

**France's national report for the 18th session of
the United Nations Commission on Sustainable
Development (CSD-18)**

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General introduction

France's report for the 18th session of the United Nations Commission on Sustainable Development (CSD-18) meets a dual objective: reporting on France's monitoring of commitments taken at the Rio conference and the Johannesburg summit and sharing national experiences. CSD-18 will look at the following themes: chemical products, extraction industries, the ten-year framework for programmes on sustainable forms of consumption and production, transport and waste management.

Since the preparation of the previous CSD report in 2008, France has confirmed its political will to implement sustainable development principles in all areas of action.

Through the decree of May 18th 2007 on the composition of the first Fillon government, a French Ministry of State was set up to combine four previously separate ministries (Public Works and Transport; Ecology; Energy; the Sea), for purposes of efficiency, rationality and clarity.

Subsequently, beyond thematic or sectoral changes, the French government set up a top line initiative called the Environment Grenelle. Initiated in July 2007, the **Environment Grenelle** process brought together different actors from civil society to discuss environmental themes within five colleges (territorial authorities, State, environmental NGOs, employers and employees)¹. The debate was organised around six workgroups, each involving 40 people. Each group then split up into workshops. Each group was to meet four times, but the complex nature of certain topics meant that most groups had to hold one or two additional meetings. Two intergroup workshops were created: the GMO workshop and the Waste workshop. The workgroups held their last meeting on September 25th 2007. The summary and reports from each group were made public on Thursday September 27th 2007. Subsequently, local meetings in the regions and a public consultation on the web took place before the Grenelle round table on October 24th and 25th 2007. For the so-called phase 4, 33 "operational projects" were put in place. This process led to the creation of over 250 commitments. Some of these commitments in the legislative domain were transposed into the Environment Grenelle programming law of August 5th 2009, which has become known as the "Grenelle 1 Law"². Other commitments are progressively being implemented, in particular in the form of agreements between the State and other actors, such as voluntary undertakings with federations in the form of conventions. The Environment Grenelle also contributes to drawing up the national sustainable development strategy for 2009-2013 which is currently under completion.

After this first Law and the 2009 Finance Law, which supports the Grenelle commitments, the national commitment to the environment Bill ("Grenelle 2 Law") is the third pillar for the legislative implementation of the Environment Grenelle. The project makes new legal and technical tools available to actors on the ground.

During the summer of 2009 a further Grenelle type process was completed (broad consultation, participation of the five colleges, etc.): the Sea Grenelle. After several weeks of consultation, the final round tables were held on July 10th and 15th 2009 and led to the formulation of 138 undertakings. The purpose of the Sea Grenelle was to supplement the Environment Grenelle commitments specific to the sea and coastlines and to cover a broader scope on the theme of the sea and its contribution to the development of sustainable activities. The Sea Grenelle contributes to the definition of the national strategy on the sea and coastline identifying short, medium and long term objectives and actions. This maritime policy, which concerns all areas of government action, formalises France's ambition for the sea and maritime affairs. On October 16th 2009, the Secretary of State launched operational projects to define the practical procedures for the implementation of the Sea Grenelle commitments. Organised in different forms according to the type of subjects addressed and the degree of progress, they are to propose practical and collectively-agreed rules for the implementation of commitments such as, in particular, the creation of ship dismantling activities, the processing of dredging sludge, ships and ports of the future, "blue energy" plans, the organisation and protection of the sea and the coastline, without

¹ Environment Grenelle website: www.legrenelle-environnement.gouv.fr

² Law 2009-967 published in the Official Journal of August 5th 2009

supplanting the coastline law, innovation, research and development in the maritime field, development of protected marine areas, reduction in pollution, development of a compensation scheme for damage caused by oil slicks, the impact study and environmental assessment process, awareness raising tools, communication tools, networking of actors, training, multi-target activities, social conditions and the creation of a macro-waste fund.

This report addresses the progress France has made in the area of sustainable development on themes indicated by the Commission on Sustainable Development, i.e. sustainable consumption and production, transport, waste management, extraction industries and chemical products.

Ten-year programming plan on sustainable forms of consumption and production

In the Grenelle 1 Law, strong commitments were made in particular on sustainable consumption and production, with the ambition of acting simultaneously on both, throughout the lifecycle of the product or service by involving all actors and anticipating social concerns. However, because of this need to operate a change of paradigm, stronger emphasis was placed on sustainable consumption, with citizen information and education acting as the lever at the heart of the mechanism.

Acting on consumption

Instruments for sustainable consumption

[Awareness raising programmes and campaigns concerning sustainable consumption and responsible behaviour](#)

The Environment Grenelle strengthened France's commitment to access for all citizens to environmental information. A web portal providing environmental information³ www.toutsurlenvironnement.fr, suggested in the Grenelle 1 Law, was launched in June 2009. It tends **towards information, documents and data concerning the environment, which are available free of charge on existing public portals and sites.**

Broad dissemination of information is essential to bring change to the consumption habits of our citizens. It is for this reason that France has committed to this initiative, in particular through pioneering actions such as the **Sustainable Development Week**⁴, in place since 2003. This large scale awareness raising campaign, led jointly by the Ministry of Energy, Ecology, Sustainable Development and the Sea (MEEDDM) and France's National Environment and Energy Control Agency (ADEME) seeks to raise citizens' awareness as to the challenges of sustainable development through TV and radio spots and events and operations with the private and associative sectors.

On behalf of the State, the ADEME is coordinating other awareness raising operations on themes linked to eco-responsible behaviour, via the written press, TV, radio and posters. In particular, it is responsible for national commitment campaigns which take place every three years on precise themes. The main ones are "**Économies d'énergies: faisons vite, ça chauffe!**"⁵ ("Energy savings: we need to act quickly, things are hotting up!") and "**Réduisons vite nos déchets, ça déborde!**"⁶ ("We need to cut down on waste fast, it's overflowing!"). The ADEME's website also provides several rapid calculation tools to assess the impact of our different items of consumption (transport, heating, food, etc.) and proposes solutions in an attempt to reduce this impact.

In order to provide information directly to the citizen, the ADEME has set up nearly 200 "**Info-energy points**" throughout France, where each and every citizen can find advice to make energy savings and have their homes audited for energy consumption. At regional level, this action is reinforced by "show house" operations, led in association with the MEEDDM, which seek to "*develop a complementary tool which allows us to mobilise public opinion to act immediately and every day in reducing the quantity of waste generated by citizens*"⁷. Initiated as part of the national campaign "Réduisons vite nos déchets, ça déborde!", the "show house" operation, modelling homes of different socio-professional categories, sizes and regions presents waste prevention measures in our everyday actions and waste weighing to assess actual impact.

In order to supplement this mechanism, and accompany as many citizens as possible on the road

³ G1 Article 52

⁴ www.semainedudeveloppementdurable.gouv.fr

⁵ www.faisonsvite.fr

⁶ www.reduisonsnosdechets.fr

⁷ reduisonsnosdechets.fr/html/agir_foyer.asp#

to sustainable development, MEEDDM also proposes actions, events and information and education programmes on the environment and sustainable development, for all types of audiences. As of 2005, the Ministry has published booklets targeting children, such as “Babar le P’tit Écolo” (“Babar the little ecologist”) detailing eco-responsible attitudes in our day-to-day lives and a pamphlet entitled “Le P’tit Écolo et ses mille-et-un gestes de l’Été” (“The Little Ecologist and his 1001 Summer Habits”) dedicated to the summer holiday period in particular and distributed primarily at motorway tolls. More recently, the Ministry set up a partnership around a programme for the creation of a series of educational strip cartoons “**VINZ et LOU veillent au grain**”⁸ (“**Vinz and Lou keep an eye on things**”), which targets children specifically as future citizens and responsible actors of tomorrow. Its initial objective is to help as many young people as possible to understand that they too have a role to play, and to give them ideas for their day-to-day lives with their families and with their friends, and all this with an entertaining pitch. Also of note is MEEDDM’s summer launch, as part of the Sea Grenelle, of a campaign targeting families: “**J’apprends la Mer, les lacs et les rivières**”⁹ (“I’m learning about the Sea, lakes and rivers”).

Control of consumer information

Consumer protection policy commitments taken as part of the Environment Grenelle emphasise the need to deliver reliable information to the public¹⁰.

As part of this objective, France has created a new **Advertising Control Authority (ARPP)**, which replaces the former Advertising Verification Bureau (BVP). It now comprises joint consultation bodies including environmental protection and consumer defence associations in its operations and in defining its principles. The objective is to ensure the proper foundation and pertinence of commercial claims – and environmental claims in particular –, and systematic control prior to dissemination of all forms of advertising.

After 16 months (September 2009), ARPP results have been positive¹¹: whilst the number of adverts using environment claims continues to increase, the percentage of adverts which do not comply with prevailing ethical rules is in decline (annual ARPP-ADEME survey). The Grenelle 2 Law, currently going through the Senate, should allow criteria for the judgement of commercial claims on products to be assessed in even greater detail, including environmental and sustainable development components, by explaining the complex notions of substantial impacts on products and service lifecycles¹².

Preparation of educational programmes

In order to create the conditions required for a change of paradigm in favour of sustainable forms of consumption, citizen education and training is required. It is for this reason that, since September 2004, education in sustainable development is one of the integral parts of initial training for pupils from primary school to upper secondary. The new programmes, launched at the beginning of the 2009/2010 school year, apply the principle according to which education in sustainable development is included “*in all disciplines and integrated into the day-to-day operations of schools*”¹³. In order to support this spread, both inside and outside schools, the “**L’École agit! Pour le développement durable**”¹⁴ campaign (“Schools are acting in favour of sustainable development”), launched in 2008, is intended as a global platform for resources and funding to support school projects.

⁸ www.developpement-durable.gouv.fr/_vl2.php3

⁹ www.japprenslamer.fr/japprenslamer

¹⁰ G1 Article 54

¹¹ www.developpement-durable.gouv.fr/article.php3?id_article=5862

¹² Article 85 of the Grenelle 2 Bill, completing article L.214-1 of the Consumer Code, by: “*requirements of precision, verification and accountability of substantial elements of product lifecycles in the preparation of claims of an environmental nature or using the term ‘sustainable development’ or its synonyms when these claims are presented on products intended for sale to consumers or as part of their marketing in the form of references on packaging, publications, advertising, telemarketing or insertions in digital and electronic publications.*”

¹³ Article 55 of the Grenelle 1 Law

¹⁴ www.lecoleagit.fr

In agricultural schools, particular emphasis is placed on learning techniques which respect the environment. Generally speaking, basic vocational training efforts target the integration of principles of sustainable development into educational programmes adapted to each profession. Vocational training is also at the heart of these considerations. On the one hand, the **commitment to territories and professional sectors involved in green growth, announced in October 2009 by the government**, provides for vocational training mechanisms dedicated to sustainable development. Also, the Grenelle 1 Law paves the way for the creation of a high-level institute to train decision makers and top managers in the various aspects of sustainable development.

