Europe 2020 Strategy: Roadmap to a Resource Efficient Europe

Non-Paper by the United Kingdom: 5 April 2011

The United Kingdom strongly supports the objectives set out in the Europe 2020 strategy for promoting medium and long-term economic growth: smart, sustainable and inclusive growth. Addressing Europe's growth prospects in a sustainable way is a critical challenge for leaders across the EU.

Working together with businesses and civil society organisations, EU partners should help deliver the green growth needed to ensure sustainable public finances, reduce unemployment, enhance social cohesion, and allow the EU to meet the challenges and seize the opportunities of the green global economy of the future.

This paper sets out United Kingdom's views on the forthcoming Roadmap to a Resource Efficient Europe, and the priorities and approaches we would like to propose.

1. Context – United Kingdom action to improve businesses' resource efficiency

The United Kingdom sees improved resource efficiency as critical to greening the economy and creating new opportunities for green economic growth. Many businesses regularly review their efficiency as reducing overheads improves competitiveness and makes good business sense. These businesses do not necessarily consider themselves 'green' and this reflects the evidence that the biggest economic and environmental gains are to be made by improving resource efficiency across the whole economy, not just from developing opportunities in the 'green sector'. Our challenge is to build on business action, to provide an environment where improving resource efficiency is the 'default' choice.

Evidence shows that there is scope, particularly for smaller businesses, to go much further. The United Kingdom has focussed over the last few years on helping businesses improve their resource efficiency through provision of advice, support and information including best-practice, for example through the resource efficiency delivery body the Waste and Resources Action Programme (WRAP). A range of research has been undertaken to support a clear and compelling case for business action on resource efficiency; see Annex 1 for more detail. This has focused on quantifying the **short-term cost savings** to business[1] and building on this the case for **long-term savings and new opportunities**. The United Kingdom also sees resource efficiency as important for addressing **resource security** and reducing **resource risks**. Research on resource risks to the United Kingdom economy[2], published in December 2010, found that in most cases resources are unlikely to 'run out', but risks relate to the availability of resources and high embedded environmental impacts (in extraction and refining). Such risks can be reduced by focussing resource efficiency measures on the most volatile commodities, for example.

The realisation of long term savings and opportunities will necessitate new business models and operational practices, based on securing longer term value from products and materials.

[1] http://www.businesslink.gov.uk/Horizontal_Services_files/business_success_low_carbon_economy.pdf

[2] Review of the Future Resource Risks Faced by Business and an Assessment of Future Viability, Defra 2010

For example, models where revenues are based on leasing, updating, repairing, or refurbishing and reselling. These offer both environmental gains in terms of reduced resource usage and waste as well as business benefits such as reduced expenditure on raw materials, reduced exposure to materials supply risks and longer-term customer relationships.

2. The basis for action at Member State and EU level

The United Kingdom Government considers that an effective partnership between Government, businesses and civil society is essential to deliver the full potential of resource efficiency. We are committed to reducing the regulatory burden, seeking alternatives to regulation to provide the conditions for innovation to flourish. This can be facilitated by provision of information, development of coherent consensus based standards, incentives, and through encouraging business to better manage their environmental impacts and to be transparent and open in disclosing such impacts.

The United Kingdom Government considers that the Commission has a critical role, together with Member States, in working more effectively with businesses and civil society organisations to improve resource efficiency. The principal mechanisms to do this at EU level are to use the Commission's considerable expertise and research spend to develop a better understanding of those cross-cutting themes and key challenges as identified below. This should translate into specific actions, across the range of activities identified in Annex 1 of the 26 January Communication, areas suggestions for which are also identified below. Action should be guided by the wider objectives of Europe 2020 to ensure:

- a stronger, more efficient and more competitive Single Market, to build on this historical source of growth;
- a more strategic, constructive and open approach to global trade, to tap into external demand - a critical source of future growth;
- a framework for innovation that enables a third source of growth - technological change; and
- smarter regulation, removing unnecessary burdens to leave enterprise freer to drive the growth we need.

