

1 Products that meet fundamental needs and economize on resources

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Strategy

- Exploiting to the full our activities and skills in markets that meet fundamental needs - health and hygiene, mobility and transport, housing, etc. – or are related to protecting natural resources and the environment.
- Developing new applications serving health and the environment, in collaboration with our customers, where such applications are in line with our business strategy to the relevant markets.

Specialty products - which is a developing area for Solvay - are helping improve sustainability in many sectors. They assist progress in the areas of safety, the environment and energy savings, through their enhanced technical performance, such as resistance to temperature, wear, pressure and corrosion.

In the Plastics Sector, Inergy Automotive Systems' fuel tanks are helping reduce the weight of vehicles and their emissions. PipeLife's systems for the supply of drinking water and the removal of waste water are helping manage water resources. Among recent developments related to sustainability are SOLVIVA™'s biomaterials for implantable medical devices, new TECHNOFLON®-range polymers for the energy, semiconductor and motor vehicle sectors, and the new HYFLON® family of resins that increase the safety and water-tightness of equipments, notably in the food-processing industry.

"Essential" chemicals are also playing a part in the move to technologies that are less polluting: Hydrogen peroxide, for which Solvay is the world's largest producer, is finding increasing applications as an oxidizing agent in the removal of pollution from effluents in a number of industries, and has to a great extent replaced gaseous chlorine gas as a bleaching agent (notably for textiles and paper). Besides, a new hydrogen peroxide plant of very large capacity, 230 kilotonnes/year, is under construction at Antwerp (Belgium), and one of 330 kilotonnes/year is planned for Thailand, in partnership with Dow for a cleaner production of propylene oxide, an intermediate in the manufacture of polyurethane insulating foams.

In fluorinated fluids, Solvay's HFCs have helped rapidly replace CFCs and H-CFCs, which destroy the ozone layer whereas the HFCs have no effect on the ozone layer. Also, their climate-warming potential is generally lower than that of the CFCs they are replacing. HFC are energy efficient over the entire life cycle of their applications, and often perform better than the alternatives in the areas of climate impact, safety and health ■

Targets for 2012

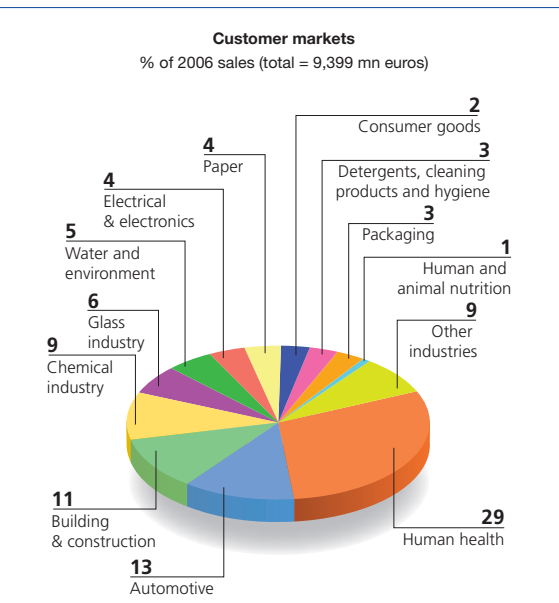
- Targets are related to a variety of products serving environmental protection (see page 30).

Solvay Pharmaceuticals' products are aimed at patients suffering from serious diseases.

They include CRÉON®, to treat cystic fibrosis, and DUODOPA®, for the treatment of Parkinson's disease. There is also MARINOL®, used to counter the nausea associated with anti-cancer medication and the anorexia associated with AIDS. Fenofibrate (TRICOR®) and TEVETEN® are used to treat cardiometabolic disorders while OMARCOR®, a product developed by Pronova Biocare Norway, contains high-purity, high-concentration Omega-3s, which reduce the risk of repeat myocardial infarction. In addition, hormone replacement therapies treat disorders associated with the menopause, such as osteoporosis, and andropause (ANDROGEL®).

The case of fuel cells

SolviCore, a joint venture between Umicore and Solvay, is concerned with the development, production and marketing of membrane-electrode assemblies and allied products for fuel-cell applications. These cells produce electrical energy by catalytic conversion of a fuel (hydrogen or methanol, etc.) which is reacted with oxygen (see page 40).