Higher education establishments are also involved in a sustainable development approach. In this respect, for the new school year of 2009/2010, they were asked to draw up a "Green Plan" for their campuses. Universities and *Grandes Ecoles* will be able to apply for label status on the basis of sustainable development criteria¹⁵.

An exemplary State in terms of sustainable consumption: Public contracts which respect the environment

Given the importance of public procurement in the nation's GDP (around 10%) and the knock-on effect it has on the market, numerous measures and initiatives have been taken in France over recent years to ensure that attention is paid to sustainable development in public procurement.

Since August 1st 2006, the **Public Contracts Code (CMP)** explicitly integrates sustainable development according to article 6 of the Constitutional Charter for the Environment. This reform in the CMP is part of transposition of the European directive of March 31st 2004, many of whose provisions allow the integration of environmental and social criteria to be included at the key stages of the public procurement process (definition of needs, specifications and conditions of execution, information required of applicants as to their know-how and bid selection).

The updating of the National Sustainable Development Strategy (SNDD) in 2006 also made this principle of exemplary behaviour of the State a cornerstone, and prepared the adoption of a **National Action Plan for sustainable public procurement** in March 2007. The objective of the plan was to make France one of the most committed European countries to the implementation of sustainable development in the public procurement process by 2009.

This plan and the Environment Grenelle workgroup entitled "Adopting sustainable production and consumption modes: agriculture, fisheries, agro-foods, distribution, forests and sustainable use of territories" were the origin of the December 3rd 2008 circular on State exemplarity in respect of sustainable development in the activities of its services and public establishments. Based on the idea that the State must "*use its own operational means to strengthen and promote the emergence of more sustainable forms of production and consumption*", the circular presents 20 fact sheets with orientations relating to each product family in order to allow public procurement agents to integrate sustainable development criteria into their purchase specifications.

The circular also involves the implementation of a "bonus-malus" mechanism for Ministry spending. An overall budget of 100 million Euros will be held back from their budgets and reserved to the most parsimonious amongst them. The implementation circular for this mechanism will be published at the end of 2009. An extension to the measure, to include devolved services and public establishments, will operate as of 2010.

France is seeking to go further in its sustainability criteria for the operation of its administration, and in particular in the construction and transport sectors. In the construction sector, the Prime Minister's circular of January 16th 2009 on the nation's real estate policy includes a renovation programme which meets the Environment Grenelle objectives. It primarily concerns energy audits and combining several types of actions to reduce energy consumption by at least 40% and greenhouse gas emissions in State buildings by at least 50% within the next ten years (see part 2 § 2.1.3). In the transport sector, article 44 of the Grenelle 1 Law announces that "*in line with Community law, the State will examine the means of exploiting the opportunities opened up by the public procurement code to take the environmental impact of products and services linked to transport into account*".

In order to facilitate this approach, information tools have been made available to public-sector

¹⁵ G1 Article 55

purchasers, and in particular a website dedicated to eco-responsibility¹⁶, along with a series of eco-responsible purchasing guides published by the Permanent Market Survey Group entitled "Sustainable Development, Environment", under the responsibility of the Ministry of the Economy, Industry and Employment.

The introduction of these sustainability criteria into public procurement offers a powerful lever to heighten consideration for the environment and sustainable development by companies on the basis of State exemplarity, introducing lifecycle and overall cost approaches into public spending patterns.

Sustainable consumption and production in national priority areas: matching up supply and demand

The implementation of an ecological bonus-malus system

One of the key measures of France's voluntary sustainable consumption policy is undoubtedly the launch of the *eco-pastille* on January 1st 2008, also referred to as the ecological bonus-malus scheme, for the purchase of new vehicles. This mechanism reduces or increases the cost of acquisition of CO₂-emitting vehicles in application of the polluter-pays principle¹⁷. The objective is to promote the acquisition of less-polluting vehicles through a "price signal" mechanism. Since January 1st 2009, for the most polluting vehicles, part of the malus is repaid annually, and not only at the time of purchase. And the mechanism will become stricter over time: as of 2010, sanction thresholds of CO₂ emissions will be decreased each year to maintain the emission reduction effort. This measure is a real success since it has switched over 40% of the automobile market to more environmentally "respectful" cars, which of course encourages manufacturers to be more inventive than their competitors in creating lower-emission vehicles.

Furthermore, with the launch of the "hybrid and electric vehicles" plan, a super-bonus of 5,000 Euros will allow French people to acquire hybrid and electrical vehicles at more reasonable prices.

Environmental product information

Environment information on products and services is one of the key projects resulting from the Environment Grenelle and one of the action triggers most promoted by France. The major objective under the Grenelle 1 Law is to "*generalise environmental information displayed on products and services*"¹⁸. It provides for the development of "*mention of environmental impacts of products and services in addition to price display*". The consumption code is to be modified accordingly¹⁹.

In order to accompany professionals in the implementation of this measure, an ADEME-AFNOR platform²⁰ has been set up by the ministry responsible for sustainable development (MEEDDM), with the creation of ten or so workgroups per type of product, piloted by voluntary professional federations. The purpose of this participative process, bringing together over 500 contributors, is to draw up a methodological guide for the calculation of the carbon equivalent content in a product or service, thereby mutualising the costs of implementing this measure and identifying other pertinent environmental impacts for each group of products concerned and methods used to calculate them.

These calculations will serve as a reference for the preparation of displays providing environmental information and in particular the carbon content of products. As of January 2011, the decrees will require environmental displays to be based on these reference sets. Finally,

¹⁶ www.ecoresponsabilite.environnement.gouv.fr

¹⁷ Annual tax of €160 applicable as of January 1st 2010 to vehicles emitting over 250g of CO₂ per km, the amended Finance Law of 2008.

¹⁸ G1 Article 54, responding to commitment No. 217 of the Environment Grenelle.

¹⁹ Article 85 of the Grenelle 2 Law: "*As of January 1st 2011, the consumer must be informed of the content of equivalent carbon in products and packaging as well as the consumption of natural resources or the impact on the natural environment that are attributable to these products throughout their product lifecycle through marking, labelling, posters or any other appropriate procedure.*"

²⁰ French normalisation agency

companies having carried out more in-depth lifecycle analyses may be allowed to use them, but will be invited to make them public.

Beyond the legislative process, the MEEDDM is also committed to supporting and rewarding individual initiatives in this area. Indeed, within the framework of the implementation of the Environment Grenelle, several leaders from major French retail chains have developed voluntary environmental labelling initiatives for their products.

These initiatives have been supported and rewarded by the State, which has made the commitment alongside the professionals from the sector. Thus, several voluntary commitment conventions have been signed as part of the Grenelle²¹, such as that signed between the MEEDDM and the Association of Construction Products Industries (AIMCC) for environmental and sanitary labelling on construction products. A similar convention was signed by the MEEDDM and professionals from the property sector for displaying energy performance in real estate ads.

[The implementation of a workgroup on social information displayed on products](#)

Beyond environment-related information on product content, France is now looking at social information²². A multipartite workgroup financed by the MEEDDM has been set up within the AFNOR to prepare a guide of good practice. This seeks to promote transparency of information on the social and employment conditions under which products are manufactured. The conclusions of this workgroup should be made public at the end of 2009.

[Extending energy labelling to other product categories](#)

In France, the introduction of energy labelling further to directive 92/75/CEE of the Council of September 22nd 1992 created an obligation for most household appliances to be labelled, assessing their energy efficiency on a scale from A (optimal) to G. Appliances concerned are refrigerators and freezers, dishwashers, ovens, domestic air conditioning and electrical bulbs. Because of the success of this labelling programme, which rapidly oriented the market towards the best-performing products, higher performance categories have been added for certain products (A+ and A++), and a specific directive²³ was adopted in 1999 by Europe for energy/CO₂ labelling for cars.

France made energy labelling a key measure of its **2004-2012 Climate Plan** in pursuit of its Kyoto Protocol commitments. Its success is today broadly recognised throughout the European Union since the market has shifted towards the higher labelling categories (A to A++), with industrialists second-guessing the expectations of consumers in terms of energy performance.

France considers that energy labelling is a central instrument of Community policy to make consumption and production attitudes more sustainable and, in this respect, strongly supports a broader scope for the directive which is currently being negotiated to include other products and, where applicable, other relevant essential resources. France believes that environmental labelling tools for products should continue to develop apace. They provide information that consumers are increasingly expecting, and raise awareness as to the environmental and climatic impacts of mass consumption products. This is the interpretation of the conclusions adopted by the Council of Ministers of the Environment of the EU, under the French Presidency of the EU, on December 5th 2008, on the theme "Sustainable consumption and production".

[Identifying the 20% most virtuous products through eco-labels](#)

Eco-labels distinguish the most environmentally friendly products and services. Their criteria guarantee low environmental impact throughout their lifecycle whilst ensuring suitable use of products and services. Two eco-labels are issued in France: the NF Environment stamp for the French market and the European Eco-label for the European Union market. The objective is to

²¹ G1 Article 40 of Grenelle 1 Law: » *It is planned to submit construction and furnishing products as well as floor and wall coverings, paints and varnishes and all products intended to or resulting in the emission of substances into the atmosphere to compulsory labelling as of January 2012, in particular for emissions and volatile pollutant content.* »

²² Social information is defined by the AFNOR as a set of means for communicating social information to the consumer on the product, "the social nature understood in its widest sense, i.e. social, societal and ethical considerations".

²³ 1999/94/EC

identify the 20% most virtuous products in each category. Even though only 1% of the most virtuous products are today labelled, the growth in turnover of eco-labelled products²⁴ confirms a structural success, since the results did not dip with the economic crisis.

Certification of companies: helping the consumer pick out eco-responsible companies

France is currently leading a reflexion on labelling of eco-responsible companies, as detailed below. Also, the Grenelle 1 Law pays particular attention to environmental certification of agricultural operators. Thus, in article 31, the State positions the objective of involving 50% of farms in this approach by 2012, specifying that *"environmental recommendations will be deliberately integrated into products under information on identification of quality and origin"*.

Conventions on voluntary commitments taken by different professional sectors

As well as these public regulation and labelling initiatives, the Environment Grenelle added a system of recognising voluntary commitments of companies grouped into sectors through conventions signed with the Minister for the environment. The representatives of professional sectors commit to implementing environmental objectives defined by the convention, which is a veritable roadmap for actors from the sector. Through his signature, the Minister recognises voluntary commitments and in turn undertakes to facilitate their execution. More than 20 conventions have been signed to date. The convention on commitments taken by companies from trade and distribution, signed in January 2008, is particularly emblematic of a simultaneous action in favour of sustainability in production and in consumption.

Acting on production

Conventional public policy tools in favour of more environmentally friendly production

Encouraging the setting up of more environmentally friendly production

In order to promote more environmentally friendly forms of production, numerous measures exist at national and Community levels.

First of all, dissuasive measures, such as the **General Tax on Polluting Activities (TGAP)**, apply the polluter-pays principle. The TGAP applies to polluting substances emitted into the atmosphere²⁵ and lubricants²⁶.

