

Market Report on the French EPC Market

Deliverable D2.2

Horizon 2020

Grant Agreement No. 696040



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 696040.

Imprint

Published by:

Berliner Energieagentur GmbH

Französische Straße 23

10117 Berlin

Telephone: +49 (0)30. 29 33 30-69

E-mail: hermann@berliner-e-agentur.de

Internet: www.guarantee-project.eu

Author(s): Antoine Colin-Goguel

Image rights:

Mentioning of image rights

Disclaimer:

The sole responsibility for the content of this publication lies with the authors. It does not necessarily reflect the opinion of the European Union. Neither the EASME nor the European Commission are responsible for any use that may be made of the information contained herein.

Table of Contents

1. Executive summary	4
2. Framework conditions	6
2.1. Relevant national legislation and regulation	6
2.2. Relevant public support schemes	7
2.3. Development of energy prices in France	8
2.4. Critical assessment	8
3. Key actors	11
3.1. Description of key actors	11
3.2. Critical assessment	12
4. Market volume	13
4.1. Estimation of market volume	13
4.2. Critical assessment	14
5. Market assessment of EPC sectors	15
5.1. Public sector	15
5.2. Private sector: Industry	16
5.3. Private sector: Tertiary sector	17
5.4. Private sector: Residential buildings	18
Annex: Price development in France	19
References	22

1. Executive summary

Political Framework:

- Most important driver for EPC:
Before 2012, EPC on public clients not considered public debt.
- Most important barrier for EPC
Legal monopoly on banking operations, (legal exception on public tenders), inclusion of some EPC programs as public debt
- Most relevant support schemes
French white certificates program which provides financial retribution to targeted energy efficiency operations

EPC market:

- Public sector
 - Most relevant opportunities:
Importance of the potential market and possible out-balance sheet investment, role of public sector planification between different local levels of government
 - Most relevant barriers and threats
Lower drive from expectations in energy prices, current accounting practices in high public debt environment
- Private sector: Industry
 - Most relevant opportunities
Openness to outsourcing non core functions, public financing of investments
 - Most relevant barriers and threats
Relative price evolution of energy, interference with control of core functions
- Private sector: Tertiary Sector
 - Most relevant opportunities
Possible integration of energy efficiency with heat management
 - Most relevant barriers and threats
The split incentives dilemma;
- Private sector: Residential Buildings

- Most relevant opportunities
Legal obligation to renovate facades and to conduct energy audits, high public support
- Most relevant barriers and threats
Relative cost of energy efficiency investments versus relatively low energy prices, difficult legal decision taking framework, split incentives dilemma

2. Framework conditions

2.1. Relevant national legislation and regulation

In 2007, the French ministry for Sustainable development invited a very wide array of stakeholders to a series of consensus roundtables named “Grenelle de l’environnement”. This process was to produce a very ambitious roadmap in the French transition, encompassing subjects from energy, transports and industry to buildings and agriculture. Regarding buildings, the consensus called for new targets in energy efficiency in new constructions, and a reduction of 38% of energy consumption by existing buildings in 2020. 400.000 housings were to be renovated annually after 2013.

Since then, different laws have been passed every year or two, setting up objectives and continuously building upon early feedback from application and validation of new ideas. The NEEAP plan was a milestone of this process.

Legislation / regulation	Effect on energy services / EPC
The Grenelle Act mid-2009 was an ambitious encompassing legislation on sustainable development. It regulated both agriculture, transports industry and urbanism, and set targets for energy efficiency of new and existing buildings.	+
The Grenelle II, passed mid-2010, made an energy diagnostic of buildings mandatory starting 2017 for co-ownerships bigger than 30 appartements	+
A march 2013 simplification law allowed collective loans to co-ownerships	0
In July 2013, a dedicated law transposed much of the EED	+
The ALUR law regarding access to housing, passed in March 2014, gave a legal status to third-part financing, as the conjunction of a collective credit offer and the realisation of works; it also lessened the majority for energy efficiency works on co-ownerships and imposed, starting 2017, a fund dedicated to works in co-ownerships	+
The National Energy Efficiency Action Plan NEEAP was adopted in 2014	0

