



Avec vous,  
en réseau

Smart Gas Meters Project : assessment  
of customer response to improved  
information about their energy  
consumption



Design: Emmanuel Cairo

# The 4 main missions of GrDF, a leading European natural gas distributor

**To transport natural gas on a nondiscriminatory basis** on behalf of all suppliers

**Secure the quality, the safety and the economic performance** of the distribution network

**To provide public service in natural gas distribution** under franchise agreements with local governments

**Ensure the cost-effective development of the network** for many users to access

# GrDF Highlights

Customers

Network length

Communities served

Volume delivered

Investment

Workforce

> 11,000,000

customers

# GrDF Highlights

Customers

Network length

Communities served

Volume delivered

Investment

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# 194,000 km

i.e. 5 times the Earths'  
circumference

# GrDF Highlights

Customers

Network length

Communities served

Volume delivered

Investment

Workforce

# 9,500

Accounting for 77% of the French population

# GrDF Highlights

Customers

Network length

Communities served

Volume delivered

Investment

Workforce

350 TWh  
delivered every year

# GrDF Highlights

Customers

Network length

Communities served

Volume delivered

Investment

Workforce

**700 million €**  
invested in our grid every year

# GrDF Highlights

Customers

Network length

Communities served

Volume delivered

Investment

Workforce

12,000  
employees



# Dialogue at the heart of the project

Decision for generalisation will depend on GDF SUEZ, French Energy Regulator recommendation and French government decision



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Great feedbacks from stakeholders governmental meetings held in march 2013

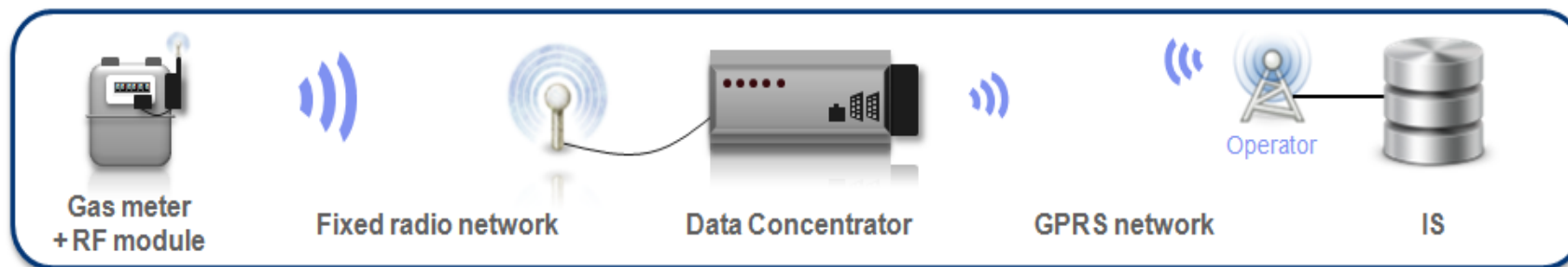


« *The government will decide relying on CRE's recommendation* », Delphine Batho, June 5th 2013  
Recommendation of the CRE is expected for mi-june.

