

# Sustainable Development 2009



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## Growth that Respects Both Man and the Environment

In the 21st century, sustainable development will be a crucial issue.

The SNF Group is deeply involved in the environmental sector, and is a world leader in water-treatment technology.

We need to set an example on the social, environmental and economic fronts if our own activity is to be sustainable over the long term, and if we are to maintain growth rates that will guarantee our future.

With this in mind, we have launched a sustainable development strategy aimed at:

- focussing on core values as a way to enhance our effectiveness, within a general policy of respect for people and the environment;
- achieving gains in productivity by infusing each member of the company with a sense of responsibility;
- promoting innovation and the development of new products, equipments and techniques that will cut down on the consumption of energy and non-renewable resources;
- risk analysis in the design and/or modification of production facilities;
- the production and updating of crisis plans for risk management;
- recycling, reductions of waste and discharges, and their treatment in controlled conditions;
- a strict adherence to safety norms on the part of all our staff, and particularly those in management positions;
- the development of skills through focussed training programmes;
- constructive dialogue with our different partners.

We are committed to transparency, and we publish an annual report on sustainable development that sets out our principles and achievements in economic, social and environmental terms.

We must not rest on our laurels. The objective of sustainable development implies a positive approach to progress, and we need to be aware that it cannot be reached without the participation of each individual. We need to work together in a spirit of solidarity, respect for the environment and practical effectiveness if we are to live up to our responsibilities and convictions in the field of sustainable development.

René Pich, President of the SNF Group



# A Strong Business Position

## The SNF Group

The SNF Group is the world's leading manufacturer of polymers for water treatment, enhanced oil recovery and reagents for the mining sector, with more than 39% of the market. Its polymers are also used in the paper industry, textiles, cosmetics and agriculture.

With sales exceeding a billion euros and more than 2,700 employees around the world, 95% of SNF's turnover is exported.

More than 2% of turnover goes to the development of ever more innovative products and processes, and to optimise the performance of its production units. The result is that SNF is the leader in its market.

### Solid Assets for the Future

- A diversified range of products
- A leading position in the world market
- A strategic position in enhanced oil recovery
- Expanded water treatment activity in emerging countries
- New production facilities on green-field sites

### A Long Term Vision

SNF has a strong policy of sustainable development. Its essential interests are environmental protection, exploration for natural resources and the conservation of resources that are going to be in ever shorter supply: water, oil and minerals.



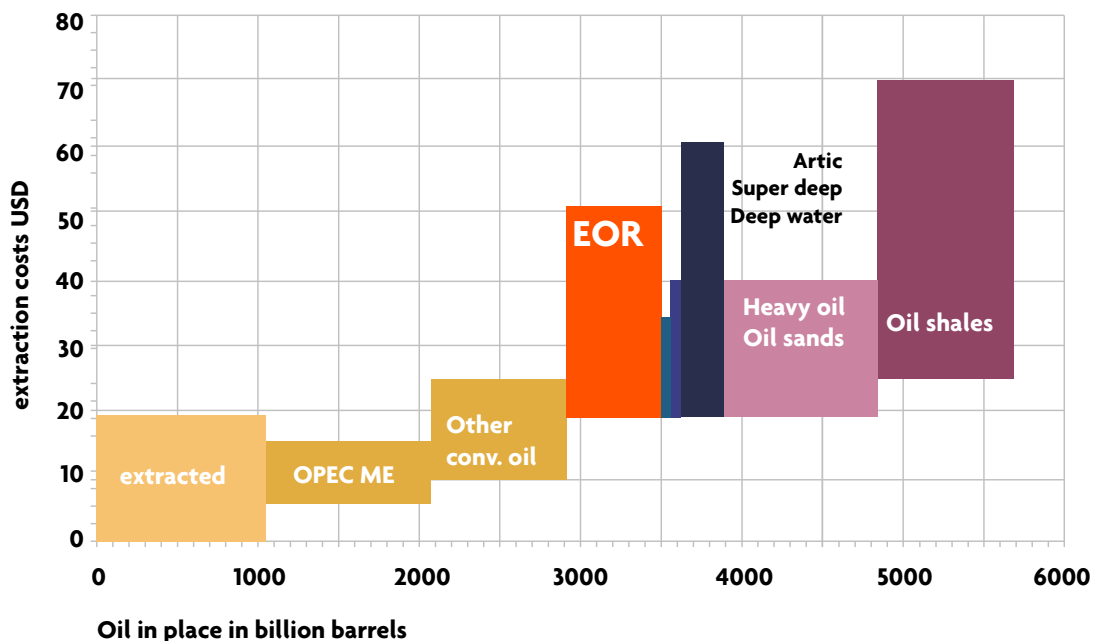
SNF's products are designed to safeguard and optimize the planet's resources, with respect for humanity, the environment, legislation and the company's partners.

