

REWARD

Regional and Welsh Appraisal of

Resource Productivity and

Development:

A Baseline Assessment

Chapter 1

Introduction

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1 Introduction

1.1 About this Report

The objectives of this Report is to provide

- an initial baseline assessment of resource productivity in Wales, the Regions and London based primarily on analysis of data on air emissions, energy and water use, and waste arisings by region and by sector (Chapter 2)
- an overview of the Regional¹ response to the challenge of promoting increased resource productivity (Chapter 3, 4 and 5)

The initial baseline assessment should assist Wales, the Regions and London to focus their actions and measure their progress in promoting resource productivity. The overview of the Regional response should promote information sharing and learning between regions.

This Chapter seeks to provide the context for this Report, setting out the meaning and importance of resource productivity and the national and regional response.

This Report is being produced as part of the REWARD project (Regional and Welsh Appraisal of Resource productivity and Development), which seeks to engender and support Welsh and Regional action to promote resource productivity. Further details of the REWARD project are provided at the end of this Chapter.

1.2 Resource productivity is important for the economy and the environment

Resource productivity measures the efficiency with which the economy generates wealth by using natural resources, including the capacity in the environment to absorb waste and pollution. It means getting more from less. Improving resource productivity will therefore provide simultaneous benefits for the environment and the economy.

Major improvements have been made on reducing certain pollutants in our environment, but some environmental pressures are still growing in line with economic activity. For a number of those there are absolute ecological limits, which we as a society will have to respect. The only way of avoiding those limits in the long term is to de-couple the link between environmental degradation and economic growth. In other words, we need to increase resource productivity.

Energy consumption (including transport), waste production and to some extent water consumption are all still linked to economic growth. In all of these areas, there is a need for a new phase of development where economic growth and environmental protection are mutually reinforcing, rather than in constant conflict.

¹ This covers all Government Office Regions, including London, except the West Midlands, who were not able to participate. Wales is not included due to elections for the Welsh Assembly being held during the production of this Report.

1.3 Resource productivity is good for business

If more wealth is created by fewer resources and less pollution, then costs to business are reduced. Not only can many of the measures that businesses take to improve resource productivity reduce their immediate costs, but the overall efficiency of the economy will be increased.

The total benefits for manufacturing businesses from reducing waste has recently been estimated for the first time in a recent report² commissioned by the Environment Agency:

- If manufacturers invested in best-practice waste minimisation techniques they could achieve around £2-2.9bn savings in annual operating costs. To put this figure in context, this represented 1¼-2% of UK manufacturing value added and 5-7% of profits in 2000.
- This supplements potential savings from other kinds of investment in resource productivity. The Cabinet Office Strategy Unit's Energy Review in 2002 estimated that the implementation of cost-effective measures to promote energy efficiency could save £1.8bn in industry and £7.3bn for all sectors of the economy.
- Typically the case studies conducted under the Government's Envirowise programme suggest that the average payback period on the investment is twelve months or less. This compares with the 2-4 years cited for energy efficiency investments by the Cabinet Office Strategy Unit's Energy Review.
- The annual savings estimates from waste minimisation made in this study are likely to understate the potential benefits to businesses from a more efficient use of resources because they include only carefully audited 'good housekeeping', easily identifiable savings found to date from process changes.
- Firms may underestimate the potential savings by focusing only on their waste disposal costs. Figure 1 shows that almost 60% of the savings come from lower purchase costs of materials that do not end up in the final product.
- Firms also incur costs of processing and handling these 'unnecessary' materials and in some cases these are considerably larger than the purchase costs of materials. Case studies of various sectors within manufacturing show that the value of companies' processing costs embodied in their waste were almost double the purchase cost of materials.
- The case studies were carried out prior to the increase in the Landfill Tax announced in the Budget. The incentives for curbing waste disposals are therefore now higher.

1.4 Government Action at the National Level

Despite the fact that improvements in resource efficiency made by individual businesses can be good for both the environment and the economy there remain a number of barriers to businesses taking action. For example, there may be a lack of reliable and accessible information on measures to improve resource productivity or limited access to capital. The government has put in place a number of measures to tackle these barriers, for example through the establishment of bodies such as Envirowise and the Carbon Trust. However, given the scale of the cost effective savings that are potentially available and the benefits of achieving these improvements it is clear that more could be done.

The importance of sustainable consumption and production was underlined at the World Summit for Sustainable Development in September 2002. A number of countries agreed to "encourage and promote the development of a 10-year framework of programmes in support of Regional and national initiatives to accelerate the shift towards sustainable consumption and production".

