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The limits of the loops: critical environmental politics and the Circular Economy

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Abstract

The Circular Economy (CE) is now a key governance framework for a range of institutions including the European Commission, World Economic Forum and Ellen MacArthur Foundation. This framework aims to reconfigure how value is extracted from resources, entailing nothing less than the reformation of economic systems and practices. Despite its potential widespread impacts, CE commentary to date tends towards the descriptive and/or celebratory, although some critical insights have explored the profound challenges of turning CE theory into reality. Here I add to these critical voices, outlining how environmental politics researchers have a great deal to contribute to CE debates. I underscore how current incarnations of the CE are more than a rebrand of ‘weak sustainability’ frameworks. Rather, they contain mechanisms and assumptions that potentially accelerate resource use. A key part of the problem is how CE proponents frame us all as particular forms of ‘user-consumers’: accepting or rejecting new business models and optimising gains via – for example – the Sharing Economy. Such framings fail to account for what is at stake for all of us as part of the CE project: and I conclude by posing several research questions, to encourage more critical environmental politics research on and around issues of CE.

Keywords

Circular Economy; Consumption; Consumer-User

Introduction: Circular Economy as ‘weak’ sustainability rebooted?

The pages of this journal have seen many ‘big picture’ environmental frameworks emerge, evolve and/or become eclipsed since its inception three decades ago. The reverberations of many conceptual (‘sustainable development’) and institutional (e.g. UNFCCC) interventions are still very much alive and regularly appear herein: while new frameworks continue to emerge alongside calls for systemic transformations (e.g. European Environment Agency, 2018) in the face of accelerated resource use and climate change (International Resources Panel 2019). Here I discuss one such framework that has, in the past decade or so, received notable and increasing political and research attention: that of Circular Economy (CE). I aim to argue that—while CE debates and interventions look very much like continuations of extant environmental frameworks—they signal significant and potentially highly problematic shifts in the scale and sites of intervention in systems of resource use and re-use. Overall, I aim to make the case for greater engagement in this journal with the multiple facets of the CE, to add much-needed critical voices to the celebratory and depoliticised reflections that have dominated this literature to date.

For those not familiar with the term, CE frameworks aim to promote and normalise a suite of mechanisms that direct resource flows into ‘loops’ of continued use (repair, re-use, recycle etc.) to purposefully minimise the ‘waste and pollution’ from prevailing systems (Ellen MacArthur Foundation, 2017a). One definition argues that it stands as:

‘an alternative to a traditional linear economy (make, use, dispose) in which we keep resources in use for as long as possible, extract the maximum value from them whilst in use, then recover and regenerate products and materials at the end of each service life’ (Wrap, 2019: no page)

Although CE ideas build upon decades-long work from fields such as Industrial Ecology (e.g. Lowe and Evans 1995) and Sustainable Design, only recently has there been attempts to bring such disparate sub-disciplines together, envisaging nothing short of recalibrated economic systems. In response there has been a notable upswing of interest in CE from governance and policy institutions along with academic researchers and non-governmental organisations. For example, the European Union as well as the governments of Canada, Wales and Spain all now have prominent CE strategies. China was an early adopter, passing the Law for the Promotion of the Circular Economy in 2008. These strategies ambitiously aim to save resources and energy and map out the ways in which key regional development and prosperity goals can be met (European Commission, 2015). In addition influential economic institutions, for example

the US Chamber of Commerce Foundation and the World Economic Forum have taken up the language of the CE and international non-governmental organisations like Ellen MacArthur Foundation (see <https://www.ellenmacarthurfoundation.org>) and Circle Economy (<https://www.circle-economy.com>) work directly with a range of high-level institutions and sectors to bring the concepts of CE to life. As such, it seems CE is a framework whose time has come.

