



# Preparatory Report Capacity Building Program

Focus Country France

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# Preface

Buildings are responsible for 40% of energy consumption in Europe and, at the same time, they represent the greatest potential to save energy. Furthermore, energy efficiency can contribute to reduce energy poverty, to boost local economy or to combat climate change. Municipalities and regions can play a key role to stimulate energy efficiency, for instance, by investing in public buildings renovation and therefore improving their energy performance.

However, they do not always have the necessary means to foster such large-scale investments: they do not always easily obtain loans from commercial banks or they are not familiar with alternative financial instruments. In February 2015, the CITYnvest project was launched to support municipalities and regions in mobilising financial resources to invest in energy efficiency in buildings.

CITYnvest supports local and regional stakeholders in identifying suitable financing solutions for energy efficiency renovation in public buildings, for instance, by offering information on how to prepare bankable projects. Within 3 years, the project will train over 650 local governments and provide them with practical step-by-step guidance on innovative financing models like Energy Performance Contracting (EPC), Thirds Party Financing (TPF), revolving funds or cooperative models.

The aim of this preparatory report is to enable the organisation of a national capacity-building workshop in France. It serves as a guiding document for any involved stakeholder and as a steppingstone towards the French long-term strategy.

The aim of the national workshop is to bring together the entire value chain of decision makers and stakeholders to seize the energy efficiency market in France: from interested individuals, to SMEs such as local ESCOs, to financiers and project developers. In order to implement innovative financing models for energy efficiency, local authorities play a decisive role.

This document aims to investigate which innovative financing models could help realizing French energy efficiency objectives and to provoke further debates amongst stakeholders after the CITYnvest national workshop. It provides an opportunity to remain active and in contact with peers and experts. For further information how to get involved please visit [www.CITYnvest.Eu](http://www.CITYnvest.Eu) or contact [info@citynvest.EU](mailto:info@citynvest.EU).

## National context - Summary

The building sector in France comprises residential, commercial and public buildings. Together, these three building categories are accounted for 43% of energy consumption (3,45 billions m<sup>2</sup>), and 23% of greenhouse gas emissions excluding Land Use Change and Forestry (LULUCF), 4th sector in France.

Building sector thus represent an important energy saving potential. Renovating existing buildings, building new ones with very high energetic performance, or reducing energy demand by improving the usage are the national priority.

In France, more than 50 % of buildings were built before 1975. Their average consumption is 240 kWh primary energy/m<sup>2</sup>/year whereas current legal requirements are 50 kWh/m<sup>2</sup>/year. In that context, energy-efficiency renovation work should allow the reduction of the green-house gas emission, decrease of the fossil fuel dependency, and energy bill reduction of many households. It is especially important, as 3.4 million households struggle to pay their energy bills.

New buildings account for around 1% of the building stock each year. Because of buildings lifespan, it is important for local authorities to anticipate the energy performance (energy positive buildings) and to develop the use of renewable energy in order to prevent the increase of energy bills. Especially taking into consideration that as from the 1st January 2020 all new buildings should be energy positive (producing their own energy and reducing energy consumption), according to the national target. This national goal is in line with the objective of reducing energy consumption in France by 38% by 2020, notably by improving the energy performance of buildings. Thus, the emissions caused by the buildings sector will have to decrease by 54% by 2028 and by 87% by 2050 (compared to 2013).

## Overview of the categories of buildings

### Residential buildings

Residential buildings consists of 33.4 million housing units. 56% of them are individual houses (18.8 million) and 44 % are multi-apartment buildings (14,6 million). 55% of the residential buildings stock was built before 1975 and is accountable for 64% of energy consumption. 12% of buildings was built in 1975-1981; 9 % in 1982-1989; 9% in 1989-1998 and 16% after 1999.<sup>1</sup>