## Oil Reserves

In 1970, oil reserves were estimated at 30 years, i.e. 72 billion tonnes. In 2009, 39 years later after having consumed a little more than 120 billion tonnes, oil reserves are estimated at... 30 years.

This apparent miracle is due to the definition given to the word reserves. There are three types of reserves: proven, probable and possible. Proven reserves are based on existing fields with existing technology under present economic conditions. Probable reserves include likely discoveries close to existing reservoirs with improved recovery ratios using new technologies that can be developed in the near future and based on favorable economic conditions. Possible reserves are much more speculative, both in discoveries of new reservoirs and in recovery ratios. The combined reserves are estimated at 6 tera barrels (see graph below source Chevron/IEA).

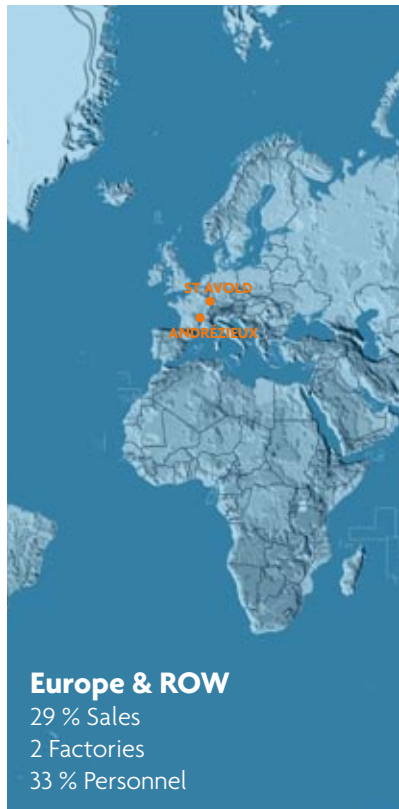
Enhanced Oil recovery is one of the techniques that improves the recovery ratio of the oil in place. EOR can increase recovery by 5% up to 30% depending on reservoir conditions.



## A Worldwide Presence



- Riceboro, Georgia, USA



- SNF has 4 major production sites
- Andrézieux, Loire, France



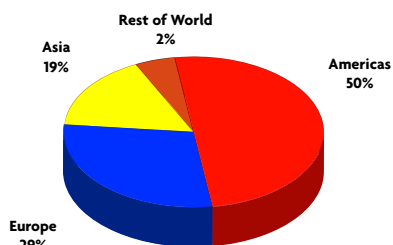
- Taixing, Jiangsu, China
- Ulsan, Ulsan Gwangyeoksi, South Korea

## A Quest for Equilibrium

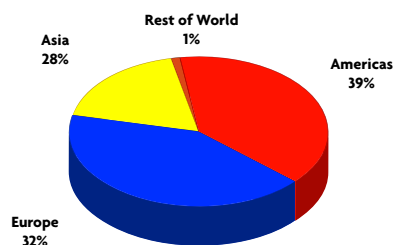
SNF seeks to balance out its activities, both geographically and in terms of applications. With production facilities in Europe, North America and Asia, as well as commercial subsidiaries, it has a worldwide presence. As the HDI map demonstrates, the Americas represent the bulk of the group's activity, and half of its turnover. Europe represents around a third of sales, and Asia 19%, with China accounting for 6%.

SNF's French headquarters is also where its finance, research, development and engineering departments are located. Its state-of-the-art factories turn out a large range of products at high levels of productivity, safety and environmental protection.

