleri’s narrative, Ceris exercised control over her finances by using the prepayment meter that she had inherited with the property as a monitoring tool; stating that having a meter allows her to “keep an eye” on her finances, and gives her “an idea of what I need to put in every week”;</p> <p>Ceris Say that I wanted to put [clothes] on to wash, I’ll check to see how much money is left in the meter [first]. I’ll just wait until I have a full load -even though I have a half load waiting. If [the washing</p>	<p>“Be dwi’n weld sy’n hawsach i gadw ‘check’ ynde ydi bod gennai ‘meter’ a gennai rhyw syniad o faint ydw’i isio rhoid ynddo fo bob wythnos a wedyn fyddai’n rhyw cadw golwg a wrach ‘sw ni lle sw ni ’n meddwl dwi ‘sho rhoi golchi ‘on’ a bo fi ’n jyst checkio faint o bres gennai ’n ‘meter’ nai ’m neud...na’i jyst gwitchad tan fod gennai lwyth llawn er bo ‘na ‘half load’ ynddo fo i mi os ‘di o’n mynd ‘on’ waeth i mi roid llwyth iawn ynddo fo ‘on’ mi wna’i watchad a dwi’n ffeindio bod cael ‘meter’ yn lot hawsach mae rhywun yn cadw golwg arno fo a fel ti ’n deud os dwi’n gweld bod o’n isel na’i ‘certainly’ fynd allan yr holl ffordd i’r pentref i nôl pres i roid ynddo fo fel wyt ti ’n deud na i- botel dŵr poeth... ‘bed socks’, blanced, fflîs a dyna fo ond dwi’n</p>

		machine] is going on then I might as well put a proper load in [...]	meddwl bod...dwi'n meddwl bod cael 'meter' a wedi neud fi 'n fwy allu cadw 'check' ar betha"
107		<p>These changes were part of the HA's wider improvement programme, which required them to update their housing stock in order to adhere to Government policy and targets to improve their energy efficiency;</p> <p>Ceris When the housing association came 'round I only had a fireplace. They gave me a choice of either an electric fire or gas [central heating], and I think that in some places they offer a wood burner and oil -but here they just offered [bottled] gas or electric [...]</p>	<p>"Wel pan oedd cartrefi cymunedol yn dod rownd a'n rhoid cynnig i ni...wel dim ond lle tân oedd gen i cyn i cartrefi cymunedol ddod a rhoid- oedden nhw 'n rhoid dewis o.... tân trydan ne nwy os swni'n cymryd nwy a dwi'n gwybod yn rhai llefydd dwi 'm yn meddwl mod i wedi cael cynnig- dwi'n meddwl yn rhai llefydd mae nhw 'n cynnig 'wood burner' ac olew ynde...ond dwi'n meddwl yn fan 'ma na jyst cynnig rhoi nwy a wedyn dwy silindr nwy sydd genna'i a lle tân"</p>
		Ceris noted that as part of the stock improvement programme, the HA were also "getting rid of fireplaces" throughout their housing stock. Going against the trend of fireplace removal, however, Ceris had managed to retain her fireplace, and chose to have the LPG-fired central heating system, as she "wouldn't want electric heaters"	"Faswn i ddim yn mynd ar 'electric heaters' ynde yr unig beth wrach 'sw ni- o ni 'n reit- 'sw ni 'di bo'n reit hapus yn cael lle tân yn cynhesu 'raidators' ond mae huna'n beth sy'n mynd allan o ffasiwn rŵan."
108		When asked whether or not she felt that being off-mains gas was a significant issue for her, Ceris replied;	"Ond go iawn, y ffordd dwi'n sbïo ar hynna ydi, 'di o'm yn broblem achos da ni 'n gwybod na fedrith o'm dŵad yma. So fedri 'di 'm mynd fatha cael 'mains gas' a betha felly ti 'n feddwl ia? Wel i mi, dwi 'm yn sbïo arno fo fatha fod o'n broblem, 'chos

	<p>Ceris Well I don't think of it as a problem, 'cause you just accept that [mains gas] isn't available and so you just have to go with whatever is available. That's how I look at it anyway, because I get gas cylinders delivered, and I think it's a very good service 'cause all you need to do is just phone them up and they deliver it -so I don't see it as a problem.</p> <p>This preferred purchasing pattern may be related to Ceris' perception that "the cost of all [heating] fuels are rising", which could further impact her already precarious financial situation.</p>	<p>wyt ti jyst yn derbyn na 'di o'm i gael, so wyt ti jyst yn mynd 'fo be sy'n rhaid i chdi. Felly dwi'n sbio arno fo ynde, 'chos 'sdi – dwi'n cael nwy mewn silindr neu beidio, ac i mi mae o'n wasanaeth da iawn 'chos y cwbl ti 'n neud 'di jyst ffonio 'fyny, a mae nhw 'n dŵad a 'delivero' fo... A dwi 'm yn gweld hynna 'n broblem 'de."</p>
	<p>When asked whether or not she would consider switching her heating fuel provider due to rising fuel prices, Ceris replied; "yes I have thought about it -but having said that I just think that what [providers] offer come in swings and roundabouts, so I don't know- but I will say that I'm <u>definitely</u> more careful these days".</p>	<p>"Do dwi wedi bod yn meddwl, ond wedi dweud hynny 'de, dwi jyst yn... dwi'n meddwl dwi'n rhyw deimlo bod rheini 'n rhyw 'swings and roundabouts' hefyd – dwi 'm yn gwybod, dwi 'm yn gwybod. Ond sw ni 'n dweud 'mod i'n <u>bendant</u> fwy gofalus. Yn bendant."</p>
108-109	<p>As such, rather than using the market to alleviate her situation, Ceris instead chose to ration her use of the central heating system.</p>	<p>"... ym dwi 'm yn rhedeg i rhoid y gwres canolog ymlaen wrach na codi a llenwi botel dwr poeth...a cadw'n gynnes ne' dwi'n braidd yn....dwi'n braidd am fod yn tŷ 'fo cot a...a wrach am bod rhywun yn meddwl am....wel wedi bod heb wres canolog mi mae</p>