### Public buildings

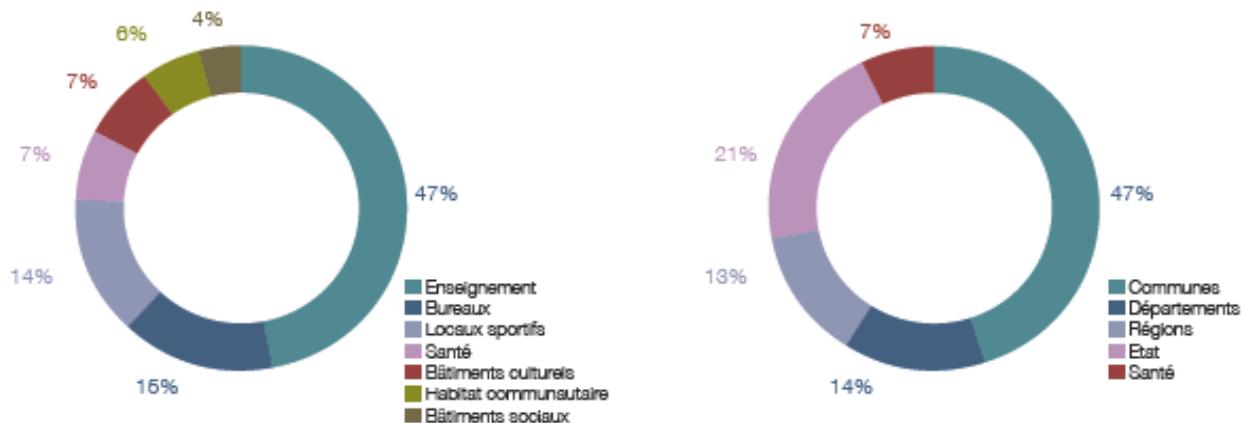
Public buildings stand for 335 million m<sup>2</sup>, which counts for 10-15 % of the total surface area. Public buildings sector covers a broad range of properties, utilizations and stakeholders, although some categories are larger than others (i.e. education, municipal buildings, etc.). The annual energy consumption of public buildings stands for 70 TWh and their CO<sub>2</sub> emissions stand for 12 million tonnes (3% of French emissions).

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<sup>1</sup> <http://www.ademe.fr/sites/default/files/assets/documents/chiffres-cles-batiment-edition-2013-8123.pdf>

## Surface area of public buildings by categories

Répartition des surfaces du parc tertiaire public : secteurs d'activité (gauche) et acteurs (droite)  
Sources : Carbone 4, A.F.T.E.R.



Consommations d'énergie finale du parc public : usages (gauche) et énergies de chauffage (droite)  
Sources : Carbone 4, A.F.T.E.R.

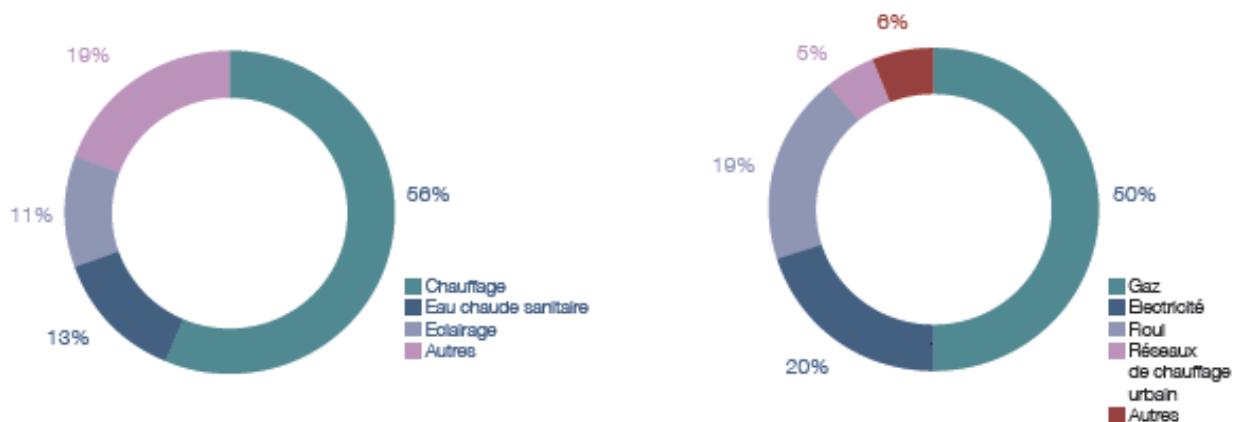


Fig. 1. Top : surface area of public service building by activity sectors (left) and actors (right) Bottom: Final energy consumption of public building by usage (left) and heating energies (right). Source : [http://projet-sfte.fr/?page\\_id=232](http://projet-sfte.fr/?page_id=232)

