Country profile

More from less — material resource efficiency in Europe

2015 overview of policies, instruments and targets in 32 countries

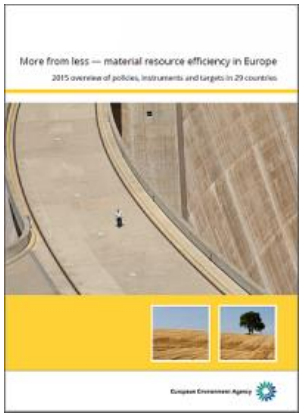
France

May 2016

European Environment Agency

This country profile is based on information provided by several contributors, and was compiled by Doris Nicklaus (EIONET/NRC Resource-efficient economy and the environment) and Thomas Kochert (EIONET/NFP), both from the General Commission on Sustainable Development, French Ministry of Environment, Energy and the Sea. This document should not be seen as an official list of government priorities and is not necessarily an exhaustive list of all national material resource efficiency policies, objectives, targets or activities in place. The information is current as of December 2015.

This country profile was prepared as part of the 2015 EEA review of material resource efficiency policies, that aimed to collect, analyse and disseminate information about the development and implementation of material resource efficiency policies in EEA member and cooperating countries. The work resulted in the following outcomes.



32 short country profiles (this document) – self assessments prepared by countries, describing the current status of material resource efficiency policies including key strategies and action plans, policy objectives, instruments, targets and indicators, and the institutional setup. Countries were also invited to share reflections on the future direction of resource efficiency policies.

EEA report *More From Less – material resource efficiency in Europe* – prepared by the EEA and ETC/WMGE, the report analyses trends, similarities and differences in policy responses, showcases selected policy initiatives from the countries, and offers some considerations for the development of future policies.

The EEA report *More from less – material resource efficiency in Europe* and the 32 country profiles are available at: http://www.eea.europa.eu/resource-efficiency

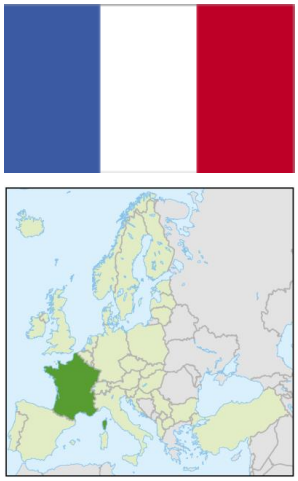
For information about trends and policies on municipal waste management in the participating countries, please visit: http://www.eea.europa.eu/publications/managing-municipal-solid-waste

Information about EU Member States' waste prevention programmes can be found at: http://www.eea.europa.eu/publications/waste-prevention-in-europe-2015

For information on climate- and energy-related policies, including those on energy efficiency, in the participating countries, please visit: http://www.eea.europa.eu/themes/climate/ghg-country-profiles

France, facts and figures

Source: Eurostat



GDP: EUR 2,132 billion (15.3 % of EU-28 total in 2014)

Per person GDP: EUR 29,300 (purchasing power parity)
(107 % of EU-28 average per person in 2014)

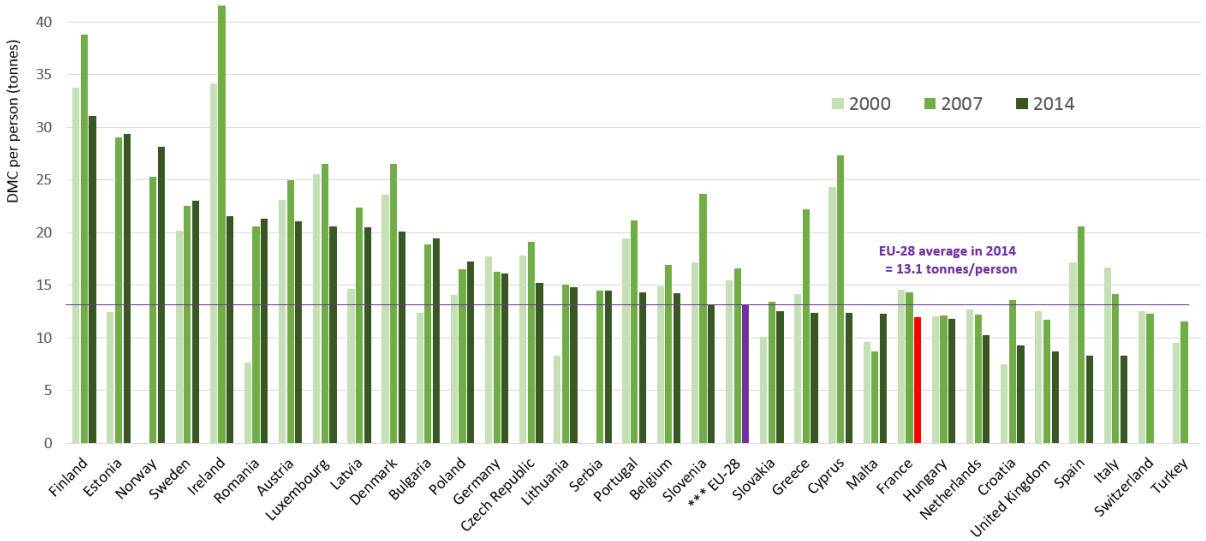
Use of materials:
793 million tonnes DMC (11.9 % of EU-28 total in 2014)
12.0 tonnes DMC/person (91 % of EU-28 average in 2014)
Resource productivity 2.60 EUR/kg (131 % of EU-28 average in 2014)

Structure of the economy:
agriculture: 1.7 %
industry: 19.4 %
services: 78.9 % (2014 est.)

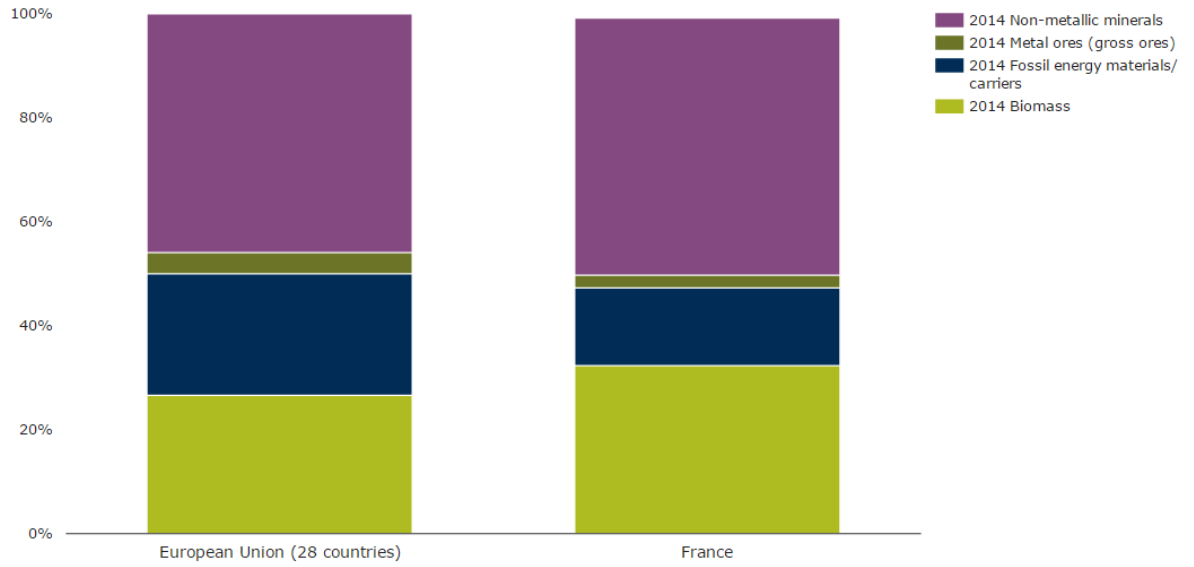
Surface area: 632,800 square kilometres (14.2 % of EU-28 total)

