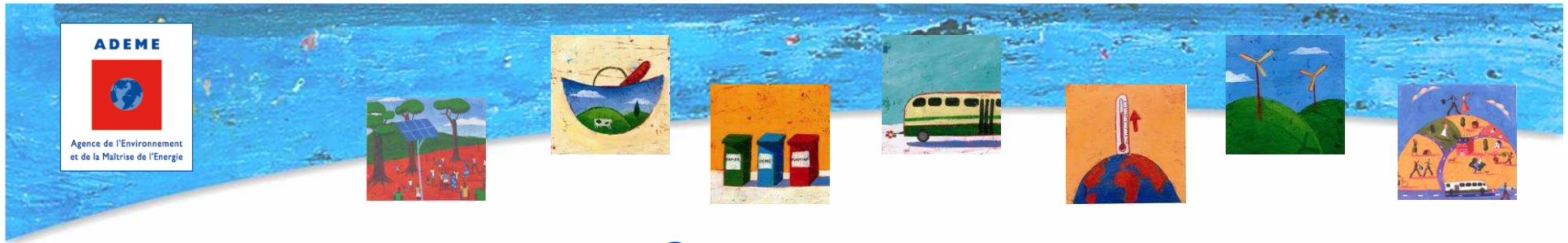




IPEEC conference, Paris June 2010

A households panel for energy efficiency works : a contribution for policy assesement

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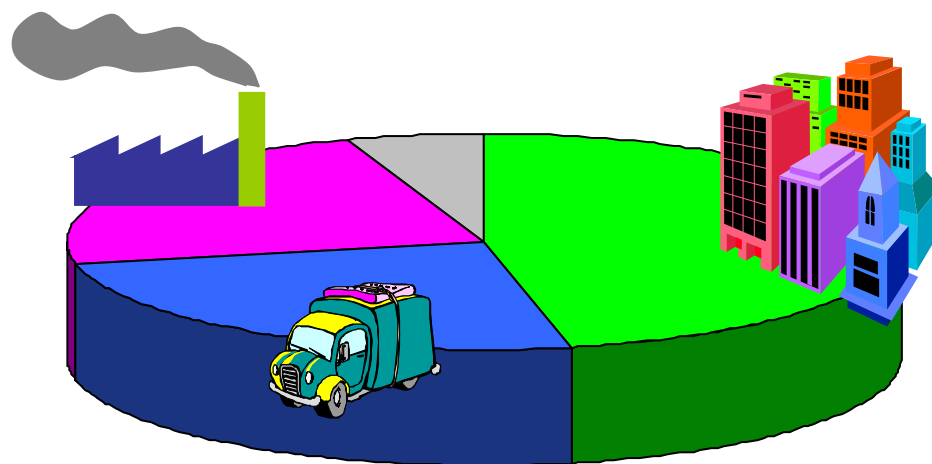


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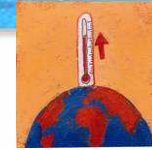
- **Introduction**
 - The strategic issue of the existing building
 - The policy mix for existing dwelling stock
- **The households panel methodology**
- **Results**
- **Conclusion and future perspective**



