

REBus project

Resource efficient business models

Moving to a circular economy





Introduction – generating resource value

Resource efficiency – doing more with less – is fast becoming the focus for businesses around the world. Large companies like Argos, Sky and Samsung are all exploring new, more sustainable methods of working, while public sector organisations and SMEs also find that, with effective preparation, environmental challenges can be transformed into economic opportunities.

The Resource Efficient Business Models (REBus) project was set up to assist organisations of all sizes and functions in the transition to a more resource efficient economy. It provided the resources to trial new procurement systems or invest in alternative supply chains, and clearly demonstrated the business case for following a circular path. REBus has now made the learnings gained during the pilots available to other organisations aspiring to redefine their business models.

The REBus project focuses on demonstrating how to implement a circular economy on a practical basis. Between 2013-2017, the REBus team worked hand in hand with procurement bodies, supply chains, and with individual organisations, to deliver over 70 market trials in the electrical and electronic, textiles, furniture and construction sectors.

As of December 2016, 26 REBus trials directly delivered:

- **62,619 tonnes** of primary resources avoided per annum;
- **1,953 tonnes** of greenhouse gases (CO₂e) avoided per annum; and
- **€5,621,623** in financial benefit per annum.

The resources challenge

The argument for greater resource efficiency is undeniable – the exploitation of natural resources in manufacturing, and the waste generated as products reach the end of their lives are unsustainable and must be addressed. Finding a way to integrate environmental sustainability with economic growth and welfare is a major challenge for business.

What is the circular economy?

A circular economy is an alternative to a traditional linear economy, where products are manufactured, used until they are no longer needed or wanted, and then disposed of. Under the circular economy, products are designed to be re-purposed or easily recycled. We extract the maximum value from resources – keeping them in use for as long as possible – when they cannot be used, we use the raw materials to manufacture new products.



Introduction – generating resource value

The legislative framework

The Circular Economy Package, put forward by the European Commission on 2 December 2015, has created an important momentum to support the transition towards a more circular economy in the EU. This brings great opportunities for Europe and its citizens, and could potentially create 3.1 million jobs. The wider benefits of the circular economy also include lowering energy consumption and carbon dioxide emission levels.

Circular economy for economic growth

The greatest challenge in developing a circular model is to make sure that our actions to reduce resource consumption to sustainable levels also meet the economic needs of suppliers, consumers and national governments. Sustainable business models must also be cost effective, viable business models in a wider sense. We believe the answer lies in developing more 'Resource-Efficient Business Models' (REBMs). REBMs – and their role in circular procurement and the supply of goods and services – are an integral part of the shift to a more circular economy.

Conventional linear supply and demand models typically encourage businesses to buy in greater quantities of resources, in order to create and sell more products which, in turn, make more profit. A circular economy approach does not work against growth; instead, it emphasises the value of resources and services in improving profitability and delivering business models that are both more resource

efficient and more resilient. For example, resource efficient models are better able to:

- **Incentivise** the design and production of more durable products. The focus is on making products valuable for more than one user, and generating longer-term revenue from products and associated services.
- **Encourage** sellers to recover the resources of products we can no longer use, to remanufacture or recycle, keeping materials in circulation for longer.
- **Answer** the bespoke needs of users and procurers, and satisfy a clear demand.

Resource Efficient Business Models

The key to transforming long-established business models is to convert effective use of resources into more efficient business practices. The REBus project has demonstrated the commercial case through a series of real-world pilot projects which show that when commercial and financial incentives are aligned with environmental and social outcomes, businesses and public sector procurers will naturally adopt more resource-efficient business models. Our aim was to remove the risk. To give the pilot organisations the opportunity to understand and achieve the benefits of becoming more circular without risking the commercial stability of their procurement and business needs.

The aim of REBus is to use realistic steps to move both demand and supply towards resource efficiency. The project supports SMEs, large businesses and government bodies to work through the process best suited to their needs:

Supply process – Trialled by UK businesses supplying products and services.

The supply process considers new ways of working, such as leasing products to the market. Under the REBus pilot scheme, the businesses are guided through the processes of: Innovation, feasibility, business case, pilot, roll-out and review.