However, many questions remain. While some insightful CE-focussed work has appeared in *Environmental Politics* (see Fitch-Roy et al., 2019), to date most CE research has been published in journals whose remit is not critical-political analysis per se (e.g. ‘Journal of Cleaner Production’ and ‘Resources Conservation and Recycling’). As a result, CE research often describes and/or compares national policies (e.g. McDowall et al., 2017): or focusses on specific supply chains and/or sustainable business models (Bocken et al., 2016; Geissdoerfer et al., 2017: see Ghisellini et al., 2016; Tukker, 2015 for further analysis of CE publications). While insightful, the general tenor of this literature mirrors many comments about the CE in general, that it is lacking in ‘critical analysis’ (Korhonen et al. 2018: 38). Such comments suggest that there are many foundational questions about the CE that remain under-explored: questions that must be addressed if the CE really is to act as ‘a framework for an economy that is restorative and regenerative by design’ (Ellen Macarthur Foundation 2017a: no page), and not just another reboot of past sustainability frameworks. While some wide-ranging critiques of the CE project already exist (see Korhonen et al. 2018; Zink and Geyer, 2017; Moreau et al., 2017), here I aim to raise questions about what the CE currently is, and what it could / needs to be, if it is to deliver the scale and forms of transformation proponents claim are required.

On the one hand, it would be relatively straightforward to argue that, in essence, CE is a framework that rebrands and repackages decades-long ‘weak sustainability’ agendas. Here a focus on continued economic growth has created and entrenched various forms of ‘green accumulation’ (see Goodman and Salleh, 2013), which has done little to transform prevailing economic systems, norms and practices. However, in the next section, I make the case that the CE is potentially something more than (green) ‘business as usual’. Instead, myriad policies and interventions brought together under a CE framework contain incongruous and problematic assumptions and mechanisms that potentially signal new sites and spaces of green accumulation, which together potentially accelerate the very problems the CE looks to address. In particular—and in line with my long-standing research interests in consumption, everyday practices, and sustainability (e.g. see Hobson 2013)—I focus in the subsequent section on one

particular suite of problems with current conceptualisations of the CE: the circular ‘user-consumer’. I argue that the role CE proponents ascribe for us all in the project—of choosing better business models and engaging in ‘win win’ everyday practices (e.g. forms of the ‘sharing economy’)—underplays what is actually at stake for us all, if the CE is to be as transformative as it promises and indeed needs to be, given ensuing climate emergencies and escalating global resource use.

The Circular Economy: From disparate sub-disciplines to holistic framework?

The core concepts at the heart of CE are in themselves nothing new. Diverse ideas from sub-disciplines of research and practice, for example ‘industrial symbiosis’ (i.e. where one industry’s waste becomes another’s raw material) and environmentally sustainable design (for products and services), have been around for decades. More recently, key actors and institutions (e.g. Ellen MacArthur Foundation: see below for further discussion) have brought these ideas together, to suggest a symmetrical and coherent framework for systemic transformation.

This framework is represented succinctly in the ‘butterfly’ diagram (see Figure 1), which has arguably become one of the go-to illustrations for capturing key CE facets.

Insert Figure 1

How and in what ways the author of Figure 1 (Ellen MacArthur Foundation: EMF) has become a self-proclaimed CE ‘thought leader’ (Ellen MacArthur Foundation 2017b) since its inception in 2010 is an interesting line of analysis in and of itself. The journey of Ellen MacArthur—from well-known long-distance sailor to CE proponent and advocate, invited onto main stage events at the World Economic Forum—is no doubt an interesting one. So too is the role that her business-friendly institution has played in shaping prevailing frameworks and interventions to date, given that their definition and interpretation of what the CE actually constitutes is only one of many available (see Kirchher et al., 2017). Space limits much further exploration of this line of inquiry here. Still, it is worth noting that the frequent citations of EMF in CE debates rarely include any questions about how and in what ways it works within, and reinforces, entrenched socio-economic power relations while proclaiming it is helping to shape and transform prevailing economic systems. For example, EMF’s ‘CE100 Network’ contains cross-sectors multinationals, badged as ‘global innovators and thought leaders’ (<https://www.ellenmacarthurfoundation.org/our-story/our-network/members>). Although their involvement with EMF could be interpreted as positive in one way, how and to what ends they

are shaping and creating a particular form of CE would certainly benefit from further scrutiny by researchers adept at analysing the global environmental politics of corporations.

