



# Forbo Flooring Systems Environmental Report 2009

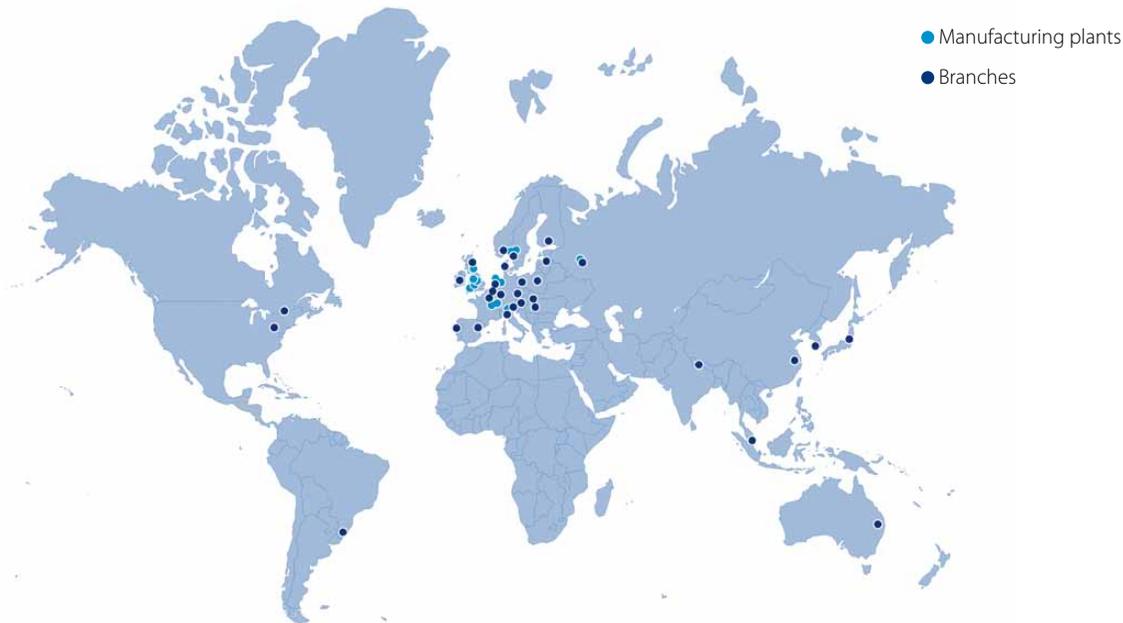
creating better environments

**Forbo**  
FLOORING SYSTEMS

# Forbo Flooring Systems, responsible market leader

Forbo Flooring Systems is a global market player in linoleum, project vinyl, carpet tiles, Flotex flocked flooring, Coral entrance systems and vinyl floor coverings. In addition to floor coverings, Forbo develops, manufactures and markets a full range of professional service products. All Forbo products combine high levels of functionality and durability. Forbo Flooring Systems is committed to environmentally responsible production and to far-reaching customer service. Forbo Flooring is part of the Swiss Forbo Group and owns 13 manufacturing plants and branches in 30 countries worldwide. The Forbo group has three divisions: Movement Systems, Bonding Systems and Flooring Systems

Demonstrating our commitment to the environment is part of our strategy. Founded in 1928, Forbo's first product was Linoleum – made from renewable natural raw materials, fully biodegradable and environmentally friendly. Linoleum, after more than 80 years, is still one of the most environmentally friendly floor coverings on the market. Awareness of the importance of global sustainability has grown in the last decades and it has become clear that natural resource depletion and global warming are two practices that cannot continue as they have in the past if we are to fulfil our obligations to future generations.



All **Forbo** products combine high levels of **functionality** and **durability**

**Linoleum** is still one of the most **environmentally** friendly floor coverings

[www.forbo-flooring.com](http://www.forbo-flooring.com)

# Introduction

When in 2009 the Flooring Systems management team asked me to take responsibility for Flooring Quality Assurance and Environment, I did not hesitate to take up this challenge to grow environmental awareness in the Flooring Division and to improve our environmental performance even more. My team and I evaluated our environmental position and concluded that we are on the right track towards reducing all environmental impacts of our products. The results for the past years can be found in this, the Flooring division's first environmental year report.