Four of the Solvay Pharmaceuticals' treatment categories fall within the World Health Organization's eight priority challenges

- Infections and resistance to antibacterial drugs
- Pandemic influenza
- Smoking cessation
- Cardiovascular disease (secondary prevention)
- Diabetes (Types 1 and 2)
- Cancer
- Myocardial infarction
- HIV/AIDS

Source: Essential Drugs and Medicines Policy, World Health Organization, Nov. 2004

2 Efficient transport of our products

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Strategy

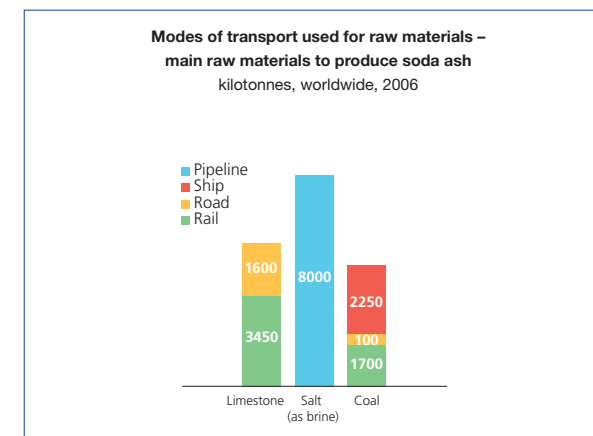
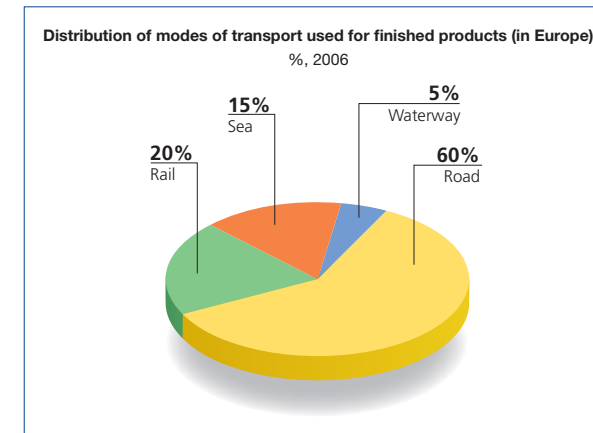
- Locating production plants for heavy chemicals close to their raw materials, their markets or to waterways.
- Seeking realistic alternatives to road transport ; making use of pipeline transport.

Combining a variety of production units on a single site allows optimal flows of materials for our main Chemicals and Plastics production activities, while facilitating the recycling of materials (which meets the requirements of industrial ecology) and reduced transport of hazardous substances. However, with the development of new markets involving distant locations with poor transport facilities (e.g. Russia), the transport of products is tending to increase.

Solvay transports large quantities of finished products – over 10 million tonnes a year in Europe alone – of which about half is products classed as hazardous. A large proportion of our raw materials (notably ethylene and brine) is supplied by pipeline networks.

Our transport policy aims to replace road transport by rail and waterways in Europe wherever this is physically possible and cost-effective. In particular, this is the case for substances that are panderous: soda ash, salt, PVC, caustic soda and peroxide products.

Alternatives to road have been adopted where feasible, taking into account constraints of cost, deadlines and timing, particularly for substances classed as hazardous. Besides, starting in 2001, 300 containers of SolVin PVC are sent by rail from France, Belgium or Germany to Italy, amounting to 90,000 tonnes a year no longer crossing the Alps by road. There is a new Solvay port on the river Rhine, serving the Rheinberg plant in Germany; this will be used primarily for transporting caustic soda, thus reducing road transport ■



Targets for 2012-2020

- Reducing by 20% the share accounted for by road among transport of our products in Europe (= achieving 50% for non-road transport) between 2006 and 2020.
- Reducing by over 20% the overall energy intensity of our vehicle fleet.

Up for discussion

Alternatives to road for transporting our products? Not always easy!



Most of the transport is carried out by road, which has historically been, and remains, the most flexible mode of transport and the one that is most reliable for meeting our customers' requirements. Establishing local production facilities, such as our planned Rusvinyl PVC plant in Russia, is one way to limit the growing volume of goods transport.

We are, however, seeking and using alternatives to road transport wherever such possibilities are available and suitable, taking into account requirements in terms of cost, deadlines and timing. Rail

and waterway transport, for example, are alternatives worth investigating for materials regularly transported in large volumes: limestone, coal, caustic soda, sodium carbonate, etc. Unfortunately, however, these modes of transport generally perform less well, are less flexible and cannot respond as readily to changes. One alternative to road transport that is potentially very attractive is multimodal arrangements. There is certainly a bright future for such transport arrangements but they require that customers do not demand just-in-time deliveries, but choose to receive regular supplies. Even more important is that the rail and/or waterway networks are sufficiently developed and perform to a satisfactory standard; currently, this is far from being the case.

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