	<p>Ceris I don't rush to put the central heating on. I'd maybe get up and fill a hot water bottle and keep warm. I tend to be wearing a coat when I'm at home (...) and maybe 'cause I didn't used to have central heating, it's kind of made it a bit of a <u>luxury</u>, so I don't tend to put it on all the time.</p> <p>Moreover, Ceris justifies her limited use of the central heating by arguing that “the house is small, even if you put the central heating on it doesn't need to be on for long”</p>	<p>cael gwres canolog yn ychydig bach o ‘luxury’ so dwi ddim yn un...dwi ddim yn un sydd yn rhoid o rownd ar hyd yr amser...a ...”</p>
109	<p>Ceris felt that fireplaces have a key role to play in alleviating the pressures faced by those with similar, limited financial means;</p> <p>Ceris There are a lot of houses now that don't have fireplaces, and I feel that getting rid of the fireplaces was a big mistake 'cause I know that when they were renewing the council houses, people weren't given the choice -“what do you want a gas fire or an electric one?”- But I think the biggest mistake was taking out the fireplaces, 'cause you can go look for some wood and maybe get a bag of coal to last -at least then you'll have some warmth. Getting coal isn't a problem, you can get a bag of coal in any garage or supermarket,</p>	<p>“...mae ‘na lot o’r tai wan ddim hefo lle tân. Ac i mi ‘de, dwi’n teimlo fod hynna ‘di bo’n gamgymeriad mawr ‘de , achos dwi’n gwybod bod y tai Cyngor ‘ma a bethau felly, pan oedden nhw ’n adnewyddu nhw ‘fyny ‘de... Jyst ‘im ‘di gwneud dim dewis pan oedden nhw ’n tynnu’r gratiau ‘ma allan, be mae nhw isio, tân nwy neu tân trydan? Ond dwi’n meddwl mai’r camgymeriad mawr mae nhw ‘di ‘neud ydi tynnu’r gratiau ‘chos fedri ‘di fynd i chwilio am goed a wrach cael bag o lô ‘fo coed i barhau- ‘at least’ mae gen ti wres hefo hynny... So, os oes gen ti le tân, dydi cael glo ddim yn broblem achos mae gen ti – fedri ‘di hyd yn oed fynd i unrhyw archfarchnad neu lle garej ne rhywbeth lle fedri di jyst brynu bag o lô. A fel dwi’n dweud, yn byw’n cefn gwlad, mae gen ti ddigon o goed ‘sy’n disgyn go iawn. So i mi, dwi ’m yn bersonol yn</p>

		<p>and like I said, living in the countryside, there are plenty of trees that have fallen down [...] Not everyone can afford to fill a tank of oil to get some warmth, whereas when you have a fireplace you can do something about it and keep a fire going.</p>	<p>gweld hynna 'n broblem ynde. Ond dwi'n meddwl 'bo nhw wedi gwneud camgymeriad mawr, achos dwi'n gwybod, dwi 'di sôn hefo rhywun oedd yn gweithio i'r Cyngor [Gwynedd] rhyw dwy flynedd yn ôl, yn enwedig pan oedden nhw 'n 'neud newidiadau i'r tai Cyngor – yn 'neud gwelliadau iddyn nhw- bod nhw yn tynnu nhw allan [llefydd tân], ac yn rhoid nwy neu olew. Wel dwi'n gwybod 'fod o 'di bod yn broblem gan lot wrach sydd, dweud, mam a phlentyn a'i bartner yn symud i fewn i dŷ... Fedrith nhw ddim jyst 'fforddio i gael llenwi tanc o olew ynde i gael gwres, 'whereas' lle mae gen ti le tân, fedri di wneud rhywbeth i gynnal, cadw tân fynd fedrat? So dwi 'm yn gwybod.”</p>
109-110		<p>Ceris felt that fireplaces have a key role to play in alleviating the pressures faced by those with similar, limited financial means;</p> <p>Ceris There are a lot of houses now that don't have fireplaces, and I feel that getting rid of the fireplaces was a big mistake 'cause I know that when they were renewing the council houses, people weren't given the choice -“what do you want a gas fire or an electric one?”- But I think the biggest mistake was taking out the fireplaces, 'cause you can go look for some wood and maybe get a bag of coal to last -at least then you'll have</p>	<p>“...mae 'na lot o'r tai wan ddim hefo lle tân. Ac i mi 'de, dwi'n teimlo fod hynna 'di bo'n gamgymeriad mawr 'de , achos dwi'n gwybod bod y tai Cyngor 'ma a bethau felly, pan oedden nhw 'n adnewyddu nhw 'fyny 'de... Jyst 'im 'di gwneud dim dewis pan oedden nhw 'n tynnu'r gratiau 'ma allan, be mae nhw isio, tân nwy neu tân trydan? Ond dwi'n meddwl mai'r camgymeriad mawr mae nhw 'di 'neud ydi tynnu'r gratiau 'chos fedri 'di fynd i chwilio am goed a wrach cael bag o lô 'fo coed i barhau- 'at least' mae gen ti wres hefo hynny... So, os oes gen ti le tân, dydi cael glo ddim yn broblem achos mae gen ti – fedri 'di hyd yn oed fynd i unrhyw archfarchnad neu lle garej ne rhywbeth lle fedri di jyst brynu bag o lô. A fel dwi'n dweud, yn byw'n cefn gwlad, mae gen ti ddigon o goed 'sy'n disgyn go iawn. So i mi, dwi 'm yn</p>

