Energy Efficiency for a world leader in energy and the environment

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Roma

Group profile

GDF SUEZ develops its businesses around a model based on responsible growth to take up the great energy and environment challenges: responding to energy needs, ensuring the security of supply, fighting against climate change and maximizing the use of resources.

The Group provides highly efficient and innovative solutions to individuals, cities and businesses by relying on diversified gas-supply sources, flexible and low-emission power generation as well as unique expertise in four key sectors: liquefied natural gas, energy efficiency services, independent power production and environmental services.

Key figures: revenues, workforce and capacity by region

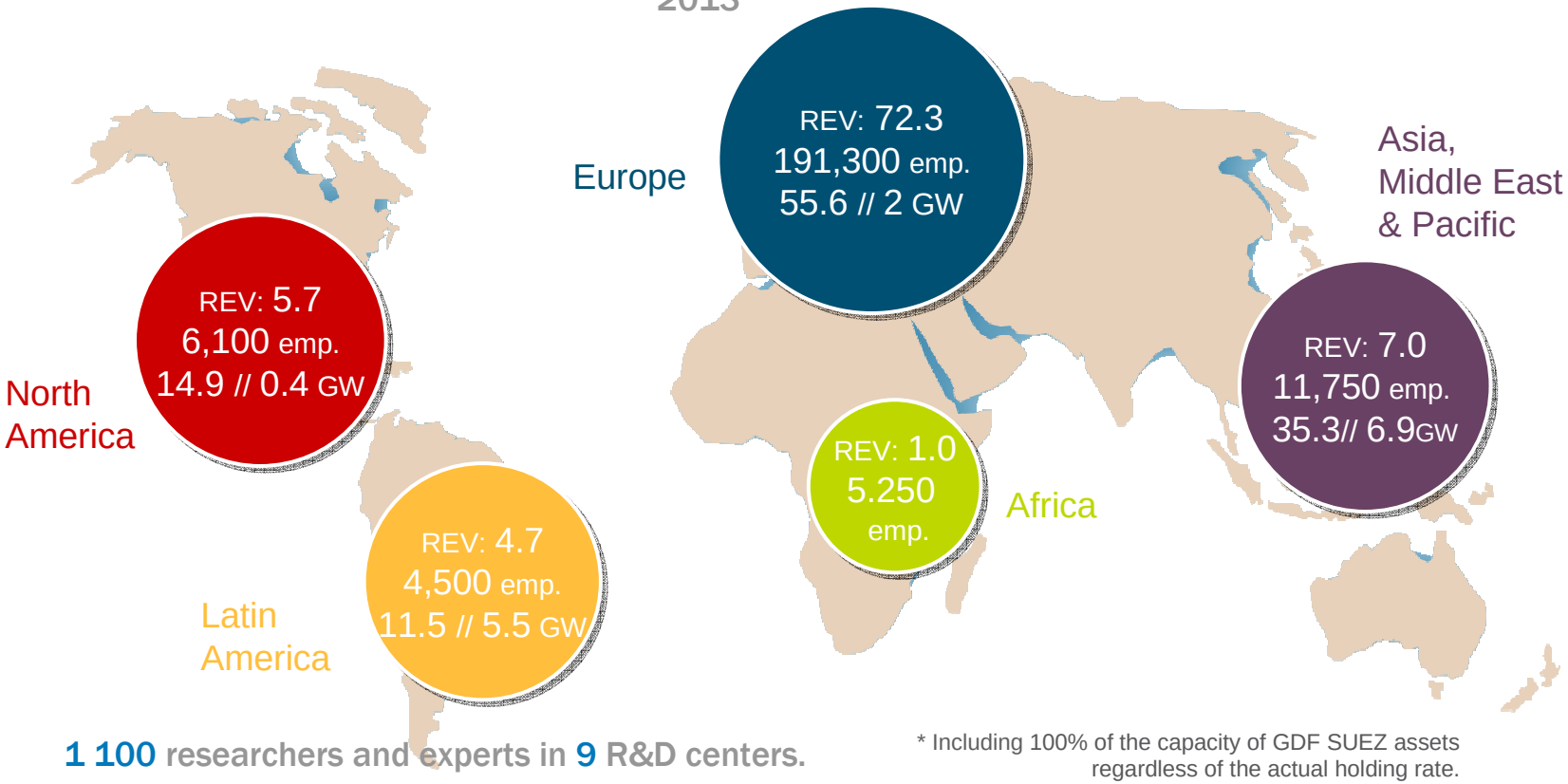
1st company in the "utilities" sector worldwide (Forbes Global 2000).

