



advancing with ESIF financial instruments



The potential for investment in energy efficiency through financial instruments in the European Union

France in-depth analysis

May 2020



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Objective of the document

The objective of this report is to give an overview of the state and progress of energy efficiency developments in France, and a preliminary assessment of investment needs and potential use of ESIF financial instruments to cover them. This report would serve as an input to the negotiations of operational programmes for the period 2021-2027. This document is based on data and information released prior to the outbreak of the Coronavirus (COVID-19) pandemic. Although it is still not possible to properly estimate the impact of COVID-19, a severe economic recession is currently (May 2020) forecasted for year 2020 in the European Union (EU). The recession may have deep repercussions in the years to come in the economic and financial systems of EU Member States (MS), therefore economic and financial context reported in the document may sharply deteriorate in the near future. Cohesion Policy resources, and public resources in general, are expected to play a crucial role to support the economic recovery in the next programming period. Energy efficiency (EE) investments can play an important role to support the economic recovery, as (i) they have a considerable job creation effect; (ii) they contribute to reduce energy costs and greenhouse gas emissions; and (iii) they increase MS energy security. There is a risk that, at least in the short run, the crisis will lead to lower energy costs due to a lower demand, thus can create lower incentives for EE investments. An appropriate use of financial instruments to support EE investments enables the use of Cohesion Policy resources in a revolving way and to generate leverage by crowding-in private co-financing in order to meet significant investment needs.

Information reported in the following sections is based on publicly available sources, in particular:

- Eurostat national statistics;
- Draft version of the National Energy and Climate Plan of France;
- EC assessment of the draft National Energy and Climate Plan of France;
- Final version of the National Energy and Climate Plan of France;
- Odysee-mure database;
- EU Energy Poverty Observatory; Member State Report France;
- Climate-KIC; Building Market Brief - France. 2018;
- National Energy Efficiency Action Plan. 2017 update;
- National Energy Efficiency Action Plan. 2019 update;
- JRC; Science for Policy Report, Accelerating energy renovation investments in buildings. 2019;
- JRC; Science for Policy Report, Synthesis report on the assessment of member states' building renovation strategies. 2016;
- EC; Commission Staff Working Document Country Report France. 2020;
- European Court of Auditors; Allocation of Cohesion policy funding to Member States for 2021-2027. 2019;
- EIB; État des lieux des besoins d'investissement et de financement non-couverts en France et propositions d'instruments financiers par le Groupe BEI. 2017;
- Agence Nationale de la Cohésion des Territoires; Etat des lieux de la programmation FEDER 2014-2020 en metropole. 2019;



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- Agence Nationale de la Cohésion des Territoires; analyse du FEDER 2014-2020 pour mieux préparer 2021-2027 en France métropolitaine. Transition Énergétique. 2019;
 - European Investment Advisory Hub. EIB. PwC. Financing Energy Efficiency improvement in residential housing in France; Market analysis. 2018.



1. Context overview

France has about **67m inhabitants** (15% of the EU27) increasing over time (4.6% in the 2008 – 2018 period)¹ and by 2030 the French population is expected to reach 70.2m inhabitants.

Real Gross Domestic Product (GDP) per capita in 2018 was **EUR 32 830** (19% higher than the EU27 average) and has increased by 4.9% in the last 10 years².

Impact of the COVID-19 crisis

Based on the European Commission ‘Spring 2020 Economic Forecast’, released in May 2020, due to the COVID-19 outbreak, France will suffer a sharp recession in 2020 with the gross domestic product (GDP) **expected to contract by 8.25%**, before rebounding and grow by 7.5% in 2021.

The **unemployment rate** is expected to increase from 7.1% (2019) to 8.6% (2020) and it is expected to return to pre-crisis levels (7.5%) in 2021

To support the national economy a strong public fiscal stimulus will be deployed, with the **Government deficit** expected to reach 10% of 2020 GDP and to remain high in 2021 too (4%).

Due to the combined impact of the decrease of the GDP and the increase in the government deficit, the **debt/GDP ratio is expected to reach 116.5% in 2020** (it was 98% in 2019) while it is expected to decline to 112% in 2021.

The crisis could have a dual negative impact on EE investments, by both **reducing the demand** (e.g. households and enterprises may decide/be forced to postpone investments) **and the financial supply** (e.g. financial intermediaries may become more selective in their lending activity) **therefore increasing the importance of EE related supporting schemes.**

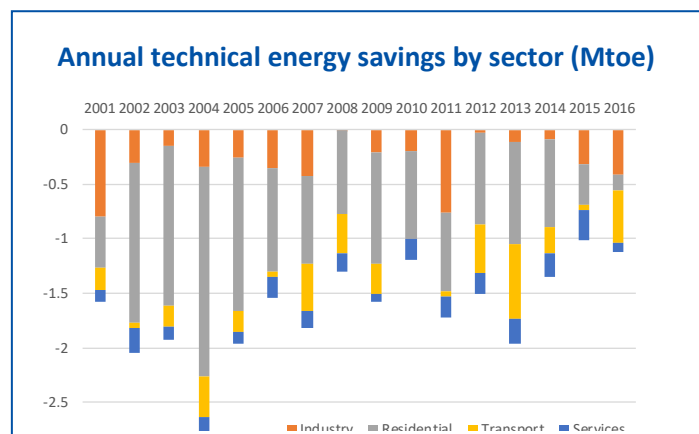
Final energy consumption (FEC) in 2018 was 146.6Mtoe (14.8% of the EU28) and it has **decreased by 8.5% since 2005**, while at the EU27 level it decreased by 4.9%³.

Consumption per capita (2.2toe/person) is equal to the EU average (2.2 toe/person) and it has decreased by 14.1% compared with 2005 (while at the EU27 level it decreased by 7.4%)⁴.

Energy productivity (GDP over the gross available energy) in 2018 was 8.6 Euro per Kg of oil equivalent (6% higher than the EU average), showing a moderate reliance on energy to generate GDP (this index increased by 12% in the last 5 years)⁵.

Sectors contributing to FEC are: transport (31% of the total), households (27%), industry (18.6%) and services (16%)⁶.

Regarding **energy efficiency (EE)**: during the **2001 - 2016** period, France reported about **26.4Mtoe of cumulative (technical) final energy savings**⁷ mainly related to residential (57%); industry (18%) and transport (15%).



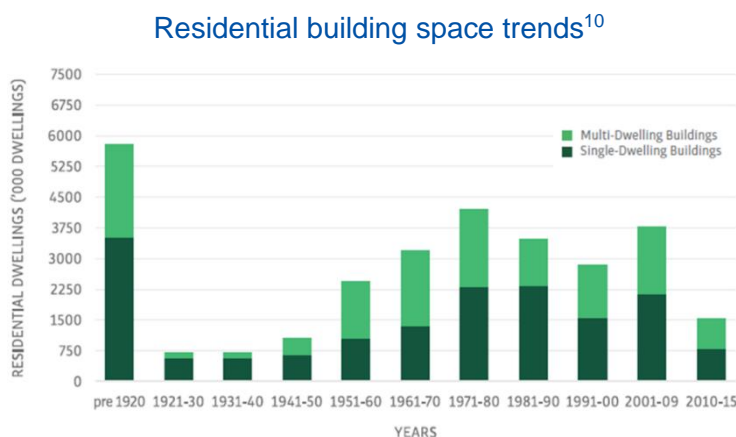


1.1 Overview of the residential sector

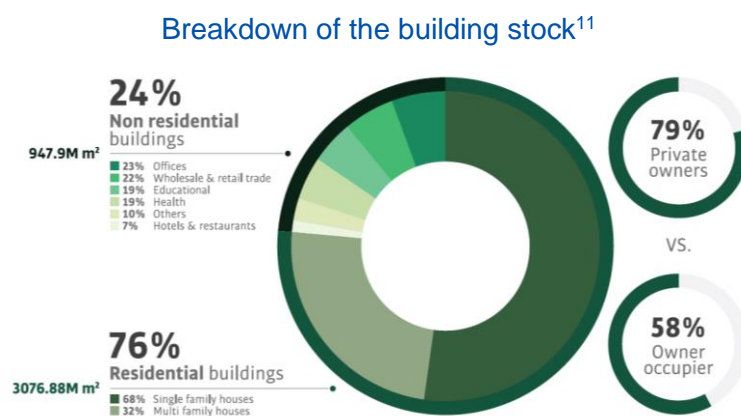
Based on the 2020 EC Country Report for France⁸, the residential sector counts 30m primary residences: 8m million shared properties, 5m social housings and 17m individual houses. Some 7m to 8m homes fall into the energy F and G classes ('thermal sieves'), of which 1.5m are inhabited by households in situations of energy poverty.

