What is the relevant support package for users in order to achieve energy savings?

Illustration from smart meters and NZEB projects

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	Minor change	Major change
Investment decisions	Choosing the most environmentally-friendly product *Ex: buying low energy light bulbs*	Making significant investment in the environment *Ex: insulating the house*
Lifestyle, habits	Changing one's habits *Ex: switching off appliances*	Changing one's lifestyle *Ex: living in flats rather than individual houses*

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1. Smart Meters and Information Provision

2. Living in Low Carbon Buildings

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Smart Meters Roll out in France: Overview

- Smart-meters roll-out will start in 2015 for electricity, and in 2016 for gas
- Minimal information provision to households by energy grid operators to be decided in 2015 as part of the Energy Transition Law (at least access to personal consumptions through a web portal)

Linky (Electricity)	GAZPAR (Gas)
Roll-out decided in 2011 35 million meters to be rolled-out 2015-2021	Roll-out decided in 2014 11 millions meters to be rolled-out 2016-2022

Main Recent Projects with a Behaviour Focus in France

Studies

- **SoEcoMDE** (ended 2013): bibliographic overview of Demand Side Management tools and their impact on energy efficiency [ADEME]
- **Sociological study on energy efficiency awareness raising campaigns based on consumption data** (ended 2013): Evaluating different campaigns based on information provision. In partnership with GrDF (France's gas grid operator) [ADEME - GrDF]
- **Case study on innovative smart billing for household consumers** (ended 2013): Assessing the potential for smart billing to save energy. As part of ADEME's World Energy Council activities [ADEME]
- **BRAZIL** (ended 2014): Analysing national and industrial actors' visions of smart grids development. [ADEME]

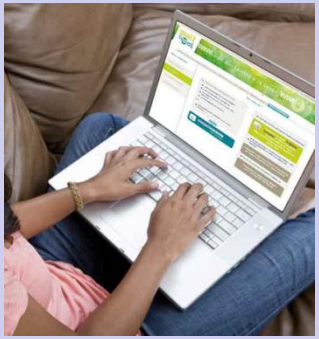
Experiments

- **MODELEC** (first results 2014): Assessing households' readiness for peak-hour saving schemes based on load-shifting (this project was funded by the *Investments for the Future programme*). [ADEME – Direct Energie]
- **Reflexe** (ended 2014): Assessing office workers' readiness for consumption load-shifting schemes (this project was funded by the *Investments for the Future programme*). [ADEME - Véolia]
- **Watt et moi** (ended 2014): Assessing households' use of information on electricity consumption provided on a website [ERDF]
- **Affichéco** (ended 2014): Assessing households' use of information on energy consumption provided on a tablet computer [Legrand]

Watt et moi and *Affichecco*: Quick Overview of Results

Watt et moi

- 1 116 households living in social housing in Lyon (France)
- Recruited on a **non voluntary** basis (235 households left the experiment)
- Web portal
- 2 years



Source: ErDF

Results

Quantitative and qualitative analysis

- 216 households visited the website, of which 21 became regular users (more than 12 visits over the 2 years)
- Households that were already concerned about energy visited the website by themselves.
- For others, additional actions were needed (mail, emails, visit by an energy ambassador…), with contrasted results
- 40% of users think they have reduced their consumption

Affichecco

- 28 households around Tours (France)
- Recruited on a **voluntary** basis
- **Tablet computer app**
- 15 to 28 months

Source: Legrand

Results

Qualitative analysis

- The project had an empowerment impact on households
- Households need some time to understand how to use the device and to make sense of the information for their own needs
- The information given allowed households to
  - Experiment
  - Learn step by step
- Cycles of interest

