

Congratulations to the European Responsible Care Awards Winners 2016

The Four Winners



Covestro AG (DE) takes the plaudits for “pilots waste CO₂ feedstock reality”

Environment Category

With 2015 sales of EUR 12.1 billion, Covestro is among the world’s largest polymer companies. Business activities are focused on the manufacture of high-tech polymer materials and the development of innovative solutions for products used in many areas of daily life.

German Federal Ministry of Education and Research funding led to a breakthrough in chemically incorporating CO₂ in the polymeric chain. Research between Covestro (formerly Bayer MaterialScience) and the CAT Catalytic Center at RWTH Aachen University resulted in using CO₂ as a building block for polyols which, with polyisocyanates, are polyurethane foam feedstocks. The partners developed a catalytic process enabling CO₂ to react with propylene oxide. Covestro commissioned its 5,000 tonnes-a-year demonstration plant in Dormagen, which uses 20% CO₂ in its feedstock mix, in June 2016. The CO₂ used is a waste product from a neighbouring chemical company. Covestro aims to reduce the carbon footprint of polyurethanes, more through further research into extending the range of products and applications for the new cardyon™ technology

What the judges say

“Excellent, clearly written, well presented and supported by facts and figures. Important in sustainability terms. Ranks very highly in its demonstration value. Good project.”

Contact: Karsten Malsch, Global Product Management, Karsten.malsch@covestro.com



DSM Sinochem Pharmaceuticals (NL) tackles “irresponsibly made antibiotics”

Product Stewardship Category

DSM Sinochem Pharmaceuticals (DSP) is the global leader in sustainable antibiotics, next generation statins and anti-fungals. It develops, produces and sells raw materials, intermediates, active pharmaceutical ingredients (API) and drug products (DP).

Antibiotic resistance (AMR) accelerated by extensive use and misuse of antibiotics, is a major health threat. DSM Sinochem Pharmaceuticals (DSP) identified the ‘significant impact’ the industry itself has on AMR. It estimates that 20-30% of the 250,000 tonnes of antibiotics produced annually end up in untreated waste streams endangering ‘entire species’ and causing ‘the feminisation of fish, contamination of drinking water and agricultural land, leading to the spread of AMR.’

Chemistry making a world of difference

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DSP launched its Sustainable Antibiotics project in October 2014, beginning in-house wastewater stream analysis and developing an antimicrobial activity (AMA) test. Within months, no AMA was detected in effluents at any DSP plant (<50ppb).

DSP has urged its peers and partners to adopt **three basic requirements**: use of the cleanest production technology and dedicated wastewater treatment plants in combination with AMA testing.

By April 2016, 98 companies and 11 industry associations in 21 countries had signed the industry's declaration to combat AMR.

What the judges say

"My highest across all categories. A top ranking strong presentation, innovative, supporting data, a well-rounded project. Really good. Well structured, has impact through the value chain. Very good in advocacy, highest in this category."

Contact: Mansur Philipp Gharabaghi, Senior Global Branding & Communications Manager, mansur.gharabaghi@dsm-sinochem.com



**MSD (Swords, Ireland) impresses with "Commitment in Challenging Times"
Occupational Health & Safety Award**

MSD's Swords, Dublin, a pharmaceutical finishing plant, producing and packaging oral contraceptives and hormone replacement therapy tablets, faced a triple whammy. In 2012, 100 new temporary production operators were hired to meet higher demand; 20 new production coaches were employed and the 2017 sale/closure of the site was announced by parent Merck in 2013.

Site safety performance, previously excellent (2 million hours with no Loss Time Injury – LTI- in the 23 months to August 2012), began to fall and management recognised that initiatives to cope with all the changes had not worked. This was a serious concern as employees worked with highly potent Active Pharmaceutical Ingredients.

The action plans resulted in LTIs returning to zero by May 2016. The site exceeded its target of accomplishing 90% of all EHS actions within 60 days while improving employee engagement. Stabilising, improving and sustaining employee safety performance during a time of 'massive change' for the company is, therefore, mission achieved.

What the judges say

"Very well designed in difficult conditions, a study of continuous improvement. Not a good news story but ranks highly in engaging a slightly disillusioned workforce. Concrete facts and figures, scored very high in well communicated messages."

Contact: Pat McCartin, EHS Director, pat.mccartin@merck.com

SAFE+CHEM 

A Subsidiary of



SAFE+CHEM Europe (DE) triumphed with their “Safechem Chemical Leasing Model: unlocking the potential of Circular Economy” Product Stewardship Special Accenture Award

The winner, SAFE+CHEM Europe, a wholly owned subsidiary of The Dow Chemical Company, bagged top spot for its winning combination of being

“Really strong, well presented, showing continuous improvement” supported by “Very strong facts and figures.”

SAFE+CHEM’s annual contract Chemical Leasing model- developed initially for industrial surface cleaning with solvents - includes recycling but aims to prevent waste creation by intensifying the re-use loop (on-site distillation). All aspects of the life cycle – from design to recovery including usage phase – have been carefully considered to optimise resource efficiency. It was calculated that the full solution provided by SAFE+CHEM, can reduce up to 80% solvent content in the waste stream, and up to 80% primary solvents consumption by contributing to a Circular Economy.

As a part of best-practice for proper risk management, SAFE+CHEM committed to implementing Chemical Leasing business model for the use of trichloroethylene in the context of REACH. The business model is currently being implemented within different segments such as the German asphalt industry, and a pilot project is being undertaken in the dry cleaning industry.

Contact: Camille Vicier, Sustainability Manager, cvicier1@dow.com

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Special Commendations

HCS Group (DE) - Energy Efficiency Category

Project: New energy concept at the Haltermann Carless site at Speyer



HCS Group, formed in 2013 when Haltermann acquired Carless, provides hydrocarbon speciality products. HCS identified a potential use for unused vent gas produced during the storage and transfer of naphtha into tanks at its Speyer site in

Germany. The gas is highly calorific but has a fluctuating calorific value.

HCS and GETEC heat & power AG joined forces to seek a solution. GETEC found it by developing 'cutting edge' burner technology that integrated the vent gas in the combustion process for a thermal oil plant - the heart of HCS's investment.

The technology eliminates thermal post-combustion of the vent gas and saves heating oil previously used as a supplementary fuel. From contract signing to initial commissioning took just 15 months and the thermal oil plant was built in four months. The project also features a new boiler house and energy centre.



Endura Spa (IT) - Environment Category

Project: Synergies for a circular economy

Endura is a privately owned, Bologna-based, SME active in synergists and active ingredients for household insecticides, fine chemicals and specialities. It is the world's leading producer of synthetic synergist piperonyl butoxide (PBO). Adopting a 'circular economy' approach Endura modified a process enabling raw material recovery and recycling. The project moved from pilot-scale (5-10kg) to industrial scale (20 tonnes load) in 20 months.

Key benefits include a two-thirds reduction in waste (pre-project Endura produced 1 tonne of waste for every 3 tonnes of finished product; post-project 1 tonne of waste is produced for every 10 tonnes of finished product).

Waste transport to treatment plants was also cut by two-thirds and recovered zinc salt is now sold to galvanising industry consortium Sanimet in Brescia, north Italy. The 90% reduction in zinc chloride waste management equals a 20% cut in total waste costs.