Population: 66.3 million (13.0 % of EU-28 total)

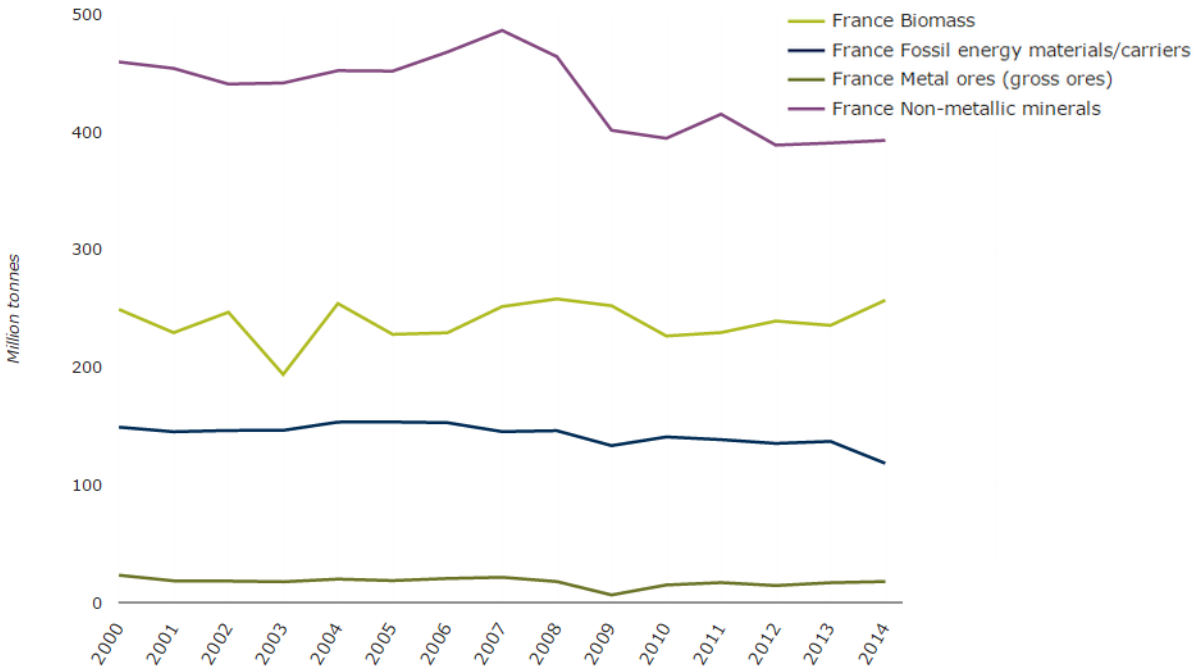
Use of materials (DMC) per person, participating countries and EU-28 (2000, 2007 and 2014)



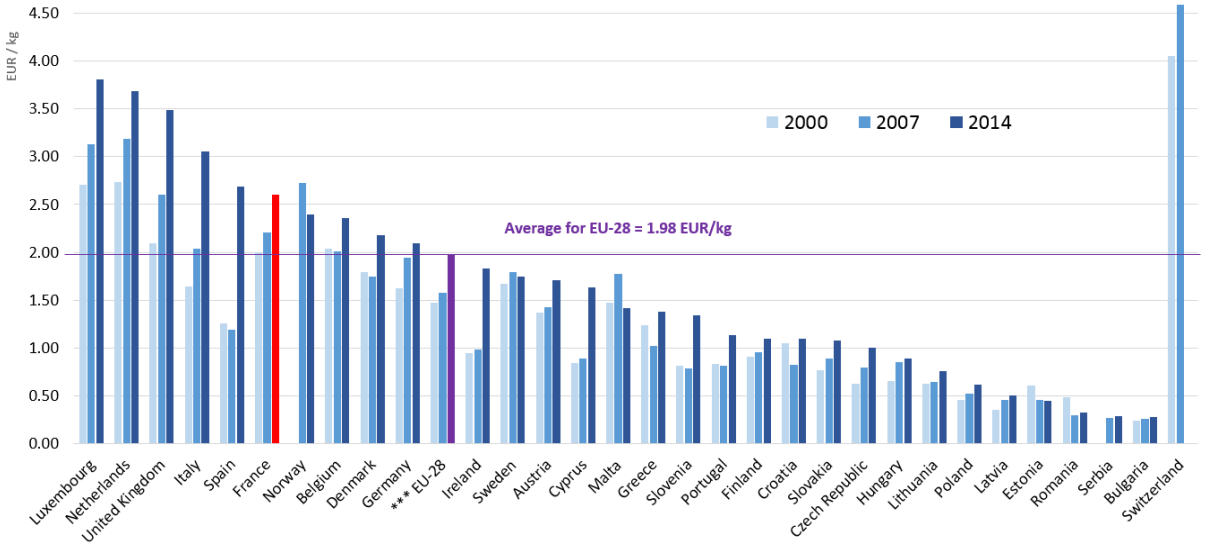
Domestic material consumption by category, EU-28 average and France (2014)



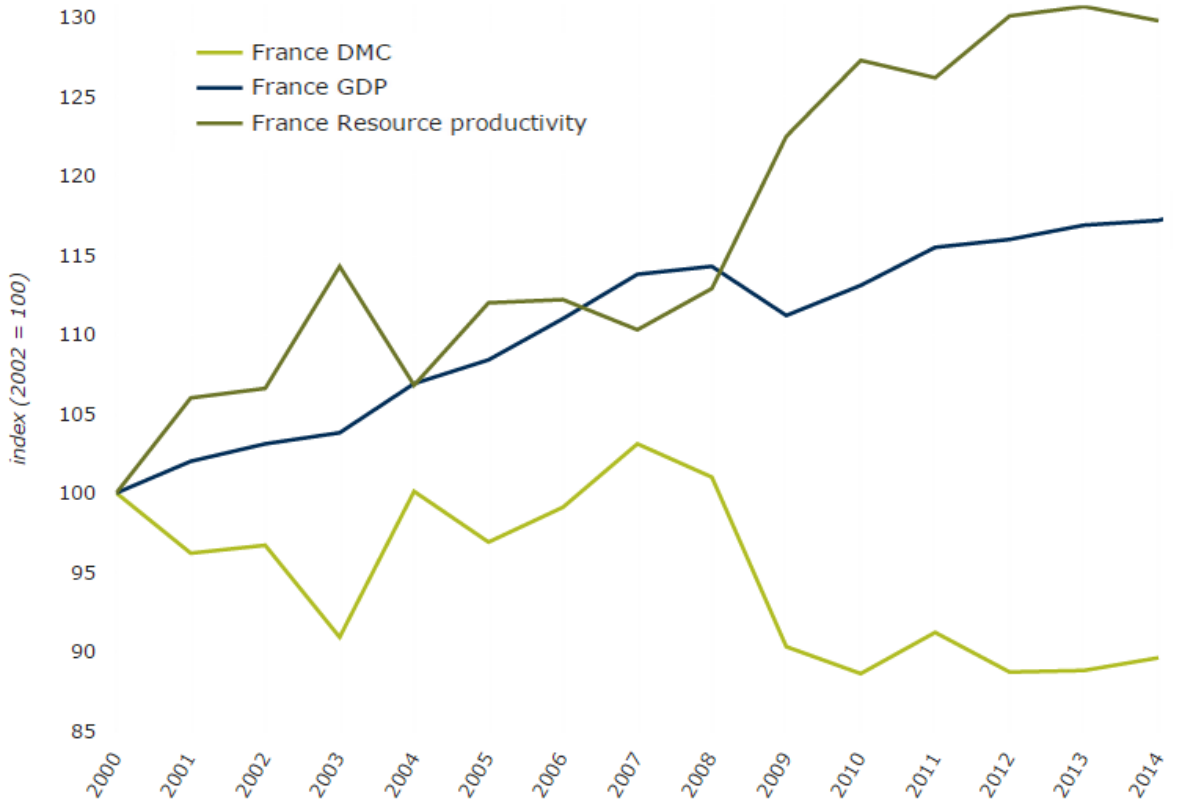
Trends in material consumption, France by category (2000–2014)