That point aside, it is clear from Figure 1 that EMF's take on CE delineates distinct practices and directions for resource flows. Various 're' loops (redesign, repair, remanufacture, reuse, and recycle) are key, set-up as essential to keeping resources moving through systems for longer periods of time so that 'maximum value' (*ibid.*) can be extracted. In turn, such practices map onto, and aim to foster a wide range of real-world interventions across, multiple scales and systems. These include making localised resource systems less wasteful (e.g. IBM Swiss-based data centres using excess heat to warm external facilities); redesigning products to enable disassembly for repair and recycling (as in smart phone, Fairphone: see <https://www.fairphone.com>); and deploying urban planning policies and interventions to facilitate transitions towards 'circular cities' (Prendeville et al., 2018).

Alongside such apparently new interventions, others badged as part of a CE agenda are arguably escalations of long-existing policies. For example, the Welsh Government's 'Circular Economy Fund' focuses on improving recycling rates in the country to 'help Wales reach the milestones of 70% recycling by 2025 and 100% recycling by 2050' (Welsh Government, 2019b: no page). With Wales already having one of the highest domestic recycling rates in the world (Recycling International, 2020), it is reasonable to label this Fund as a rebranding of ongoing resource governance mechanisms rather than part of the 'disruptive innovation' now frequently ascribed to CE interventions and key to the project as a whole (e.g. see European Circular Economy Stakeholder Platform, 2019).

What, then, does the institutional uptake of CE discourses actually signal, in terms of on-the-ground interventions and implementation? At first glance, some commitments to this agenda are far from cursory. The European Commission frames its Circular Economy Action Plan as undergirding the European Green Deal, which 'aims to make our economy fit for a green future, strengthen our competitiveness while protecting the environment and give new rights to consumers' (European Commission, 2020a: 1). Governance tools in deployment to help meet these goals include new legislation around products and consumer rights, 'Mandatory Green Public Procurement' criteria and targets, and planned future efforts for a Global Circular Economy Alliance to foster international agreements and aid cooperation around this agenda (see European Commission 2020b). As such, the European Commission has made CE a key regional framework, able to help 'boost the EU's competitiveness' (European Commission, 2015: 7) and make 'an essential contribution to the EU's efforts to develop a sustainable, low

carbon, resource efficient and competitive economy’ (European Commission, 2015: 1). As such, the CE carries within its loops and cascades high hopes for regional growth, prosperity, and environmental sustainability over the coming decades.

In this journal and elsewhere, the underlying premise and implications of such programmes have been explored and critiqued, leading to the conclusions such as:

‘The modest refashioning of existing policy represented in the contemporary EU CE approach raises questions regarding the capacity of incrementalism to deliver the profound economic and social change that CE implies’ (Fitch-Roy et al., 2019: 3).

The results of CE interventions to date appear to back-up such arguments. On the one hand, the EU CE headline indicators—that track the outcomes of the 2015 CE Action Plan—show some encouraging trends. Recycling has increased across the region while relevant legislation is being recast (e.g. design and consumer rights). There is now an ‘EU Strategy for Plastics in the Circular Economy’ (European Commission, 2019), which aims to make all plastic packaging used in the EU recyclable by 2030 (European Commission, no date). In addition, it is claimed there has been a 6% increase in jobs in ‘sectors relevant to the Circular Economy’ (ibid.), a point that invites further questions about how one defines jobs in that category, given that the overall aim of the CE is to create new economic systems and practices across a wide range of sectors (see Moreau et al., 2017).

However, amidst such outcomes there is substantial room for concern. Despite the fact that more waste is being diverted from landfill across Europe, requisite markets for recycled materials are failing to emerge in parallel. Here ‘on average, recycled materials only meet less than 12% of the EU demand for materials’ (European Commission, 2019: 1). In addition, the social enterprise ‘Circle Economy’ report that globally only 9% of resource demands are being met using recycled materials, with no signs of improvements in coming years. This situation is projected to worsen, with material use ‘forecast to grow to between 170 and 184 billion tonnes by 2050’ (Circle Economy, 2019: 11).