# Summary of strategy in France

## Legislative framework

### EU legal acts:

- Energy Efficiency Directive 2012/27/EU,
- Directive 2010/31/EU on the energy performance of buildings,
- Implications of the new Energy Labelling Directive (2010/30/EU)
- the Ecodesign of energy-related products (Ecodesign) Directive (2009/125/EC) on market surveillance activities,
- the European Commission Communications „Energy Efficiency and its contribution to energy security and the 2030 Framework for climate and energy policy“

**The main national document regulating energy efficiency in building sector is the « loi de programme fixant les orientations de la politique énergétique » (the POPE Law).**

The POPE Law paved the way for the long-term national objective to decrease CO<sub>2</sub> emissions by four by 2050 from 461 éq. CO<sub>2</sub>. In the shorter term, under the Grenelle I Law, the state sets itself the objective of reducing the energy consumption of the existing building stock by at least 38% by 2020. For the state buildings and public institutions, the aim is to reduce energy consumption by 40% and greenhouse gas emissions by at least 50% between 2012 and 2020 (cf article 5 de la loi n° 2009-967 du 3 août 2009 Grenelle I).

The state also committed to encourage the local authorities to achieve the same targets. France ultimately set itself a key target by including the obligation for the energy renovation of service sector buildings in the Grenelle II Law of 12 July 2010

Very recently, the energy transition bill for green growth sets a target to reduce final energy consumption by 20% by 2030 (versus 2012), and 50% by 2050.

For buildings and dwellings, the bill sets the objective of "renovating the entire building stock in accordance with 'low consumption building' or similar standards by 2050 [...]" . It also contains provisions for the establishment of "the 2050 national strategy to mobilise investment for the benefit of energy management in the national public building stock [...]".<sup>2</sup>

According to the "Assessment of Energy Efficiency Action Plans and Policies in EU Member State", it seems that France has set ambitious targets for reducing the energy consumption of both new and existing buildings. In order to achieve these targets, France has established a well-designed, very comprehensive package focussing on interaction of different policies and measures (regulations, incentives, information and training). Measures are well

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<sup>2</sup> [http://projet-sfte.fr/wp-content/uploads/2014/11/20141118\\_SFTE\\_Synthesis\\_Report.pdf](http://projet-sfte.fr/wp-content/uploads/2014/11/20141118_SFTE_Synthesis_Report.pdf)

interlinked and try to address certain barriers. Moreover, the Energy audits are progressively required in public administration buildings, however energy saving impact remains unclear. Energy efficiency measures in buildings are also done (or planned) at regional level.<sup>3</sup>

## Sector specific measures:

### Thermal regulation

- For new construction, the low-consumption buildings (BBC) standard has been a requirement since 2012 (primary energy consumption must not exceed 50 kWh/m<sup>2</sup>/year on average and energy positive buildings will be mandatory from 2020);
- Million new and existing homes a year will be brought up to a high level of heat insulation by 2017.

Other measures implemented in this sector aim primarily to encourage energy renovations by private owners of existing buildings:

- The CITE (energy transition tax credit), offers since 2005 a single tax reduction rate of 30% for renovation works. Between 2005 and 2011, more than 6 million households have benefited from this incentive.
- The "éco-PTZ" interest-free eco-loan accessible since 2009 to private owners for renovation and energy efficiency works (max 30 000 EUR). Between 2009 and 2012, more than 220 000 éco-PTZ loans have been concluded.

### The National Agency for Habitat (Anah) programme

Combating fuel poverty is another national priority. National Housing Agency and programmes such as "Habiter Mieux" ("Living Better") were put in place in order to tackle this issue. "Habiter Mieux" programme will help 300 000 households struggling to pay their energy bills. Its budget for 2010-2017 is 1.35 billion EUR. Since the creation of the programme until June 2013, 23 000 households have benefited from the programme.

### The housing investment plan

The housing investment plan has been launched in 2013 with the general objective of facilitating access to housing and responding to needs of citizens. It also aims to provide for 500,000 thermal renovations per year starting from 2015, with special attention to households affected by fuel poverty and to social housing.