Secondly, we find incentive measures in favour of companies, such as exceptional amortisation²⁷ applicable to anti-pollution, anti-noise and water-savings equipment.

Strict regulations concerning production processes have also been taken with a view to encouraging the development and use of green technologies. The European **REACH** regulation requires the chemical industry to review the design and use of chemical products in order to progressively secure a drastic reduction in their quantities.

Along the same lines, in order to act at source on water pollution, the law on water and aquatic environments, promulgated on December 30th 2006, provides the administration, territorial authorities and actors involved in the water industry in general, with tools to improve the quality of water, and by 2015, achieve objectives of a good ecological quality established by the European Framework Directive (EFD) of December 22nd 2000. The Grenelle adds to this framework law by proposing to improve protection of water capture points against nitrates and

²⁴ www.ecolabels.fr/fr/quelques-chiffres

²⁵ Sulphur dioxide and other sulphurous compounds, hydrochloride acid, protoxide and nitrogen dioxide, non-methane hydrocarbons and total dust in suspension – see Customs Code, 266 section 6.

²⁶ With the exception of biodegradable, non eco-toxic lubricants and those of renewable origin respecting criteria defined for the Community ecological label on lubricants in Decision 2005/360/EC of the European Commission of April 26th 2005 – see Customs Code, 266 section 6

²⁷ General Tax Code, article 39, section 5 DA/E/F/FC

other sources of pollution²⁸.

Finally, to accompany enterprise, and in particular SMEs, the ADEME is organising conferences, disseminating good practice forms and tools, such as the “**production audit**” software, available online, which allows them to make their own diagnosis of environmental shortcomings in their production processes.

Promoting social responsibility of companies

The Societal Responsibility of Companies is defined in a 2001 European green paper as “*voluntary integration, by companies, of social and environmental concerns in their commercial activities and relations with their stakeholders*”. Initially, the Societal Responsibility of Companies was, more particularly, sponsored in France by the Employment Ministry, but with the Environment Grenelle, the MEEDDM has been extensively involved in reflexion in this area.

In 2001, France adopted a hitherto unseen regulation on this theme. Law No. 2000-420 of May 15th 2001 on **New Economic Regulations** (the NRE Law) made it legally compulsory for French companies listed on a regulated market to report on the social and environmental management of their activity²⁹ in an annual management report open to public consultation.

To go further, the Grenelle laws introduce several measures and projects to be considered with a view to promoting the Societal Responsibility of Companies³⁰. These measures seek to extend this obligation for information to all companies employing more than 500 people³¹. The government is also committing to a communication effort to engage companies in sustainable development. The idea is to encourage professional branches to establish sectoral reference sets and, through suitable labelling, to recognise companies which have good social and environmental practices.

The Grenelle 1 Law also states France’s desire to enact the principle of “responsibility of parent companies in respect of their subsidiaries in the event of serious damage to the environment”³² both at Community and international levels and to introduce “environmental criteria, and in particular those relating to biodiversity, in the actions of international financial, economic and commercial institutions”. Thus, France is committing to proposing a “working framework at Community level to create social and environmental indicators which allow a comparison between companies”.

Also, to satisfy the specific needs and difficulties of SMEs in particular, a reflexion is in progress as to the possibility of developing a French platform on the Societal Responsibility of Companies. This project, which is part of the Environment Grenelle conclusions, would seek to help French SMEs to implement the regulations concerning them and to go further still by developing good practice guides and publicising voluntary initiatives.

One of the major levers impacting companies’ responsible behaviour is funding. The Socially Responsible Investment (SRI) seeks to integrate social and environmental criteria, as well as financial ones, into the management of funds. The development of SRI is one of the levers identified in the future National Sustainable Development Strategy 2009-2012, which is currently being finalised. As part of the Environment Grenelle, the State has committed to promoting SRI and has included this commitment in the Grenelle 1 Law.³³ Institutional funds, such as the Pension Reserve Fund (FRR) and the Additional Retirement Fund of the Public Function (RAFP), have long term objectives which correspond to sustainable development values. They represent major financial resources which will progressively tend towards SRI.

²⁸ G1 article 27

²⁹ Article 116 of Law No. 2000-420 of May 15th 2001 on New Economic Regulations

³⁰ G1 article 53

³¹ article 83 of the “Grenelle 2” Bill

³² G1 article 53

³³ G1 article 53

Favouring eco-design of products in support of companies

In terms of eco-design, progress has been made at the European level through Directive 2005/32/EC on the eco-design of energy using products (EuP), such as electrical and electronic equipment, lamps and heating equipment. This directive, which was amended and extended in 2009 under the French and Czech presidencies, establishes minimal eco-design requirements at European level. For the moment, these requirements are primarily based on the criterion of energy consumption during the period of use of the product. This phase has been identified by lifecycle analyses as being the most important for these product categories. Thus, an energy consuming product must comply with the requirement to obtain access to the European domestic market. More advanced benchmarks exist for industrialists wishing to go further still. A more generic eco-design approach is also promoted through this directive.

In France, support to the implementation of eco-design is primarily covered by the ADEME. The dissemination of information and events on this topic are one of its key action priorities. The agency also proposes eco-design training for professionals as well as personalised aid in eco-design diagnosis, by financing the contribution of a consultant in companies, with the remit of pinpointing progress points and action plans to achieve them.

Encouraging environmentally respectful agriculture

Certain regulatory and financial measures concern agricultural activities more particularly. The tax on pesticides which are the origin of diffuse pollutions has thereby been progressively increased. The target is to give a price signal to farmers purchasing this type of substance with a view to limiting their use.

The revenues from this tax was designed to finance the Ecophyto 2018 plan, whose objective is to reduce by half the use of phyto-sanitary products, for which there is no substitution, by 2018, whilst respecting Environment Grenelle recommendations (commitment No. 129). This makes the plan one of the levers for the implementation of the Grenelle 1 Law in which the State has established the objective of *"arriving at a level of organic agricultural production which is sufficient to sustainably meet increasing consumer demand and the objective of developing the use of organic products in public canteens or low environmental impact seasonal products, judged on the basis of their conditions of production and distribution"* (article 31). In order to achieve this, several tax incentives have been introduced. Properties growing organic crops can, through a decision of the local authority concerned, be exempt from Land Tax on non-built properties (TFNB) for five years as of January 1st 2009. Agricultural concerns can also benefit from a tax credit if at least 40% of their revenues come from agricultural activities associated with organic production.

The green technologies strategy: creating supply and the right conditions for a developing market

Consolidating conventional environmental sectors: water and waste

France is very well placed in these traditional sectors thanks to a national public service concession model involving third party companies in these fields. As part of the Environment Grenelle, France has committed to restoring 2/3rd of its water surfaces (rivers) by 2015. Measures have been taken to accelerate the normalisation of water treatment plants and, through technology, to limit the pollution of waterways and water tables: apart from the implementation of the ERU action plan launched by Jean-Louis Borloo on September 14th 2007, two framework conventions on loans were signed with the Caisse des Dépôts et Consignations (1.2 billion Euros for Metropolitan France and 300 million Euros for overseas territories). These loans are major levers which will support water treatment station compliance work and will have a major impact on the ecological quality of our waters.

In terms of waste treatment, the French strategy involves developing technologies which encourage more recycling of waste into "secondary raw materials" (SRM). In 2006, 12 million tons of domestic secondary raw materials were generated, of which 5 million tons of steel (one quarter of production), 5 million tons of paper and cardboard (half of production) and 2 million tons of glass (one third of production). In order to develop their use, the priority is given to the

development of industrial facilities capable of using them (steel, metallurgy and paper industries) which will need the suitable technologies.

Developing renewable energies

The Environment Grenelle established an ambitious objective of 23% of renewable energies in final energy consumption by 2020, based on a scenario of the development of very varied renewable energy activities³⁴.

In order to achieve these objectives, the MEEDDM launched the **EnR Plan** (renewable energies) on November 17th 2008. The Plan focuses on 50 operational measures taken from the Environment Grenelle with a voluntary policy in all sectors concerned. It is accompanied by a "renewable heat fund" to the tune of one billion Euros for the period 2009-2011. Four hundred million Euros are also earmarked for the creation of a fund dedicated to pre-industrial site setups allowing experimentation with ideas developed through research.

In the different sectors (solar, wind, geothermics, marine energy, etc.), France's renewable energies development strategy involves supporting demand with State guarantees, encouraging the creation of a national supply and establishing regulatory objectives to bolster the creation of such a market.

In the solar field, France's ambition is to play a leading role worldwide. In order to activate the French market, accelerate research and build a real solar industry, a call for tenders was announced in May 2009 for the construction of at least one solar power station in each French region by 2011 with total output of 300MW. A tariff support mechanism offering long term visibility is also in place, with very attractive buyback prices. For private individuals, installation formalities have been simplified, including barriers to planning permission. In order to encourage the development of the market, the State is leading the way by planning to install photovoltaic panels on roofs of buildings included in its energy renovation plan.

In the biomass field, a third call for tenders was launched in December 2008 by the Energy Regulation Commission for the construction of electricity power stations fuelled from biomass for a total output of 250MW³⁵: 106 applications have been filed, representing a total output of 936MW.

On geothermics, the objective is to multiply energy production six-fold by 2020 by equipping two million households with heat pumps and a large scale launch of programmes in Ile-de-France, Alsace, Aquitaine, Midi-Pyrénées and Centre. Outside Metropolitan France, the Géothermie Bouillante site in Guadeloupe has already seen some success by providing 6% of the island's electricity, with nearly 90% availability at a substantially lower cost than fuel powered power stations.

On wind power, the Secretary of State has confirmed an attractive buyback tariff fixed in 2006 (8.2c of €/kWh) and also announced improvements to territorial planning, the regulatory framework and local consultation. The objective is to avoid the fragmentation of territories and limit impact on landscapes, heritage and the quality of life of locals. The development of sea-based wind farms will be facilitated thanks to simplified procedures and the creation of a consultation and planning body per seaboard with all stakeholders.

Efforts **in terms of hydroelectricity**, the biggest source of renewable electrical energy in France (around 12% of electricity production), will focus on modernisation and optimisation of existing equipment as part of a sustainable development approach. Competitive tendering for hydroelectric concessions will be an opportunity to select operators on the basis of the best energy efficiency criteria and ambitious measures for restoring water quality.

Finally, the **Blue Energy Plan** was launched after the Sea Grenelle, at the end of July 2009. The objective is to develop marine energies to the tune of 6,000MW by 2020. The first practical operations will begin in 2012. A development pilot site will be created within each authority of coastlines offering this energy potential. A budget of 50 million Euros will be allocated to

³⁴ Hydraulic, including pumping; "non-renewable" pumping; wind; marine energies; photovoltaic solar; thermal solar; deep geothermics; heat pumps; renewable solid urban waste; energy wood and crop residues; biogas; biofuels; non-renewable solid urban waste.