Such issues are often attributed to inevitable time-lags, which will be resolved in due course that is, the uptake of recycled materials will naturally increase over time, replacing the use of virgin resources as markets grow and adapt. Instead, I argue that issues such as these speak to problems at the core of CE, highlighting once again the long-standing paradox at the heart of ‘green growth’. That is, attempts to deploy systems, fundamentally built for extraction and accumulation, to address the very problems they have caused, will always – at an aggregate

level, despite some localised wins—fail to create genuine and transformative sustainability: a pattern that CE interventions are not only maintaining but also potentially accelerating.

That, of course, is a very stark statement but one that has been made before in relation to the fundamentals of economy-environment systems (Jackson, 2009). In terms of CE, there is some support for such claims if we consider the inherent dynamics of the ‘economy’ part of the CE, which to date has received a lot less attention than the ‘circular’ parts. As Zink and Geyer (2017) argue, there is ‘no a priori reason to assume a closed loop is superior’ (ibid.: 594). Despite the fact that such loops dominate mainstream representations of the CE (see Figure 1), these authors argue that the central issue is whether ‘secondary production actually prevents primary production’ (Ibid.: 594). That is, does the recycling of goods so that they can be used again (secondary production) replace and prevent raw materials (primary production) from entering resources streams? To date—and as mentioned above—such moves are failing to happen, and instead, down- or up-cycling is adding to, or creating new, market opportunities.

We should be clear that such trends are not unforeseen knock-on effects or quirks of inherited systems. For one, EMF has repeatedly highlighted the financial gains to be had: or as they have put it, that CE presents business with ‘an economic opportunity worth billions’ (Ellen MacArthur Foundation, 2012). In an analysis of what the CE might mean for the business world, McKinsey and Company (2014) clearly advocate a focus on an ‘additional sales scenario’. By this, they mean that businesses taking up the CE mantle should not do so by ‘cannibalizing’ existing markets, which would lead to a loss of sales. Instead, those in the CE business need to focus on creating new ‘customer segments’ through, for example, refurbished products, leading to market expansion, a new source of profits (see also McKinsey and Company, 2014), and, very possibly, increased overall resource use.

This trend does not just apply to down/re/up-cycling. There is evidence that so-called sharing platforms such as AirBnB—set up to make the use of ‘underutilised assets, monetised or not, in ways that improve efficiency, sustainability and community’ (Rinne, 2017: no page)—are having similar impacts. For example, evidence suggests that hotel bookings do not always diminish in places where AirBnB rentals are common (see Haywood et al., 2017: 3). Instead, business and leisure travellers are making use of expanded and often cheaper accommodation options, creating patchy but definite increases in travel-related greenhouse gas emissions. These, in turn contribute to negative environmental impacts and, in some cases, feed into increases in income inequality, as those who count one or more properties as part of their

‘underutilised assets’ profit from this new-ish market opportunity (e.g. see Hobson and Lynch 2016; Schor 2017; Slee 2017).

Thus, in short, the dynamics of prevailing economic systems are apparently not up for grabs in the CE. While that may come as little surprise to *Environmental Politics* readers, it is worth underscoring how this makes something of a mockery of the sustainability claims of CE advocates. For one, analysis of job market changes related to CE interventions (e.g. Cambridge Econometrics et al., 2018) suggest that CE-related job growth will likely be stimulated by increases in consumer spending. Here, it is posited that as businesses become more efficient, manufacturing prices and then consumer prices will fall, creating more disposable income for us all to spend on purchasing goods and services. In response to this scenario, it is argued that: *‘Although rebound effects are good for the economy, they also mean that there is an increase in material consumption associated with additional consumer spending. Additional policies may therefore be needed if Europe is to meet ambitious targets to reduce overall material use’* (Ibid.: 7).

