

# Sustainability Committee

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## Paper from the Tyndall Centre

This paper answers a number of questions contained in the Sustainability Committee's call for evidence on its inquiry into carbon reduction by industry and public bodies.

### General Questions

1. Is the proposed 3 per cent annual reduction target by 2011 'in areas of devolved competence'<sup>1</sup> sufficient to enable Wales to make its full contribution to meeting UK-wide targets? If not, what targets should be put in place?

A 3% annual reduction target is insufficient to meet the UK-Wide target of a reduction of domestic CO<sub>2</sub> emissions by 80% by 2050. It will miss the target by ~ 7,000ktCO<sub>2</sub>.

Furthermore if Wales were to consider its contribution towards the ultimate objective behind the 2050 targets that of limiting a change in global mean surface temperature from pre-industrial levels to an increase of just 2degC, the year on year reduction would need to be higher overall. Example reduction rates that would meet this target include a 5% reduction between 2011 and 2020 and 10% thereafter. These reductions would have to include both domestic and international emissions (e.g. those emissions arising from aviation and shipping activities associated with Wales).

Please find the justification for the response to this question appended below. Note that the data presented is based on a brief study not an in-depth analysis and it has not been peer reviewed.

2. Should the emission reduction target be based on Welsh consumption, or production, or both (ie should it take into consideration the carbon dioxide generated in Wales (production), or the carbon dioxide emissions that Wales' residents are responsible for, regardless of their source (consumption))?

In my view, emission reduction measures should first be targeted at sectors which are under the direct control of both the assembly and Welsh residents. This includes both emissions from production within Wales and the consumption of energy. This data is published annually by AEA Technology on contract to Defra (Jackson J., et al 2007; King K., et al 2007).

There are a number of different methodologies available to allocate different indirect emissions to the consumer. These range from just allocating the emissions from the generation of electricity to the final user, to a full allocation of the emissions associated with all consumption from energy / food / goods and services to the final or end user such as the REAP model.

I would recommend focusing on reducing emissions from production in Wales and in addition focusing on reducing the demand for energy. In addition any targets should include the emissions from international aviation and shipping. Once emissions from these sectors have been successfully targeted, the emissions associated with wider consumption can be considered.

At present the data needed to estimate the environmental impacts from the production and consumption of food and other goods is not readily available at the level of detail required to promote one particular source over another.

While life cycle analysis may give insights into the impacts of one particular good or food source, this level of detail is not yet available for all products currently on sale in the UK and Wales. The environmental impacts vary widely between different items / brands and no clear recommendations (e.g buy local instead of imported goods) can be made yet (see Foster et al, 2006). Research is planned to enable the 'carbon' or 'eco' labeling of the goods we buy (cf the energy rating of white goods) until this is routinely available consumers are not able to make decisions based on environmental impacts of goods.

### Questions specific to emissions of carbon dioxide from industry and public bodies:

7. What examples from other administrations (devolved, UK, and overseas), where other means have been used to achieve reductions in carbon dioxide emissions from industry and public bodies, could be adopted in Wales under current powers?

The Centre for Sustainable Energy have documented a number of public sector based initiatives

<http://www.cse.org.uk/cgi-bin/projects.cgi?local&&1082>

Additional examples from the UK can be found at

<http://www.ashdenawards.org/>

8. If specific carbon dioxide emissions targets are to be set for Wales, should those targets be subdivided into shares by sector? If so, what share of the total should reductions by industry and public bodies comprise?

Emissions from the Industry and Public sectors account for up to 50% of Wales' 'end-user' emissions (King, K. et al 2007). In my opinion, emissions from these sectors are comparatively easier to achieve in the shorter term using both demand management and existing

technology than from transportation. To meet future emission reduction obligations it is important to make reductions as soon as possible to avoid the need for much more stringent reductions in the future. Emission reductions from Industry and the public sector are very important to achieve in the short term, while emission reductions than for example transportation may take longer to implement through infrastructure changes and technological advance.

The public sector may wish to lead by example and reduce its emissions by 100% to compensate for other sectors which may struggle to reduce their own emissions.

Jackson J., Li Y., Passant N., Thistlethwaite G., Thomson A., Cardenas L., Greenhouse Gas Inventories for England, Scotland, Wales and Northern Ireland: 1990 - 2005. AEA Energy and Environment., Didcot.

King, .K., Goodwin, J. Passant, N., Li, J., Brophy N., 2007. Local and regional emission estimates for 2005 for the UK. A report to the Department of Environment, Food and Rural Affairs by AEA Energy and Environment, Didcot.

Foster, C. Green, K., Bleda, M., Dewick, P., Evans, B., Flynn, A., Mylan, J. (2006) «Environmental Impacts of Food Production and Consumptions: A report to the Department for Environment, Food and Rural Affairs. «Defra. London.