Legislation / regulation	Effect on energy services / EPC
The Energy Transition act for a Green growth adopted July 2015 allowed third-part financing to be ruled by specific prudential and authorisation processes; it also imposed mandatory thermal renovation in housing if important works are undertaken in a building, and starting 2025 energy renovation of building consuming over 330 kwh/sqm/y for five specified usages.	0

2.2. Relevant public support schemes

Public support to energy efficiency works through many channels, in the form of subsidies to efficiency, direct or intermediated (financial sector, works companies, etc...).

The main difficulty resides in the compatibility of the different schemes, often relying on competing criteria for the same services.

Funding / support scheme	Open to client and/or ESCO	Effect on energy services / EPC
CITE (tax refund for energy efficiency works)	Client	+
CEE (white certificates)	Client / EscO	+(++)
Eco individual and collective soft loans	Client	+
VAT soft rate for energy efficiency works	Client & ESCO	0
Local governments subsidies to energy efficiency works	Client	+
Local governments subsidies to energy efficiency studies	Client	+
ANAH: individual subsidies for renovation concentrated on less affluent owners	Client & ESCO	0 (+)

As of today, there is no specific public scheme tailored for EPC.

2.3. Development of energy prices in France

Energy prices and price relations strongly influence the attractiveness of energy efficiency investments and the economic viability of energy services. Their evolution can be seen as follows (source: Eurostat)

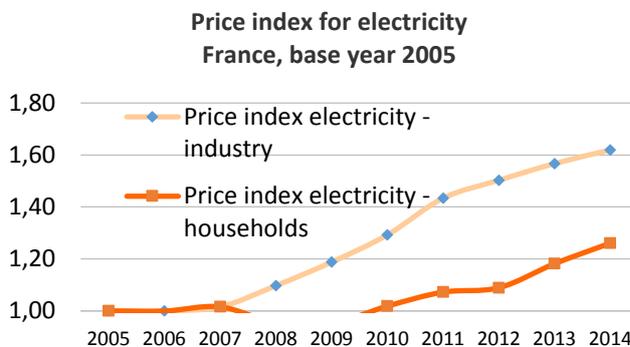


Figure 1: Development of electricity prices in France

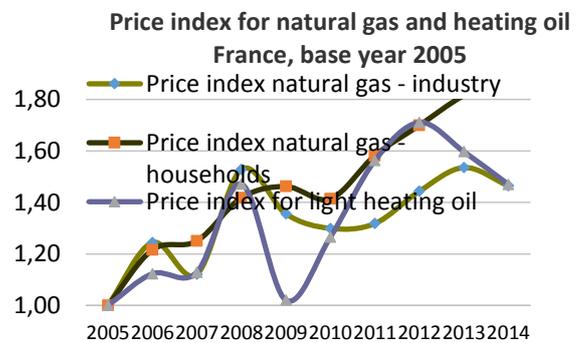


Figure 2: Development of natural gas and heating oil prices in France

It can be stated that:

- Prices for **electricity** have moderately increased since 2005: approx. 60 % in industry and 25 % for households.
- Despite this evolution, the French national structure of electricity market has kept prices low in comparison to other European countries. This is partly due to the French Government not respecting legal formulas for the annual price hike.
- On the contrary prices of gas for households has markedly augmented following a different trajectory than prices of gas for industry.

Graphs illustrating not only the price indexes but also the absolute prices for gas, oil and electricity as well as the detailed figures are attached in annex B.

2.4. Critical assessment

National legislation and regulation

The national strategy for Energy efficiency, laid out in the Grenelle legislation and in the EED framework, has allowed an extensive set of measures to converge. As of yet

though, EPC activity has not been fully taken into account and actors have to deal with schemes designed for the clients or providers.

