

Targeting success

“green
alliance...”

Why the UK needs a new vision for resource use



Summary

“The UK was the first country to set the example on bold climate action. It should now lead the way in transforming global attitudes to resource use.”

For a successful transition to a resource efficient, circular economy that protects the environment, ecodesign principles and green standards for products will be vital. As we showed in our last report for the Circular Economy Task Force, if these measures were used to their full potential, products would meet green criteria by default and be designed to last.¹

But, on their own, product standards and design principles cannot create a circular economy. They must be part of a wider system built around clear environmental goals. That means incentives, behaviours, business models, and physical and logistical infrastructure all geared towards better resource management. And, at every lifecycle stage, it means that products and the materials they are made of stay in use and hold their value for as long as possible.

Our economy is a very long way from this vision. If everyone in the world consumed natural resources at the same rate as the UK, three planets would be needed to supply them. The UN has suggested that a sustainable level of overall resource consumption is between six and eight tonnes per person per year.² In the UK, we consume twice that, at 14.7 tonnes.³ Addressing this necessitates a rethink of the system and a strategy to transform resource use.

An all encompassing approach to change is not without precedent. In fact, the UK’s genuinely world-leading framework for tackling the climate crisis is a model that could be replicated for UK resource use too. In the case of climate, we have a vision of where the country needs to be (ie net zero emissions by 2050) and a robust process to get there. It is supported by independent scientific advisers who set five yearly budgets, which make recommendations for specific sectors, keep progress on track and identify remedies when it is not.

In this report, we show why the current approach to resource management is failing and how it can be fixed, with a clear vision and implementation plans. The UK was the first country to set the example on bold climate action. It should now lead the way in transforming global attitudes to resource use.

To achieve this, we propose learning from the UK's climate policy framework and taking action in three areas:

1. An ambitious target for cutting resource use

A clear target is needed to bring UK resource consumption within planetary boundaries by 2050. Resource policy is a devolved matter but, as with climate change, an umbrella approach could be established with administrations free to exceed a minimum standard or adopt differentiated obligations. In fact, Wales has already pledged to create a target for one planet resource use by 2050. In England, a resource reduction target could supplement, or replace, the resource productivity measure currently being developed through the Environment Bill. Evidence suggests the UK should aim, at a minimum, to halve overall resource consumption.

2. Plans for specific sectors and materials

An economy wide resource reduction target is unlikely to stimulate action from specific sectors or for certain materials; this could be particularly problematic for critical raw materials. Clear roadmaps should be outlined for specific sectors and strategically important materials, identifying what can and needs to be done to contribute to the overall goal.

3. Binding interim goals

To ensure the overall target is met, binding interim goals should be set, as is done with carbon budgets. These should be both overarching and sector specific, to provide near term certainty and a stable policy environment for businesses.

Resource use in the UK

“Unnecessary waste, high carbon emissions and pollution are hard wired into our system of resource use and the impacts of this are becoming increasingly clear.”

Worldwide, resources are being used at a rate that far outstrips the earth’s capacity to supply them. As of 2020, over 100 billion tonnes of resources entered the global economy every year, and less than nine per cent of those are ever reused.⁴ In the UK, it is estimated the average resident has an ecological footprint, including the use of renewable resources, that is almost three times the natural world’s productive capacity.⁵ That means that, if everyone in the world consumed renewable resources at the rate we do in the UK, we would need three planet earths to meet the demand for natural materials.⁶ Overall, the UN has suggested that per person resource consumption, including renewable resources and non-renewable resources, like minerals, metals and fossil fuels, should be between six and eight tonnes a year. In the UK, average per person consumption is 14.7 tonnes.

Unnecessary waste, high carbon emissions and pollution are hard wired into our system of resource use and the impacts of this are becoming increasingly clear, with climate change, biodiversity decline and the plastic pollution crisis as stark evidence of what is wrong.

The UK’s material footprint is intricately linked to its carbon footprint, and just 30 out of 106 sectors of the UK economy are responsible for 80 per cent of the country’s carbon and material impacts.⁷ Furthermore, the UN has found that resource extraction and processing causes 90 per cent of biodiversity loss and water stress around the world, as well as 50 per cent of global carbon emissions.⁸

It is urgent to reverse this situation. The changes needed require a new mindset and approach, targeting all stages of resource use, from raw material extraction to the point when products fall out of use. The good news is that there are clear benefits to pursuing this vision, in addition to preventing environmental harm: resource efficiency can make businesses more competitive and give them security of supply, and the public benefits from better products and a healthier environment.

The government has begun to embrace the concept of the circular economy as a solution. But, as a vision in England, it remains very vague. Official documents, including the 2018 resources and waste strategy, simply express a desire for more circularity of resources in the economy. The environment secretary at the time, Michael Gove, summed up the aim in the strategy’s foreword: “Our goal is to move to a more circular economy which keeps resources in use for longer.”

Existing government targets in England, including the aim to double resource productivity and eliminate “avoidable waste of all kinds” by 2050, are not yet legally binding. They also will not necessarily deliver overall reductions in resource use, as resource productivity is measured against economic output. That means resource consumption could carry on rising so long as the economy continues to grow. And there is not yet clear agreement about what ‘avoidable waste’ means.

Despite promises to tackle every stage of the material cycle, the proposals in England still only focus mainly on recycling and, elsewhere, improvements to design standards only target a limited range of energy related products. While very important, recycling is the final step for materials that have already passed through the system and well made products still end up as waste prematurely, in the absence of measures to keep them in use.

A new whole system approach should be at the heart of the resources and waste strategy, one that minimises the materials used in the first place and then keeps them circulating for as long as possible. Every part of the system must work together to achieve this, expanding the concept of ecodesign beyond products to cover all aspects of resource use and ensure all stages of the material cycle function together.

