



OUR WASTE, OUR RESOURCES: A STRATEGY FOR ENGLAND – A response from the Resource Recovery from Waste (RRfW) research programme.

Prof. Phil Purnell, Dr Anne Velenturf, RRfW – www.rrfw.org.uk

RRfW is a £7M strategic investment by NERC, ESRC and DEFRA. Running from 2014 to 2019, the programme brought together a broad range of partners from academia, government and industry to provide evidence and tools for a radical change in resource and waste management. RRfW envisioned a circular economy in which resources and wastes contribute to a resilient environment, human well-being, and clean growth. The programme actively contributed to public debate around circular economy and offered evidence from academic research for the development of government strategies, policies and regulations including the Resources and Waste Strategy. Here we offer our observations of the now published strategy to inform stakeholder opinions in the preparation of consultation responses.

General Observations

1. RRfW has campaigned for a long-term Resources and Waste Strategy that provides certainty about direction of travel but remains adaptive and will be reviewed at regular intervals. Overall it is thus very positive that the strategy was prepared in this way. The explicit link made between resource efficiency and clean growth, long championed by RRfW and other work at Leeds (e.g. by Prof John Barrett) is also welcomed.
2. However, the Strategy lacks teeth; the focus is on consultation and exploration with few hard-and-fast policies announced. Implementing many of the proposals will radically challenge existing economic strategies and business models, which depend on continued exploitation of virgin resources and sale of new products. It will be important to ensure that the spirit of the strategy is not watered down when the detail is negotiated by those who stand to lose. The commitment to ensure that Government procurement will be mandated to prioritise circular economy (CE) principles is welcome and can help focus the supply chain and provide leadership.
3. The aim to better apply the waste hierarchy to hazardous waste is welcome, but it should be made explicit that this extends to all wastes. Non-hazardous wastes are certainly not already perfectly processed according to the waste hierarchy, which is the implication of the omission.

A Circular Economy

4. The strategy sets a clear focus on achieving a CE, recognising the three-pronged motivation proposed by the RRfW programme: to maximise value of resource use; to minimise waste; and to minimise the impact of waste on the public health and the environment by aiming for “net-positive gains”.
5. It acknowledges that action is required across the product cycle from:

- the beginning (e.g. that 80% of impacts could be avoided by better product design), to;
- the middle (e.g. recognising that product lifetimes are shorter than 20 years ago and the role of repair, remanufacturing and reuse needs to be strengthened), to;
- the end (e.g. by standardising waste collection systems to provide consistent streams of recyclate), and;
- across geographical boundaries (e.g. that waste issue should not be offshored by exporting) and;
- across facilities (e.g. reimagining local authority HWRCs as repair, reuse and remanufacturing centres, not just for disposal of bulky waste).

Governance, Policy and Regulation

6. The proposed whole-system approach has been lacking from previous strategies. Enacting it will require cross-departmental collaboration that provides global leadership and integrated governmental oversight of UK resource security. The commitment to revisit the Resource Security Action Plan by BEIS and DEFRA is positive in this regard and also would improve information about resource supply/availability to enable business to manage risks better.
7. Establishment of an Office for Resource Stewardship (as proposed by RRfW) would achieve these aims. It could also coordinate many other recommendations, e.g.
 - a. Sponsoring research into resource efficiency (Ch 7);
 - b. Coordinating the ambition to improve data collection for input resources and commercial, industrial and construction/demolition wastes¹; pioneering new digital approaches to data and metrics (at local authority [LA] and national levels) including impact-based targets, carbon and natural capital accounting (Ch 8);
 - c. Providing a governance structure for the National Materials Datahub (currently split between BEIS, Defra and the Office for National Statistics as a delivery partner) and associated resource efficiency clusters proposed to help time-poor SMEs (Ch 1);
 - d. Overseeing the development of the Standard Industrial Classification to embrace 'circular economy sectors' such as repair, reuse and remanufacturing (required for aims in Ch 2).
8. However, it should be better recognised that waste occurs all along the supply chain (e.g. during materials processing, manufacturing and even recycling) and these industrial business-to-business wastes must be included, not just those generated at end-of-life by households and commercial premises.
9. The focus on 'polluter pays' remains, but this reinforces the public health and environmental aspects of resources and waste, i.e. reducing a narrow set of

¹ Although a disproportionate focus remains on household waste; a wasteflow of ~30 million tonnes per annum [Mtpa] compared to the total of ~200 Mtpa when the sectors above are included

adverse impacts by issuing licences to pollute, rather than a focus on achieving broader net-positive benefits. Should we consider a ‘depleter pays’ model, where those that do not engage with CE principles and thus deplete primary resources – or ‘natural capital’ – are charged accordingly?

- a. For example, it is encouraging that reducing landfill aftercare costs is recognised as area of research interest, with research to be planned into managing environmental risks and approaches for landfill aftercare. While this puts legacy landfills on the agenda, the potential to use industrial landfills and old mines as resource hubs is still not recognised and this is a considerable omission from the strategy. Investigating waste composition in legacy landfills is only proposed to reduce risk and cost, but not to audit the resource potential².
10. The principle of Extended Producer Responsibility (EPR) is presented as a key tool in driving CE behaviour (Ch 1) and it is already in place for vehicles, batteries and WEEE. While the EPR plans for packaging look well-thought through, the more general EPR measures are insufficiently focused on minimisation of resource input and durability and provide too many opt-outs that allow various industries to change nothing. It also seems clear that in its current form it is not working (e.g. <10% of the cost of managing packaging waste is covered by the existing PRN system) and often drives exports of waste. The strategy suggests that “*producers [should] bear the full net costs of dealing with products as they become waste*” (p48). The commitment to recover 100% of these costs in certain areas is welcome but this must be implemented in such a way that exports – legal or illegal – and dumping of waste is discouraged.

