

Chilled by the sun



Tackling climate change: contributing through eco-efficiency, advanced refrigeration and renewables

When Constandina Katsanevaki and her brother Sotiris chose their *Magnum* and *Cornetto* on a baking hot day during the 2004 Athens Olympics, they probably didn't notice that the ice cream cabinet was powered by the sun. And they couldn't tell that the ice creams were chilled by gases that don't contribute to global warming.

The cabinet is one of five solar-powered units Unilever tested during the Olympics – an example of how the company is trying to reduce its impact on the environment, including climate change.

Unilever makes food, home and personal care products. Its brands include *Dove*, *Sunsilk*, *Lipton*, *Knorr* and ice creams such as *Magnum* and *Cornetto*. It has operations in over 100 countries and its products are sold in a further 50.

Warmer weather might seem good for ice cream sales, but global warming brings unpredictable environmental consequences for society and business. Professor Dan Esty, director of the Yale Centre for Environmental Law and Policy and a Unilever adviser on the environment, warns that global warming threatens the company's key sources of ingredients – agriculture and fisheries. "Unilever could be vulnerable to changes in global temperatures, sea level,

rainfall patterns, soil moisture and storm patterns," he says.

Unilever's environmental strategy concentrates on areas where it can have the biggest positive effect. This is why its three sustainability initiatives are in agriculture, fish and water. Also, part of its strategy is to increase eco-efficiency – making more with less. Essential elements of its eco-efficiency programme are to improve energy efficiency in manufacturing, use renewable energy where possible and devise better technologies for refrigeration.

"Warmer weather might seem good for ice cream sales, but global warming brings unpredictable environmental consequences for society and business."

Unilever's carbon dioxide emissions from energy use in manufacturing have dropped by 0.8 million tonnes since 1999. This represents a reduction of 8% for every tonne of product. Professor Esty acknowledges the progress and urges the company to do more.

In Europe, considerable progress has been made in improving ice cream cabinet technology. Refrigeration

in Unilever's factories uses ammonia, which does not affect the ozone layer or contribute to climate change. But thousands of older retail cabinets still use CFC or HCFC gases. These damage the Earth's protective ozone layer as well as contributing to climate change. The hole in the ozone layer lets in harmful ultraviolet sunlight, which restricts plant growth and can cause skin cancers.

The company is now introducing cabinets using a hydrocarbon (HC) gas, which avoids both the ozone depletion and global warming effects. HC cabinets use up to 9% less energy than older technologies.

The first HC cabinets were installed in Denmark in 2003 and Unilever aims to have 15,000 in 18 European countries by the end of 2004.

Since 1996, the company has been working in close co-operation with environmental campaigners Greenpeace in the development of this new technology. Unilever successfully trialled 50 HC freezers at the 2000 Sydney Olympics before launching its HC freezers in Europe. Stephen Tindale, Greenpeace UK executive director, supports Unilever's actions. "Unilever has shown genuine commitment to the environment and genuine business leadership. This sends a powerful message to the rest

of the industry that climate-friendly technology is available and must now be used."

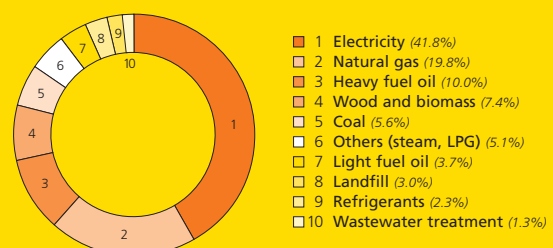
HC refrigerant does not increase the concentration of those gases that contribute to climate change (known as greenhouse gases). The principal greenhouse gas is carbon dioxide, produced mainly from burning fossil fuels, such as coal and oil. Unilever's greenhouse gas emissions from its operations are produced mainly from energy used in manufacturing (see chart). The company has a global programme to improve energy management and achieve annual greenhouse gas reduction targets in its manufacturing operations. Its target for carbon dioxide emissions from energy was just missed in 2003, but many sites made impressive progress in energy efficiency and the company beat its overall target to reduce energy consumption.

In the United States, for example, the Home and Personal Care division cut energy use by over 10% in one year when in 2001 it began to publish energy costs for each site, encouraging internal competition to make savings. Unilever's food business in the UK is aiming to beat targets set as part of the UK government's programme to raise energy awareness and improve efficiency.



Fast-growing eucalyptus trees are grown to provide carbon-neutral fuel on Unilever's tea estates in India. Over 80% of the power used by the estates comes from renewables.