### The white certificate scheme (CEE)

The white certificate scheme is based on the obligation to make energy savings, imposed by public authorities on energy suppliers (electricity, gas, domestic fuel oil and heating sellers). The energy suppliers are encouraged to promote energy efficiency to their customers (households, local authorities and professionals). After the first period (2006-2009), a second phase was launched on

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<sup>3</sup> [http://www.energy-efficiency-watch.org/fileadmin/eew\\_documents/Documents/EEW2/France.pdf](http://www.energy-efficiency-watch.org/fileadmin/eew_documents/Documents/EEW2/France.pdf)

the 1st January 2011 (2011-2014) and extended to include vehicle fuel retailers. The third period covering 2015-2017 has an objective of 700 TWh of savings delivered. ( CUMAC, fr. cumulé et actualisé, energy saved as a result of renovation works)

## Financial framework

In France, for the entire energy transition, the investment required between now and 2050 is estimated at 2,000 billion EUR<sup>4</sup>. According to Environment and Energy Management (ADEME) the current investment for renovation of buildings is way below the real needs<sup>5</sup>.

In 2013, 50 % of climate investment in France (18.1 billion EUR) went to the buildings sector. Around 11 billion EUR were invested in buildings retrofits<sup>6</sup>. In 2013, households and companies accounted for 80% of investment expenditure in the building sector, compared to 20% for the French state, local authorities and social investors.

In the building sector, public investments (using European, national and local funding) was 5.8 billion EUR in 2013 (32% of all expenditure). Out of those 5.8 billion EUR, about half, or 2.7 billion EUR, corresponds to public incentives for climate initiatives.

- For the renovation of private housing: sustainable development tax credit (CIDD, renamed the tax credit for energy transition, or CITE, in 2014), white certificates (CEE) and zero percent eco-loans (éco-PTZ) ;
- For the renovation of social housing: social housing eco-loans (eco-PLS) issued by Caisse des Dépôts and European Funds (ERDF). Since 10 June 2009, investments made in energy efficiency and renewable energies in the housing sector are eligible for European Regional Development Funds (ERDF). The total amount available for energy rehabilitation works is 4% of the national envelope of ERDF, which corresponds to around 230 million EUR for mainland France and 90 million EUR for the French Overseas Departments for the whole 2007-2013 period and without a ceiling on annual expenditures. For the period 2014-2020, the new ERDF regulations 41, under Article 4, provide for the obligation of a concentration of funds for the Thematic Objective 4 (TO4): "Support the shift towards a low-carbon emissions economy in all sectors". In particular, this objective includes energy efficiency and the use of renewable energies in public infrastructures and in the housing sector.

In the context of the adoption of the energy transition law for green growth, new financial incentives that can support local authorities' projects have been set up:

- National fund for energy transition and green growth of 1,5 billion EUR (for 3 years);
- Special loans issued by Caisse des Dépôts et Consignations (5 billion EUR of which 2.5 billion EUR could support energy efficiency in buildings);
- Loans issued by Banque Publique d'Investissement (BPI) 800 million EUR/year by 2017.

<sup>4</sup> [http://www.developpement-durable.gouv.fr/IMG/pdf/dnte\\_synthese\\_web\\_bat\\_28-8.pdf](http://www.developpement-durable.gouv.fr/IMG/pdf/dnte_synthese_web_bat_28-8.pdf)

<sup>5</sup> [http://www.developpement-durable.gouv.fr/IMG/pdf/gt4\\_financement\\_dnte.pdf](http://www.developpement-durable.gouv.fr/IMG/pdf/gt4_financement_dnte.pdf)

<sup>6</sup> <http://www.i4ce.org/download/landscape-of-climate-finance-in-france-2015-edition-full-report/?wpdmld=13071>

The more classical tools used:

- Loans issued by the European Investment Bank (EIB);
- Local Private banks networks;
- The Energy Performance Contract sets a good framework<sup>7</sup>.

### **Third Party Financing:**

The Third Party Financing refers to debt financing. The project financing comes from a third party, usually a financial institution or other investor, or the ESCO (Energy Service Company), which is not the user or customer. In this model, the total or a substantial share of the cost of renovations is covered from the future energy savings thus the buildings' owners don't need to make big investments. This approach may include both; technical and financial support or only technical support.

Several regions have developed the third party financing models<sup>8</sup>:

- Rhône-Alpes, The Local Public Company OSER manages energy refurbishments of public buildings;
- Picardie : The SPEE offers solutions to individuals;
- Ile-de-France : A semi-public company Energies Positif supports joint owners.