What ‘additional policies’ can and should be deployed is not elaborated upon by these authors. But it is clear from the above paragraphs that the tasks of these policies—if the basic tenets of the CE agenda are to stand up at all over time—will have to be to bring down absolute material use: an issue on which CE advocates have remained almost silent (Jackson, 2019), in line with a long history of so-called ‘win win’ approaches to mediating the economy and environment (Lorek and Fuchs, 2013).

I have aimed to make the case that we should consider CE interventions as doing more than just proving ineffective at slowing burgeoning and energy resource use, as one might have claimed of the sustainable development agenda of the 1990s. Rather, some (but undoubtedly not all) interventions are in the process of creating new dynamics and opportunities that are accelerating—not ameliorating—trends of widespread ecological collapse and climate change impacts. To be clear, the point here is not to argue that no good has come out of the CE-badged interventions to date. Rather, it is to highlight that, beyond examples that focus on positive moves within one resource stream, the overall picture of the direction of travel is troubling and yet commentators are still noting the lack of critical political engagement and analysis of the broader CE agenda (Prendeville et al., 2018).

Taking these arguments forward, there are those better equipped than me to unpack the specifics of system-level environment-economy CE issues (e.g. see Korhonen et al., 2018;

Millar et al., 2019), including providing detailed evidence of the observed scale of ‘rebound effects’ for circular business models (see Makov and Font Vivanco 2018). Instead, I focus on one facet of CE agendas that I argue illuminate specific dynamics of both new and rebadged spaces of green accumulation: the role of the CE ‘consumer-user’ (see Figure 1). I aim to highlight how the centrality of us all to the CE project—including what is at stake in terms of our everyday lives and redistributive impacts—signal both a significant flaw in the CE project and an important space for critical environmental politics.

The user-consumer in Circular Economy: beyond competitive prices and increased efficiencies

Welch et al. (2017) argue that there is a curious incongruence at the heart of Figure 1. To date, the majority of CE debates and research have focussed on products, materials, markets, and value extraction from specific energy and/or resource life cycles: the materials and processes that constitute the CE. Yet it is the ‘consumer’ and ‘user’—all of us, the creators, perpetuators and subjects of the economy—that have central place in the EMF ‘butterfly’ diagram, as *the* nodes around which CE circular loops and cascades revolve and return to (Hobson et al., forthcoming). As such, how our roles and agency are framed and enacted is a crucial component of the successes or failings of CE interventions. Or as Korhonen et al. have put it (2018: 41), ‘the new consumption culture is a critical part of the circular economy in its effort to reduce the nature-society-nature linear throughput flow of materials and energy.’

What, then, is signalled by a ‘new consumption culture’ under the CE? How do proposed ‘alternative’ economic systems intersect with, and impact upon, us all as citizens and consumers? While these are not completely novel questions and some critical work has started to examine potential CE social impacts and how to measure them (see Pitkänen et al., 2020), my interest here is more how the ‘user-consumer’ of Figure 1 is conceptualised within CE frameworks. That is, within imagined potential CE ‘futures’ (see Bauwens et al., 2020) what are our roles, based on what assumptions about our capabilities, interests, and agency?

From the perspective of EMF as well as some academic literature (e.g. Camacho-Otero et al., 2017; Wurster and Schulze, 2020), ‘consumer acceptance’ of, or ‘buy in’ to, new circular products and services are key (e.g. Hobson and Lynch 2016; Mylan et al., 2016). This claim makes some intuitive sense given the need for drastic reductions in aggregate energy and resource use in the face of ever-increasing global consumerism. It also makes sense given the prevailing CE tenets as outlined above. That is, how new business and market development

opportunities can be realised, in part, through recalibrating supply chains (e.g. Pan et al., 2015) and creating new ‘circular’ business models (Lewandowski 2016) that keep the consumer doing exactly that: consuming.