Where Unilever's manufacturing greenhouse gas emissions come from (2003) Expressed as % of CO₂ equivalent





Moses Mavoko, planning manager at Unilever's tea estate in Kericho, Kenya, with tea bushes in the foreground and a eucalyptus plantation behind. The eucalyptus provides carbon-neutral fuel to fire the estate's boiler. Renewables provide 96% of the estate's energy.

“In Kenya, 96% of the energy used by the company’s Kericho tea estate comes from renewable sources.”

Emissions from road transport are difficult to cut because most products and supplies are increasingly delivered by truck – often the most economically efficient form of transportation. The challenge to reduce exhaust emissions has increased since the company began moving towards fewer, larger factories. These plants are more efficient (saving energy and other resources) but are often further away from markets, resulting in longer journeys to deliver products. Transport emissions can be reduced by switching from road to rail or sea where possible, and by improving the efficiency of distribution networks so that more products are carried on each journey.

Some Unilever companies have been working to improve their distribution efficiency in this way. Unilever recognises that it needs to spread the learning throughout the group if it is going to meet the environmental challenge that road transport poses. Sometimes, taking a new approach to production can make a big difference. For example, the Lever Fabergé factory in northern Italy saves

5,000 truck journeys a year by making its own bottles for liquid detergent on site, rather than transporting them from elsewhere.

As well as working to make its own operations more energy efficient, Unilever aims to help consumers save energy when they use its products. Laundry detergents, for example, have been developed to work at low temperatures, so less energy is needed to heat the washing water.

The use of renewable energy, such as solar, wind and biomass, can contribute to reducing emissions. Wood and other vegetation (biomass) are currently the main renewable fuels used by the company, followed by hydro and wind electricity. In total, 11% of Unilever's energy consumption came from renewable sources in 2003, but in some places renewables provide the main source of power.

In India, for example, around 80% of the power used by the company's tea estates comes from wood. The factories used to be powered by coal, but the company now grows trees

for wood burning in well-managed plantations. Burning wood only releases carbon taken from the air during growth, so there is no net impact on the atmosphere (carbon neutral).

In Kenya, 96% of the energy used by the company's Kericho tea estate comes from renewable sources. These include hydro electricity and fuel wood. The estate has been working with Kenya Forestry Research to increase the use of wood, improve yields and boost boiler efficiency.

Much can be achieved by industry through individual company efforts to cut energy consumption, but substantial progress to combat climate change will only be made if business, government and stakeholders work together. The collaboration between Greenpeace and Unilever that produced the HC cabinet programme – which chilled the ice creams enjoyed by Constandina and Sotiris – is just one example of what can be achieved by working in partnership.



Wood specially grown to provide carbon-neutral energy fires the boiler at Unilever's tea estate in Kericho, Kenya. Unilever has been working with Kenya Forestry Research to increase the use of wood grown for fuel on the estate.



Hydro-electricity is generated from this reservoir on Unilever's tea estate in Kericho, Kenya. The estate also uses wood specially grown on the estate to fuel the boiler.



Chilled by the sun: the ice creams enjoyed by Constandina Katsanevaki, her brother Sotiris and their aunt Elpida Koutsoubaki were chilled by this solar-powered ice cream cabinet – one of five tested on the streets of Athens during the 2004 Olympics.

Unilever believes that one of the best and most sustainable ways it can help to address global social and environmental concerns is through the very business of doing business in a socially aware and responsible manner.

This is the third in a series of occasional articles that looks at how Unilever companies around the world are tackling global social and environmental concerns with local actions and by working in partnership with local, national and international agencies, governments and NGOs.

If you would like to know more about Unilever's environmental activities, including actions taken on climate change and refrigeration, please visit www.unilever.com/environmentandsociety.

There you will also find copies of previous articles in this series, as well as our latest environmental and social reports. These can be read online or downloaded.

We would like to hear from you. If you have any questions, comments or suggestions about this publication or any other aspect of Unilever's environmental and social policies, please contact: csrcomment@unilever.com.



Or write to:
Corporate Relations
Unilever PLC
PO Box 68
London
EC4P 4BQ
United Kingdom

Corporate Relations
Unilever N.V.
PO Box 760
3000 DK Rotterdam
The Netherlands

Cover picture: Elpida Koutsoubaki, her niece Constandina Katsanevaki and nephew Sotiris choose ice creams from a solar-powered ice cream cabinet tested on the streets of Athens during the 2004 Olympics. The panel on top of the cabinet converts sunlight into electricity. The gases used for chilling do not contribute to climate change.

Front and back cover photographs by Bill Patrick.