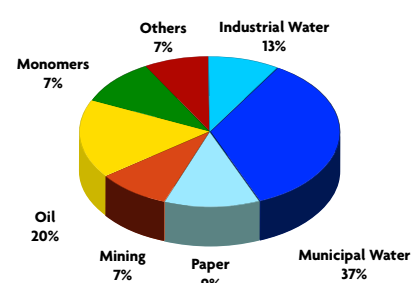
SNF has maintained a steady growth in production volumes, and its stability is ensured by the worldwide extent of its sales. But at the same time, its turnover has been affected by the slide of the dollar, as can be seen from the diagram on the following page.



*Sales by Geographical Zone*



*Personnel by Geographical Zone*



*Sales by Application*

# An Organic Growth Strategy

## A Constant Policy of Capital Reinvestment

SNF has always placed the emphasis on developing and perfecting its production processes. Almost all its profits are reinvested in production facilities.

This strategy, which has remained unchanged since 1978, has borne fruit: the group's growth rate is among the highest in the European chemical industry – higher than the average for the market, which is currently in a phase of expansion. SNF has focussed on the production of hydrosoluble polymers rather than on services to end-users in the field of waste water treatment, this being a market in which the major international groups are already well represented.

By concentrating its resources on its production facilities, SNF has been able to improve the quality of its products while simultaneously lowering its costs.



*Production in kilotonnes*

## Steady Growth

The following diagram gives the group's sales over recent years. The curve shows the figures (in kilotonnes) for sales of polymers, expressed as 100% active product. It shows that the group has grown steadily, in spite of exchange rate fluctuations.

The economic crisis of 2009 has had only a slight impact on our businesses. Only industrial customers have lowered their purchases during the crisis. Municipalities, which constitute our largest customer base, have continued business as usual since their needs depend only on the size of the population.



## Financial Results

### Consolidated Balance Sheet

in thousand euros

<b>Assets</b>	<b>31 Dec. 2009</b>	<b>31 Dec. 2008</b>
Intangible assets	46 611	48 100
Tangible assets	327 287	319 564
Long-term investm. and financial assets	17 262	27 607
<b>NON-CURRENT ASSETS</b>	<b>391 160</b>	<b>395 271</b>
Stock and work-in-progress	146 586	172 684
Payments on account - stock	3 116	6 152
Trade debtors and related accounts	209 807	234 465
Other debtors	33 115	18 937
Cash at bank and in hand	100 011	39 338
<b>CURRENT ASSETS</b>	<b>492 635</b>	<b>471 576</b>
<b>GRAND TOTAL</b>	<b>883 795</b>	<b>866 847</b>

<b>Liabilities and Shareholder's Equity</b>	<b>31 Dec. 2009</b>	<b>31 Dec. 2008</b>
Shareholder's equity	227 533	169 166
Provisions for liabilities and charges	37 492	18 347
Borrowings	361 002	400 456
Payments received for work in progress	3 593	16 015
Trade creditors and related accounts	136 290	136 170
Other sundry creditors	40 396	53 770
Current Provisions and Taxes	29 157	25 242
Accrual and deferred income	48 334	47 681
<b>GRAND TOTAL</b>	<b>883 795</b>	<b>866 847</b>

<b>Consolidated Income Statement</b>	<b>31 Dec. 2009</b>	<b>31 Dec. 2008</b>
Revenue, net	1 040 095	1 193 257
Financial income/loss	132 049	61 590
Exceptional income/loss	90 317	-3 134
Net income/loss, group share	65 257	-10 569



### Sustainable Investments

In pursuance of its sustainable development policy, SNF has invested over the last ten years 700 M€ around the world to build new facilities that have sustainability built into them right from the start.

Whatever the country, the production units comply with local norms, and indeed often go beyond the formal requirements.

Among polyacrylamide manufacturers, SNF is the most capable of delivering harmonious, sustainable development, in response to the global growing demand.

In spite of a difficult global economic situation in 2009, sales have been maintained thus proving the sustainability of our traditional markets.

The oil business is our major source of growth.



# Social Policy

One of SNF's major goal is to maintain its world leadership. Its sense of responsibility for its employees' well-being is backed by its ability to anticipate and **adapt to changes** in an economic and social environment of technological innovation.

The company's main social policy challenges are:

- to take cultural diversity into account;
- to develop employees' skills through training programmes;
- to maintain management in key posts;
- to reduce staff turnover;
- to provide employees and their families with high-quality health insurance;
- to engage dialogue with its employees and their representatives;
- to manage human resources in a responsible way, and, in the event of restructuring, to safeguard employees' future prospects.