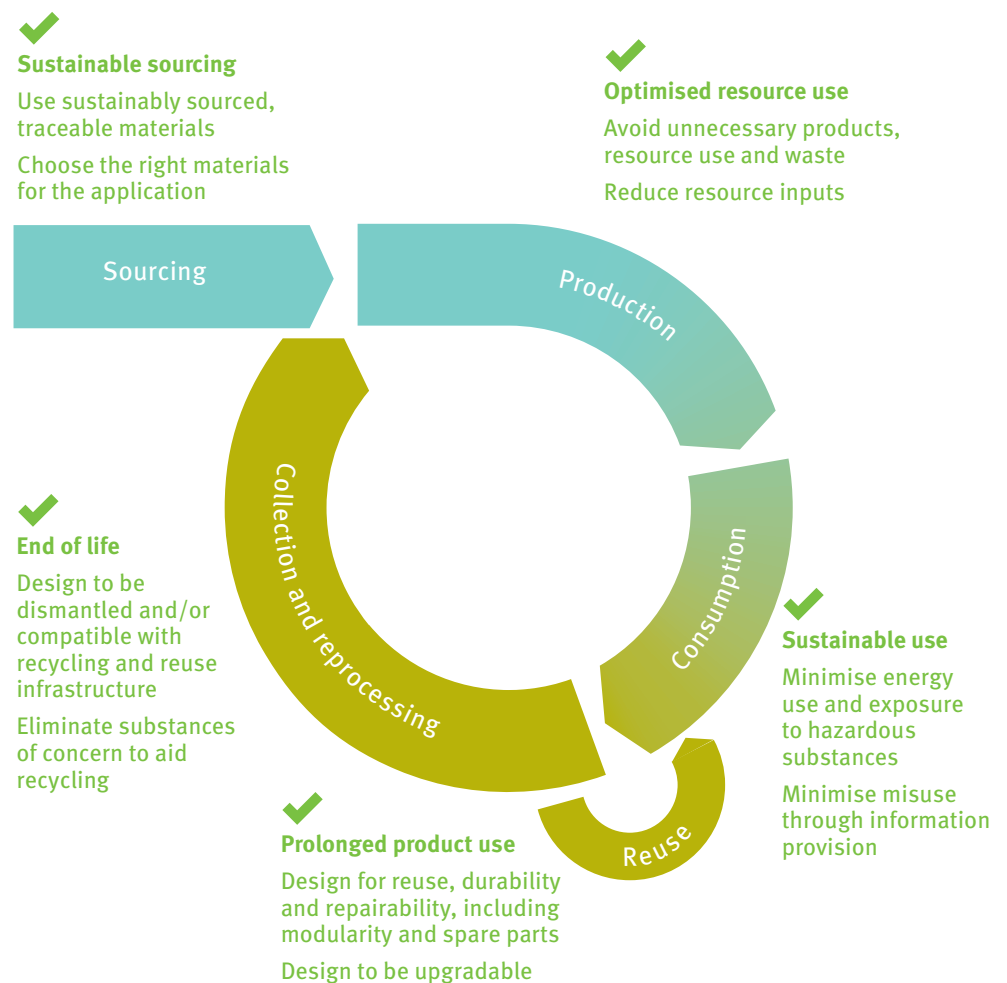
Why ecodesign should apply to the whole system

Ecodesign describes an approach typically used to address the environmental impacts of a product. It is defined as integrating “environmental aspects into the product development process, by balancing ecological and economic requirements. Ecodesign considers environmental aspects at all stages of the product development process, striving for products which make the lowest possible environmental impact throughout the product lifecycle.”⁹

It has been brought into regulation, with standards for some types of products implemented in the EU and the UK over the past 15 years. The aim is to ensure that a range of high impact energy related products achieve a minimum level of environmental performance.

But, as we showed recently in our report *Design for a circular economy*, this regulation has been used mainly to improve the energy efficiency of household appliances.¹⁰ There remains considerable potential to expand the design approach, and the regulations setting standards, to other impacts and products. As shown below, there is huge scope throughout the product cycle to introduce additional ecodesign principles.

Using ecodesign principles in product design for a circular economy



“After all the effort and resources expended to extract and process materials, so much of value and continuing utility is simply lost forever.”