³⁵ After the success of the last call for tenders which saw 22 projects being selected for a total power output of 300 MW

financing these initiatives.

To support the development of the renewable energies market, the “sustainable development” **tax credit**, which supports in particular the acquisition of renewable energy equipment by private individuals (solar water heaters, heat pumps, photovoltaic panels, etc.), has been extended through to 2012. Furthermore, powerful new incentive tools, set up to support thermal renovation in buildings (the 0% interest eco-loan, exemption from Land Tax, etc.) will also promote the deployment of renewable energies.

Promoting emerging high potential sectors

Amongst the emerging sectors, France has particularly invested in the promotion of the technology required to develop decarbonised vehicles, offshore wind energy, solar energy and capture and storage of CO₂.

The **capture and storage of carbon** is still in its experimental phase. The Environment Grenelle predicts that any construction of a coal fired power station must be designed to be equipped with a carbon dioxide capture and storage facility³⁶. Furthermore, mastery of such techniques, and in particular carbon capture through vegetation, has become a sustainable development research priority³⁷. France is establishing a solid position for itself in the sector, through the Institut Français du Pétrole (IFP), the National Research Agency (ANR) and the National Scientific Research Centre (CNRS), who are carrying out extensive research on capture, transport and storage of CO₂. Elsewhere, the IFP is the leading body of the European “Castor” project³⁸ which targets the geological storage of carbon. Finally, French companies, such as Total, Air-Liquide and Gaz de France, have committed to many storage projects, including one for 120,000 tons on the Lacq site.

Further to the Environment Grenelle, a new crossover strategy for the promotion of eco-technologies has been set up. The Ecotech 2012 plan³⁹ was launched in December 2008 by the MEEDDM and functions around several priorities. Firstly, a partnership between the State and companies from the sector was set up to define a public-private strategy for eco-industries in the form of a strategic committee. In the same spirit of consultation, the State has begun an exercise to define a statistical reference set to improve our knowledge of the sector, a prerequisite to structuring it.

In order to support and reinforce innovation in this area, the State has launched a call for research and development (R&D) eco-technological projects, for a value of 30 million Euros over three years, focusing in particular on prevention, measurement and combating local pollution in partnership with Oséo⁴⁰ and the ADEME. It will finance 50 research and development projects on the technologies concerned.

Developing eco-efficiency and energy performance

Energy performance and the sustainable use of resources is an area where eco-technologies can provide substantial improvements. Promoting energy performance and eco-efficiency means acting on the design of products and processes in such a way that they become as economical as possible in energy and raw materials, whether during the manufacturing phase or when in use. It is also about developing technological tools providing better control of energy consumption throughout the product lifecycle. The Environment Grenelle has established ambitious objectives in terms of energy spending control. It is for this reason that research programmes have targeted as particular priorities the most energy consuming sectors.

In practical terms, this has already resulted in the setting up of competitiveness clusters (I-trans, advanced mobility and transport cluster⁴¹, vehicle of the future cluster⁴², Movéo⁴³), bringing

³⁶ G1 article 19

³⁷ G1 article 22

³⁸ www.co2castor.com

³⁹ www.developpement-durable.gouv.fr/article.php3?id_article=3487

⁴⁰ www.oseo.fr

⁴¹ www.pole-mta.com

together companies, research centres and training organisations in a given locality committed to a partner-based approach designed to engender synergies around joint innovation energy performance and eco-efficiency projects. Research programmes have also been set up, such as PREBAT⁴⁴ in the building sector.

The State has introduced measures to incentivise research and use of alternative, more sustainable materials. For example, the 2009 Finance Law⁴⁵ doubles the General Tax on polluting activities (TGAP)⁴⁶ for extraction equipment. The purpose is to encourage the use of renewable materials or granulates from recycled materials from demolition sites. Companies are also encouraged to review the entire design process of their products. In this respect, ADEME is leading several projects to analyse packaging according to a lifecycle approach and to advise manufacturers on how to modify it. The ADEME is also financing research to support eco-design through calls for R&D projects⁴⁷.

Green technologies to accompany the shift in French industry

Beyond the eco-design of products, green technologies can also benefit the manufacturing process itself. Thus, industrial processes can be made greener thanks to the development of specific sectors such as green chemistry. This activity seeks to replace petroleum-based molecules by vegetable-based molecules in everyday products: solvents, plastics and tensio-active products. This makes them biodegradable and as a result less harmful to the environment. The Axelera⁴⁸ competitiveness cluster in Lyon is developing the green chemistry segment and knowledge base, in parallel to the industries and agro-resources competitiveness cluster⁴⁹ in Picardie.

⁴² www.vehiculedefutur.com

⁴³ www.pole-moveo.org

⁴⁴ www.prebat.net

⁴⁵ G1 article 29

⁴⁶ Increase from €0.10 per ton to €0.20 per ton

⁴⁷ Seventeen technological, methodological or socio-economic research projects were selected in 2008.

⁴⁸ www.sophia-antipolis.org/poles2competitivite/presentation-poles/Chimie-environnement-Lyon.htm

⁴⁹ www.iar-pole.com/fr/index02.php

Transport

France's transport policy aims to reduce greenhouse gas emissions by 20% by 2020 along with the sector's dependence on hydrocarbons. In order to achieve that, the priority has been given to modal transfer and complementary and less polluting means of transport by reducing unnecessary travel and developing innovative systems meeting economic, ecological and social cohesion requirements.

Means of execution

National judicial framework

An entire chapter on the Grenelle 1 programming Law (Section 1, Chapter III, articles 10 to 17) is dedicated to transport issues.

Amongst the main points adopted:

- For merchandise transport, the priority is given to multimodality with the objective of increasing the modal or non-road and non-air transport portion from 14% to 25% by 2022.
- Promote the development of rail and sea highways.
- Ensure rail and river access to ports.
- For passenger transport, reduce the use of hydrocarbons, increase energy efficiency and prioritise collective transport, including dedicated site public transport (TCSP).
- For vehicles, reduce average CO₂ emissions from 176 g/km to 120 g/km by 2020.
- Draw up a national transport infrastructure plan.
- A quest for innovative solutions for funding infrastructures, equipment and transport services.
- Modulation and regulation of use in travel trends, so as to combat congestion.

Education, training, awareness raising

Information campaigns, such as "Bougez autrement" (a different approach to travel)⁵⁰, are organised each year in September as part of the European Mobility Week. The purpose of these campaigns is to inform the public on the issue of urban transport and encourage them to modify their behaviour in favour of alternative forms of transport.

The "eco-citizens" space on the ADEME site proposes many tools for rapid calculations of the impact of each travel solution and suggestions to reduce it. Other sites, such as the SNCF⁵¹, also propose eco-calculators which allow you to compare the environmental costs of several means of transport (train, plane, car, etc.).

Eco-driving, which appears in article 11 of the Grenelle 1 Law, is now compulsory in basic and vocational training for professionals of the road. Since the summer of 2006, questions concerning eco-driving are included in the driving test. They raise awareness amongst new drivers as to the least polluting driving habits and which can bring fuel savings of 13%.

Also, the website www.toutsurlenvironnement.fr contains an area dedicated to transport. It carries information on transport and its interaction with the environment, and in particular on the environmental impacts of different forms of transport and technological innovations in vehicles. It also proposes explanatory datasheets answering the most frequently-asked questions in this field, for example less energy and fuel hungry driving.

In parallel, the Grenelle 2 bill should accelerate the distribution of information on the CO₂ content of different travel solutions⁵².

⁵⁰ www.bougezautrement.gouv.fr/bougezautrement/

⁵¹ www.voyages.sncf.com

⁵² Article 85 of the Grenelle 2 Law: "The beneficiary of a passenger transport or goods transport service is informed by the Transport Commissioner, or failing that by the transporter, of the quantity of carbon dioxide emitted by the

Capacity building of institutions

The Directorate General of Infrastructures, Transport and the Sea (DGITM) is one of the eight general entities of the MEEDDM. Its main mission is to promote a modal transfer policy (switch from one form of travel to another), placing the sustainable development priority at the heart of each decision making stage. The DGITM Directorate General was created in July 2008 so as to prepare and implement the terrestrial and maritime multimodal policy respecting sustainable development principles. It plays a cross-sector role, taking responsibility for all issues relating to terrestrial and maritime transport, but also the planning of airports.

Engagement of financial resources

The finance law voted annually by Parliament contains two conventional headings: "Transport infrastructures and services" and "Maritime safety and affairs" and a specific heading: "Research in the field of transport, equipment and housing". For the first time in 2009, a multi-year finance bill was voted to provide longer term visibility on the financing of major infrastructure operations. The use of public-private partnerships is developing progressively to finance such projects. A particular example of this is the funding of the high-speed train link (LGV) South-Europe-Atlantic.

The French Transport Infrastructure Financing Agency (AFITF), set up in 2004, represents a cornerstone of funding for major transport infrastructure projects sponsored by the State, in conjunction with additional funding from local authorities, public establishments and European funds. It accompanies the government's policy in the implementation of a multimodal equipment policy, providing the State's contribution as well as multi-year programming, with greater clarity for all those involved.

Cooperation frameworks and partnerships

As part of the work of the National Public Debate Commission⁵³, major transport and infrastructure projects are subject to a compulsory public consultation procedure. The Grenelle Laws include a reworking of this procedure. On the subject of good sustainable development practices, voluntary commitment charters between federations of companies and the State can be signed. They allow the initiation or reinforcing of practical actions with a view to going beyond mandatory minima in terms of sustainable development, such as reducing vehicle fuel consumption and CO₂ emissions.

Theme-based issues

Policies led and progress achieved in access to transport

Article 13 of the Grenelle 1 Law states that the development of collective transport is a priority issue in peri-urban and urban zones. This development contributes to the disenclaving of sensitive areas, in particular as part of the *Espoir Banlieues* plan (set up in 2008). This article also lays out the development of dedicated-site public transport outside the Île-de-France area (public transport which uses dedicated lanes or areas) so as to increase the total length of dedicated routes from 329 kilometres to 1,800 kilometres. The investment cost of this programme is estimated by the authorities concerned at 18 billion Euros. Article 15 of Grenelle 1 modifies Law No. 82-1153 of December 30th 1982 on the orientation of domestic transport and requires that transport policy "*in its infrastructure planning, takes into account the challenge of disenclaving, development and competitiveness of territories, including cross-border issues*".

Supporting "clean" fuels

In order to promote the development of bio-fuels, a penalty in the form of a supplement to the General Tax on Polluting Activities (TGAP) is levied upon fuel retailers who do not achieve the

different forms of transport allowing the operation to be completed. Decrees establish the implementation of these provisions and in particular specifying the minimal length of travel, which cannot be less than 100km, beyond which information is compulsory, methods for the calculation of carbon dioxide emissions and information procedures for the person using the service."

⁵³ www.debatpublic.fr

objective of incorporating 5.75% of bio-fuels into their products according to Community directive 2003/30/EC. Furthermore, there is partial exemption from the TGAP for bio-fuels and total exemption for pure vegetable oils used as agricultural fuel.

