

The Political Economy of the Circular Economy

LESSONS TO DATE AND QUESTIONS FOR RESEARCH

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Executive Summary

A circular economy (CE) is an economic system that is restorative by design. It is a system in which material flows, defined as consisting of biological and “technical” nutrients (both inorganic and synthetic), are designed to continue circulating at high quality, to re-enter the biosphere safely, or both, thereby delivering value against the least amount of energy and physical resources.

The concept of the CE rests on three key principles: (a) to preserve and enhance natural capital by controlling finite stocks and balancing renewable resource flows; (b) to optimize resource yields by circulating products, components, and materials at the highest utility at all times; and (c) to foster system effectiveness by designing out negative externalities. Implicit within this is the use of renewable energy, as well as using energy in the most productive way. As such the CE has huge potential for reducing carbon emissions.¹

Studies, particularly those of the EU, point towards significant benefits from shifting to a CE and away from current development models, which are highly resource intensive and dependent. The benefits of a CE for developing countries may be even greater, given their projected growth. Policy measures to enable, advance and guide the transition to a CE either address barriers by fixing market and regulatory failures, or aim to stimulate market activity.

THE 6 MOST COMMON CE POLICIES ARE:

1. Public Procurement Policy
2. Creating Collaboration Platforms
3. Providing Technical Support To Businesses
4. Fiscal Policy
5. Education, Information and Awareness
6. Regulatory Frameworks, Especially For Materials

In recent years, the CE has risen from an interesting idea to a concept that is widely studied, embraced by dozens of major corporations, and increasingly incorporated into the legislative and policy frameworks of many countries. This emergence requires major shifts in production and consumption which creates winners and losers. As such the transition to a CE is politically contested.

While new jobs and opportunities are created in many sectors of the economy during the transition to a CE, economic activity and employment also shrink in a few sectors. The sectors especially vulnerable are those tied to the current “linear” pattern of resource consumption, such as resource extraction, and manufacture and sale of products with low durability or those designed for rapid obsolescence. That said, commercial, political and ideological alliances, the capacity for innovation, competitive positioning, the commitment of CEOs and political leaders, the accuracy of analyses being presented, the conservatism or open-mindedness of trade associations, and other factors may lead companies or organizations which one may have assumed to be supportive of a CE to actually oppose it, or vice versa.

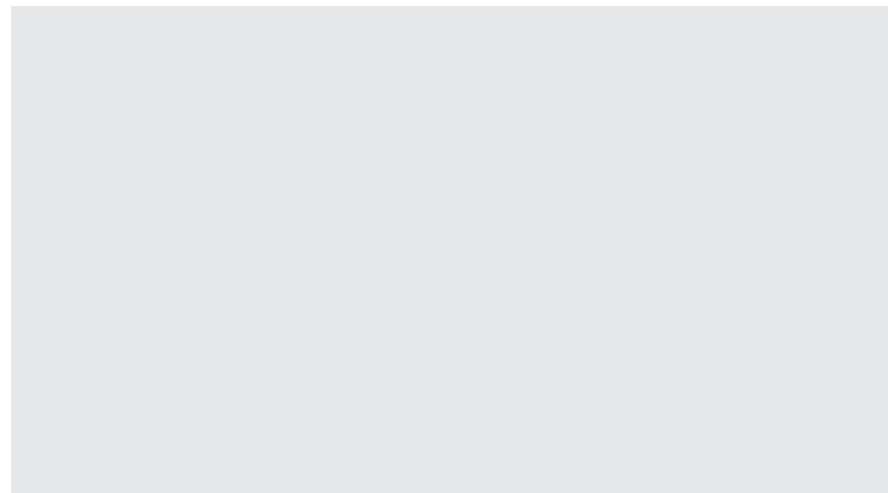
The term “political economy” is used in this paper to refer to the patterns of impact and behavior of the key players during the process of transitioning to a CE - i.e., who wins, who loses, who perceives themselves as on the winning or losing end (which may be different from the reality), and how they behave as a result. A better understanding of this behavior and its potential implications may help those who wish to accelerate the CE transition.

The intention is to provide the reader with an introductory understanding of the political economy of the circular economy, and to highlight how to realize the potential of the CE. We conclude:

- 1 The transition to a CE could hold many benefits, not the least of which is a sharp reduction of the economy's virgin resource use and carbon footprint;
- 2 The optimal package of CE policy interventions will likely combine mandatory measures to assure progress, with assistance and incentives for private and public stakeholders to adopt CE practices;
- 3 Establishing the optimal CE policy package for developing countries will involve the additional challenge of ensuring fair treatment of current -albeit potentially informal- CE workers, many of whom reside at the bottom of the pyramid;
- 4 Opposition to CE policies may arise not only as a result of economic interests, but also originate in commercial, political, and ideological alliances, or an inadequate understanding of the benefits of CE. Reducing this second source of opposition is a principal benefit of efforts to improve understanding the political economy of a CE.

THIS PAPER DISCUSSES IN BRIEF:

- The potential benefits of a CE
- Policy measures that have been proposed to advance a CE
- Attributes of organizations that support or oppose CE measures
- The recent CE debate in Europe
- The CE in India
- Conclusions; and Recommendations for CE advocates



In light of these conclusions we recommend the following:

- 1 **Analyse the analyses:** Do not assume analyses are complete or accurate and do not assume the opposition has taken the time to properly understand it. Analyse the analysis to not only understand the potential but also to help undermine opponents' arguments, or perhaps even recruit supporters.
- 2 **Identify likely supporters and opponents and their alliances.** Identify the most significant of likely supporters and opponents on the basis of their assumed interests and motivations. Refine this assessment by identifying their commercial, political, and ideological allies, which may lead them to support or oppose a given CE policy in a way that is contrary to initial assumptions.
- 3 **Let sleeping giants sleep.** If natural opponents to CE policy are not actively opposing it, be careful not to arouse their opposition.
- 4 **Match CE goals with policy design.** Consider a mixture of mandatory and voluntary policies that incentivize and impose ("carrot and stick"), meanwhile providing stakeholders a helping hand in reaching aspired goals. In addition, assess what the real or perceived impacts on key stakeholder groups could be and their power to rally in favor of or resist the change.
- 5 **Build alliances with leading individuals.** Identify and recruit business, political, and other leaders who might take a progressive position on CE policy. Additionally, seek opportunities to build commercial, political, or ideological alliances with companies and organizations that might have been inactive, neutral or opposed to a CE policy - alliances which might lead to their active support despite the superficially-apparent interests.