Circular procurement process – Piloted by government bodies and businesses in the Netherlands.

REBus support assisted the Dutch organisations to identify needs, and work through engagement, specification and tendering, contract management and review.



Key REBus principles

The REBus project team identified and applied the following demand and supply principles to their work with the pilot organisations and their respective supply chains:

- Meeting a real demand is more effective than trying to create a need. In other words, a 'demand pull' opportunity (meeting someone's demand) is more promising than a 'supply push' proposition, which risks trying to promote a product or service to customers who may not fully understand why they want or need it.
- Collaboration between customers and supply chains is critical in encouraging a shift towards more circular goods and services.
- Using public procurement to accelerate the shift towards more circular products and services is a 'quick win'. Procurement should consider end-of-use options as well as the sourcing of products for best value and resource efficiency.
- When procuring circular goods and services, the models chosen need to be more sustainable than existing arrangements. This needs to be verified and organisations need to be confident that recovered value will be maximised at end of use.
- Aligning the purpose, aims, values and behaviours of each organisation with opportunities available in the external market.
- A well-considered business proposition should identify and meet customers' needs – and meet them in a way that is more appealing than alternative competitive offers.
- REBus real-world case studies play a crucial role in the replication of REBMs. Demonstrating the risks and successes of other businesses helps to reassure organisations that the approaches are tried and tested.
- 'Ambassadors' within organisations should be recognised for the role they have played in transforming the organisation, and for the learning gained.
- Once an organisation or procurement team has piloted a specific REBM, it is essential to embed the learning into senior management decision-making, strategy development and organisational processes. This will help to replicate innovative REBMs internally within the organisation.





Scaling Up

The project has a high potential for replication across the European Union as there was no specific conditions within the organisations we worked with that were unique to the UK or the Netherlands.

Scaling up the benefits from the REBus project would result in the following annual benefits at the EU level:

- **184 million tonnes** direct material savings, plus **172 million tonnes** of material diverted from landfill into re-use;
- **154 million tonnes** of greenhouse gas emissions savings; and,
- **€324 billion** net financial benefit (GVA).

In order to achieve EU-wide benefits, the pilots – whether demand-led or supply chain driven – have shown that an integrated approach is required and, in particular, that public sector procurement offers a successful mechanism to accelerate the development and acceptance of REBMs and circular products.

Bringing these results to scale will also require national governments and EU policy makers to set a policy framework within which companies can do business. An important part of REBus was to consider where policies could be improved to make a resource efficient transition straight forward and appealing for business of all sizes.

Commercial benefits, circular outcomes

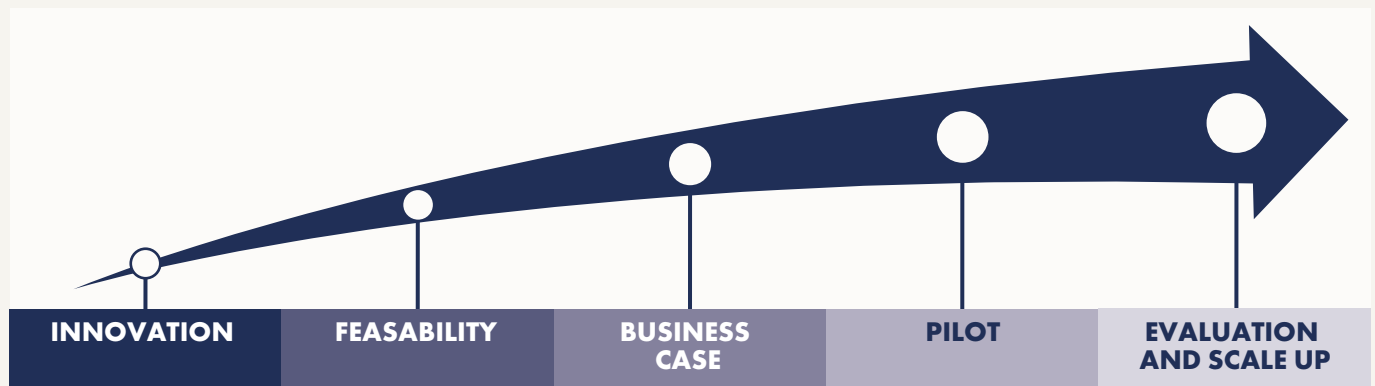
The project emphasised the financial incentives for each organisation – once the financial case is clear, corporate leadership teams are more likely to support and lead change. The detail varied depending on the business model involved; it might mean profitability for commercial businesses, income for charities, or procurement budget requirements in public sector organisations. While the project's aims were to maximise environmental benefit, we recognised that they must also generate greater financial reward.