3. Key Enablers for a Resource Efficient Europe

3.1 Focussing R&D to improve resource efficiency

The Innovation Union Flagship[3] recognises that boosting the EU's research and innovation performance will be vital for Europe to support sustainable growth and create jobs that will withstand the pressures of globalization. The EU invests less than 2% of its GDP in research and development – 0.8% of GDP less than the US every year and 1.5% less than Japan. As echoed by several commentators at the 10th Eco-Innovation Forum in Birmingham on 22-23 March, the EU risks falling behind its competitors in capitalising on new opportunities in the green economy. ***The United Kingdom considers that the Innovation Union Flagship, the EU Research Framework Programme, and the new Eco-Innovation Action Plan and the Resource Efficiency Roadmap provide an opportunity to better***

[3] Europe 2020 Flagship Initiative - Innovation Union

coordinate, target and support the research and innovation needed to deliver real improvements in resource efficiency.

The United Kingdom's experience in developing the case for improving resource efficiency demonstrates the importance of fully understanding the potential scope and benefits. Our latest and much higher estimate of benefits to UK business (an increase from £6.4 bn per year to £23 bn per year of savings from simple measures) in part reflects the inclusion of new information on business practices. Institutions of the EU and Member States have much to learn from the best business practices and business understanding of risks. Often this is commercially sensitive, so the Commission could play a role in facilitating the sharing of such info and the drawing of conclusions which can be applied in Member States. Engaging businesses closely could help to improve understanding of the full range of actions that can contribute to short and long-term cost savings, so that this information can be shared to encourage the majority to change practice and deliver the full resource efficiency savings potential.

There is also an urgent need for better information to support action to improve resource security. The United Kingdom has identified two main research needs here. Firstly, we need to improve our understanding of the environmental impact of a range of critical resources, relative to their in-use impacts for example for rare earth elements used in green technologies. Secondly, we should look to improve our understanding of potential future trends in use of critical materials, for example through development of credible scenarios and use of 'futures' techniques. This would complement the understanding gained through the Raw Materials Initiative and the United Kingdom's own research on risks. Such information would be helpful for those smaller companies who are not as aware as larger businesses of the full risks in their supply chains. The United Kingdom is looking to explore the potential to draw together information to better inform smaller companies of the economic and environmental risks around the use of some resources, to encourage greater resource efficiency and innovation. ***Provision of such information to businesses would be greatly supported by a further research in these areas by the Commission.***

3.2 Improving access to finance

One of the key barriers cited by many businesses for taking up resource efficient solutions is access to finance. In some cases, the risk premium for green technologies is considered to be higher than for tried and tested solutions. In particular, there are difficulties accessing finance for investment at the point of late-stage innovation – where companies look to upscale their production to commercialise a new product. In addition, significant levels of investment are needed to support the modernisation of infrastructure, which is essential in the transition to a green economy. Giving businesses access to finance to help them fund upfront investment in resource efficiency can also help for example interest free loans such as those in the United Kingdom run by the Carbon Trust for small companies and Enhanced capital Allowance for certain water related equipment.

The United Kingdom supports the creation of pan-European venture capital instruments which deliver real benefit and are managed in a light-touch flexible way. We would also like to see better access to finance, especially for high growth innovative SMEs – bringing together private and public sector investment and stimulate public procurement through an EU Small Business Innovation Research (SBRI) programme. ***The***

United Kingdom would like to see EU funds to complement Member States spend made available in the next financial perspective through reprioritisation.

3.3 Behaviours

As set out above, the provision of information, for example to support the case for business and institutional action to improve resource efficiency, is important in influencing business behaviour. But the demand side from consumers and investors is equally important. Demand for greater business efficiency comes about as shareholders demand greater profitability, but increasingly the growing demand for more sustainable performance is driving better environmental performance and improved resource efficiency. This is becoming progressively more associated with good business practice in reducing the risks of reputation damage to companies (of poor social and environmental practices) and of exposure to volatile commodity prices.