1. THE POTENTIAL BENEFITS OF A CIRCULAR ECONOMY

A 2015 study by the Ellen MacArthur Foundation (EMF) into the potential of the CE in Europe pointed towards huge benefits from shifting the European economy to a “growth within” model, and away from the current development model, which is highly resource intensive and dependent.

The EMF study focused on the mobility, food and construction sectors, and provided evidence that a CE would allow Europe’s economy to grow its resource productivity by up to 3 percent annually, while reducing primary material and non-renewable energy use by 32%. This would generate a primary resource benefit of as much as \$0.7 trillion per year by 2030 and \$1.3 trillion in non-resource and externality benefits. These total annual benefits of around \$2 trillion would translate into a GDP increase of as much as 7 percent relative to Europe’s current BAU development path, with additional positive impacts on employment. Because a CE would decouple economic growth from high resource use, the carbon dioxide (CO2) emissions associated with the three sectors is expected to drop by as much as 48 percent by 2030 compared with 2012 levels.ⁱⁱ

The Club of Rome published a study in 2015 on the social benefits of a transition to a CE. It conducted a high-level assessment of a combination of measures to enhance energy efficiency, renewable energy and material efficiency for the countries of Finland, France, the

Netherlands, Spain and Sweden. The study projected a potential structural reduction in CO2 emissions of two-thirds or more, while significantly cutting unemployment levels in the five countries studied.ⁱⁱⁱ

CE principles are relevant not only to developed economies, such as Europe, but to developing economies, such as India, as well. India already has a large, if informal, CE, with millions of people earning a living by repairing items that have broken down, and recovering and selling items that others have discarded. One challenge for India, as it grows its economy, is to adapt its present CE characteristics in a way that treats current CE workers more equitably, while allowing the economy to leapfrog the linear industrialization pathways of the currently-developed economies, with their unsustainably high and expensive energy and primary resource demands. Given India’s enormous development needs, the potential benefits to it of CE-oriented policy interventions may be even greater than those of Europe. EMF are currently conducting the first ever study of the potential of the CE in India. Findings are due by the end of 2016.

2. POLICY MEASURES THAT COULD ADVANCE A CE

Research into key policy measures to enable, advance and guide the transition to a CE in Europe identify six main types of policy intervention. The measures either address barriers by fixing market and regulatory failures, or aim to stimulate market activity.

The following table provides an overview of these interventions, with examples of related policy measures and the level of anticipated opposition. The latter has been based on the extent to which measures require governments to take decisive action, leading to an overhaul of current systems or ways of doing and necessitating considerable stakeholder buy-in or decision power; mandate companies to act; and/or put companies not embracing CE at a disadvantage versus their CE adopting competitors.^{iv}

| CE policy intervention types | Examples of related CE policy measures | Level of anticipated opposition |
|---------------------------------------|---|---------------------------------|
| Education, information and awareness | <ul style="list-style-type: none"> Integration of CE / systems thinking into school and university curricula. Public communication and information campaigns | Low |
| Collaboration platforms | <ul style="list-style-type: none"> Public-private partnerships with businesses at the national, regional and city levels. Encouragement of voluntary industry collaboration platforms, encouraging value-chain and cross-sectoral initiatives and information sharing. R&D programs in the fields of material sciences, bio-systems, etc. | Low |
| Business support schemes | <ul style="list-style-type: none"> Financial support to business, including direct subsidies, incentive programs, provision of capital, financial guarantees. Technical support, advice, training and demonstration of best practices for businesses. | Medium |
| Public procurement and infrastructure | <ul style="list-style-type: none"> Public procurement. Public investment in infrastructure. | High |
| Regulatory frameworks | <ul style="list-style-type: none"> Sectoral strategies and associated targets for resource productivity and CE. Product regulations (including design), extended warranties, and product passports. Waste regulations, including collection and treatment standards and targets, extended producer responsibility and take-back systems. Industry, consumer, competition and trade regulations. Accounting, reporting and financial regulations, including accounting for natural capital and resources. | High |
| Fiscal frameworks | <ul style="list-style-type: none"> VAT or excise tax reductions for CE products and services. Tax shift from labor to resources. | High |

3. ANTICIPATING SUPPORT AND OPPOSITION

The transition towards a CE signifies a paradigm shift away from the current predominant economic model and in many countries will likely be contentious. While new jobs and opportunities will be created in many sectors of the economy, economic activity and employment may also shrink in a few sectors, in particular those tied to the current “linear” pattern of resource consumption.

As a first approximation, the following interests –as listed in figure 1 below- might be expected to **oppose a transition to a CE**. Any attempt to categorize a given interest may however, overly simplify a complex reality.



Figure 1
Business and public interests –and their commercial, political and ideological allies- potentially opposing a transition to a Circular Economy

Countering the possible opposition to a CE a number of interests might be expected to actively or passively support a transition to a CE - see figure 2 for an overview.



Figure 2
Business and public interests –and their commercial, political and ideological allies- potentially supporting a transition to a Circular Economy

The following 10 motivations and patterns of behavior can help identify supporters and opponents of CE policy. While these are illustrated with examples from Europe – the region of the world which has most actively debated and proposed to introduce targeted CE policies – and to a lesser extent the US, similar dynamics are very likely to exist or play out where and once such policy instruments are being introduced in other major economies around the world.