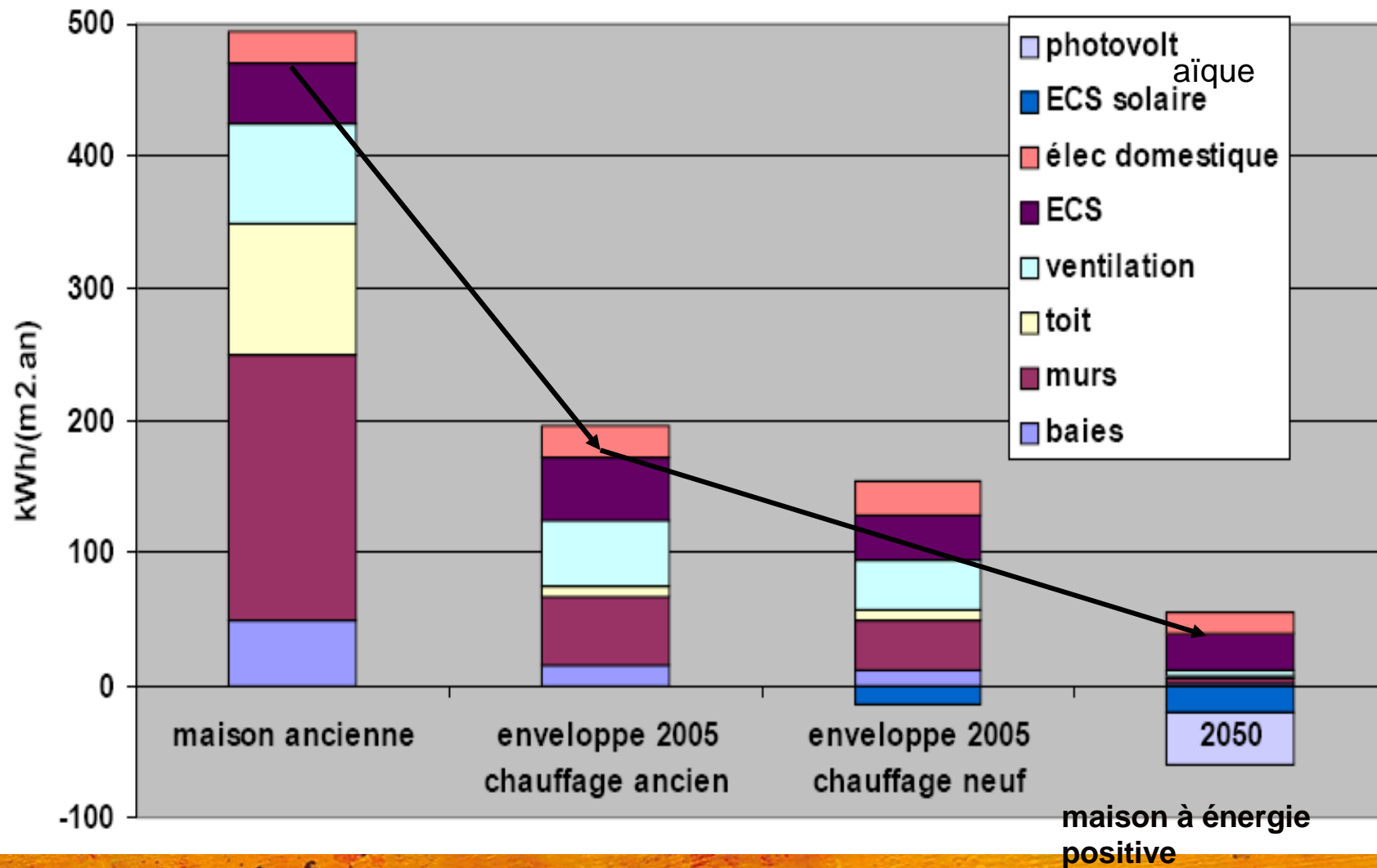
Building is the most consuming sector in France (2009)