# Smart gas metering - A major project in gas

Build and deploy a national radio network for 11 million domestic customers

**A simple and robust solution based on a fixed radio network**



## Services and Data offered

**Real Billing,**  
based on real  
consumption

**Monthly and daily energy consumption** published to  
energy providers and final customers

>> developing consumption information and tips to  
reduce it

To some customers : **hourly consumption**

## 3 major objectives to improve consumers experience

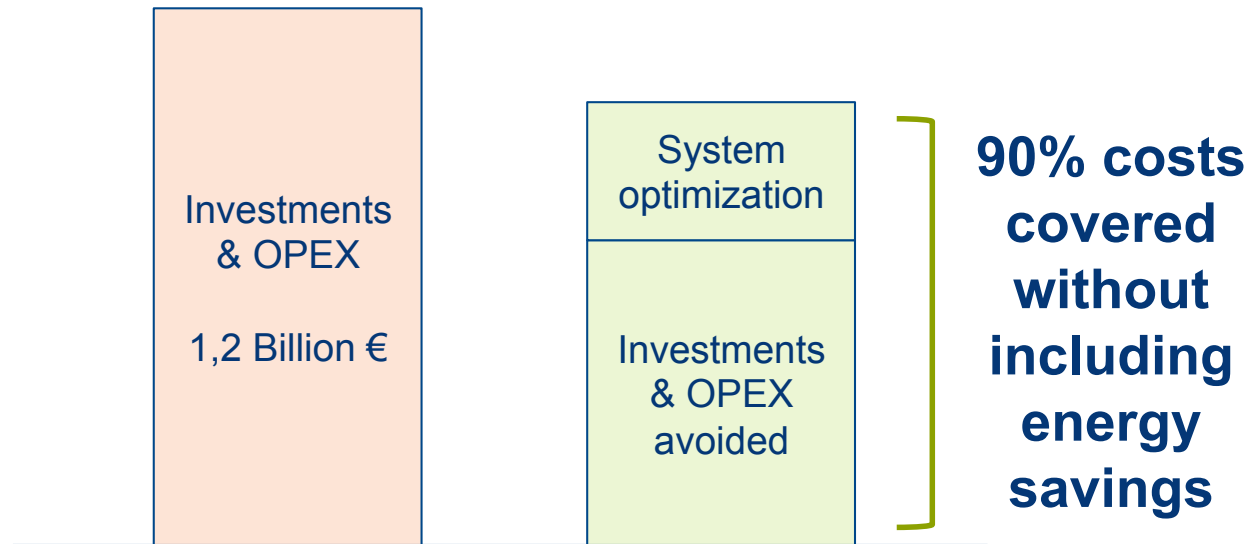