1. Innovators supporting progressive policy:

Manufacturers of similar products may hold different views of the CE because of differences in competitive positioning, branding, political alliances of their corporate leadership, or other factors not easily anticipated before the fact. Among other things, a company's willingness to innovate may make it more open to progressive policy measures.

Philips is a global giant in electronics, healthcare and lighting. A simplistic assessment might lead one to expect Philips to focus foremost on maximizing turnover of its buy-to-own products, and therefore to oppose CE requirements. Philips, however, was quick to recognize the opportunities the CE offered for enhancing its brand image and increasing market share. In 2011, Philips pioneered the Pay-per-Lux lighting concept which sells lighting as a service with a guaranteed performance level, rather than selling the physical products.

For the user, this means no upfront capital expenditures and a predictable recurring right-to-use fee. For Philips, in addition to providing an edge in winning customers, this can help smooth out the peaks and troughs of demand cycles and make revenue streams and supply chain management more stable. From a resource consumption perspective, Pay-per-Lux type managed product-service offerings provide Philips with an incentive to create durable efficient solutions that deliver the required performance against the least amount of resources.

2. Commercial alliances influencing policy positions:

The manufacture and sale of any reasonably complicated product could involve dozens, if not hundreds, of entities in a far-flung web of commerce – with implications for the entities' positions regarding the CE generally or particular CE policies. For example, a supplier may support or acquiesce to the policy positions taken by its major customer, even if these positions do not directly benefit the supplier.

In the United States plastic bottle manufacturers had more to benefit from bottle deposit mandates than glass

bottle manufacturers because the additional weight and breakage involved in returning glass bottles tended to lead retailers and customers to favor plastic over glass. Plastic bottle manufacturers nevertheless fought deposit requirements just as hard as glass bottle manufacturers – the retailers who resented having to take back any bottles. Business alliances can work to the benefit of the environment, as well. The classic illustration of this is Walmart, which has used its global purchasing and convening power to drive efficiencies in the use of raw materials by thousands of suppliers.

3. The natural conservatism of broad-based trade associations.

Broad-based trade associations tend to be conservative. Among other things, it tends to be easier for association staff to get a diverse membership to agree to the lowest common denominator on any given issue.

One of the key opponents of the European Commission's proposed and later shelved 2014 CE policy package, as described in section 4 and Appendix A, was Europe's influential employers' confederation, BusinessEurope (BE, also known as the Confederation of European Businesses). BE represents national trade organizations from around Europe and lobbies the EU on their behalf. BE is officially recognized as a "social partner" at the European level, and is written into the EU process of "social dialogue," thereby ensuring it a seat at the table with regards to a range of economic and social decisions. BE pushed hard for the 2014 CE package to be shelved, arguing it would inhibit the competitiveness of European businesses.

4. Progressive business coalitions.

Given the conservatism of many trade associations, businesses often form more progressive coalitions, sometimes with public entities and other stakeholders. These coalitions can be formal or informal, and may be convened temporarily to address a given task, or be continuing.

Because of Business Europe's (BE) conservatism, many of Europe's more innovative and forward-looking businesses

are said not to feel sufficiently represented by BE. Major corporations in various sectors have gone around BE and established their own collaboration initiatives and roundtables in order to push the envelope on material issues. Environmental and social advocates have often similarly focused their efforts on these separate initiatives, or worked directly with major corporations, rather than trying to influence BE's stance.^v

Zero Waste Europe (ZWE) is an umbrella organization which brings together waste advocacy groups and municipalities present in 20 EU countries. ZWE argued that the actions in Europe's current 2015 CE policy package, as described in section 4 and Appendix A, would not be sufficient to create a systemic change towards a CE, and that the CE policy proposal failed to address the "lock-in" effects caused by "zero waste to landfill" strategies -- the tendency to comply with landfill bans by increasing waste incineration.^{vi}

Similarly, the Resource Association, the UK trade association for the reprocessing and recycling industry, while welcoming several aspects of the 2015 CE policy package, also raised concerns, for example, with the EC's assertion that market mechanisms alone should be sufficient in creating resilient and sustainable markets for recoverable materials. The Association, as well as a leading European packaging company, DS Smith, also noted that targets for recycling waste and keeping it out of landfill were still weight-based, rather than moving to a carbon metric that would better reflect the materials' environmental impact.^{vii}

The British Plastics federation (BPF) was of a similar view, observing a "distinct lack of ambition on preventing all recyclables from going to landfill" in the CE package. European Plastics Converters (EuPC) indicated that the level of legal clarity contained in the package would be insufficient to guide companies in Europe.

Meanwhile, the Paper Packaging Coordination Group, comprising the major European paper and board packaging associations, welcomed consideration of the role of the bio-economy in the 2015 package,^{viii} and APEAL, the Association of European Producers of Steel for Packaging, said the package would help drive cultural change in the way products are manufactured, used and recycled.^{ix}

5. Businesses using inadequate analysis:

Business associations often rely on incomplete or biased analyses in developing and arguing their policy positions. It is not always clear whether these analyses are deliberately biased to support a given position, or the result of honest, if poor, work.

BE and other trade associations opposed the 2014 CE policy package largely on the grounds that it would hurt Europe's global competitiveness. Green groups, however, maintained that the anti-competitiveness argument was incorrect, citing reports prepared by McKinsey and EMF, which put the economic gain from material savings alone at over one trillion dollars per year. They also pointed to the considerable number of jobs already generated by the recycling and re-use industry in the EU.

Even influential companies voicing their concerns with the EC over increased regulations had to admit the CE package could be beneficial for employment in Europe, as well as in keeping resource-dependent businesses within European borders.

The frequent practice of broad-based business associations relying on incomplete or biased analyses in developing and arguing their policy positions could as such be a study in itself.