Based on the 2018 report of 'Building Market Brief. France. Climate-KIC'⁹, 68% of residential floor area is occupied by single-dwelling buildings and 32% by multi-dwelling buildings. 79% of the residential dwellings are privately owned (58% of them are occupied by the owner).

As reported in the following figure, over half of the total housing stock in France (19m dwellings) was built prior to 1975 with therefore no EE measures.



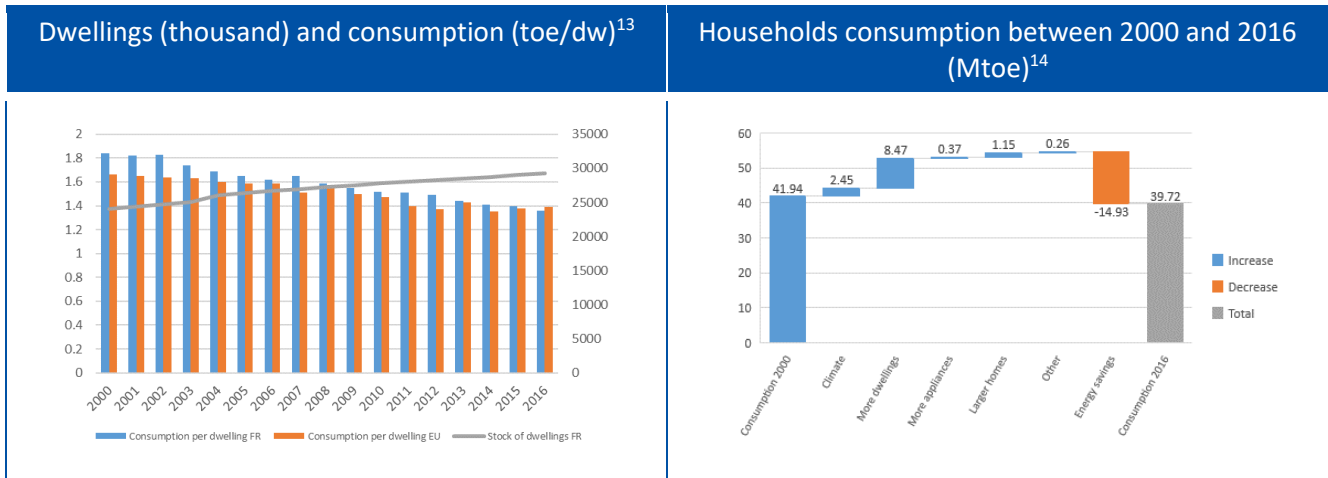
Residential buildings account for a surface of circa 3,076.8m sqm that is equal to circa 76% of the overall building stock. The remaining 24% (circa 947.8m sqm) is made mainly of offices, wholesale and retail trade, as portrayed in the following figure.



Energy consumption in the residential (households) sector:

- In 2018, households' energy consumption was 39.1Mtoe (15.9% of EU27) and it decreased by 11.6% in the last 10 years¹²;
- Households' energy consumption is mainly related to space heating (64.7% of total consumption).

Based on the data of the *Odyssee Mure* projects (supported by the EC under Horizon 2020), during 2000 – 2016, despite the increase of the stock of (permanently occupied) dwellings (about 5,1m more dwellings or +21%) consumption in the residential sector decreased by 2.2Mtoe thanks to technical energy savings worth circa 14.9Mtoe (or 36% circa of year 2000 energy consumption).

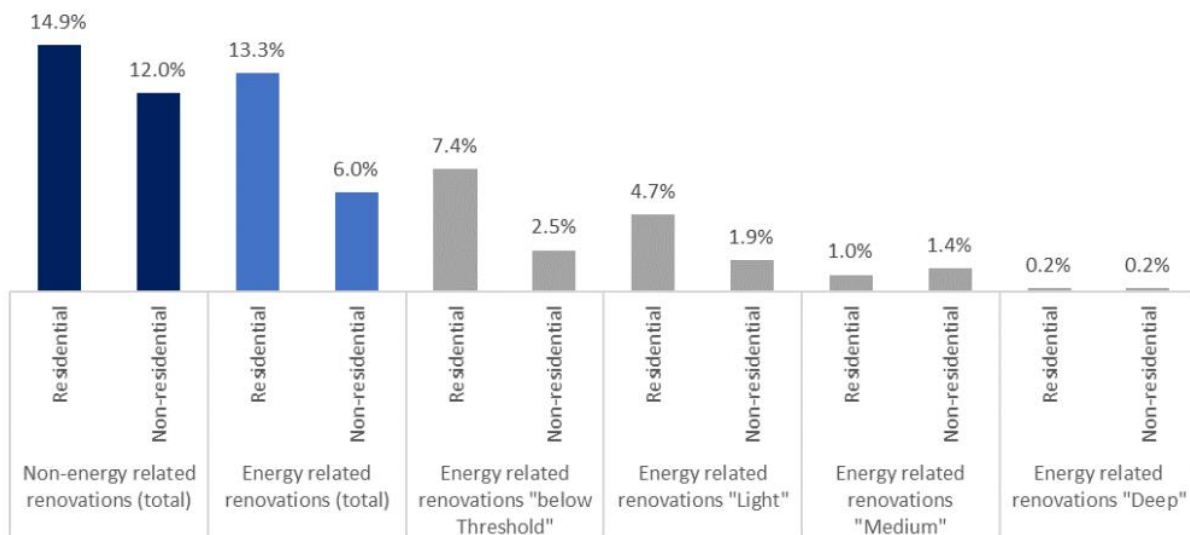


With respect to EE, the 2013 *Plan de rénovation énergétique de l'habitat* (PREH) set a target of 500,000 major renovations per year by 2017. Although the exact number of all EE renovations in residential buildings is not available, in 2019, the National Agency for Housing (ANAH) contributed to the renovation of 155,765 housing units.

Based on the public consultation of the national plan for energy renovation (*Plan de rénovation énergétique: consultation publique*) nowadays circa 7m homes are poorly insulated.

A study supported by the EC, completed in 2019, estimates the building renovation rate in France to be circa 14.9% over the 2012 – 2016 period, however deep energy related renovations are estimated to be only 0.2%.

Renovation rate [%/stock], average 2012-2016¹⁵

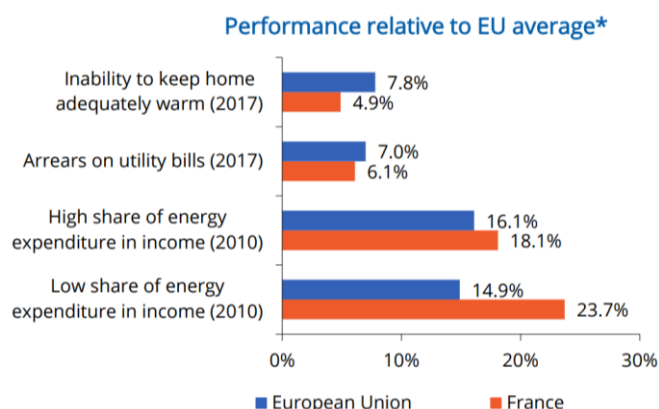




ENERGY POVERTY¹⁶

Based on the EU energy poverty observatory, France performs better than the EU average on the household reported indicators and expenditure based indicators:

- 4.9% of households were unable to keep the home adequately warm (VS the EU average of 7.8%) and 6.1% were in arrears on utility bills (VS 7% of the EU average);
- 18.1% of households spend more than twice the median on energy (VS the EU average of 16.1%) and 23.7% less than half the median, but this might be because energy costs are included in rent for collective heating.