In this way, the SNF Group will maintain **strong social cohesion in support of the company's goals**.

## Ongoing training

SNF has always regarded training as a key component of its human resources policy: giving employees training in the company's different skills, anti-

cipating future needs in terms of qualifications, managing careers, helping people to fulfil their potential, and being constantly attentive to the new employees' integration.

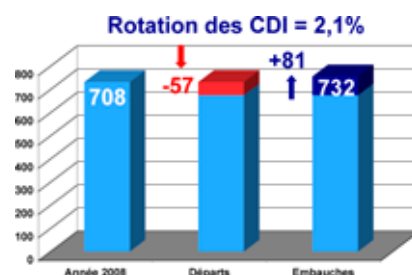
Career management and **employability** need sustained **training** programs and opportunities for **mobility**.

As regards equality between men and women, SNF's position is not typical, given that most of the company's work is quite arduous, and has traditionally been done by men.

SNF has an «individual training rights» manual as well as a manual of «forward-looking management of qualifications and labour force» which help employees to take their personal and professional development into their own hands, and to make training an integral part of their careers. These manuals can be consulted on the company's intranet.

## Health insurance

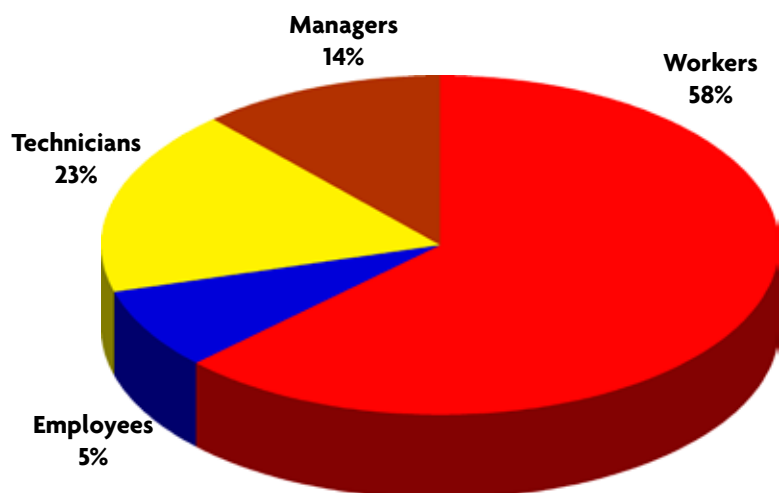
SNF's medical department takes into account the employees' individual risk factors, and conducts regular medical examinations, with the aim of ensuring and **preserving the health of each employee**, notably by monitoring exposure to physical and chemical hazards. It is crucial to guard



against work-related accidents. The watchwords are: safety, occupational training, noise, ergonomics, guidelines. There is a continuous surveillance of processes, technologies, work organisation and training, with a view to controlling and reducing levels of exposure.

To prepare for the possibility of a bird flu pandemic caused by the H5N1 virus, SNF has set up an action plan for its employees' protection and the maintenance of its supply chain for water treatment products.

In order to preserve employees' **physical and mental health**, all those in management positions are trained in awareness about psychological harassment. All employees, including new arrivals, are kept informed, and are given copies of the company's policy statement on this issue, and its prevention plan. A similar approach is taken on potential workplace problems resulting from the abuse of substances such as alcohol and drugs (whether legal or illegal).



## Integration and support for disabled people

For many years, SNF has been committed to recruiting, integrating and supporting disabled people. The company is determined to put diversity at the service of performance.

SNF is a member of Club Handi Loire, and an active participant in a program of integration for disabled workers.

## Retirement provisions

SNF's policy of developing social insurance is aimed at offering all its employees the same types of benefits, with a **pension fund, mutual insurance**, disability and life insurance.

Employees also enjoy a **supplemen-**

Employment	2009	2008
Male	659	639
Female	73	69
Age average	38	38
<b>Seniority</b>	<b>12</b>	<b>11</b>
Number of disabled employees	26	24

**tary retirement scheme** that is entirely funded by the company.

Given the international scope of its

business, involving a great deal of travel on the part of its employees, SNF has set up a plan for repatriation on health grounds, whatever the country of departure or arrival.