		<p>some warmth. Getting coal isn't a problem, you can get a bag of coal in any garage or supermarket, and like I said, living in the countryside, there are plenty of trees that have fallen down [...] Not everyone can afford to fill a tank of oil to get some warmth, whereas when you have a fireplace you can do something about it and keep a fire going.</p>	<p>bersonol yn gweld hynna 'n broblem ynde. Ond dwi'n meddwl 'bo nhw wedi gwneud camgymeriad mawr, achos dwi'n gwybod, dwi 'di sôn hefo rhywun oedd yn gweithio i'r Cyngor [Gwynedd] rhyw dwy flynedd yn ôl, yn enwedig pan oedden nhw 'n 'neud newidiadau i'r tai Cyngor – yn 'neud gwelliadau iddyn nhw- bod nhw yn tynnu nhw allan [llefydd tân], ac yn rhoid nwy neu olew. Wel dwi'n gwybod 'fod o 'di bod yn broblem gan lot wrach sydd, dweud, mam a phlentyn a'i bartner yn symud i fewn i dŷ... Fedrith nhw ddim jyst 'fforddio i gael llenwi tanc o olew ynde i gael gwres, 'whereas' lle mae gen ti le tân, fedri di wneud rhywbeth i gynnal, cadw tân fynd fedrat? So dwi 'm yn gwybod.”</p>
--	--	--	---

Appendix K – Welsh-English data translations chapter six

Page no.	Name/s	Translation used in thesis	Source language data
121	Eleri	<p>The following exemplar however shows that what is deemed as ‘bad practice’ has the potential to extend beyond the mere notion of excess;</p> <p>Eleri We won’t stop doing something because it’s using too much energy if you know what I mean (...) Like when we first moved into the house (...) Carl’s sister was living nearby by herself, so Carl went to see her one evening and she was cold in her own house and she was sitting there under a quilt. So he said, “What are you doing? It’s freezing here”, you know (...) “Oh I’m trying to save money”, so she wouldn’t put the heating on because of that (...) We also visit friends quite often, and if it’s cold they offer a blanket, you know (...) which is fair enough really [...]</p> <p>Erin That’s interesting, what you said about your friends offering you blankets. Is that something that happens often?</p> <p>Eleri Well I don’t know actually (...) It was a bit of a joke to begin with, we were like “A blanket?!” [sarcastically] (...) But then, why not? People are definitely struggling more and more with money. But we have other friends -when we visit them</p>	<p>Eleri ...da ni yn reit... ymwybodol- nawn ni ddim peidio g’neud w bath am bo ni ‘di defnyddio gormod o egni ti ’n gwybod be dwi’n feddwl...na da ni ’n reit...pan na thom ni symud i fewn i’r tŷ yn cychwyn...oedd chwaer Carl yn byw mewn tŷ ei hun...ag aeth Carl yna i weld hi un noson ag oedd hi ’n oer yn ei thŷ hi ag oedd hi ’n ista yna hefo cwilt. A ‘ma fo ’n deud wel be ti ’n neud mae hi ’n ‘freezing’ ‘ma de...o dwi’n trio safio pres so oedd hi ’im ‘di rhoid y gwres on achos oedd hi ’n ...ag yn aml da ni ’n mynd i t? ’n ffrindiau...a wedyn os di hi ’n oer mae nhw ’n cynnig blanced i chdi ti ’n gwybod be dwi’n feddwl... ‘whitch’ ...sy’n ‘fair enough’ t’bo-dwi’n dallt fod o’n wahanol os ‘gen ti blant ‘chos ti ‘sho ’r tŷ fod yn gynnes ne beth bynnag...ond ym...dwi’n meddwl fod y ddau ohonon ni ’n reit...ymwybodol...</p> <p>Erin Mae hunan reit ddiddorol hefo dy ffrindiau ‘di ’n cynnig blancedi aballu- ydi hunan w bath sy’n digwydd mwy a mwy aml ti ’n meddwl o gwmpas fan ‘ma ynta?</p>