## **Energy Efficiency market**

France has 32.2 million residential buildings covering an area of more than two billion square meters. Tertiary buildings account for more than 900 million square meters where 400 million belongs to local government and state. About 20 million dwellings were built before the first thermal regulations were introduced in 1975, and are highly demanding in energy. These dwellings represent 58% of the housing sector and account for more than 75% of its energy consumption. Their renovation has therefore become a priority, as part of the 'Grenelle de l'Environnement' law, a goal was set to reduce primary energy consumption in existing buildings by 38% by 2020 and to renovate 400,000 dwellings per year from 2013.

In France, there are 4.2 million social housing dwellings (average surface 69m<sup>2</sup>). 10 million people live in those social housing establishments. 400000 dwellings have been retrofitted between 2008 and 2012, and then additional 130000 units by 2013. Regarding public buildings (owned by the state such as Ministry of Defence or by local authorities (such as schools and high schools), approximately 120 million square meters should be retrofitted with an objective of cutting CO<sub>2</sub> emission by two.<sup>9</sup>

To support the local authorities in making use of local competence on energy, the ADEME has elaborated and implemented a service called "Advice in shared energy" (CEP). During the

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<sup>7</sup> [http://www.energy-efficiency-watch.org/fileadmin/eew\\_documents/Documents/EEW2/France.pdf](http://www.energy-efficiency-watch.org/fileadmin/eew_documents/Documents/EEW2/France.pdf)

<sup>8</sup> <http://www.planbatimentdurable.fr/tiers-financement-r210.html>

<sup>9</sup> [http://www.s-ge.com/sites/default/files/BBK\\_France\\_Energy\\_Efficiency\\_Sep-2014\\_1.pdf](http://www.s-ge.com/sites/default/files/BBK_France_Energy_Efficiency_Sep-2014_1.pdf)

creation of this service, the ADEME offers technical support and financial assistance during the first three years of operation. The CEP, is a locally based service directed to the municipalities with less than 10 000 inhabitants and aims to:

- Manage energy by tracking invoices;
- Reduce consumptions to the same comfort level;
- Assist the municipality in its building projects to optimise its choices;
- Carry out awareness programmes.

Energy performance contracts are also under development. Numerous towns, conurbation committees, general or regional councils implement this type of contracts.<sup>10</sup>