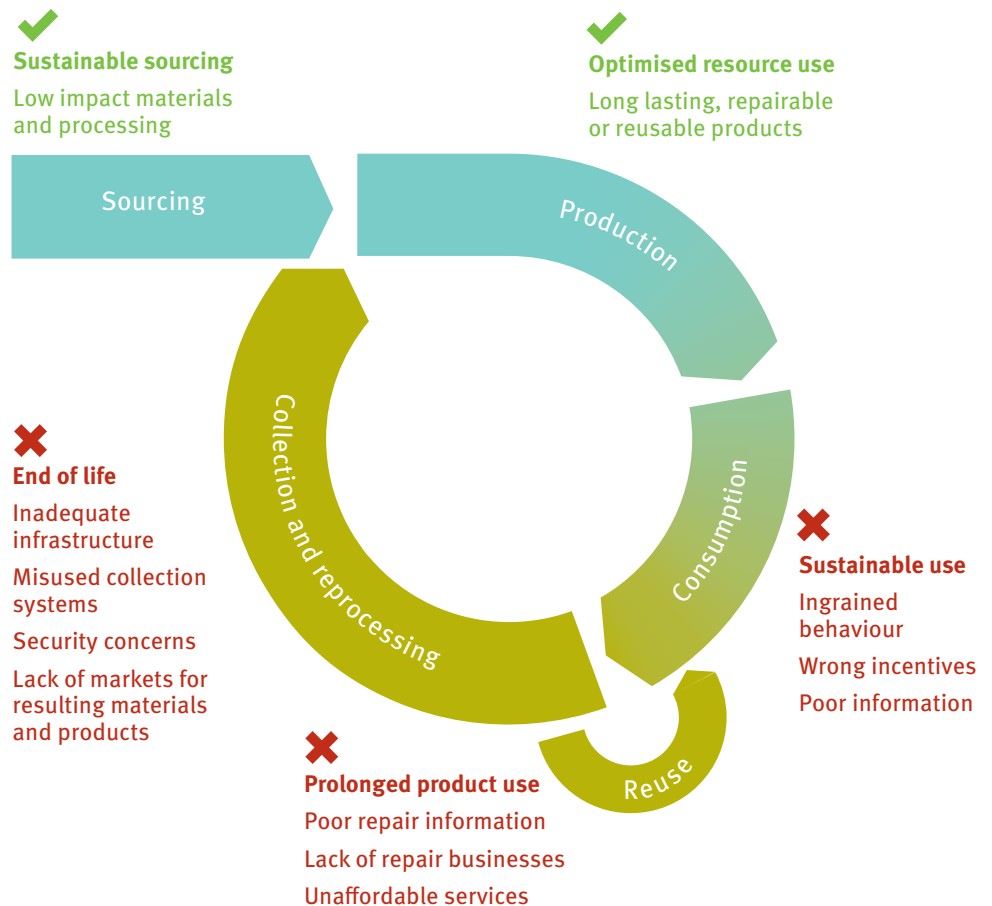
The linear economy leads to waste

At present, well designed products still find themselves in a linear economy. The vast majority of items, even those designed according to ecodesign principles, move in one direction: towards disposal. Resources are taken out of the ground, made into products, which are sometimes used only briefly, and then they are usually thrown away and only sometimes recycled.

This is a major problem, not just for its clear environmental implications, but for the efficiency of the economy and long term business security. After all the effort and resources expended to extract and process materials, so much of value and continuing utility is simply lost forever. The solution is a truly circular economy, where waste is designed out from the start, from the point of extraction and throughout supply and value chains. The priority of such a system is to keep materials and products circulating in the economy for as long as possible.

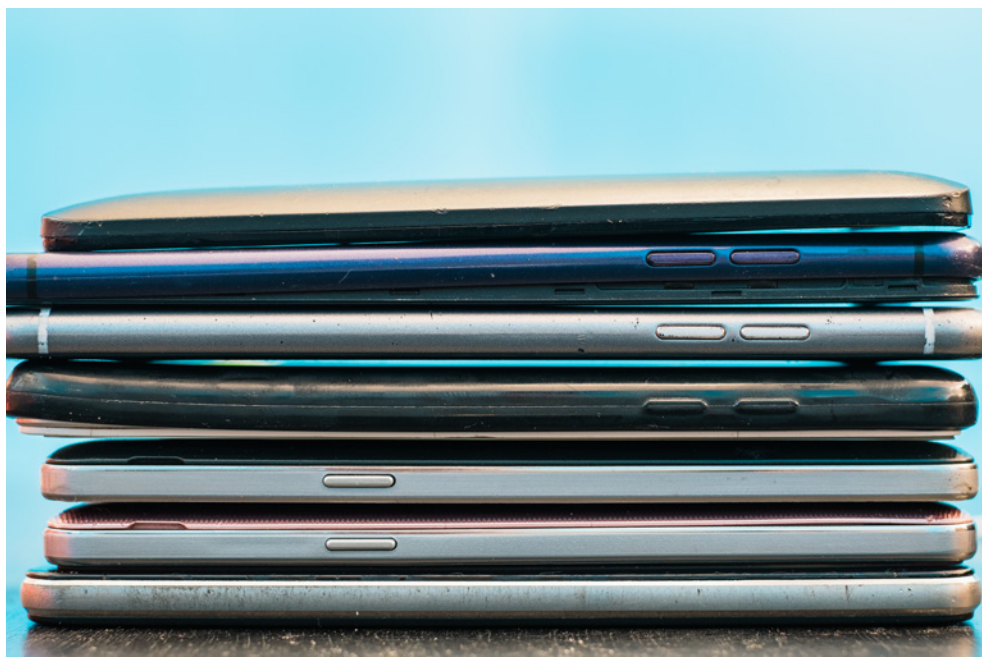
To make the shift from a linear to a circular economy, a new vision is needed, supported by government policy to ensure infrastructure, regulation, business models and consumer behaviour all play their part. At the moment, there are considerable barriers to this as we illustrate below.

Why well made products still end up as waste



How the system is failing

Ten hurdles in the life of a smartphone



To illustrate what is wrong with focusing only on a product's design, rather than the system it is part of as well, we describe below what can befall a well designed, repairable smartphone during its lifetime.

Consumption phase

1. Ingrained behaviour. Consumers accustomed to upgrading their phones every two to three years often swap their phone for a new model before it fails, despite the potential to keep it in use by upgrading the software or repairing faults.¹¹

2. The wrong incentives. Businesses 'manufacture need', pushing for unnecessary upgrades and tempting customers with new phone features and offers, perpetuating an unsustainable, linear business model. In the long run, this will usually cost consumers more.

3. Poor information. Consumers who are not well informed about how to get the most out of their phone, or of the environmental impacts they can avoid by extending its life, could miss the chance to keep it in use for longer. For example, they might not know how to optimise performance (for instance, by removing unnecessary apps and keeping software updated) and could dispose of the phone before it reaches the end of its useful life.

Repair and reuse phase

4. Poor repair information. Without clear, easy to follow repair manuals, as the 'right to repair' movement demands, a damaged phone is unlikely to be fixed successfully, if at all. Attempting a repair without this information could result in further damage.

“Without clear, easy to follow repair manuals, as the ‘right to repair’ movement demands, a damaged phone is unlikely to be fixed successfully, if at all.”