6. Private-sector decision-makers are not the only ones vulnerable to inadequate analysis.

When a more conservative European Commission (EC) came to power in late 2014 and sought to familiarize itself with the policies proposals of its predecessor, the incoming EC members were reportedly not advised in a neutral way about the then standing 2014 CE policy package. As a result, the new EC decided initially to

scrap the package completely. Green groups responded by requesting "access to documents" under the Aarhus Convention as to the EC's exact reasons for scrapping it, and threatened to fight the validity of the reasons in the EU court. As a result of considerable outcry by non-profit, public and private stakeholders alike, the EC eventually decided to amend the package, rather than scrapping it.

7. Direct CEO involvement.

CEOs can take positions different from what the staff of their companies might normally recommend. This could be influenced by their personal or political alliances, and could even be informed by faulty analysis.

The CEOs of several influential European corporations were said to have gotten directly in touch with the EC regarding their concerns with the proposed CE package, and may have been influenced by the above mentioned analysis in doing so.

The U.S. Climate Action Partnership (USCAP), on the other hand, was a prime example of corporate CEOs collectively taking more pro-environmental positions than their corporate machinery would have recommended. USCAP was formed in 2006 to lobby for a US GHG cap-and-trade law, and ultimately included the CEOs of 25 major oil, auto, power, mining, and chemical companies, along with the CEOs of six major US ENGOs. The corporate CEOs repeatedly took positions more favorable to the environment than their staffs had recommended. Largely on the strength of USCAP's support, a cap-and-trade bill passed the U.S. House of Representatives in 2009, though it died in the Senate in 2010. USCAP went dormant shortly afterwards.

8. Sleeping giants.

One might expect mining and fossil fuel companies to be at the forefront of opposition to CE policies, since a robust CE should cut deeply into the resource extraction business. At this point, however, mining and fossil fuel companies do not seem to be expending much effort to oppose CE policies. This may be because they do not believe the CE will make a significant dent in their business during their current planning horizons.

9. State political interests.

Politicians and the institutions of government have interests that can be distinct from those of their business constituents. For example, an elected official who projects an anti-regulatory political profile may find himself opposing even those regulatory programs supported by business constituents, if he feels it would unduly confuse the voters.

When Europe's 2014 CE package proposed a new calculation methodology for reporting progress in achieving waste reduction goals, the governments of Germany, the UK and Poland reportedly resisted the package. They did so because, respectively, the new calculation methodology would have undermined Germany's claims of environmental leadership, the UK did not like EC targets being imposed on it in general, and Poland felt the targets to be too ambitious. The Polish complaint may have originated with its municipal leaders, and the German and UK concerns seem to have been particular to the political leadership of those countries. Note that, at the same time, influential European countries joined some companies in arguing against scrapping the package.^x

10. Governing checks and balances.

Decision-making power is often divided between bodies that to some extent disagree with each other. For example, the US president and Congress are often at odds with each other, the European Commission shares law-making powers with the Parliament, and the ministry of any given country might take a position somewhat insulated from the demands of its president, prime minister or parliament.

Since 2009, the European Parliament (EP) has been a "co-legislator" on EU law, which means members of the Parliament share equally in the right to shape legislation with national governments. The Parliament has been supportive of introducing a CE policy package as a tool towards greater job growth and economic prosperity, and is traditionally more inclined to help enforce the EU's global position, by, for example, promoting an EU-wide single market, and tackling product design and resource efficiency measures at the EU level. The Parliament voted

mid-2015 on its own stronger CE proposals in a rare "own initiative report."

The main political groups within the EP -- ranging from center-right to left-wing -- all voiced caution or disappointment with the new CE policy package as proposed by the EC at the end of 2015. The scene could therefore be set for a battle between the respective legislators. If disagreement between the EC and EP is significant enough, the package as currently on the table could still face serious changes.^{xi}

4. THE CIRCULAR ECONOMY DEBATE IN EUROPE

In recent years, the CE has risen in Europe from an interesting idea to a concept that is widely studied, embraced by dozens of major corporations, and increasingly incorporated into the legislative and policy framework of many European countries.

In 2011, the European Commission published the Roadmap to a Resource Efficient Europe, a framework for action towards an integrated approach to resource efficiency. After gathering input from selected governments, businesses and civil society organizations, the Commission released in July 2014 a CE policy package, which included several of the above measures and would have phased out landfill dumping by 2025, set a 90% recycling rate for paper, and required EU states by 2030 to recycle 70% of their municipal waste, 80% of product packaging, 60% of plastics, 80% of wood and 90% of ferrous metal, aluminum and glass.

Green Alliance (UK) estimated the benefits of the package, had it gone ahead, to have been in the order of 580,000 new jobs being created, an increase in annual turnover of the EU waste management and recycling sector by €42 billion, savings of €72 billion a year in waste management costs, and a 27.5% reduction in marine litter by 2030. This would have come with the added benefit of providing greater resource security in relatively resource-scarce Europe, thanks to secondary raw materials being re-injected into the economy. Finally, between 146 and 244 million tons of GHG emissions were projected to be avoided by 2020 under the proposed package.^{xii}

The package, however, was withdrawn in December 2014 by the new incoming European Commission, considered to be more conservative and industry-focused than its predecessor.^{xxiii} After a great deal of debate, the EC decided to amend and repackage the proposed CE policy package, with Commission Vice President Frans Timmermans promising a more ambitious package that would be more appealing to industry and EU states, leaning towards less regulation and more reliance on voluntary initiatives. The new CE policy package, introduced in early December 2015, included 54 separate initiatives, and has been hailed as one of the most wide-ranging pieces of legislation the EU has ever proposed.

On the minus side, several of the waste targets were lower in the new package, which called for a 65% recycling target for municipal waste and 75% of packaging waste (by 2030) and allowed a 10% landfill quota – a weakening of the 2014 targets which called for a 70% municipal waste recycling target, 80% recycling of product packaging, and a complete ban on landfill waste.