The EU observatory reports that, based on available data and indicators, energy poverty in France would seem to be primarily a problem for households that rent their dwelling.

A significant number of funding programmes targeting energy poor households are implemented through national, regional and local governments, such as the Social Funds for Energy Renovation and the Living Better programme (more details are presenting in the following section of the report).

The current COVID-19 related economic crisis can have a severe impact on French households, potentially leading (at least in the short run) to an increase of households living in in energy poverty conditions.

1.2 Overview of the public sector

The stock of state-owned buildings in France is large, comprising buildings in the cultural, education, sports and local services sectors, as reported in the following table.

Secteur	Nombre de bâtiments	Répartition par secteur (%)	Surfaces totales de bâtiments (milliers de m ²)	Répartition par secteur (%)
Bureaux	463 797	31,8%	192 908	22,4%
Commerces	476 546	32,7%	182 540	21,2%
Bâtiments d'enseignement-recherche	103 170	7,1%	168 251	19,5%
Hôtellerie – restauration	231 668	15,9%	118 744	13,8%
Locaux sportifs	100 673	6,9%	84 656	9,8%
Bâtiments culturels	48 386	3,3%	24 838	2,9%
Bâtiments de santé	6 965	0,5%	37 944	4,4%
Bâtiments de transport	12 788	0,9%	38 297	4,4%
Bâtiments sociaux	15 440	1,1%	14 087	1,6%
Total	1 459 433	100%	862 263 687 m²	100%

Répartition des bâtiments tertiaires par secteur, en surface et en nombre de bâtiments – Source : Etude BASIC/CODA 2012

The EC Energy Efficiency Directive (Art.5) prescribes Member States to perform (every year) EE renovations of 3% of the total building floor area of the **buildings with a total useful floor area over 250sqm owned and occupied by the central government**. These type of buildings in France have a total surface of circa **22,2m sqm**¹⁷.

In line with options offered by the Energy Efficiency Directive, France decided to adopt an alternative approach compare with the 3% rule of the previously mentioned Directive.



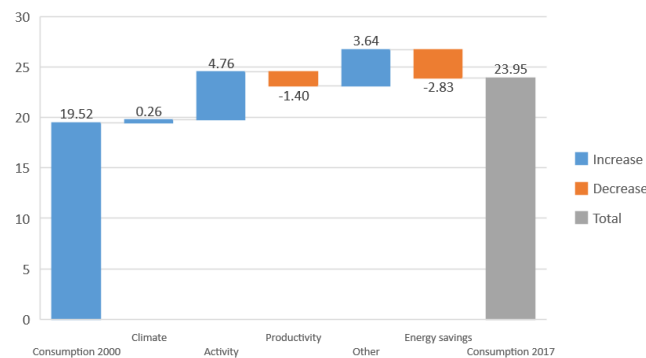
This approach, during the 2014 – 2020 led to energy savings in buildings of the central administration of circa 10,131 GWh of primary energy (compared to 2,477GWh that would have been achieved with the standard approach).

1.3 Overview of services and industry sectors

The **services sector** accounts for 79% of the national GDP (in 2017)¹⁸ while its energy consumption in 2018 was 23.3Mtoe, decreasing over time (-4% last 5 years compared to +0.3% in EU27).

Based on the data of the *Odyssee Mure* projects (supported by the EC under Horizon 2020), during 2000 – 2017 period consumption in the sector increased by 22% circa, but it should also be highlighted that important energy savings were achieved, worth circa 2.8Mtoe (or circa 14.5% of 2000s consumption).

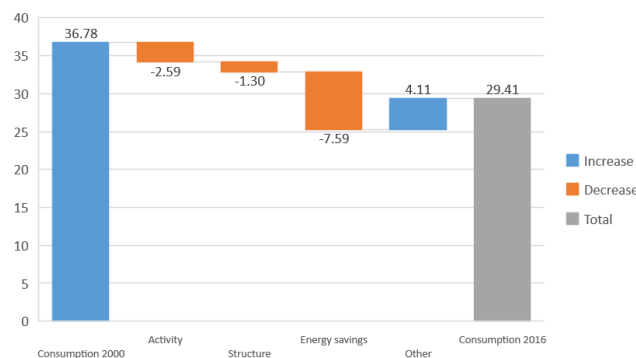
Variation services consumption Mtoe (2000-2017)¹⁹



The **industrial sector** accounts for 19.5% of real GDP (2017) and it employs circa 20% of the overall labour force. In 2018, the final energy consumption in the industry sector was circa 27.3Mtoe (11.3% of EU27) with a decrease by 14% in the last 10 years²⁰.

As presented in the following picture, based on the data of the *Odyssee Mure* projects, during 2000-2017, energy savings achieved in industry were worth 7.6Mtoe or 21% of 2000 consumption²¹.

Variation industry consumption Mtoe (2000-2017)²²





2. EE targets, measures in place and proposed

The National Energy and Climate Plan (NECP) of France builds on the Multiannual Energy Plan (*Programmation Pluriannuelle de l'Énergie*) adopted in 2016 and updated in 2019 and the National Low-Carbon Strategy (*Stratégie nationale bas-carbone*) adopted in 2015 and updated in 2019.

The NECP proposes that France will become carbon neutral by 2050 and identifies measures to reach that target. The following table summarises energy savings expected in the plan.

NECP EE targets (Mtep)	Target 2020	Target 2030
Primary Energy Consumption (PEC)	219.9	202.2
Final energy consumption (FEC)	131.4	120.9

Among the various measures in place and planned, one of the most important is related to the energy saving certificates (*Certificat d'Économie d'Énergie* or CEE) that are provided by the competent Ministry to entities performing EE initiatives. Each certificate (CEE) corresponds to a certain amount of saved final energy²³ and under this policy measure, France intends to support the amount of extra energy savings (compared with actual measures) required by Art.7 of the EC Directive 2012/27/EU (Energy Efficiency Directive).

In the following table, information regarding the main measures for the residential, industry and public sector are presented.

	Context/targets	Existing and planned actions/priority objectives
Residential Sector	<ul style="list-style-type: none"> France has the 2050 target to reach 100% low energy buildings (<i>bâtiments basse consommation</i>) Circa 300,000 EE renovations per annum are planned during 2015 - 2030 and circa 700,000 during 2030 - 2050²⁴ 	<p><u>Existing measures (list of):</u></p> <ul style="list-style-type: none"> Several national measures to support EE investments in residential buildings are in place, mainly connected with the housing energy renovation plan (<i>Plan de rénovation énergétique de l'habitat</i>) and the energy renovation plan for buildings (<i>Plan de rénovation énergétique du bâtiment</i>). These include: <ul style="list-style-type: none"> A one-stop-shop information platform (www.faire.fr) where available financial support schemes are reported and where support to perform energy audits can be provided²⁵ A tax credit of up to 30% on EE related expenses (<i>Crédit d'Impôt Transition Énergétique</i> – CITE) A zero percent interest rate loan (<i>éco-prêt à taux zéro</i>) for individual owner-occupiers or landlords in order to finance major EE renovations²⁶. A zero percent interest rate loan (<i>éco-prêt logement social</i>) for social landlords (e.g. social housing associations) to finance EE renovations. The loan instrument is managed by <i>Caisse des Dépôts et Consignations</i> (CDC, the French Promotional Bank) and has the target of supporting the renovation of 70,000 social housing units/year²⁷ Reduced VAT rate (5% instead of 10%) and exemption from the stamp duty (<i>taxe foncière</i>) on EE renovations With respect to energy poverty, the National Housing Agency (<i>Agence Nationale de l'Habitat</i> – ANAH) helps owners/occupiers who fall under a resources ceiling to carry out housing renovation works. In this