Creating better environments is our mission. The product offer to our customers is a great mix of functionality and environmental friendliness. The average environmental footprint of our product portfolio is exceptional good because a lot of our product offer is based on renewable raw materials, like our Marmoleum products.

Our environmental impacts are calculated with our latest Life Cycle Assessment (LCA) tool which was developed together with our European association ERFMI, [www.erfmi.com](http://www.erfmi.com). LCA has already been in use for many years within Forbo Flooring Systems to evaluate our product design and development and to evaluate our environmental impacts. We strongly believe that cradle- to-grave LCA is the preferred method for calculating the environmental impacts of a product.

Evaluating all impact categories, we are concluding that – without neglecting the other categories – the best opportunity for improving our overall results lies in reducing CO<sub>2</sub> emissions within the supply chain. CO<sub>2</sub> emissions resulting in global warming are recognized without doubt to be one of the most important threats to the world environment. In the supply chain we have many opportunities to reduce CO<sub>2</sub> emissions by reducing the use of energy and by re-using and recycling materials.

The information in this report consists of the environmental performance of our 13 operational sites across 7 countries. All these sites except one have an ISO 14001 certified environmental management system. Continuous improvement and yearly improvement programs have already been part of the environmental management system for many years. This report shows the consolidated results for all operational sites.

The overall environmental program for 2010 is also focusing in particular on our operational sites. In the second half of the year a Forbo Way to Win awareness program will be rolled out to all our employees in all our businesses, challenging them to reduce energy use and re-use and recycle waste.

*Creating better environments remains our mission.*

## **Fred Seifert**

Quality and Environment Director, Flooring Systems

**“To minimize our CO<sub>2</sub> emission we focus on reducing the use of energy and recycling waste”**



*Fred Seifert*

## Forbo Flooring Environmental Policy

As a global leader in flooring systems we have a responsibility, to all our stakeholders, to create a better environment. The way we serve and drive the market sets the pace and standard for world class flooring solutions.

Forbo Flooring Systems protects, invests, and cares for all environments that we touch upon whether it is a work, indoor, or natural environment our goal is to simply optimize our performance now, and for the benefit of our collective futures.

Taking care of the environment is an integral part of the way we do business and the way we promote our activities to our stakeholders. We believe that being environmentally responsible is both the right thing to do as a responsible corporate citizen, and the right thing to do in business. We work to "Compliance Plus" – a commitment to go above and beyond Government regulations and requirements.

We believe investments in people, process, and product that further improve our environmental performance are an investment for our future, not a cost of doing business.

We are committed to creating a sustainable future by constantly seeking ways to minimize the environmental impacts of our products over their whole Life Cycle from raw material extraction till the end of life. Evaluation of all LCA impact categories are carried out, but with a particular focus on reducing the CO<sub>2</sub> emissions and the related irreversible climate change caused by global warming.

### **We shall succeed by:**

- Maximizing the efficient use of raw materials by reduce, re-use and recycle
- Reducing the use of energy in all production and business processes, and with all efforts to switch over to renewable energy
- Applying green design principles to all our new product and innovation development programs
- Promoting environmental responsibility towards all our stakeholders
- Only supporting LCA-based environmental labeling and certifications developed in an open and transparent consensus process and validated through a 3rd party process.