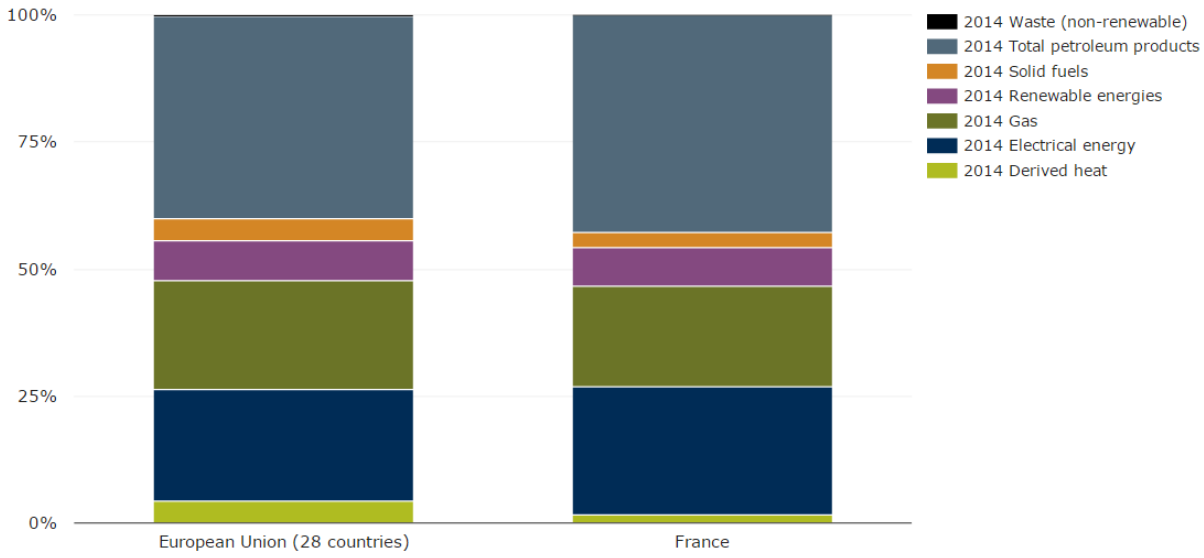
Resource productivity (GDP/DMC), participating countries and EU-28 (2000, 2007 and 2014)



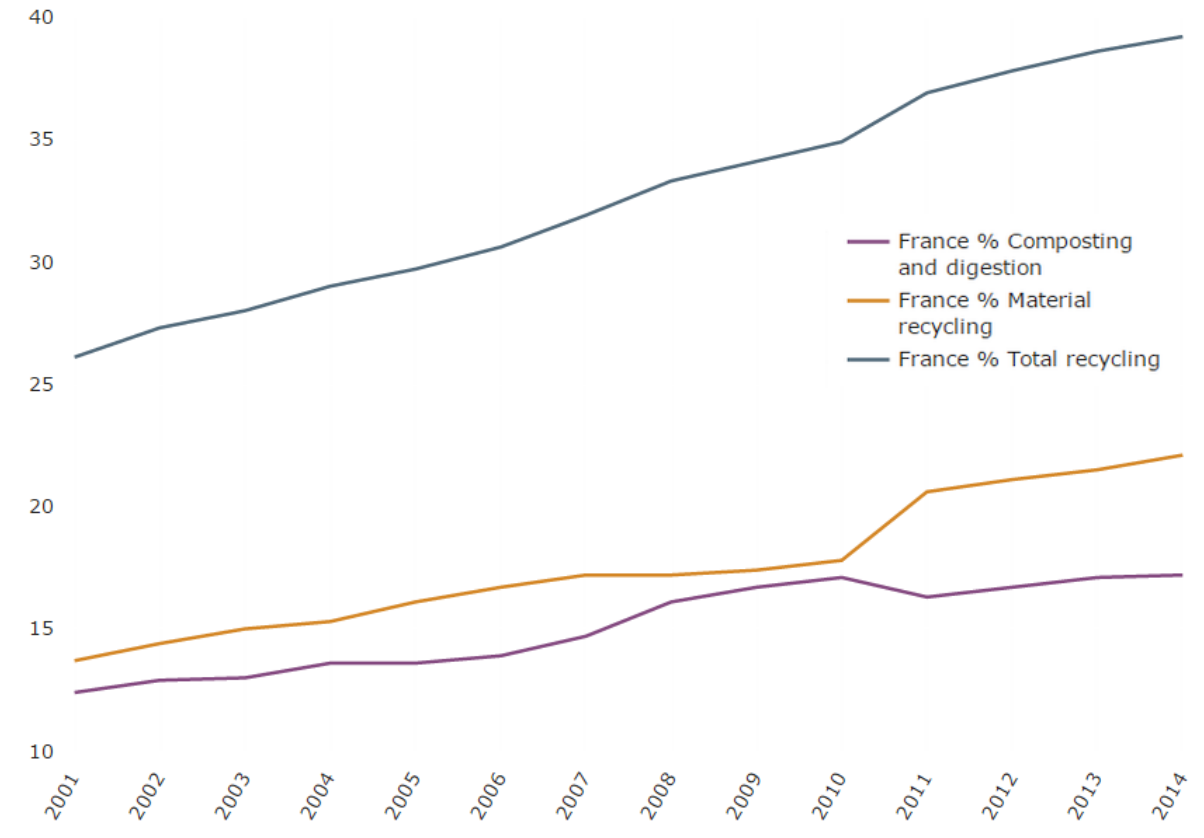
GDP, DMC and resource productivity trends, France (2000–2014)



Share of final energy consumption by fuel type, EU-28 and France (2014)



Recycling of municipal waste, France (2001–2014)



Introduction

To date, France does not have a dedicated resource efficiency plan or strategy but has undertaken several initiatives related to resource efficiency with the aim of integrating this topic in all relevant sector policies.

Moreover, the Energy Transition for Green Growth Act promulgated on 17 August 2015[1] states that a national circular economy strategy will be drawn up, including a programming plan on natural resources. The development of this plan is an opportunity to build a framework structuring these various initiatives.

Scope of material resource efficiency

The term *resource efficiency* and its scope are not yet explicitly defined. Raw materials and material resource efficiency have not been distinguished in policies from the broader scope of resource efficiency so far. However, some specific indicators exist and are discussed in the section on indicators below.

Driving forces of material resource efficiency

The main identified factors are:

- the commitment to reduce pressures on the environment, especially greenhouse gas emissions;
- the need to secure supply of critical materials and to reduce dependence on imports, as illustrated by the setting up of exportation quotas on rare earth elements by China in 2009 or in the recent gas crisis resulting from tensions between Ukraine and Russia;
- a society-wide demand for more jobs and value addition in the context of economic stagnation: it is expected, for example, that the reduced production/transport costs or better balance between demand and supply allowed by material efficiency will contribute to business competitiveness.

Priority material resources, sectors and consumption categories

Priority materials

No specific prioritisation of material resources has yet been made. Nevertheless, among the different initiatives related to material and resource efficiency, it is possible to identify some categories of material resources which can be considered a priority**:** fossil fuels; plastic waste; biomass including timber; food waste; construction minerals and waste; nutrients in organic waste; and strategic metals.