■ Building	44 %
■ Transport	26 %
■ Industry	25 %
■ Others	5 %

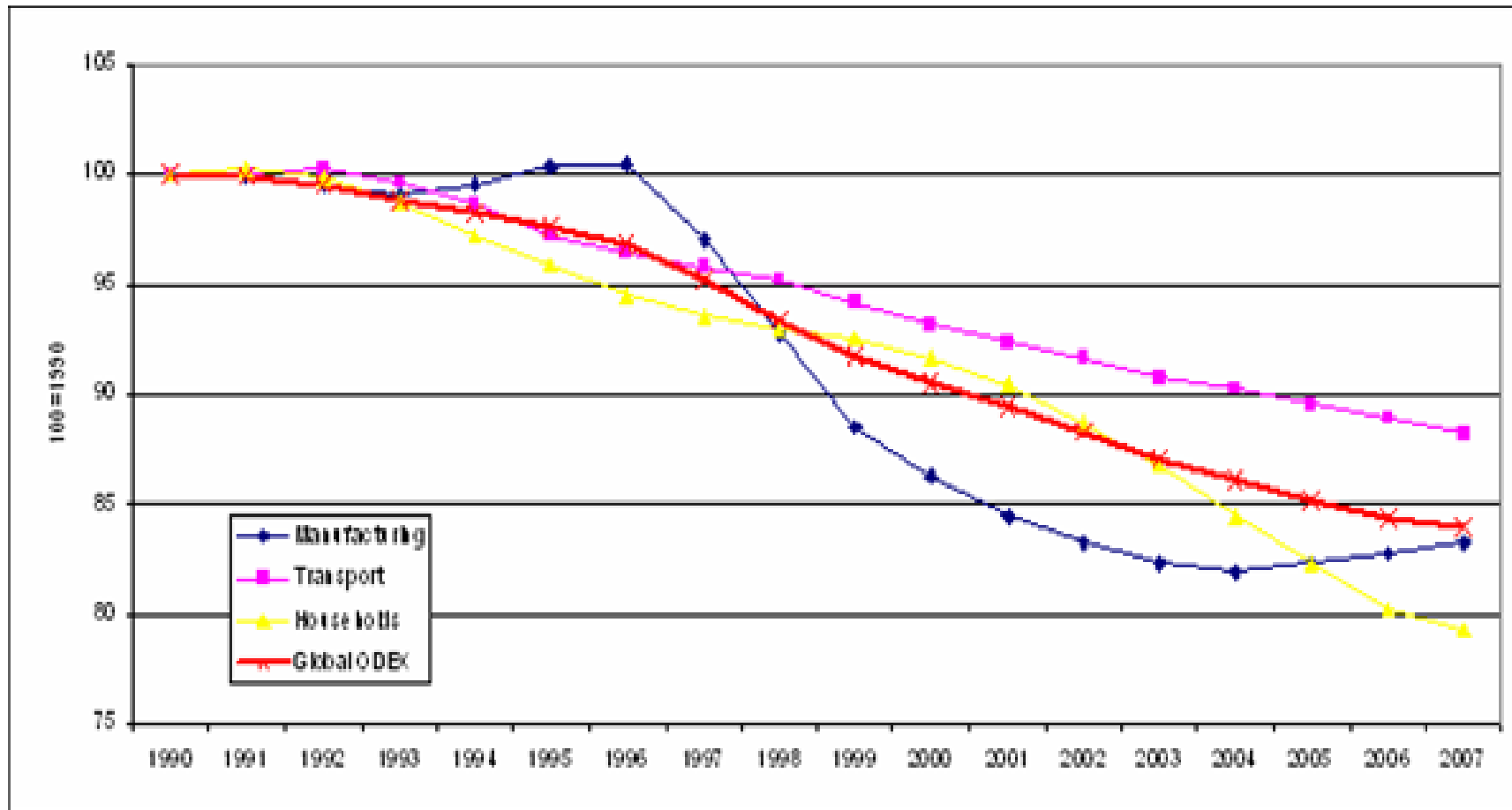


Housing : Still a large potential for energy savings





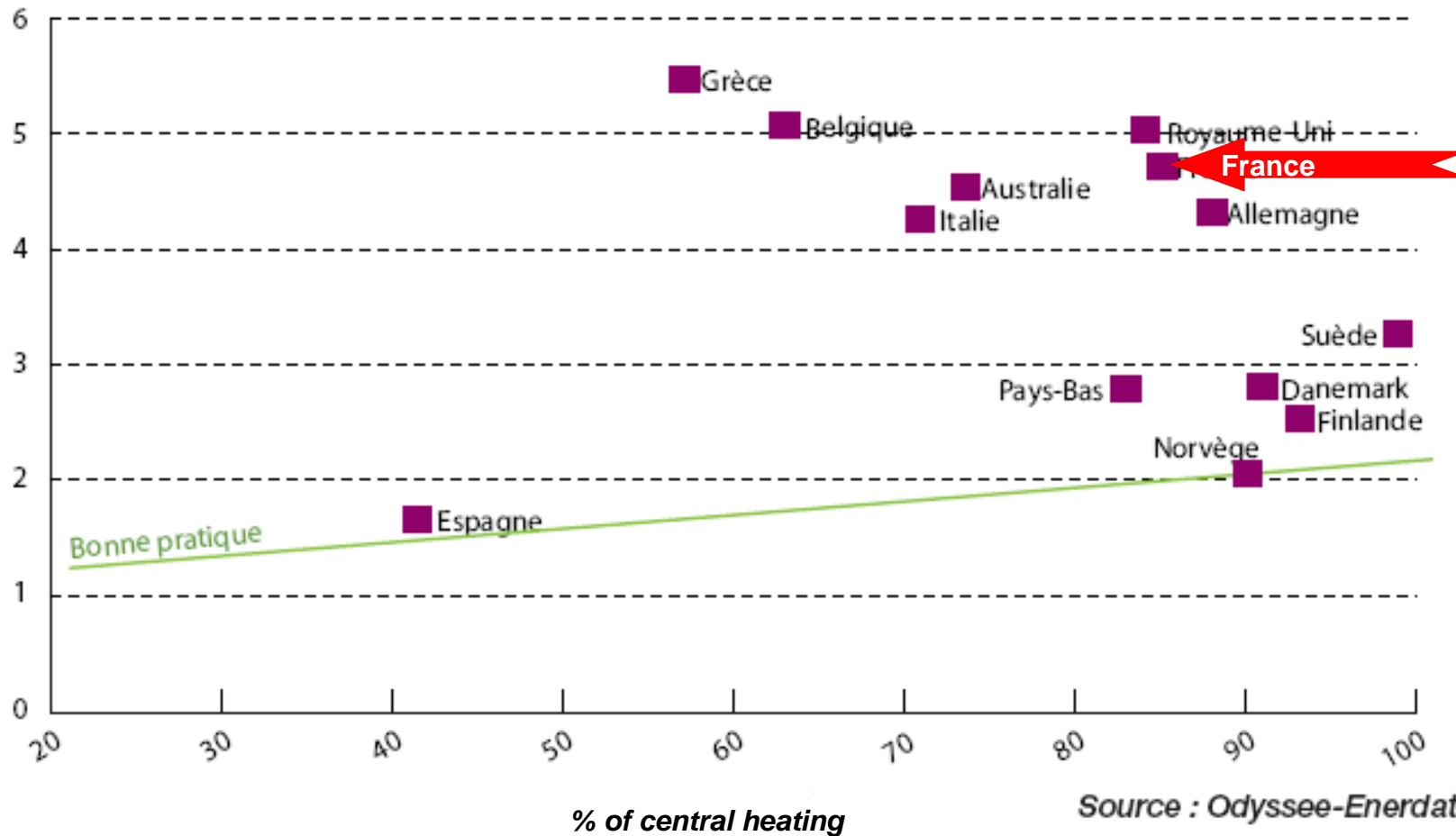
Energy efficiency achievements have been the most rapid in the household sector (ODEX 100=1990)





Housing: France is far from the EU benchmark

Usefull Energy Consumption per m² and degree day





Targets for the building sector (Grenelle Bill)

New buildings in 2012 (2010 for State owned buildings)	Primary energy consumption 50 kWh / sq m / year
New buildings in 2020	Primary energy consumption lower than renewable energy produced by the building (positive energy buildings)
Existing buildings before 2020	38% reduction of primary energy consumption of existing buildings
State and public bodies owned buildings (50 et 70 M de m ²) before the end of 2018	40% reduction of energy consumption and 50% for GHG Emissions
Social housing starting with 800 000 dwellings with consumption higher than 230 kWhPE/sq m/y	Full rehabilitation aiming to reduce primary energy consumption lower than 150 kWh PE/sq m /year.