On October 9th 2008, the "decarbonised vehicle" plan was set up to develop a French business sector for batteries and powertrains for hybrid vehicles and electric vehicles. A national infrastructure deployment strategy for recharging stations required for these vehicles was launched on February 17th 2009. Its purpose is to accelerate and coordinate the installation of infrastructures: rapid charge points, or even battery exchange stations. Its objective is to accompany the transition that the French automobile industry will undergo in favour of products which are non-fossil fuel dependent, consume less energy, emit fewer emissions and are less polluting. The workgroup set up by the Government for this purpose is currently running a development programme for these infrastructures.

Directive 2009/28/EC of April 23rd 2009 on the promotion of the use of energy produced from renewable sources, establishes an objective of 10% renewable energies in the transport sector. A national action plan will produce an information chain between economic players (producers, transporters, distributors) so as to validate these environmental criteria, including the quantity of greenhouse gases emitted throughout the chain, production and distribution.

Promotion of energy performance

Since December 5th 2007, France has practised an ecological "bonus/malus" system. The system rewards those buying new cars which emit less CO₂ through a discount at the time of purchase, and penalises those who opt for the most polluting models through a higher sale price.

The Grenelle 1 Law requires fuel suppliers to undertake actions to reduce fuel consumption.

The State reiterated its determination to develop the use of hybrid or hybrid-electric vehicles in its circular of December 3rd 2008 on the exemplarity of the State in respect of sustainable development in its operations, services and public establishments. On September 23rd 2009, the Ecology Minister announced a project for the purchase of 50,000 electric vehicles by the administration.

Governance concerning transport

Under the Domestic Transport Organisation Law of December 30th 1982, promoting the principle of organising public transport, urban transport is the responsibility of transport authorities. Territorial authorities at any level can take responsibility for collective transport (region, county, community of communes or even commune) and be "Transport authorities" themselves.

Article 12 of the Grenelle 1 Law states that:

"In order to promote heightened governance in terms of transport cooperation in metropolitan areas, and the best possible coherence of the urban and peri-urban collective transport systems in the major population areas, experiments may be set up to allow the transport authorities concerned to entrust a semi-public syndicate – the metropolitan authority for sustainable mobility – with extended powers in terms of organisation and coordination of public transport in a given area."

Also, the development of multi-modal transport solutions, as alternatives to the use of private cars or trucks, is favoured. It concerns in particular the organisation of complementary transport solutions and associated services such as the French Multimodal and Ticketing Information Agency (AFIMB) which is currently being set up, as well as the promotion of alternative forms of transport. Finally, the mobility and transport of passengers and goods must be reconsidered in respect of environmental, social and health issues, with guaranteed accessibility, safety and security. This will mean in particular taking priority collective needs of public transport into account in urban planning decisions.

Particular attention is paid to hazardous merchandise transport with the setting up of a mapping system to monitor the main routes followed.

Planning urban transport and urban transport policies

Law No. 82-1153 of December 30th 1982 on the orientation of domestic transport, amended by

the Grenelle 1 Law, organises the domestic transport system so as to satisfy the needs of users under the most beneficial economic, social and environmental conditions for the locality.

The Grenelle 1 Law prioritises public transport and limits the development of road and airport projects (article 11, Grenelle 1). Travel plans are encouraged as are little or non-polluting transport solutions. Emphasis is placed on improving transport infrastructure in Île-de-France (article 13, Grenelle 1).

Article 11 of Grenelle 1 *"The development of the use of public passenger transport is a priority. To this end, for inter-urban and peri-urban travel, in terms of infrastructure, priority will be given to rail investments over the development of road or airport projects."*

Article 11, Grenelle 1 *"I – In urban and peri-urban zones, the sustainable transport policy seeks to reduce greenhouse gas emissions, pollution and other nuisances. To this end, the State will encourage the introduction of company, administration, school or industrial site travel plans as part of their urban travel plans, as well as the development of car sharing, car-pooling and teleworking, walking and cycling, particularly through the adoption of a charter of road users... III. – Outside Île-de-France, there is a plan to develop dedicated-site public transport so as to increase their length from 329 kilometres to 1,800 kilometres within fifteen years..."*

Article 11, Grenelle 1 *"In Île-de-France, an advanced public transport plan will seek to increase the fluidity of travel and in particular from suburb to suburb. To this end, a structuring ring road with an automatic metro will be launched after consultation with the transport authority and in addition to the other transport infrastructure projects already undertaken as part of the State-region projects contract. The public consultation procedure will take place in 2009 on the ring road project as a whole. [] Finally, the RATP and Francilienne SNCF network will have to be renovated, rolling stock modernised and the punctuality of trains improved, along with travelling conditions for passengers. This will have to allow real time, easily-accessible information on traffic conditions throughout the network, delays and cancellation of trains."*

Furthermore, the National Transport Infrastructure Plan (SNIT), which is currently in preparation, establishes guidelines for the State regarding maintenance, modernization and development of transportation networks under its competence, reduction of environmental impacts, use of agricultural or natural land and subsidies for local governments to develop their own networks. It seeks to prioritise conditions for transfer to the most environmentally friendly means of transport. The SNIT mentioned above will be reviewed on a global and regular basis, as a national planning instrument

Marine system norms

Appendix VI of the MARPOL Convention (or Convention of London) has been revised for the prevention of pollution by ships. [The amendment considerably lowered the existing limitations:](#)

These limitations apply to all diesel motors with a power above 130kW, regardless of the size or navigation type of the ship. Each motor must have an EIAPP certificate delivered for the entire lifetime of the motor.

- Definition of a new threshold (level 2), 2,5g/kWh lower than level 1. This threshold will apply to all motors installed after January 1st 2011 (major transformation or new ship)
- Definition of a new threshold (level 3), 80% lower than the level 1 that is currently enforced. This threshold will apply to all motors installed after January 1st 2016, and when the ship enters an Emission Control Area (ECA = Channel, Northern Sea and Baltic Sea))
- Diesel motors installed on ships built between January 1st 1990 and January 1st 2000 with an exiting power above 5MW and an engine capacity above 90L per unit must cut down emissions according to level 1 limitations.

The schedule for cutting down the quantities of sulphur in fuels is as follows :

-
-
- 1% in ECAs by July 1st, 2010
- 3,5% globally (outside of ECAs) by July 1st 2012
- 0,1% in ECAs by July 1st, 2015

- 0,5% globally (outside of ECA's), by July 1st 2020 or 2025, depending on whether the fuel is available
- a ban on the use of refrigerant gases in refrigeration equipment which have been classified as substances damaging to the ozone layer,
-

Planning in anticipation of the effects of climate change

Responding to article 42 of the Grenelle 1 Law, a national adaptation climate change plan is currently in preparation. It will be finalised by 2011. The purpose is to organize the review of reference sets for the construction and maintenance of transport networks and to establish new traffic management doctrines based on risk analyses, preparation, surveillance and management of extreme weather episodes. Locally, it will upgrade adaptation strategies to address climate risks.

Numerous climate change adaptation plan initiatives are being developed at sectoral or infra-national levels (Nord-Pas-de-Calais Region and Bassin de la Loire, for example).

Development of research and development into all technologies linked with transport (public and private sectors)

Since 1990, France has been equipped with a coordination tool providing incentives for research and innovation in the terrestrial transport field: the Research and Innovation Programme in Terrestrial Transport (PREDIT). The fourth programme (2008-2012) was launched on June 19th 2008. Six priority themes were identified:

- Energy and environment
- Quality and safety of transport systems
- Mobility in urban areas
- Merchandise logistics and transport
- Competitiveness of the transport industry
- Transport policies

Elsewhere, within the MEEDDM's General Commissariat on Sustainable Development, the Research and Innovation Division (DRI) has defined orientations for national research and innovation policies in the areas of environmental development, planning, transport and energy. In coordination with the Directorate Generals of the MEEDDM, it is piloting the ministry's research programmes and ensuring their implementation, as well as assessing and exploiting their results. It is implementing the Grenelle 1 Law priorities on research. Its main functions are to run the MEEDDM research network and its operators, pilot strategic orientations of the MEEDDM's scientific and technical network and support eco-technology innovation and the promotion of ecological competitiveness, including in the transport field.

Finally, MEEDDM operates a scientific and technical network (RST) made up of some 15,000 individuals from thirty study, audit, expertise, research and teaching bodies, public establishments and State services. The remit of the RST is to produce the scientific and technical knowledge required for public action in the ministry's fields of expertise: transport, urban planning, development, civil engineering, housing, environment, risk prevention, knowledge of the earth and marine and coastline areas, meteorological phenomena.

Waste management

France's policy on waste, like its environmental policy in general, is strongly influenced by Community policy. It has progressively diversified its objectives: public hygiene, security, reduction in the environmental impact of different treatments and, more recently, prevention and recycling. These main orientations are contained in the July 15th 1975 law amended by the July 13th 1992 law on elimination of waste and recovery of materials.

Furthermore, waste treatment and elimination facilities are considered as classified installations in France, i.e. installations which may represent dangers or inconveniences for locals in terms of health, safety, public health, agriculture, protection of nature or the environment, and conservation of sites and monuments. Regulations relating to Classified Installations oblige operators to assess their waste management and to implement reduction measures so as to minimise risks associated with their facilities.

Substantial progress has been made in the quality of treatment and recycling facilities. Nevertheless, the use of landfill must be reduced still further and the production of waste has grown steadily until levelling off recently.

In autumn 2007, the Environment Grenelle was an opportunity to establish the main guidelines of a new national policy on waste management. By defining prevention and recycling objectives for waste for the period 2012-2015⁵⁴, this participative governance process has also defined 25 measures to reduce waste production, limit the quantities of waste sent to landfill and incinerated and to considerably develop recycling. These actions are perfectly in line with the priorities defined by the new waste framework directive (directive 2008/98/EC), which establishes a ranking between the different forms of waste treatment, with, by order of preference, prevention, preparation for re-use, recycling, other forms of recovery (in particular for energy), and elimination.

The Grenelle 1 Law uses this ranking specifying that the *"waste reduction policy, which is a priority over all forms of treatment, will be bolstered by the eco-design of products in manufacturing, distribution and consumption until the end of its product lifecycle"*⁵⁵. The 2009-2012 waste plan announced in September 2009 summarises the Grenelle challenges and the framework Directive organising them into strategic themes.

Management of hazardous waste

Basis of the hazardous waste management policy

In the EU, the management of hazardous waste is framed by the European Framework Directive 2008/98 on waste. This directive reaffirms in particular the principle of proximity, according to which waste must be treated as near as possible to its place of production.

In terms of hazardous waste treatment, priority is given to prevention and planning. There are regional plans in place which, with a long term vision, establish flows and dimensions for storage facilities. These plans account for demographic growth (waste sources with long term projections), different types of companies present in the area, different types of waste produced and the existing and potential destinations of that waste.

