



KNOWASTE

PRESS PACK

Knowaste company profile

Knowaste was established in 1989 and, operating on an international scale, has been a leading pioneer in the development and implementation of innovative environmental solutions for the world's difficult waste issues. This includes recycling disposable nappies, bedliners and incontinence products into sanitised and reusable paper pulp and plastic products.

A main focus for the company is providing an environmentally friendly and cost effective solution for disposable nappies used every day across the world. The challenge is phenomenal: the global population is set to rise by 8 billion by 2025, and each baby born can generate approximately one tonne of nappy waste by the time they are potty trained.

The Knowaste Nappy Processor (KDP) enables 98% of the disposable nappy to be removed from the waste stream and recycled into a variety of products, from shoe insoles and wallpaper to plastic wood and thickener for industrial products.

Locations

Prior to launching in the UK the Company has had two main recycling facilities. The first facility was established in 1989 in Toronto, Canada and is the facility where disposable nappies are recycled using the Knowaste Nappy Processor (KDP), a process that can be individually constructed to accommodate any community's needs. The second facility was established in 1999 in Arnhem, Netherlands, incorporating a large-scale processor, capable of processing 70,000 tonnes of nappy material per year.

Knowaste history

2007 - Knowaste launched in the UK and also acquired **NRC**, the plastic processing facility based in Putte, Belgium. The facility manufactures products from raw materials which consist of a combination of Knowaste recycled nappy plastic and other recycled plastic components. For example, it produces plastic pellets which are used in injection moulded and extruded products

- **2006** Knowaste handles first nappy waste from Germany
- **2005** Expansion of the Netherlands recycling facility
- **2002** 9 month pilot programme in Santa Clarita, California
- **2001** Knowaste is issued a patent for Japan and Knowaste Korea is formed
- **2000** Knowaste is issued a patent in Korea. Development of the first Knowaste process
- **1999** First European recycling facility opens in Arnhem, Netherlands
- **1998** Knowaste receives LIFE award for best new recycling process in the EU
- **1998** Knowaste acquires investment to build facility in The Netherlands
- **1998** Knowaste GmbH is formed to exploit the German market
- **1996** Following research and development process, Knowaste announces recycling technology to the market
- **1995** Knowaste issues patents in the USA and Canada
- **1991** Construction of a pilot plant and research development facility in Mississauga, Ontario, Canada begins
- **1989** Knowaste is incorporated to research and develop technologies for recycling of absorbent hygiene products

The technology

The Knowaste technology, known as the KDP solution, is a leading edge, flexible and environmentally sensitive solution for recycling nappy waste and diverting it away from landfill. Used nappy recycling is becoming an environmental necessity and Knowaste's scalable KDP is an efficient and cost-effective method for addressing this important issue.

Knowaste has created a new recycling processor for the UK market which has the capacity to handle 10,000 tonnes for the UK and which creates two main streams – biogas and plastic.

The Knowaste Recycling Process

Knowaste's recycling process involves three key stages:

- 1) Used nappies and/or incontinence products are collected and transported to a Knowaste processor or plant.
- 2) The Knowaste process washes the nappy material and mechanically separates the individual components so the wood pulp and plastic can be recycled. Up to 98% of a used disposable nappy or incontinence product can be removed from the waste stream.
- 3) The reclaimed components - plastic components, pulp fibers and super absorbent polymers - from the process are now available for recycling.

What gets recycled?

The modern disposable nappy consists of three components: mixed plastic, wood pulp and super absorbent gel polymers. Mixed plastic makes up the nappy's inner and outer layers. Wood pulp, inside the nappy, cushions and wicks moisture away from the skin and towards the nappies inner core. Super absorbent polymers, gel-like capsules, are located in the inner core, swelling and absorbing moisture. All these individual components of a disposable nappy can and should be recycled, effectively preventing an endless stream of negative environmental impacts associated with the disposal of nappies.

The costs of recycling

There is a collection cost, which will be charged by your waste collection company. In addition, Knowaste charges a 'gate fee' to use its recycling facility. The costs of recycling are cost competitive compared to taking nappy waste to landfill. The latter will mean a landfill gate fee and landfill taxes, which are currently £24 per tonne and set to increase by £8 per tonne each year from April 2008 until at least 2010/11. By using the Knowaste process, local authorities will be able to avoid any penalties that may occur from not meeting the landfill diversion targets.

Key facts about Nappy Waste

- Populations are rising fast, which will create more nappy waste.
 - The world population of more than 60 billion people is set to increase by nearly 8 billion people by 2025.
 - The latest records in the UK by the National Statistics Office sets the population at 60.2 million and set to rise to 67 million by 2031
 - In England and Wales the number of Live births in England and Wales increased for the fifth successive year in 2006.
- The use of disposable nappies has increased over the past 20 years as a result of their convenience
- In the UK around 8 million disposable nappies are used every day and one baby's disposable nappies fill 40 black sacks in a year
- At least four-and-a-half trees are needed to produce the disposable nappies for one baby
- Disposable nappies may take up to 500 years to decompose, essentially making them present in our landfills forever
- For every tonne of nappy waste recycled, 400kg of wood, 145 cubic metres of natural gas and 8,700 cubic metres of water is saved.

Biography

Roy B. A. Brown

President and Chief Executive Officer

Roy Brown is President of Knowaste LLC. He was named CEO and member of the general management committee in July 1998. He was appointed Chairman of its European subsidiary Knowaste BV in April 2000. Mr. Brown also served as chief financial officer from December 1996 to July 1998.

Mr. Brown has played a key role in expanding the markets Knowaste serves around the globe as well as identifying high value end markets for the end product streams.

Mr. Brown joined Knowaste after a twenty-year career as an entrepreneur with a principal focus in the environmental and waste management field. He specialised in strategic planning, competitor analysis and acquisitions in Canada, The United States and Europe.

Mr. Brown received a B.Comm degree from the University of Toronto (1976) and a Certified Accountant designation in 1981.

He has been married to Donna since 1976 and they have two daughters. Mr. Brown sits on the boards of a number of private and charitable organisations in Toronto.