## UN Global Compact

SNF has joined the United Nations initiative Global Compact. It is a principle based framework for businesses, stating ten principles in the areas of human rights, labour, environment and anti-corruption.

Businesses should:

- 1**-Support and respect the protection of internationally proclaimed human rights; and
- 2**-make sure that they are not complicit in human rights abuses.
- 3**-Uphold the freedom of association and the effective recognition of the right to collective bargaining;
- 4**-the elimination of all forms of forced and compulsory labour;
- 5**-the effective abolition of child labour; and
- 6**-the elimination of discrimination in employment and occupation.
- 7**-support a precautionary approach to environmental challenges;
- 8**-undertake initiatives to promote environmental responsibility; and



- 9**-encourage the development and diffusion of environmentally friendly technologies.
- 10**-work against corruption in all its forms, including extortion and bribery.



# Risk Management

## Best Practice

Safety considerations regarding persons and property are a major issue for SNF in all its different activities. There are risks related to the handling of chemicals which may be inflammable, explosive or toxic, and others related to industrial operations and transport.

## 2001-2009 Report

**For the last 9 years there have been 5 less accidents with time off work.**

SNF has set up risk assessment and action plans. They have met with partial success with a reduction by 3 the number of accidents with time off work over a period of nine years.

## 2009 Report

The first 9 months of the year have followed the general positive trend with 7 accidents with time off work. Unfortunately the last 3 months have had 13 accidents including one of a chemical nature. (see boxed text).

## Objectives for 2010

In 2009, SNF's objectives were to reduce accident frequency to a tolerable level. Keeping in mind that there is only one tolerable result, and that is **ZERO ACCIDENT**.

## Accident on Novembre 23<sup>rd</sup>

A morning operator mistakenly pours 1-2 kg of sodium hypophosphite (non-dangerous) into a holding tank containing ammonium persulfate (comburent). These two products are white powders difficult to distinguish one from another.

The operator signals his mistake to his supervisor who decides to separate as well as possible both powders into 2 bags of a few kilos each. The bags are set aside for further treatment. 7 hours later, when the polluted products are to be treated, the simple handling of the bags set off an explosion with projections of burning-hot product over an area 3 meters wide. Four people were wounded and were rapidly evacuated.

Feedback from this accident tells us that, unknown to existing literature, these two products create an explosive reaction even in the absence of water and that time is an enhancing factor.

In spite of a slight improvement compared to 2008, the result has not been achieved. The objective for 2010 will be to continue the base work that has already been done over the years:

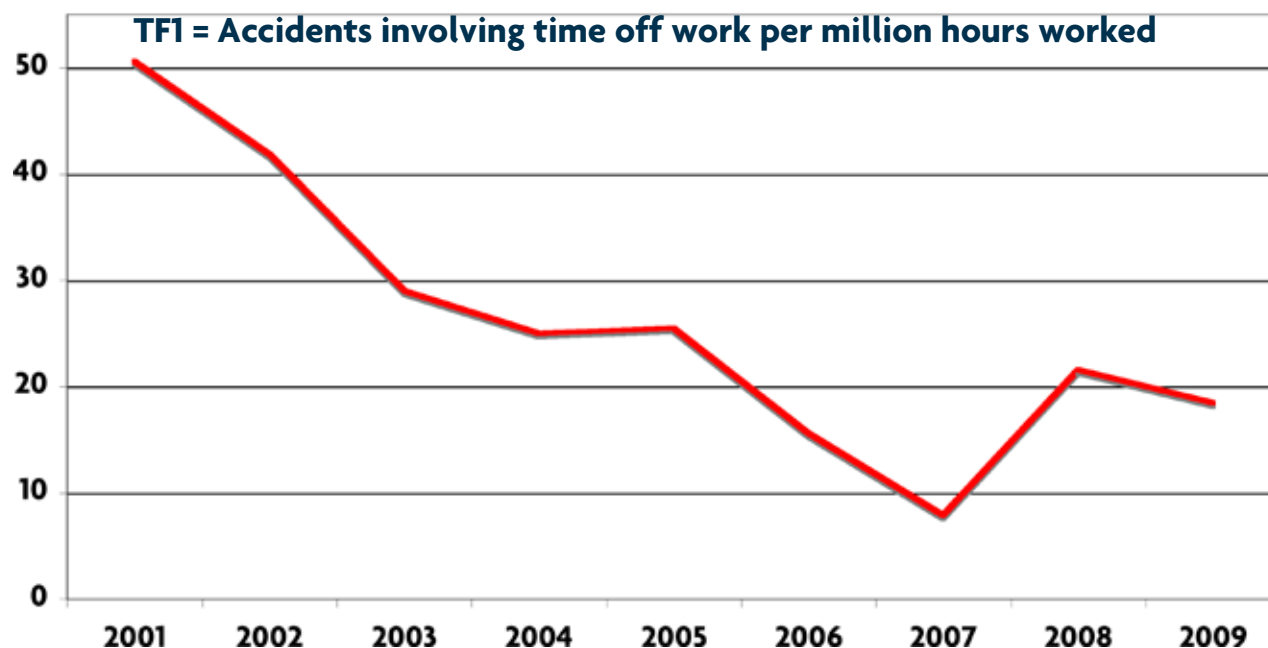


**Reduce** accidents to less than 6 accidents involving time off work per million hours worked.

**Reduce by 30%** in reported accidents (i.e. less than 20 reported accidents, whether or not involving time off work, per million hours worked).

## Organisation

A supervisors' network has identified the high-risk zones, and has provided staff with information and training. These arrangements are implemented by all those concerned with raising standards. Management has lea-



dership responsibilities, and the other employees have a duty of active participation.

### Culture for Safety

To improve the safety consciousness, managers and employees must act to improve each other's awareness and behaviour. The underlining idea is to reinforce the managers' implication through a series of objectives and performance reviews and to include health and safety as compulsory goals in every training session.

### Feedback

**Training is a key tool to prevent accidents.**

Feedback on accidents or quasi-accidents has been systematised in the form of reports which give the circumstances and consequences of each incident, an analysis of the root causes, and practical recommendations. SNF's operation teams use these reports to work out the prevention measures that need to be taken.

### Preparations for emergencies

Preparations for possible crises are the final link in the chain of risk management. And there are various types of crisis with which SNF could be confronted: industrial accidents, natural disasters, security issues rela-

ted to civil unrest and political instability, public health breakdowns, etc. The successful management of such situations depends on effective coordination among all those concerned, and the rapid mobilisation of a multidisciplinary network of skills and techniques.

### Practical implications: IOP\* and SIT\*\* exercises

IOP and SIT exercises are carried out yearly. They involve external agencies (the fire brigade, etc.) and a pooling of different approaches.

*\*IOP: Internal Operations Plan*

*\*\*SIT: Second-line Intervention Team*

### Transport

SNF's activities include the transport of potentially dangerous materials from its production facilities to the premises of industrial clients or public-sector bodies.

### Reinforced safety measures for the transport of dangerous goods

For SNF, whatever the means of transport – air, sea, river, road or rail – risk management is based on common principles: the transporter's choice, the cargo's inspection and the certification of the different firms involved.



### Work Exposure

For the last 20 years work exposure has been measured on all personnel susceptible to be exposed.

Out of **1941 measurements** the average exposure level vs. VLEP is:

**0.028 mg.m<sup>-3</sup> vs. 0.300 mg.m<sup>-3</sup>**



SDIS 42 firemen in chemical hazard suits during a full scale training exercise in 2008

# The Risk Management System (RMS)

## Technological risk control and safety management

SNF has 2 plants in France that present risks according to the criteria of the European Seveso directive. Its Risk Management System (RMS) is subject to internal audits, and is also audited by the DREAL\*.

Over the last 25 years, SNF has been constantly improving its procedures, including those which are concerned with risk management.

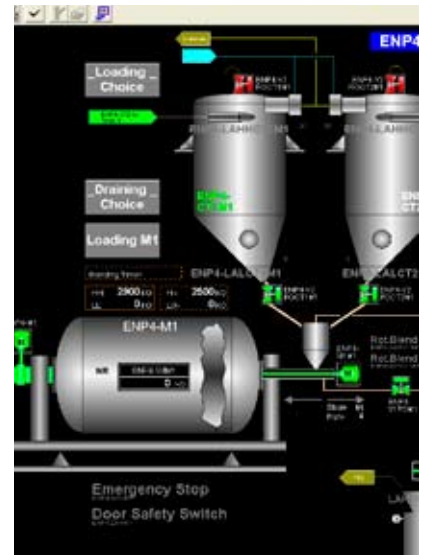
Right from the outset, SNF has equipped itself with the resources, both material and spatial, required for compliance with quality, safety and environmental norms.