Main energy efficiency measures for the existing dwellings

- Tax credit for households for efficient equipment purchasing (25 to 50% from 2005, yearly revised list)
- Reduces VAT for works (5,5%)
- Zero interest rate loans for buildings refurbishing or new construction (from 2009)
- Direct subsidies for retrofitting (ANAH, Local authorities)
- Energy efficiency obligations for energy suppliers to be realized at consumer level and certificates (from 2007)
- Building codes (new and existing)
- Diagnostic of energy performance of buildings (mandatory)
- Training of building construction professionals
- Local information centers (> 200 supported by ADEME and local authorities)



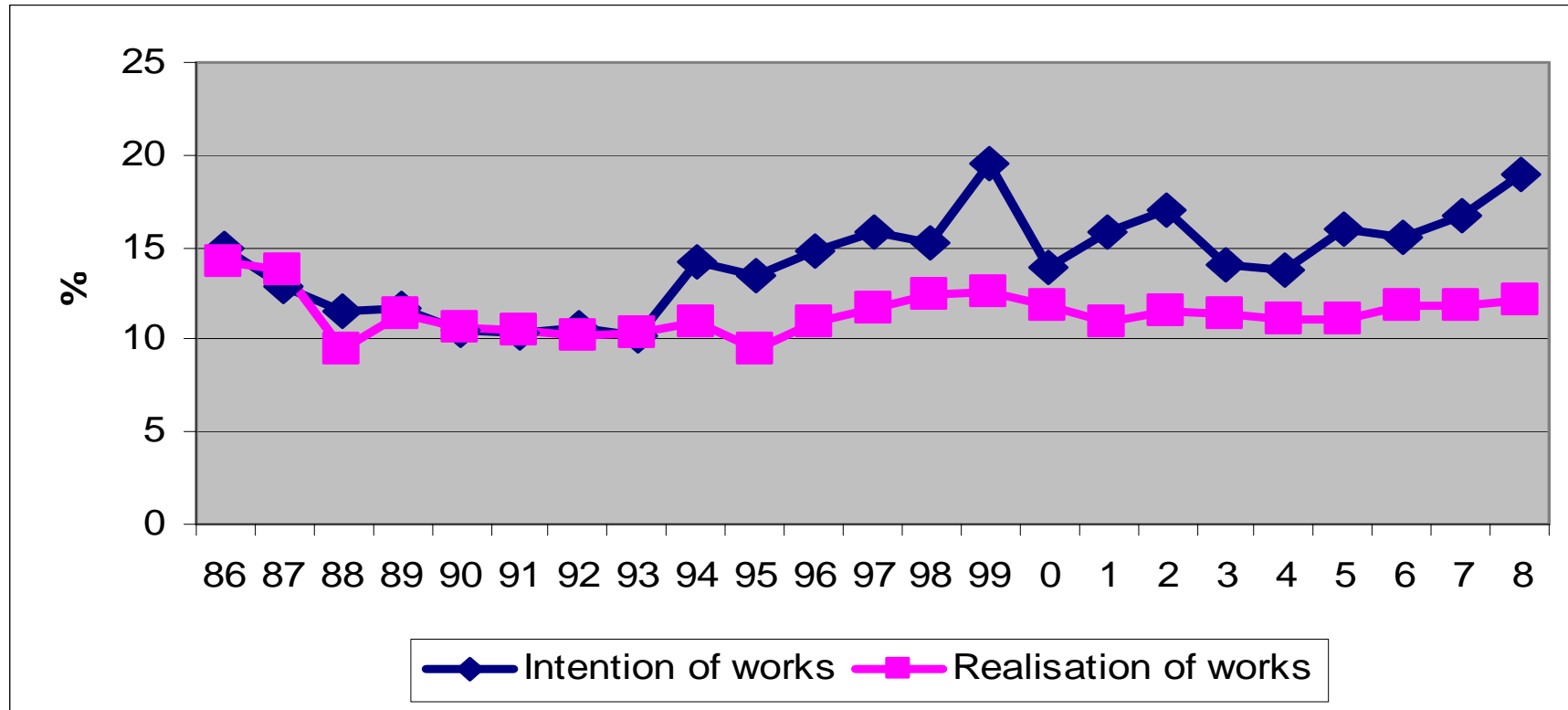
Methodology of the household panel for energy efficiency works (1st wave)

- **Household panel of 10 000** households representative at the France level (METASCOPE-TNS Sofres) Rate of extrapolation 2434
 - (region, type of cities, number of person per household, occupation and age of the family head) (source INSEE)
 - Type of dwelling, year of construction, Heating system type (CEREN)
- **Mailed questionnaire (end of January each year) 61 questions**
 - Attitudes and opinions concerning the energetical quality of the dwelling
 - Type of works realised or to be realised
 - Characteristics of the households and equipments and heating system



Q 36: During the 2008 year, did you carry out or made energy efficiency works in your dwelling?

