

## Warwickshire Waste Partnership - 4th December 2006

### Greenhouse Gas Reduction through Recycling Schemes

#### Report of the Strategic Director for Environment and Economy on behalf of the Officers Group

##### Summary

At the 2006 Warwickshire Waste Partnership Conference a question from the audience relating to carbon emissions generated from the disposal of nappies to landfill. This report seeks to highlight the tonnes of CO<sub>2</sub> that can be generated due to landfilling nappies and other recyclable produces.

##### Recommendation

That Members note the contents of this report.

#### 1. Carbon Dioxide Generated

- 1.1 Studies have shown that the production of virgin material will produce far more CO<sub>2</sub> per tonne than using recycling material. Greenhouse gases are released during power generation by fossil fuel plants in extraction, processing of raw materials and during manufacture of a new virgin product (including transportation) and those released in landfill gases.
- 1.2 The crucial factor that puts recycling ahead of landfill is that recycling a material uses far less energy than the extraction and processing of virgin materials. Creating a tonne of aluminum cans from raw material can take around five times as much energy as producing a tonne of recycled aluminum cans.
- 1.3 Carbon saved per tonne of material recycled by not sending it to landfill is outlined below:-

Material	Tonnes of CO <sub>2</sub> saved	Material	Tonnes of CO <sub>2</sub> saved
Mixed recyclables	0.87	Corrugated card	0.81
Newspaper	0.69	Steel cans	1.50
Office paper	1.48	PET plastic	1.77
Aluminum cans	9.08	Disposable nappy	0.65
HDPE plastic	0.50	Glass	0.27
Textiles	3.18	Green garden waste	0.36

- 1.4 The total amount of CO<sub>2</sub> saved through recycling, composting and waste reduction initiatives in 2005/2006 is 55,011 tonnes. A detailed breakdown of these activities can be found in **Appendix A**.
- 1.5 Recycling reduces CO<sub>2</sub> emissions, but reducing landfill also massively reduces methane emissions, which are 23 times more potent a greenhouse gas than CO<sub>2</sub>. Methane emissions from landfill are a very significant element in global warming, particularly from old landfill sites. Modern landfill sites harness the methane generated and use it as a clean-burning fuel. See **Appendix B** for landfill sites in Warwickshire which reclaim methane.

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### Background Papers

Environmental Protection Agency USA web site  
 Environment Agency 2005, Lifecycle Analysis of Nappies  
 Friends of the Earth briefing note, January 2000

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