		<p>respect, the <i>Habiter mieux</i> ('living better') programme, managed by ANAH and drawing upon national resources, provided EUR 1.35bn over the 2010-2017 period.</p> <ul style="list-style-type: none"> • Another well-established revolving mechanism to support EE renovation in residential buildings (individual and multi-apartments) in France is direct third party financing, implemented at regional or metropole level via <i>Sociétés de Tiers-Financement</i> (e.g. SPEE in Picardie Region, SEM in Ile-de-France, AREC in Occitanie, ARTE in Nouvelle-Aquitaine, and Bordeaux Métropole Energie). <i>Sociétés de Tiers-Financement</i> are supported by EIB (and EFSI) thanks to a specific EIB programme that followed the law enabling their creation. <p><u>New planned measures/priority objectives (NECP):</u></p> <ul style="list-style-type: none"> • Existing measures are expected to be continued • Some existing measures are expected to be reinforced/improved. Although limited details were provided in the NECP, examples include: the tax credit system to be simplified since 2020, the scope of the <i>éco-prêt</i> product to be enlarged.
<p>Public Sector</p>	<ul style="list-style-type: none"> • France expects to generate savings of 7,200 GWh of primary energy during the 2021 – 2030 period in the sector 	<p><u>Existing measures:</u></p> <ul style="list-style-type: none"> • The energy renovation plan for buildings (<i>Plan de renovation énergétique du bâtiment</i>) envisages a EUR 1.8bn investment to improve the energy performance of public buildings, including administrative cities. Local authorities will be made available EUR 3bn of which (i) EUR 2.5bn as loans from CDC, for the renovation of their parks, (schools, crèches, hospitals,...) and (ii) EUR 500m via the <i>dotation de soutien à l'investissement local</i> • Besides national programmes, there are some regional ESIF backed grant schemes supporting EE in the public sector <p><u>New planned measures/priorities (NECP):</u></p> <ul style="list-style-type: none"> • Existing measures are expected to be continued in the post 2020 period • A national task force will be created to accelerate the EE renovations of public buildings (mainly in schools and other educational buildings)
<p>Industry</p>	<ul style="list-style-type: none"> • The long term plan sees a strong reduction of GHG emissions: from 147MtCO₂ eq in 1900 to 54MtCO₂ eq in 2030 	<p><u>Existing measures:</u></p> <ul style="list-style-type: none"> • At the national level there are many measures supporting EE in industry, examples are: <ul style="list-style-type: none"> – Energy saving certificates (CEE), as industry accounts for 20% of certificates issued between 1/1/2015 and 31/1/2017



	<ul style="list-style-type: none">• In the tertiary sector during the 2021 – 2030 period 15m sqm of the building stock are planned to be renovated	<ul style="list-style-type: none">– PRO-SMEEn, a programme that provides financial subsidies (up to EUR 40,000) to businesses to set up an energy management system– ADEME's (<i>Agence de l'Environnement et de la Maîtrise de l'Energie</i>) '<i>Aides à la décision</i>' (Decision aid) and other schemes managed with the Chambers of Commerce subsidises the preparation of studies on energy efficiency in industry (e.g. audits) <ul style="list-style-type: none">• The main revolving measures are managed by the national promotional bank for SMEs and mid-caps Bpifrance²⁸:<ul style="list-style-type: none">– The <i>Prêt Eco-Energie</i> finances (without recourse and at preferential rate) small EE interventions (EUR 10k – 100k) in SMEs. By the end of 2019, EUR 100m are expected to be lent– the <i>Prêt Vert</i> product finances (without recourse) EE interventions in industry (loan maximum amount is EUR 5m). By the end of 2019, EUR 500m are expected to be lent– the PF4EE financial instrument developed by the EIB and co-funded by the LIFE programme is active in France since 2016 and it is managed by the Crédit Coopératif <p><u>New planned measures/priorities (NECP):</u></p> <ul style="list-style-type: none">• Existing measures are expected to be continued in the post 2020 period (e.g. the <i>Prêt Éco-Énergie</i> distributed by Bpifrance will be prolonged to 2025)• New supporting measures for de-carbonation and EE in industry will be developed in the context of the '2025 Productive Pact' (<i>Pacte productif 2025</i>)
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3. Market failures, main issues and barriers to investment

A number of specific issues hindering EE activities in France are briefly reported in the following table. To the extent possible, the main potential implications of the COVID-19 crisis on barriers to EE investments have been considered.

	Financial issues and gaps	Non-financial issues
Residential Sector	<ul style="list-style-type: none"> • Typical barriers preventing EE investments (besides externalities and asymmetric information) are related to: <ul style="list-style-type: none"> – Limited financial resources to devote to EE initiatives (in particular low-income households who are not necessarily the owner of their apartment and may prioritise other spending). The COVID-19 crisis could have a further negative impact as it could reduce further households' disposable income/ financial resources – Limited financial returns of EE interventions (in particular for deep renovations). Financial returns could be further lowered if current low energy prices will endure in the future – Numerous financing schemes provided by different actors that may lack coordination and communication, but that often need to coordinate to finalise the financing plan for social housing (e.g. social housing) – Focus on of the supporting schemes on low-income households while the rest of the population needs to discuss with banks • Despite the multiplicity of tools developed for financing EE in collective housing, these schemes seem to play a limited role in financing. There are several reasons for this²⁹: <ul style="list-style-type: none"> – Complexity and administrative burden of grants; – Some instruments are very recent, therefore little awareness – Complexity of decision-making for HOA due in particular to the diversity of financial situations of co-owners. This can lead to a decision-making phase of up to three years, sometimes 	<ul style="list-style-type: none"> • Based on the 2020 EC Country Report for France, main pitfalls identified for deployment of EE investments include: <ul style="list-style-type: none"> – The economic interest is not fully adopted by individuals (especially for deep renovations) – Households who would most benefit from substantial renovations are usually those with limited resources – Available support schemes are scattered among various actors and hard to mobilise at once – Solutions are heterogeneous, suppliers numerous, and reported abuses have affected the level of trust – For rental property, asymmetric incentives between the landlords (who finance the investment) and the tenant (who stands to gain from the investment).



	<p>undermining the very viability of the project; and</p> <ul style="list-style-type: none"> – Social situation of co-owners, for whom energy renovation is not the priority. – Commercial loans also present some limits: amounts remain low, with limited durations; for these reasons, they are not suitable for financing energy renovation and must be integrated with self-financing and, to a lesser extent, subsidies. <ul style="list-style-type: none"> • Due to the uncertainty about future economic conditions, generated by the COVID-19 crisis, households may decide to postpone long-term investments, such as EE renovations 	
<p>Industry</p>	<ul style="list-style-type: none"> • Barriers to EE investments include: <ul style="list-style-type: none"> – Long pay-back period of several EE interventions – Difficulties to obtain financing based on cash flows generated by EE activities – Limited FIs (with appropriate features) focusing on EE interventions while banks not adapting their current offer to EE interventions • EE interventions often not perceived as a priority when seeking financing The COVID-19 triggered economic recession will have negative impacts on enterprises that could have more difficulties to access the credit sector (due to the less performing economic and financial ratios). Due to future uncertainty, enterprises may moreover reduce further their investment plans and they could postpone non-core investments. 	<ul style="list-style-type: none"> • Typical non-financial barriers preventing EE investments: <ul style="list-style-type: none"> – Limited awareness about benefits of EE interventions and difficulties in structuring EE interventions – reluctance of enterprises to use their borrowing capacity for non-core activities (like EE) – Difficulties to include EE interventions into wider development projects / investments (which are more core business) – EE interventions among companies may require coordination between the public sector (to generate incentive) and Chambers of Commerce – or other representative private actors (to diffuse this incentive among companies)
<p>Public Sector</p>	<p>EE investments in the public sector can be performed either via 'traditional public procurement' or with 'alternative solutions' including for instance Public Private Partnerships (PPP) or Energy Performance Contracting (EPC):</p> <ul style="list-style-type: none"> • Traditional public procurement is the most common solution and banks are reported to be keen to finance public entities at competitive conditions. Barriers to this 	<ul style="list-style-type: none"> • Difficulties (lack of skills and financial resources) to manage: <ul style="list-style-type: none"> – Preparatory activities especially in smaller municipalities (e.g. baseline, project structuring, contractual framework, etc.) – Procurement process and monitoring activities (especially in smaller municipalities)



model are represented by regulatory constraints of public entities (e.g. Universities that cannot have debt and so depend on the Ministry of Higher Education to renovate). Public debt capacity could become a relevant issue, as the French debt to GDP ratio is expected to sharply increase to support the economic during the COVID-19 triggered recession