### **Tom Kaiser**

Executive Vice President, Flooring Systems



## Life Cycle Assessment (LCA)

To calculate all environmental impacts of a product or product system, one has to use the LCA method. LCA is standardized worldwide in ISO 14040. The LCA for our floor covering products calculates all impacts from cradle to grave. This means that all environmental impacts due to



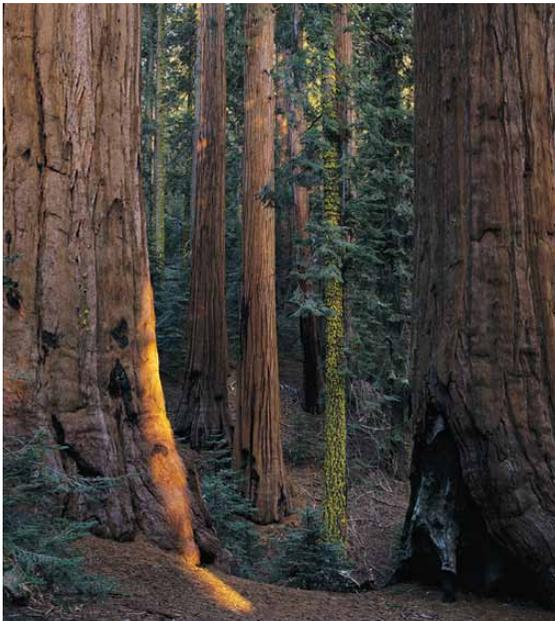
growing, production or mining of a raw material, the production of the floor covering, the product installation and usage on the floor, including cleaning and maintenance, to the end of product life are calculated.

LCA is the base for our green development and for measuring our global warming potential. The LCA calculator shows us that to reduce global warming we should reduce the use of energy – and especially the energy produced using non-renewable materials. Re-use and recycling contributes to reducing the global warming potential because fewer raw materials have to be employed. This saves energy and reduces abiotic depletion.

# Environmental report 2009

## Energy

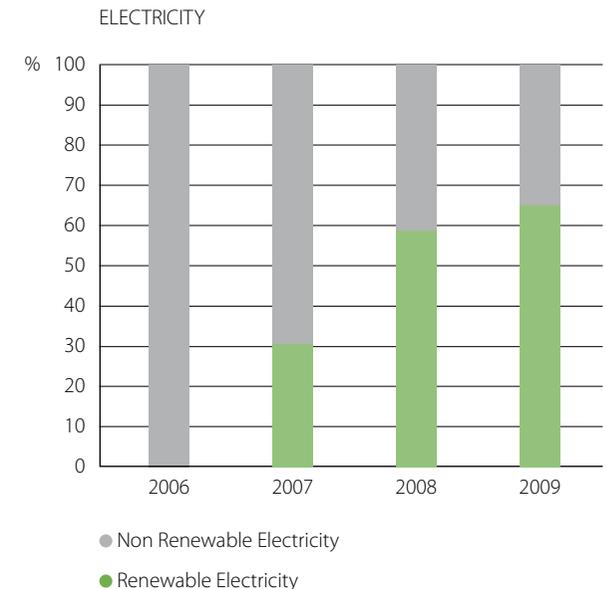
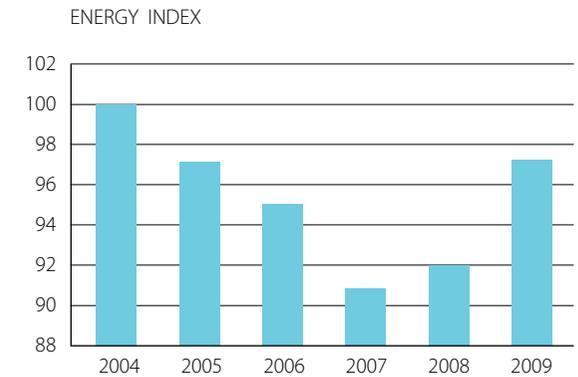
We have analysed the last 6 years worth of energy usage (electricity & natural gas). Taking 2004 as our benchmark year, the energy index graph clearly shows year-on-year improvement for the period 2004 to 2007. The last 2 years has seen our energy usage begin to rise back to the 2005 level; this is a reflection of the economic downturn and is not due to poor operational performance. Our energy efficiency is influenced by the lower volumes produced. We are not satisfied with this and each site has produced and is implementing a wide ranging program of energy efficiency projects designed to reduce our energy usage.