Hazardous waste treatment and elimination circuits are subject to a strict traceability regulation (via several record entries and a monitoring tool: the Hazardous Waste Monitoring Form, an annual register and declaration to be filled in by operators). The difficulty of such a process lies in the characterisation of the waste itself as "hazardous". Indeed, this characteristic can be defined

⁵⁴ *Increasing recycling rates from 24% in 2004 to 35% in 2012 (including composting) of household and equivalent waste and 45% in 2015, achieving a recycling rate of 75% for household packaging in 2012 compared with 60% in 2006, reducing buried and incinerated waste by 15% by 2012, channelling 75% of industrial waste from companies over 10 employees to recycling in 2012 (excluding construction, public works and agriculture) compared to 68% in 2004.*

⁵⁵ G1 Article 46

according to 15 danger properties⁵⁶ established by Directive 2008/98/EC. In an attempt to improve knowledge in this area, France is committed to European projects seeking to improve existing danger criteria (developed in connection with the CLP regulation on chemical substances and mixtures) and to revise the European waste nomenclature codes. These projects involve the preparation of European or national guides designed to be used as methodological supports to the characterisation of hazardous waste.

The MEEDDM and the Ministry of Employment have also been working together on the specific case of carcinogenic, mutagenic and repro-toxic waste. Through the National Environmental Health Plan 2 (PNSE2), they are carrying out a joint reflexion to increase efforts to identify such substances in waste by producers and thereby better protect workers who may be exposed to them in waste but also in industrial processes. This plan, which was published in July 2009, does not specifically address the management of waste, but offers a general consultation framework on the control of toxic substances which may be present in waste or used, or even emitted, by waste elimination and treatment sites. One of the objectives of PNSE2 is to identify, rank and coordinate actions to prevent impacts on man and his environment from toxic, persistent or bio-accumulative substances (PCB, dioxins, HAP, heavy metals, etc.).

Furthermore, a characterisation exercise is being carried out on waste containing so-called "Seveso" substances⁵⁷ (named after Directive 96/82/EC concerning the control of dangers linked to major accidents involving hazardous substances called directive SEVESO II further to the catastrophe of the same name), seeking to identify facilities which handle this type of waste. According to the SEVESO II Directive thresholds, these may subsequently be required to draw up external and internal emergency plans, respect specific urban planning control measures (Prevention Plan for Technological Risks, Accesses of Public Utility), set up a Management and Safety System and provide financial guarantees.

The MEEDDM is extensively involved with the professional organisations and actors from the waste sector and representatives of producers (companies from the chemical, petrochemical, etc. sectors) in these different projects. Information on waste is therefore at the heart of France's strategy in terms of hazardous waste management. To this end, in order to meet the requirements of Directive 2008/98/EC, France has launched a hazardous waste labelling process.

Preventing and reducing hazardous substances as far as possible

France's policy in terms of the prevention of the production of hazardous substances is largely the result of European regulations such as RoHS (2002/95/EC) and REACH. The RoHS directive (Restriction of the use of certain Hazardous Substances in electrical and electronic equipment) seeks to limit the use of six hazardous substances in electrical and electronic equipment. The REACH regulation seeks to restrict and prohibit the use of certain dangerous substances, as well as developing the substitution of those substances by encouraging R&D (REACH authorisation procedure).

In parallel, France has developed economic levers to encourage less polluting technologies, such as a modulation of favourable eco-contributions for LED lamps compared to other types. A malus notion on mercury lamps is also under investigation.

Beyond the reduction in waste and their level of dangerousness, the problematic of separation of hazardous and recyclable materials is the subject of different measures. The presence of hazardous waste in mixtures does indeed represent a barrier to recycling. A modulation of the eco-contribution was introduced to encourage accessibility to hazardous components in electronic and electrical equipment waste (WEEE).

Elsewhere, the introduction of a tax on waste (TGAP) is an economic tool which seeks to encourage waste producers to reduce the quantities produced.

⁵⁶ Explosive, inflammable, comburant, irritant, noxious, toxic, carcinogenic, corrosive, infectious, repro-toxic, mutagenic, toxic gas emitting, toxic substance emitting, sensitizing (most recent category introduced by the new framework directive on waste), infectious risk, eco-toxic.

⁵⁷ A complete list of substances causing major risks: fire, explosion, toxic dispersion.

REP channels (“Extended Responsibility of the Producer”)

The application of the principle of Extended Responsibility of the Producer (REP) implicates those responsible for putting products on the market in waste management for their product, thereby offering a lever to promote eco-design. Indeed, the REP principle, by facilitating exchanges of information throughout the product lifecycle, allows us both to improve separate collection and appropriate treatment of waste thanks to a better understanding of products, and improve the design of products from a waste treatment perspective. The REP principle is being organised in France for each production channel (packaging, paper, etc.).

Eco-bodies are structures which, on behalf of industrial members, take responsibility for the end-of-product-life phase. Where applicable, they have to recover separated hazardous waste from sorting centres. Performance indicators for de-pollution are currently being studied.

Finally, France is developing an REP channel in diffuse hazardous waste (DDD) produced by households.

Regulations on waste management facilities

European Directive 2008/01/EC on “*integrated pollution prevention and control*” (IPPC) of January 15th 2008 requires that manufacturers limit their production of waste as far as possible and study the possibilities of their re-use *in situ*. More generally, the Directive specifies that certain sorting/transit/regrouping and waste treatment facilities should evaluate their impact on the environment with a view to reducing it. In France, the measure had been anticipated for installations classified for environmental protection (ICPE) in the Circular of February 19th 1992 via the “waste” studies. The Circular of February 19th 1992 requires that measures taken by ICPE operators seek to limit not only the quantity of waste but also its dangerousness and that operators define suitable channels for its treatment or elimination.

The IPPC Directive led to the setting up of the best available techniques (BAT) in waste treatment and elimination centres. The BREF guide or “Best References” guide, drawn up under the auspices of the European Commission, serves as a reference to inspectors of classified facilities who audit industrial sites. This policy has been applied in France through the “operating audit” tool of the ICPEs. Additional technical recommendations have also been developed for processes not covered by the European BATs, and in particular composting and methanisation.

Progressive elimination of toxic, persistent and bio-accumulative substances

A national action plan draft against the pollution of aquatic environments by micro-pollutants is underway. In time, it should support the substitution or withdrawal of PBT substances (Persistent, Bio-accumulative and Toxic substances) within the framework of the implementation of REACH and biocide regulations. France is also working on the preparation of proposals for substances to include in appendix XIV of the REACH regulation.

This policy is also part of an international framework: article 6 of the Stockholm Convention, on specific measures to reduce or eliminate rejects from Persistent Organic Pollutants (POPs) generated by stocks and waste, specifies that the Parties must:

- Draw up suitable strategies to identify stocks, products and articles containing (or contaminated by) POPs.
- Manage stocks in a secure, efficient and ecologically rational manner.
- Ensure that waste and articles containing (or contaminated by) POPs are managed in an ecologically rational manner.
- Develop a strategy so as to identify sites contaminated by POPs.

These provisions have been inserted into the French National framework for the implementation of the Convention, which includes the national Plan for the decontamination and elimination of equipment containing PCBs and PCTs approved by the ruling of February 26th 2003. Indeed, the Stockholm Convention and the European Regulation (directive 96/59/EC of the Council of September 16th 1996) requires the decontamination or elimination, by the latest at end of 2010, of equipment containing PCBs and PCTs with mass concentration in excess of 500 ppm. France has set up an exhaustive inventory managed by the ADEME of equipment containing more than 50 ppm of PCB. This inventory will allow a monitoring of such equipment through to final

elimination through approved channels.

Inventory of hazardous waste, waste treatment/elimination sites and contaminated zones

The ruling of January 31st 2008 establishes the rules for the annual declaration of emissions and production of waste of certain installations through the GERE database, which is used to compile the French pollutant emissions register.

Classified installations are themselves recorded in the GIDIC database.

Finally, the BASOL database is an exhaustive listing of polluted sites and soils. It is derived from the BASIAS database which contains former industrial sites which are potentially polluted.

Dissemination of technical and scientific information on the various health and environmental aspects of hazardous waste

Different national structures are involved in the dissemination of scientific information and provide technical support:

- The National Institution for the Industrial Environment and Risks (INERIS⁵⁸) on chemical, physical and biological risks;
- The Geological and Mining Research Bureau (BRGM⁵⁹) for example on storage centres;
- The National Institute for Research and Safety (INRS⁶⁰) concerning risks to employees' health;
- The ADEME on the introduction and monitoring of REP channels in particular.

Public consultation

The ICPE regulation requires an impact study and prior public enquiry with the population exposed to industrial activities subject to authorisation. Measures to control urban planning and control requirements can be demanded depending on the characteristics of the facility and the vulnerability of the environment. Planning also gives rise to consultations.

Prevention of illegal international trafficking of hazardous waste

France is subject to European regulation No. 1013/2006 on cross-border transfer of waste. It is involved in exchanges and joint control actions organised by the European IMPEL TFS network.

Each year, the MEEDDM draws up a national action programme which contains priority annual actions for inspection of classified facilities. The 2009 version placed the emphasis on the issue of illegal international trafficking of hazardous waste via checks at hazardous waste production, elimination and treatment sites (verification of characteristics of import and export flows and control of documents covering such movements) and border controls.

⁵⁸ www.ineris.fr

⁵⁹ www.brgm.fr

⁶⁰ www.inrs.fr

Management of solid (non-hazardous) waste and waste water

Reduction of waste

France has a waste prevention plan⁶¹ which has been in force since 2004. Amongst other things, the plan contains an operation to reduce unsolicited junk mail ("Stop Pub") and the number of supermarket bags handed out at the till. This prevention plan, implemented by the ADEME, includes a triennial communications campaign (TV advertising, public posters) re-launched in 2009, as well as the 'prevention week', at the end of November, which has now taken on a European dimension.

In the follow-up to the Environment Grenelle process, the prevention policy was reinforced, in particular through a 7% reduction objective in the production of household and similar waste over a period of 5 years and the introduction of specific funding from TGAP (the General Tax on Polluting Activities). For example, the ADEME is supporting the introduction of local prevention plans implemented voluntarily by local authorities.

Furthermore, modulation of the eco-contribution of companies to REP channels applies according to eco-design efforts.

Recovery, Re-use and Recycling (RRR)

In order to improve recovery, re-use and recycling of materials, French policy has been designed in line with European legislation and covers three aspects in particular:

- Requirements as to the quality of products and materials recycled (article 6 of the waste framework Directive 98/2008).
- The organisation of collection and treatment channels, and REP channels in particular, which allow a separation of flows for optimised recycling.
- The management of hazardous waste through bans on mixing (some exemptions) with other waste (article 18 of the waste framework Directive 98/2008). The 2009 Finance Law introduced an REP mechanism for diffuse hazardous waste from households (DDD).

Funding

A household waste management service is provided throughout France. This service is the responsibility of local authorities which finance it according to different rules (taxes, duties, etc.). However, certain areas, in particular those overseas which face the particular difficulties inherent with their insularity, can benefit from investment aid for their infrastructures through multi-year programming instruments (State-Region Plan, Operational Programmes). Professionals are responsible for managing their waste.