### Value chain of energy efficiency services in France

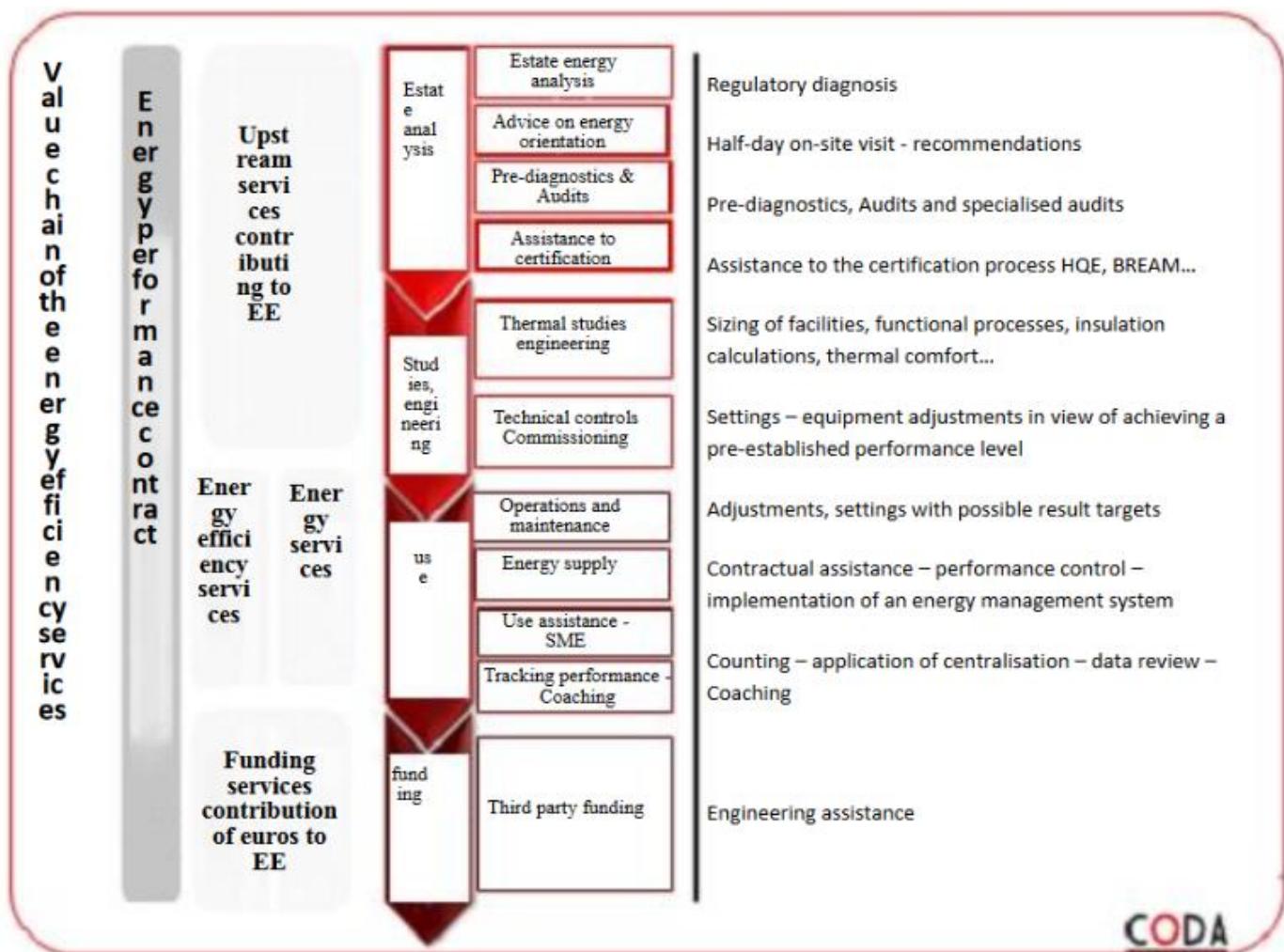


Fig 2. Value chain of energy and energy efficiency services. Source: ADEME/CODA strategies 2013.

As illustrated by this value chain, the French energy and energy efficiency services market is diverse and heterogeneous. However, it is possible to identify the following main market segments:

<sup>10</sup>[https://ec.europa.eu/energy/sites/ener/files/documents/2014\\_neep\\_en\\_france.pdf](https://ec.europa.eu/energy/sites/ener/files/documents/2014_neep_en_france.pdf)

- **Additional upstream services, prior to energy efficiency measures:**
  - DPE (Diagnostic of energy performance): the number of DPE has been estimated at 600 000 annual diagnoses carried out in the first years of implementation of the system that became mandatory in 2006. The rate of current enrolment of DPE based on the DPEs managed by the ADEME allows to assess the annual market of DPE at around 130 million EUR in 2013. This market could increase to 147 million EUR in 2017.
  - Energy advice visits, which are usually free services offered by the Chambers of Commerce and Industry or by Energy Information Point resulting in recommendations. The equivalent market of these services has been evaluated at 30 million EUR.

In 2013, the energy audit market was evaluated at 183 million EUR.

- The development and implementation of energy management systems: the ISO 50001 standard appeared in June 2011 and since then around fifty companies have been certified in France. At the beginning, it was the energy efficiency service companies, thermal users and manufacturers of regulation systems that adopted this approach for their own business. Now, the biggest contributors are companies from the food industry, the pharmaceutical industry and the steel industry, as well as local authorities. This market could reach 7.7 million EUR by 2017.
- Engineering and thermal studies associated with energy optimisation represented in 2013 almost 1 450 million EUR.

- **Energy and energy efficiency services associated to exploitation**

- Project Management Assistance services: the extrapolation of data collected from certain players allows to estimate the impact of assistance services on exploitation at around 25 million EUR.
- Energy efficiency services linked to metering and submetering represented in 2013 a market of 144 million EUR.
- Energy coaching is an emerging energy efficiency service for which the amount of funds involved seems modest (in the order of 2 million EUR).

- **Thermal and electrical equipment providers**

- **Energy performance contract (EPC)**

Energy efficiency services via energy performance contracts are seen quite a surge over the past few years. The market was estimated at 133 million EUR in 2013. Additionally, EPC worth 56 million EUR were completed within the scope of the public-private partnerships for public lighting. The distribution of the market according to the amounts invested shows that the extreme segments are those that generate greater revenue. Above all, these segments offer the possibility of creating an offer of equipment and installers that use the EPC formula to renovate equipment on-site, without taking on extensive work on the building.