- PPP or EPC type transaction are alternative ways to develop EE on public buildings however complexities related to this solution make it difficult to be applied

- EE renovation in public sector often require coordination between various levels of administrations (national, regional, local, specific entities in charge of managing public assets) and various competences (the skills being not necessarily in the paying authority)
- EE renovation in public sector requires long-term planning and consensus (that may evolve with elections)

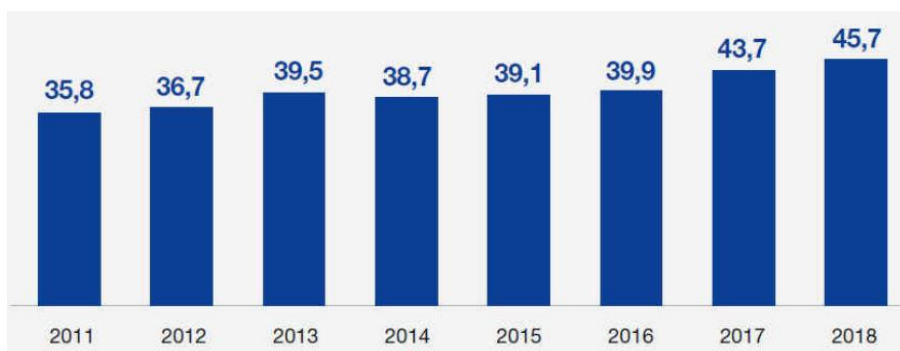


4. Investment needs, gaps and implications for financial instruments

As reported in the NECP, in 2018 climate investments reached EUR 45.7bn (with a 17% increase over the last three years) investments are related to: EE (EUR 19.5bn); transport and net infrastructure (EUR 11.4bn); renewable energies (EUR 7.5bn); nuclear power plants (EUR 4.9bn); forestry and non-energetic industrial processes (EUR 2.3bn).

With respect to the breakdown of this investment (data refers to 2017): households' investment was circa 37% of the total (EUR 17bn) and it was mainly related to residential buildings and environmental friendly vehicles; enterprises invested EUR 13.6bn in all sectors and the public sector invested circa EUR 15.1bn in various sector (e.g. transport infrastructure, buildings, etc.).

Climate related investments in France (data in EUR bn)³⁰



To support the French climate strategy, the NECP reports that **an investment between EUR 45bn to EUR 85bn per year** will be needed during the 2019 – 2032 period, with the split reported in the following table.

Investment needed for the development of the energy strategy (2019 - 2050) data in EUR bn³¹

	2019 – 2023	2024 – 2028	2029 – 2033	2034 - 2050
Buildings	14	18	22	28
Transport	21	36	52	85
Energy and networks	11	10	11	13
Total	46	64	85	126

Out of the estimated annual investment of about EUR 45-85 billion, **circa EUR 25bn to EUR 40bn** (which corresponds to 1.1–1.7 % of GDP in 2018) would represent the **additional investment needed compared to existing measures**. Based on barriers and financing gaps reported in the previous section, the possible **implications for financial instruments** have been summarised in the following table.

Horizontal implications for financial instruments

- Although there is experience in France with the use of financial instruments (mainly at the regional level), these remain mostly generic in nature. As such, there is a **lack of past experience in implementing dedicated financial instrument for EE**
- To streamline the **financial instrument** activity and to ensure coordination with (non ESIF backed) national measures, financial instruments operating at the **national or multi-regional level** (in particular in the residential and public sector) could be beneficial



- **Awareness raising and technical support** to both structure financial instruments and with EE projects could be very helpful

Residential sector	Public sector	Industry
<ul style="list-style-type: none"> • The use of ESIF is limited to a niche part of the residential sector (i.e. social housing) • There is no experience with financial instruments in the sector, but there are (non ESIF backed) products (e.g. <i>éco-prêt</i>) managed by the NPB and other regional initiatives (e.g. <i>Sociétés de Tiers-Financement</i>) • It seems there is scope to use ESIF to support the existing instruments and products, to improve their conditions and to reach a wider public • Financial instruments could be in particular helpful in multi-apartment-buildings and to support innovative financing solutions (e.g. ESCO model) also in the residential sector 	<ul style="list-style-type: none"> • EE in public sector is mainly done with traditional public procurement and there are consolidated solutions to allow public entities to borrow at competitive conditions (e.g. CDC loans, etc.) however, as the French debt to GDP ratio is expected to sharply increase to support the economic recession, solutions able to limit the impact on the public debt could be prioritised • Financial instruments could play an important role to develop the EPC market, in particular in sectors where there are regulatory constraints (e.g. Universities), to provide technical and financial support 	<ul style="list-style-type: none"> • There are several financial instruments to support SMEs, however none of them are targeting EE • There are (non-ESIF) products to support EE in SMEs, both funded with national resources (e.g. <i>Prêt Vert</i>) and with EC resources (e.g. PF4EE) • There are experiences with financial instruments supporting SMEs involved in the energy sector (e.g. CAP 3RI fund) that could be replicated in the EE sector



5. ESIF resource, existing financial instruments and main grant programmes

For the 2014-2020 period, France benefits from ESIF funding of EUR 26.7bn (circa EUR 406 per person)³² of which, EE related support is estimated in EUR 1.1bn³³.

ESIF resources allocated to TO4 (Supporting the shift towards a low-carbon economy in all sectors) are circa EUR 1.82bn (22.8% of the overall ESIF allocation to France) and as of 31/12/2018, 61% of that amount was programmed/planned by the managing authorities.

In the 2014-2020 period, France contributed EUR 430m³⁴ of its ESIF (EUR 403m ERDF; EUR 27m EAFRD) to financial instruments, however only one financial instrument has been implemented drawing resources from TO4 – the CAP3RI Fund (presented in the following section) that as of 31/12/2018 had an ESIF endowment of EUR 15m.

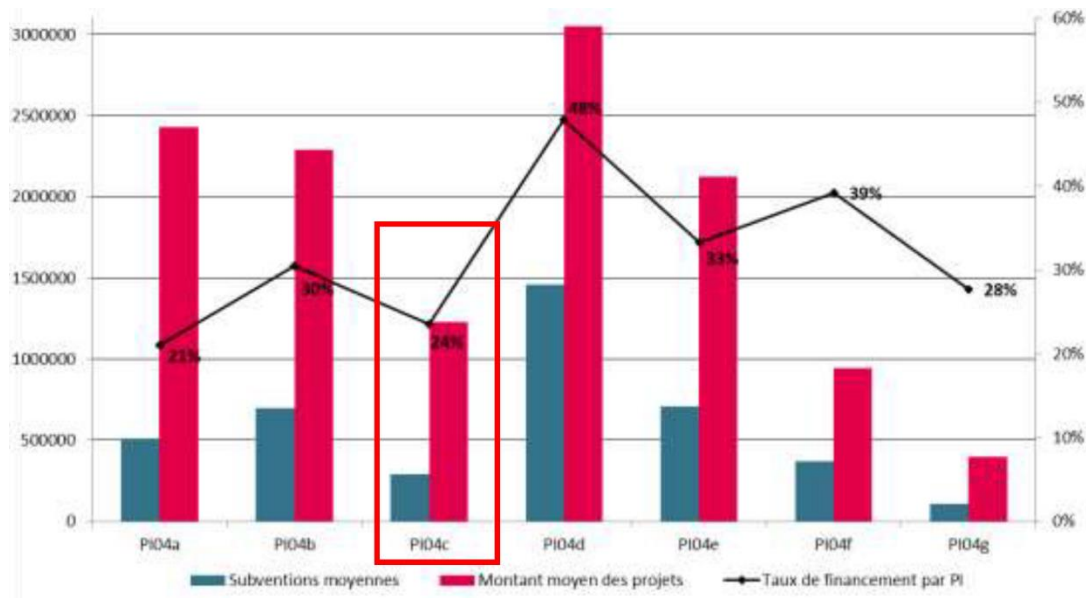
The National Agency for Territorial Cohesion (*'Agence Nationale de la Cohésion des Territoires'*, ANCT³⁵) conducted in 2019-2020 progress studies³⁶ of the use of ESI Funds; covering grants and financial instruments. Each study covers one or several Thematic Objectives (TO).