**Customers satisfaction**  
by quality of meter  
reading and real billing

**Energy savings thanks**  
to frequent information

**DSO's efficiency**  
improved due to  
increased performance of  
the network

# Why are we assessing Energy Savings?

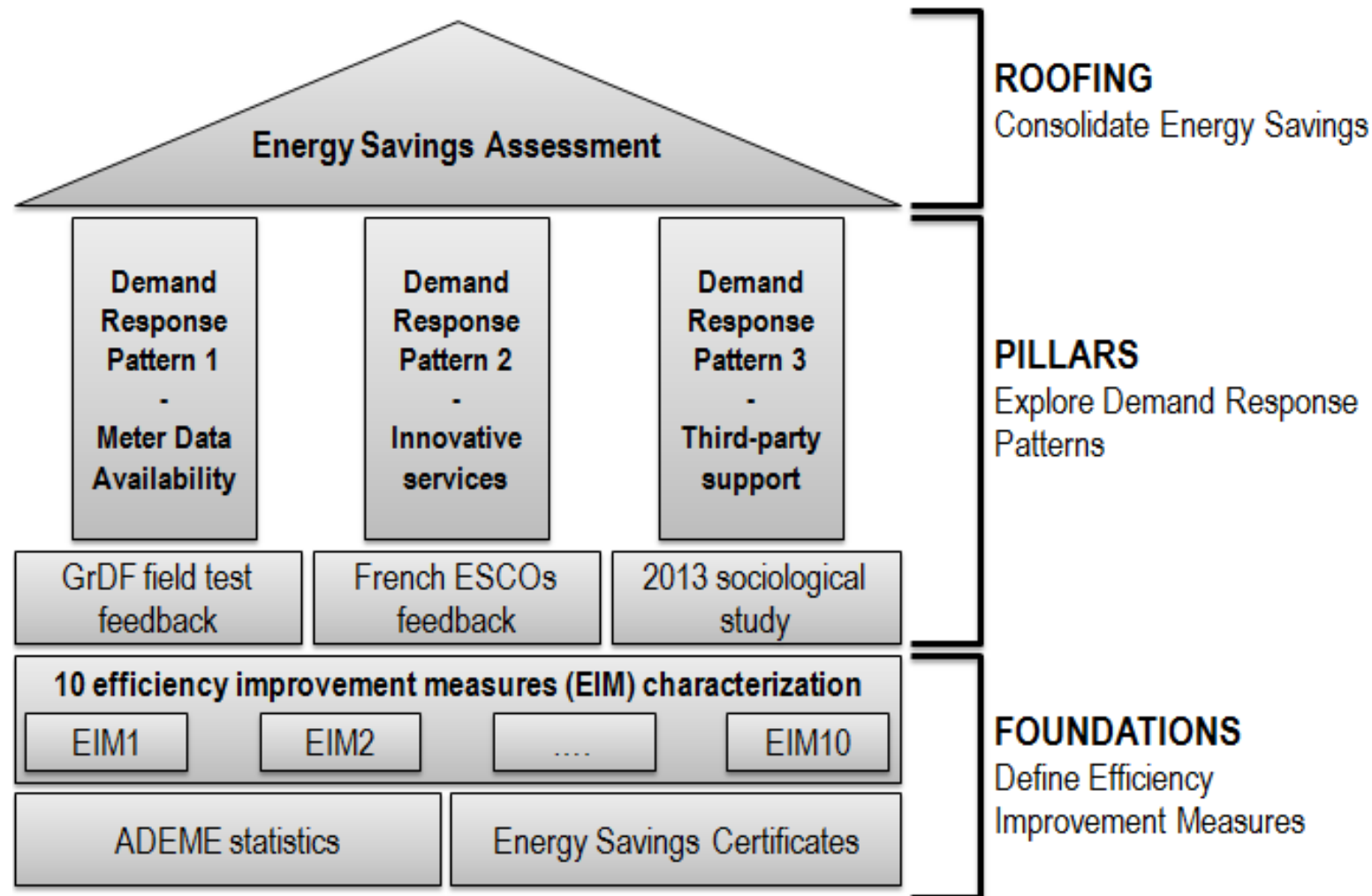
- The Smart Gas Metering project has been designed from the community perspective as a tool to achieve energy consumption reduction.
- Benefits from energy savings are therefore included in the project business case :