€90.7 billion in 2011revenues

218,900 employees

€11 billion invested per year over 2011-2013

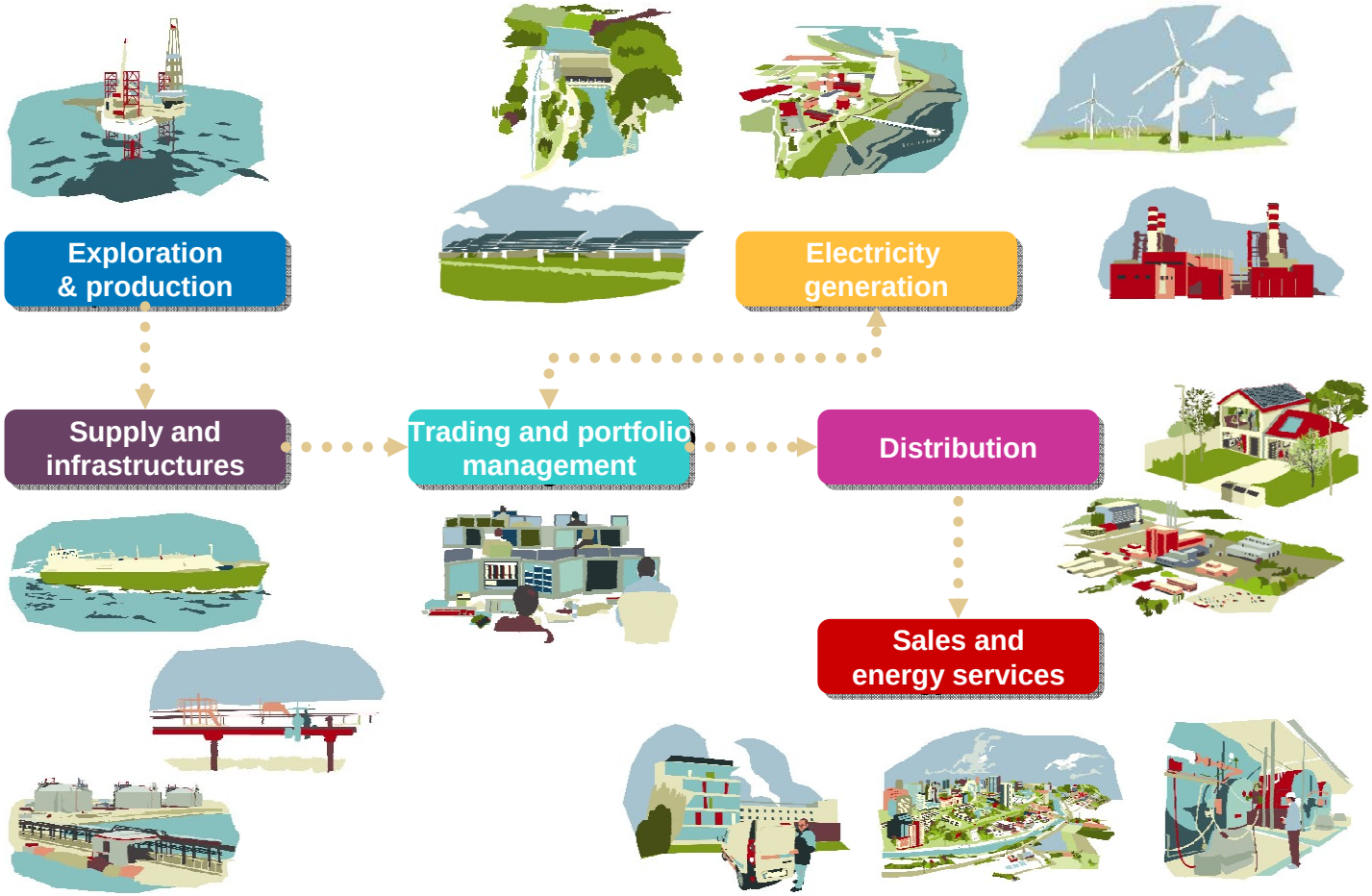
Capacity: **117.3 GW** installed // **14.8 GW** under construction *



1 100 researchers and experts in **9** R&D centers.