Table 1 Priority materials for efficiency policies in France

Category	Rationale for considering priority				
	Reducing environmental pressures		Ensuring supply security	Improving business competitiveness	Growth and job creation potential
	Climate change	Other			
Fossil fuels	X		X		
Plastic waste	X	X			
Biomass including timber	X			X	X
Food waste	X	X		X	
Construction minerals and waste		X			X
Nutrients in organic waste		X		X	
Strategic metals			X		

Plastic Waste

A particular focus has to be made on plastic waste – especially from household packaging. A large-scale experiment conducted in recent years on extending households' obligation to sort packaging to include all plastic packaging has shown that the recycling potential of this waste stream is real[2]. Expanding this obligation to the whole territory will be phased in under the extended producer responsibility (EPR) scheme for producers of household packaging, until the term of the next sectorial agreement in 2022.

Food waste

With the prospect of source separation of biowaste as standard by 2025, there is a need to create a dynamic for stimulating a proper management linked to the specific nature of this waste stream:

- when it is stored, biowaste generates a high environmental impact (especially greenhouse gases);
- biologically treated waste can be returned to the soil, and it is important that this provides real value and does not result in soil contamination;
- the early separation of this waste stream would allow improved recycling of other wastes which would be less soiled;
- this waste is quantitatively significant and still under-recycled;
- it is a potential source of significant revenue.

Sorting of household organic waste from residual waste (taking the form of separate collection or local composting) will be extended to all households by 2025 and applied across the board for businesses.

With the aim of recycling biowaste and agricultural residues, the French government has launched an online three-year call for projects for 1 500 biogas plants.

Separately recovered biowaste will be treated appropriately depending on the nature of the flow and on the particular territorial circumstances: industrial-scale composting and methanisation solutions will be developed. The largest professional biowaste producers are already obliged to sort and recycle biowaste. A dossier of experience will be collated so that barriers to and drivers of recycling are identified.

Construction minerals and waste have specific impacts during their transport to landfill sites – including noise and dust emissions. Limiting transport by developing recycling sites in close proximity to the source sites is a way to reduce these impacts, as well as to improve the economic efficiency of the construction sector as transport is also costly. Furthermore, developing the recycling of such waste can help adapt supply to local demand.

The recent evolution of French Departmental Quarry Schemes reflects these issues (Box 1).

Box 1 The evolution of Departmental Quarry Schemes in France

Launched in 1992, Departmental Quarry Schemes determine the conditions under which quarries are built, taking into account economic, regional and national interests as well as the availability of different types of resources and raw material needs. Departmental Quarry Schemes cover industrial minerals (talc, quartz) and aggregates. The main purpose is to:

- define the areas and optimal scope of extraction operations;
- anticipate the development of operations in order to determine the future of the site once operations have been completed.

The spirit of the 1993 Act is to minimise the visual impacts of quarry extraction activities in an effort to preserve natural habitats and to avoid the relocation of residents. Departments are required to produce plans for quarried minerals. These schemes must include: an inventory of known resources; the impact of existing quarries on the environment; an evaluation of future local needs; an examination of transport networks and the identification of areas that have to be protected, in view of their quality and fragility.. The strategic objectives of the schemes are to: guarantee security of supply for departments; avoid imbalances in the supply of aggregates; ensure access to resources of national importance; and intensify efforts to preserve the environment in quarrying activities.

Since the beginning of 2014, future schemes have been extended to the regional level in order to better account raw material flows and to improve coordination with land-use planning activities. They must include the resourcing of marine aggregate and recycled materials from construction waste. This reformed initiative also includes the promotion of resource conservation and environmental and landscape management. The first and crucial step is to complete precise mapping of the nearly 4 000 quarries by including a better knowledge of their recycling (crushing) equipment and by adding recycling installations.

By extending the notion of resources to encompass non-hazardous inert waste, including waste from construction and public works, marine aggregates and alternative resources, this reform registered the quarry schemes as a part of the transition to a circular economy, as stipulated in the environmental code introduced by the Energy Transition for Green Growth Act. All the regional quarry schemes must be approved before 2020.

Nutrients contained in organic waste, especially **nitrogen and to a lesser extent phosphates**, with a particular focus on manure, are also considered as priority resources because of their high impact on the environment and notably on water quality. The sustainable management of nutrients constitutes

a part of the EMAA (Energy anaerobic digestion for nitrogen autonomy) programme[3]. The various aims are:

- to reduce nitrogen losses at several levels (plots, farms, territories);
- to optimise the nitrogen cycle at local level by adapting agricultural practices, by working on farm self-sufficiency (livestock feeding, input reduction) in relation to the plan for plant protein crops, by adapting cropping systems (crop diversification, introduction of leguminous plants and intermediate crops), and by removing obstacles to the use of organic nitrogen as a substitute for mineral fertilisers;
- to process and transport organic nitrogen to allow its use as a substitute for mineral nitrogen further from the manure production site (processing of livestock manure or normalisation/homologation of products that stem from processed manure);
- to reduce the use of mineral nitrogen through incentives and measures to optimise fertiliser use.

Among critical raw materials identified at the European level, France has so far selected 16 potentially strategic metals for study: gallium, germanium, niobium, beryllium, molybdenum, rhenium, selenium, tellurium, antimony, graphite, lithium, tantalum, tungsten, cobalt and PGMs (platinum, palladium, rhodium, iridium, and ruthenium). One of the criteria for inclusion was the fact that these metals are used in green technologies needed to support the low-carbon ecological transition. Related briefings include an outline of the state-of-play and prospects for recycling[4].

Priority industries and economic sectors

Resource efficiency and the circular economy are mainly addressed by industrial policies. This topic has been integrated into the work of the National Council of Industry (see *Institutional set-up for material resource efficiency policies*).

The **automotive industries, shipping, wood industry, chemistry, waste, construction and demolition sector** and **different energy sectors** are particularly identified as having strong resource efficiency potential and to the development of the French strategic industrial sectors. Some of them are directly involved in resource efficiency : energy efficiency, renewable energy and recovery of waste.

Priority consumption categories

The products covered by the principle of **extended producer responsibility** (EPR) can be considered as priority consumption categories for material and resource efficiency. They currently encompass furniture (Box 2), electrical and electronic equipment and packaging, as well as **mobility** (cars, campers, mobile-homes, batteries and accumulators). EPR schemes involve products for which the development of waste prevention and recycling are considered a means of reducing environmental impact owing to the large amounts of waste generated and the considerable end-of-life impact of such products.

Policy framework

National strategies or action plans for material resource efficiency

So far, France does not have a dedicated resource efficiency plan or strategy, but has undertaken several initiatives related, to some extent, to resource efficiency with the aim of integrating this topic in all relevant policies.

Material resource efficiency is addressed in many national public policies, including climate change, waste, agriculture and forestry, building and transport, mining, sustainable consumption and production. The French approach to material efficiency not only includes a quantitative element – reducing the amount of material used in the economy, but also a qualitative one – reducing the environmental impact of materials use at every stage of the life cycle.

The national waste prevention programme 2014–2020[5], adopted in August 2014, is one of the operational components contributing to resource efficiency. The programme calls for establishing a partnership approach, aiming to mobilise all stakeholders. It includes a diversified range of instruments, so that the most adapted and efficient tools are used in each situation: regulatory tools, voluntary undertakings, awareness-raising and information-sharing, public procurement, and subsidies and incentives. The measures that are to be implemented in this programme cover all the fields of waste prevention, including promoting eco-design and extended product lifespan, developing product reuse and repair, and setting up deposit systems.