		we have to strip ‘cause it’s so hot there, ‘cause the heating is on all of the time.	Eleri Wel na dwi ’m yn meddwl- dwi ’m yn gwybod ‘actually’...oedd o’n dipyn bach o jôc yn cychwyn o’chdi fatha blanced? [sarcastic tone] T’bo...ond wedyn...pam ddim ynde? Ti’n gwybod be dwi’n feddwl? Ym...mae pobl yn stryglo mwy a mwy ‘fo pres ‘definitely’...ond mae gennym ni ffrindiau erill- da ni ’n mynd i tŷ nhw a ti ’n stripio mae hi mor boeth yno ti ’n gweld achos mae’r gwres on... trwy’r adeg de...ym...a dydi nhw ddim yn ‘energy efficient’ o gwbl- neith nhw roid ‘dish washer on’ efo just platiau un pryd ynddi hi- ti ’n gwybod be dwi’n feddwl...ym...ia dwi ’m yn gwybod- ma gwahanol bobl yn wahanol I ‘suppose’...
122		For example, while some of her friends kept the heating on “all the time”, prompting their guests to remove a layer of clothing, others would offer their guests blankets if it was cold The last sentence of Eleri’s quote, however, suggests that social norms within her community are changing. Eleri seems to be more accepting of the use of blankets to keep guests warm as “people are definitely struggling more with money”,	
122-123	Eluned and Glyn	Eluned and Glyn Gwilym for example, both of whom were in their late fifties at the time of their interview, discussed at length their preference for a well lit home; Eluned I don’t like it, you know, if you’ve got a dark place -a dark house even when the lights are on- it’s what old people do. Old people tend to have one little light on in the entire house -I <u>hate</u> that feeling. I want light to around me. It’s all right to [turn the lights down] in the evening [Directed at Glyn], but every time we go to your mother’s I start to think “Gosh, is she at home? There’s not a single light on anywhere!”	Eluned Dydw i ddim yn licio – ti ’n gwybod os oes gen ti rhyw le reit dywyll, tŷ tywyll hefo golau ymlaen – bo chdi ’n hen ia? Hen bobl i gyd hefo rhyw un golau bach, a mae’n <u>gas</u> gen i’r teimlad yna, dwi ‘sho golau o ‘nghwmpas. Wedyn dwi’n licio golau o ‘nghwmpas ynde, dwi ’m yn licio mynd i – iawn neud o mewn amser gyda’r nôs rho fo i lawr, ond [wrth] mynd i tŷ dy Fam bob tro, ti ’n meddwl argoel ydi hi yna? Does ‘na’ m un golau ‘mlaen ‘na yn unlle. Glyn Mae hynna ’n rhan o’r diwylliant dydi – ei hoed – ei chenedlaeth <u>hi</u> ‘di hynna ynde.

		<p>Glyn That's part of the culture isn't it -for her age- for <u>her</u> generation that is</p> <p>Eluned Yes. You don't put lights on -and you think, "Gosh, I don't like that feeling" -of being old- not for me anyway. So I like having light -switching it on. I like to show that I'm here and something is going on here. To me that's important, just to show that there's life here.</p>	<p>Eluned Ia, ti 'm yn rhoid golau ymlaen ynde. A ti 'n meddwl, ew – dwi 'm yn licio rhyw deimlad rhywun hen i fi – wedyn dwi'n licio cael golau, rhoid 'switch on' – dwi'n licio dangos bo fi yma a bod 'na rhywbeth yn digwydd 'ma. I fi mae'n bwysig jyst dangos mae'r lle'n fyw, mae pethau'n digwydd....</p>
124-125	Eluned	<p>One such participant was Eluned (50s), who reflected upon how her upbringing in a frugal household has given her little love for gadgets, unlike her daughter;</p> <p>Eluned My parents weren't materialistic in any way and I think that's been passed down to me. I don't have to have new gadgets, I don't like gadgets to tell you the truth, I think they're a terrible waste -a marketing man's dream. My daughter is completely different you know, she wouldn't think twice about buying a bread maker. I can make my own bread, but she has bought a bread machine and has found that she's eating too much bread and has gained weight! So I bought it from her. It's handy if you're too late to buy bread from the shops, but I'm not a gadget person. I see filling a house with gadgets to be a nuisance. You can do a lot with just a knife around the kitchen. You don't need gadgets [...]</p>	<p>Erin Difyr! Ydych chi wedi cael eich dylanwadu gan rhywun neu rhywbeth o gwbl?</p> <p>Eluned Do rhieni adra 'sw ni 'n ddeud, gan bod nhw yn hynod o ofalus ar ddim neud llawer o farc ar y byd i ddeud y gwir o ran...os oedd posib trwsio rhywbeth, oedd o'n cael ei drwsio. Dwi 'm yn cofio mam yn cael dim byd newydd 'rioed i ddeud y gwir.... a doedd hi ddim isio chwaith, doedd o 'm yn rhan o'i meddwl hi- ond oedd hi 'n licio prynu blodau i roid yn yr ardd [chwerthin] weithiau, ond doedd na'm byd- a cytings oedd heini fel arfer 'fyd!- doedd na'm byd materol yn bwysig iddyn nhw, dwi'n meddwl mai huna di pasio i lawr i fi. Dydw'i...Does dim rhaid i mi gael gadgets newydd, dwi ddim yn licio gadgets i ddeud y gwir, dwi'n gweld nhw 'n wastraff dychrynlyd... 'marketing man's dream'- Mae y ferch yn hollol, hollol</p>