Q38 : Have you the intention to carry out works in the near future?





Questions relevant for policy analysis (Wave 1)

- **Q32 : Since 2007, when a dwelling is sold or rented, it is mandatory to realise an energy efficiency diagnosis (DPE). Do you know it?**
Yes 62% (2007); 70,5% (2008)
- **Q39: Since 2005, you can take advantage of the tax credit scheme for the purchase of your efficient equipments: Did you hear of that?**
62,6% (2006); 74,2% (2007); 77,8 % (2008)
- **Q40 : How did you get the information? media (43,8%)**
- **Q41 : Can the tax credit scheme affect your decision to carry out energy efficiency works? Yes 20,8%**
- **Q43 : ADEME has created with local authorities the INFO-ENERGIE centers..... Did you hear about them? Yes 18,4% (2008)**
- **Q44 : Did you get advices in this info-centers? Yes 3%**

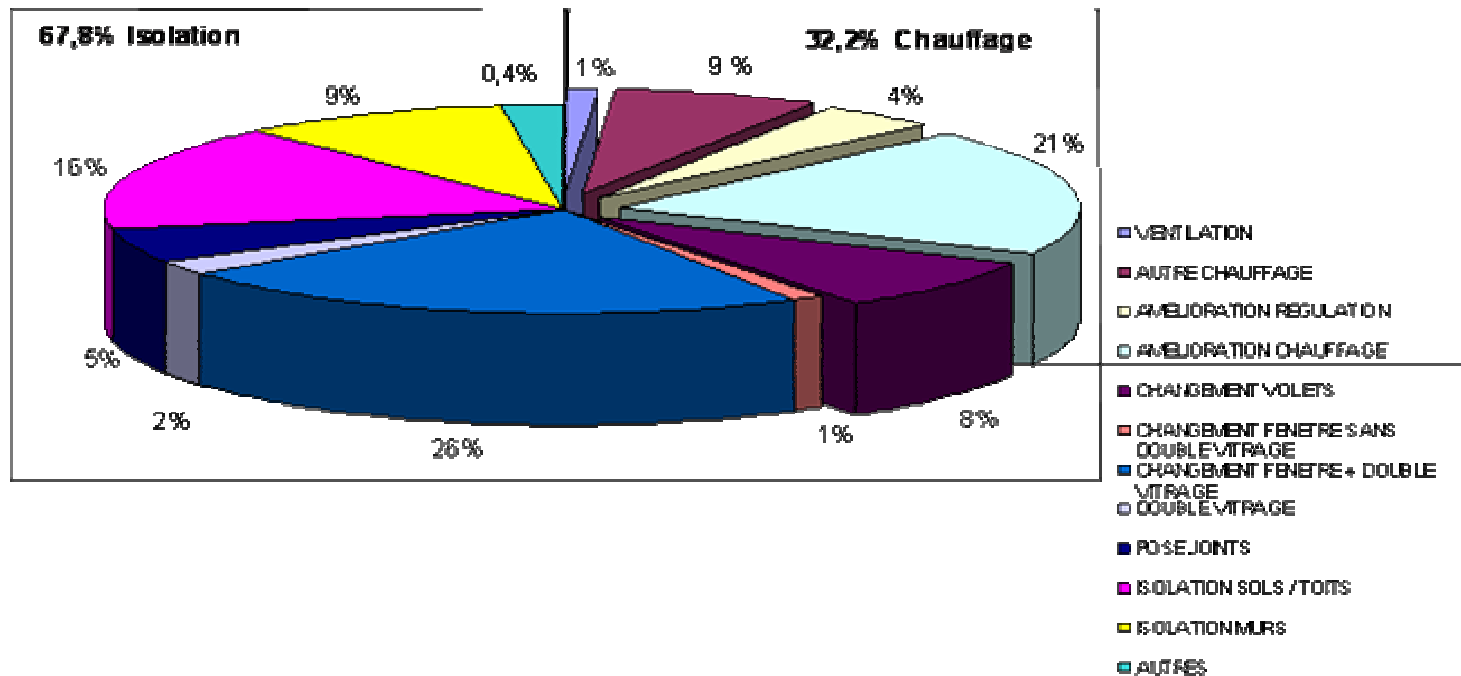


Methodology (2nd wave)

- **Household panel** (around 2000 dwellings) towards households having declared to have carried out energy efficiency works the previous year (same criteria of representativeness as 1st wave)
- **Mailed questionnaire** (April each year); 33 questions
 - Energy efficiency works description realised in 2008
 - Motivations for works
 - Degree of satisfaction regarding the works
 - Type of financing or fiscal tools requested
 - Degree of use of the different types of informations and financial aids
 - Quality of the information provided