The recently adopted Energy Transition for Green Growth Act, sets, among other things, a material productivity target (+ 30 % between 2010 and 2030). It also stipulates the development of a national circular economy strategy including a programming plan on natural resources; this strategy will be an opportunity to better take into account the resource efficiency potential of a shift to a circular economy. The Energy Transition for Green Growth Act also foresees measures related to waste prevention, its recycling and recovery, and a dedicated national strategy on biomass resources.

France has an extensive system of extended producer responsibility schemes. One example, referred to in the previous section, focuses on furniture waste (Box 2).

Box 2 **The extended producer responsibility scheme for furniture waste**[6]

The furniture scheme is one of the more recent (2012) French EPR schemes. Covering both household and professional furniture waste, it is expected to generate over EUR 300 million a year to help develop furniture reuse and recycling, and help create jobs and structure industrial activities around furniture waste management – leading to the creation of many new companies, including in relation to mattress and wood recycling, which were not profitable enough to generate sustainable activities prior to the establishment of the scheme. The scheme also strongly promotes furniture reuse, closely involving social economy structures in its organisation model and having a goal of doubling reuse activities at the end of the first approval period (2017).

The main objectives are:

- reuse and recycling of 45 % of household furniture by end of 2015;
- reuse and recycling of 75 % of professional furniture by end of 2015;
- recovery (including reuse, recycling and other forms of recovery) of 80 % of furniture by end of 2015.

The circular economy and closing material loops

The Energy Transition for Green Growth Act promulgated on 17 August 2015[7] states that a national circular economy strategy will be drawn up, including a programming plan on natural resources.

Closing the material loop has high political priority and **secondary raw materials** are thus perceived as resources of great interest, as they form an output for local industries with strong growth potential. This is especially the case for some strategic metals contained in batteries and accumulators or in waste electrical and electronic equipment (WEEE), as well for some other material resources such as plastic waste, packaging and furniture. The development of several EPR schemes contributes to the expression of this approach.

However, from a more general perspective, **recycling is only considered to be one of the steps of the circular economy**. Developing reuse, reutilisation, repair and, more generally, extending product lifespan, are also important dimensions of the circular economy and are recognised as priorities in the waste prevention policies.

Box 3 Construction waste, an example of the challenge to closing material loops

Currently, inert materials recovered from construction waste are mostly used in road construction. In order to reassure stakeholders regarding the long-term behaviour of these recycled materials, a capitalisation of acquired experience based on existing recycled pavements is needed.

As a complement, research and development (R&D) effort is required so that buildings are designed to be deconstructed rather than demolished, and so that the building components and waste can be sorted and reused in the construction sector.

As in other industries, the first step allowing material recycling of construction waste is sorting. It is therefore necessary to involve construction and public works businesses in the sorting and recycling of their waste.

In addition, considering that transport costs are critical for the construction waste recovery industry, it is essential that material recovery is anticipated and planned appropriately. Such planning requires increased network of sorting, recycling and consolidation facilities density. Therefore, the development of waste prevention plans shall contribute to such intensification in coordination with urban planning works. An option is to set aside zones dedicated to material sorting, transformation and recycling activities in urban planning documents.

In addition, vendors of construction materials, products and equipment to professionals are identified as potentially key actors, and might be requested to take back waste from the types of materials and products they sell in the near future.

General policy objectives for material resource efficiency

The **Energy Transition for Green Growth Act** introduced a material productivity target and a resource hierarchy into the Environment Code. Priority should be given to the efficient and responsible use of natural resources, then to resources which stem from recycled materials or from renewable resources, then to recyclable materials, and lastly to other materials, in light of their environmental footprint over their life cycle.

Five general objectives have been set for policies related to the efficient use of resources, particularly materials:

- reducing external dependency;
- raising business competitiveness;
- creating jobs and value-addition;
- preserving industrial know-how;
- reducing environmental impact.

A circular economy, with its important component waste policies, is considered essential to the successful transition to a more resource-efficient economy. Therefore, beside energy efficiency and substitution targets, four key goals have been identified in the Energy Transition for Green Growth Act to further the waste management hierarchy. Three of these goals are related to resource efficiency.

- **Avoiding waste production by encouraging prevention and reuse.** The European and French waste management hierarchy places prevention at the top of waste management policies, considering that '*the most desirable waste is the one that is not produced*'. In this respect, the objective is that prevention measures offset the effects of population and economic growth.

- Improving **material recovery** from waste which cannot be avoided, by directing more non-hazardous, non-inert (especially organic) waste towards recovery channels. Furthermore, businesses involved in the production of materials as well as in construction, deconstruction and renovation of buildings and civil engineering will have to improve sorting and recovery of their waste.

- **Improving energy recovery from waste when material recovery is not possible** (this is the objective not directly related to resource efficiency).

- **Reducing waste disposal,** namely incineration without energy recovery or landfill of final waste, as far as feasible.

Institutional set-up and stakeholder involvement

Institutional set-up for material resource efficiency policies

To ensure that the efficient use of materials becomes reality, it has to be implemented in all relevant sectors, including transport, housing, energy, land planning, agriculture, waste, and industry. Therefore, close cooperation is needed between several directorates of the ministry in charge of Environment as well as between ministries.

All stakeholders also have to be involved in the process, so that all stages of a material's life cycle are properly targeted, from its extraction to its end of life.

The **National Council for Ecological Transition** (http://www.developpement-durable.gouv.fr/Le-conseil-national-de-la,42513.html) is consulted on proposed legislation addressing environment or energy issues, as well as on national strategies related to sustainable development, biodiversity and corporate social responsibility, which includes topics related to material resource efficiency. It is chaired by the minister in charge of Environment, and its members are representative of all society stakeholders – local authorities, representative bodies of management, environmental protection associations, representatives of civil society, and parliamentarians. The Council is kept informed about changes in the national sustainable development performance indicators that measure progress towards ecological transition. It is also in charge of supporting the preparation of international negotiations on the environment and sustainable development. In addition, its mandate includes the preparation and follow-up of national environment conferences – annual meetings of society-wide stakeholders to define and debate measures to be implemented during the following year. A few topics are selected each year; in 2013, one of those was the circular economy. Lastly, the Council is in charge of monitoring implementation of the roadmaps adopted at these conferences. Its operational work is commonly conducted by working groups that involve the French government, local elected officials, environmental protection associations, employers and labour unions, as well as parliamentarians, under so-called '*6-party governance*'.

The **French Committee on Strategic Metals** (COMES) (http://www.mineralinfo.fr/page/comite-metaux-strategiques) is a forum addressing issues on strategic metals such as supply security, recycling and integrated management. The COMES was established in 2011 in recognition that French businesses might experience severe difficulties procuring some raw metals; it brings together relevant businesses and public authorities, and cooperates with other bodies at the national and European level.

The **National Waste Council** (http://www.developpement-durable.gouv.fr/Nouvel-article,12760.html) with its working groups brings all stakeholders together – including businesses, consumer associations, environmental organisations, public authorities, communities, parliamentarians, experts and employees.

The **National Council of Industry** (http://www.entreprises.gouv.fr/conseil-national-industrie/cni) has integrated the topic of resource efficiency into its work. It is a kind of parliament of industry, including industrial and labour organisations and chaired by the Prime Minister. The work of the Council is carried out by strategic committees of industry, which propose actions, at national and at international level, to support the competitiveness and development of industries, jobs and related

skills. The work is organised by a strategic roadmap. Some strategic committees concern sectors directly involved in resource efficiency: energy efficiency, renewable energies, water, recovery of waste. The others mainstream resource efficiency in their roadmap. For example, in the strategic committee on extractive and primary processing industries of raw materials, one main point is to further develop a more efficient industry by enhancing and promoting green approaches and processes.