Key Results

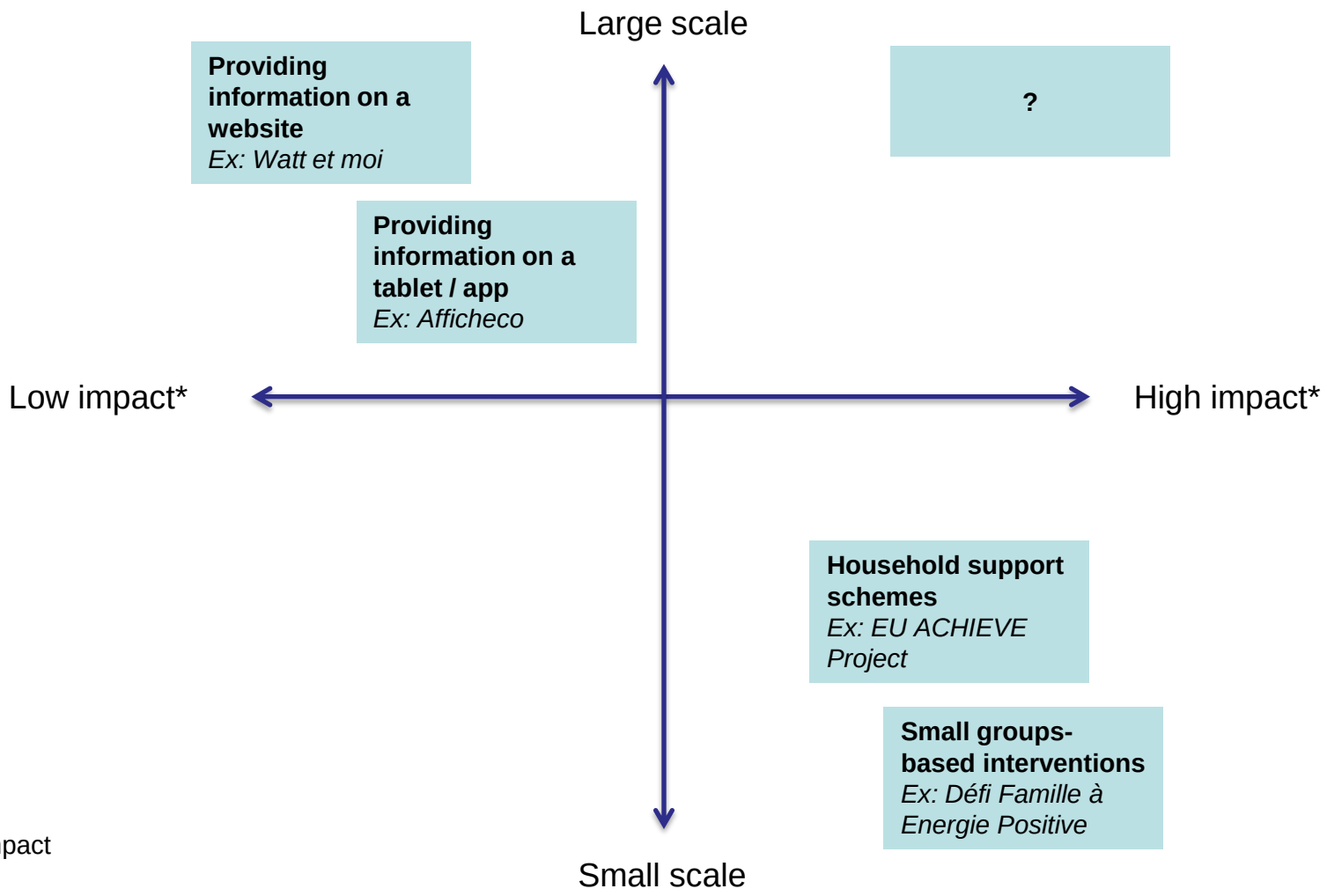
- Evaluating the impact of a one-off program on energy consumption is extremely difficult and does not only consist in measuring savings.
- Providing households with information about their energy consumption is key to forging a **"culture of energy"** that will **empower** them to act upon their consumption **[competence]**.
- But providing raw information does not guarantee energy savings.
- Support programs to foster behavioural change are necessary. Information should be provided as part of wider behaviour change programs **[materials – competence – meanings]**.

Social practices are made of three types of element: material, competence and meaning (Shove et al., 2012: 23)

materials	Objects, tools, infrastructures
competence	Knowledge and embodied skills
meanings	Cultural conventions, expectations and socially shared meanings

Source: Spurling et al (2013), *Interventions in practice: re-framing policy approaches to consumer behaviour*

Large scale vs high impact interventions?



*short term impact

Exploring Options for Large-Scale and High-Impact Interventions…

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NEZB in France: Overview

Low energy houses – Britany (France)

© photo Xavier BENONY / ADEME

Low energy community hall – Britany (France)

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- Buildings represent 43% of energy consumption in France and 23% of carbon emissions;
- **Objective**: reducing the carbon emissions from the building sector by 4 by 2050
- Main policy for **new buildings**: French building regulations 2012
- Main policy for **existing buildings** (refurbishment): reduction of energy consumption by 38% by 2020 [Grenelle Law – 2009]

- NZEB do not always deliver their promises: real consumption can exceed *ex-ante* calculations.
- These differences can come from a variety of factors (miscalculations, poor building works…), uses are only one of them.
- **As its happens in any technical innovation process, occupants hardly ever use new buildings as building designers and architects intended them to…**