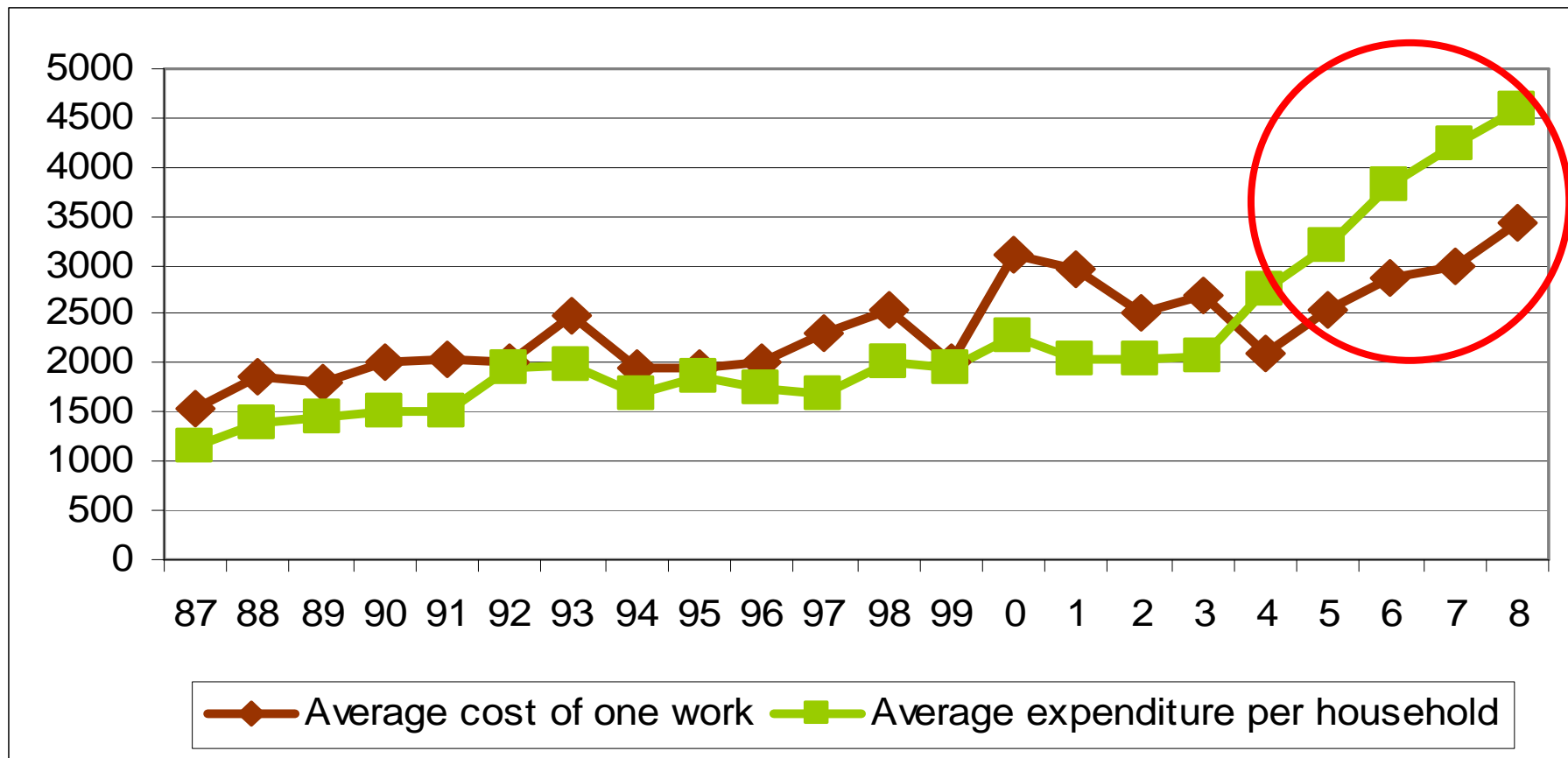


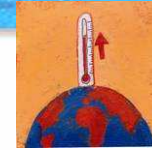
Energy efficiency works by types





Average costs per energy efficiency work and Average expenditure per household (Euro)





Relevant questions for allocations of works according to policies (Wave 2) 1/3

- **Q9 : Among the 20 following incentives, indicate those which have been the most important ones ?**
 - **Financial incentives : Tax credit (34,5%); Reduced VAT for works (20,5%); Diagnosis (2,5%); 0 interest Loans (4,3%)**
 - **Others incentives : advice from relatives or professionals (13%), becoming owners (12,8%); Other works (6%)**
 - **No particular incentives (20%)**
- **Q14: Have you benefited of loans to finance the works ? **Yes 19,6% of which 3,1% for 0 interest loan****
- **Q16-Q17 : Have you benefited of subsidies for these works? **Yes 5,2% of which ANAH (1,4%, local authorities, 2,6%, Tax credit (0,4%)****
- **Q18: The VAT rate has recently dropped from 19,6% up to 5,5%. Did you benefit of this measure for your works? **(Yes 68,6%)****



Relevant questions for allocations of works according to policies (Wave 2) 2/3

- Q19: From January 2005, you can benefit from a tax credit for your energy efficiency equipments. Do you know this tax credit scheme? **Yes (87,7%)**
- Q20: Do you intend to claim this tax credit on your income tax declaration? **Yes (68,6%)**
- Q21 : For which types of works will you request a tax credit? **(double glazing (32%), insulation 10%, efficient boilers (8,8%), Heat pump (8,1))**