125		<p>Eluned had noted that she could not remember her mother ever having anything new, as “it wasn’t part of her mentality”, which evidently contrasts with her daughter’s seemingly frivolous purchase [...]</p>	<p>wahanol ysdi, ‘sa hi ’m yn meddwl ddwy waith cael peiriant bara... na- allai neud bara ...ond mae hi wedi prynu peiriant bara, wedyn di ffeindio ei bod hi ’n bwyta gormod o fara a di rhoid gormod o bwysa ‘mlaen a wedyn dwi ‘di prynu hi ganddi wan. Mae’n handi i gael... Ond dydw i ddim yn berson gadgets. Dwi’n gweld llenwi tŷ ‘fo gadgets yn niwsans. Nei di lot ‘fo cyllell o gwmpas y gegin, does dim rhaid i ti gael gadgets...</p>
125-126		<p>For her, the skills she had learned from her father, such as learning to use the cinders from the previous night to create a “red hot fire”, were symbolic of her identity as a thrifty person. As the interview progressed however, it became clear that some of the skills that Ceris valued, were not as valued elsewhere;</p> <p>Ceris One thing I won’t do is buy firelighters, ‘cause all you need is some paper and some dry kindling. Maybe this is old-fashioned, but at the end of the day if you buy two packets of firelighters which is about £2 every week, well (...) At the end of the day people just think that they’re faster, but lighting a fire like they used to do, you know, twisting the paper and such -that doesn’t take two minutes.</p>	<p>“... ‘sw ni ’n dweud fod magwraeth, dy fagwraeth di yn bendant yn neud gwahaniaeth ynde. Yn bendant, a hyd yn oed lawr i fatha, peth mor syml a cadw sindars, a cadw sindars ynde- be dwi’n dal i’w wneud- ond wrth gwrs, os ydi lot o bobl ddim hefo lle tân rŵan dydi nhw ’m yn medru gwneud, ond oedd dad yn wastad yn cadw glo a rhoid o drwy ‘riddle’ de, a tampio fo, a fedri di gadw tân yn mynd drwy ’r nôs hefo fo, jyst ar sindars ‘de. So a dwi’n dal i wneud hynny, yndw dwi yn. Achos gei di dân coch a uffern o wres arno fo ynde. A peth arall hefyd wna i ddim gwneud, wna i ddim prynu ‘firelighters’, achos i mi os oes gen ti bapur a coed tân sych – ac eto wrach bod hyn yn myn yn ôl i blydi arch Noa math o amser, ond ar ddiwedd y dydd, pryna di ddau baced o ‘firelighters’ sydd wrach yn medru dod i fyny i dwy bunt (£2) neu beth bynnag – wel g’na di hynna bob wythnos... wel. Go iawn jyst mater o fod yn bethna ydi ‘firelighters’, bod yn</p>

		<p>Ceris’ narrative draws our attention to ways in which labour-saving materials, firelighters in this case, whilst are popular, do not necessarily save time nor effort. Viewing them as financially wasteful, Ceris notes that “people just <u>think</u> that they’re faster” [...]</p>	<p>sydyn ynde. Mater o jyst, fel oedd bobl yn gwneud ers talwm, troi papur a gwneud heini fatha – dydi hwnnw ‘im yn cymryd dau funud i’w wneud. Y gyfrinach ydi bod gen ti goed tân sych, a dyna fo ynde. So ‘sw ni ’n dweud bod wrach rhyw bethau fel ’na, ond fel dwi’n dweud wrach mae hynna ‘in the dark ages’ achos fod pobl ‘im gymaint hefo tân glo. Ond wedi dweud hynna, o be dwi’n weld a sbïo o gwmpas, mae ‘na fwy o bobl yn mynd i gael tân llosgi coed.”</p>
126	Peter	<p>Peter (50s), for example, is a father of three who prides himself on “always buy[ing] second-hand” because “it’s cheaper, and if something still works then why not?”. Pieter does not like to throw anything away, “even if it breaks down” [...]</p>	<p>Peter O reit, dwi’n gneud bob dydd neu dwy waith y dydd [chwerthin]. Ond faswn i ddim yn medru gneud hefo llaw ynde, pan oeddwn ni i gyd adra oedd o’n mynd mor sydyn.</p> <p>Ond dyna ’r unig beth galla i feddwl am rhywbeth newydd, felly prynu ail law baswn i’n dewis gyntaf, prynu ail law.</p> <p>Erin A beth yw ‘ch rhesymu tu ôl i hynny?</p> <p>Peter Mae’n rhatach, a mae’n dal yn gweithio felly pam fyswn i ddim?</p>
		<p>[...] Peter believes that his aversion to waste was instilled in him by his parents, who were born “during a time when there was a need to re-use stuff because there was no money to buy new things” [...]</p>	<p>“Ia! Dyna be dwi ‘di cael o adra hefyd dwi’n meddwl- byth yn llechio pethau ynde. Dwi’n siŵr oedd fy nhad i ‘run fath ynde- a dad Rhian hefyd. Dwi ‘di cael bocsys, a bocsys llawn o stwff ar ôl iddyn nhw farw [chwerthin]. Ond mae nhw wedi cael eu magu mewn adeg, oedd na angen hefyd,</p>

127		<p>Peter I hate things like when my son says things like, “I want a new phone”. What’s wrong with the old one? “It’s old” he’ll say, it’s only been three years! “Well it’s old isn’t it?” -and you just think wow! So I tell him, “if you wait another year there will be something else out that you haven’t even thought of yet” [laughs] You know, with something new in it -that’s what’s funny isn’t it? We don’t know what we need yet if you know what I mean [laughs]</p>	<p>ailddefnyddio pethau achos oedd y pres ddim yna i prynu pethau newydd nag oedd? A dwi’n casáu...pethau fel mae fy mab yn deud fatha “dwi ‘sho ffôn newydd”, “Be sy’n wrong hefo ’r hen un?”, “Mae o’n hen!”, “Be ti ’n feddwl? Tair mlynedd...”, “Wel ia, mae o’n hen dydi?” A ti’n meddwl argian! Wrth gwrs dydi o’m yn gneud y pethau mae rhain yn gneud, ond...”</p>
129	Dylan	<p>Dylan The smart meter is a brilliant device isn’t it? It’s dangerous you know (...) I check it all the time and when I see it go up I go around shouting, “What’s on in this place?!”. I usually start to walk around looking for what’s been left on, ‘cause at this time of year you can get it down to about 4p an hour. That’s the <u>lowest</u> it’ll go, and that must be due to the fridge or to other minor things [...]</p>	<p>Erin O OK. O ni ’n gweld dy fod hefo monitor...</p> <p>Dylan O oes, y ‘smart meter’, ia, da ‘di o de! Mae o’n beryg ‘sdi... dwi’n checio fo bob munud, a wedyn pan dwi’n ei weld o i fyny- be sydd on?! Be sydd on yn y lle ma?! Wedyn dwi’n cerdded rownd i chwilio be sydd on wedyn, ‘cause elli di gael o tua adeg ‘ma wan, elli ‘di gael o i tua pedair ceiniog y munud- yr awr. Pedair ceiniog yr awr ydi’r <u>isaf</u> mae o, mae’n rhaid bod y ffriji neu wbath ‘di hwna, neu’r manion bethau, ond pedair ceiniog yr awr ‘di ’r isaf elli di gael o.</p>
130	Eluned	<p>Eluned I’d find it really difficult without a fireplace, I really would. My first job now will be to lay the fires before I do anything else. You know, gathering the kindling -there’s a lot of work involved in that, but I do like my fire.</p>	<p>“O ‘sw ni ’n chael hi ’n anodd eithriadol heb lle tân, ‘sw ni yn. Job cyntaf fi wan fydd ‘neud tanau, cyn neud dim byd, a’i i lawr i neud yr anifeiliaid a wedyn fydda i’n neud y tanau. Mae hel coed dechrau tân aballu, mae ‘na waith neud hynny yn de, ond dwi yn licio’n nhân.”</p>