As previously mentioned, in France only one financial instrument has been implemented drawing upon TO4 resources, therefore the numbers presented regarding ESIF resources allocated to TO4 are almost entirely related to grant measures.

TO4 has seven priorities of intervention (e.g. renewables, EE and renewables in enterprises, EE and renewables in public sector and social housing, research and innovation of low carbon technologies, etc.) however 95% of the resources are concentrated in France on three priorities of intervention: EE in buildings (41%), renewable energies (28%), and sustainable urban transport (24%).

Focusing on EE in buildings (priority of intervention 4c) - based on data of the aforementioned ANCT report - 1,581 projects have been planned, with an average amount EUR 1.2m and an OP contribution (*i.e.* including national contribution) equal to circa 24% of the of project's costs (as presented in the following figure).

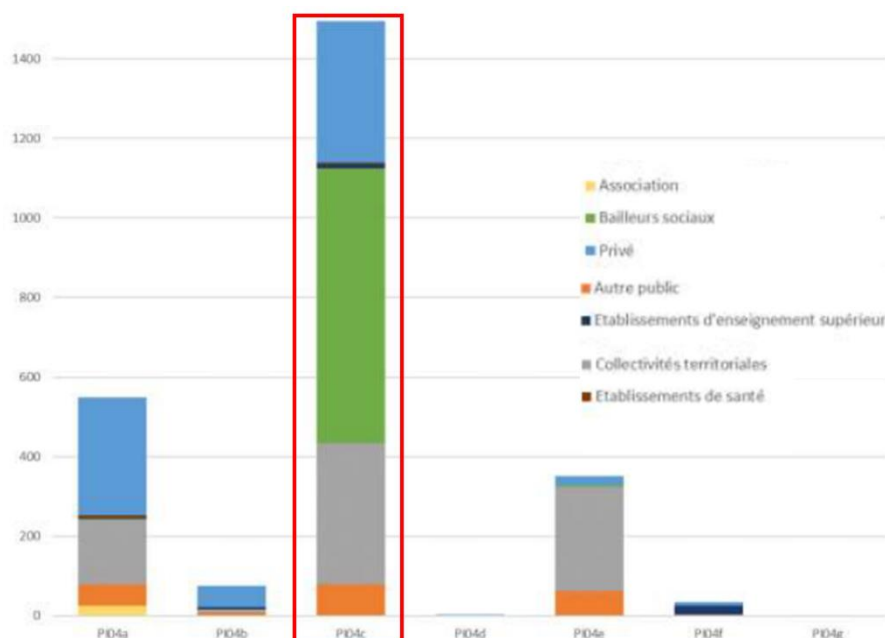
EE in buildings (average project amount and OP financing rate)



This allocation is reflected also in the following figure, showing that the main recipients (of TO4 resources for EE in buildings) are social housing entities (*'bailleurs sociaux'*), followed by public entities and private recipients.



TO4 recipients of the various priorities of interventions (PI04c being EE in buildings)



EE in residential buildings

Circa 41% of TO4 resources have been devoted to projects related to EE in buildings (representing circa 54% of projects supported by TO4). Out of these projects, circa 70% are related to **EE in residential buildings**.

Co-financing rates in this sub-sector are around 20%, with some exceptions.

Although the very high number of EE in residential buildings, it is important to highlight that only 6% circa of these projects are related to private dwellings (Home Owner Associations) while **the very large majority is related to social housing (*parc social des bailleurs*)**.

Below the table reporting on the OP/ESIF allocation per region (under the former geographical split) of EE projects in residential buildings.

EE in social housing per region (planned amounts)

Programme Opérationnel	Nombre de projets	Enveloppe totale éligible	Enveloppe UE allouée	Montant UE allouée par habitant	Enveloppe éligible moyenne	Écart à la moyenne du taux de financement
Auvergne	46	61,29 M€	9,87 M€	7,26 €	1,33 M€	-5%
Rhône-Alpes	58	112,67 M€	30,50 M€	4,73 €	1,94 M€	6%
Bourgogne	52	63,67 M€	7,16 M€	4,37 €	1,22 M€	-10%
Franche-Comté	61	59,43 M€	10,03 M€	8,50 €	0,97 M€	-5%
Bretagne	12	10,05 M€	2,14 M€		0,84 M€	0%
Centre	46	27,09 M€	5,39 M€	2,09 €	0,59 M€	-1%
Corse	6	12,58 M€	7,41 M€	22,44 €	2,10 M€	38%
Alsace	13	14,43 M€	2,68 M€	1,42 €	1,11 M€	-3%
Champagne Ardennes	12	17,01 M€	3,78 M€	2,82 €	1,42 M€	1%
Lorraine	164	176,68 M€	35,10 M€	14,96 €	1,08 M€	-2%
Nors-Pas-de-Calais	23	18,81 M€	4,09 M€	1,01 €	0,82 M€	0%
Picardie	70	45,39 M€	10,41 M€	5,39 €	0,65 M€	2%
Ile-de-France	79	388,04 M€	72,76 M€	6,00 €	4,91 M€	-3%
Normandie	38	55,44 M€	16,55 M€	4,96 €	1,46 M€	8%
Aquitaine	22	52,14 M€	7,04 M€	2,12 €	2,37 M€	-8%
Limousin	32	29,79 M€	8,22 M€	11,13 €	0,93 M€	6%
Poitou-Charentes	16	7,44 M€	2,01 M€	1,12 €	0,46 M€	6%
Languedoc-Roussillon	56	96,03 M€	38,72 M€	14,18 €	1,71 M€	19%
Midi-Pyrénées	113	121,83 M€	26,32 M€	8,99 €	1,08 M€	0%
Pays-de-la-Loire	85	73,89 M€	7,86 M€	2,10 €	0,87 M€	-11%
PACA	28	79,85 M€	17,81 M€	3,56 €	2,85 M€	1%



Based on the ANCT study and on interviews with main stakeholders, some issues hampering the deployment of EE projects (using grants) in residential buildings have been identified. These include:

- Administrative complexity related to the use of ESIF resources (i.e. eligibility, reporting, etc.);
- Lack of coordination between national and ESIF subsidies (e.g. different set of rules, deadlines, etc.) due also to the fact that regional authorities tend to rely mainly on national contributions and to consider ESIF backed resources as ‘top-up’ resource as the latter are considered by some regional authorities to be too complex to manage;
- Difficulties in implementing integrated renovations that would instead have a much higher impact on energy savings.

As presented above, **EE in private ‘non social’ buildings** received a very limited OP budget, targeting mainly home owner associations (*copropriétés privées*). Also in this sub-sector, some issues have been identified, mainly related to the decision making process (requiring the absolute majority of the general assembly of the *copropriété*) and to the need for the *copropriété* to secure a guarantee on the collective loan.

EE in public infrastructure

This sub-sector accounts for circa 11% of the overall TO4 endowment (EUR 121m).

Although all French regions but one allocated resources to this sub-sector, there are sharp differences with respect to the allocated amounts.

Projects are mainly linked to schools and other education related buildings.

Some issues related to the use of ESIF in the sub-sector have been reported in the ANCT study and in interviews with local stakeholders, include: administrative complexities and a too low ESIF amount available.

Regarding Universities, a discussion has been started at national level (and for the moment without the use of regionalised ERDF funding), regarding the potential use of Energy Performance Contracting (EPC) solutions that could be helpful, given that there are regulatory constraints preventing Universities from borrowing.

EE in enterprises

This sub-sector accounts for a very small amount of the TO4 endowment (circa 1%) and only 8 regions decided to use TO4 resources for this purpose (e.g. Picardie, Nord Pas-de-Calais, Aquitaine, etc.).

Co-financing rates are heterogeneous among regions, ranging from less than 10% (Picardie) to circa 50% (e.g. Languedoc-Roussillon).

