

HOUSE OF LORDS INQUIRY INTO WASTE REDUCTION

Following the evidence session to the House of Lords Science and Technology Sub-Committee on 27 November, it was agreed that the Government would submit a follow-up note to cover the following points:

1. The work of the European institute that monitors standards for sustainable consumption and production worldwide, and the way in which the MTP works with partners abroad to share information about the life-cycle impacts of products and materials (QQ 24-25).
2. The ways in which the Technology Strategy Board is promoting the development of new technologies and ensuring that designers, manufacturers and others have access to them (Q 36).
3. The ways in which the Eco-Design of Energy-using Products Directive was negotiated, and the possibility of implementing daughter directives to change attitudes towards waste (QQ 50-52).
4. The extent to which sustainable design and engineering skills are taught to students in schools (QQ 55-58).
5. A response to the points made by the Design Council in section 4 of their written evidence - a copy of which is enclosed (Q 59).

1. International Task Force for Sustainable Products (ITFSP) (www.itfsp.org)

The UK established (in Nov 2005) with the support of thirteen other governments, including China, the USA, Australia and Canada, the International Task Force for Sustainable Products (ITFSP) in response to calls for more information sharing and international co-operation in bringing forward more energy efficient and sustainable products.

ITFSP's goal is to raise awareness of product policies such as labelling and standards as a means of achieving international development and environmental objectives. With many important energy using and non-energy using products being globally traded goods, the need to develop coherent and technically harmonised policies are a practical and political necessity if we are to deliver the Government's objectives for more sustainable patterns of consumption and production including energy, water and waste. This was a strong theme, for example, in commitments made in the Gleneagles Plan of Action 'to encourage co-ordination of international policies on labelling, standard setting and testing procedures for energy efficiency appliances'.

One practical activity for ITFSP is to monitor international policy and to publish maps of current activity in setting market transformation targets and benchmark product standards, by product sector and by country, to identify the practical scope and priorities for international co-operation and to support concrete actions. Such actions might include supporting international conferences and workshops, the development of harmonized technical performance measurement methodologies (metrics), development of new / improved standards, target setting for future product performance, and practical policy instruments, such as the EuP Directive, and public procurement. A useful practical deliverable for the Government is information about benchmark sustainable product standards, being used by other governments, which could be adapted for use in UK policy, for example, in public procurement.

The Task Force monitors existing networks, collaborative initiatives (e.g. bilateral, regional, multi-country) and other mechanisms for co-operation on sustainable products. Gap analysis enables ITFSP to identify where more international cooperation would be beneficial and if there are existing mechanisms – thus defining the areas for action and priorities for ITFSP. To date ITFSP has focused on energy using products and energy-in-use aspects – as having a clear priority for the government's involved. However some work is developing to explore

the scope to encourage more co-operation in developing policy on water using products and on waste aspects.

ITFSP encourages and facilitates the formation of a Global Sustainable Product Networks (GSPNs) which either initiate, draw together or develop existing information sharing mechanisms or expert communities. GSPNs provide a framework for greater collaboration between existing networks of stakeholders (e.g. experts, policy makers, consumer groups, trade associations). Through these GSPNs, the UK, with others, has been active in expanding participation in a number of key SCP-related international initiatives, including:

- International compact fluorescent lamp (CFL) Harmonisation Initiative;
- Standards for Energy Efficiency of Electric Motor Systems (SEEEM); and
- EU Code of Conducts (EU CoC) on Set Top Boxes and Data Centres.

The UK is also taking a leading role in the new IEA Implementing Agreement on Efficient Electrical End-use Equipment; this initiative provides an important route for the UK / ITFSP to share its work on mapping global product standards.

Outside of ITFSP, but working closely with it, the Market Transformation Programme (MTP) works closely with officials at the EC, in other member states and particularly with the US Environmental Protection Agency to share information and develop increasingly stringent standards for Energy Star labelling of products.

The MTP's work in relation to the development of forthcoming implementing measures for the EuP Directive is one area where life cycle aspects have risen in prominence. This Directive requires an evaluation that includes the entire product life cycle: from raw material selection and manufacturing process to packaging, transport, and distribution to installation, maintenance and use, and finally to end-of-life which includes recycling, reuse, and final disposal. The large range of implementing measures that will be developed over the next few years has meant that the MTP will need to be increasingly working with equivalent bodies in other member states and internationally on whole life aspects. ITFSP and IEA mechanisms provide a potential route for information sharing and for cost-shared standards research and development projects.

2. Technology Strategy Board

The Technology Strategy Board provides support to develop new technologies through a number of activities. For instance, the Technology Strategy Board provides funding for Collaborative R&D projects bringing together businesses with academia to research and develop new products and services. The projects supported tend to be between two and three years in duration and result in some new knowledge which can then be exploited. Projects involve a number of partners, but in most cases there is a requirement to have an end user in the project who is often a manufacturer who is looking to exploit the research outputs. Projects that are nearer to market can have a design element or more specifically competitions such as the competition held in November 2005 on the 'Design and Manufacture of Sustainable Products have design as a core part of the research.