5. Lack of repair businesses. Most people will only use repair services if they are easy to access and deliver results quickly.¹² Ensuring they are affordable is also important, but this is a challenge given the high cost of labour and parts in some instances. It is also hampered by the UK’s decision to charge full VAT on all repair services, unlike in other countries that offer reduced rates for repairs on some goods.¹³ If a new phone costs around the same to repair as it does to buy new, it is quite likely the owner will choose the new product.

6. Security concerns. Two thirds of people are concerned about the security of their personal data on devices like smartphones, and over a third of households have, therefore, avoided disposing of them or selling them on.¹⁴ This means that a well made phone, fit for reuse, may never return to the market as people do not trust data wiping services.

Collection and reprocessing phases

7. Lack of collection infrastructure. At the moment, used electricals are mainly collected through household waste recycling centres (HWRCs), but the UK has fewer of these per inhabitant than anywhere in Europe.¹⁵ Local authority kerbside collections of small waste electrical items, which would be particularly suitable for phones, are uncommon.¹⁶

8. Inadequate collection and reprocessing infrastructure. Current collection and reprocessing methods often fail to protect a phone from harm and from losing its value, eg through rough handling or the long drop that can happen at HWRCs, both of which can damage devices beyond repair. Similarly, if a phone is mixed with other electronic waste and taken to a generalist recycler, which are the most common type in the UK, it will simply be shredded, destroying potentially reusable parts.¹⁷

9. Misused collection services. People need clear information about what to do with a phone they no longer want, including how to use collection services. Otherwise, there is every chance it will be hoarded or put in the general waste collection bin, particularly in view of data security concerns. The average UK household is estimated to be storing three mobile phones no longer in use.¹⁸

10. Lack of a market for secondary materials. For a well functioning circular economy for mobile phones, there needs to be a clear market for parts and valuable materials from discarded phones. If there is not, businesses will have no incentive to create the necessary infrastructure to support reuse and high quality, ‘closed loop’ recycling.¹⁹ While there is a relatively robust resale market for the used phones that find their way back to the market, the same cannot be said of their components or the valuable materials they contain, which are often lost forever in the shredding process.

Failing to overcome these barriers, which are similar for many other products besides phones, means inefficient resource use will continue to rise. For the smartphone, most of its resource use occurs during production, so keeping the device in use for as long as possible reduces the relative impacts of production. At least 6.5kg of mined ore is required to produce the 75g of metal used to make the average smartphone and a smartphone releases about ten times as many emissions in its manufacture as it does during a year of use.²⁰

Blinkered policy making: the case of carrier bags



One of the areas where there has been a visible effort to apply design innovations is in attempts to avoid plastic use. As we have previously highlighted, failure to consider the use and impact of alternatives could also cause problems down the line.²¹ This includes the case of compostable plastic, which many consumers do not realise requires specific treatment, often in industrial composting facilities. Also it must be collected and treated separately from conventional plastic to avoid cross contamination in both recycling and composting streams.

This is an area where government intervention has been too narrowly focused and carrier bags are a case in point. To significantly cut down on a major source of single use plastic, as well as tackle plastic litter, the government in England followed the devolved administrations in 2015 by introducing a charge for single use carrier bags from major supermarkets. This was to encourage consumers to opt for reusable bags. As a result, businesses have steered people towards using the more durable plastic bags, often offered at shop tills, called 'bags for life'. The government has claimed this as a success, saying that the volume of single use carrier bags (provided by the main supermarkets, as smaller retailers are not yet required to charge) has fallen by 95 per cent.²²

However, the picture is not as positive as the government paints, as the way people are using these bags means unnecessary plastic consumption remains high. There are three reasons why the good intentions have had perverse outcomes, and why a durable reusable product is still ending up as premature waste:

“The weight of the stronger bags means there is every chance that the amount of plastic used in carrier bags has actually increased overall because of England’s policy.”

1. Ingrained consumer behaviour. Evidence suggests that many people are using bags for life in the same way they used single use carrier bags. Shoppers now purchase, on average, more than one a week, with the average household buying 57 bags for life a year, according to research by Greenpeace and the Environmental Investigation Agency.²³ The same research found that, in 2019, the ten largest supermarkets handed out more than 1.58 billion bags for life, more than double the number predicted by the government.²⁴

2. Ingrained business behaviour. Very often, bags for life, like single use bags, are offered at or near the till. This reduces the hassle of forgetting to bring a bag and makes them easy for customers to pick up, with little consideration beyond a small charge. Before the charge was introduced, WRAP noted that a barrier to its success would be the “habitual convenience of taking plastic carrier bags from the till”, and this has not been overcome.²⁵

3. The wrong incentives. Since 2019, in most shops, bags for life have cost just 10p, meaning something meant to last has cost only twice as much as something that is not.²⁶ While several supermarkets have now increased the price to 20p or 30p, this is still cheaper than the price many campaigners believe is necessary to deter use.²⁷ Campaigners have called for the charge to be at least 70p, citing the example of Ireland, where a 90 per cent reduction in bag for life sales was achieved by setting a charge of 70 cents, six times higher than the price consumers said they would pay.²⁸

As multiple commentators have observed, the weight of the stronger bags means there is every chance that the amount of plastic used in carrier bags has actually increased overall because of England’s policy.²⁹ This would not have happened if the policy was better designed and the bags were used as intended.³⁰

What can the UK learn from abroad?

Nowhere in the world has yet created a predominantly circular economic system, but some countries and companies are making efforts in the right direction and offer lessons for the UK's central and devolved governments, as well as businesses.

The European Union

A whole economy opportunity



The EU's approach to the circular economy is based as much on opportunities for businesses and the public as it is on solving issues around waste, resources and climate.³¹ A 2018 study showed that, by 2030, the circular economy could add 0.5 per cent to GDP and create 700,000 jobs in the EU (including the UK), while reducing raw material costs for businesses and sheltering them from resource price fluctuations.³²

Its 2020 Circular Economy Action Plan (CEAP) aims to build on previous initiatives that have focused mainly on the end of the material cycle, ie increasing recycling and limiting landfill, and improving product energy efficiency.