In view of the above elements, we can estimate that the overall amount of the energy and energy efficiency services market at 7.2 billion EUR in 2013.<sup>11</sup>

However, certain factors hamper the development of the energy efficiency services market:

- Users, clients and investors are faced with the complexity of certain markets or of certain contracts;
- Currently the short-term return on investment in certain cases, in particular for extensive investments and associated services is difficult to demonstrate.<sup>12</sup>

## Long-term recommendations

- Putting the renovation operations investments outside the scope of public debt are now key requirements in bringing about a change of scale. It would be advisable to apply a specific treatment to certain energy-transition investments when calculating the public debt and deficit within the meaning of EU rules. That would imply modification of Maastricht criteria.
- Creation a specific state climate contribution to local authorities that are engaged in energy efficiency and climate policies (financed by carbon price, ETS).
- Promote and support users, clients and investors to better deal with contracting procedures, etc.

The CITYnvest national workshop in France aims to develop further and more concrete recommendations.

## National Workshop

### Format (goals, follow-up plans)

The orientation of the workshop is to show evidence of innovative financing models that successfully have been applied in different Member States with a focus on possibilities to replicate them. The objective of the workshop is to trigger discussions between key decision makers and the entire value chain of the French energy efficiency market. Emphasis will be on exposing local and regional decision-makers on the important facilitating role they can play in the take-up and scale-up of innovative financing for energy efficiency in the French context. The workshop will work as steppingstone to accelerate necessary collaboration between stakeholders, to be inspired from successful examples and to discuss on a step-by-step approach.

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<sup>11</sup> [https://ec.europa.eu/energy/sites/ener/files/documents/2014\\_neeap\\_en\\_france.pdf](https://ec.europa.eu/energy/sites/ener/files/documents/2014_neeap_en_france.pdf)

<sup>12</sup> [https://ec.europa.eu/energy/sites/ener/files/documents/2014\\_neeap\\_en\\_france.pdf](https://ec.europa.eu/energy/sites/ener/files/documents/2014_neeap_en_france.pdf)

### **Proposed format:**

In order to realise the inspiring effect, the event will include lively presentations on best practice examples, with special focus on step by step guidance for French local and regional authorities on how to replicate those solutions. Afterwards a panel debate will be organised with key decision makers and practitioners in the field. The discussion will focus on obstacles that still hinder broad application of innovative financing in France and solutions how to overcome them and mainstream those models. The final part will include a session dedicated to defining next steps and building strategies and roadmaps.

The formula of events themselves will support building links via networking sessions, speed-dating or even coffee breaks etc. After the workshops we will follow up with participants, provide them with workshops presentations, list of participants and reminding them of possibilities for exchange information through CITYnvest website.

## Schedule

Date: September 2016

Location: Nantes, in parallel to the Climate Chance Summit

## Expert mobilisation

### **Prospective speakers and participants:**

- Comité de Liaison des Energies Renouvelables, which despite its name works a lot on energy efficiency in buildings. They are very active in the French energy efficiency coalition composed of tenants, building retrofitting companies, social landlords, etc. and organise each year an award for local authorities in transition. <http://www.cler.org/>
- Climate Action France, which has developed with the French Energy Agency ADEME a tool for developing local energy action plan in local authorities <http://www.rac-f.org/L-util-CLIMAT-PRATICADEME>.
- SEM Energie Positif, [www.energiespositif.fr](http://www.energiespositif.fr) SPL Oser en Rhône Alpes renovation énergétique des bâtiments publics
- Agence France Locale
- Plan Bâtiments durables
- Institute 4 Climate Economics I4CE
- French Environment and Energy Agency (ADEME)
- ADF (French Development Agency)
- Ministry of Economy, Finance and Industry
- French National Housing Agency

## National communications multiplier

**Name:** Association Française du Conseil des Communes et Régions d'Europe (AFCCRE)

**Short description:** AFCCRE has nearly 1200 members: local authorities, municipalities, counties, regions and associations of municipalities. It is currently chaired by Alain Juppé, Mayor of Bordeaux, former Prime Minister.

**Website:** <http://www.afccre.org/>

**Other communication channels (newsletters, social media etc.):** AFCCRE website; AFCCRE twitter account : <https://twitter.com/afccre> ; special information sent via mail to all members

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