Brexit

11. Leaving the EU may well be an opportunity to ‘reset’ environmental policy (Ch 6) – and update it to include measures that promote RRfW and CE – but given that almost all domestic policy in this area is driven by EU directives, it is not clear how realistic this opportunity might be. The promised transposition of the EU CE package into UK law (p12) is welcomed, but it must be made explicit how this will be updated to surpass and improve upon EU processes, if we are to become world-leaders in RRfW/CE.
 - a. For example, how can we take the opportunity to narrow the discrepancies between the level and quality of RRfW activities across the home nations? The strategy is for England only and is non-committal regarding building a coherent approach for CE transition across the UK and collaboration across government (e.g. with BEIS, MHCLG and HM Treasury), in the absence of a clear proposal for an Office of Resource Stewardship (see 7 above)

² Making the most of industrial wastes: strengthening resource security of valuable metals for clean growth in the UK https://resourcerecoveryfromwaste.files.wordpress.com/2018/05/rfw_ppn_making-the-most-of-industrial-wastes_web.pdf.

Data and Metrics

12. The strategy will require a multi-dimensional approach to measuring success that takes into account benefits and impacts in the social, environmental, technical and economic domains, not just recording mass or volume of material recovered, or simple financial measures. The introduction of normalised metrics (e.g. GVA per unit of resource consumed) is welcome, but needs to be more detailed both to embrace all dimensions of value, and to be generated for a wider range of materials and products, to establish which materials are 'essential' for GVA, and which could be designed out.
13. While we are open to the evaluation and expansion of metrics in line with natural capital principles, which can be positive if the focus of the principles changes to include the creation of net-positive environment, social and economic gains, the current set of headline indicators primarily measures negative impacts and the reduction thereof, both for resource use and waste.
14. Metrics for recovery and recycling need to focus on the quality, not just the quantity of materials recovered (Ch 3). Metrics for quality – i.e. the technical properties of materials that determine in what capacity they can be reused – are poorly established and not collected in any great detail. The link between collection schemes and the quality of material recovered needs to be established with greater accuracy. These more incisive metrics and enhanced data collection systems will be essential if the strategy is to tackle some of our most pernicious waste streams, particularly that generated by construction.

Business Models

15. The strategy rightly highlights a number of alternative business models – some of which adopted by multinational corporations – that can promote CE practices, focussing on supply of services (e.g. mobility, music or cleaning) rather than things (e.g. cars, CDs or washing machines) (Ch 1). These models promote the manufacture of fewer but durable, repairable and upgradable high-quality products, rather than an excess of cheap disposable goods.
16. Such business models could add up to £75Bn to GVA and accrue multiple additional social, economic and environmental benefits; not least, protecting the resource security of the UK in turbulent political times. "Full support" of such business models is promised (p86 Ch. 2) but potential first-movers in this area will need greater clarity and certainty on what this support might look like.
17. It is also welcomed that it is to be made much clearer how businesses can achieve 'end of waste' status for repurposed or treated waste materials which will increase economic value of 'wastes' and recovered materials and thus help establish wastes as a resource and prevent waste crime; our analysis has repeatedly shown that many business find the end-of-waste process opaque, inconsistent and cumbersome.

Plastics

18. Much of the strategy focusses on plastics and rightly so given the recent interest in the effect of its disposal on wildlife and ecosystems. However, banning plastics, as is proposed in certain cases, is not necessarily the answer. Some plastics provide essential services – protection, preservation, air- or water-tightness etc. – that prevent waste elsewhere in the supply chain and the net effects must be established carefully.
 - a. For example, the plastic bag ban has resulted in an 86% drop in the supply of single-use plastic bags. But the published figures do not include how many 'bags for life' (BFL) replaced them as this was not part of the mandatory reporting; less than 10% of retailers returned BFL figures. Since BFL are 4-5 times heavier (i.e. use 4-5 times more plastic each), if a similar number have been added to the market as the reduced number of single-use bags currently in use, then the net amount of plastic in the system might actually have increased.
19. It is also unclear why the tax on plastic packaging has been set at 30% recycled contents, while aiming to recycle 70% of plastics. Will the recycled content target increase when the strategy is revised? And why is it focused on producers only, and not on all business that sell plastic goods in the UK?

Infrastructure and Energy from Waste

20. A considerable deficiency of the strategy is its focus on Energy from Waste (EfW) systems – and lack of focus on other resource recovery infrastructures – and their role in achieving a CE. The strategy aims to make EfW 'more efficient', which is of course useful, but appears to neglect activities further up the waste hierarchy.
21. £3Bn is promised to new 'waste infrastructure' and/or 'domestic recycling infrastructure', but analysis of the linked PPP/PFI investment data makes it clear that all 90+ projects are listed either as energy from waste, producing output with a reduced biodegradable content for landfill disposal, or producing refuse-derived fuels; i.e., no actual materials recycling at all but destruction of potentially valuable materials via incineration. How will the proposed tax on incineration square with this approach? Why is no direct investment earmarked for the numerous upstream activities identified as crucial, such as better product design, new business models, more efficient collection, recovery and recycling technologies, managing exports to create a level playing field etc.?
22. This incorporation of EfW and related approaches as 'recycling' technologies, when they are nothing of the sort, is misleading. The lack of high-profile public investment focus on activities higher up the waste hierarchy is damaging as it erodes confidence in the economic viability of such activities. The strategy states that investment in infrastructure will be promoted via better waste supply quality and creation of secondary resource markets, but regarding the latter only measures for plastics have been proposed and this should be extended to include other products and materials.