The CEAP, which was largely welcomed by campaigners, but which is not yet legally binding, intends to improve coherence with the existing instruments, as well as modernising them. At its core is a three step sustainable product policy framework designed to tackle various stages of the material cycle and influence economic actors. The steps are:

1. Expand the ecodesign framework that has so successfully driven energy efficiency, to incorporate requirements for durability and to cover “the broadest possible range of products”.
2. Empower consumers and public buyers, by revising consumer law, outlawing greenwashing and introducing the ‘right to repair’, through which people would be guaranteed access to long lasting, repairable products, and information and parts for repairs.
3. Encourage circular production processes, promoting growth in industrial symbiosis, digitalisation and the bioeconomy.

“The EU’s plan is a high level strategy that lacks policy detail, sector plans and binding targets to guarantee its delivery. This gives the UK an opportunity to show leadership.”

Priority product groups identified, based on their status in the economy and the seriousness of their circularity issues, are: electronics and ICT, batteries and vehicles, packaging, plastics, textiles, construction and buildings, and food, water and nutrients.

The plan intends to tackle some of the more systemic barriers to better product use, and will, for instance, consider introducing sustainability requirements for services in addition to goods to cover all economic activities. It has also promised to support circular business models, for instance promoting ‘product as a service’ systems in sectors like mobility and textiles, reducing the need to own so many cars and items of clothing. A focus on data and digitalisation intends to remove some of the barriers to better product use, with technology potentially used for product passports and to improve the mapping and tracing of resources through the economy.

The plan, which is a centrepiece of the EU’s Green New Deal, places a circular economy in the context of both reaching net zero carbon and boosting Europe’s economic competitiveness. However, the EU’s plan is a high level strategy that lacks policy detail, sector plans and binding targets to guarantee its delivery. This gives the UK an opportunity to show leadership and create its own plan.



France

Renault's systems approach



Building on previous circular economy initiatives, Renault is constructing what it calls the Re-Factory in Flins, France. It will be established gradually between 2021 and 2024 with the intention of going beyond the traditional focus on recycling and end of life waste management, with activities split into four divisions.³³

The Re-Trofit division aims to extend the life of vehicles, with 45,000 secondhand vehicles expected to be reconditioned per year from September 2021. Reconditioning vehicles is common in the industry, and this will initially be a relatively small proportion of overall sales, as Renault sold 549,283 passenger cars in France in 2019, but there are some innovative aspects to the service.³⁴ For instance, 3D printers will enable a manufacturing service for unavailable parts, and commercial vehicles will be targeted for low carbon conversions so they can continue operating in urban centres with increasingly tight pollution controls. A test and prototyping centre for the durability and repairability of vehicles and materials will also be set up, to improve current vehicles and develop future designs.

Re-Energy will offer solutions for the production, storage, and management of green energy to get the most out of electric vehicle batteries, including once they are no longer suitable for use in cars but still have around 80 per cent capacity.³⁵ Renault has also targeted 20,000 battery repairs a year by 2030, and first life batteries are having their useful lives extended by being redeployed for stationary storage, which can integrate electricity from solar or wind power, something Green Alliance has previously advocated.³⁶ The company is also launching a SmartHubs project with Connected Energy in West Sussex, UK, where second life batteries will be used as part of a local renewable energy system.³⁷ Second life batteries can also be redeployed for other uses, including in cruise and cargo ships.

“Plans to install a dismantling line in the Flins plant from 2024 will increase Renault’s capacity to source parts and materials in short recycling ‘loops.’”

The Re-Cycle division, as the name implies, has a more traditional focus on increasing the proportion of recycled materials in new vehicles, and on end of life recyclability. Plans to install a dismantling line in the Flins plant from 2024 will increase Renault’s capacity to source parts and materials in short recycling ‘loops’. Renault offers some used parts at an average price 40 per cent lower than new parts, for the same quality, which the new division could expand in future.

Finally, Re-Start will promote innovation and knowledge sharing, including hosting an ‘ideas incubator’, also open to external partners, such as start-ups, to develop or co-develop circular economy projects.



Netherlands and the US

Resource conscious fashion start-ups



In addition to governments and big businesses, small companies can and are playing an important role in bringing about a more circular economy, developing new technologies and business models that could eventually be widely adopted. The fashion industry is one of the most environmentally damaging on the planet, accounting for more greenhouse gas emissions than aviation and shipping combined.³⁸ The UK has a particularly big impact, with per person clothing consumption twice that of many European countries.³⁹ But the following companies are pioneering changes at different stages of the material cycle to address systemic problems in the industry.

Production

DyeCoo: This Dutch company has developed a technology that uses CO₂ reclaimed from existing industrial processes to dye textiles, without using any water or process chemicals. This makes the production stage more circular: 95 per cent of the CO₂ is recycled in a closed loop system and, with no water evaporation, it is more energy efficient than typical processes.⁴⁰ A processing machine costs €2.5 million, which is considerably more expensive than a conventional unit, but there are cost savings as a water treatment machine is not required. Currently, the only applicable fabric is polyester, but cotton and other synthetic materials are likely to be dyed by this technology in the future.⁴¹

Use and reuse

Circos: Another Dutch company is offering a rental service for baby and maternity designer clothing, following a growing trend. This business model enables reuse, lowers demand for new products and reduces landfill. The consumer selects a bundle

“When a child has outgrown clothes, as happens particularly quickly in the early years, they can be swapped for a new size or style.”