* Including 100% of the capacity of GDF SUEZ assets regardless of the actual holding rate.

A presence across the energy value chain



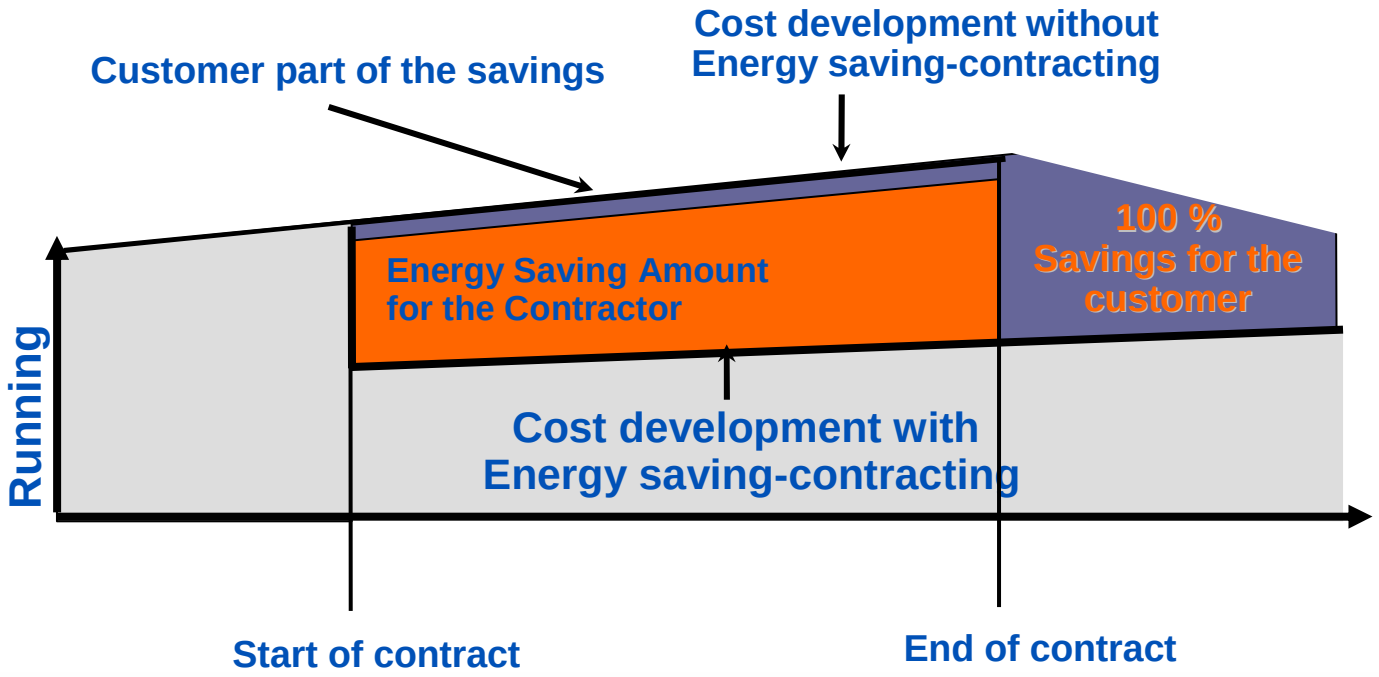
Businesses, Industry and local authorities

Our services range from multi-techniques, and energy operation and maintenance to comprehensive solutions

Acting as both operator and consultant to its clients, GDF SUEZ has long-term commitments focusing on the reduction of energy consumption, optimised use of renewable energies and on limiting the release of greenhouse effect gases. Through its realisations, GDF SUEZ guarantees results to its clients through performance contracting.

