

Defra's Waste and Resources Evidence Programme

1. Defra established its Waste and Resources Evidence Programme (referred to as the 'Programme') in 2003, with the overall aim of delivering *"a sound evidence base for better-informed policy development, implementation, monitoring and evaluation for sustainable waste and resources management at ... the national and local levels, which incorporates an effective mechanism for ... dissemination of research results"*.

2. The Programme is taking a strategic overview of the overall waste and resources research needs for the UK. A multi-stakeholder Waste and Resources Research Advisory Group (WRRAG) was convened to take a ten-year forward look and develop an initial three-year Research and Development (R&D) strategy mapping out the UK's broad waste and resources evidence needs. Membership of the group includes representatives from central government and the devolved administrations, including Defra, Department of Trade and Industry (DTI) and Communities and Local Government (CLG), local authorities, the Environment Agency, the waste industry and industry representative groups, such as The Industry Council for Packaging and the Environment (INCPEN), professional associations such as the Chartered Institution of Wastes Management (CIWM), and bodies such as the Waste and Resources Action Programme (WRAP) and environmental non-governmental organisations such as The Green Alliance.

3. Following consultation, a comprehensive set of drivers – principally legislative and policy – were identified. A thematic approach was adopted to group the recommendations for key areas of research need, in the light of the identified drivers. Eight themes were selected, subdivided into a number of broad programme areas (giving more than 30 programme areas in total), and prioritised in terms of significance and urgency.

4. The eight main themes are:

- i sustainable resource consumption and management – including waste prevention and resource flows;
- ii systems for waste collection, separation and resource recovery;
- iii residual wastes management;
- iv market development and intervention;
- v social dimensions of waste management – including behavioural change;
- vi environment and health – including risk and impact assessment;
- vii economics; and
- viii decision support tools and related evidence mechanisms.

5. The Waste and Resources R&D Strategy for 2004/05 to 2006/07¹ was launched in 2004. Its implementation is overseen by WRRAG, being based around the eight themes listed above. A new three-year strategy for 2007/08 to 2009/10 is now being developed, to be published later in 2007. Further details on this initiative are provided below.

¹ The Waste and Resources R&D Strategy 2004/05 – 2006/07 is available at www.defra.gov.uk/environment/waste/wip/research/pdf/rdstrategy.pdf

Delivering the evidence base for waste and resources policy

6. Responsibility for delivering the necessary evidence (including but not restricted to research) across the themes and programme areas is shared across Defra and other government departments and the relevant agencies and delivery bodies (e.g. WIP, WRAP and the various BREW delivery bodies).
7. The Programme is closely aligned to Defra's Sustainable Consumption and Production evidence base programme (for example, joint work has been undertaken on resource flows).
8. The R&D Strategy has both a UK-wide and an English dimension. Much UK policy in waste and resources is derived from EU Directives: one major set of drivers for the R&D Strategy is the evidence needed to underpin future negotiations in Brussels, which are led by Defra on behalf of the UK. Developing and implementing the Waste Strategies for each of England, Scotland, Wales and Northern Ireland is a devolved responsibility, so Defra's work on the research and other evidence needs to underpin this Strategy is necessarily focused on England. However, all four UK administrations face common challenges in implementing their strategies, so a number of programmes and individual research projects are coordinated and co-funded by some or all of the devolved administrations.
9. The WRRAG Group therefore has a dual function. It is responsible for overseeing the Programme, but also has a wider role in coordinating generation and exchange of evidence to underpin waste and resources policy across government departments, agencies and programmes, the four devolved administrations and among local government, and the academic and private sectors. WRRAG also acts as the Programme's 'eyes and ears' on wider research being carried out across the UK and internationally.

Delivering the Programme

10. Within the Programme, more than 60 projects have either been completed, or are in progress. The 1st annual Action Plan developed from the three-year R&D Strategy and published in autumn 2004, prioritised eight of the 30+ Programme areas for direct Programme activity, taking into account the roles, responsibilities and priorities of other agencies and initiatives. The 1st Action Plan focused mainly on 'managed' projects (where innovative project ideas were sought from potential contractors through a call for proposals which defined the broad areas of interest). This was complemented by some 'commissioned' projects (where contractors tendered against a specific project brief) specifically requested by policy colleagues, and mainly to provide evidence to underpin the current review of England's Waste Strategy.
11. The 2nd annual Action Plan (and accompanying call for proposals), in autumn 2005, consisted of a more even split between managed and commissioned projects. By the end of the financial year 2006/07, the initial three-year funding of £15 million is expected to have been largely committed to specific R&D projects, dissemination activities and other Programme support initiatives.
12. A list of selected projects is available on the waste research webpage.² Project reports can be accessed via the Department's Science Information System.³

