



## An updated lifecycle assessment study for disposable and reusable nappies

Science Summary SC010018/SS2

A new report published by Defra, the Environment Agency and WRAP looks at the effect of disposable and reusable nappies on global warming and other environmental impacts.

Using figures from 2006, report authors Environmental Resources Management Limited estimated the environmental impact of a child using disposable nappies or shaped cloth (reusable) nappies for the first two and half years of its life, after which time most children stop using nappies during the day.

The study updates information from a similar assessment, carried out in 2002/03.

The study considers all the environmental burdens associated with the manufacture, use and disposal of nappies in the UK in a variety of scenarios, for example, how reusable nappies are washed and dried, and whether they are reused on a second child.

Using information from manufacturers, the Market Transformation Programme and earlier studies, one of the key impacts the authors calculated was for 'global warming impact' for both disposable and reusable nappies.

The average 2006 disposable nappy results in a global warming impact of 550kg of carbon dioxide equivalents if used over the two and half years a child typically wears nappies. This figure is 12 per cent less than 2002/03, as manufacturers have reduced the weight of disposable nappies by 13.5 per cent.

The authors highlighted that the manufacture of disposable nappies has a greater environmental impact in the UK than their waste management by landfill.

Reusable nappies were found to have a global warming impact of 570kg carbon dioxide equivalent over the two and a half period, based on average washer and drier use.

The impact of all children in the UK wearing nappies (estimated as 1.7 million children at any one time) equates to 0.4Mt carbon dioxide equivalents per year. The total greenhouse gas emissions of the UK is around 700Mt each year.

The environmental impact of reusable nappies varies greatly depending on how they are laundered.

For example, washing the nappies in fuller loads or line drying them outdoors all the time reduces the global warming impact by 16 per cent. If these nappies are also used on a second child, the original figure drops by 40 per cent, or some 200kg carbon dioxide equivalents over the two and a half years – an impact equal to driving about 1,000 km.

In contrast, if the nappies are always tumble-dried, the original 570kg figure increases by 43 per cent. If these nappies are also washed at 90°C instead of 60°C, the baseline figure rises by 75 per cent – up by 420kg carbon dioxide equivalent over two and half years.

It is consumers' behaviour that dictates the environmental impact of reusable nappies.

The impact of reusable nappies on global warming can be reduced by:

- Line drying outside whenever possible.
- Tumble-drying as little as possible.
- Using energy efficient appliances whenever possible (A+ rated machines are preferred).
- Keeping washing temperatures below 60°C.
- Washing fuller loads.
- Reusing nappies on other children.

**This summary relates to information from Science Project SC010018, reported in detail in the following output(s):**

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