The Technology Strategy Board also supports twenty three Knowledge Transfer Networks (KTNs) including the Resource Efficiency KTN and the Environmental KTN. The networks bring together businesses and academia to exchange knowledge and share best practice with a focus on technology and innovation. These networks exchange knowledge which includes details of the latest developments in technology and innovation and include case studies based on Technology Strategy Board investments. The case studies provide a wider audience with access to details of the research and project partners, who they can then contact. The Technology Strategy Board also supports over 1,000 Knowledge Transfer Partnerships (KTPs) at any one time. Each KTP places a newly qualified graduate into a business to transfer knowledge through the person. The Partnerships, of which over 80% are with SMEs, involve graduates working with businesses including manufacturers and

designers to provide them with the latest academic knowledge in areas relevant to their business strategy.

3. Eco-Design of Energy Using Products Directive

The Framework Directive for the Eco-design of Energy Using Products (EuP) provides for the Commission, subject to certain conditions, to set mandatory performance and eco-design requirements for energy using products placed on the EU market. The main aims are to help deliver EU objectives to reduce greenhouse gas emissions, to reduce the adverse environmental impacts of products, and to ensure free-trade in energy-using products. The Commission estimates that this measure could reduce EU energy consumption by around 10%.

As explained below, while the EuP directive could set eco-design requirements would reduce waste arising from energy using products, that is not its priority. In all cases, the most important environmental impact and priority for this policy measure will be to reduce the energy used in the in-use phase. The Government's view is that we would encourage the Commission to include requirements to reduce waste where that was identified as having the potential to be controlled, cost-efficiently, via better eco-design, where there were no other more suitable policy instruments, for example WEEE and RoHSS, and where that would not unduly delay implementation of measures to reduce energy consumption.

The Directive was adopted through the codecision procedure at its second reading, and was published in the Official Journal on 5 July 2005. It is transposed in the UK through the Ecodesign for Energy-Using Products Regulations 2007, which came into force on 11 August 2007. The Framework Directive does not contain any immediate obligations for manufacturers, but obligations will arise via a series of implementing measures, which can take the form of a Commission Decision, a Regulation or a Directive.

In order for a product to be considered for an implementing measure, it must fit the following criteria:

- It must represent a significant volume of sales and trade (more than 200,000 units a year within the EC);
- have a significant environmental impact; and
- present significant potential for improvement without entailing excessive costs.

If a product fits these criteria, the Commission can carry out a preparatory study to provide evidence to assess whether the product should be considered for an implementing measure. The study is intended to identify the most significant environmental impact of a product, which can then be addressed by the implementing measure.

The studies follow a defined methodology, intended to ensure that all aspects of a product's lifecycle are investigated and that stakeholders have the chance to provide input. There is a website dedicated to each study, and stakeholders are encouraged to participate in the development of the studies. The Government has been able to provide input to these studies through its Market Transformation Programme, which has ensured that the appointed consultants are aware of and have access to Government analysis and other relevant information for use in their own modelling.

Once complete, the preparatory studies are used by the Commission to produce an initial 'working document' for discussion with Stakeholders in the "Consultation Forum", a meeting of Member State and Industry representatives. Following discussion at the Consultation Forum the Commission will proceed, if appropriate, to produce a formal proposal for an implementing measure. This process, which includes the preparation of an Impact Assessment, usually takes around 3 months. All implementing measures are subject to the approval of a Regulatory Committee, which consists of the Commission and the 27 Member States.

The first 19 products to be covered by implementing measures are set down in the Framework Directive itself. At present the Commission aims to reach agreement on implementing measures for 14 of these by the end of 2009 and the rest by the beginning of 2011, although we believe that this is a very ambitious timetable.

A number of studies have now completed and we have so far seen three working documents, on standby power, street lighting and office lighting. More studies, including those on motors, boilers and water heaters are nearing completion. In all these cases, the studies have shown that by far the largest environmental impact of these products is the energy in use phase. Addressing this has therefore been the main focus of the working documents issued to date by the Commission, although they do touch on some other areas. For example, the working document on office lighting proposes lower limits for mercury used in fluorescent tubes.

The Commission has now published a work plan intended to identify a further 25 products suitable for implementing measures over the next three years. The work plan is very wide ranging, and prioritises product groupings according to their energy use, so it is clear that the main focus of implementing measures is likely to remain the energy in use phase.

A more detailed briefing note about the EuP Directive can be found at http://www.mtprog.com/ApprovedBriefingNotes/PDF/MTP_BNXS03_2007October26.pdf.