of clothing, on a pay-per-item basis, from brands such as Adidas and Patagonia. When a child has outgrown clothes, as happens particularly quickly in the early years, they can be swapped for a new size or style. The company claims that one Circos member saves on average six kilogrammes of CO₂ emissions and 242 litres of water every month.⁴²

Reprocessing

Natural Fiber Welding: Innovations are also taking place at the end of life for clothing. Mechanical methods of recycling cotton are only capable of incorporating 30 per cent of recycled fibre into new fabrics without compromising quality.⁴³ However, Natural Fiber Welding in the US has developed a technique to upcycle post-consumer cotton waste by welding short fibres into longer ones. The company has attracted investment from Ralph Lauren.⁴⁴



DyeCoo processing machine [Image courtesy of DyeCoo]

Developing a vision and action

The examples show that there are solutions to persistent barriers to a circular economy for products. But resource efficient, circular initiatives can only become the norm if the technical solutions provided by individual companies are supported within an economy wide strategy set by government. This should involve turning ambitions into a more concrete vision. The starting point for this should be a goal to keep the UK's use of resources within its fair share of the planet's ability to provide them. Then the necessary scenarios to achieve that vision should be outlined, as the UK has done on climate.

Strategic tools

The 'backcasting' technique is one that has been touted as useful in the realm of sustainability, when "problems at hand are complex and when present trends are part of the problems".⁴⁵ Unlike forecasting, which predicts future scenarios, and often involves multiple strategies to deal with potential developments, backcasting is a planning tool which starts with a desired outcome and identifies steps to make it happen.

It normally follows a six step process beginning with an overarching vision, which can be developed through participatory processes, incorporating the views of government, business, academia and the public. It then considers existing and historic drivers and constraints, before setting out scenarios to achieve the vision.

Using backcasting to design a circular economy

Academics at the University of Manchester have suggested a planning process that combines ecodesign with backcasting, where the backcasting guides ecodesign strategy towards solutions.⁴⁶

Although this proposal is predominantly aimed at guiding individual businesses towards a more circular model, a similar process could work on a larger scale for national strategy. Indeed, backcasting is frequently employed by governments to set strategy in a number of areas.

In this case, it will be important to lead with a clear goal, and then identify which actors need to use which tools, when and in what circumstances. In other words, it needs to design an actionable roadmap to reach it. In many instances, potential circular economy business models and design choices are known, but when and how to apply them is not. Businesses and the public are too often unsure about the best way to tackle current problems like plastic pollution, let alone new problems that might be coming down the line.⁴⁷

Lessons from net zero strategy

The government's strategy for reaching a net zero carbon economy could be a model for how to approach the development of a circular economy for the UK. It is similar to backcasting in that it has set out the desired future and has a rigorous method in working out the steps to get there, with recommendations broken down by sector and over five year periods. The process has been enhanced by contributions from experts, including the Climate Change Committee, which advises both the central and devolved governments on scenarios and interim steps towards the goal, and

more recently from the public, through the Climate Assembly UK, which was commissioned by six parliamentary committees.

When it comes to resource use and the circular economy, the destination has not yet been clearly articulated by central government, although Wales has said it will develop a target for 'one planet resource use' by 2050.⁴⁸ Until a clear vision is established, the barriers to be overcome and steps that need to be taken cannot be identified. It is, therefore, not at all certain how the government aims to meet its laudable, but general, ambition to ensure sustainable resource use. Meanwhile, the UK's over consumption of resources and its consequences for the climate and nature continue at pace. Without a vision and clear implementation plan, it is highly unlikely that the individual policy reforms, currently at various stages of development, will add up to a comprehensive approach that leads to a sustainable and resilient resource economy.⁴⁹

Our recommendations

“To avoid the system failures causing excessive resource consumption, all parts of the cycle, for all materials, must be comprehensively addressed.”

The government will be setting long term goals for England through the Environment Bill, with targets due to take effect from October 2022. As part of this, it is expected to develop waste prevention and resource productivity targets, to complement existing recycling targets. These will be welcome, and are in line with our past recommendations, but much remains to be decided about their design and ambition.⁵⁰ To avoid the system failures causing excessive resource consumption, all parts of the cycle, for all materials, must be comprehensively addressed.

We recommend that the UK’s genuinely world-leading climate action framework is used as the model for a new approach to prevent unsustainable resource consumption and waste across the economy. We propose action in three areas:

1. An ambitious target to halve resource use

A target is needed to bring resource consumption within planetary boundaries by 2050. This could supplement, or replace, the current resource productivity measure for England. The science around resource use is less well established than that around climate, but emerging evidence suggests a reduction of at least one half is needed across the UK.

A target focused on resource productivity is unlikely to address over consumption on its own, as it measures resource use against economic output, meaning absolute resource use could keep rising if the economy grows.

Our proposal is ambitious, but it would promote economic activity that minimises material extraction and keeps resources in circulation at their highest value for as long as possible. It would support the meeting of carbon targets and tackle environmental degradation. This aim is also not out of line with what has been considered elsewhere and what is currently being developed in Wales. In the EU, a leaked early version of the Circular Economy Action Plan included a target to halve the bloc’s material use by 2030.⁵¹ This target did not make it into the final strategy, but the UK’s central and devolved governments should seek to lead the world on this agenda, as they have done on climate. Earlier this year, MEPs called on the European Commission to return to the issue and implement binding targets for material reduction, suggesting time is of the essence if the UK is to lead.⁵²

2. Plans for specific sectors and materials

Roadmaps should be outlined for specific sectors and strategically important materials, identifying what can and needs to be done to contribute to the overall goal.

An economy wide resource reduction target is unlikely to be enough to stimulate action at the right level in specific sectors or for certain materials. For instance, critical raw materials are used in relatively small quantities but are vital for growing the UK’s green economy and urgently need to be preserved.