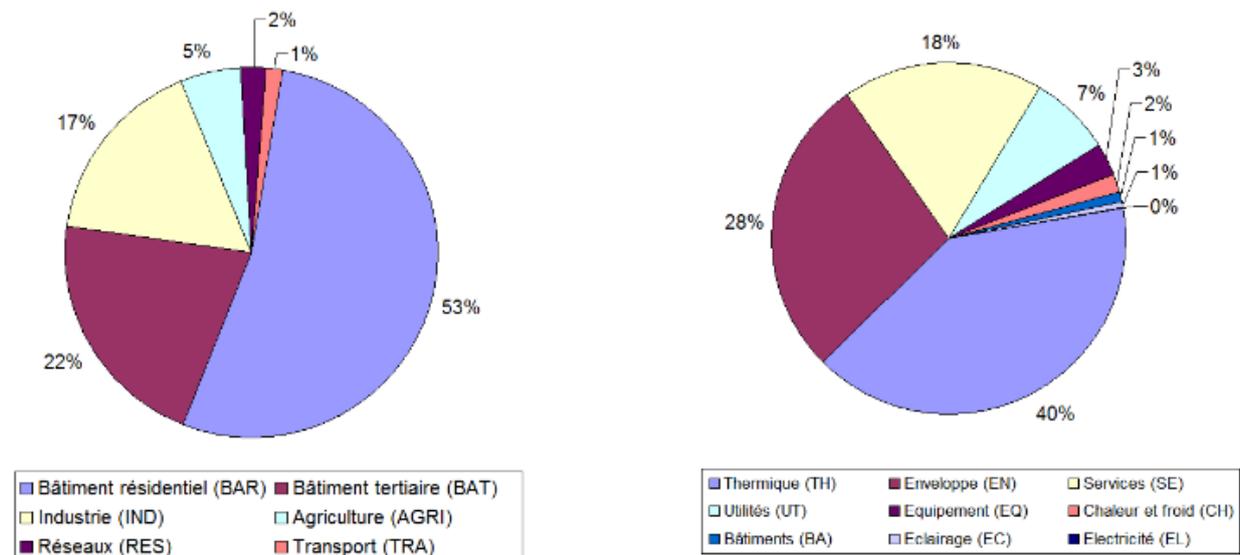
An important market for energy efficiency has been public procurement, through the use of public private partnerships (PPP). Until 2012, legal practice allowed for such operations to be considered as private debt and not as public debt. This has led to favouring such contracts despite they would not always be the best performing offer available. Since 2015, the partnership contract is more closely regulated, but it can be considered that the previous period has opened the market.

Public support schemes

Public support schemes cover a wide array of measures. Combined, they can amount to half the cost of a renovation and form a very powerful lever. As obligations to renovate grow, however, it is expected that the trend of public support will be lessening.

Tax rebates on energy efficiency actions have amounted to 900 M € in 2014 (paid in 2015), soft VAT represented a 1.200 M€ support to energy renovation and 405 M € of green soft loans have been issued in 2015.

According to the national register for white certificates (CEE), 314.3 TWh have been registered in 2015, corresponding to an annual reduction of consumption equivalent to 1.59 Mtoe. They correspond to the following sectors and actions:



The availability of public schemes for ESCO does however suffer from the heterogeneity of separate schemes that do not agree on the criteria to be used to assess the operations. Hence, the change of a boiler will require different assessments for tax refund, VAT reduction or issuance of white certificates. Some schemes cannot be cumulated, such as white certificates and ANAH's aid for low-income households. This forces a choice between an aid that will moderately help the whole condominium and an aid that will strongly impact modest households.

The trademark of the French public support for energy efficiency is its high complexity, calling for expertise in favour of clients. But not every aid allows for mandates, and the ESCO can often not file the appropriate request on behalf of the client.

Financing

Given the underdevelopment of ESCO's in France in a general meaning of the term, the market does not currently provide financing for instruments and risks that the banking and insurance sectors have no prior experience with. Discussions are underway at the national government level to build such prior experience and allow the market to function.

Clients however are able to access cheaper financing resources given low credit rates in the building sector.