What, if any, are the problems with having ‘consumer acceptance’ as our key role in the CE? I argue that problems with this framing are both material and socio-economic. For one, the idea of ‘consumer acceptance’ or ‘buy in’ evokes a predominantly passive role for us all. It assumes that the form new market offers will take—whether a redesigned ‘eco’ product, or a mix of product and services—can and will embody the overall aims of reducing resource and energy use. Thus, little insight or input is required from the consumer other than making the correct purchase decision and possibly remembering to recycle once the product has lost its use-value. This is a framing that flies in the face of the profound socio-economic transformations that CE proponents suggest the framework will usher in.

Indeed, the tools being brought to bear on greater consumer acceptance emphasise ‘designing in’ sustainability and circularity to goods and services. The European Commission, for one, has foregrounded ‘Ecodesign’ as key in its CE agenda, creating ‘more efficient products to reduce energy and resource consumption’ (https://ec.europa.eu/growth/industry/sustainability/ecodesign_en). This is a logical and much-needed move: but also one that assumes that, for example, most of the work of circularity is done in the design and end-of-life stage of a product, not in its use (e.g. Bridgens et al., 2019; Suckling and Lee, 2015). Excavation of the much-repeated claim that 80% of a product’s environmental damage is established during design activity shows there is little veracity in such assumptions across all products (see Hobson, 2019). Therefore, in what ways, for how long, and to what ends certain goods and services are taken up, used, and disposed of become key questions, placing the user-consumer as a central and active agent in the CE, rather than just someone accepting or rejecting what is on offer. In short, the ‘user-consumer’ is more than a semi-passive node through which materials flow, as in Figure 1: but how much more, and in what ways, remain open questions.

In addition, the logic of ‘consumer acceptance’ invariably requires that new products and services are able to compete in and through existing market mechanisms: price signals, novelty, and quality. When this is the case, research has shown that often consumer evaluations of ‘circular business models’—such as hiring or leasing goods rather than owning them, or buying products designed to be repaired and/or have longer use-live—suggest we are a long way off from securing widespread ‘acceptance’ of new business offers. Although there is clear

willingness by participants to pay more and proffer concern for the environmental impacts of one's consumption (ING, 2020), in reality more 'circular' market offers are often seen as inconvenient, too costly, and/or requiring non-existent trust in services and/or providers (e.g. see Hobson et al., 2018). In addition, research into attitudes towards reuse and refurbishment show similar trends, along with a lack of take-up of product 'take back' schemes (e.g. Hobson et al., 2018; Ylä-Mella et al., 2015): a crucial stage in moving materials back into the CE loops (as in Figure 1). As such, it appears that in the current marketplace, CE goods and services cannot out-compete existing offers.

One might conclude from this that key is to keep trying to bridge the 'engagement gap' between consumers' expressed willingness to pay more for circular goods, with their lack of uptake of actual practices (ING, 2020). Here, some claim the task is 'Plugging consumer awareness gaps' alongside 'more innovative design' to 'make repair easier and cheaper, and to make products easier to share and resell' (ibid.: 9). The point here is not to argue such moves will make zero difference. But rather to place such assertions in the context of decade-long debates about public 'attitude-action' gaps, which erroneously assume that greater knowledge is the key to increased 'sustainable consumption' (see Hobson, 2013). As such, CE advocates are continuing to endorse an almost mythical just-out-of-reach-but-on-the-horizon future: one where designers and business innovators crack the challenge of formulating high-uptake, dematerialised and appealing consumer-orientated circular business models, turning us all into 'Circular Champions' (ING, 2020). And as such, relying on the market ideologies, dynamics and mechanisms that have facilitated hyper-consumerism and its various components (e.g. 'fast fashion') may set the CE up for failure while making a good job of it seeming to be otherwise. This brings us back to the point made above, that the 'economy' part of the CE has received little critical attention to date, particularly by its public proponents: a point that some ecological economists are well-equipped to unpack further (e.g. see Figge and Thorpe, 2019; Korhonen et al., 2018; Millar et al., 2019).