Energy Performance Contract: validation of Energy Efficiency in an operating business model

- Optimization of existing building technology to lower the energy consumption
- Energy savings recoup capex & opex; no money needed by the customer
- Energy saving guarantee; no risk for the customer



Sustainable economical model for Energy Efficiency

Economical sense : with complete business line dedicated to it.

14.2 billion€ turnover
77,200 employees
1,300 locations in Europe
130,000 clients
30 countries

Environmental sense : with proven results

•Concrete results : a gain of 14 % in specific energy consumption
Heating ratios in the residential sector: our average:
144 Wh/m^2/year compared with a French average of 169 Wh/m²/year
(140 million m^2 managed in France)

•Energy Efficiency over time thanks to performance contracting EPC
to reduce the gap between theoretical savings and reality
no fire and forget solutions !

The French Energy Efficiency Obligation Scheme: characteristics and political aims at the beginning

GDF SUEZ is subject to Energy Efficiency Obligations in France and Italy: a focus on the French system: Certificats d'Economies d'Energie (CEE)

- For a given period, each energy supplier (electricity, natural gas, oil, district heating and cooling, transport fuels distributors) beyond threshold has an energy saving obligation corresponding to their markets shares.

Public Authorities wanted energy supplier to have their business model evolve

- When an energy supplier implements energy saving measures towards energy consumers, he may receive CEE certificates
- Energy savings can be carried out by each energy supplier in all sectors (residential, tertiary, agriculture, industry, transports...)

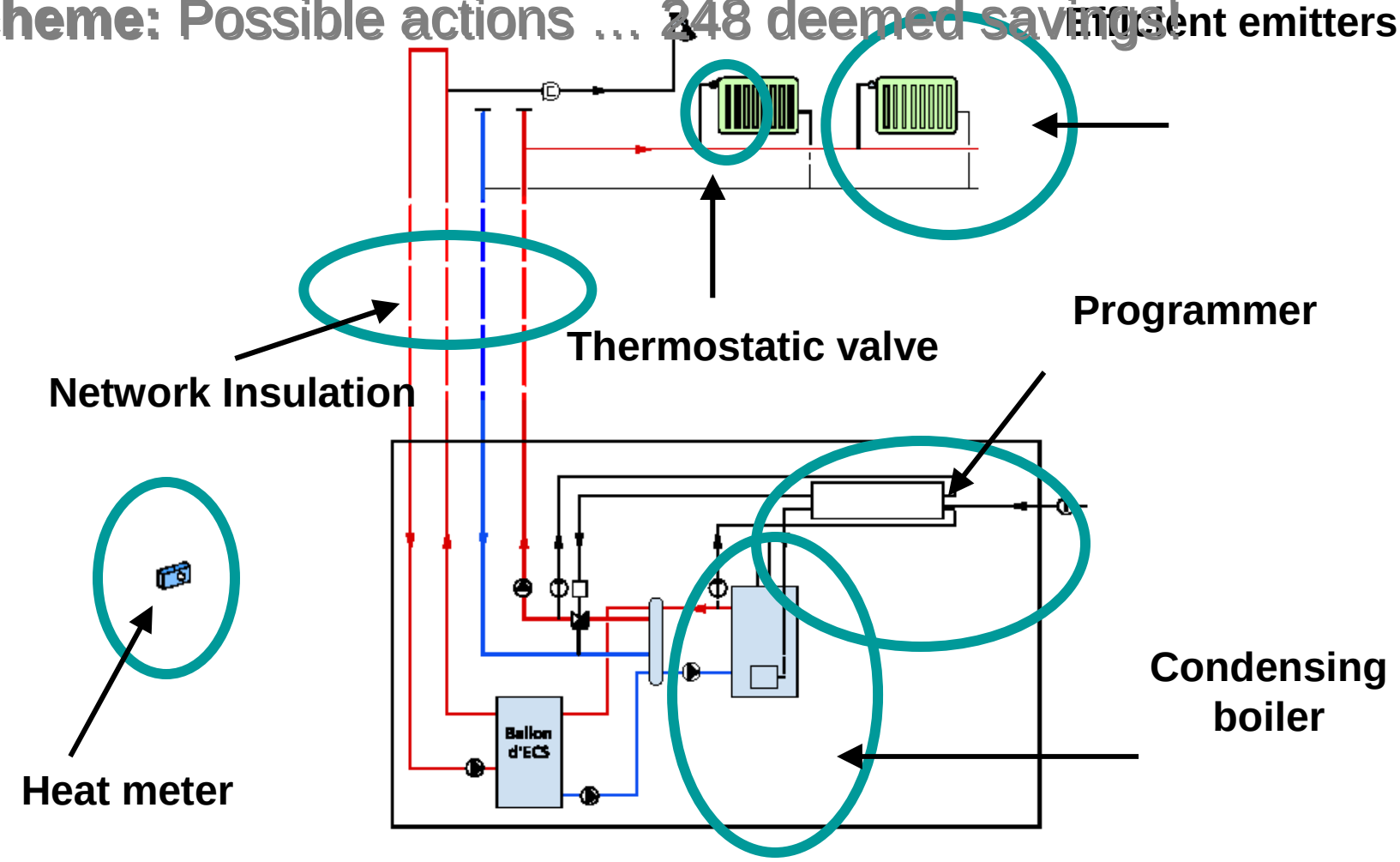
Public Authorities wanted energy supplier to address in priority their customers and the hard to reach domestic sector.