The temporary diminution of energy costs hinders ambitious programs, by lengthening the return on investments.

3. Key actors

3.1. Description of key actors

ESCOs

The French Esco market has a historical particularity. The logic behind Esco has been structured through public law for services of general interest (public light, water, transports...) since the end of the XIXth century. This has produced very strong actors, but on rather defined and regulated activities. Thus the market is very developed in practical applications of Esco intervention, but has not until recently favoured Esco's as such. On the contrary market structures in sectors like heat facility management have produced a score of well established oligopolies. This has made it difficult for new entrants to penetrate the market of energy efficiency.

Mainly, energy efficiency services have been developed by existing players extending their usual activities. Heat managers (Cofely and Dalkia) have proposed the change of boilers and heating systems. The share of heating management contracts incorporating a result guarantee has been up by 23% between 2012 and 2015 according to the national federation SNEC. Contracts Providers of energy systems (Siemens, Schneider electrics, Johnson Controls...) and works companies (Bouygues, Vinci) have developed joint offers with heat managers, especially in relation with public customers. Energy producers (EdF and GdF-Suez) offer solutions allowing to diminish peak consumption. The Fedene federation, grouping 500 actors in energy efficiency services; however the abovementioned companies and their subsidiaries represent the near totality of the market.

The fragmented nature of public schemes has also allowed some actors to target specific interventions: SME'S have specialized on the installation of heavily subsidized elements, such as boilers or windows. Interestingly, some retail actors have also developed a financial engineering offer around white certificates, structuring a network of installers.

Public sector

The public sector is the main historical client of EPC through public services. This led however to particular standardized types of public contracts regulating those services, and new models of intervention have to find their way through the present procurement regulations. It has to be added that public accounting practices were very favourable to Esco's before 2012, since not public debt was inscribed. This has led to abuses and to arguably lax negotiations practices. EPC contracts are less rewarding

since 2012 in a high public debt context, but the sheer number of public buildings so renovate provides for a steady demand.

Private sector (Industry, Commercial, Housing)

Industry as of yet does not appear very supportive of Esco's in the core production process, despite exceptional partnerships. Given the relatively low cost of energy, it has not been a priority and the French industry is not at the forefront of energy efficiency in Europe. Industrial buildings however are generally free of the split incentive dilemma.

The tertiary sector is an interesting market given the price awareness of professional managers; however the split incentive dilemma can be present.

The housing sector is the most important market, historically driven by heat management contracts. Public support is very important in favour of private owners, but the legal framework for decision taking in co-ownerships is aggravated by a fragmentation of the split incentive dilemma.

EPC facilitators

The necessity of renovation facilitators has been explicitly acknowledged as a major subject regarding private housing. An important number of public funded local counsellors have been tied into a network and national websites help owners and inhabitants to reach the appropriate facilitator.

No such initiative has been developed towards private companies and the public to the same level, while ADEME and the government offer some general advice.

3.2. Critical assessment

France is an old important market for EPC, but its early development has led to a different structuration of actors and type of contracts.

4. Market volume

Figures on the size of the French market are disputable given actors have not structured as pure Esco's. Some attempts can be made.

4.1. Estimation of market volume

According to Fedene, members represented an 11 Bio € turnover in 2012. The EPC share of this activity has to be estimated.

A 2012 empirical study trying to assess this share for each the main actors of the market (see 3.1) finds a market size over 70 Mio €, and probably around 100 Mio €.

Figures are lacking relative to energy renovation in public buildings, but the French government in its 2016 report to the Commission on the application of EED directive estimates that renovations in the public sector have mobilised close to 90 Mio € in 2015. It is worth noting that an analysis of published public procurements in JOUE reveals a limited scope of renovation (heating systems, public lightning) in a significant number of cases.