130- 131	Ffion	<p>Ffion (20s) in particular provided a more detailed account of the meanings she ascribed to her wood-burning stove;</p> <p>Ffion I have a log burner, but it doesn't warm the whole house - it's wasted heating really- but it's a novelty in the winter. Like the other night, I was ill so the kids went to my parents' house and I sat in front of the fire with some tomato soup (...) The fire only warms this room, it doesn't heat anywhere else. In other words the warmth just goes up the chimney. But the kids weren't home, it was only me here, so it wasn't bad was it? I didn't need to heat anywhere else only the living room. So yeah, it's nice in the winter to have a log burner. It's company if anything, you know, it's like (...) I don't know. It's company. It feels right to have a fire going on a cold day. That's how it should be</p> <p>In the extract above there seems to be a tension between the “novelty” of a seasonal fire and it's inherent inefficiency. Ffion reconciles this tension by framing her use of the stove as an occasional luxury; indicating that in the absence of her children, heating the entire house would have been more wasteful. The log burner serves a third purpose in this case, as Ffion views the fire as a companion in the absence of her children [...]</p>	<p>Erin Oes gen ti stôf dân 'llu?</p> <p>Ffion Um fatha log burner 'di cau. Ond di o'm yn cynhesu'r – ti'n gwybod- wastio'r heating dwi rili ond... Be ti'n galw, novelty ydi o pan ti yn y gaeaf - fatha nôs Sadwrn, o ni'n sâl, a nath y kids fynd i tŷ Mam a Dad a nes i ista hefo swp- tomato swp a bara 'neud tân... Ond di o'm- mae'n cynhesu'r room yna i fyny ond 'di o'm yn cynhesu llawer o nunlle arall- in other words mae o'n [y cynhesrwydd] mynd drwy'r simne mae o ynde, allan mae o'n mynd ynde. So otherwise 'di o'm yn cynhesu llawer o nunlle arall- ond oedd y kids ddim adra- 'mond fi oedd yma so oedd o'm yn bad nagoedd? O ni'm isho cynhesu nunlle arall 'mond living room. So...na mae'n neis yn gaeaf just cael log burner ynde- mae'n cwmni os rhywbeth. Ti'n gwybod mae o fatha- dwi'm yn gwybod, mae o'n cwmni fatha- os gena fi'm tân yn mynd ar diwrnod oer a- ti'n gwybod ti'n teimlo fel bod o'n <u>fod</u> fel'na kind of.</p>
-------------	--------------	--	--

131- 132	Dylan	<p>Dylan (40s) however, related his habitual use of the radio, day and night, to his past experience of living alone;</p> <p>Dylan I used to live by myself in Anglesey for about five years. It was a really small house, smaller than this room, so really small. Anyway, it was the middle of nowhere but (...) I don't know if it's because I come from a big family or what, but I just liked to have some sort of noise in the house, you know? So I had the radio on all the time. The TV at that time was quite poor -it only worked for an hour so- I didn't use it that much [...] I think on a farm at least there's always someone coming and going you know? And having brothers and sisters and your dad in and out of the house, you know, he was always on the yard working -and the noise of the farmhands -in and out- tractors, people calling by (...) There was always a buzz about the farm you know, and that's why I like some sort of noise about the house. The sound of a quiet house is a bit spooky isn't it? [Laughs]</p> <p>Evidently, sound is an integral component of a homely atmosphere for Dylan, which he relates back to his upbringing on a busy farm.</p>	<p>Dylan ...Da ni 'n trio peidio gwachad gormod o deledu a rhyw betha felly i ddeud y gwir er mae'r blydi thin on drwy 'r nôs genna ni! Ne mae o on gan y ferch drwy 'r nôs, ond da ni'm- da ni'n <u>trio</u> peidio gwachad gormod o deledu...</p> <p>Erin Ydi o'n wbath mwy cefndirol gen ti?</p> <p>Dylan Ia 'sw ni 'n deud. <u>Radio</u> gymaint na dim 'sdi...ia. Radio fwyaf...dwi 'm yn gwybod- "aha seicologics Mr. Picton", ond fues i'n byw fy hun yn Llangybi am bum mlynedd- tŷ bach, bach, bach oedd o- oedd o'n llai na'r ystafell 'ma... o ni 'n gallu twchad un wal i'r llall yn y tŷ. Oedd o'n fach, fach, ond eniwe, mae Llangybi yn ganol nunlle, ond...dwi 'm yn gwybod am bo chdi 'n dod o deulu mawr yntau be 'de, ond o chdi 'n jest yn licio sŵn yn tŷ 'sdi...So oedd y radio ymlaen genna i drwy'r adeg ne rywbeth ynde. Oedd gennai deledu sâl oedd gennai adeg hynny, oedd o 'mond yn gweithio am awr, so o ni'm yn rhoi honno on ormod.</p> <p>Erin Dwi'n dallt.</p> <p>Dylan Dwi'n meddwl mae o bryn bynnag ar ffarm yn dydi, mae 'na sŵn a mae 'na fynd a dŵad, a brodyr a chwiorydd... dy dad i mewn ag allan o tŷ, 'sdi oedd o</p>
-------------	--------------	---	---