SNF's Risk Management System complies with Annex III of the Seveso II plan for the prevention of major accidents.

The RMS deals with individual responsibilities, staff training, the in-house development of techniques for systematic risk analysis, and the reinforcement of inspection and monitoring program.

## Priorities

- A systematic analysis of the risks and consequences associated with its various installations, both those that are in the course of development and those in need of important modifications.
- Feedback from experience, with an analysis of situations that have given rise to accidents, quasi-accidents or other significant incidents, so that corrective and/or preventive measures can be taken.
- The minimisation of risks at their source, through the use of safe technologies, limitations on the volume of storage tanks, the choice of raw materials according to their risk factors, etc.
- A constant relationship with the neighbourhood through CLIC\*
- The distribution of risks across an installation.
- Ongoing monitoring of the operational functioning and safety of facilities.
- Internal audits of the Risk Management System.
- Regular exercises to assess emergency planning.
- Periodical control of IPS\* and MMR\*
- Redundant MMR\*
- Efficiency evaluation of MMR\*, response time, independence, maintenance,
- Automatic control of MMR\*



\* CLIC: Community Information Committee

\* DREAL : Direction Régionale de l'Environnement et de l'Aménagement et du Logement

\* IPS: Important for Safety

\* MMR: Risk Management Implementation

SNF's Risk Management System is checked twice a year by the DREAL\*.



# Environmental Protection

SNF's policy consists in using green-field\* sites, thus, the infrastructures needed to deal with discharges can be built into the design of a plant at the drawing-board stage.

## Carbon Footprint

SNF has done Carbon Footprint measurements since 2007. These data helped to determine the emission factors such as electrical consumption and gas per tonne produced as well as the carbon footprint of the finished product themselves.

There has been an increase from 63.78 Ceq/t produced in 2008 up to 64.93 Ceq/t in 2009. This 1.8% increase is due to the decrease in production in 2009 (-5%).

The Carbon Footprint Report has helped SNF create a task force dedicated to find and implement ways to reduce our factory's greenhouse gas emissions.

## Development strategies

- Less use of packaging that cannot be recycled.
- Less use of toxic chemicals and their parameters: less free monomers, the replacement of CMR chemicals (i.e. carcinogens, mutagens and reproductive toxins) by others which do not fall into this category.
- Proposals for an automatic measuring system that will optimise the products' consumption.
- The replacement of mineral by organic coagulants that are more biodegradable and that produce less sludge.
- A constant striving for reductions in the use of reagents, through:
  - better dissolution;
  - new products;
  - on-site optimisation trials;
  - user training.

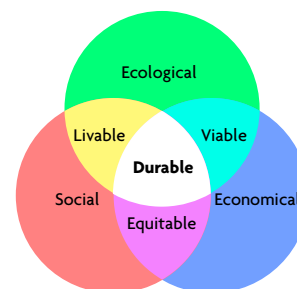


- Reductions in water consumption and discharge. A scheme for recycling rainwater is currently being developed.
- An analysis of product life cycles.
- The integration of eco-design into the R&D process, both for products themselves and for production facilities.



## Projects

- Savings program aiming at a 10-15% reduction of the energy consumption (gas and electricity).
- Reductions in the quantities of waste generated, and an increase in recycling. Specifically redistillation of Isopar J



Polyacrylamides are used to recycle water in the paper industry

# Results

## Energy

Consumption in MWh/kt.year		
	2009	2008
Gas	1 901	1 962
Electricity	838	884

## Air

Air emissions in t/kt.year		
	2009	2008
CO <sub>2</sub>	324	399
SO <sub>x</sub>	neg	neg
NO <sub>x</sub>	0.34	0.42
COV	1.00	1.39
N <sub>2</sub> O	0.01	0.02
Dust	0.07	0.06