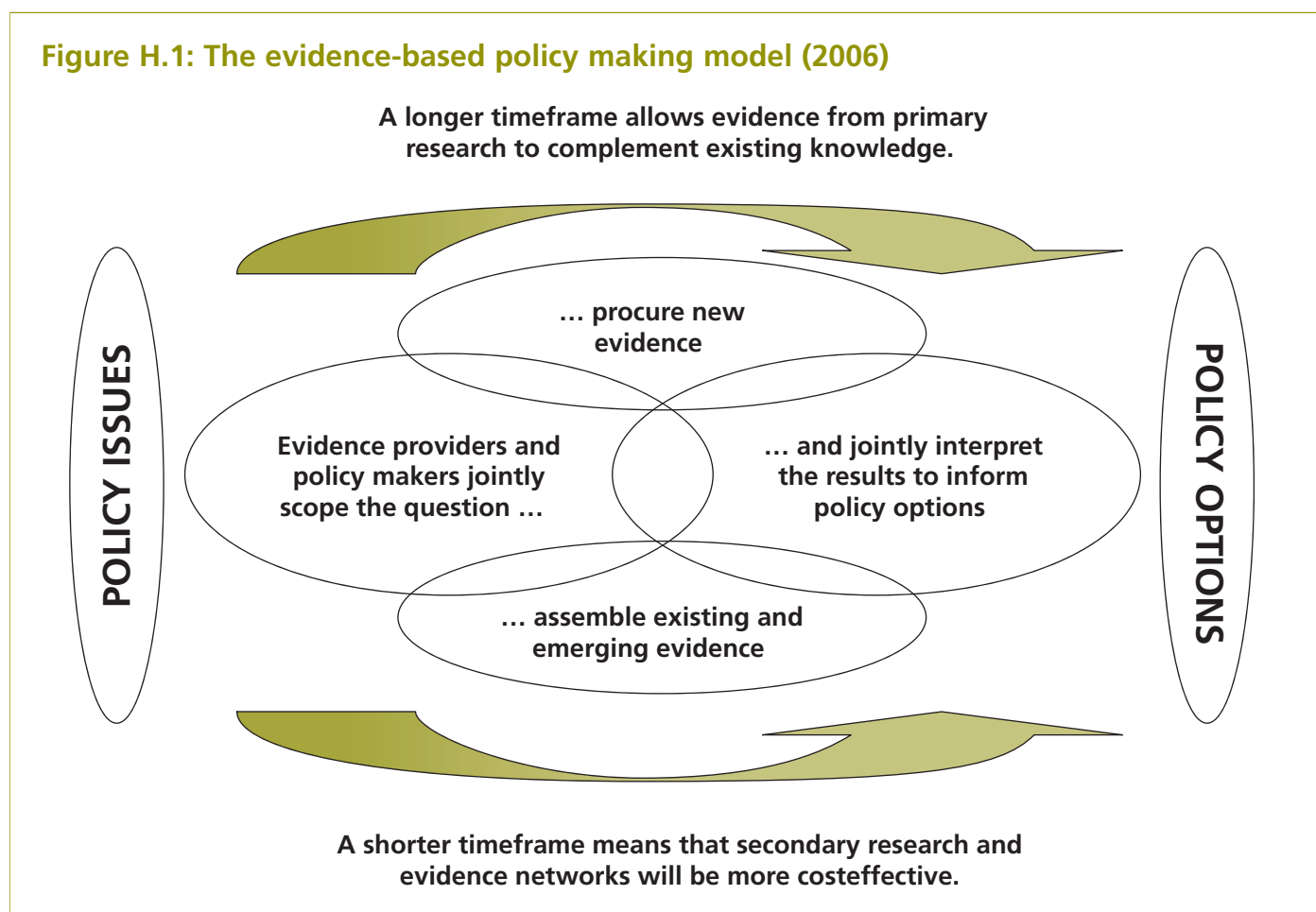
² <http://www.defra.gov.uk/environment/waste/wip/research/index.htm>

³ http://www2.defra.gov.uk/research/project_data/Default.asp

Application of evidence-based policy-making

13. Defra's approach to evidence and innovation is evolving. In early 2005, Defra embarked on an 18-month project to systematically review its evidence and innovation needs for policy. The Programme has been able to demonstrate the practical application of evidence-based policy-making within Defra. The final document *Our Approach to Evidence and Innovation*⁴ was published in October 2006. Figure H.1, sourced from that document, identifies the activities required to achieve the goal of 'policies based on the right evidence, used in the right way with the right people'.