Product lifecycle analysis

The use of product lifecycle analysis for waste has already been introduced in France through policies concerning information to consumers. Law No. 2009-967 of August 3rd 2009 stipulates in article 54 that:

"Consumers must be given access to sincere, objective and complete environmental information concerning the overall characteristics of the product/packaging pairing and be proposed products which respect the environment at attractive prices. France will support the recognition of these requirements at European Union level.

Mention of environmental impacts of products and services in addition to the display of their price will progressively be developed, including at Community level, just like the display and availability at the point of sale of traceability and social conditions of their production. The methodology associated with the assessment of these impacts will give rise to consultation with the professionals concerned."

⁶¹ www.ecologie.gouv.fr/IMG/pdf/plan_prevention__dechet_fevrier04.pdf

Since the spring of 2008, works have been going on under the presidency of the ADEME in collaboration with the AFNOR group⁶² to develop, not only with professionals but also with civil society, environmental impact assessment methodologies for mass consumption products. The RBP X 30-323 good practice reference set "General principles for environmental labelling on mass consumption products" has been published. The document defines the principles and guidelines for the preparation of environmental information on products intended for consumption: food and hygiene products, household equipment and maintenance products, etc. but also services such as public transport, dry cleaners or indeed telephones.

The objective is to allow the consumer to integrate information on the environmental impact generated by a product throughout its product lifecycle as a criterion of choice at the time of purchase. This environmental labelling must allow comparison between products of the same category and, where appropriate, between categories of products.

The initial requirement was to display the "carbon price" or "ecological price" of products and services. However, the door is wide open to additional labelling linked to one or several more pertinent indicators per product category. Sectoral groups are indeed being set up so as to work on additional indicators. Cross-over groups have also been created, for example to look at the way labelling and communications are controlled.

⁶² <http://www.afnor.org>

Extraction industries

For reasons linked to the geography of France, the situation of the raw materials sector seems highly contrasted depending on whether we talk about metallic substances (iron, nickel, bauxite, etc.), industrial minerals (barite, fluorine, kaolin, silicon, talc, limestone, gypsum, etc.) or construction materials (granulates, hard rock, etc.). The industrial mineral and construction materials sector is a dynamic part of the French economy, creating added value and jobs. Apart from the nickel activities in New Caledonia and gold in Guyana, the minerals and metals sector in metropolitan France focuses primarily on the rehabilitation of former mining sites. The metallurgy business is however still very important, even though it relies on procurement from elsewhere.

Non-energy mineral raw materials such as construction granulate, are consumed directly or indirectly by all activity sectors in more or less processed forms. Regular, sure and competitive access to production sources of those materials for French companies is an important element in terms of their strategic development against a backdrop of the competitiveness of the whole of the French economy. The guarantee of access to certain resources is also important for the very political independence of the country and its capacity to defend itself.

The action of the public authorities in this area is based on four major orientations:

- recovery of natural resources;
- promotion of recycling;
- security of supply;
- international cooperation policy.

The period 2008-2009 was marked by a downturn in raw material prices. Depending on the metals, this occurred between the first and second quarters of 2008 as the crisis was emerging. It saw a very substantial drop in prices: -60% for cobalt, -45% for nickel, -30% for platinum and zinc, given as average values for the six months of 2009 compared to average 2008 prices. This enormous drop was linked to a marked slowdown in global economic activity and in particular in the automobile sector, which is a high consumer of metals, and also the property crisis. Whilst markets had been developing since 2003 in a climate of shortage maintained by the possibilities of sustainable and sustained global economic growth, the “subprimes” crisis suddenly slowed the economy and demand for raw materials, with markets suddenly having plenty of excess supply on their hands. This downturn required heightened vigilance concerning the sector’s policy.

Education

A group of French mines schools include seven schools dotted around France (Albi, Alès, Douai, Nancy, Nantes, Paris, Saint-Etienne) all under the auspices of the Economy, Finance and Industry Ministry (with the exception of Nancy which is attached to the National Education Board). They share a joint teaching and research approach dedicated to industrial development. They train staff and contribute to keeping skill levels high. They are amongst the most prestigious French *Grandes Écoles*.

National judicial frameworks

The extractive mining activity is controlled by the mining code and the environment code.

French mining law has a number of specificities. The State alone can confer the right to exploit a mine upon the operator, under conditions which are fixed by law, with mining substances being considered as an element of national wealth. Also, it is a hybrid legislation, certain aspects of which are as much in the domain of public law as private law. Mining law concerns the substances of mines which belong to the nation, whilst so-called “quarries-extracted” substances (materials and granulates and certain minerals) belong to the owner of the land, according to article 552 of the civil code.

The mining code defines mine materials whose public usefulness justifies the possibility of access to the land resource required for extraction. The notion of mine is based on the nature of the materials, whether extraction is opencast or underground. The following are concerned: fuels (coal, oil, and gas), certain metals (nickel, gold, iron, copper, etc.) and other materials which may have industrial applications (uranium, carbon dioxide, salt, sulphur, etc.). Substances not mentioned here are considered by default as quarry substances.

Mining law No. 98-297 of April 21st 1998 also takes the specificity of mines in French overseas

territories into consideration. Thus, for almost ten years now, gold mines in Guyana have benefited from a specific authorisation regime allowing rapid processing of authorisation requests.

Further, Law No. 2009-594 of May 27th 2009 on the economic development of overseas territories includes the development of a county-level mining plan. This plan defines the constraints that apply to mining operations right through to a ban on operation in the most environmentally sensitive zones, such as at the heart of Guyana's Amazonian park.

Finally, Law No. 2009-526 of May 12th 2009 simplifying and clarifying the law and lightening procedures authorised the government to reform the mining code to bring it into line with current legal standards, grouping together legislative and regulatory provisions which apply to mining activities. Previous texts are expressly abrogated, but their content is re-used so that the positive law aspect remains.

Fiscal policy and regulations

Fiscal policy covering extraction industries is linked to the creation of county-level and commune-level duties as well as a tax on polluting activities (TGAP). These amounts were increased from 10 centimes per ton in 2008 to 20 centimes per ton in 2009, for a total tax base which is stable at around 400Mt of materials produced per year.

Applicable rules, provisions and controls

Research and prospection activities, as well as the operation and restoration of mines are covered by a specific technical policy derived from the Mining and Environment Codes for classified installations as protective of the environment. To these provisions we should add the Employment Code which is supplemented or adapted by the general Regulation of extraction industries, including provisions in respect of the health and safety of workers which are specific to the mine and quarry businesses (limiting exposure to dust, rules relating to the creation and maintenance of tracks and traffic rules, etc.).

Directives on artisanal mining concerns and small and medium sized mining companies

Systems of aid to industry are included in the general plan with aid for development or technological innovation projects in the form of a reimbursable advance or grant in certain cases accessible to SMEs from the sector. At regional level, sectoral support is available, depending on the issues at hand and difficulties encountered. For the period 2010-2011 in Guyana, an accompaniment to the gold mining industry is planned (improvement of specific processes, training, normalisation) targeting small and medium sized companies.

Public and stakeholder consultation

As a complement to articles 43 and 45 of the Grenelle 1 Law on consultation and access to environmental information for the general public, public consultation is included in the different stages of mine operation authorisation procedures (public enquiry, consultation of municipalities and the State services concerned: environment, economy, agriculture, archaeology, heritage protection, etc.) It should be noted that quarries plan includes all sustainable development restrictions. It is subject to an environmental assessment made by the prefect of the region and allows balanced management of the resource which is compatible with the different natural environments concerned. The quarries plan will, where applicable, also include the exploitation of marine resources.

In the case of mining extraction overseas, article 49 of the Grenelle 1 Law sets up specific provisions which seek in particular to "develop and adopt, as of 2009, in Guyana, in consultation with the local authorities, a mining plan which guarantees a sustainable development of extraction industries, respects the environment and is economically structuring; developing and adopting subsequently a marine mining plan for Guyana".

Cooperation policy

Given the geographical diversity of supply sources, the market for metal mineral raw materials is, by definition, a global market. Thus, the development of cooperation actions is crucial to ensuring better availability of global resources. And this is even more important since France has no storage mechanisms at its disposal.

The existence and development of privileged links with producing States in the area of raw materials can have several beneficial consequences: ensuring sufficient and regular production, making supply to French industry more secure, stabilising markets and contributing sustainably to the development of producing countries.

Bilateral international cooperation includes both technical assistance (knowledge of the resource, institutional aid) and vocational training actions for mining managers in companies and administrations of producing countries. This vocational training is provided by the Écoles des Mines and the École de Géologie de Nancy as part of a common body called the Centre d'Études Supérieures des Matières Premières (CESMAT). The CESMAT is at the head of a network of over 2,000 former trainees from around thirty countries.

Reference practices in the extraction industries

- Environmental Impact Studies and controls at all stages of mining operations: see article 49 of the Grenelle 1 Law referred to previously.
- Study of dangers including a risk assessment which outlines mines and extraction activities: For categories justifying it (underground storage of inflammable gas in particular), the production of evidence-based danger studies is required with applications for opening up mining works.
- Aid to populations affected and renovation of ecosystems crucial to life, in particular by decommissioning of mining sites. This is linked to conditions of securing and rehabilitating them at the end of operations to make the finished site compatible with its future use.
- Technological, institutional and social initiatives aimed at protecting miners' health: provisions of the Employment Code supplemented by RGIE (general rules for extraction industries) in addition to those of the Employment Code. A ban on the use of mercury in Guyana, as of January 1st 2006, in all processes.

Chemical products

Certain chemical products have harmful effects on human health and the environment. These effects on human health can also concern workers involved in their production or use, as well as the final consumer. In more general terms, the whole population can be exposed via the emission of such substances into the environment.

So as to better understand and control risks linked to the use of these chemical products, several regulations, primarily of Community origin, offer a framework to their uses in France. Some are European rules adopted at EU level and directly applicable, others are directives, transposed into French law in order to be applicable, and others still are purely national. These measures are supplemented by other, non-regulatory actions.

Implementation of European regulatory tools

A general framework: REACH

The REACH regulation, which came into force on June 1st 2007 in Europe, will, over the next decade assemble a large body of information on the properties of chemical substances produced or imported in quantities in excess of 1 ton per year. This complex regulation, with major constraints on industrialists, is a fundamental tool for the public powers and civil society to improve the long term wellbeing of the population in terms of health and the environment.

The implementation of REACH entails three real challenges:

1. Making up for the lack of knowledge on the environmental and health risks of chemical substances. The new REACH regulation will amass information on the risks of almost 100,000 substances over a period of a decade in Europe. The effects of REACH in terms of improved knowledge and health, wellbeing and the global environment will therefore be felt over that same period, even though certain REACH procedures will allow shorter term restrictive measures to be taken for the most harmful substances.
2. Entrusting the responsibility of assessment and management of the risks of substances to producing and importing companies and no longer to the administrative authorities. This is a "reversal of the burden of proof". The administration will commit its time to assessing priority substances which may present the highest risks and to defining risk management measures.
3. Promoting an innovation and substitution policy concerning the most dangerous substances.

