



Chemicals North America

For the survey of chemicals North America, the research team examined 9 North-American companies (Air Products and Chemicals Inc, Praxair, Rohm and Haas Company, E.I. DuPont de Nemours & Co., Dow Chemical Co., Monsanto Co., PPG Industries Inc., Potash Corp of Saskatchewan Inc., Ecolab. Inc. capitalisation above 5 billions USD from the DJ Stoxx 1800 (August 2006) under the Materials industry group. Three (3) of them were already integrated in the Register: Air Products and Chemicals, Praxair and Rohm & Haas Company.

The image of the chemical industry has been marked by a history of environmental accidents such as Bhopal in India or the Sandoz fire in Switzerland in the 1980's. Such accidents increased the level of awareness about environmental risks as well as companies' efforts to manage such risks.

Environmental practices in the chemical industry are guided by both regulations and by voluntary initiatives, the most important of which being the Responsible Care program. The approach of **Rohm and Haas** is interesting, as the firm develops group wide environmental principles based on recognised initiatives that are then integrated and adapted by its major sites: in 2005, the firm received the Responsible Care Leadership Award from the American Chemistry Council. The **Environmental Management Systems** in place in the rated firms are fully integrated to their operations and are based on internationally recognised standards and/or principles (Responsible Care, CERES, ISO14001). These internal management systems, which cover the majority of companies' sites, are systematically completed by external independent certification (but with coverage still unclear) and by technical support: **Air Products** recently approved an environmental software package to automate the management and tracking of environmental compliance globally. In terms of **employee involvement**, the two industrial gas companies (Air Products and Praxair) both demonstrate an outstanding performance: systematic environmental training, internal communication channels, Environmental committees including executives at corporate level and executives with explicit environmental responsibilities at each business unit. In line with last review, **Praxair** demonstrates an outstanding performance: its Sustainability Council includes the company's vice-president of Human Resources and representative of the Columbia Earth Institute and reports to the Governance Committee of the Board of Directors; environmental performance is a factor in compensation for senior executives; the Chairman and CEO have explicit environmental responsibilities.

Production

The increased prices of energy represent a strategic challenge for chemical companies whose energy consumption is amongst the highest of manufacturing activities. Similarly, increasing environmental legislations have led companies to establish since several years targets and adequate monitoring systems to reduce their environmental footprint.

This proactivity is visible in their reporting, as all companies disclosed clear commitments or quantified targets to improve their energy mix, to address the recycling and reuse of process water and solvents, the reduction of air sensitive emissions or waste management. In terms of energy efficiency, the US chemical industry reduced its fuel and power energy consumption per unit of output by an outstanding 46% since 1970, and between 2003 and 2004, improved energy efficiency by 6%, during a time when production rose by 6.1 percent¹. Aside from **Ecolab**, which fails to provide any indicators, and **PPG** which is lagging behind its peers in terms of addressing the issue of climate change, all the other actors under review developed normal to sound efforts to address environmental issues, with mixed or outstanding results. **Air Products** resulted as the best performer of the sector, thanks to its homogenised approach to all its environmental impacts

¹ US Responsible Care - <http://www.chemicalguide.com/>



(sound efforts and continuous improvement in results for input, output, and waste management). For over thirty years, PPG has been a defendant in lawsuits involving claims alleging personal injury from exposure to asbestos.

The Political Economy Research Institute² listed the Top Corporate Air Polluters in the United States, according to their "Toxic score" (pounds released x toxicity x population exposure): the three companies rated in this sector obtained ranked in the last quarter of this list (lowest toxic score): **Rohm and Haas** ranked 73rd over 100, **PPG** 75th and **Praxair** 88th.

Recently, a CERES report³ ranked 100 US Companies that were evaluated according to a Climate Change Governance Checklist. The checklist consisted of 14 governance steps that companies can take to proactively address climate change. The chemical sector had the highest average governance scores. According to these figures, **PPG** lags behind his sector peers.