			<p>ar yr iard yn gweithio doedd... a sŵn yr hogia 'n gweithio 'cw, 'mewn ac allan- clywed tractors, pobl yn galw... Oedd na rhyw fwrlwm o gwmpas ffarm 'llu, a dyna pam dwi'n licio rhyw sŵn yn tŷ, mae sŵn tŷ distaw dipyn bach yn sbwci yndi? [chwerthin]</p>
--	--	--	---

Appendix L – Welsh-English data translations chapter seven

Page no.	Name/s	Translation used in thesis	Source language data
135	Ffion	Ffion, as she claimed that she “couldn’t live without any of it”, particularly when it came to the Internet and television; “you forget how much you use them -the telly and things- if I didn’t have the telly for a day I’d be lost, sorry, but I say that to everyone [laughs] -I’d be lost!”.	“ ... mae’n bwysig i mi rhoi ‘switch on’ [chwerthin] n ’de. Internet a bethau, ti ’n anghofio faint ti ’n iwsho fo a faint ti ’n- teli a bethau, ‘sa genna i’m teli am ddiwrnod, ‘sw ni ’n ‘lost’ sori, dwi’n deud huna wrth pawb [chwerthin], ‘sw ni ’n ‘lost’. Internet i ordro pethau, achos bo genna ni’m ‘shops’ o gwmpas- ‘eBay’, dwi o hyd ar hwnnw, dwi newydd brynu wbath cynt ‘off’ y fo jyst yn sydyn, jyst cofio ‘mod i isio rhywbeth a mae o o hyd yn rhatach ar ‘eBay’, so... ‘Sw ni’m yn gallu byw heb ‘imbyd fel ’na ynde, ‘sw ni ddim!”
		Ffion used these devices for a myriad of things, such as the television for entertainment, the radio for “company”, and her iPad in order to shop for clothes, as “there aren’t any shops around here”.	“... mae pethau Siôn on o hyd- ‘Playstation’, mae’r pethau-mae o ‘on’, di o byth yn rhoid heini ‘off’. So mae ‘fifteen quid a week’, di o’m yn ‘bad’ na hefo pob peth ‘on’. ‘Chos dwi yn licio radio ‘on’ drwy ’r dydd, yn cefndir, neu teli ‘on’, ‘even though’ da ni’m yn gwachad o, mae’r teli ‘on’ o hyd [yn gwenu].”

136		<p>Ffion I like the Internet and gadgets and stuff, not because I want to be “with it” as they say [laughs], but because they have them at school. So if I didn’t buy these gadgets for them and let them use them, I don’t think they’d develop those skills at school in the same way because they wouldn’t be able to do it at home as well.</p> <p>A second factor influencing the entrance of media into the home for Ffion was related to her son’s need to ‘fit in’ with his peer group; “there is a peer pressure isn’t there? Of everyone having iPhones”.</p>	<p>“... dwi’n licio’r ‘Internet’ a’r ‘gadgets’ ‘na fatha’r iPads ‘na achos- dim achos dwi isio bod ‘with it’ [chwerthin] fel mae nhw ’n deud, ond mae gennyn nhw nhw yn yr ysgol. So i fi, os na ‘sw ni ’n prynu nhw iddyn nhw, a gadael iddyn nhw ddefnyddio nhw, i fi, dwi ’m yn meddwl ‘sa nhw ’n datblygu fo yn yr ysgol achos ‘di nhw ’m yn cael neud o adra hefyd. So i fi ydi, dwi’n meddwl [chwerthin], gobeithio bo nhw.”</p> <p>“... ti ’bo mae na fatha ‘peer pressure’ yndoes, o pawb hefo iPhones a... o, does gen ti ’m iPhone a dy dy dy- so mae’n haws i rieni sydd methu fforddio fo, gael nhw wan.”</p>
136-137		<p>Ffion noted that Siôn has “got everything that’s going, he’s got a PS Vita -which he never uses. He got it from his Dad for Christmas- he’s got a PlayStation [3], a telly, a laptop, an iPhone and an iPad”.</p>	<p>“Ond dwi’n meddwl na <u>ni</u> ‘di ’r ‘influence’ mwyaf ar Siôn mwy na plant erill. ‘Di o’m ‘di cael neb yn dweud o does gen ti ddim hyn a gen ti ’m llall ‘because’ mae genna fo [inaudible] ‘chos mae’n ‘spoil’, dwi ‘di deud [chwerthin]. Ti yn ‘spoil’ Siôn. Genna fo pob peth sy’n mynd, genna fo PSP Vita- ‘di o byth yn iwsho gaeth o gan ei dad ‘Dolig. Genna fo Playstation, teli, genna fo laptop, genna fo iPhone a genna fo iPad. Es i, “Siôn, fedri di ddeud wrtha fi pa hogyn ‘sy ‘run oed a chdi ‘sy gen hynna i gyd? Na. ‘Sgen Awel ddim byd’ medda fi- ‘cause dwi’n disgwyl iddo fo basio rhai fo ymlaen</p>
137		<p>Ffion is eager to pass them to her younger daughter who “barely has any [devices], poor thing”.</p>	