Large public sector procurers can be a positive force for transition, using market dialogue to speed up change, and piloting and scaling up new REBMs. This sectoral, demand-led approach has helped to mainstream change for other businesses and public procurement opportunities. In the Netherlands, the REBus pilots have shown that circular procurement can provide stimulus for the demand and

implementation of REBMs. It also has a positive influence on the delivery of national and EU-wide policy outcomes for creating a more circular economy.

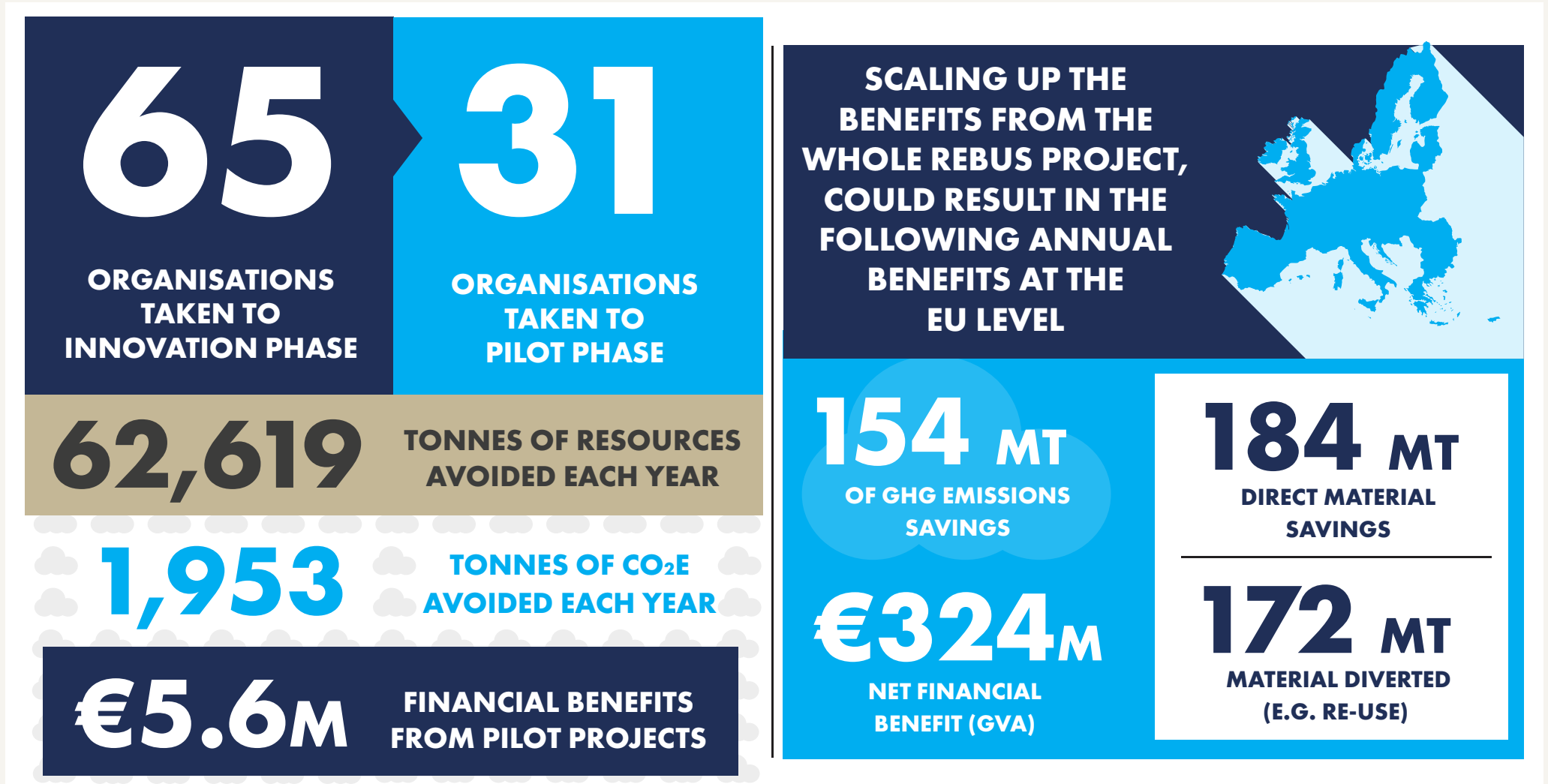
During the course of the pilots, we often found that, while organisations appreciated the importance of meeting customer needs, their understanding of exactly what this encompassed could be improved. Potential improvements ranged from providing an offer that was more convenient to customers, to introducing a whole new service offer in response to changing customer appetites and behaviours.