Living and Working in NZEB: Insights from three Buildings

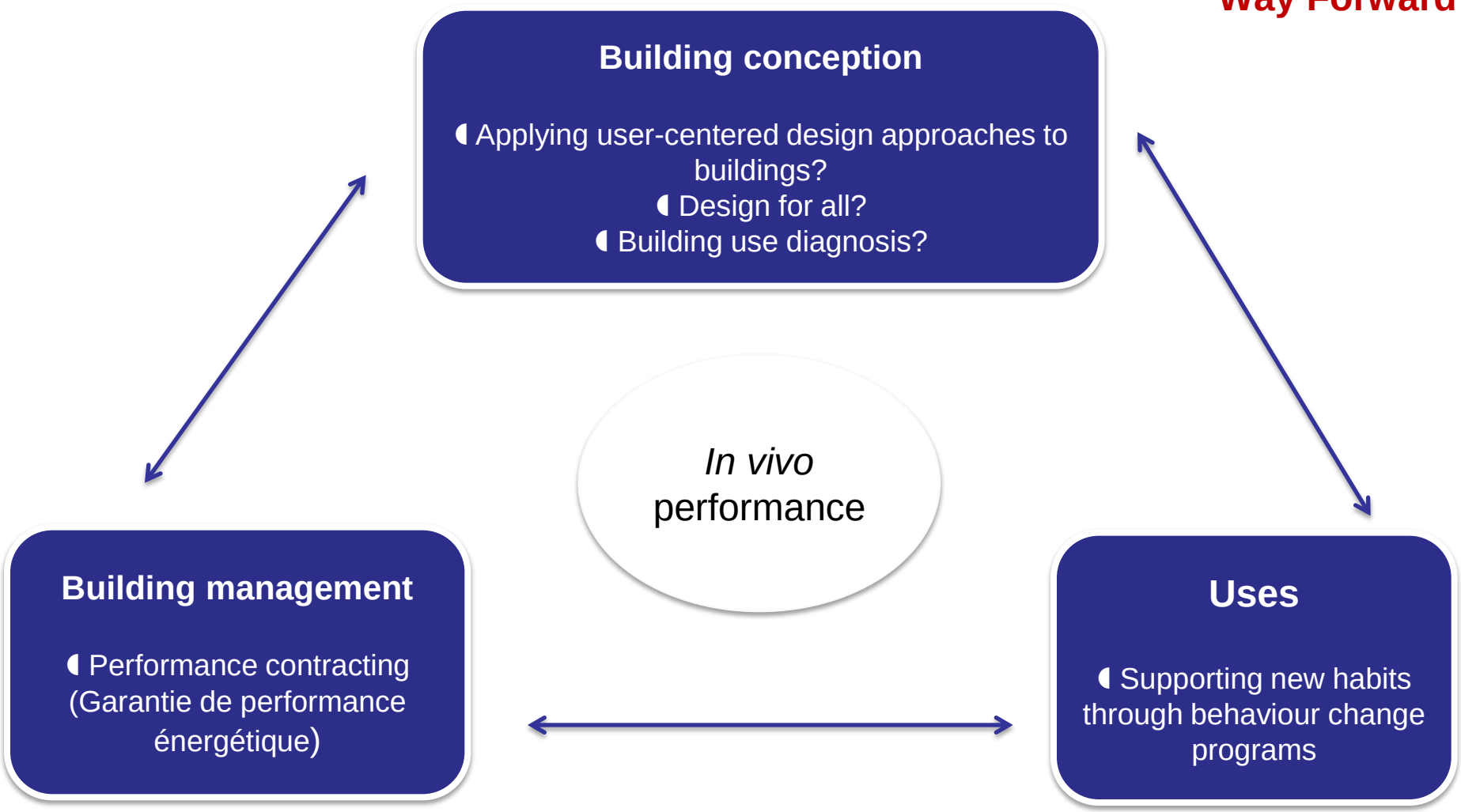
Residential building
(Le Patio Lumière)

Office building
(La Cité de l'Environnement)

Individual houses
(Les Hauts-de-Feuilly)

Source: Brisepierre (2013), *Les conditions sociales et organisationnelles d'une performance énergétique in vivo dans les bâtiments neufs*

Way Forward



Source: adapted from Brisepierre (2013), *Les conditions sociales et organisationnelles d'une performance énergétique in vivo dans les bâtiments neufs*

Thank you for your attention

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