The new CE policy proposals were said to cover the full lifecycle of products – from production and consumption to waste management and the market for secondary raw materials. Their stated intention was to extract the maximum value and use from raw materials, products and waste by stimulating re-use and industrial symbiosis (i.e., turning one industry's by-product into another industry's raw material); promoting reparability, durability, recyclability and, where applicable, bio-degradability of products; developing quality standards for secondary raw materials; and fostering energy savings and reducing GHG emissions.^{xiv}

At the same time, the new proposed CE package proposed binding targets for waste management only. Other aspects of the package were described more in voluntary or qualitative terms, with many of the proposed initiatives having limited detailed substance attached to them. This meant that in many cases the actual actions, implementation mechanisms and their level of ambition remain to be determined over the coming time.

Criticism of the 2015 package was voiced by a number of groups. Critics argued for instance that lowering the targets from those proposed in the 2014 package could result in fewer new jobs being created. A strict comparison of the 2014 and the 2015 packages, for instance, showed 110,000 fewer jobs, with Germany, for example, spending as a result about €740 million more in unemployment benefits each year by 2030. Furthermore, despite the job-creation potential of a CE, it was argued that the package ignored the need to integrate labor requirements and develop the requisite skill sets for the transition to a low-resource Europe.^{xv}

For a more complete description of the European CE debate and related actions in the EU, in particular the 2014 and 2015 CE policy packages, refer to appendix A.

5. THE CIRCULAR ECONOMY IN INDIA

The Indian CE experience has parallels with that of Europe however India has two additional complexities – the existence already of a large, albeit informal, CE sector, and the enormous economic growth and development expected in the coming decades.

Millions of Indians currently earn their living in the thriving informally-organized closed-loop resource management industry, without which India would see limited repurposing of its valuable waste fractions. The work includes waste or end-of-life product collection, processing and repurposing, as well as maintenance and repair to extend product lifecycles. The informal sector provides income to a large number of uneducated or poorly-educated families, especially those moving from the countryside to urban centers, as waste picking and sorting requires few skills and limited capital investment.

At the same time, the country is experiencing a rapid increase in wealth and associated consumption patterns, as a result of which current “circular” characteristics may lose ground, rather than being improved upon to mitigate the adverse impacts of the existing practices.

Although the government of India is well aware of current informal sector practices, it generally neither engages directly with the informal sector nor considers it actively in policy-making. The informal sector is generally not seen as a valuable part of the Indian economy by either government or the larger corporations which sell considerable product volume into the Indian market – much of which is being repurposed by the informal sector.

India’s current draft waste laws reflect this disregard. The draft laws acknowledge the informal sector only (to some extent) with regard to municipal waste, while the plan for other sectors is largely to move material flows from informal to the formal sector, which could exclude the informal sector from its current access to repurposable resources.^{xvi}

As a result of its characteristics and the state of play of the Indian political and economic landscape, the informal sector therefore faces a number of challenges and threats as follows.

Dispersed nature.

One challenge for the informal sector is its highly dispersed nature, which reduces the sector’s power to negotiate and represent itself before government. This vulnerability raises the question of whether informal sector players could move themselves up the ladder, becoming formal sector operators in order to maintain

their access to resources. Lack of education, limited access to capital and other factors could make this a challenge, likely leading to such operations reaching no more than small SME scale in the formal sector.^{xvii xviii}

Data gaps.

Not surprisingly, major data gaps exist regarding the scale of informal sector material flows, where repurposed materials end up, the losses and leakages, which materials are not being repurposed, what the value chain from the informal to the formal sector looks like, and the avoided cost of waste collection and treatment by government thanks to the work of the informal sector. These data gaps are partially being filled by a number of non-profit and development cooperation organizations, which are conducting baseline studies for one or more specific sectors, ranging from e-waste to End-of-Life vehicles (ELV).^{xxiii xxiv xviii}

Little incentive for OEMs.

The Indian government currently exerts little pressure on Original Equipment Manufacturers (OEM) to reverse their logistical systems. Nor are major Indian companies taking the lead in CE. As a result, resources processed by the informal sector generally do not return to the OEM, but end up in the secondary market, often with some degree of down-cycling.^{xxiv}

Access to waste.

Access to waste is a major prerequisite for the informal resource-repurposing sector. Plans by municipal governments, such as the government of Delhi, to commission waste incineration plants with no pre-incineration sorting and separation of reusables and recyclables would result in reduced waste volumes being available to the informal sector and less waste being gainfully repurposed, reused or recycled. Research in parts of India found that incineration plants led to a major drop in income for local waste pickers and a major increase in child labor of the children growing up in such families in order to feed themselves.^{xxiii xix}

Access to land.

Access to land is especially important for waste fractions which require considerable storage and dismantling capacity, such as ELVs. With India's wealth increasing, the number of vehicles in operation is rapidly rising. The informal and semi-formal ELV repurposing sector in India has indicated that it can accommodate the growth in ELVs, though is struggling to gain sufficient access to land near cities for these activities.^{xiii}

Technological solutions.

Some technological solutions would displace informal sector workers rather than provide them meaningful in-sector employment opportunities. Many informal sector operators are proud entrepreneurs and, though willing to enhance their practices, are also keen to preserve their independent status, instead of becoming salaried workers. Many fear that a move to formalize the sector would result in the introduction of large-scale processing plants, either putting informal sector workers out of business or providing them, at best, a salaried job at a processing plant.^{xi}

Hazardous conditions.