3.4 Development of more coherent standards for resource efficiency

Standards are increasingly being considered as a solution to meet environmental and sustainability targets. The United Kingdom believes that publicly available measurement standards can underpin competition between companies, and can be a cost effective driver for innovation to open new opportunities and new markets. Standards which measure environmental impacts can help to increase the resource efficiency of a product by providing businesses with a consistent and consensus-built approach to enable them identify risks and reduce impacts. In an increasingly global market-place, standards can support policy delivery, and reduce uncertainty, rectify market failures and incentivise the drive towards more sustainable and resource-efficient products and services.

The United Kingdom has some experience in developing credible standards such as the Publicly Available Specification 2050[4] (PAS 2050) – which is the world's first published standard for measuring greenhouse gas emissions of a product or service across the supply chain (the "carbon footprint'). It allows internal assessment of the existing life cycle Greenhouse Gas emissions of goods and services and provides a benchmark for ongoing programmes aimed at reducing Greenhouse Gas emissions while enabling comparison of these emissions from different goods and services.

Standardisation on climate change and green growth can be used to promote the transition to a low carbon economy – such as measurement standards on assessing carbon emissions in the value chain to enable carbon footprinting. The Commission has indicated it is keen to see consistency in the carbon footprinting approaches and this is being taken on board as part of British Standard Institution's current review of PAS 2050 where the Commission is having some direct input through its role on the Steering Group for the review. We are also looking beyond carbon footprinting in the drive to develop assessment standards/ indicators for a wider range of environmental impacts, particularly water.

We note the Commission's recent announcement of the collaboration between DG Environment and the Joint Research Centre Institute for Environment and Sustainability on the development of two methodological guides for the calculation of the environmental footprint of products and companies. But European companies are active in global markets

[4] http://www.bsigroup.com/upload/Standards%20&%20Publications/Energy/PAS2050.pdf

and we need to ensure development of standards at EU level does not disadvantage EU businesses. The United Kingdom is aware of promising international developments on environmental reporting, such as the International Integrated Reporting Council, and we would encourage the EU Commission to work with such bodies to seek global agreement on methods and standards. ***The United Kingdom would therefore like to encourage the Commission to use its influence to work with international institutions towards the harmonisation of appropriate global methodologies and standards, to help provide a level playing field and deliver environmental improvements and sustainable development internationally.***

The Eco-design for Energy Related Products Directive is a useful and flexible tool here. Up to now, the performance standards (called "Eco-design requirements") set in implementing measures under the Eco-design directive have focused mainly on the "energy efficiency/consumption" of the products concerned. This is understandable, because of the importance of climate change mitigation and energy security, and sometimes because fully worked up and agreed "measurement standards" are difficult to identify beyond energy and water consumption. However, especially as the flexible nature of the Eco-design directive that favours voluntary approaches, ***the United Kingdom feels that more effort should be directed towards developing and promoting appropriate "measurement standards" for key/priority resources***. These can then allow for "performance standards" to be set for products and key resources under the current or future scope of the Eco-design directive where the evidence base including their life cycle assessment has shown that there are concerns. While we do not wish to see a proliferation of labels which would confuse the message to consumers, ***we would, in the scope of the Energy Labelling directive, welcome resource efficiency rankings for key resources and products***.

3.5 Indicators

The United Kingdom supports the proposal to develop a set of indicators, which should cover different pressures separately and ***should not be aggregated together into a single metric***. The indicators should be based on a life-cycle perspective in order to account for any displacement into other sectors or regions, and should take into account the pressures associated with service sector activity as well as mining and manufacturing. Data sources for many of these impacts (such as embedded energy, greenhouse gas emissions) are well established and some of the indicators are readily available.

However, more work needs to be carried out to establish data sources for information on the use and availability of critical materials and to monitor the effectiveness of policies designed to reduce dependence on these materials. Additionally, wider measures of Sustainable Materials Management need to be based upon different stages of the waste hierarchy for different materials. More work is needed to determine suitable Waste Prevention metrics, in addition to the standard indicators of progress in recycling and in reducing waste to landfill.