Suggestions for international support mechanisms to exchange experience

France considers that the current set-up of three to four webinars annually is fully satisfactory. We thus encourage the EEA to move forwards in this direction and to continue framing the subjects so that they are specific enough, as general information on material resources is already widely available.

Improving resource efficiency in an economy requires not only interest in reducing domestic pressures but also the environmental impact of imports. This is quite difficult and requires specific tools and indicators (for example 'footprints'). The EEA could address this topic by identifying measures already in place and by facilitating the exchange of experience.

Policy instruments

Policy instruments commonly used for material resource efficiency

To improve material resource efficiency, it is necessary to handle all the drivers of public sector action – regulatory instruments, voluntary processes, awareness-raising and information-sharing, public procurement, subsidies and incentives – and to involve all stakeholders, such as businesses, consumers, communities, scientists and academics.

A variety of policy instruments are used in France to improve material resource efficiency. Some examples are presented below in boxes 4, 5 and 6.

Box 4 An example of an economic and financial instrument aimed at resource efficiency: the subsidies granted through the 'eco-efficient industry and agriculture' call for expressions of interest

Under the Investments for the Future programme, the French government financially supports demonstration projects – experiments, presentations, first industrial stages – that introduce innovative solutions and technological offers applied to industry, agriculture and forestry and that aim at reducing energy intensity, greenhouse gas emissions, and material and/or water intensity. The projects can be submitted by businesses such as equipment manufacturers and suppliers, engineering consultants, installers and operators, as well as industrial and agricultural users. The proponents are selected for their ability to spread the related technologies in France and abroad, at different scales (from single pieces of equipment to full production systems, locally or over several sites), and preferably in the following

sectors: agriculture, the agro-food industry, chemistry, paper and packaging, and industrial and construction materials.

Support to the selected projects generally takes the form of a partially or fully repayable advance including a subsidy. In the case of small amounts (under EUR 1 million), it consists of a subsidy with a reduced cost. The instrument is operated by the French Agency for Environment and Energy Management (ADEME).

The 'eco-efficient industry and agriculture' call for expressions of interest:
http://www.gouvernement.fr/sites/default/files/contenu/piece-jointe/2014/11/ami-industrie-agriculture-eco-efficientes.pdf
The Investments for the Future programme:
http://www.gouvernement.fr/investissements-d-avenir-cgi

Box 5 An example of an information-based instrument to improve material resource efficiency: the national initiative on consumer product environmental footprinting and labelling

The aim of this initiative, undertaken in 2008, is to enable consumers to make more sustainable consumption choices while pushing industry to better eco-design their products. Sector calculation methodologies and databases are under development, and pilot projects with industry and work on consumer communication are currently being implemented.

As part of this initiative, 168 companies have so far contributed to voluntary labelling, for example on the water, carbon, or land footprint of their products. Capitalising on this experience, France (private and public sectors) is also very active in the EU pilot on product environmental footprint and communication.

The initiative on the website of the French standards institute, AFNOR:
http://affichage-environnemental.afnor.org/
http://www.developpement-durable.gouv.fr/Product-Environmental-footprint.html

Box 6 Examples of voluntary multi-thematic agreements that include material resource efficiency

In France, several actors (trade and retail, design, building and maintenance of infrastructure, roads and urban public space, pharmaceutical industry, hospital federations and telecommunication operators, amongst others) have committed to using materials, and more generally resources, more efficiently, in the frame of more general environment-related voluntary agreements.

The types of action and the relevant resources covered by these agreements vary from one industry to another and include reduction and reuse, waste recycling and recovery, and abatement of greenhouse gas emissions and water abstractions.

Comprehensive list and information on voluntary agreements:
http://www.developpement-durable.gouv.fr/Convention-multithematiques.html

Several other instruments are used involving stakeholders: EPR schemes (economic and regulatory instruments); exchange of best practices (diverse events, conferences, workshops, summits); promotion of remarkable experience (such as through the Enterprises and Environment awards); development of methodological handbooks targeting communities and businesses; networks and

competitiveness clusters (of which 21 out of 71 are highly involved in resource savings or substitution concerns including recycling, bio-resources and alternative material technologies).

Examples of good practice

Promotion of the extension of product life-span through the 2014 Act on Consumption (Box 7).

Box 7 An example of a regulatory instrument aimed at material resource efficiency: the Act on Consumption (adopted in March 2014)

A longer product lifespan can substantially improve material efficiency. The 2014 Act on Consumption is enabling some progress in product durability. While having a broader scope (this law covers consumption in general, including services, and is primarily intended to enhance consumer protection), it comprises several articles related to the lifespan of consumer goods.

- To combat planned obsolescence, sanctions are considerably strengthened in the case of deliberate deception on quality. In addition, the law introduces a class-action procedure that allows consumers to bring a lawsuit collectively.
- The seller must inform the consumer how long product spare parts will remain available (if some are).
- The duration of legal product guarantees has been extended from six months to two years.

The Act on Consumption of March 2014:
http://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000028738036&categorieLien=id
The decree of the 9 December 2014 related to the availability of spare parts:
http://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000029881868&categorieLien=id

Targets and indicators

Targets for material resource efficiency

Energy and climate change policies

The Energy Transition for Green Growth Act has a broad scope and sets several targets related to resource efficiency. Most targets set by the law are general and can be considered aspirational:

- a 30 % increase in resource productivity – relating domestic material consumption (DMC) to gross domestic product (GDP) – between 2010 and 2030 as well as a decrease in DMC per person over the same period;

- a 50 % reduction in final energy consumption in 2050 compared to 2012, with an intermediary objective of 20 % by 2030 (compared to 2012);
- a 30 % reduction in fossil fuel consumption in 2030 compared to 2012;
- an increase in the share of renewable energy to 32% of final energy consumption by 2030 and to 40 % of electricity production;
- a reduction in the share of nuclear energy to 50 % by 2025.

Several targets set by the Energy Transition for Green Growth Act are specifically for public authorities:

- a 30 % decrease in office paper consumption by 2020;
- a 25 % use of recycled paper (paper containing more than 50 % recycled fibres) by 2017 and 40 % by 2020, with the remaining part coming from sustainably managed forests;
- a 70 % reuse/recycling/recovery rate for road construction and maintenance waste by 2020;
- a 50 % share of reused or recycled building waste materials in road construction materials purchased by national and local authorities in 2017, rising to 60 % in 2020

Waste policies (general)

Waste policies are recognised as an essential building block of resource use, namely material efficiency, and specifically of waste prevention and recycling. France has a number of general targets:

- a 10 % reduction in household and similar waste per inhabitant by 2020, compared to 2010;
- a stabilisation of industrial waste by 2020 compared to 2010;
- a 55 % recycling target (included organic waste) of non-hazardous, non-inert waste by 2020 and 65 % by 2025;
- a 70 % recycling target for construction and demolition waste by 2020, in line with the European targets set by the Waste Framework Directive (2008/98/EC);
- a 30 % reduction in non-hazardous, non-inert waste sent to landfill by 2020 and 50 % by 2025 (compared to 2010).

In addition, some EPR schemes have led to ambitious specific prevention and recycling targets for related materials and products.

Waste from portable, automotive or industrial batteries and accumulators (formal EPR scheme):

- collection target for portable batteries and accumulators: 25 % in 2012, 45 % in 2016;
- recovery yield target (of average mass) for batteries and accumulators: 63 % for lead-acid units, 75 % for nickel-cadmium and 50 % for other types.

Waste from consumer and professional electrical and electronic equipment (formal EPR schemes):

- depending on the equipment category, the current collection targets vary between 50 % and 80 %, and the recovery targets between 70 % and 80 %;
- for household WEEE, the collection target was 8 kilograms per person in 2012, 9 kilograms in 2013 and 10 kilograms in 2014;

- for professional WEEE, the 2015 collection target is 25 % of the quantities placed on the market in 2014.