As part of the implementation of this regulation, the French Health and Safety Agency for the Environment and the Workplace (Afsset⁶³) has been given the responsibility by the French authorities to lead different tasks within the field of their expertise: recommendations for priority substances for assessment, authorisation and restriction; preparation of dossiers entrusted to France, etc. Further to the adoption of REACH, Afsset's resources were substantially increased to allow the French authorities to play their role to the full in the implementation of this regulation.

Other European regulations

Apart from REACH, other regulations apply specifically to certain substances and categories of chemical products, such as:

- Persistent organic pollutants: these substances, called POPs, are characterised by their toxicity, their resistance to degradation and their capacity to accumulate in living organisms and be transported over long distances; their restriction and elimination are the subject of two international legal instruments: the Stockholm Convention⁶⁴ and the POPs Protocol of the Geneva Convention, whose obligations are implemented in the EU through a specific European regulation;

⁶³ www.afsset.fr

⁶⁴ www.pops.int

- Phytopharmaceutical products (pesticides used to protect vegetables) and biocides (which are used to destroy or repel pests): in these two areas, the use of active substances is only authorised if they have been the subject of a favourable risk assessment;
- Mercury: completing measures banning the use of mercury in thermometers and other products, the recent European regulation prohibiting the export and requiring the secure storage of mercury is contributing to reducing the supply of mercury available worldwide and indirectly protecting human health and the environment from its effects;
- Cosmetics, gas with an impact on the ozone layer, etc.

Another major regulatory measure concerns the classification, labelling and packaging of chemical products: European regulation 1272/2008 EC, referred to as 'CLP'. It came into force on January 20th 2009, and its provisions are entirely applicable as of December 1st 2010 for substances and June 1st 2015 for mixtures. This European regulation is based on provisions of the "General Harmonised System" (GHS) promoted by the United Nations Economic and Social Council (ECOSOC) in July 2003.

Finally, in the area of technological risks linked to chemical products (pollution, accidents), specific regulations are in place (Directive 96/61/EC of 24/09/1996, referred to as the IPPC, which is currently being amended, Directive 96/82/EC of 09/12/96, referred to as Seveso, replacing the 1982 Directive, etc.). Regular exercises have taken place within the framework of accident prevention, and monitoring and callout units are in place to deal with crisis situations.

National initiatives

The National Health and Environment Plan

Replacing the original plan (2004-2008), the second National Health and Environment Plan (PNSE 2) was drawn up in 2009. One of its major actions in respect of chemical products is to reduce rejects of worrisome substances, and in particular benzene, mercury, arsenic, polycyclic aromatic hydrocarbons (PAH), polychlorinated biphenyls (PCB), dioxins, chlorinated solvents and medical residue, and also to reduce exposure to all these substances. This action will be carried out through the modification of several specific regulations, in particular certain rulings relating to classified environmental protection facilities (ICPE).

Reduction in chemical products in agricultural

Apart from the Community regulation in this area, the French State recently ramped up its commitment in a plan called 'Ecophyto 2018', seeking to reduce the use of phytopharmaceutical products. The State's aim is to generalise sustainable and productive agricultural practices. One of its two objectives is to remove phytopharmaceutical products containing the forty most worrisome substances in terms of their substitutability and danger to man by the end of 2010, taking authorised active substances at European level into account; thirty of these substances had already been withdrawn by the end of 2008. The second objective is to reduce the number of phytopharmaceutical products containing worrisome substances, for which there are no substitution products or practices which are technically and economically viable, by 50% by 2012. Generally, the objective is to reduce by half the use of phytopharmaceutical products and biocides within the next decade, i.e. by 2018, by accelerating the dissemination of alternative methods on condition that they can be developed and by facilitating the authorisation procedures for market launch for natural and non-worrisome preparations. A reinforced framework mechanism for phytopharmaceutical product applicators is also being put in place. The *National Research and Safety Institute* on the prevention of work-related accidents and work-related diseases (INRS) has published a prevention brochure to improve product application.

Better understanding the impacts of chemical products on health and the environment

The Environment Grenelle identified the importance of the threat of chemical products and sought to improve its knowledge and research in this area by launching a national application-based toxicology and eco-toxicology cluster. Inaugurated in Picardie in 2009, this cluster's remit is to assess the risks linked to chemical substances, but also to electromagnetic waves and nanotechnologies. As part of the REACH regulation, it also destined to become the national

reference centre on chemical substance assessment methodology replacing tests on animals.

The French authorities have increased the financial resources of Ineris. The latter develops environmental monitoring work studies in the field of chemical products.

The National Research Agency (ANR) has also increased its budget dedicated to calls for projects in the field of chemical product risk management. Afsset also has a call for research projects in progress, to finance studies concerning health risks linked to chemical products in particular.

Awareness raising in the professional environment

Several agencies and institutes have been asked to accompany enterprises or personnel using chemical products to use them better and provide them with information on regulations. As a result, Afsset created a website⁶⁵ in 2008 targeting all professionals and actors involved in prevention wishing to commit to a substitution approach for carcinogenic, mutagenic or reprotoxic products (CMR) in their establishments. Afsset has also put together a good practice guide on nano-materials and safety at work⁶⁶. Also, the INRS regularly publishes brochures on the prevention of risks linked to chemical products in the professional setting.

Awareness raising amongst the population

So as to encourage the population to reduce the use of dangerous chemical products in the products they buy, the Grenelle 1 Law specifies *"submitting construction and furnishing products as well as wall and floor coverings, paints and varnishes, and all products intending or resulting in the emission of substances into the atmosphere to compulsory labelling as of January 1st 2012, and in particular concerning emissions and volatile pollutant contents, and in these products to ban categories 1 and 2 carcinogenic, mutagenic or reprotoxic classified substances (CMR1 and CMR2) according to the European regulation⁶⁷.*

Also, information campaigns, organised by the INPES, are planned for the public, and in particular to inform them of the new classification and labelling system for hazardous products (CLP).

Reinforcing the framework for the application of these products (pesticides and herbicides in particular) also aims at heightened professionalisation in this field.

Promoting innovation

Certain State agencies, such as Oseo⁶⁸, are designed to encourage innovation and development of new processes by small and medium sized companies. Oseo is involved in supporting national and regional policies. This agency finances and accompanies SMEs in the most decisive phases of their existence: support to innovation, financing investment and operating cycles in partnership with banks and to guarantee bank loans and equity raising. Oseo proposes solutions which are adapted to the needs of these dynamic companies when the market can only partially satisfy their needs.

International cooperation

France is also committed at international level to the reduction of risks linked to the use of chemical products. In particular, the Grenelle 1 Law specifies that the State *"will participate in the development of and support new international agreements relating to the registration, assessment and authorisation of chemical substances, as well as restrictions which apply to these substances, in line with regulation (EC) No. 1907/2006 of the European Parliament and the Council, of December 18th 2006, concerning the registration, assessment and authorisation of chemical substances, as well as the restrictions which apply to them (REACH)"⁶⁹.*

⁶⁵ www.substitution-cmr.fr

⁶⁶ <http://www.afsset.fr/upload/bibliotheque/258113599692706655310496991596/afsset-nanomateriaux-2-avis-rapport-annexes-vdef.pdf>

⁶⁷ G1 Article 40

⁶⁸ www.oseo.fr

⁶⁹ G1 article 38

General conclusion

With the Environment Grenelle, the French State has engaged with all actors to develop and integrate its sustainable development policy.

This mobilisation is particularly visible in the area of sustainable consumption and production. The Environment Grenelle has mobilised actors, stimulated policies and commitments whilst offering a coherent framework to actions undertaken.

In terms of waste, France is following both European legislation and the demands of the Environment Grenelle. This dual pressure is leading to the implementation of innovative policies and high performance regulatory, financial and organisational instruments.

In the field of transport, France's priority is to reduce greenhouse gas emissions through, in particular, support to inter-modality and low emission transport. Working in support of projects and professionals, a major research network is seeking to meet the challenges of tomorrow, whilst information campaigns targeting the general public flourish.

After the progressive closure of metropolitan mines through the twentieth century, French overseas territories are the focal point for mining extraction: nickel in New Caledonia, gold in Guyana. The specificities of these territories and the environmental challenges they face have been taken into account, particularly in the Grenelle 1 Law, in regulations which are adapted to the new challenges of sustainable development and offer accompaniment structures.

In the field of chemical products, France has referred to the European regulatory framework and REACH in particular. In parallel, the Environment Grenelle and a determined policy have led to national progress in the health and environment fields, the reinforcement of research and support structures and reduced use of phytopharmaceutical products in agriculture.

The national and European objective of taking sustainable development objectives into consideration in all public policies allows France a certain head start, as the Grenelle 1 Law illustrates, as do the results presented. The "National Commitment to the Environment" law (Grenelle 2) is a new stage in the legislative implementation of the Environment Grenelle (vote planned for the beginning of 2010). The Grenelle 2 bill, which comprises a hundred or so articles, is the technical and territorial breakdown of the Grenelle 1 Law.

In the area of housing and urban planning, the Grenelle 2 bill reinforces the demand for energy performance diagnosis and brings an important modification to the planning code to adapt it to the challenges of sustainable urban development.

In the area of transport, it adapts current legislation to prioritise sustainable forms of transport and reduce the nuisances they cause.

In the energy field, it reinforces the planning of renewable energies in respect of the air quality challenges and the objective of taking climate change into account. It extends the energy saving certificates mechanism and frames the development of experimental CO₂ storage mechanisms.

In the area of biodiversity, for the first time, the notion of ecological continuity of territories for the creation of the "green plan" and the "blue plan" (or ecological continuities) is at the forefront. It creates an environmental quality certification system for agricultural operations and fishery products. It reinforces the protection of wetlands and water quality. Finally, through the national sea strategy, it recognises the importance of marine biodiversity that comes under France's responsibility.

In the area of environmental health and waste management, it reinforces inhabitants' protection mechanisms faced with diverse noise nuisances and radio-electrical and light pollutions. It improves the legal framework applying to waste recovery and elimination channels.

Concerning governance and information, it introduces the requirement for a greenhouse gas emission audit (GES) for major public and private entities. It completes the mechanisms pertaining to companies' environmental responsibility. In the longer term, it will provide consumer information on the greenhouse gas emission audit for products launched on the market. It confirms the choice of the Environment Grenelle partners to promote broader consultation before any public decision is made, as soon as a substantial impact on the environment is on the horizon. It simplifies and unifies impact study and survey procedures.

The Environment Grenelle has given considerable impetus to sustainable development in France. The Grenelle 1 and 2 Laws, which have come out of it, represent major cross-over advances. Assessments of measures recently implemented, as well as short term sustainable development indicators, already show results of the policies and actions undertaken.