One response to the above points might be, quite reasonably, to argue the notion of 'consumer acceptance' over-simplifies the role as laid out for all in popular framings of CE. Here, we are also charged with taking part in forms of 'Collaborative Consumption' or the 'Sharing' Economy' (e.g. Ellen MacArthur Foundation, 2017), which are argued to offer diverse means and spaces for us all to consume differently. Talk of the Sharing Economy (SE) for example envisages:

‘a future of consumption that embraces not only novel business models and consumption practices, but also novel norms of consumption and emotional and motivational engagements in consumption’ (Welch et al., 2017: no page).

Examples of the SE often include car or ride-sharing services (e.g. Zipcar or BlaBlaCar); equipment borrowing or pooling services (e.g. ‘tool libraries’); or apps that locate and enable the redistribution of food that would otherwise go to waste (e.g. Olio: see also Ellen MacArthur Foundation, 2013). Although there is considerable debate about what constitutes actual ‘sharing’ as opposed to garnering income from assets that mirror established rental services (as in AirBnB: see above), the point here is that SE advocates see little need for critical analysis of this suite of practices. For one, it is claimed they seamlessly provide ‘consumers with convenient and cost-efficient access to resources and to access various services with a few taps on their smartphones’ (Ernst & Young, 2015: 19: see also Botsam and Rogers, 2010). Some research does indeed back-up the positives of the SE. There is evidence that renting rather than owning a car brings down resource use (Meijkamp, 1998). And that collectives are forming, to interact differently with materials possessions, thus offering potentially positive ways of rethinking our expectations of, and interactions with, the resources around us, and indeed, each other (e.g. see Cohen and Munoz, 2016).

There are also critiques. These argue that, in sum, renting, borrowing, exchanging, and/or pooling resources takes place in contexts where access is not always seamless and impacts not always evenly felt. That is, participating in the SE can require time, money, human and social capital, assets, skills and capabilities that are not evenly distributed amongst populations to begin with (see Hobson et al., forthcoming). All are potentially further impacted by the SE, for better or worse (e.g. Appau et al., 2016; Murillo et al., 2017; Schor, 2016). Indeed, much more detailed empirical work on the redistributive impacts of forms of sharing is sorely needed, as some work to date suggest that localised and/or collective environmental actions can act as scaled-down forms of ‘green accumulation’ along lines of class, ethnicity and education (e.g. see Franklin et al., 2011; Norgaard et al., 2011). In addition, research has highlighted how SE participation, rather than enabling greater convenience and cost-efficiency at the tap of an app, enacts diverse forms of ethics, relating, and belonging (e.g. Holmes, 2018; Richardson, 2015) in ways that do not necessarily foreground the lessening of overall environmental impacts of practices (Gregson et al., 2015).

As such, the complexities, contingencies, and less than ‘win win’ realities of the SE in practice rarely feature in mainstream CE advocacy. This is understandable, given how such insights

highlight problems inherent in the systems that CE proponents claims to be reconfiguring without much disturbance of the current norms regarding the economy. However, I want to end by arguing that highlighting what is at stake in the CE—in what ways and to what ends—is crucial if its stated goals are going to prove anything more than rhetoric, particularly given the large-scale societal transformations it is charged with bringing about (e.g. European Commission, 2015). From the perspective of the user-consumer, this is because many CE practices require that we all go beyond the *modus operandi* of consumerism (price, convenience: to buy or not to buy via the tapping of an app.). They rather ask that we are willing and able to have ‘emotional and motivational engagements’ (ibid.) that recalibrate our relations with the socio-materialities of everyday lives, and each other.

That is, what the CE asks of our everyday lives may, at first glance, seem like a small ask: swapping out one consumption practice for another, or (re)learning how to fix your toaster. And yet social researchers have highlighted the manifold cultural, social and historical meanings attached to consumption practices (e.g. Miller, 1998; Shove and Warde, 2002), as well as their place as habitual, normalised and intertwined parts of our everyday material realities (Mylan, 2015). Such intertwining means that adopting a particular ‘circular’ business model has potential knock-on effects throughout our lives. For example, does time spent repairing goods—that is, the ‘consumption work’ (see Wheeler and Gluckamann, 2016) required of us all by the CE—mean there is less time available for other forms of ‘circularity’ in one’s life, thus excluding one from other SE opportunities? And do forms of social and cultural capital gained from, say, participating in a ‘Repair Café’ facilitate (or not) other relationships and practices, thus ‘spilling over’ into different spheres of energy and resource use? While these might seem like micro-sociological questions of minor significance to questions of macro-scale system transformations, cumulatively they underscore how little we know of the actual impacts experienced by those endeavouring to take up some of the consumer-user practices outlined in Figure 1.

