

Energy efficiency, climate change & sustainable development

Several of the projects submitted on climate change and energy efficiency were closely associated with companies' sustainable development activities, driven by a combination of pressures: socio-political, economic and environmental. Such an example was submitted by Bayer MaterialScience AG (BMS). Bayer's second largest subsidiary, it has the largest GHG emissions and the most energy-intensive production. Development of an energy efficiency management tool, STRUCTese®, enables continuous improvement and can be applied by other companies. Judges noted the "challenging and impressive" 25% reduction target in GHG emissions by 2020 (base year 2005) with resulting cost savings estimated at over € 40 million by 2013. The 2009 rollout in 16 BMS plants helped realise savings averaging 10%; rollout to a further 44 plants continues to 2012.

Global chemical distributor Univar launched U+stainability, a programme encompassing a series of initiatives designed to reduce the company's environmental impact and carbon footprint, ensure the safety and health of its employees and neighbours, support the growth of its supplier and customer businesses by providing them with sustainable solutions, and ensure the safe stewardship of products.

DSM's Scottish vitamin production site located at Dalry undertook a detailed review of the carbon equivalent emissions associated with the life cycle of its QUALI-CTM (Vitamin C) product. Judges liked its "good, holistic approach" which identified phases of the product lifecycle with greatest impact, followed by strategies implemented to reduce carbon emissions and reduce waste. Further opportunities for carbon reduction in the total supply chain, including engaging with supply chain partners, are being looked at.

In France, Teris Spécialités set out to evaluate its greenhouse gas (GHG) emissions using the Bilan Carbone®, an assessment tool developed by the Environment and Energy Management Agency, ADEME. As a result, the recycling, treatment and energy recovery company successfully implemented an action plan to reduce consumption of both energy and raw materials, as well as waste, at three key sites, and is extending the plan to all its facilities and pre-treatment centres.

Pfizer's biotech centre at Grange Castle in Ireland developed PCAT – Power Consumption Analysis Tool – to provide a flexible metering interface for equipment that helped achieve its 2.5% reduction target in electricity and natural gas use in 2009; in addition, it has identified other projects for saving energy and costs, and reducing emissions. Easy and cost-effective to install, the system has "practically unlimited scope to expand", and can be used by other sites. At Roche in Ireland, the focus was on its process chilling infrastructure under a project driven by European regulation that was used as an opportunity for efficiency improvement. Systems using ozone-depleting refrigerants were replaced with a single system using ammonia as the refrigerant. Electricity usage and CO₂ emissions have seen substantial reductions.

Implementation of a comprehensive energy management system at Bristol-Myers Squibb's Cruiserath site has helped ensure that while production output increased 85% from 2005 to 2009, energy usage was actually reduced by 20%, and total CO₂ emissions fell by 4,655 tonne. A cross departmental team ensure the energy management system is embedded within each department and at multiple levels of the organisation.

The award judges noted the project submitted by Dutch firm Kolb as innovative and a "very impressive application of heat recovery in a batch process". The manufacturer of nonionic tensides invested in a heat recovery system enabling it to heat raw materials at a new reactor set with heat saved from the reaction process, thus making a significant saving on gas. The project was complex because it necessitated creating a heat storage facility at a relatively low energy level, and unique in that technologies were combined and used in a different application.

List of Entrants

Akzo Nobel, Netherlands
Akzo Nobel, Sweden
Allergan, Ireland
Aurubis, Germany
Ashland, Netherlands
BASF, Germany (2 entries)
Bayer, Germany (2 entries)
BK Giuliani, Germany
Bristol-Myers Squibb, Ireland (3 entries)
Chimex, France
Clarochem, Ireland
DHL, UK
Donau Chemie, Austria
DSM, UK
DuPont, Belgium
DuPont, France
DuPont, Switzerland (2 entries)
Eastman, Belgium
Eli Lilly, Ireland
ExxonMobil, France
ExxonMobil, UK (2 entries)
Genzyme, Ireland
GPSG, Ireland
Helsinn Birex, Ireland
Hüttenes-Albertus, Germany
Huntsman, UK
Janssen Pharmaceutica, Belgium
Kolb Nederland, Netherlands
Lamberti, Italy
Leo Pharma, Ireland
Lubrizol, France
Multisol Group, UK
NOF Metal Coatings Europe, France
Pfizer, Ireland (2 entries)
Rhodia, France
Roche, Ireland
Sabic, Netherlands
Schering Plough, Ireland
Sigma Aldrich, Ireland
Shell Chemicals, Netherlands
Solvay, Belgium
Talke, Germany
Teijin Aramid, Netherlands
Teris Spécialités, France
TVK, Hungary (2 entries)
Univar, Belgium