3.6 Targets

As set out above, the United Kingdom believes that provision of information on the case for action on resource efficiency, coherent standards, labelling, and corporate reporting will drive behaviour change. In line with the new Transparency Framework, the United Kingdom has moved away from targets as a performance management tool. The United Kingdom

therefore ***feels it would be inappropriate and possibly damaging to impose targets across the EU on resource efficiency***. Such targets may well have unintended negative consequences and drive unexpected behaviours, and could have limited relevance given the wide range of economic circumstances across the EU. Additionally, many businesses in the United Kingdom are concerned about the impact of targets on the nascent economic recovery.

4. Key Challenges

In addition to the cross-cutting themes for development covered in the last section, the United Kingdom considers there are four prime policy challenges that the Roadmap should aim to address:

- **Developing new ways of working to forge an effective partnership between Government (Member States and EU Institutions), Business and civil society**. The fiscal situation across Europe means that much more effective partnerships will be necessary to make progress on this agenda as institutional budgets come under pressure. This could open exciting new opportunities for innovation in policy-making, moving away from command-and-control regulation to far more responsibility sharing. The flow and availability of information – e.g. through corporate reporting and labelling – will be essential to ensure all parties are held to account by the public, consumers, and shareholders.

- **Moving from resource efficiency to natural resource efficiency.** Resource efficiency has tended to focus on costed (or partly costed) resources such as energy, water and raw materials, where the case for business action can be made in monetary terms. Meanwhile, more recent discussions on material efficiency mainly focus on finite resources such as rare earth elements, where it is easier to explain and quantify depletion rates and associated economic risks for such resources than for renewable resources. But the challenge moving forward is to build the business case and strategy for efficient use of both renewable and non-renewable resources including those natural assets and ecosystem services currently regarded as 'free' (e.g. pollination, flood protection, etc.). To support this process, the United Kingdom has embarked on an independent National Ecosystem Assessment which will be the first complete analysis of the United Kingdom's natural environment and will provide a more comprehensive picture of the value and status of ecosystems services in the United Kingdom. This assessment is due to complete in spring 2011. This approach will also provide information on the substantial flows of biomass into the United Kingdom. This could complement the mapping of the flow of non-renewable resources into the EU that the Raw Materials Initiative may encompass. ***The United Kingdom would welcome other similar initiatives that will help us build a more comprehensive picture of the EU's dependence on ecosystem services and renewable resources.***

- **Prioritise the most critical resources for immediate action.** The United Kingdom agrees with the request in the non-paper from Netherlands for the Commission to set 'a clear and limited list of priority resources in the Roadmap, based on economic and environmental urgencies'. This would help Member States and the EU prioritise the most economically-volatile and environmentally damaging resources for action to

improve resource efficiency; re-use, re-manufacturing, recycling, substitution, minimisation and eco-design. This list should evolve as further research on future trends and environmental impacts of critical resources improves our understanding. Furthermore, this list should, as set out in the Netherlands' paper, include renewable and non-renewable resources, building on the list of 14 critical metals and minerals developed under the Raw Materials Initiative.

- **Avoid a protectionist response to resource security.** Security of critical non-renewable and renewable resources is a growing concern for many EU businesses. But the Commission needs to remain vigilant to avoid protectionist responses, such as State or EU-led stockpiling, to the unilateral export controls of some exporter countries. Instead, the Commission should work with the WTO to resolve conflict and work to ensure the risks are mitigated through resource efficiency. As set out in the January Communication, the Commission should continue 'to promote the liberalisation of trade in environmental good and services so as to ensure industry's international competitiveness.'

The United Kingdom considers it important to respond to these challenges by integrating resource efficiency across a broad range of EU policies and spending. Annex 2 highlights the United Kingdom's position on a selected range of dossiers as referred to in the January Communication.