We did not seek to directly influence product design. However, changes in a business model can bring about improvements in product design – such as improved durability, or making products more suitable for take-back, remanufacture and re-use.





Delivery, impacts, outcomes



Figures accurate to end of 2016

Targeted support

We felt that a single delivery method was unlikely to be as impactful as more tailored approaches. As a result, support was divided into two principal areas:

- **Supply chain support followed procurement routes** – mainly involving the Dutch Government technical agencies (Rijkswaterstaat, PIANOo and MVO – which are all partners in the Green Deal Programme).
- **Direct support to individual organisations** – this varied, depending on the technical or commercial capability and size of company.

The REBus team split implementation into four phases, which can be easily replicated across other businesses:

Phase 1: Innovation

The first stage is to run innovation workshops with as many members of the organisation and wider stakeholders as needed. A larger group may be harder to manage, but can result in more comprehensive support for the project in subsequent stages. Coaching the group helps them to develop the business models they have identified, and also helps to gain buy-in from key colleagues and teams.

The innovation session is designed to gear the organisation up for change. This can be achieved through various approaches – for example, the focus might be on considering wider market changes, societal trends and demands, or you might

choose to consider the existing customer journey.

Deliverables from the Innovation phase typically include:

- a shared vision for the organisation amongst workshop participants;
- ideas for collaboration between clients and suppliers/creating new opportunities;
- a wide range of ideas for review, which reach beyond those prioritised for progression;
- general agreement on the scale of innovation required; and
- a set of 'straw man' ideas for customer propositions.

Phase 2: Feasibility

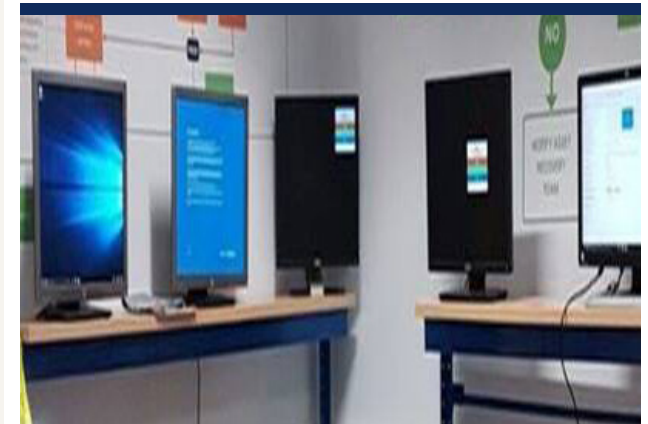
This stage is about identifying and focussing on one key idea that has a strong potential to succeed. It is a process of elimination based on evidence gathered and, at times, calls for informed judgement calls. It is important that any new business model ideas fit with the organisation's strategy, and securing sponsorship from senior management is critical.

For procurement organisations, it is essential to understand whether there is enough of a supply market for the new service or product you want to buy. Engage regularly with typical suppliers to help them understand both your changing requirements and why it could be better business for them too.

Phase 3: Business case

Develop a detailed business case which includes a structured financial model with sensitivity analysis. Showing colleagues how much more profitable the new model will be is powerful and helps to set the right expectations for going to a trial or pilot.