EE in enterprises (planned amounts)

Programme Opérationnel	Nombre de projets	Enveloppe totale éligible	Enveloppe UE allouée	Montant UE allouée par habitant	Enveloppe éligible moyenne	Écart à la moyenne du taux de
Alsace	22	3 917 365,75 €	508 334,43 €	0,27 €	0,18 M€	-2%
Lorraine	9	898 865,41 €	480 368,81 €	0,20 €	0,10 M€	38%
Nors-Pas-de-Calais	5	6 802 839,00 €	3 210 940,00 €	0,79 €	1,36 M€	32%
Picardie	6	41 331 773,00 €	1 746 358,40 €	0,90 €	6,89 M€	-11%
Aquitaine	4	6 104 891,00 €	1 391 772,00 €	0,42 €	1,53 M€	8%
Limousin	2	387 591,13 €	165 504,90 €	0,22 €	0,19 M€	28%
Poitou-Charentes	4	1 437 779,27 €	452 589,85 €	0,25 €	0,36 M€	17%
Languedoc-Roussillon	7	3 108 103,83 €	1 624 807,43 €	0,60 €	0,44 M€	37%

Financial Instruments

As reported in the previous section, only one ESIF-backed financial instrument was implemented using TO4 resources in the 2014 -2020 period: CAP3RI – *Le fond d’investissement capital risque de la Région Hauts-de-France* (CAP3RI).

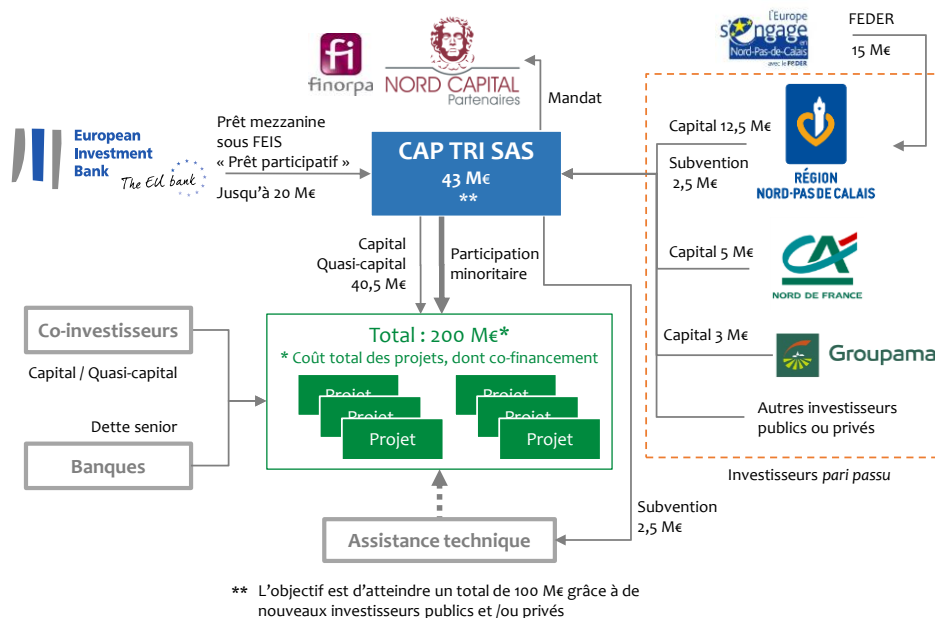


The CAP3RI financial instrument was launched in 2015 with an OP endowment of EUR 15m from ESIF, under the priorities of intervention 4b (EE and renewables in enterprises) and 4a (production and distribution of renewable energies). As of 31/12/2018, the ESIF amount paid to the financial instrument was EUR 9.4m, while the ESIF amount committed to final recipients was EUR 7.1m.

The financial instrument provides both equity and quasi equity financing to enterprises and it leveraged important resources from the EIB (EUR 20m loan guaranteed by the European Fund for Strategic Investments, EFSI) and private investors (EUR 5m from *Crédit Agricole* and EUR 3m from Groupama).

The instrument also has EUR 2.5m (within the EUR 15m ESIF endowment) to provide technical support to the SMEs (often to perform ex-ante analysis of the projects). The instrument and the technical support are provided in one single operation and both managed by the financial intermediary, *Nord Capital Partenaires*.

The instrument is detailed in the ANCT TO4 progress study and in a bespoke *fi-compass* case study³⁷ while below a scheme with the roles of the main stakeholders is reported.



The ambition of the CAP3RI fund is to generate a total investment portfolio of EUR 200m (*i.e.* 16x the ERDF contributed by the managing authority to the fund). This significant leverage effect is notably achieved, at Fund level, thanks to EIB financing in the form of a participatory loan and, at the level of individual projects, by systematically seeking co-financing up to minimum 50% of the cost of each project.

It is to be mentioned that (i) since the merge of Nord-Pas de Calais and Picardie within the Hauts-de-France region, the instrument is financing also projects in Picardie (thanks to the EIB and private financing) and (ii) other French regions are currently considering developing instruments to support similar projects (*i.e.* circular economy, renewable energy sources and soft/smart mobility), potentially with the support of ERDF funding during the 2021-2027 programming period.

Private Finance for Energy Efficiency (PF4EE)

Private Finance for Energy Efficiency (PF4EE) instrument is a joint agreement between the EIB and the European Commission (EC) which aims to address the limited access to adequate and affordable commercial financing for EE investments. The instrument is managed by the EIB and funded by the Programme for the Environment and Climate Action (LIFE programme). The PF4EE instrument provides:

- A portfolio-based credit risk protection provided by means of cash-collateral;



- Long-term financing from the EIB (EIB Loan for EE); and
- Expert support services for the financial intermediaries (Expert Support Facility).

PF4EE operates through financial intermediaries across the EU. Currently, eight national banks provide targeted PF4EE credit lines.

In France, PF4EE is deployed by *Crédit Coopératif*. It aims to finance EE measures in enterprises as well as households. As of July 2019, *Crédit Coopératif* originated 55 loans and another one was in the pipeline. During 2018-2019, *Crédit Coopératif* operated a new strategic orientation to further support lending to households for EE works and to do so established a strategic partnership with '*Sociétés de Tiers Financement*' (presented below).

This new orientation is still under development and may require an extension of the signing period. As of March 2020, the signing period of the agreement between EIB and *Crédit Coopératif* is still expected to expire in December 2020.

Other revolving instruments

Although not funded with ESIF resources, it is important to mention that various revolving models are in place in France to support EE investments. The most important are:

Éco-prêt à taux zero

This loans product (zero interest rate) can be used to finance energy renovation of residential buildings. As presented in previous sections, the loan amount is capped at EUR 30 000 with a tenor of up to 30 years and is provided regardless of the income situation of the recipient. The product is distributed through various financial intermediaries and based on the 2017 version of the National Energy Efficiency Action Plan, during the 2012 - 2017 period, loans worth EUR 2.8bn were provided under this scheme.

Éco-prêt logement social

This scheme was launched in February 2009, to provide financial support for energy renovations of social dwellings (*logements sociaux*), potential recipients include public entities, social housing entities, mixed companies involved in social housing, etc.

This loan product is an initiative developed by the French State and the national development banks CDC. The amount of this scheme ranges from EUR 9 000 to EUR 16 000 (an increase of EUR 2 000 can be done for energy performance labelled dwellings).

The loan instrument has the target to achieve EE renovations generating savings of minimum 40% compared to the ex-ante situation. Since 2009, three different loan products have been implemented under this scheme:

- Between 2009 and 2011, a loan envelope worth EUR 1.2bn was deployed (loans had a 1.90% interest rate over 15 years or 2.35% over 20 years). The objective was to rehabilitate 100 000 social housing units.
- In 2011, a new generation of the loan product was developed, with the aim of supporting 70,000 EE renovations *per year* until 2020. The applied interest rate was decreased compared to the previous product (the decrease was between 25 and 75 basis points, depending on the loan tenor). This product was amended in 2015 and 2017 in order to broaden the possible recipients and to increase flexibility in the instrument.
- In 2019, a new loan generation was developed, with the aim of contributing to the renovation of 125,000 buildings *per year* (in the context of the national investment plan).

