



Chartered
Institute of
Environmental
Health

NI Environment committee inquiry on Climate Change

Supplementary Paper 2

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The Chartered Institute of Environmental Health

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As a **knowledge centre**, we provide information, evidence and policy advice to local and national government, environmental and public health practitioners, industry and other stakeholders. We publish books and magazines, run educational events and commission research.

As an **awarding body**, we provide qualifications, events, and trainer and candidate support materials on topics relevant to health, wellbeing and safety to develop workplace skills and best practice in volunteers, employees, business managers and business owners.

As a **campaigning organisation**, we work to push environmental health further up the public agenda and to promote improvements in environmental and public health policy.

We are a **registered charity** with over 10,500 members across England, Wales and Northern Ireland.

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1.0 Background and context

- 1.1 The Environment Committee is currently completing an inquiry on climate change and the issues relating to Northern Ireland. We gave evidence to this inquiry in May 2009. During the evidence session members of the committee requested further information on several points that we raised. This supplementary paper seeks to provide further information relating to the specific request for further detail regarding the links between obesity and climate change.

2.0 Detail

- 2.1 Given the rapidly increasing global concern over the growing percentage of populations, particularly in developed nations and including the United Kingdom and Ireland, a wealth of evidence exists suggesting causal factors (many of which could be readily deduced in any case) which predispose individuals to obesity. People who are obese consume a high percentage of foods high in fat, salt and sugar; eat a high proportion of processed foods; and tend to take little or no physical exercise and in particular either drive or take public transport in preference to walking or cycling.
- 2.2 All three of these lifestyle issues and choices are inherently carbon intensive either in terms of CO₂ emissions from the activities themselves (High fat foods; sugar and salt; processed foods and transport are all sources of significant CO₂ emissions) or in the case of meat and dairy the methane (CH₃) emissions produced by the animals themselves. Clearly the greater the demand for meat and dairy products, the more intensive these industries become and the greater the carbon footprint as a result.
- 2.3 Apart from the types of food eaten, there is also evidence that suggests that people who are obese eat more food in general than those with a normal body mass index.
- 2.4 Research carried out by Department of Epidemiology and Population Health at the London School of Hygiene and Tropical Medicine¹ compared two theoretical populations: one with a 'normal' mix of body types, and the other an 'overweight' population where 40% of people were obese and the findings show that as the population distribution of body mass index (BMI) increases so does greenhouse gas emissions. Compared with a normal population distribution of BMI, a population with 40% obese requires 19% more food energy for its total energy expenditure. Greenhouse gas emissions from food production and car travel due to increases in obesity in a population of 1 billion are estimated to be between 0.4 giga tonnes (GT) and 1.0 GT of carbon dioxide equivalents per year.
- 2.5 This research shows that the maintenance of a healthy BMI has important environmental benefits in terms of lower greenhouse gas emissions. The authors argue that obesity should be recognised as an environmental problem because of its contribution to climate change from additional food and transport GHG emissions.
- 2.6 An earlier report by the Institute for European Environmental Policy (IEEP) in 2007² also linked climate change and obesity. The report found that by returning to the walking patterns of 30 years ago, when car ownership was less common (i.e. by walking just 1 hour more during the week), people could help save up to 11 MtCO₂

¹ Edwards P and Roberts I. *Population adiposity and climate change*. IJE 2009;

² Davis, A et al (2007) Unfit for purpose: how car use fuels climate change and obesity Institute for European Environmental Policy: London