² The Benefits of Greener Business: the costs of the unproductive use of resources – www.environment-agency.gov.uk

In February 2003, Margaret Beckett announced the Government's intention to fulfil this commitment by developing a UK strategy for sustainable consumption and production. This strategy will be published in early summer. Looking at ways to encourage resource efficiency will be a fundamental part of this strategy.

1.5 Government Action at the Regional Level

Although much action to promote resource productivity happens at the national level, there is also a need for action at the regional level. At this level of government, there is huge potential, particularly through regional development agencies (RDAs), for close co-operation with business to reap the rewards of resource productivity in increased profits and reduced environmental impacts. Promoting resource productivity can also be integrated into Regional Economic Strategies to meet the RDAs' duty to contribute to sustainable development.

Regional institutions have taken on varied roles to develop resource productivity within the sustainability agenda, ranging from policy and strategy development through to advocacy, project development and support to the development of performance frameworks and indicators. The centrepiece for policy relating to resource productivity in the Regions is the development of Regional sustainable development frameworks, usually under the auspices of Regional Assemblies. Within these frameworks, robust environment-focussed strategies have been completed or are currently being developed to cover areas such as water resources, waste, energy and greenhouse gases/climate change. Regional Economic Strategies have also been developed for all the Regions by the RDAs, either as an integrated theme of, or sitting alongside, the Regional Sustainable Development Frameworks. These economic strategies, either individually or together, have placed a high priority on resource productivity. Resource productivity appears under the umbrella of waste minimisation and recycling, or the more efficient use of resources through eco-design and influencing sustainable consumption.

The development of Regional sustainable development frameworks has also led to Regional performance frameworks and indicators for the state of each Region. In many cases, these performance indicators map across to the UK Strategy for Sustainable Development; 'Quality of Life Counts'. In many of the Regions, these indicators remain focussed on separate pillars of the 4 themes of the above strategy, with, for example, measures of absolute resource use, emissions or measures of economic growth and performance. There remains the difficult area of developing nationally consistent, more holistic measures for measuring the more efficient use of natural resources integrated into an economic framework, which considers the productivity and efficiency of Regional economies. Many of the RDAs have recognised this issue, and have therefore supported the REWARD project as a means for the first time of obtaining consistent Regional data for waste arisings, water use, energy use, air emissions and greenhouse gas emissions from various sectors of Regional economies. One RDA have also attempted to benchmark the current economic resource productivity of the Regional economies over the past year during their review of Regional Economic Strategies.

The aim of the RDAs is to improve their Region's competitiveness and encourage economic growth, while *at the same time* protecting and enhancing their physical environment and using resources prudently. To secure sustainable development, it is important to ensure that economic activity generated in the Region benefits all communities. Many of the RDAs have recognised the need for Region's environmental resources or 'assets' to be identified and maintained. Innovative action is required to ensure those assets' current and future contribution to the Regions' economies is recognised and increased. A number of the new Regional Economic Strategies have also identified the need to improve the environmental performance of businesses and environmental quality, and reference has now been made to the importance of harnessing the environmental economy.

Whilst greater emphasis has been given to the links between the environment and the economy and vice-versa, the role of Regional Economic Strategies is not to promote environmental protection and enhancement on its own. Rather, it is to engender and support a shift in the culture of Regional economies and business to embrace the challenge of resource productivity facing the UK economy, within a more economically focussed agenda centred around business efficiency, competitiveness, innovation and enterprise.

1.6 What REWARD is about

1.6.1 Who and why?

A partnership of regional development agencies and similar bodies has now formed the REWARD project - Regional and Welsh Appraisal of Resource productivity and Development.

The partnership is led by the Environment Agency, and includes: North West Development Agency; North East Regional Assembly/ONE NorthEast; Greater London Authority (GLA); South East Economic Development Agency; East Midlands Development Agency; East of England Development Agency; and the National Assembly of Wales.

The partnership also draws on the expertise of consultants including: Cambridge Econometrics, AEA Technology, Centre for Urban and Regional Ecology and Caleb Group.

The main aim of the partnership is to ensure that Regional and Welsh strategies are fully co-ordinated between economic development, resource productivity and environment protection.

1.6.2 What and where?

The REWARD project is focussing its efforts on three objectives:

- Development of a computer model – the REEIO (Regional Economy-Environment Input-Output model). This provides a greater level of detail than ever before, for analysing the effects of economic trends and policies on resources and the environment.
- Analysis and data on the resource productivity of the regions of England and Wales, and the implications for policy and business.
- An applications and capacity building programme for each partner – enhancing strategic intelligence through workshops, training, toolkits, information systems, analysis and communications.

For further information see www.reward-uk.org.