→ A non-profitable project for GrDF but certainly for the community if energy savings in gas consumption do exist.

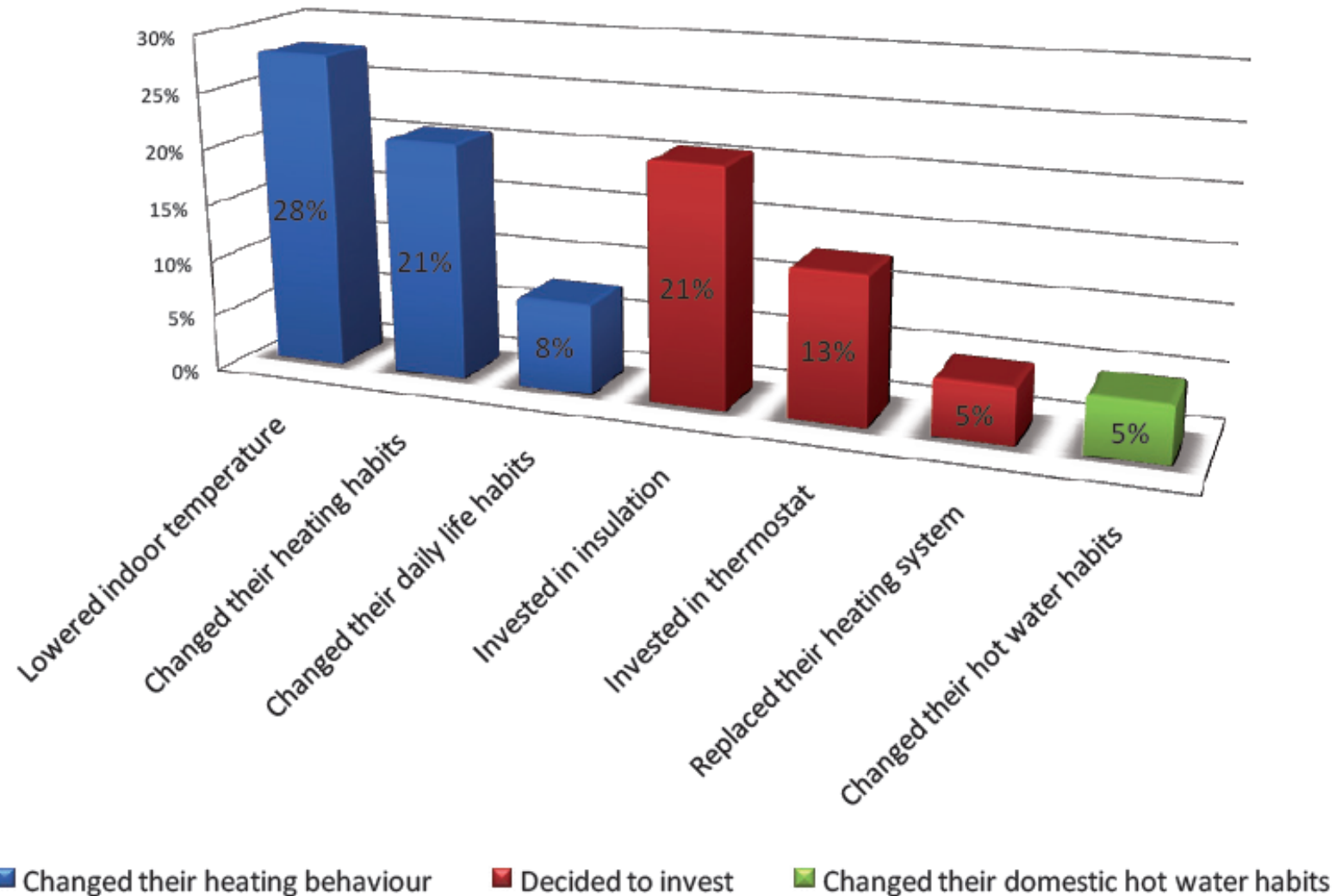
# Energy savings assessment methodology

- Creation of a taskforce with the French Environment and Energy Agency (ADEME)



# Pattern 1 : reaction to meter data availability

**Field test results:**  
**13% of the households had already implemented energy saving actions.**



# Pattern 1 : reaction to meter data availability

- **Real billing & improved information about household gas consumption** provided by suppliers or distribution network operators directly to the customers at no additional cost.
- As we observed in our experimentations in 2010 (on 400 households), a part of population take action to reduce their energy consumption by adopting energy efficiency improvement measures

RESIDENTIAL	ENERGY EFFICIENCY IMPROVEMENT MEASURE		USE IMPACTED	AVERAGE IMPACT per Household	RESULTING PENETRATION RATES	DURATION LIMIT
	1	Lower heating by 1 degree celsius	HEATING	-5%	7.4%	-
	2	Install a thermostat		-1.6 MWh/y	1.7%	15 years
	3	Close shutters at night		-1%	7.4%	-
	4	Pre-empt natural gas boiler replacement		-1.4 MWh/y	0.7%	3 years
	5	Insulate hot water pipes		-2%	2.7%	-
	6	Favor showers to baths	DOMESTIC HOT WATER	-10%	0.7%	-
	7	Install aerators and water-saving faucets		-5%	0.7%	-
	8	Install a thermostatic mixer tap		-5%	0.7%	-
	9	Cover pans	COOKING	-5%	0.7%	-

- That evolution of habits represents **85% of energy savings** achieved



# Pattern 2 : reaction to Innovative Services

- Services such as a “one shot” consumption diagnosis or a detailed consumption audit.
- Especially to Small Businesses to reduce their OPEX
- Services developed by energy and service suppliers
  - Some utilities already consider such advanced services as the keystone of their future marketing strategy.
- The impact of that services represents 15% of energy savings achieved