As also reported in the study performed by the ANCT, there are cases where the *éco-prêt* has been combined with ESIF-backed interest rate subsidies. In 2010, the Champagne Ardennes region provided an interest rate subsidy of EUR 2.5m to support the renovation of 2 000 dwellings.

Prêt Éco-Énergie and Prêt Vert

Both products are managed by Bpifrance and their main characteristics have been briefly presented in Chapter 2. With respect to the **Prêt Vert** (green loans), that is dedicated to enterprises (SMEs and mid-caps), based on



information provided by Bpifrance, during the 2010-2013 period, 419 unsecured soft loans with maturities of 7-8 years were provided, for a total Bpifrance financing of EUR 298m and a total investment of EUR 2.2bn.

The SMEs / mid-caps supported were mainly industrial, existing for more than 10 years old, innovative and focused on international development. They intended to develop EE projects for competitiveness purposes (*i.e.* reducing energy and inputs bills, reducing waste production), and more than half of the investments made intended to renew the whole production capacity of the companies. Finally, the facility generated an important leverage effect of x25 and Bpifrance is considering renewing such initiative in the future (potentially in 2020), likely with new features to be designed.

Sociétés de Tiers-Financement (STF)

Defined by the Access to Housing and Urban Renovation (ALUR) law (2014), third-party financing (*tiers financement*) is an economic model which consists in proposing an integrated offer, including the financing of the works as well as a technical and operational management of the project (also after the works). The Energy Transition for Green Growth (TECV) law of August 17, 2015³⁸ has secured the legal framework for third-party financing by explicitly integrating Third-Party Financing Companies (*Sociétés de Tiers Financement*) in the legal exceptions to the rules of banking monopoly. To date, five STFs have been implemented: SPEE in Hauts-de-France, SEM in Ile-de-France, AREC in Occitanie, ARTEE in Nouvelle-Aquitaine, and Bordeaux Métropole Energie.

Although the STF model proves to be effective, certain obstacles to their development remain, in particular with financing HoA (*copropriétés privées*) as, in this case, the STFs face the legal obligation of requiring a guarantee from the borrower. The EIB is strongly supporting the STF model: in 2015, the EIB approved a EUR 400m programme to support STFs. The beneficiaries of this funding programme are the STFs created at regional level in the form of Mixed Economy Company (SEM), Local Public Company (SPL) or public establishments in accordance with the law.

InvestEU

During the second half of 2019, the French National Agency for Territorial Cohesion, together with CDC and Bpifrance, conducted a study about the opportunities for France related to InvestEU, for the 2021 – 2027 programming period. Based on the study, there could be scope for the InvestEU fund to support infrastructure in France (including EE in buildings), in particular:

- **Residential building renovations** could be supported with a guarantee or loans provided by CDC, targeting Home Owners Associations (HOA) in degraded condominiums (*copropriétés dégradées*) and it could complement the grant schemes managed by ANAH-ANRU (presented in Chapter 2). Another instrument could involve a guarantee to support third party financing (*Tiers Financement*) in private residential buildings.
- **Renovation of social housing buildings** could also be supported with a dedicated guarantee scheme, considering that existing schemes (e.g. CDC *Éco-prêt logement social*) seems to have some issues in reaching the ambitious renovation targets. In this respect, the study advice on a combination with ESIF backed grants that could increase the appeal of the product.

There is an interest from the two French national development banks (CDC and Bpifrance) and other relevant stakeholders, to develop the InvestEU fund in France, combining both the EU and the Member State (MS) Compartment. It is however currently not established whether the InvestEU MS Compartment will be mobilised, and so whether a participation to the InvestEU MS Compartment will be mentioned in the Partnership Agreement between France and the EC. Indeed, according to ANCT, French managing authorities currently have doubts on the added value and on the implementation mechanism of the InvestEU MS Compartment. Further discussions between the EC and the French managing authorities may clear these doubts and favour the most informed decision possible from the regions.



NOTES

- 1 EUROSTAT; Population on 1 January by age and sex [demo_pjan]; extracted on 13/02/2020
- 2 EUROSTAT; Real GDP per capita [SDG_08_10]; extracted on 13/02/2020
- 3 EUROSTAT; Final energy consumption (Europe 2020-2030); Energy efficiency [nrg_ind_eff]; extracted on 13/02/2020
- 4 Ratio between: EUROSTAT; Final energy consumption (Europe 2020-2030); Energy efficiency [nrg_ind_eff] and EUROSTAT; Population on 1 January by age and sex [demo_pjan]; extracted on 13/02/2020
- 5 EUROSTAT; Energy productivity [T2020_RD310]; data in Euro per kilogram of oil equivalent (KGOE); extracted on 13/02/2020
- 6 EUROSTAT; Final consumption - energy use; Complete energy balances [nrg_bal_c]; extracted on 13/02/2020
- 7 This data refers to technical final energy savings
- 8 Please see: https://ec.europa.eu/info/sites/info/files/2020-european_semester_country-report-france_en.pdf.
- 9 Information reported in this section is based on Building Market Brief. France. Climate-KIC. 2018
- 10 Building Market Brief. France. Climate-KIC. 2018
- 11 Building Market Brief. France. Climate-KIC. 2018
- 12 EUROSTAT; Final consumption - households - energy use; Complete energy balances [nrg_bal_c]; extracted on 13/02/2020
- 13 Odyssee, 2019
- 14 Odyssee, 2019
- 15 EC. Comprehensive study of building energy renovation activities and the uptake of nearly zero-energy buildings in the EU; 2019
- 16 EU Energy Poverty Observatory; Member State Report; France. June 2020
- 17 National Energy and Climate Plan
- 18 Central Intelligence Agency, the world fact book
- 19 Odyssee, 2019 (technical savings)
- 20 EUROSTAT; Final consumption in industry; Complete energy balances [nrg_bal_c]; extracted on 13/02/2020
- 21 This data refers to technical final energy savings, which excludes savings achieved thanks to economic or behavioural factors
- 22 Odyssee, 2019 (technical savings)
- 23 1 CEE = 1 kWh of cumulative energy savings (kWh cumac). For example, the number of kWh cumac saved following the installation of an energy efficient appliance corresponds to the cumulative total of the energy savings made each year during the appliance's life cycle (National Energy Efficiency Action Plan, 2017 update, page 83)
- 24 National Energy and Climate Plan (page 49)
- 25 www.faire.fr
- 26 National Energy Efficiency Action Plan, 2017 update
- 27 National Energy Efficiency Action Plan, 2017 update
- 28 Odyssee Mure: FRA15 Green & eco-energy loans for SME / "prêt écoénergie" & "prêt vert" (2018)
- 29 European Investment Advisory Hub. EIB. PwC. Financing Energy Efficiency improvement in residential housing in France; Market analysis. 2018
- 30 I4CE, *Pamorama des financements climat, édition 2019*
- 31 National Energy and Climate Plan
- 32 <https://cohesiondata.ec.europa.eu>
- 33 Data provided by DG Regio based on an analysis of fields of intervention
- 34 www.fi-compass.eu/financial-instruments/France
- 35 The ANCT is the French coordination authority for the use of ESIF. It is responsible for the drafting and implementation of the 2014-2020 Partnership Agreement with the EC. It also provides technical support to regional managing authorities in their use of ESI Funds.
- 36 www.europe-en-france.gouv.fr/fr/ressources/rapport-detude-etat-des-lieux-de-la-programmation-feder-2014-2020-en-metropole
- 37 www.fi-compass.eu/sites/default/files/publications/case-study_France_Nord_Pas_de_Calais_Final_2.pdf
- 38 Loi n°2015-992 du 17 août 2015 relative à la transition énergétique pour la croissance verte.

www.fi-compass.eu
contact@fi-compass.eu
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European Commission
Directorate-General
Regional and Urban Policy
Unit B.3 “Financial Instruments and IFIs’
Relations”
B-1049 Brussels

European Investment Bank
Advisory Services *fi-compass*
98-100, bd. Konrad Adenauer
L-2950 Luxembourg