4. Sustainable Design and Engineering Skills in Schools (Response from DCSF)

The current National Curriculum programmes of study for Design and Technology say that pupils should be taught:

- At key stage 2 (ages 7 to 11) to recognise that the quality of a product depends on how well it is made and how well it meets its intended purpose (for example, how well products meet social, economic and environmental considerations);
- At key stage 3 (ages 11 to 14) to identify and use criteria to judge the quality of other people's products, including the extent to which they meet a clear need, their fitness for purpose, whether resources have been used appropriately, and their impact beyond the purpose for which they were designed (for example, the global environmental impact of products and assessment for sustainability); and
- At key stage 4 (ages 14-16) to ensure that their products are of a suitable quality for intended users (for example, how well products meet a range of considerations such as moral, cultural and environmental) and suggest modifications that would improve their performance if necessary.

From September 2008 the programme of study at key stage 3 has been revised. One of the key concepts underpinning the study of Design and Technology is understanding that designing and making has aesthetic, environmental, technical, economic, ethical and social dimensions and impacts on the world. For each product area the study of designing should include understanding of the impact of products beyond meeting their original purpose and how to assess products in terms of sustainability.

From September 2008 Design and Technology will not be statutory at key stage 4.

5. Design Council

- *Recommendation 1. Greater support for embedding sustainability within business and business support programmes.*

The Design Council's design support program for businesses is already embedding design at the heart of businesses. We agree that the Design Associates, involved in mentoring businesses to help them devise design solutions to improve their competitiveness and productivity, could also promote and embed sustainability as part of their mentoring efforts. Among, other services, for example, Envirowise's DesignTrack program offers a free and

confidential service focusing on reducing the environmental impact of a product over its entire lifecycle. DesignTrack's objective is to ignite cultural change towards sustainability in businesses while realising real cost savings.

Sustainability of goods and services can be enhanced through efficient manufacturing processes. Drivers of efficiency are cutting waste and saving energy. Business Support programmes such as the Manufacturing Advisory Service (MAS), in addition to other forms of advice, help businesses cut waste. A variety of Carbon Trust programs help address strategic approaches to sustainable development.

- *Recommendation 2: More emphasis on sustainability in design education as part of a nationally co-ordinated skills programme.*

The UK Design Industry Skills Development Plan, 'High-level skills for higher value' jointly published by the Design Council and the Creative and Cultural Skills Council, recommended a number of approaches to developing design skills in schools, in higher education and in industry. DIUS along with DCSF, HEFCE and BERR officials have met to discuss the recommendations which have been put forward in the report. The Design Council are taking the lead in completing detailed feasibility work on individual recommendations in time for incorporation in the industry's sector skills agreement in the New Year.

- *Recommendation 3: Greater support for collaboration between design, science, technology and business HEIs.*

The Government has funded the Materials and Design Exchange (MADE) to help bring together the design and material technology communities to look at key issues linking product design and manufacture. The identification of suitable alternative materials at an early stage can help product designers and engineers take sustainability factors better into account, stimulate industrial innovation and improve the competitiveness of the UK

The network formed from a partnership between the Royal College of Arts, the Institute of Materials, Minerals and Mining, the Institute of Design Engineers, the Engineering Employers Federation and the Design Council, has been pursuing a programme of events and other communication strategies to raise awareness of the skills that exist within each community, encourage dialogue and exchange of knowledge and information and the brokering of collaboration on key projects. The Materials KTN is one of 24 knowledge transfer networks funded by the Technology Strategy Board. It has networks that specialize in sustainable packaging materials and sustainable materials for transport applications.

The incorporation of a Materials and Design feature in this year's London Design Festival has led to an interaction of a minimum of 400 designers with materials scientists. Key themes including those on sustainability received excellent reviews.

Lord Sainsbury's Review of Science and Innovation Policy recommended that the Design Council's innovation service for technology ventures - Designing Demand Innovate service - be extended to the university technology transfer sector, in order to strengthen the link between UK industry and the science base and support regional economic development. The Design Council plans to seek funds to pilot such a programme with targeted HEIs to provide design training and support for technology transfer staff and intermediaries. DIUS is leading on implementation of all the recommendations in Lord Sainsbury's review in collaboration with our partners in other departments and bodies, including the Design Council.

- *Recommendation 4: Greater emphasis on a service design approach from business*

DIUS recognises the importance of service design techniques as a tool for businesses to gain competitive advantage and improve their services. With rapid growth in the UK services sector, service design and its management need to be properly planned. Programmes such

as Designing Demand- a design support programme for UK businesses which has been developed to help businesses become more competitive, increase their profits and boost their performance through the strategic, effective use of design -could be a good route to advise businesses on principles of service design.

Recommendation 5: Greater public engagement to raise awareness among the general public about the value of sustainable development and design's role in it.

The Design Council have outlined the success of their public engagement programme, Designs of the Time (Dott07) in making a cross section of society more aware of the role of design in sustainable development.

It will be important for the Design Council to disseminate the positive results and raising the profile of the various projects undertaken as part of Dott07, including projects on sustainability, to OGDs and RDAs with a view to 'scaling up' these projects at regional and national levels.