CASE STUDY : Premier Workplace Services



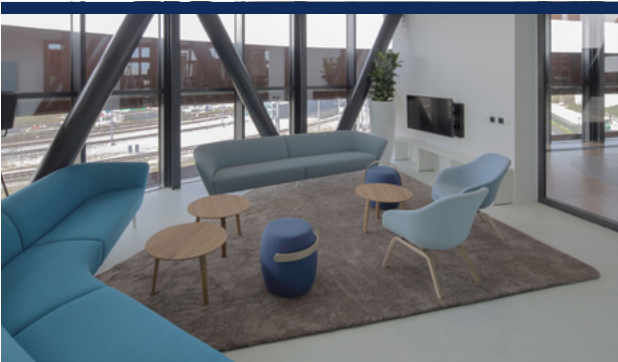
Premier Workplace Services improved the customer offer for an IT asset management service.

Firstly, financial modelling helped them to recognise the potential income from the REBM, and understand how this would contribute to winning business. Premier found a great opportunity to trial its offer – which turned out to be much larger than it originally planned.

[Read the full case study](#)

Targeted support

CASE STUDY: ProRail



The Dutch ProRail furniture procurement project highlighted the potential to re-use existing furniture within new procurements, as well as planning for servicing and maintenance as part of the initial procurement. This resulted in a 10-year contract for environmentally friendly carpet tiles that will eventually be re-used.

These service-based approaches can lead to increased product usage rates and, therefore, maximise retained value and functional lifetimes, as well as reducing consequent environmental impacts.

"Circular purchasing involves a dose of guts, positive energy, getting started properly, lobbying and determination"

Geerke Hooijmeijer-Versteeg,
Interim Project Manager Facilities, ProRail

[Read the full case study](#)

Phase 4: Business model trial/pilot

The main purpose of a trial or pilot is to confirm and improve data, to inform the business case in areas such as finance, market demand and operations. In most cases, the organisation will already be confident that the trial will, in general, meet expectations. The trial may be short – and does not have to generate profit to demonstrate future viability – but the important point is to physically demonstrate the market demand, cost structure and risk assessment required for operation.

Keeping colleagues informed is a priority: legal teams and advisers should be made aware of the new REBM being rolled out, and should monitor any relevant aspects of legislation or product development while commercial colleagues will use the trial to begin the journey of real company learning from real data.

Measuring progress is important to feed back to decision-makers on the trial, but it will also support the development of other REBMs wishing to use the same methodology by helping them to highlight where further work is required.

A key challenge after the trial phase is the management of the handover of the new business model to existing operations and commercial teams which operate 'Business As Usual' (BAU).

Phase 5: Scaling up and evaluating

Provided the trial has worked in line with your plans, it's time to scale the business model up. This might be to a national, regional or business-unit level. It is essential to re-run the financial model with updated information from the trial – this makes cash flow projections more realistic and gives decision-makers good information.

Scaling up operations can be challenging and may take time, depending on the size of your organisation. We found SMEs (and some larger organisations) could scale up very quickly when the business case was favourable.

We developed an evaluation methodology that we could apply to all organisations that took part in REBus. This methodology covers a range of different business model types and focuses on the key factors that are important for each, helping organisations to reduce the burden of data collection and analysis time.

Where possible, compare the performance of the new business model with more conventional business that your organisation undertakes – you may see how REBMs are outperforming your conventional business and this will support your case for even more innovation and resource efficiency.

Pilots in action

Samsung



Samsung developed a national product 'upgrade' leasing offer to UK customers, to improve recovery of its own products and better meet market needs for new technology. This lead was followed by competitors, such as Apple.

[Read the full case study](#)

Naturalmat created two business models that increase recovery of products for recycling and upcycling – domestic customers can access a take-back service, while corporate customers across Europe can choose a mattress closed loop leasing offer.

[Read the full case study](#)

Argos



Argos launched a UK-wide gadget trade-in offer to help customers get value for its used smartphones and tablets. This model aligned well with the company strategy to become a leading digital retailer.