Ranking of the chemical companies: (max score: 100)

Company	Score
DuPont	85
Bayer	71
ICI	60
BASF	59
Dow Chemical	59
Air Products	49
Praxair	43
Rohm & Haas	40
Monsanto	32
PPG	21

DuPont, the leading scorer among U.S. firms has reduced its GHG emissions 72 percent since 1990 and developed forward-thinking commercial products such as energy-efficient building materials, components for solar, wind and fuel cell systems and next-generation refrigerants with low global warming potential. At the other hand, last year (May 2006), DuPont ranked first on the PERI Toxis 100 list of Top Corporate Air Polluters. Furthermore, the company is a major player in genetic engineering of seeds (GMO's), which induces the dependence of farmers on seed companies. It is also accused of bio-piracy. Dupont was and is a defendant in several lawsuits alleging price-fixing, withholding of information and obstruction of justice. DuPont has also a major involvement in hazardous chemicals, as well as minor involvement in animal testing and armament. DuPont produces pesticides and is target of numerous lawsuits concerning harm to humans, crops and shrimps due to pesticides and the suppression of relevant evidence. DuPont de Nemours has a stout anti-union reputation and faces various environmental lawsuits and fines. The company is one of the most active anti-environmental lobbyists in the sector.

In line with last rating process, companies have not significantly integrated **environmental factors in their supply chain**, probably a consequence of the businesses being mostly based on raw-material processing. Various requirements are imposed to their suppliers or subcontractors: complying with their own Environmental policy (Rohm & Haas, PotashCorp, Praxair), audits on a limited part of their suppliers (Rohm & Haas), establishment of criteria integrating environmental factors for the selection and retention of contractors (PotashCorp).

Environmental impact of products

² Political Economy Research Institute - <http://www.peri.umass.edu/Toxic-100-Table.265.0.html>

³ "Corporate Governance and Climate Change: Making the *Connection* - March 2006



On a global level, the **products** of all companies are detrimental to the environment and to human health. All companies have consequent R&D programs, based amongst other on product life cycle assessments (product stewardship). The environmental impacts of Air Products and Praxair are, due to the nature of their activities, far less important than that of the other companies in the sector (specialty chemicals). These two companies are active in R&D related to fuel cell development, and the gas produced often enters in manufacturing processes that achieve pollution-reduction and energy-savings benefits. Ecolab is involved in the manufacturing of "environmentally preferable" cleaning products, and is active in the US EPA's Design for the Environment Green Formulation Initiative (environmentally preferable raw materials used in detergent formulations).

The efforts of other companies, more involved in specialty chemicals, led to energy-savings (PPG), reducing GHG, ozone-depleting substances, pesticide use (PotashCorp) and chlorine reaction products, or the development of lead-free and solvent-free coatings (Rohm & Haas). PotashCorp also works on awareness-raising at its customers' sites (proper applications of fertilisers), the development of water treatment products, heavy metals remediation products, etc.

Besides Du Pont Dow Chemical and Monsanto are the worst performers on sustainable criteria. **Dow Chemical** is involved in several disputable practices, union-busting, suing critics, and various environmental air and water pollution cases (e.g. Bhopal (owns Union Carbide), water pollution at a plant in Michigan, etc.). Dow Chemical is also heavily active in the production and development of GMO seeds. This year (May 2006), Dow ranked 11th on the PERI Toxis 100 list of Top Corporate Air Polluters. It also operates powerful lobbying activities such as with the European REACH Directive proposal and on other agreements linked to the acceptance of GMOs into new markets.

Monsanto is majorly involved in GMO's, animal testing and pesticides. This year (May 2006), Monsanto ranked 69th on the PERI Toxis 100 list of Top Corporate Air Polluters. A lot of controversies are linked to its GMO involvement: in January 2005 the company paid \$1.5 million to settle a corruption case (a senior Monsanto manager authorized a \$50,000 bribe to get a senior Indonesian Ministry of Environment official to repeal a 2001 environmental impact assessment decree obstructing market entry for genetically engineered crops). Based on this, Harrington Investments Inc. filed a shareholder resolution with Monsanto asking its board to create an ethics oversight committee of independent directors to monitor compliance with laws as well as the Monsanto Pledge and Code of Business Conduct. In February 2006, more than 90 Texas cotton farmers have sued Monsanto Co. and two affiliated companies, claiming they suffered widespread crop losses because Monsanto failed to warn them of a defect in its genetically altered cotton product. Companies like Bayer, Monsanto and Syngenta do acknowledge that there is substantial child labour in their supply chain and that they are at least partly responsible for that. Monsanto was also involved in allegations related to health and safety management (500 General Electric Co. employees sued Monsanto Co. along with two related companies, claiming they were exposed to PCB - manufactured for decades by Monsanto).

Four companies were found eligible for the Ethibel Excellence Register : Air Products and Chemicals Inc, Praxair, Rohm and Haas Company, Potash Corp. Of Saskatchewan Inc. Air Products and Chemicals Inc, and Praxair are as well included in the Ethibel Pioneer Register.