In certain cases, such as the recycling of lead acid batteries and other hazardous materials, the formal sector is likely better able to deal safely with potential environmental and health challenges encountered. In such cases, exploring alternative livelihood options or moving the informal sector towards a different role in the value chain for that resource, might be considered. At the same time, some waste fractions currently repurposed by the informal sector may prove challenging to repurpose through the formal sector, as the formal sector's labor costs are generally higher than that of small-scale informal sector entrepreneurs.^{xv}

AN INCLUSIVE POLICY APPROACH FOR INDIA'S INFORMAL SECTOR SHOULD THEREFORE AIM TO IDENTIFY:

- resource repurposing/recycling fractions that could be suitably left to the informal sector (e.g., cardboard and paper), with a focus on providing them with the right enabling conditions and a more controlled environment;
- fractions that currently cause certain adverse impacts through processing, but in which there is scope for improvement of the informal sector practices; and
- fractions which should be taken out of the informal sector and dealt with more through appropriate processing methods, such as potentially hazardous fractions.

6. CONCLUSIONS

Transition to a CE could deliver huge benefits, not the least of which is a sharp reduction of the economy's virgin resource use and carbon footprint.

The optimal package of CE policy interventions will likely combine mandatory measures which ensure that the transition occurs at a pace appropriate to the emerging resource and climate crisis, with assistance and incentives for business, government and other institutions in letting them meet the requirements.

Establishing the optimal CE policy package for developing countries will involve the additional challenge of preserving and enhancing aspects of the economy which are already circular, even if currently informal, both to provide for a more efficient and organic transition, and to ensure fair and equal treatment of current CE workers, many of whom reside at the bottom of the pyramid.

Enacting and establishing CE policy will likely be contentious for certain sectors of the economy, since it will reduce more "linear" types of economic activity, such as resource extraction, manufacture and sales of products

designed to have low durability and rapid obsolescence, and waste incineration and landfilling. Some of the opposition to CE policy, however, will originate not in genuine economic interests, but in commercial, political, and ideological alliances, or an inadequate understanding of the genuine impacts and opportunities resulting from CE policy and transition. Reducing this second source of opposition is a principal benefit of understanding the political economy of a CE to some degree of detail. Advocates for CE policy should in this respect be particularly alert to the possibility of support for or opposition against CE policies from companies and organizations that one might have assumed to hold the opposite view, and subsequently formulate appropriate responses to their potential reactions in order to smoothen the introduction and adoption of sufficiently ambitious CE policies to tackle the environmental and economic challenges at hand.

7. RECOMMENDATIONS

In light of these conclusions we subsequently suggest a range of actions that CE advocates could consider to build support and reduce opposition for CE policy.

1. Analyse the analyses: Identify the most promising CE opportunities in terms of their carbon and other benefits, including the analytical basis, to the extent they exist. Do not assume analyses are complete or accurate and do not assume the opposition understands it – businesses, associations, and policy-makers often rely on outside analyses without taking the time to understand or critically assess them. Similarly, if no analysis has been done, perform one. Do this not only to understand the potential but to help undermine opponents' arguments publicly and to neutralize the opponents privately, or perhaps even recruit supporters who had not initially understood the potential benefits of the CE policy for their company or organization.

2. Identify likely supporters and opponents and their alliances (as a first approximation). The lists at the beginning of Section 3 suggest characteristics of business and other organizations likely to support or oppose CE policy. Identify the most significant of these likely supporters and opponents on the basis of their assumed interests and motivations – but recognize that this is only a first assumption. Refine this landscape assessment by identifying the commercial, political, and ideological alliances of the key players – alliances which may lead them to support or oppose a given CE policy in a way that is contrary to initial assumptions.

3. Let sleeping giants sleep. If natural opponents to CE policy are not actively opposing it, be careful not to arouse their opposition.

4. Match CE goals with policy design. Although regulatory measures can draw opposition, as seen in Europe, such mandatory measures have the potential to more rapidly transform the economy towards CE than voluntary measures alone. A good policy framework will

therefore consider a mix of measures that incentivize and impose (“carrot and stick”), meanwhile providing stakeholders a helping hand in reaching aspired goals. CE advocates are advised to consider what types and mix of CE policy measures might effectively lead them to their desired end goal, and subsequently assess what the real or perceived impacts on key stakeholder groups could be and their power to rally in favor of or resist the change, in order to formulate a suitable (policy) response. This is not to suggest that stakeholders with limited power to unite and oppose should therefore be ignored, as the India case shows – rather such vulnerable groups should be protected against the interests of more powerful stakeholders if these would have the potential to lead to policies outcomes that are not inclusive, distributing the benefits of CE amongst few rather than many in society.

5. Build alliances with leading individuals. Identify and recruit business, political, and other leaders who might take a progressive position on CE policy and lead their organizations to do so for reasons of personal interest, even if their organizations might otherwise be neutral or opposed. This is often most effectively done by approaching them with people at a senior level – for example, reaching out to a company CEO through a current or retired senior policy-maker, or vice versa. Seek opportunities to build commercial, political, or ideological alliances with companies and organizations that might have been inactive, neutral or opposed to a CE policy – alliances which might lead to their active support despite the superficially-apparent interests. Such alliances could take the form of standing associations or ad hoc coalitions.

APPENDIX A: THE PROPOSED EUROPEAN CIRCULAR ECONOMY POLICY PACKAGES

This appendix describes the two sets of proposed policy packages which have been at the center of recent debates over circular economy (CE) policy and ambition in the European Union.

THE 2014 PROPOSED CIRCULAR ECONOMY POLICY PACKAGE

In 2011, the European Commission published the Roadmap to a Resource Efficient Europe, a framework for action towards an integrated approach to resource efficiency across several policy areas. A high-level European Resource Efficiency Platform was subsequently established, bringing together selected governments, businesses and civil society organizations. The Platform sent out a call for action to move to a CE, resulting in the Commission making a commitment to setting up an enabling policy framework. ^{xxii}

The outgoing European Commission delivered on its commitment by releasing a CE policy package in July 2014 at the end of its term, despite resistance from influential EC members. The proposed package would have phased out landfill dumping by 2025 and set a 90% recycling rate for paper. By 2030, EU states would have needed to recycle 70% of their municipal waste, 80% of product packaging, 60% of plastics, 80% of wood and 90% of ferrous metal, aluminum and glass.

