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Notes for Contributors

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Political Economy

Wales and Sustainable Development

The Welsh Assembly Government has nailed its colours to the mast of regional sustainable development. Here, as in so many other spheres, Wales' industrial past leaves a legacy that will take decades to shed, even assuming a concrete and thoroughgoing commitment from the Assembly.

The Welsh Assembly Government is unique amongst EU Governments in having an explicit duty under its founding Act to promote sustainable development. Sustainability can mean different things to different people. For the Welsh Assembly, it is 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs'.

More than this, sustainability in Wales encompasses 'economic, environmental and social progress', measured in this case by an emerging suite of headline indicators. The Assembly has instigated a number of plans and proposals to guide Wales towards sustainability; an annual Sustainable Development Report, publication of the sustainability indicators and a £2m Objective One project to promote Wales as a leading innovative and sustainable region in Europe.

Measuring Success

The chosen sustainable indicators for Wales, drawn in most part from the UK Government's Quality of Life indicators, are varied. The expected measures of environmental quality (water and air quality, climate change, bio-diversity, recycling, renewable energy) are reported along with indicators of social health (crime, housing quality) and others seeking to measure economic performance (employment, education). Additionally, the percentage speaking Welsh is included as a measure of sustainable development, emphasising the Assembly's broad definition of sustainability to include Wales' cultural aspects.

Apart from the Welsh Language, the headline indicators for Wales are synonymous with those used for the UK as a whole. The exception is the measure of Wales' ecological footprint, a notional measure of how much of the natural environment is impacted by each person in their daily lives. The footprint is derived for each study area by estimating the land areas necessary to support demand in the study area, for example, demands in terms of energy use, travel and freight transport, agricultural production, the built environment, waste, and water consumption. This total area is then compared with the population of the study area to estimate the ecological footprint. This footprint is then compared to a 'fair earth share'

footprint, which has been estimated at 1.9 hectares per person. The figure of 1.9 can be interpreted as follows "This 'earthshare' can be considered to be the maximum footprint allowance without depriving either future generations or those now living in other regions of the world" (Bond, 2001, p.31). The results for Wales give an average per capita footprint of 5.25 hectares, almost 3 times the fair earth share. The UK was found to have an average footprint of around 6 hectares.

Current Performance

As can be seen from Table 2, Wales performs patchily compared to the UK average on the headline sustainability indicators denoting environmental quality. Moreover, a definite pattern is difficult to determine with Wales better, for example, on water quality but with worse air quality (at sampled sites). Several of the variables are driven by discrete and identifiable factors. For example, the prevalence of climate-change gases are in large part dependent on the varying output of power stations within the Principality, as well the level and nature of regional industrial output. Poor Welsh performance in urban air quality might also partly be laid at the door of industry through its contribution to road congestion (see below). Other variables such as low levels of recycled household waste cannot be as easily explained, varying as they do by Unitary Authority, some of which have comprehensive recycling schemes, others none at all. The socio-economic variables within the environmental assessment are again mixed. Wales falls behind England, due to its wider economic malaise, on variables measuring employment and educational attainment; housing quality (as measured) is worse, crime better. An overall picture is again difficult to discern.

This wide variety in performance across the "basket" of sustainability measures has led to attempts to derive a suitable composite indicator which could provide a broad measure of environmental progress and performance. However, the creation of such a measure has proved problematic; the divergent remits and constituencies of sponsoring bodies (and consequent disagreements on the inclusion of individual measures) have combined with methodological difficulties to leave potential composite indicators (such as an index of sustainable economic welfare, see

Midmore 2001) some way from general acceptance.

Towards a Sustainable Wales

Sustainability is a cross cutting theme for the Assembly, with every policy adjudged in part on a sustainability agenda. Yet there are several distinct areas where a truly sustainable approach should have radical implications for public policy in Wales.

Energy Generation

Wales currently outperforms the UK in terms of energy from renewable sources, at 3.2% compared to 2.8%. This is partly due to the prevalence of wind-generated power, and the use of hydro-electric systems. However, this lead does not translate to a good performance on climate-change gases overall. Not only is Welsh industry relatively energy intensive, but also one of Wales' two large power stations, coal-fired Aberthaw, has, for example, relatively high emissions of nitrogen oxide, and is thermally inefficient compared to newer technologies. The nature of the replacement for this station (as EU and other emission regulations restrict its use in future years) will be of significant importance to emissions levels in Wales. Gas-fired stations, such as that at Baglan (and those proposed elsewhere) are more efficient and 'cleaner' than older stations, but their introduction will not move Wales towards a lower relative dependence on fossil fuels relative to renewable sources.