ANNEX 1: Evidence to support the case for business action on resource efficiency in the United Kingdom

Short-term cost savings

Short-term savings relate to simple measures, which payback within a year, to improve efficiency of use of energy, water, raw materials and to minimise waste. Good progress has been made in the United Kingdom. Research[5] based on 2006 data illustrated there were at least £6.4 bn savings to be made across the United Kingdom economy – which would account for around 6.1% of annual CO_2e emissions. New estimates[6] suggest that around 20% of these savings have been realised, driven in part by provision of support and advice, but also as businesses have looked to remain competitive during the downturn – sectors such as food and drink and retail have made big progress.

The latest research based on the most recent data, identifies around £23 bn a year of potential savings to United Kingdom businesses from straightforward resource efficiency measures involving no or small scale investment (payback within a year). Realising these savings would save around 29 million tonnes CO_2e a year. £18bn of these savings are associated with using raw materials more efficiently and generating less waste. The £23 bn potential is spread across all sectors, with the greatest savings identified in chemicals (c£4 bn), metal manufacturing (c£4bn), power and utilities (c£3 bn), construction (c£3 bn) and road freight (c£2 bn). This figure is much larger than the 2006 figure of £6.4bn due to consideration of savings associated with waste prevention in manufacturing (including 'lean manufacturing').

Longer term savings and opportunities

This research also looked at **longer term savings** with a payback of greater that one year, giving an additional potential of around £33 bn per year. Realising all of these short and longer term savings of £55 bn per year would cut United Kingdom greenhouse gas emissions by about 13% (90 million tonnes CO_2e). So this is a win-win for the individual business bottom-line and for the environment.

The Waste and Resources Action Programme published a study by the Stockholm Environment Institute[7] in 2010 which looked at the contribution resource efficiency could make to meeting the target of reducing greenhouse gas emissions by 80% by 2050. The report found considerable potential for improvement through consumption strategies including:

- a shift from goods to services (such as through increased product rental)
- optimisation of product lifetimes and
- boosting the restorative economy (repair and refurbishment).

[5] Quantification of the business benefits of resource efficiency, Defra 2007

[6] The Further Benefits of Business Resource Efficiency, Defra 2011

[7] Meeting the UK climate change challenge: the contribution of resource, WRAP 2009

As well environmental gains, there are potential business benefits here as a result of reduced expenditure on raw materials and longer term customer relationships giving greater certainty of future income.

Building on this evidence we have begun to investigate ways of encouraging shifts towards alternative business models such as leasing models and a stronger focus on maintenance, repair, reuse and upgrading existing products. This includes working to:

- develop the business case (both financial and environmental) for action;
- develop tools and standards for businesses to use (e.g. tools to calculate optimum product lifetimes, procurement standards for Government and businesses); and
- support the demonstration of new solutions such as leasing.

The focus is on major retailers and manufacturers, and we are beginning with electrical and home improvement products.

Developing more resource efficient technologies and processes will also be key to developing new climate resilient markets and realising new **opportunities** in the global Low Carbon and Environmental Good and Services 'sector' of services and the emerging climate change adaptation and resilience market.

The 'Low Carbon and Environmental Goods and Services' sector was estimated to be worth £3.2 trillion globally in 2008/09, forecast to grow by 4% per annum over the next five years.[8] It comprises 1.4 million companies and employs over 28 million people. The United Kingdom market was estimated at £112 bn in 2008/09, employing around 910,000 people (including in the supply chains of these industries). This covers an estimated 52,260 specialist and supply chain companies, of which 91.5% are estimated to be SMEs. The United Kingdom market is expected to grow by 3.4% in 2011/12, with annual growth rates rising to 3.9% by 2015/16.