The French Energy Efficiency Obligation Scheme: characteristics

GDF SUEZ is subject to Energy Efficiency Obligations in France and Italy: a focus on the French system: Certificats d'Economies d'Energie (CEE)

- Unit of count is kWh cumac (cumac : cumulated over lifespan and actualized)
- Period objective is 345 TWh cumac
- Major track = ex-ante deemed savings
- CEE certificates may be freely traded
- At the end of the 3 year period (2011-2013) , each energy supplier must demonstrate the fulfillment of its obligation by providing the corresponding amount of white certificates
- An energy supplier failing to do so receives a financial penalty

The French Energy Efficiency Obligation Scheme: Possible actions … 248 deemed savings!



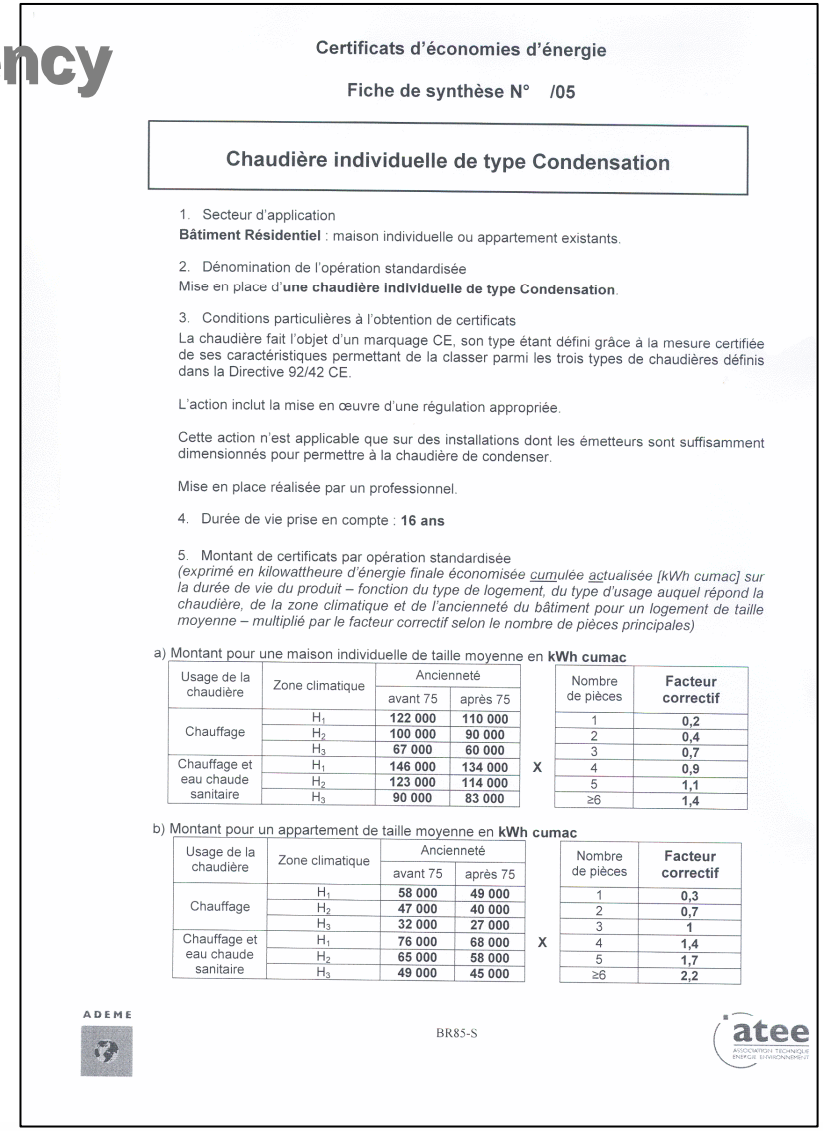
Source : ATEE (Association Technique Energie Environnement)