Whilst Wales has an advantage in hydro-electric generation, development here is thought to be already close to capacity. Other renewable energies, including off-shore wave and tidal generation, and biomass are some way from providing a substantial and reliable input to the grid, whilst the future of nuclear generation in Wales (as in the UK) remains unclear. The development of wind farms is problematic. Wales already has a dozen on-shore schemes, providing 1.5% of the Principality's energy, and off-shore schemes are under consideration. Yet public attitudes to wind farms (on-shore and off-shore) are ambivalent, with concerns about visual impact, noise pollution and other issues often sparking local opposition. Proposals for smaller 'community owned' schemes, with perhaps only a single turbine, may ameliorate some concerns, but it is too early to judge. A definitive position of

Table 2: Headline Sustainability Indicators

Sustainability Measure	Indicator	Relative Performance
Employment	Employment Rate	Considerably lower than the UK average; has been so for many decades.
Education	% with NVQ Level 2	Worse than UK average. Wales scores badly on most educational indicators, including illiteracy and innumeracy.
Crime	Crime Rates per 100,000 population	Wales significantly better than England for property theft, though similar figures for violent crime.
Housing	% of dwellings unfit for habitation	Wales significantly worse than England, though figures for both falling rapidly.
Climate Change	Emissions of greenhouse gas	Poor performance. Whilst emissions fell by 1% in Wales 1990-1999, the fall in the UK as a whole was 14%. Between 1995-1999 emissions increased in Wales.
Air Quality	No. of days with poor air quality	Urban sites worse in Wales (Port Talbot far worse); rural sites similar to UK.
River Water Quality	Chemical & biological quality good or fair	Wales better than the UK chemically and biologically.
Wildlife	Changes in abundance & range of species	Data not directly comparable; see headline report for further details.
Waste	Waste produced and recycled	Wales produces less waste per person than the England & Wales average; however, the trend is upward. A far lower proportion of waste in Wales is recycled/composted (lower than the UK average, and amongst the lowest in Europe).
Welsh Language	Percentage Welsh speakers by age	n/a
Renewable Energy	% of energy from renewable sources	Wales performs better than the UK. Currently 3.2% of energy in Wales is renewable, with a high future potential.
Ecological Footprint	'Area units' per person	Estimates suggest Wales performs slightly better than the UK, with an average of 5.25 Ha per person (also lower than the EU average).

the Assembly on wind farms is not yet discernable - some organisations, including the Countryside Council for Wales, are cautious, indeed extremely so where sites are within National Parks, Areas of Outstanding Natural Beauty or near Sites of Special Scientific Interest (SSSIs). Here, Wales' abundance of extremely high quality landscape may actually be constraining in the short term as the Assembly seeks to balance conflicting views and objectives. It is difficult, however, to envisage a policy which places Wales as a European leader in renewable energy and at the same time answers fully the concerns of conservation bodies and local communities.

Industry and the Environment

The silver lining on the cloud of industrial decline in Wales may be less pressure on the environment of Wales. Wales is, over time, losing the energy intensive heavy industry which has characterised its economy. This trend is likely to continue, with these industries replaced by others producing lower climate change emissions and industrial pollutants. Assembly policy encourages such changes, for example with the Tir Gofal scheme rewarding environmentally aware farming and countryside management. Yet contradictions and chokepoints are likely to arise; for

example tourism, often characterised as a potential economic engine for Wales, is problematic in environmentally sensitive areas. An Assembly policy to measure economic success by GDP performance indicators over the next decade may conflict with its sustainable development goals.

Moving Goods and People

The above point is best illustrated by the reality of transport in Wales, problematic as in the UK as a whole. Just over 90% of all miles travelled in Wales are by road, compared with around 84% for the UK as a whole. Wales has comparative advantages and disadvantages in the provision of transport for its people and industry. On one hand, population is largely concentrated in conurbations and linear settlements which might be expected to ease journeys-to-work, given the resultant transport networks interface with new job opportunities arising along the coasts and major east-west arteries. In reality, protracted under-investment in (and decommissioning of) local rail systems and poor and slow bus services have combined to increase pressure hugely on road networks in urban and post-industrial areas. In Western and rural areas, distance from employment centres and markets combine with often poor road provision and negligible public

transport, contributing to social and economic disadvantage. This transportation problem has consequences beyond congestion and emissions costs. For example, long journey times to employment centres may render already marginal 'upper valleys' locations even less attractive; swathes of perfectly adequate housing remain empty whilst identikit suburban sprawl crowds the M4.

Such problems are deep-seated, and not easily solved. There are a few early indications that the Assembly has realised the extent of the task, most notably in the commitment to passenger rail services from Ebbw Vale, and to the Airport. Even so, a coherent transport policy has yet to emerge. The Assembly remains indecisive on whether the expensive and environmentally contentious M4 relief road should be built. Little has emerged intended to tackle urban congestion, save for financial support for Cardiff County Council's £20m 'driverless egg' system, the test-track to be built from the Assembly building to the Cardiff Council headquarters some half a mile distant.

Radical solutions to the transport problem, for example, congestion charging, parking-space taxes or road-tolls are unlikely to appear in advance of

UK policy, and the Assembly's remit does not encompass rail services. Yet given the importance of the issue, a Wales which lags in the area of integrated transport management and provision is unlikely to be seen as model sustainable region more widely.

Conclusion

Wales has experienced a dirty, dangerous and rapacious industrial history. There is much to gain from a truly environmentally aware policy process. The Assembly has committed to creating such a policy. Yet the realities of climate change, habitat destruction and transport gridlock are unlikely to be responsive to subtle policy instruments which seek to improve things 'at the margin'. Policies which are truly environmentally friendly are, presently at least, unlikely to be widely popular. Moreover, a sustainable policy

may have some detrimental impacts on business and regional competitiveness, if only in the short term. True sustainability will require economic sacrifice. It is too early to say whether the Assembly will be prepared to pose the difficult questions which arise, or how the people of Wales will answer them.

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