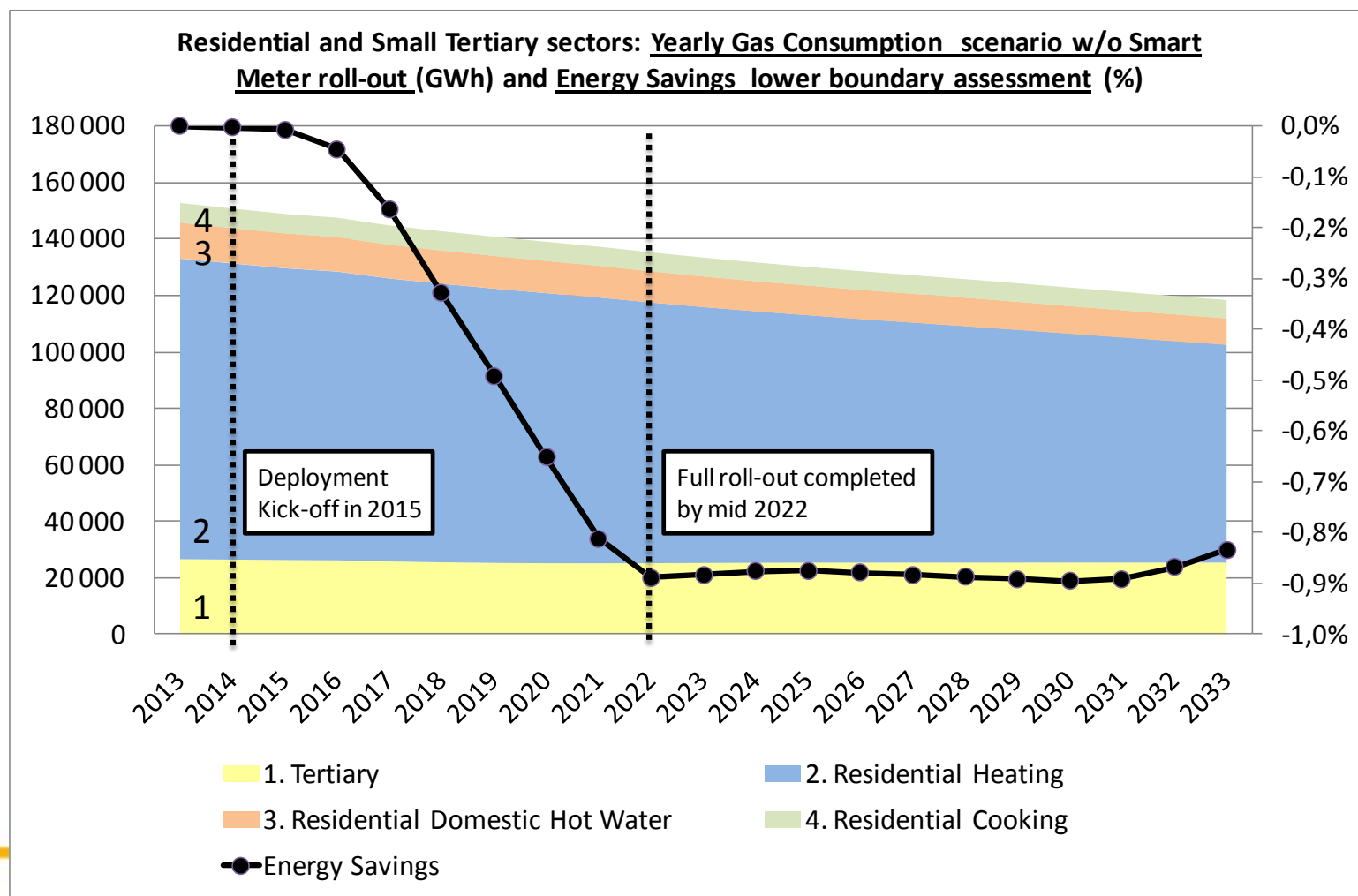
**By consolidating findings from foundations, pillars 1 and 2, from 2022 onwards, when 100% of GAZPAR smart meters will be deployed, the lower boundary of achievable savings is -0.9%, which is around 1TWh every year compared to the current GrDF consumption forecast shown below.**