The policy package also included two non-binding targets, with the EC aiming for member states to adopt national strategies in order to reduce food waste by 30 % by 2025, as well as a proposed target of a 30% increase in EU resource productivity by 2030. Furthermore the EC proposed a number of fairly generic, non-binding measures such as – among others – further analysis into the major market and governance failures which hamper the avoidance and reuse of material waste; demonstrate the opportunities for moving towards a CE through funding for large-scale innovation projects under the EU Research and Innovation Programme (Horizon 2020); develop the application of the European Ecodesign Directive by paying further attention to resource efficiency

criteria; prepare guidance on the possibilities offered by Europe's new public procurement directives; and build on the results of the Europe's Environmental Footprint pilot phase to set out how to apply the use of environmental impact measurement in product and process design and in providing consumers with better information on environmentally sustainable choices.

Green Alliance (UK) estimated the benefits of the proposed 2014 package, had it gone ahead, to be on the order of 580,000 new jobs being created, an increase in annual turnover of the EU waste management and recycling sector by €42 billion, savings of €72 billion a year in waste management costs, and a 27.5% reduction in marine litter by 2030. This would have come with the added benefit of providing greater resource security in relatively resource-scarce Europe, thanks to secondary raw materials being re-injected into the economy. Between 146 and 244 million tons of GHG emissions were projected to be avoided by 2020 under the proposed package. ^{xxiii}

THE 2015 PROPOSED CIRCULAR ECONOMY POLICY PACKAGE

After shelving the 2014 package, European Commission Vice President Frans Timmermans promised a more ambitious package that would be more appealing to industry and EU states, leaning towards less regulation and more reliance on voluntary initiatives.

The new CE proposal package, introduced in December 2015, was presented as a “major political package, reinventing European economy.” With 54 separate initiatives, the CE package was hailed as one of the most wide-ranging pieces of legislation ever proposed by the EU. As part of the CE package, four European directives

-- the waste framework directive, and directives on packaging waste, landfill waste and electrical waste -- were to be substantially amended to include legally binding targets for 2030.^{xxiv}

On the minus side, some of the waste targets in the 2015 package were lower, with a 65% recycling target for municipal waste and 75% of packaging waste (by 2030) and a 10 % landfill quota -- a weakening of the 2014 targets which had called for a 70 % municipal waste recycling target, 80% recycling of product packaging, and a complete ban on landfill waste.

The new proposals were said to cover the full lifecycle of products -- from production and consumption to waste management and the market for secondary raw materials. They aimed to extract the maximum value and use from raw materials, products and waste by stimulating re-use and industrial symbiosis (i.e., turning one industry's by-product into another industry's raw material); promoting reparability, durability, recyclability and, where applicable, bio-degradability of products; developing quality standards for secondary raw materials; and fostering energy savings and reducing GHG emissions.^{xxv}

At the same time, the 2015 package proposed binding targets for waste only. Other aspects of the package were described more in voluntary or qualitative terms, with many of the proposed initiatives having limited detailed substance attached to them. This meant that in many cases the actual actions, implementation mechanisms and levels of ambition were still to be determined in the coming one to two years.^{ix}

The 2015 package was believed to have come about under the influence of continued internal debate and negotiation between EC members rallying in favor or against key elements of the CE policy package. The new package could be considered a mixture of 2014 policy package measures that were reinstated, but softened or weakened, and a range of new proposed lines of action and investigation, for which there was not sufficient internal buy-in to propose as new regulations. Some observers believed that Timmermans pushed the current package out to draw negative responses from external stakeholders regarding the environmental shortcomings of the new package, thereby creating a counterbalance to the continued internal EC resistance.^v

STATE OF PLAY: RESPONSE OF THE EUROPEAN PARLIAMENT TO THE 2015 EU CE PACKAGE

The European Commission has argued that the current package is more ambitious because it addresses the full life-cycle -- not just waste -- and comes with a clear roadmap, not just targets. Nonetheless, the main political groups in the European Parliament -- ranging from center-right to left-wing -- have all voiced caution or disappointment with the new CE policy package. The Parliament voted mid-2015 on its own stronger CE proposals in a rare "own initiative report." The scene could therefore be set for a battle between the respective legislators. If disagreement between the Commission and the Parliament is significant enough, the EC's proposed CE package could face serious changes.^{xxvi}

The response of Parliament members to the CE package as of mid-2016 has focused on criticizing the watering down or omitting of proposed binding headline targets. The quantitative target -- to reduce food waste, for instance -- has been replaced with a vague qualitative proposal, and there is no target for resource use. This means the program would depend in part on individual EU member states as to ensure that high resource efficiency targets are set. The Parliament favors a harmonized set of compulsory indicators for a product's lifecycle, while the EC provides less defined aspirational proposals, the impact of which depend on how exactly these will be turned into concrete legislation.^{xxvii}

Given that members of the Parliament have vowed to push for higher targets, and EU member states are expected to struggle to reach the EC's proposed targets, this new proposed CE package therefore may not come into law any time soon.