Waste from automotive industry (formal EPR scheme):

- implicit collection target: 100 %;
- reuse and recycle rate: 85 % as of 1 January 2015;
- reuse and recovery rate: 95 % as of 1 January 2015.

Waste tyres (formal EPR scheme):

- implicit collection and recovery rate: 100 %.

Waste household packaging (beyond European waste packaging targets):

- no collection target;
- recycling target: 75 % in 2012.

Waste household graphic paper and similar (formal EPR scheme):

- recycling target: 60 % in 2018.

Waste clothing, household textiles and shoes (formal EPR scheme):

- collection and treatment target: 50 % of the quantities placed on the market by 2019;
- recovery target: 95 % of sorted waste, with at least 20 % sent to recycling by 2019;

Waste furnishing:

- reuse target: a 50 % rise in the output (in mass) of the related Social and Solidarity Economy[1] (by end 2017);
- reuse and recycling targets: 45 % for households and 75 % for businesses, of collected waste by end of 2015;
- reuse, recycling and other recovery target: 80 % (by end of 2017).

Waste packaging and plastic products for agricultural supplies (voluntary EPR scheme):

- collection target of 75 % in 2015;
- recycling target of 99 % in 2015.

Printer cartridges (voluntary EPR scheme):

- general target for all actors: reuse/recycling rate of 70 % for waste collected separately, and a recovery rate of 95 % for waste collected separately (by end 2015).

[1] Companies organised on a cooperative, mutuals, nonprofits and foundations basis whose the internal working and activities are based on the principle of solidarity and social utility (for example EMMAUS).

Food waste

- halving food waste by 2025[8].

Agriculture, forestry and agro-food industry

Non-renewable resources substitution by biomass is a component of material and resource efficiency in France. The challenge is to produce biomass without shifting the burden on to other natural resources. Among the several action plans aiming to improve resource efficiency for agriculture, forestry and the agro-food industry, the following targets have been set:

- a reduction in the use of **plant protection products (pesticides)** under the Ecophytoplan[9]: to 50 % of 2015 levels by 2025, and to 25 % by 2020;
- a **reduction in the use of antibiotics** in livestock farming under the Ecoantibioplan[10]: 25 % reduction of antibiotic use over five years, between 2012 and 2017;
- **better nitrogen management** under the EMAA Plan, which aims at better valorisation of manure, a reduction in dependence on mineral nitrogen and a development model for methanisation to use nitrogen and to produce renewable energy, and sets a target of 1 000 farm biogas plants by 2020;
- a 50 % reduction in food waste by 2025;
- a broader involvement in progressing towards improved valorisation of organic resources to replace fossil inputs.

Mining sector

Resource efficiency objectives are included in the National Strategy for the Sustainable Management of Terrestrial and Marine Aggregates and quarry materials and substances[11]. Most are general and qualitative, such as to implement the proximity principle, reducing distances between production, transformation and usage sites.

The only numeric target is to see the share of recycled quarry materials, currently assessed at about 6 %, reach at least 10 % of domestic production within the next 10–15 years.

Building and transport

In these sectors, the targets are mostly related to energy efficiency and waste recycling (see above, especially Box 1).

<u>Buildings</u>

- Targets set for buildings by the Energy Transition for Green Growth Act (Box 1) and energy and climate change targets include:
    - by 2025, 100 % of building stock should be retrofitted to comply with low energy consumption standards (or assimilated);
    - France should undertake the energy-efficient renovation of 500 000 dwellings a year from 2017, of which at least half are occupied by low-income households so as to decrease the fuel poverty rate to 15 %;

- before 2025, all private residential buildings for which primary energy consumption exceeds 330 kilowatt-hours per square metre per year should be renovated to become energy efficient.

Transport

- Targets set for buildings include:
  - a share of 10 % of the energy used in transport should stem from renewables in 2020 and 15 % in 2030;
  - vehicle energy efficiency should be improved, with the 2 litres per 100 kilometre car on the market in 2030.

Indicators to monitor the use of materials and resource efficiency

The French headline indicators for material resource use are **domestic material consumption** (DMC) in absolute terms and per person, its **breakdown by resource type** (biomass, fossil fuels, non-metallic minerals and metal ores) and material productivity (GDP/DMC). These indicators are part of the National Strategy of Ecological Transition towards Sustainable Development 2015–2020[12]. They allow monitoring of the dependency of the economy on raw material consumption, as well as the shift towards a more circular resource-efficient and low-carbon economy, aiming for an absolute decoupling. They are consistent with the indicators compiled by Eurostat in its resource efficiency scoreboard.

Other indicators used in France include the share of recycled raw materials used by industry, as well as general waste-related indicators such as municipal solid waste generation and treatment.

To better account the influence of raw material imports and hidden flows (materials moved during activity but not used, such as excavated materials or eroded soils, as well as resources used in other countries for production of imported goods), France has also developed a material footprint approach.

Optional questions

Recent policy developments concerning natural resources in the broader sense of the term

Other initiatives now underway that relate to natural resources include:

- the aforementioned Energy Transition for Green Growth Act, which includes a full section dedicated to the circular economy, and foresees a national strategy on biomass resources, which will also be adapted at regional level;
- the National Low-Carbon Strategy[13] introduced by the Energy Transition for Green Growth Act (Box 8);
- the Biodiversity Bill, currently being discussed by parliament;
- the National Strategy of Ecological Transition towards Sustainable Development 2015–2020, with nine strategic axes, one of which addresses the low-carbon circular economy;
- the national plan on forest and wood, under the Law on the Future of Agriculture, Food and Forestry, which will also be adapted at regional level;
- an upcoming national strategy on bioeconomy;
- an agreement on development of the wood-based industry, signed on 16 December 2014 between the government, the representative of regional communities, and 22 professional federations representing all French wood-processing companies.

Box 8 The National Low-Carbon Strategy

Introduced by the Energy Transition for Green Growth Act, the National Low-Carbon Strategy (outlines the approach to be adopted in order to reduce greenhouse gas emissions. It sets in motion the transition to a low-carbon economy. The government will soon publish the first three carbon budgets, which will be broken down into major sectors of activity.

With its Energy Transition for Green Growth Act, France is committed to reducing its greenhouse gas emissions by 40 % between 1990 and 2030 and fourfold between 1990 and 2050. The Act introduces tools designed to promote a low-carbon economy, namely carbon budgets and the National Low-Carbon Strategy, in order to achieve these new goals, which have been set for 2015–2018, 2019–2023 and 2024–2028.

Carbon budgets are caps on greenhouse gas emissions established for successive five-year periods, designed to set a downward trend in emissions. They are broken down into major sectors of activity (transport, housing, industry, agriculture, energy and waste).

The National Low-Carbon Strategy outlines strategic guidelines for implementing the transition to a sustainable, low-carbon economy across all sectors of activity. It has been jointly developed with civil society by means of a broad public consultation and the close involvement of the National Council for Ecological Transition (CNTE). The Strategy comprises a series of overarching and sector-specific recommendations that outline the pathway to a low-carbon economy that will improve well-being, growth and employment.

It sets a target for reducing the national carbon footprint, which remained stable between 1990 and 2012 owing to an increase in emissions linked to imports. It is important that we work together to ensure that we are not simply outsourcing our emissions but actually reducing them.

In the transport sector, the Strategy aims to achieve a 29 % reduction in emissions over the 2015–2028 period, notably by improving the energy efficiency of vehicles to 2 litres of fuel per 100 kilometres travelled, and developing clean vehicles (electric cars, biofuels).