Figure H.1: The evidence-based policy making model (2006)



14. An example of a project which followed the evidence-based policy-making model, is *Carbon Balances and Energy Impacts of the Management of UK Wastes*,⁵ an Environment and Health theme project. This project was jointly scoped with the policy makers, a combination of primary (i.e. the top ellipse in Figure H.1) and secondary (i.e. the bottom ellipse) research was used, and the results were jointly interpreted by the researchers and policy-makers to inform policy options. This and earlier related reports were drawn on in the production of WS2007 and have been important, along with other developing evidence, in strengthening the focus on (and understanding of) the climate change impacts of waste. A follow-up study, looking at the climate change benefits of options for biowaste management, is currently underway. Studies such as these assist Defra, its agencies and delivery bodies not just in devising new policies but also in guiding implementation of policies and programmes already in place.

⁴ *Our Approach to Evidence and Innovation* is available at <http://www.defra.gov.uk/science/how/documents/EvidenceAndInnovation.pdf>

⁵ *Carbon Balances and Energy Impacts of the Management of UK Wastes*, ERM and Golder Associates report for Defra, Final Report, March 2006 is available at http://www2.defra.gov.uk/research/project_data/More.asp?l=WR0602&M=KWS&V=Carbon+balance&SUBMIT1=Search&SCOPE=0

15. Another key study which was delivered to fill an identified knowledge gap was a project to promote understanding and strengthen the evidence base on the environmental and health impacts and risks associated with different waste and resource management options. *The Review of the Environmental and Health Effects of Waste Management: Municipal Solid Wastes and Similar Waste*⁶ published in 2004 has been widely used by Defra and others to inform policy development and decision-making.

16. Many of the projects commissioned under the Programme are longer-term projects, chosen according to an assessment of priority policy and research needs, and will feed directly into the implementation of the WS2007. For example:

- a suite of eight projects on household waste prevention began in 2005, and will deliver results throughout 2007 and early 2008 to inform development of this key policy area;
- several projects focus on how to achieve behaviour change, and on the contribution of the third sector;
- the Programme has also funded several 'horizon scanning' projects. One 'scenario' project was used in conjunction with Defra's 'model of causation' to test the developing Strategy waste policies against possible changes in the pressures on the UK environment over the next 25 years; and (see Annex G)
- a related project explores the growth rate of household waste arisings and how waste composition will change over the next 15 years, and how this can be influenced by policy interventions.

17. The Programme was a key source of the research and evidence underpinning WS2007 and as WS2007 was being developed, many short-term evidence needs were also identified, for which secondary research was commissioned to assemble and analyse existing and emerging evidence. Examples include:

- a study commissioned via CIWM on the lessons from Europe for successful delivery of key waste management infrastructure;
- a study on the economies of scale in waste management facilities;
- two studies on illegal waste activity;
- collation of the evidence on recycling performance at civic amenity sites, and on the impact of promotion and education programmes on recycling participation.

18. Evidence generated through other Defra programmes, such as the Market Transformation Programme and the Sustainable Consumption and Production Evidence Base Programme, was also used in producing WS2007.

⁶ Available at <http://www.defra.gov.uk/environment/waste/research/health/index.htm>

Development of a new R&D strategy and launch of Wastenet

19. Work is currently underway on a new three-year R&D strategy for the period 2007/08 to 2009/10 which is due for publication in summer 2007.

20. A primary aim of the new R&D strategy will be to provide the evidence to underpin the further development of policy measures committed to as part of WS2007 as well as continuing to support the delivery of waste and resources policy objectives.

21. As before, the R&D strategy will be followed up by annual Action Plans, addressing both short- and longer-term evidence needs. A stronger focus will be put on joint scoping and interpretation of research and other evidence with policy colleagues at all stages of the policy cycle from design and implementation to monitoring and evaluation.

22. The new R&D strategy will also address how to improve the mechanisms for providing effective communication and dissemination of research outputs. As part of that process, Defra intends to launch Wastenet in 2007, a web-based public information portal to provide access to waste-related research from Defra and other sources.