The importance of resource efficiency in mitigating resource risks

More efficient use of resources will be essential to mitigating resource risks to the EU economy. Research on resource risks to the United Kingdom economy[9], published in December 2010, found that in most cases risks do not stem from lack of the resource, but from a lack of market availability. Supply of key resources, such as rare earth elements, cobalt and indium, is at risk from a combination of rapidly growing global demand and politically constrained supply. Some of these resources have particularly large environmental footprints, as illustrated by the table on the next page. The extraction and refining of metals and minerals is thought to account for 5-10% of global CO_2e emissions, and this is disproportionately weighted towards critical metals, including the critical list of 14 metals and minerals identified for the Raw Materials Initiative.[10]

[8] Low Carbon and Environmental Goods and Services: an industry analysis, BIS 2010
[9] Review of the Future Resource Risks Faced by Business and an Assessment of Future Viability, Defra 2010
[10] http://ec.europa.eu/enterprise/policies/raw-materials/critical/index_en.htm

Material	Carbon emissions incurred in mining 1kg of material ($kgCO_2$-eq)
Rhodium	32,208
Platinum	14,704
Gold	12,806
Palladium	9,912
Silver	440
Gallium	186
Indium	156
Magnesium	72
Tin	17
Cobalt	9
Tellurium	8
Silicon	5
Copper	3
Aluminium	1
Zinc	0.5
Lead	0.3
Manganese	0.02
Iron	0.005

Carbon impacts of mining a sample of materials. [11]

[11] Material Security – ensuring resource availability for the UK economy, *source: ecoinvent database*, Resource Efficiency Knowledge Transfer Network 2008

ANNEX 2: Achieving Resource Efficiency through other Dossiers

Adaptation to Climate Change and Common Agricultural Policy

Against the backdrop of rising global demand for agricultural commodities and the threats to agricultural production resulting from climate change (see the recently published Foresight Report[12]) the United Kingdom believes that the EU agricultural sector needs to become much more efficient, something that is hindered, not helped, by the Common Agricultural Policy (CAP) as currently structured. Greater efficiency is the key to delivering a more competitive and self-supporting agricultural industry, and would be facilitated by a very substantial reduction in the CAP budget, with better targeted support for improved agricultural competitiveness under Pillar 2 of the CAP.

Common Fisheries Policy

The current **Common Fisheries Policy** (CFP) has failed to deliver healthy stocks, and failed to deliver a profitable fishing industry. The EU Commission identified five key problems: fleet overcapacity; unclear policy objectives; short-term decision-making; insufficient responsibility given to the industry; and poor compliance.

The United Kingdom is seeking radical reform of the CFP in order to overcome these serious failings, and to optimise our use of this natural resource. We are pressing for a simplified, decentralised CFP, allowing those closest to fisheries to agree the management measures that are most effective/appropriate, reducing the unnecessary waste of discards, and giving fishermen a clearer stake in the long term health of fish stocks with clearer entitlements to fish, and the freedom to plan their activities efficiently and sustainably***. The United Kingdom is looking toward EU institutions to help build support for radical reform ahead of negotiations later this year***.

Air Quality

The United Kingdom welcomes the recent Commission paper introducing a comprehensive review of EU air quality legislation in 2013. It should aim at delivering the right outcomes for both the environment and public health and must also be mindful of the need for sustainable economic growth. It is important that air quality policy is consistent with other objectives such as those on climate change with a focus on exploiting policy synergies and addressing trade-offs in a coherent way. A focus on better implementation/enforcement demands realism in setting levels of environmental ambition, recognising uncertainties around key elements of analysis, and addressing at Member State level as well as EU level the challenge of integrating policy objectives; this is a challenge for delivery of resource efficiency across all dossiers. Flexibility is also needed to recognise properly the implications of new or emerging evidence e.g. the emerging evidence that real world emissions from vehicles have not matched the reductions envisaged and assumed by the regulatory system.

Innovation Union and Eco-Innovation Action Plan

The United Kingdom considers the deployment of eco-innovation in technologies and services critical in delivering a more resource efficiency, green economy. It will be important to recognise this in the forthcoming Roadmap to a Resource Efficient Europe, linking the Roadmap to the Innovation Union flagship and the new Eco-Innovation Action Plan.

[12] The Future of Food and Farming: Challenges and choices for global sustainability, BIS 2011