In construction, the SNBC aims to achieve an emissions reduction of nearly 54 %, including by rolling out ultra-low energy and energy-plus buildings, accelerating energy renovation work, implementing the concept of eco-design and using smart meters to manage consumption.

In agriculture, the Strategy aims to achieve a 12 % reduction in emissions through implementation of the agroecology project. This will involve methanisation, ground cover, maintaining pastureland, developing the agroforestry sector and optimising the use of inputs.

In the industrial sector, the Strategy aims to achieve a 24 % emissions reduction, notably by improving energy efficiency, which is also a source of competitiveness, growing the circular economy (reuse, recycling, energy recovery) and replacing fossil fuels with renewable energy sources. In the waste management sector, the Strategy aims to achieve a 33 % reduction in emissions by reducing food waste, developing the concept of eco-design, fighting planned obsolescence, promoting reuse and improving waste recovery efforts.

This economy-wide effort will create both wealth and employment. Indeed, the Strategy impact study reveals the following:

1. a reduction in France's energy bill, as the country becomes less dependent on imported fossil fuels;
2. an increase in GDP (of 1.5 % on average between 2015 and 2035);
3. the net creation of 350 000 jobs.

The strategy will be reviewed every five years to take account of the spent carbon budget and map out the new pathway, incorporate new opportunities and new technologies, and raise its ambitions.

Which way should resource efficiency go in the future?

France suggests that the EEA focuses on materials, soil and water inputs.

Reflections on the country's trends in the use of materials and resource efficiency

Domestic material consumption and material intensity

In 2014, French DMC was 793 million tonnes, which represents 12.0 tonnes per inhabitant, a level slightly under the EU-28 average of 13.1 tonnes. From 2001 to 2008, its absolute value rose by 5 %, reflecting a growing need for materials due to a higher standard of living and an increase in population size. During 2008–2012, total material consumption decreased by 12 %, a drop in the use of non-metallic minerals widely used in industry and construction being the main contributor (down by 75 million tonnes) to this trend. Material intensity declined by 13 %, which can be considered a consequence of a faster contraction in the construction sector than in the rest of the economy. These values have been stagnating since then.

Domestic material consumption by category

In 2014, non-metallic minerals account for about a half of French material consumption – a higher share than average in the EU-28 – followed by biomass (32 %), fossil fuels (15 %) and metals (2 %).

Material productivity and domestic material consumption per person

Between 2000 and 2008, material productivity (GDP/DMC) rose by 13 % in France, reaching EUR 2.24 per kilogram of materials consumed. This reflects a lower quantity of raw materials needed to produce the same economic output. During the same period, material consumption per inhabitant remained almost stable. Since 2008, the evolution of material consumption per person has remained stable, while a strong increase in productivity (nearly 20 % between 2008 and 2014) resulted from a drop in material consumption, especially construction materials. The evolution of material productivity and consumption since 2008 appears to have been driven by the economic crisis.

Share of final energy consumption by fuel type

The French primary energy mix has been rather stable since the mid-2000s, with a 45 % share of non-renewable primary electricity, approximately 30 % for oil and half of this for gas, with the remainder spread between renewables and coal. Renewables accounted for about 9 % of the energy mix in 2014, reaching 21 million tonnes of oil equivalent and remaining on an upward trend. Over the 1990-2014 period, fossil fuels are in significant decline, both in absolute (12 %) and relative terms (11 percentage points).

Municipal waste by treatment method

In the middle of the 1990s, about a half of municipal waste went to landfill, since when it has significantly decreased; it was still 40.7 % by weight in 2001, but only 25.8 % in 2014. According to

the latest inventory of household waste treatment facilities held by ADEME (ITOM survey), the number of landfill sites was 238 in 2012 (303 in 2006).

The recovery rate – which includes recycling, organic recovery, composting, methanisation, mechanical biological treatment and energy recovery – reached 73,1 % of municipal waste in 2014, compared with 55.7 % in 2001.

Incineration without energy recovery has now become rather uncommon in France. However, incineration *with* energy recovery, after having risen until 2005, has since stabilised, accounting for 35 % of waste treated. There are 126 incinerators including 113 with energy recovery, compared to 266 in 1996 including 90 with energy recovery.

Waste recycling is making significant progress due to the development of separate collection as a consequence of new sorting centres. In an effort to promote waste recovery, several centres opened in the early 2000s, their number reaching 390 in 2012. Thus, the amount of waste directed to recycling reached 7.4 million tonnes in 2014, up from 4.4 million in 2001.

Waste amounts directed to organic recovery facilities rose by 40 % during 2001-2009 and have been stagnating since. In 2012, about 600 composting facilities were producing 2 million tonnes of compost. The share of organic recovery still accounts for only 17.2 % of municipal waste, but has grown steadily since 2001 (up by 38 % during 2001–2014).

From a regulatory perspective, the European Waste Framework Directive advocates waste recycling. However, landfill remains a significant disposal method in some European countries, while in others – such as Benelux, Sweden, Denmark, Germany and Austria – it has become rather marginal, the priority being set to recycling and incineration with energy recovery. France offers a mixed picture.

[1] Loi 2015-992 du 17 août 2015 relative à la transition énergétique pour la croissance verte : http://www.developpement-durable.gouv.fr/IMG/pdf/joe_20150818_0189_0001_1_-2.pdf (in French)

[2] Synthèse de l'expérimentation du tri et du recyclage des emballages ménagers en plastique autres que bouteilles et flacons - Rapport 2 : Projet de développement du recyclage des emballages ménagers en plastique, PWC, novembre 2014 : http://www.ecoemballages.fr/sites/default/files/documents/rapport_2_pwc_projet.pdf (in French)

[3] MAAF, 2013, Le plan Energie-Méthanisation-Autonomie-Azote : http://agriculture.gouv.fr/file/le-plan-energie-methanisation-autonomie-azote-emaa

[4] BRGM, 2013, Panorama des substances : http://www.mineralinfo.fr/page/panoramas-substances, accessed 29 June (in French)

[5] MEDDE, 2013, Le programme national de prévention des déchets 2014-2020 : http://www.developpement-durable.gouv.fr/IMG/pdf/Programme_national_prevention_dechets_2014-2020.pdf (in French)

[6] ADEME, MEDDE, Eléments d'ameublement : https://www.ademe.fr/sites/default/files/assets/documents/elements-ameublement-2013-8228.pdf (in French)

[7] Loi 2015-992 du 17 août 2015 relative à la transition énergétique pour la croissance verte : http://www.developpement-durable.gouv.fr/IMG/pdf/joe_20150818_0189_0001_1_-2.pdf (in French)

[8] MAAF, 2013, Pacte National de Lutte contre le Gaspillage Alimentaire : http://agriculture.gouv.fr/guillaume-garot-presente-le-pacte-national-de-lutte-contre-le-gaspillage-alimentaire-1

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[11] MEEDTL, MIEN, 2012, Stratégie nationale pour la gestion durable des granulats terrestres et marins et des matériaux et substances de carrières : http://www.mineralinfo.fr/sites/default/files/upload/documents/document_cadre_version_finale.pdf , accessed 4 May 2015 (in French)

[12] MEDDE, 2015, National strategy of ecological transition towards sustainable development 2015-2020 in a nutshell:

http://www.developpement-durable.gouv.fr/IMG/pdf/SNTEDD_-_EN_bref_-_EN.pdf, accessed 4 May 2015

[13] MEDDE, 2015, National Low-Carbon Strategy:
http://www.developpement-durable.gouv.fr/IMG/pdf/SNBC_Strategie_Nationale_Bas_Carbone_France_2015.pdf)
http://www.developpement-durable.gouv.fr/Strategie-nationale-bas-carbone.html