The French Energy Efficiency Obligation Scheme: ex ante deemed savings

Easy to calculate

- **Criteria**
  - Apartment / House
  - Heating only or Heating + hot water
  - Geographical zone H1, H2 or H3
  - Age of building / 1975
  - Number of rooms

- **Examples**
  - For a 3 rooms individual house
    Between 60 000 and 146 000 kWh cumac *
  - For a 3 rooms apartment
    Between 27 000 and 76 000 kWh cumac *



Certificats d'économies d'énergie

Fiche de synthèse N° /05

Chaudière individuelle de type Condensation

1. Secteur d'application

Bâtiment Résidentiel : maison individuelle ou appartement existants.

2. Dénomination de l'opération standardisée

Mise en place d'**une chaudière individuelle de type Condensation**.

3. Conditions particulières à l'obtention de certificats

La chaudière fait l'objet d'un marquage CE, son type étant défini grâce à la mesure certifiée de ses caractéristiques permettant de la classer parmi les trois types de chaudières définis dans la Directive 92/42 CE.

L'action inclut la mise en œuvre d'une régulation appropriée.

Cette action n'est applicable que sur des installations dont les émetteurs sont suffisamment dimensionnés pour permettre à la chaudière de condenser.

Mise en place réalisée par un professionnel.

4. Durée de vie prise en compte : **16 ans**

5. Montant de certificats par opération standardisée

(exprimé en kilowattheure d'énergie finale économisée cumulée actualisée [kWh cumac] sur la durée de vie du produit – fonction du type de logement, du type d'usage auquel répond la chaudière, de la zone climatique et de l'ancienneté du bâtiment pour un logement de taille moyenne – multiplié par le facteur correctif selon le nombre de pièces principales)

a) Montant pour une maison individuelle de taille moyenne en **kWh cumac**

Usage de la chaudière	Zone climatique	Ancienneté	
		avant 75	après 75
Chauffage	H_1	122 000	110 000
	H_2	100 000	90 000
	H_3	67 000	60 000
Chauffage et eau chaude sanitaire	H_1	146 000	134 000
	H_2	123 000	114 000
	H_3	90 000	83 000

X

Nombre de pièces	Facteur correctif
1	0,2
2	0,4
3	0,7
4	0,9
5	1,1
≥6	1,4

b) Montant pour un appartement de taille moyenne en **kWh cumac**

Usage de la chaudière	Zone climatique	Ancienneté	
		avant 75	après 75
Chauffage	H_1	58 000	49 000
	H_2	47 000	40 000
	H_3	32 000	27 000
Chauffage et eau chaude sanitaire	H_1	76 000	68 000
	H_2	65 000	58 000
	H_3	49 000	45 000

X

Nombre de pièces	Facteur correctif
1	0,3
2	0,7
3	1
4	1,4
5	1,7
≥6	2,2

ADEME

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*** Nota : cumac cumulated over the lifespan of the action and actualized by 4 % from the second year.**

The French Energy Efficiency Obligation Scheme: for the customer

le Prêt Rénovation Bleu Ciel d'EDF

Pour équilibrer mon budget, j'aimerais bien financer mes travaux avec un prêt. Mais quand on n'a pas l'habitude, c'est pas évident de choisir...