Regarding the private housing sector, the size of the market can be appreciated by 2005 figures relative to the energy class of housings in Ile-de-France. Quite clearly, the size of the potential market is important. Renovation is underway, as the final energy consumption in the housing sector amounted to 46.4 Mtoe in 2012, down to 45.8 Mtoe in 2014, according to the statistical service of Environment Ministry (SOeS)

EPD class	A	B	C	D	E	F	G
Repartition	0%	2%	12%	33%	29%	15%	9%
Number of Housing	22	78 000	560 000	1 500 000	1 320 000	700 000	400 000

4.2. Critical assessment

The potential market for EPC is both very important in France, and can be served by major players at world level. The development of Esco's does rely on a few key points.

The market is divided into a series of monopolies with well-defined economic and legal framework. It will require diversification and the installation of new players, or the extension of their activity by existing players.

The financial sector's intervention in energy efficiency is underdeveloped because major companies have been able to internally finance operations. A rise of "green financing" is necessary for new offers to emerge.

Lastly, some legal difficulties have to be alleviated on public procurements, the banking monopoly and co-ownership governance.

5. Market assessment of EPC sectors

It is possible to issue the following SWOT matrices for different sectors in France:

5.1. Public sector



5.2. Private sector: Industry





5.3. Private sector: Tertiary sector

STRENGTHS

- Increased building value
- Financing through ESCO and public support optimisation

WEAKNESSES

- Requirement of availability of the building
- The split incentives dilemma in case of rented facilities

OPPORTUNITIES

- Energy cost savings
- Compliance with legal obligations
- Public relationships
- Integration of energy efficiency within heat management services

THREATS

- Highly fragmented public support schemes leading to partial renovations

5.4. Private sector: Residential buildings

STRENGTHS

- Financing through ESCO
- Increased building value
- Decrease of energy consumption

WEAKNESSES

- Complexity of decision taking process
- Split incentives dilemma
- High legal complexity
- Lack of trust towards operators: will to keep control over operation

OPPORTUNITIES

- Energy savings
- High public support for and obligations relative to energy efficiency

THREATS

- Uncertainties about actual performance
- lack of legal guarantee on the financing
- No proven ready-made works solution in France



Annex : Development of energy prices in France

		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Price natural gas industry¹	€-ct/kWh	2,12	2,63	2,37	3,24	2,87	2,75	2,79	3,06	3,25	3,10
Price index natural gas industry	-	1,0	1,2	1,1	1,5	1,4	1,3	1,3	1,4	1,5	1,5
Price natural gas households²	€-ct/kWh	3,88	4,71	4,85	5,50	5,67	5,48	6,13	6,59	7,04	7,32
Price index natural gas households	-	1,0	1,2	1,3	1,4	1,5	1,4	1,6	1,7	1,8	1,9
Price for electricity industry³	€-ct/kWh	5,78	5,78	5,87	6,34	6,87	7,47	8,29	8,69	9,06	9,36
Price index electricity industry	-	1,0	1,0	1,0	1,1	1,2	1,3	1,4	1,5	1,6	1,6
Price for electricity households⁴	€-ct/kWh	14,77	14,76	15,00	14,10	14,05	15,04	15,84	16,09	17,45	18,62
Price index electricity households	-	1,0	1,0	1,0	1,0	1,0	1,0	1,1	1,1	1,2	1,3
Price for light heating oil	€/1.000l	548,94	616,53	619,87	807,71	560,22	694,49	857,66	938,73	876,74	806,98
Price index for light heating oil	-	1,0	1,1	1,1	1,5	1,0	1,3	1,6	1,7	1,6	1,5

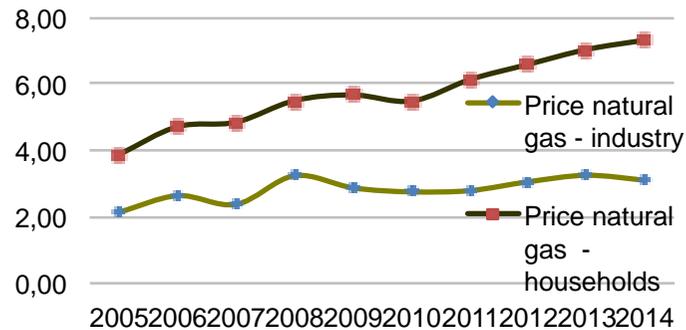
¹ Database 2005-2007: Consumers with about 1.16 Mio. kWh (= 417.600 GJ), 330 l/a of use, 3.000 t/a of use. From 2008 on: All consumers with consumption of 100.000 to 1.000.000 GJ/a. Price exclusive of VAT, including taxes.