The results in 2008 and 2009 are still better than the benchmark. Energy reduction and saving projects were still implemented. A unique project on our Chateau Renault (F) operations site saving energy and reducing emissions should be mentioned here. Bio filtration instead of incinerating the fumes from our production process in Chateau Renault is a new and innovative technique in our industry. Despite the higher investment, Bio filtration was chosen because of its lower environmental impact, especially for energy.

Another area on which Forbo Flooring has focussed is the type of energy the operational sites use. With our stated aim of reducing our global warming potential, we have embarked on a program of purchasing renewable forms of electricity. We recognise that this may cost us more, but believe that the decision, allied to our internal improvement initiatives, will benefit both the company and the wider environment in the longer term. The result to date show that 69% of the electricity consumed on our operational sites is generated from a renewable source.

The use of renewable electricity has contributed to a reduction in the carbon footprint of the Forbo Flooring Division. The total amount of CO<sub>2</sub> that we have taken out of the environment is over 100,000 tonnes since 2007. This is important to note – we have eliminated that amount of CO<sub>2</sub> from entering the atmosphere. This is, we believe, much better



# Environmental report 2009



than offsetting – which is merely trying to reduce damage that has already been done.

We can also report that our energy mix has altered little over the period – the noticeable difference is the proportion of energy derived from renewable sources. This now accounts for over 20% of our total energy take.

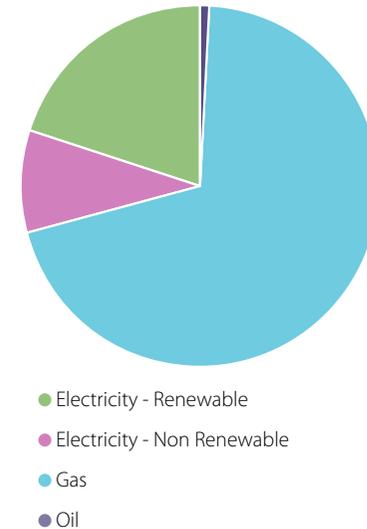
## Waste

Identifying and then eliminating of waste is our first priority. However, we do recognise that while we still create waste we have a duty to dispose of this with minimum impact on the environment, while at the same time trying to extract maximum value for the

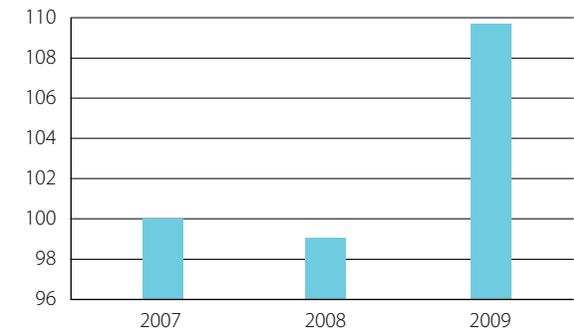
company. This activity is set against the background of ever-toughening environmental legislation across Europe.

So how did we do? Well, we did pretty well and we continue to make improvements. Re-using and recycling of product scrap whenever possible is one of our major objectives. This is contributing to less raw material depletion and is reducing the CO<sub>2</sub> emissions involved in producing virgin raw material. In 2009 we achieved a big improvement step – more scrap was re-used (internally recycled) and also more scrap was recycled as a result of better waste separation . >

ENERGY MIX 2009



RE-USED AND RECYCLED PRODUCT SCRAP



# Environmental report 2009

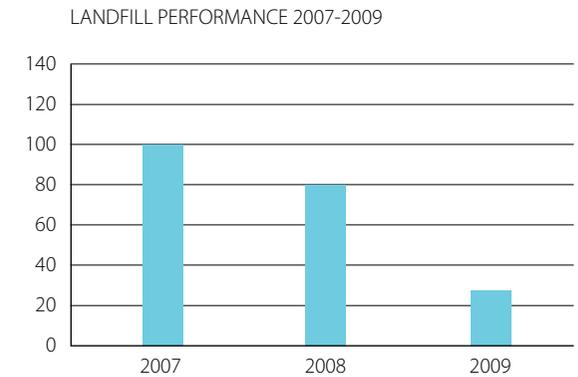
Our second objective, is where possible, to try to avoid landfill. To this end, we have achieved improvements over the last 2 years. The amount of material we have sent to landfill has reduced from 2007 to 2009. This is a direct result of more re-use and recycling of product scrap