			i Awel, ti 'n gwybod pan mae 'na 'wbath newydd yn dod allan, a mae o isio fo, dwi'n disgwyl iddo fo basio nhw 'mlaen iddi hi. A dwi 'di gofyn wrtho fo geith Awel dy laptop di? Na, dwi 'sho fo. I be ti isio fo, ti 'm yn iwsho fo! O ia, genna i pethau arno fo. Ia gei di 'r pethau 'sy arno fo- neith Awel 'im deletio nhw- ond jyst os geith Awel dlawd= =nacheith.”
138	[...] later discussion about Siôn's latest technological acquisition, an iPad, she offered a clue as to why this may be. Ffion [Siôn] got an iPad for his birthday 'cause he really needs one and 'cause they're handy (...) and it stops him from using mine!	“... <u>hen</u> un iPhone sydd gan Siôn gan [ei ewythr], ond bod o 'di cael iPad ar ei ben-blwydd 'cause mae o rili angen o 'chos mae nhw 'n handi... A mae'n stopio fo rhag iwsho un fi...”	
139	[...] it had also hindered Ffion's ability to regulate the children's ICT consumption. In particular, Ffion expresses concern about her son “constantly” using his games console; Ffion You sometimes know in the morning if he's been on the Playstation or something when he's not supposed to 'cause his eyes are like saucers and he's grumpy. So I take the Playstation out of his room the next night, and OK, he listens for a week, but then everything goes back to the way it was [laughs]	“...Ti weithia'n gwybod yn bora pan mae o 'di bod ar Playstation ne wbath pan di o'm i fod, 'cause mae ll'gada fo 'tha soseri, a mae o'n flin fatha tincer. Wedyn, ti 'n gorfod tynnu rheina allan o'i lofft o'r noson wedyn, a OK mae o'n gwranddo am w'sos a wedyn mae o'n ôl i neud yr 'run peth eto [chwerthin].”	

	<p>What has yet to be explored, however, are the ways in which Ffion reflects on the use of energy in ICT practices, especially given that her home in such a media-rich environment.</p> <p>Ffion Well with electricity I have a key [...] So we spend about fifteen a week on electricity, so compared to my sister who's hardly ever home -they spend twenty quid a week- we're home more than them, so I don't see fifteen as bad. I usually put twenty quid in [the meter] every week but I have a lot left over every time [...]</p>	<p>“Wel hefo ‘letric, goriad sydd genna fi, so dwi ’m yn gweld llawer o- deud ‘da ni ’n gwario £15, a mae hi ’n oer, ar ‘letric yr w’sos. So ‘di o’m yn bad, which na’th fy chwaer ddeud- na thom ni gael y conversation hyn jyst cyn ‘Dolig- bo nhw- ‘di nhw ‘im adra, a mae nhw ’n gwario £20 ‘a week’ ar. A ‘da ni, ‘da ni adra mwy na mae nhw ‘llu, so o ni’m yn gweld y £15 yn bad- dwi’n rhoid, be? Twenty quid ynddo fo bob w’sos ond, mae genna’ ni lot ar ôl ynddo fo bob tro, so ia rhyw fifteen ar adeg oer, yn r’Ha’ de prin ‘de- dim llawer.”</p>
140	<p>Ffion illustrated this as she described rationing her electricity when it began to run low:</p> <p>Ffion I’ll sweep the house instead of using the hoover [...] Because I can get a bit obsessive with that sometimes, but I hate sweeping [laughing], especially when the electricity is running low (...) What else? (...) I won’t use the heating. We’ll use blankets instead.</p> <p>Ffion describes the household’s media use as “everything [being left] on all day”, with her son’s devices in particular, never being turned off, even when he is asleep or at school.</p>	<p>“Wna i frwsio tŷ yn lle Hoover-o weithia, jyst ‘chos os na i iwsho Hoover, na i iwsho’r Hoover rhyw dair gwaith y diwrnod- ‘because’ ti yn mynd yn ‘obsessive’ weithiau. A yn lle iwsho Hoover, na i frwsio, ond dwi’n <u>casáu</u> brwsio [chwerthin]. So na, huna ‘di ’r unig beth- ‘especially’ os ‘di ’r ‘letric yn mynd yn isel- be dwi’n neud? Pan mae ‘letric fi ’n mynd yn isel... Wna i ddim iwsho ‘heating’, wnawn ni iwsho blancedi yn lle. Be di ’r peth gorau? Pan dwi wedi safio dipyn bach o bres ynde, wna i roi’r ‘heating full on’ a wna i eistedd yn tŷ’n cosy neis- huna ‘di ’r peth gorau. Ia, huna ‘di peth gorau fi”</p>

			<p>“...So mae ‘fifteen quid a week’, di o’ m yn bad na hefo pob peth ‘on’. ‘Cause dwi yn licio radio ‘on’ drwy ’r dydd, yn cefndir, neu teli ‘on’, ‘even though’ da ni’ m yn watchad o, mae’r teli ‘on’ o hyd [smiles].”</p>
--	--	--	--