² Database 2005-2007: Annual consumption of households around 23.000 kWh (prices inclusive of taxes). From 2008 on: All consumers with consumption of 20 to 200 GJ/a.

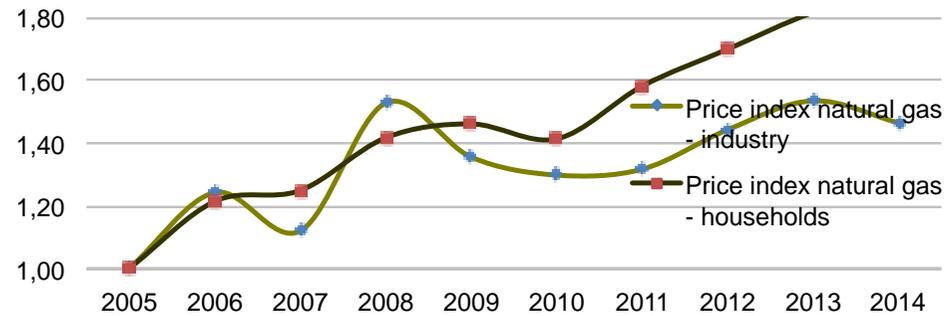
³ Database 2005-2007: Consumers with about 2 Mio. kWh; maximum power consumption: 500 kW; annual use: 3.000 t/a. From 2008 on: All consumers with consumption of 500 to 2.000 MWh. Price exclusive of VAT.

⁴ Database 2005-2007: Annual consumption of households around 1.200 kWh. From 2008 on: All consumers with consumption of 1.000 to 2.500 kWh/a. Price inclusive of taxes and home delivery.

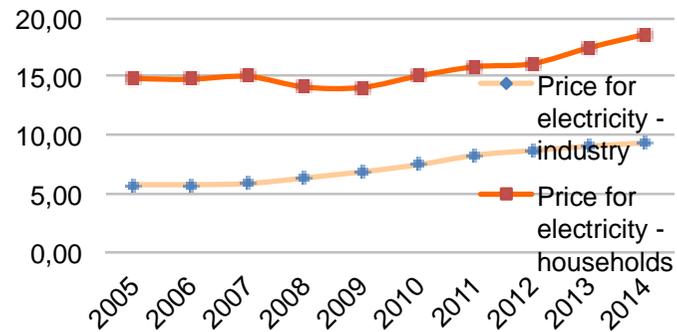
Prices for natural gas (ct/kWh),²
France



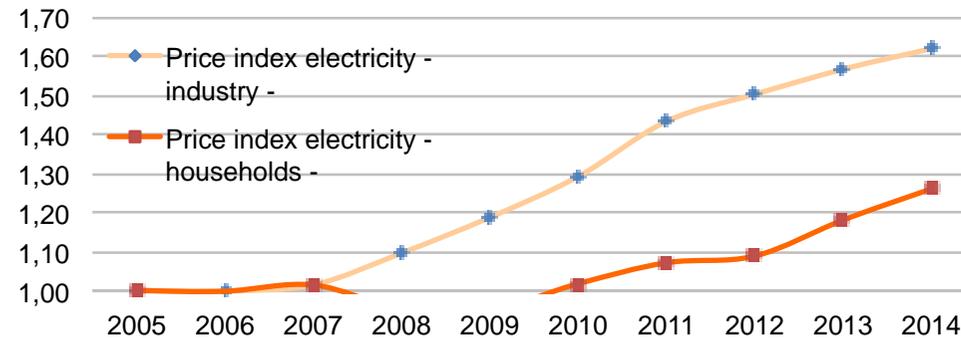
Price index for natural gas²
France, base year 2005