In some instances, including for high impact sectors like food, textiles and electronics, voluntary industry initiatives already exist, but they have had mixed results and have often avoided targeting absolute reduction in material use.⁵³ However, these initiatives could form the basis of new mandatory sector groups setting statutory targets for their part in meeting the economy wide goal.

3. Binding interim goals

Legally binding interim goals should be set towards the overall target, both overarching and sector specific, to provide near term certainty and a stable policy environment for businesses.

This would encourage investment in the business models, infrastructure and innovation needed for a whole system adjustment to a circular economy.

UK climate action is guided by interim carbon budgets to keep the country on course to meet its 2050 goal, but the government has resisted this approach for other environmental targets, including those for resources, being developed for England through the Environment Bill.

There is also nothing in the bill to compel the government, now or in the future, to act early to meet its resource targets, or to take remedial action when targets are going to be missed. Resource use is a multi-faceted issue, and binding targets will be essential to focus all parts of the economy on the task at hand.

Endnotes

- ¹ Green Alliance, 2020a, *Design for a circular economy: reducing the impacts of the products we use*
- ² International Resource Panel, 2014, *Managing and conserving the natural resource base for sustained economic and social development*
- ³ University of Leeds, 2017, *A Good life for all within planetary boundaries*, 'Supplementary information'
- ⁴ The Platform for Accelerating the Circular Economy (PACE), 2021, *The circularity gap report 2021*. This highlights that the level of circularity in the global economy is actually dropping, from 9.1 per cent in 2018 to 8.6 per cent in 2021.
- ⁵ Global Footprint Network, 'Country trends: United Kingdom'. Data is for 2017.
- ⁶ International Resource Panel, 2014, op cit and University of Leeds, 2017, op cit
- ⁷ CIEMAP, 2018, *Developing a carbon based metric of resource efficiency*. Note that this is referring to the carbon footprint, which means it incorporates the emissions occurring abroad caused by consumption in the UK. It is therefore a much larger measure than the territorial emissions targeted by the UK's current climate policy.
- ⁸ UN International Resource Panel, 2019, *Global resources outlook 2019: natural resources for the future we want*
- ⁹ European Environment Agency website, 'ecodesign' in the EEA glossary
- ¹⁰ Green Alliance, 2020a, op cit
- ¹¹ L Belkhir and A Elmeligi, 2018, 'Assessing ICT global emissions footprint: trends to 2040 and recommendations', in *Journal of cleaner production*
- ¹² Green Alliance, 2018, *By popular demand: what people want from a resource efficient economy*
- ¹³ Countries including Ireland, Poland, the Netherlands and Sweden offer reduced rates on repairs of certain items, including white goods. The scheme in Sweden is due to be expanded, and will likely include small electronics like smart phones. Green Alliance, 2020, *Added value: improving the environmental and social impact of UK VAT*
- ¹⁴ WRAP, 2017, *Switched on to value: powering business change*
- ¹⁵ Environmental Audit Committee, 2020, *Electronic waste and the circular economy*
- ¹⁶ Eunomia, 2020, *Electrical and electronic equipment: ingredients for successful extended producer responsibility*
- ¹⁷ The UK's reliance on high volume, low value recycling, which is largely based on shredding, destroys vast amounts of value every year, which cannot be reused in a more circular economy. In fact, this gives individual manufacturers little incentive to create well designed products, if their highly engineered products and parts are destined to be mixed and shredded with everything else. Our previous research has shown that the value of a phone lies in the highly engineered parts and the assembled product. A phone costing nearly £600 new, has parts worth £188, but materials worth £1.50. Second hand, the phone maintains its value, at around £290, and the value of the parts holds up even more at £170. If the phone is shredded, however, the materials are worth just 72p. See: Green Alliance, 2015, *A circular economy for smart devices*
- ¹⁸ Material Focus, 2020, *Electrical waste: challenges and opportunities*
- ¹⁹ We have previously outlined 'pull' measures the government could implement to complement recycling 'push' measures, to address some of the market failures that discourage good product design and materials management. See: Green Alliance, 2018, *Completing the circle: creating effective UK markets for recovered resources*
- ²⁰ Green Alliance, 2020a, op cit
- ²¹ Green Alliance, 2020, *Fixing the system: why a circular economy for all resources is the only way to solve the plastic problem*
- ²² Department for Environment, Food and Rural Affairs (Defra) press release, July 2020, 'Plastic carrier bag sales slashed by more than 95% since 5p charge introduced'
- ²³ Environmental Investigation Agency (EIA) and Greenpeace, 2021, *Checking out on plastics III*
- ²⁴ The government impact assessment for an extension of the carrier bag charge predicted that sales of bags for life would total 752 million across all stores in England (the EIA and Greenpeace figures are for the UK, but only account for large supermarkets, so it is likely that the government's underestimate is even larger than the comparison suggests). See: Defra, 2018, *Consultation on the proposal to extend the single-use plastic bag charge to all retailers and to increase the minimum charge to 10p: impact assessment*
- ²⁵ WRAP, 2014, *Carrier bags usage and attitudes: consumer research in England*
- ²⁶ Most supermarkets will replace the thicker plastic bags for life when they are worn out.
- ²⁷ See, for instance: Wales Online, October 2020, 'Tesco doubles the price of its bags for life and some shoppers aren't happy'
- ²⁸ EIA and Greenpeace, 2021, op cit