With many of the proposed actions needing further detailing, there is still scope for many stakeholders, such as the Parliament, to push for more ambition. It is expected that the voice of an organization such as BE will be less influential once the parties get into fleshing out the details of the package, looking to instead involve specific expert groups, rather than the more general BE, to inform policy making. At the same time, some of the proposed actions may be on a slow development track, one example being the strengthening of the European eco-directive to influence the design and environmental quality of products.

| CE policy intervention types | Examples of related CE policy measures | Potential for support or opposition from stakeholders |
|---------------------------------------|--|--|
| Education, information and awareness | <ul style="list-style-type: none"> Integration of CE / systems thinking into school and university curricula. Public communication and information campaigns | <ul style="list-style-type: none"> Companies and their allies that see the opportunities CE brings them will advocate a workforce with suitable CE skills, and a consumer force educated on CE benefits |
| Collaboration platforms | <ul style="list-style-type: none"> Public-private partnerships with businesses at the national, regional and city levels. Encouragement of voluntary industry collaboration platforms, encouraging value-chain and cross-sectoral initiatives and information sharing. R&D programs in the fields of material sciences, bio-systems, etc. | <ul style="list-style-type: none"> Companies and their allies that see the opportunities CE brings them will welcome extra support, research and knowledge exchange Providers of CE know-how and technology will welcome more R&D Companies competing with CE products or services will experience the CE support as a threat to their competitiveness |
| Business support schemes | <ul style="list-style-type: none"> Financial support to business, including direct subsidies, incentive programs, provision of capital, financial guarantees. Technical support, advice, training and demonstration of best practices for businesses. | <ul style="list-style-type: none"> Companies and their allies that see the opportunities CE brings them will welcome extra financial and technical support Companies who see CE as a threat may criticize the additional financial support, for which they're not eligible |
| Public procurement and infrastructure | <ul style="list-style-type: none"> Public procurement. Public investment in infrastructure. | <ul style="list-style-type: none"> Manufacturers and vendors of CE products and services will welcome favorable treatment in procurement Manufacturers and vendors of non-CE compatible products and service will oppose being disadvantaged in procurement processes Take-back infrastructure providers and companies keen to access reusable/recyclable resources will welcome infrastructure investments |

| | |
|--|--|
| <p>Regulatory frameworks</p> <ul style="list-style-type: none"> • Sectoral strategies and associated targets for resource productivity and CE. • Product regulations (including design), extended warranties, and product passports. • Waste regulations, including collection and treatment standards and targets, extended producer responsibility and take-back systems. • Industry, consumer, competition and trade regulations. • Accounting, reporting and financial regulations, including accounting for natural capital and resources. | <ul style="list-style-type: none"> • Manufacturers and vendors of CE favorable products and services will welcome more stringent regulation in order to create a level playing field • Manufacturers and vendors who base their business models on disposables, low-quality/high-volume products and/or products with rapid cycles may oppose more stringent product and design regulations • Product refurbishers and manufacturers will welcome regulations which increase their opportunities • Waste collector & disposal operators may oppose, if regulation would lead to lower waste volumes • Industry and trade bodies who see CE as an opportunity or threat to competitiveness will likely respond accordingly in their outreach and lobbying efforts |
| <p>Fiscal frameworks</p> <ul style="list-style-type: none"> • VAT or excise tax reductions for CE products and services. • Tax shift from labor to resources. | <ul style="list-style-type: none"> • Manufacturers and vendors of CE favorable products and services will welcome tax reductions to access more customers • Resource-intensive industries with low CE characteristics will oppose a shift from labor to resources |

APPENDIX B: IMPLICATIONS FOR CE POLICY INTERVENTION

The European case study shows that even in environmentally-progressive and resource-poor economies, the introduction of CE policies can generate considerable resistance from private and public sector stakeholders alike – including those one might have thought supportive – possibly leading to ill-informed policy decisions significantly slowing the transition to a CE.

This Appendix therefore considers the specific implications of such stakeholder opposition or support on selected CE policy interventions and the implications for policy makers designing a package of CE policy interventions.

Although in particular regulatory (and fiscal) measures are expected to draw opposition, as seen in Europe, at the same times measures with a more mandatory character have the potential to more rapidly transform the economy towards CE than what could be achieved through voluntary, facilitating measures alone. Nonetheless, any good policy framework will consider a mixture of measures that incentivize and impose (“carrot and stick”), in order to nudge stakeholders into action, meanwhile providing them a helping hand in reaching the aspired goals.

Policy makers may therefore want to consider what types of CE policy measures might effectively lead them to their desired end goal, and subsequently assess what the real or perceived beneficial and adverse impacts on key stakeholder groups could be and their power to rally in favor of or resist the change. This is not to suggest that stakeholders with limited power to unite and oppose should therefore be ignored, as the India case shows – rather such vulnerable groups should be protected against the interests of more powerful stakeholders if these would have the potential to lead to policies outcomes that are not inclusive, distributing the benefits of CE amongst few rather than many in society.

Preferably policy makers would start to assemble packages of measures with a mixture of policy instruments that support and strengthen each other, while facilitating and incentivizing stakeholders to follow suit and smoothing out the hurdles that are likely to create friction and resistance. As an envisioned CE transition

should preferably come with a clear roadmap and action plan to achieve the desired outcomes, these different policy packages could be mapped against a CE transition path similar to a scenario analysis exercise in order to determine who and how stakeholders would gain or lose pending the set of measures applied, and how feasible and stable each scenario would be as a result of what stakeholders stand to win or lose.

Whereas in the European case study for instance, concerns directly and indirectly related to the competitiveness of European industry played a mayor role –even though Europe’s limited resource base and strong dependency on resource imports make it vulnerable to resource scarcities and related price volatilities-, the Indian case study clearly displays how in emerging economies any initiative towards a CE transition will have to thoroughly consider how it may enhance or displace livelihoods of vulnerable low-income groups, who may have limited alternative income earning opportunities at hand.

Such a mapping / scenario analysis exercise may help to determine an optimum set of measures to achieve the goals, while reducing or softening real or perceived negative effects and maximizing real or perceived positive impacts. For instance, this could lead to select regulatory measures being applied in combination with awareness raising and knowledge exchange to help stakeholders understand the benefits of the approach, while extending technical and/or financial support to targeted stakeholders including those that can be considered frontrunners, and convening them in collaboration platforms to facilitate the desired transition and cooperatively help them ‘learn by doing’.

In short, even though the key types of CE policy interventions as identified are expected to be applicable across developed as well as emerging economies, the actual CE roadmap for e.g. Europe or India will show considerable differences in terms of actionable items as a result of not only resource dynamics, but also the socio-economic dynamics of each society and the interests therefore at play.

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