**The French Regulatory Commission validated 1,5% of energy savings after revaluation study**

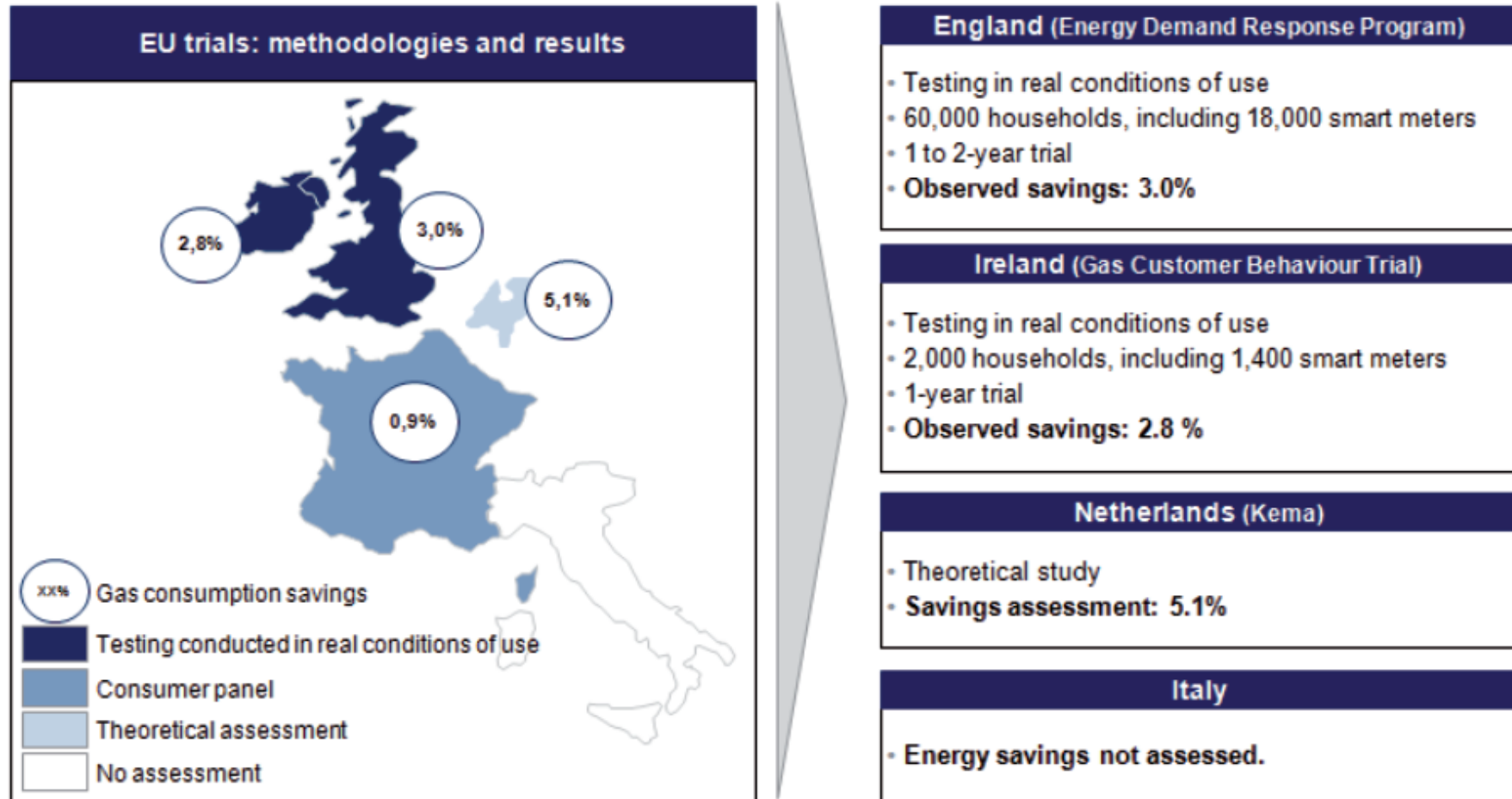


# Details

Consolidation of demand response patterns 1 and 2 compared to GrDF gas consumption forecast excluding benefits of smart meter roll-out. The decrease in residential gas consumption shown above is mainly due to buildings and appliances energy-efficiency improvement.