Karine

Avec le Prêt Rénovation Bleu Ciel d'EDF(1), bénéficiez d'un financement au meilleur taux - à partir de 2,95 %(2) - pour vos travaux de rénovation.

Bleu Ciel d'EDF vous propose un prêt à taux préférentiel en faisant réaliser vos travaux de rénovation par des professionnels selectionnés par Bleu Ciel d'EDF.

Prêt Nouvel Equipement +

› **Vous êtes client de Savelys et vous remplacez votre équipement avec une chaudière basse température ou à condensation au gaz naturel dans le cadre d'une solution DolceVita !**

Vous êtes client de GDF SUEZ? Le prêt Nouvel Equipement + propose un taux à 0,5% TEG annuel fixe.

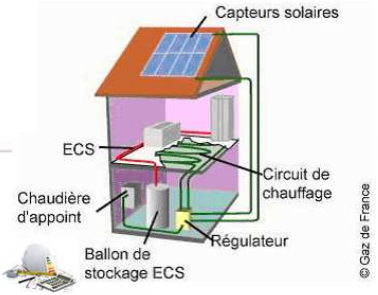
Conditions de prêt(a) réservées aux particuliers, clients de Savelys et de GDF SUEZ grâce à la bonification de Savelys(b) et de GDF SUEZ(c).

- Montants financés de **1 500 à 5 000€**
- Mensualités de **85 à 130€**
- Durées de **18 à 39 mois**
- TEG annuel fixe de **0,5%**(a)

GDF SUEZ DolceVita

Infos +

Pour vos travaux, l'éco-prêt à taux zéro



LA PRIME ÉCONOMIES D'ÉNERGIE

…tre logement, bénéficiez

E.LECLERC

Ecoptimiste CALDEO

TOTAL Fioul Premier

Pour toute modernisation, ou tout remplacement d'une chaudière fioul, recevez des bons **TOTAL Fioul Premier** et des aides financières. cliquez ici

Customer benefits from Energy savings

Is there a sustainable economical model for Energy Efficiency Obligations like the CEE Scheme?

Economical sense : does it have one ?

- Costs for the energy supplier is high : network of household maintenance and installation trades, end users.
Estimated at 1.7 Billion € for 2nd period (hyp.: 5 €/MWh cumac)

- Financial need is much greater:

France : - 38 % habitat energy consumption by 2020
For the next 8 years we need 250 Billion€ of subsidies to bring energy efficiency actions to a Internal Rate of Return IRR > 4 %.
(estimation by UFE French Union for Electricity – Sept. 2011).

In this context, the driver cannot be only economical, but economics has to be solved.

Need for additional tools to drive the movement : tax refund/credit, mandatory actions, long term financing tools, incentive campaigns, evolution of building codes, etc….

Energy Efficiency Obligations is only one piece of the puzzle, it needs to work in synergy with other tools.

Is there a sustainable economical model for Energy Efficiency Obligations like the CEE Scheme?

Environmental sense : results need to be proven

- In the first period (2006-2009) the CEE scheme has reached its 54 TWh cumac objective
- In the second period (2011-2013) , it will likely achieve its 345 TWh cumac objective.

How much additional energy savings ?

Open questions

- Decision: How to make somebody decide to undertake energy savings ?
- Payment:
  - Energy supplier customer?
  - End-user where work is being done?
  - Tax payer?
- Work: Do we have the necessary skills available ?
- Perimeter: How much can Energy Efficiency Obligation do ?
  - Incentive to equipment replacement but what about behavior, tuning of regulation, maintenance, etc.. ?
  - How does it fit with innovation?
  - Can it stand alone ?
- Validation: Energy Efficiency Validation
  - “Fire and forget” or follow up over lifetime ?
  - or is bureaucracy a solution?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