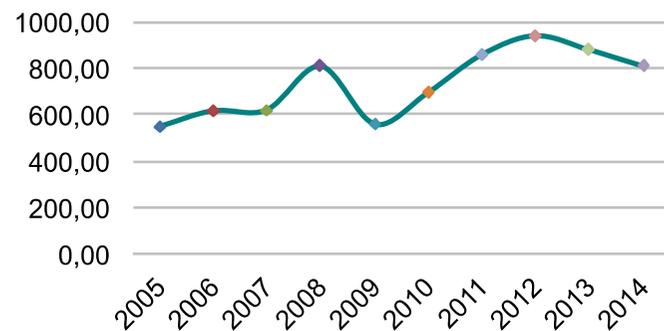
Prices for electricity (ct/kWh),²
France



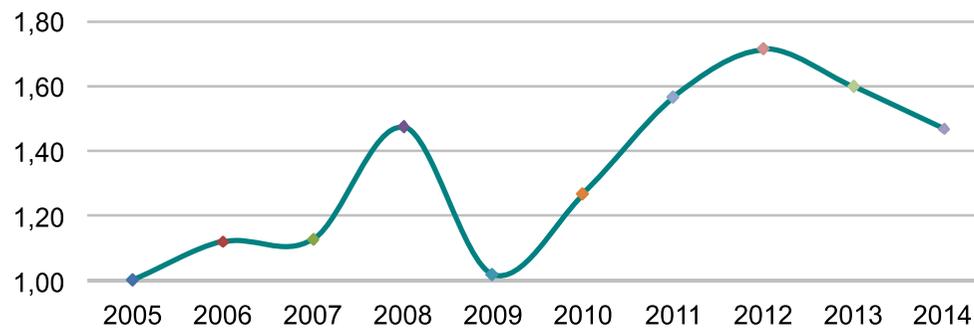
Price index for electricity²
France, base year 2005



Prices for light heating oil (€/1000 l), France



Price index for light heating oil France, base year 2005



References

ADEME, 2016 : *OPEN 2015*

Bullier, A., Lefevre, C., Madoulé, D., Azan, W., Bigot, E., 2011: *Contrat de performance énergétique en logement social,*

Commissariat Général au Développement Durable, Denjean, M., 2015 : *Consommations énergétiques des ménages en 2012*

Duplessis, B., Adnot, J., Dupont, M., Racape, F., 2012 : *An empirical typology of energy services based on a well-developed market: France*

FEDENE, SNEC, 2016 : *Chauffage collectif et efficacité énergétique*

I4CE, Morel, R. Cochran, I., 2015 : *Towards an improved integration of sustainability in Finance – The French (eco)system*

I4CE, Leseur, A., Bordier, C., 2013 : *Lutte contre la précarité énergétique : analyse des politiques en France et au Royaume-Uni,*

Institut négaWatt, Fink, M., Legrand, V., 2014 : *La transition énergétique du secteur de l'industrie*

Institut négaWatt, Fink, M., Legrand, V., 2014 : *La transition énergétique du secteur du bâtiment*

Institute for Energy, Marino, A., Bertoldi, P., Rezessy, S., Boza-Kiss, B., 2010 : *Energy Service Companies Market in Europe*

Gouvernement Français, 2016 : *Rapport annuel 2016, dû au titre de l'article 24 de la Directive Efficacité Énergétique (DEE)*

Ministère de l'Écologie, du développement durable et de l'énergie, Direction Générale de l'Énergie et du Climat , 2014 : *Plan d'action de la France en matière d'efficacité énergétique – 2014*

Milin, C., Rakhimova, L., Zugravu, N., Bullier, A., 2011 : *FRESH - Financing energy REfurbishment for Social Housing*

Ortega, O. 2011 : *Les contrats de performance énergétique*

Réseau Action Climat, Julia, P.-E., Meike, F., Sczcpan, N. 2015 : *La précarité énergétique à l'heure de la transition énergétique*