- ²⁹ See, for instance, P Purnell and A Velenturf, 2019, 'Our waste, our resources: a strategy for England – a response from the Resource Recovery from Waste (RRfW) research programme'; and Channel 4 FactCheck, 6 August 2019, 'No, plastic bag sales aren't down 90 per cent'. Unfortunately, it is impossible to say this categorically as data on bags for life is patchy. The government should make it mandatory, as it does for single use carrier bags.
- ³⁰ The policy also aimed to reduce litter and, on that front, there is evidence of partial success, at least before a potential increase in plastic carrier bag use due to the Covid-19 pandemic. A 25 year study of marine litter revealed "a clear downward trend" for plastic bags on the seafloor surrounding the UK after the introduction of the charge. See: T Maes et al, 15 July 2018, 'Below the surface: twenty-five years of seafloor litter monitoring in coastal seas of North West Europe (1992–2017)', in *Science of the total environment*
- ³¹ European Commission, 2020, *Circular Economy Action Plan*
- ³² Cambridge Econometrics, Trinomics and ICF, 2018, *Impacts of circular economy policies on the labour market*
- ³³ Green Car Congress, November 2020, 'Groupe Renault creating first European factory dedicated to the circular economy of mobility in Flins'
- ³⁴ Groupe Renault, January 2020, 'Sales results, France 2019'
- ³⁵ Green Alliance, 2018, *Completing the circle: creating effective UK markets for recovered resources*
- ³⁶ Ibid
- ³⁷ Groupe Renault, October 2020, 'Renault eWays: the group presents two major new energy storage projects'
- ³⁸ Environmental Audit Committee, 2019, *Fixing fashion: clothing consumption and sustainability*
- ³⁹ Ibid
- ⁴⁰ DyeCoo, 2019, 'CO₂ Dyeing'
- ⁴¹ Close the loop, 2021, 'DyeCoo', www.close-the-loop.be/en/case/26/dyecoo/46
- ⁴² Circos, 2021, 'Sustainable', at circos.co
- ⁴³ Nature research, 'Greener way to recycle clothes passes with flying colours'
- ⁴⁴ Recycling product news, August 2020, 'Ralph Lauren invests millions in fibre recycling tech start up'
- ⁴⁵ J Holmberg and K Robert, 2000, 'Backcasting – a framework for strategic planning', in *The international journal of sustainable development and world ecology*. Backcasting has been used, for instance, by municipalities in the US and Canada to create plans for sustainable water management, and in Scandinavia to address wide ranging issues of sustainability. It has its origins in an approach to energy created by the influential energy policy adviser and founder of the Rocky Mountain Institute, Amory Lovins.
- ⁴⁶ J M F Mendoza, et al, 2018, 'Integrating backcasting and eco-design for the circular economy', in *Journal of industrial ecology*, volume 21, number 3
- ⁴⁷ Green Alliance, 2020, *Plastic promises: what the grocery sector is really doing about packaging*
- ⁴⁸ Welsh Government, 2021, *Beyond recycling: a strategy to make the circular economy in Wales a reality*
- ⁴⁹ The first set of major reforms resulting from England's 2018 resources and waste strategy include: establishing more consistent recycling collections, setting up an extended producer responsibility scheme for packaging and implementing a deposit return scheme. At the time of writing, the second round of consultations on all of these recycling reforms is due soon, though none of the reforms are expected to be implemented until 2024. Various other initiatives, including those that would tackle levels of waste creation, which is not the focus of the three main reforms, are even more behind schedule.
- ⁵⁰ Defra policy statement, 2020, '19 August 2020: Environment Bill – environmental targets'
- ⁵¹ Euractiv, January 2020, 'LEAK: EU's new circular economy plan aims to halve waste by 2030'
- ⁵² European Parliament press release, 27 January 2021, 'MEPs call for binding 2030 targets for materials use and consumption footprint'
- ⁵³ Research has found that voluntary targets rarely go beyond what would have happened anyway. See, for instance, RSPB, 2015, *Using regulation as a last resort: assessing the performance of voluntary approaches*; and OECD, 2003, *Voluntary approaches for environmental policy: effectiveness, efficiency and usage in policy mixes*

Green Alliance
40 Broadway
London SW1H 0BU

020 7233 7433
ga@green-alliance.org.uk

www.green-alliance.org.uk
@GreenAllianceUK

The Green Alliance Trust
Registered charity no 1045395
Company limited by guarantee
(England and Wales) no 3037633

Targeting success

Why the UK needs a new vision for resource use

Authors

Libby Peake and Tom Booker

Acknowledgements

This report was produced by Green Alliance as part of a work programme for the Circular Economy Task Force. The task force is a policy focused business forum to promote ambitious ideas on the better management of resources.

The analysis and recommendations in this report are solely those of Green Alliance and do not necessarily reflect the views of the Circular Economy Task Force members.

Circular Economy Task Force members include:



With support from:



Green Alliance

Green Alliance is a charity and independent think tank, focused on ambitious leadership for the environment. With a track record of over 40 years, Green Alliance has worked with the most influential leaders from the NGO and business communities. Green Alliance's work generates new thinking and dialogue, and has increased political action and support for environmental solutions in the UK.

Green Alliance
40 Broadway
London SW1H 0BU

020 7233 7433
ga@green-alliance.org.uk

www.green-alliance.org.uk
@GreenAllianceUK

The Green Alliance Trust
Registered charity no 1045395
Company limited by guarantee
(England and Wales)
no 3037633

Published by Green Alliance
ISBN: 978-1-912393-57-2

Designed by Howdy

© Green Alliance, March 2021

Green Alliance's work is licensed under a Creative Commons Attribution-NonCommercial-No derivative works 3.0 unported licence. This does not replace copyright but gives certain rights without having to ask Green Alliance for permission. Under this licence, our work may be shared freely. This provides the freedom to copy, distribute and transmit this work on to others, provided Green Alliance is credited as the author and text is unaltered. This work must not be resold or used for commercial purposes. These conditions can be waived under certain circumstances with the written permission of Green Alliance. For more information about this licence go to <http://creativecommons.org/licenses/by-nc-nd/3.0/>



Please note: our Creative Commons licence does not cover the use of any photographic images featured in this report which are subject to separate copyright and must not be shared or copied without permission.