## Recycling of post industrial waste

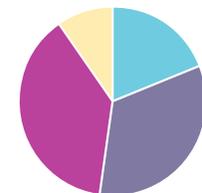
Recycling of post industrial waste into our products is one of the best ways to improve their total

environmental footprint. Many years ago we started to recycle waste products from other industries into our Linoleum products. During the last 10 years this has been optimized. In our Ripley (UK) plant we have a department where a mixture of internal scrap and post industrial waste is recycled into backing for our Flotex floor covering. In 2009 we increased our recycling efforts, developing a backing for our Westbond products.

Ripley (UK) production of recycled backing

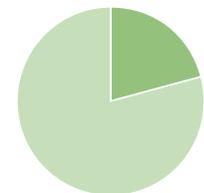


PRODUCT WASTE BREAKDOWN 2009



- Incineration
- Internal Recycling
- External Recycling
- Landfill

RAW MATERIALS



- 21% Recycled Post Industrial Waste

# The way forward in 2010

In 2010 we will focus again on a possible reduction on energy use and on recycling.

## Energy

Energy reduction programs differ from site to site. In some cases we are just reducing energy by simple means, like turning off lights or equipment, and sometimes technical changes are made. An example of a technical project is to be found in our Vinyl plant in Coevorden (NL). The recipes of the products were changed, resulting in low emissions during the production process. The exhaust fume system could recently be changed in a way that the incineration process is switched off for a part of the process, leading to a reduction of 1200 tonnes of CO<sub>2</sub> emissions per year.

The goal for our operational sites is to reduce the energy consumption with a minimum of 2 %.

The use of renewable electricity will be increased again, the target is 85% of the total electricity used on our 13 operational sites.

## Recycling

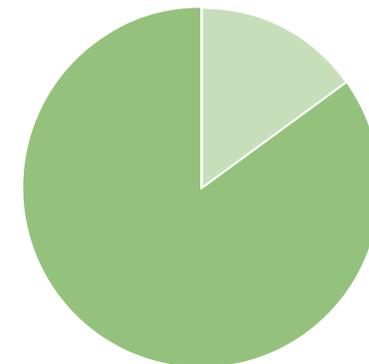
We will increase the recycling of post industrial waste in our flocked and textile floor coverings and start the recycling of post industrial waste in one of our vinyl factories. >



Coevorden (NL) filter in exhaust fume system

The **goal** for our operational sites is to **reduce** the energy consumption with a **minimum of 2%**

ELECTRICITY 2010



- Renewable 85%
- Non Renewable 15%

# The way forward in 2010

## Raw Material supplies

Within the supply chain we will request our suppliers to work together with Forbo Flooring to improve their environmental footprint too, and in this way improve the total environmental performance of the products throughout the life cycle. We have already established this upstream cooperation with our Linoleum raw material suppliers. Our first goal will be to make an inventory of the environmental performance of our suppliers for vinyl and textile floor coverings. Depending on the results, we will seek the best ways to improve environmental impacts in the life cycle.

## The Forbo Way to Win

The Forbo Way to Win (FWW) is an internal education method which in 2010 will be used to roll out Forbo Flooring's sustainability policy.

The FWW sustainability campaign will focus on waste and energy consumption in particular, and looks for solutions and improvements in the working environment for all our businesses.

We are actually not focusing on the big projects and huge investments, but are particularly keen on the smaller local contributions everyone can make. The project is very much about creating new behavior that is in line with sustainability, acknowledging that any improvement starts with "lead by example".



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