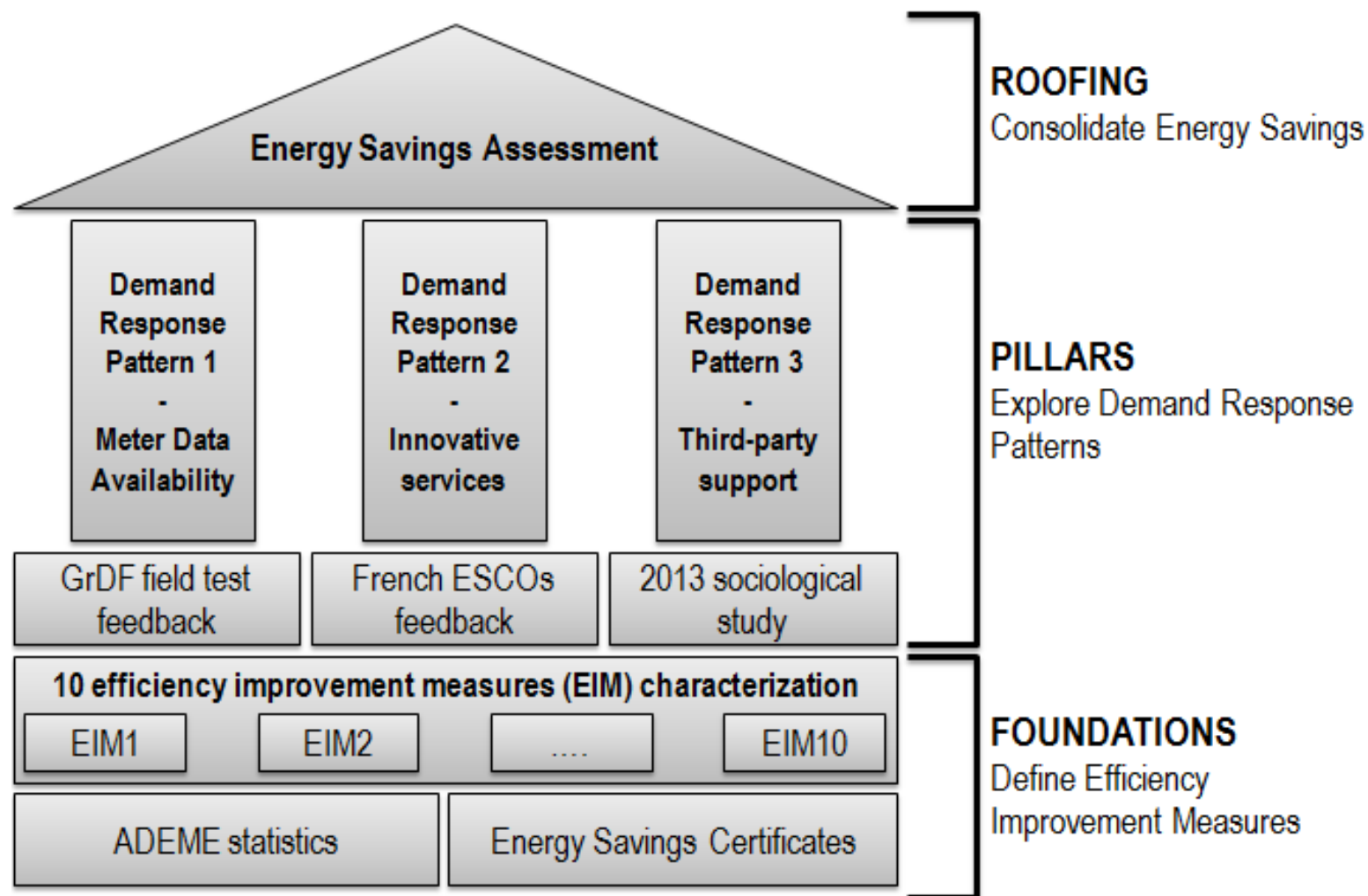
# International benchmark



# Pattern 3 : the Third Parties Intervention

- **Local authorities or social landlords** are a main actor in France to provide support to citizens and customers by implementing behavioural policies and programs to promote energy savings.
- Having an improved information could increase efficiency of renovation actions whether **targeting the district** or **choosing the best leverage**. Besides, specific support aiming at raising customers' awareness and knowledge regarding eco-friendly behaviors could be implemented.
- The real impact of that initiatives have little feedback

→ That's why ADEME and GrDF ordered a sociological study to increase the understanding of households' reaction to gas smart metering when upgraded action and support could be provided by thirds parties





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Thank you for your attention !



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