

# Regional Waste Planning Case Study

The framework for regional waste planning in Wales is set out in 'Wise About Waste: The National Waste Strategy for Wales' and Technical Advice Note (TAN) 21.

Regional Waste Plans (RWPs) are required for each of the three waste regions: North, South-West and South-East Wales. The Welsh Assembly Government (WAG) stipulates in TAN 21 that the RWPs must be reviewed every three years, and that a Health Impact Assessment (HIA) must be carried out for both the Wales Waste Strategy and the three Welsh RWPs 1<sup>st</sup> Reviews (RWPRs). A comprehensive Strategic HIA was therefore carried out to support and inform the RWPRs in Wales, to ensure that health and wellbeing were considered and safeguarded during the regional waste planning process.

A large number of primary research studies had previously been carried out to determine the likely health impacts of different waste treatment technologies and facilities, and of proposed Strategic Waste Management Options (SWMOs). This research had taken place over decades, in a range of different settings, and covering a spectrum of different waste treatment technologies, many of which had since been superseded by better and safer designs. In light of this complexity, the HIA was based on evidence from recent review reports on waste facilities and their potential health impacts, which collated and analysed primary research studies.

The three RWPRs were strategic in nature and did not discuss where waste facilities would be sited (these site-specific issues were to be determined by local authorities in consultation with local residents). This meant that the HIA's findings were general and qualitative in nature. A quantitative assessment would only have been possible if the locations of all the new waste facilities had already been identified and agreed upon.

The HIA assessed the potential positive and negative health impacts of the SWMOs and Spatial Options that had been put forward in the three RWPRs.

- The SWMOs consisted of the different combinations of waste management technologies that would enable Wales to achieve sustainability with its waste.
- The Spatial Options covered the different places where waste facilities might be located after taking into account key environmental and health criteria.

## The Three Waste Regions

Of the three Waste Regions in Wales, North Wales was noted to have better than average levels of health compared to Wales as a whole, South-West Wales average levels, and South-East Wales worse than average. However, significant inequalities did exist within each Waste Region, with residents of certain areas enjoying much better levels of health than residents of other areas.

## Waste and Regulation

All waste, particularly radioactive and chemical waste, can be hazardous if not collected and managed appropriately. The identified potential human health impacts associated with the accumulation and decay of untreated waste, both hazardous and non-hazardous, included: emissions into the air, water and soil; odour; dust; an increase in pests and vermin; detracting from the visual aesthetics of the local environment; impacts on greenspace; impacts on flora and fauna; fire hazards; and infectious and chronic diseases such as pneumonia, diarrhoea and bronchitis.

In Wales, it is a legal duty that waste be disposed of properly, in an official, authorised site. Waste operations are regulated to ensure that they pose little or no harm to human health and the environment. The regulatory framework, named 'Integrated Pollution Prevention and Control', ensures that the potential health impacts from emissions into the air, water and soil, as well as nuisance effects from waste facilities, are reduced to levels that are considered safe. These 'safe levels' are based on current evidence of the potential health impacts of waste facilities and their associated activities.

## Partners Involved

A Project Steering Group was set up to oversee and advise on this strategic HIA. Its members were chosen so as to ensure wide representation, and as such, included a lay representative from the voluntary sector as well as representatives from



the Wales Health Impact Assessment Support Unit (WHIASU), National Public Health Service for Wales, Environment Agency Wales, Environmental Health, Regional Waste Groups and the Welsh Assembly Government.

This HIA drew upon information contained in the three RWPR Sustainability Appraisals and the Life Cycle Assessments undertaken by the Environment Agency, as well as the Areas of Search Study undertaken by RPS. The HIA was produced by Peter Brett Associates and commissioned by Denbighshire County Council on behalf of the three Regional Waste Groups.

### **Health Impacts of Waste Treatment Facilities**

The different types of waste facilities, including those dealing with hazardous waste, were found to give rise to broadly similar kinds of positive and negative potential health impacts.

The main positive ones arose from: the collection and treatment of waste; employment opportunities; the stimulus to the wider local economy; and the minimisation of potential climate change impacts (global warming) through reduction in the use of landfills and the associated production of greenhouse gases.

The main negative potential health impacts concerned: odour; noise; pests; dust and litter; effects on the quality of life; air, water and soil pollution from waste facility emissions; and concern and worry about the potential negative health impacts of waste facilities (these included both the direct mental health effects of worry and concern, and the indirect effects on social capital and community cohesion).

The other less likely potential negative health impacts identified in the literature were: cancers; changes or adverse changes to reproductive outcomes (such as birth defects and an increase in twins); and cardiovascular and respiratory symptoms (such as difficulty in breathing and wheezing).

The collection and movement of waste could also give rise to positive and negative health impacts. The main potential positive health impacts again concerned the collection and treatment of waste and the associated employment opportunities. The main potential negative health impacts included air pollution, noise, odour, dust, congestion, road traffic injuries and community severance.

### **Health Impacts of SWMOs**

A number of other assessments of SWMOs have been conducted at a regional and national level in the UK. They broadly agree that: any potential strategic waste management option would have strengths and weaknesses from an economic, social, environmental and health perspective; all types of waste treatment facilities would likely have both positive and negative health and wellbeing impacts; and from both public health and environmental perspectives, high rates of reducing, re-using and recycling waste is likely to form the core of a good SWMO.

### **Recommendations and Mitigation**

Overall, the HIA's review of evidence on health and wellbeing impacts found that there was no single best SWMO in terms of public health, and that efficiently designed, operated and regulated waste treatment facilities were likely to have mainly positive and little or no negative impacts on the health and wellbeing of local communities and waste facility employees.

In terms of the different types of waste treatment technologies and facilities, the potential positive and negative impacts were generally dependent on the material being treated (e.g. waste all mixed together, or sorted and segregated waste), the type of technology/facility and emission controls, the management of the facility, and regulatory control.

Waste treatment technologies that further separated and segregated waste for recycling prior to treatment, and that had closed treatment processes, were also highlighted as likely to have the most positive and fewest negative health impacts.

As part of the HIA, mitigation and enhancement measures were proposed for the identified potential health impacts. Mitigation measures are ways of minimising any potential negative impacts, and enhancement measures are ways of maximising potential positive impacts. Potential measures concerning the waste issue were identified on a general level, as well as in the more focused areas of planning, construction and operation, and decommissioning of waste facilities.

### **Links**

*Links to the full HIA report, as well as a non-technical summary and other related case studies can be found on the WHIASU website: <http://www.wales.nhs.uk/sites3/home.cfm?OrgID=522>*