- (15.4% of total emissions from passenger cars) and reduce the chances of becoming obese (i.e. avoiding an average weight gain of 2lb 11oz each year, which over 20-30 years could lead to an obese body weight).
- 2.7 In other words this study suggests that reverting to the walking patterns we had before owning a car, when physical activity included more regular walking to work, to the shops and to escort children to school, could be an important part of national programmes to fight climate change and obesity. The costs of such programmes are likely to be dwarfed by those that would be incurred by the National Health Service and society at large through inactivity, ill-health and premature death as a consequence of obesity (estimated at £8.2 billion per year).
- 2.8 *Globesity: A Planet Out of Control?*³ is a book by four public-health researchers who show how climate change and obesity draw from a shared web of roots. Both problems worsen as car culture spreads, desk jobs replace manual jobs, and carbon-intensive foods (including meat) become available to more and more eaters
- 2.9 The Department of Health in England has recognised the importance of providing sustainable food in hospitals and how this has a positive impact, not only on health and well-being, but also on the environment. In their report '*Sustainable food: a guide for hospitals*⁴' the DH and the NHS highlight the importance of sustainable food, defining it as food that should be produced, processed and traded in ways that contribute to thriving local economies and sustainable livelihoods whilst avoiding damaging natural resources and avoid contribute to climate change. Sustainable food should also be safe, healthy and nutritious for consumers and it should "*respect biophysical and environmental limits in its production and processing, while reducing energy consumption and improving the wider environment.*"
- 2.10 It has been suggested that production, distribution and consumption of food in the UK account for 22% of total greenhouse gas emissions⁵ and the NHS accounts for 25% of all public sector carbon emissions and 3.2% of total carbon emissions in England⁶. It is therefore recognised that the sheer volume of NHS food services provides a significant opportunity for the NHS to alter its approach to the sourcing of ingredients and the production of food, leading to improvements in the health of patients and staff, while reducing environmental impacts.
- 2.11 The Scottish National Food and Drink Policy Leadership Group recently compiled extensive research on health and food sustainability and noted that the biggest contributors to the ecological footprint within Scotland are the food industry, the housing sector and mobility (including air travel). Whilst there is debate about the exact contribution of food, there is some agreement that the food supply chain accounts for around 20% of the Scottish footprint (Garnett, 2008⁷, SEI, 2008⁸) Within the food supply chain, there are several key areas that can be identified as major contributors namely; Intensive livestock production (methane production); food processing (water, energy costs); food packaging; food conveyance (at all stages from production to processors to retailers to consumers); and food waste

³ Delpeuch, F et al *Globesity: A Planet Out of Control?* (2009)

⁴ Department of Health, April 2009

⁵ DEFRA, *Securing the Future*, 2005

⁶ NHS Sustainable Development Unit, *Saving Carbon, Improving Health*, 2009

⁷ Garnett T (2008) *Cooking up a storm* Food Climate Research Network. University of Surrey

⁸ SEI (2008) http://www.fcn.org.uk/fcnPubs/publications/PDFs/CuaS_web.pdf

⁸ SEI (2008) <http://www.resource-accounting.org.uk/downloads>

2.12 In their study report on A Framework for Pro-environmental Behaviours DEFRA (2008)⁹ focused on three main areas of action related to the food chain notably waste and recycling, eating food locally in season and adopting diets with lower environmental impacts. Whilst reductions in each of these arenas are desirable from an environmental sustainability perspective, there may be unintended consequences (both positive and negative) in terms of economic and socio-cultural perspectives (and indeed dietary implications) which require careful modelling to be able to assess potential intervention effects. For example, reduction in the consumption of sugary drinks which are presented in a range of packaging, transported from far distant sites of production, which are often stored and served from chilled (energy using) cabinets and vending machines could make a significant contribution to the reduction in dental caries and obesity with minimal impact on the socio-cultural sustainability of Scotland.

3.0 Summary

- 3.1 Typical dietary behaviours of people who are obese or, alternatively, the type of diets that predispose individuals to obesity are also carbon intensive, more so than a healthier diet.
- 3.2 Correspondingly, changes in dietary behaviour that would hypothetically reduce an individuals risk of obesity and improve overall physical health would also have a positive environmental impact.
- 3.3 Likewise, other behavioural patterns such as more physical exercise through for example walking and cycling as an alternative means of transport to the car, which are proven to benefit overall health and wellbeing, as well as reduce obesity risk, are also less carbon intensive.
- 3.4 There are very clear opportunities for government departments and agencies, most notably in the health and environmental sectors, to develop joint campaigns and programmes around these issues. Much greater effort needs to be channelled into doing so.

⁹ DEFRA (2008) *A framework for pro-environmental behaviours* London: DEFRA.