[Read the full case study](#)

Dura Vermeer, a construction and engineering firm; **Alliander**, an energy network company, and **Croonwolter&dros (TBI)**, an electrical engineering company, all set themselves a target to make 40 per cent of their workwear circular by 2017. REBus provided project management, adding expert advice to the team and helping to create and disseminate learning documents. Two contracts were awarded, which enabled 85 per cent of the workwear to be re-used.

[Read the full case study](#)

Alexandra Wood Tailors



"REBus assistance with market research was invaluable. The financials were really useful to enable me to understand costs, utilisation rate and the feasibility of taking on the new shop."

Alexandra Wood, Managing Director

[Read the full case study](#)



A policy framework for resource efficiency

Although businesses have achieved financial benefits and resource savings through REBus, some systemic obstacles are too large or elaborate to be handled by single businesses. In these cases, policy enablers must be put in place to help to circumvent, or remove, those barriers. Without wider changes, businesses will be unable to make rapid progress on the resource efficiency agenda in isolation, and require a coherent resource efficiency policy framework to enable transitions to happen at scale.

The Aldersgate Group published two reports on behalf of the REBus project to highlight learnings from the new business trials coming out of the project, that could help inform policymakers as they shape resource efficiency regulation. Each report addresses a specific political context (the UK and the EU) and sets out a range of policy recommendations, including:

UK

Improving the resource efficiency of the UK economy requires the development of government policy that is backed by all key departments across Whitehall.

The government should develop standards that require products sold in the UK to be designed in a way that is resource efficient, in order to minimise waste and ensure consumers benefit from better quality products that last as long they expect them to.

Waste regulations need to be improved to ensure that secondary materials are not automatically classified as 'waste', and that disposal is treated as a last resort.

Public institutions must lead by example through procurement policy that favours resource efficient goods and services.

Government must improve the availability of data on resource flows and practical information for businesses that want to become more resource efficient.

The Aldersgate Group will continue to work with policymakers at the UK and EU level to feed learnings from REBus into the policymaking process.

EU

The Ecodesign Working Plan must incorporate resource efficient design into product standards, and apply them to a broader range of products, to ensure that goods last as long as consumers expect them to and that waste is not created unnecessarily.

A viable innovation framework that improves businesses' access to funding and technical expertise must be supported. This is especially true for SMEs.

The EU Commission should encourage and support Member States to introduce fiscal incentives, such as variable VAT rates, so that circular products and services are promoted over their counterparts. The EU's Action Plan on VAT provides a clear opportunity to address this.

Public institutions must lead by example through procurement policy that favours resource saving goods and services.

EU bodies should provide better data on resource efficient practices and tracking waste, to support business action.



Conclusion

The REBus project has clearly demonstrated that innovative business models can be more robust, profitable and resource-efficient than the models they replace.

It has also generated a wealth of learning to inspire and inform government (and business) led procurement, supply chains and organisations of all sizes across Europe in their pursuit of a more circular economy.