In this sense, a call for critical research into CE user-consumer roles goes beyond restating arguments about the ‘responsibilization’ of the consumer (e.g. Soneryd and Uggla, 2015), where the (environmental) buck is passed down from businesses and governments to us all, as the (alleged) sovereign consumers to whom markets are merely responding. Rather, the arguments here bring us more towards Tukker’s comment (2015: 88) that a key goal for ‘consumers’ is ‘to have control over things, artifacts, and life itself’. Whereas one might interpret that comment a number of ways, I argue it points towards how life histories and

chances are inter-woven with material cultures and practices. Proponents of the CE focus on the best ways to exchange one set of consumption practices with others, framed as cheaper and more efficient deals. But social research points towards the CE as being nothing short of a recalibration of our socio-material lives, if the ambitions of the agenda are in any way to be matched by the systemic transformations it will indeed require. And as such, further insight into how all of our roles are being framed and played out; what is illuminated and what is hidden by such framings; and who gains what, how, and to what ends is a central but, to date, undervalued part of the CE—and indeed environmental politics—research.

Concluding comments: setting the agenda for an environmental politics of CE

I have aimed to be deliberately provocative as befits this point in this journal's history and the special issue this is a part of. The goal has been to highlight how the CE has emerged as a key, multi-scale agenda that stretches far beyond environmental sustainability. Instead, it is positioned as a pathway to bring about nothing short of regional (and by implications, global) prosperity and competitiveness into the 21st century. And from a critical environmental politics research perspective, I have aimed to make the case that prevailing governance framings of the CE are both business as usual and not. On the one hand, well-trodden critiques of 'weak sustainability' agendas can be applied to how, for example, the European Commission and EMF conceive of the CE. That is, as able to achieve systemic transformation through better regulation and more efficient business models, leaving questions of who wins and loses pretty much out of the mix. But, on the other hand—and the main thrust here—critiquing the CE as sustainability rebranded, and leaving our analysis there, underplays what is potentially at stake and what we can, as researchers, contribute to understanding such stakes. Nowhere is this point more apparent than in how the CE user-consumer is being framed and (attempted to be) brought about. While, for decades, we have all been exhorted to 'buy green' (or not) and recycle a bit more, with mixed results, there is a case to be made that being a CE user-consumer requires nothing short of the reconstitution of 'life itself' (ibid.): a point rarely seen in business-friendly renderings of the CE where the user-consumer is someone who needs to be told about, and then priced-into, more circular business models.

All of the above invariably invites more questions than it answers. For example, who is influencing and deciding upon CE agendas and framings of, say, European and Chinese versions of this framework? What roles are new organisations like EMF playing in this agenda, and to what effect? What would an alternate framing, of a 'circular citizen' (perhaps), look like: and how could (if at all) this concept be brought into prevailing framings of the CE? What

social and economic transformations, realised how, would follow on from this reframing? How could we keep track of the winners and losers in this version of the CE: and indeed, what constitutes a winner and loser, as such? And how does any notion of a ‘circular citizen’ articulate with other forms of environmental practice like activism and protest? No doubt more questions remain. The key point is that environmental politics research is indispensable to addressing such questions and, as such, seeing this topic taken up more in the pages of this journal would make a valuable contribution to a much-needed critical politics of the Circular Economy: a discourse and agenda that looks set to remain central to key governance goals and interventions for many years to come.

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Figure 1: The Circular Economy (from Ellen MacArthur Foundation, 2017)