## Air emissions of toxic substances in g/year

	2009	2008
Acrylonitrile	6 714	298

## Water

Quantities in m <sup>3</sup> /kt.year		
	2009	2008
Consumption	2 853	3 554
Wastewater	936	1 401
Recycled water	330	477

## Wastes to the WWTP in t/kt.year

	2009	2008
Nitrogen	0.09	0.13
BOD <sub>5</sub>	0.32	0.55
COD	0.54	1.06
SS	0.05	0.07
Phosphorus	neg	neg
Hydrocarbons	0.02	0.03

## Transport

Tonnes transported in t/year		
	2009	2008
Dangerous goods by road	72 229	83 671
Dangerous goods by rail	55 517	58 413
Non dangerous goods by road	191 494	210 956
Non dangerous goods by rail	42 413	91 585

## Waste

Industrial waste in t/kt.year		
	2009	2008
Special dangerous incinerated	47.9	82.6
Special non-dangerous incinerated	4.9	12.81
Special recycled	9.1	0.45
Usual recycled	4.6	0.37
Usual non-recycled	2.9	3.35

All figures (except transport and acrylonitrile) are given for 1000 tonnes of product manufactured in the year (100% active).

There is a minimum energy consumption of the production lines that does not depend on the quantity manufactured.

Efforts to optimise production processes have led to a reduction in energy consumption per tonne of manufactured product over the last



years. 2009 is an exception and has seen a slight increase of +1.8% due to the lower production level (-5%) due to the world economic crisis.

EFF2 electric motors are being replaced gradually by EFF1 motors that are more energy efficient.

VOC emissions have been reduced by the replacement of a particular lubricant by one less volatile.

A considerable amount of water is used in the production process. It is either incorporated into finished products or escapes through evaporation. The aim is to reduce the consumption of drinkable water by using more rainwater and recycled waste water.

SNF has increasingly been transporting hazardous materials by rail, which is safer and more eco-friendly than road transport.



## Glossary

CO<sub>2</sub> : Carbon dioxide  
 VOC : Volatile Organic Compounds  
 COD : Chemical Oxygen Demand  
 BOD<sub>5</sub> : Biological Oxygen Demand  
 SS : Suspended solids  
 N<sub>2</sub>O : Nitrogen protoxide  
 SO<sub>x</sub> : Sulfur oxides  
 NO<sub>x</sub> : Nitrogen oxides

## A Pro-Active Attitude

SNF has been single-minded in its insistence on quality (the ISO 9001 norm), but also on the management of technological risks and the protection of environment. In 2000, it signed up to an ongoing program of improvements in health and safety.

A workgroup has been created in 2009 whose goal is to obtain the ISO 14001 certification. Environmental indicators have been put in place, environmental goals have been determined and there has been a better communication on environmental matters both inside and outside the company.

SNF is also a signatory to the French Union of Chemical Industry's Responsible Care charter for the growth of the french chemical industry in a context of sustainable development program, and in particular as regards:

- the strong points of French industry in economic and social terms;
- technological innovation;
- energy and transport;
- safety and risk management;
- health and environment.

The French Union of Chemical Industry's first Responsible Care audit has been performed on SNF in January 2010 and the results were very positive.

### Social Responsibility

For almost 15 years now, SNF and the municipality of Saint-Etienne have occupied leading positions in the Pôle de l'Eau, a network of around a hundred industrial and institutional partners drawn from industry, education, research and local administration.

In 2004, SNF became a founding member of the Centre International de Ressources et d'Innovation pour le Développement Durable (CIRIDD), which was set up on the initiative of Saint-Etienne Métropole with the authorities' support, and whose honorary president was the interministerial delegate for sustainable development.

SNF is a socially responsible company which is involved in economic development. It aims at making a contribution to develop the expertise of local firms, in Europe and across the world.



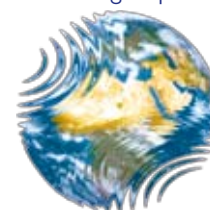
Some 20-25% of the group's investment goes into new technological applications, and equipment that will improve the safety of its employees as well as helping to protect environment.

SNF's engineering department, with its 25 years of experience in industrial processes, notably polymerisation, is continually improving its installations and associated utilities, in the interests of operational simplicity. This in turn facilitates risk management and environmental impacts' limitation.



**SNF sas**

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