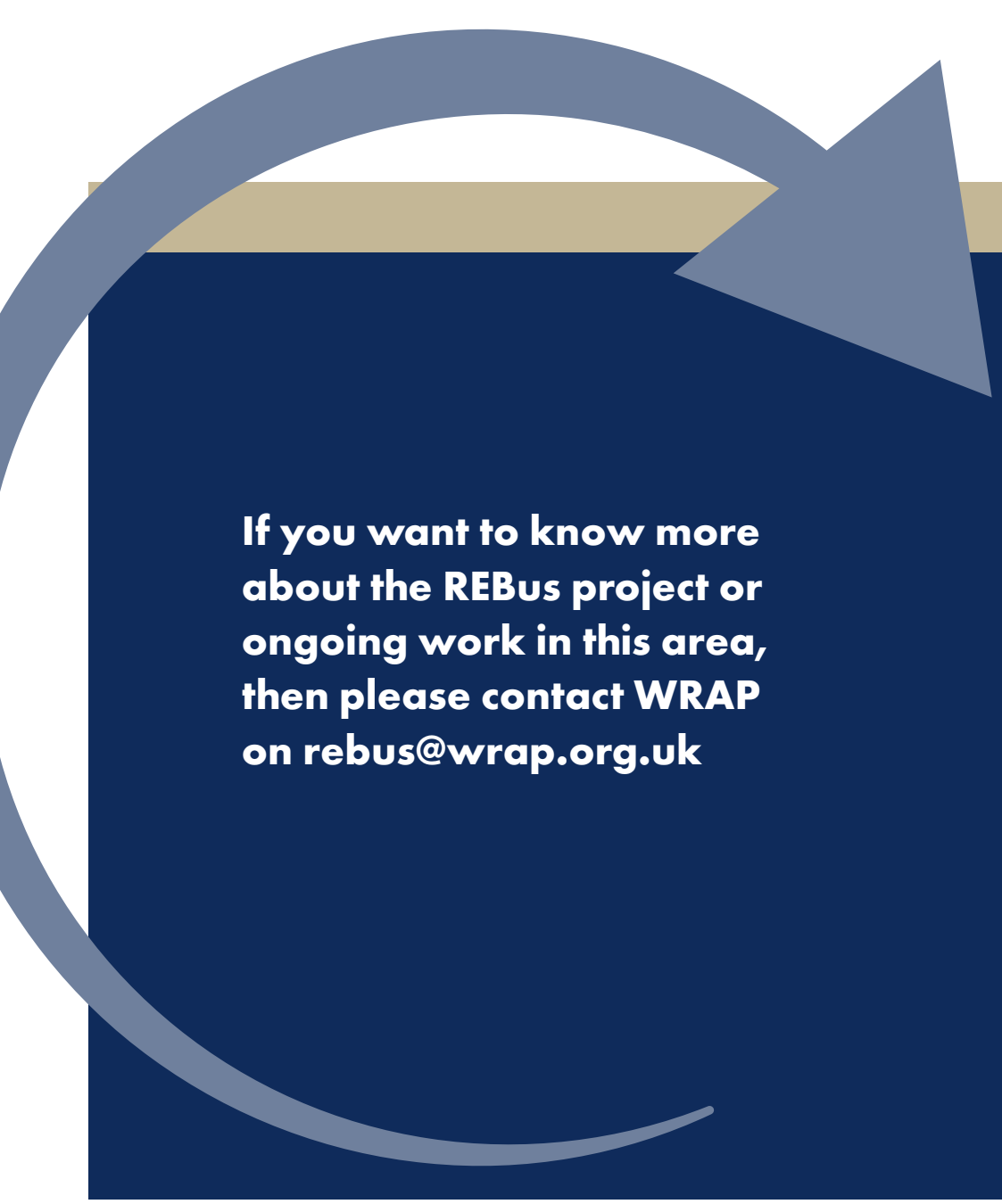
If resource efficient business models were to be adopted extensively throughout Europe by 2030, the annual beneficial impacts have been evaluated as:

- **€324 billion** financial benefit;
- **184 million tonnes** materials avoided; and,
- **154 million tonnes CO₂e** emissions prevented.

However, significant challenges remain in terms of realising these benefits. Procurement and financial systems need to be better aligned in order to enable more circular business models to be adopted as mainstream rather than as a niche practice. Business and consumer risks need to be better understood in order that the cost, and the benefits of innovation, can be shared more equally. A critical mass also needs to be achieved in order to create a permanent shift from traditional linear models. The role of public procurement as a driver to initiate and sustain the push towards this critical mass has been proven in each category (textiles, ICT, furniture and construction) that the trials have worked with.

Most importantly, REBus has demonstrated that organisations can pursue commercial objectives that are more profitable while delivering greater environmental and social benefits. The REBus project delivery team and partners now understand the most effective ways to influence business model change in wider society and look forward to leading the creation of a new generation of circular business models across Europe and beyond.





**If you want to know more
about the REBus project or
ongoing work in this area,
then please contact WRAP
on rebus@wrap.org.uk**

rebus.eu.com



www.aldersgategroup.org.uk

Innovate UK

Knowledge Transfer Network

www.ktn-uk.co.uk



www.northampton.ac.uk



www.rijkswaterstaat.nl/english



www.wrap.org.uk

With the contribution of the LIFE financial instrument of the
European Community - LIFE12 ENV/UK/000608 REBus