- Q22 : Why did you not request a tax credit? **Self made works (63,6%), non eligible equipment (32,4%), Low amount of works (21,4%)**
- Q23 : Did this tax credit push to carry out the works by professionals? **(Yes 50%)**



Relevant questions for allocations of works according to policies (Wave 2) 3/3

- **Q26 : In the following list, rank your 2 preferate financial aids usefull for carrying out your works? **Tax credit scheme (39,6%); reduced VAT for works (20,6%), Direct subsidies (18,3%), 0 interest loan (18,1%).****
- **Q29 Did your dwelling beneficiate of a Diagnosis? **Yes (43%)****
- **Q31 : Did this diagnosis incitate you to carry out works? **Yes (40%)****
- **Q32 : If your dwelling has been audited, will you plan to carry out works in the next 2 years? **Yes (50%)****



Conclusion for the usefulness of a household panel for energy efficiency works

- A household panel about energy efficiency works is a powerful tool for analysing EE policies in the building sector.
- It provides a realistic and on-field demand-side view of the policies implemented.
- It can quantitatively describe the decision process of a household in selecting the relevant P&Ms (ie reduced VAT for works and tax credit in the french context).
- it allows to monitor the policy mix changes and can be adapted to the context changes.
- It does not allow a direct assessment of the cost effectiveness of a measure or a packages of measure but with deemed savings, it can be done.
- This tool is a necessary complement of other tools but not sufficient to properly assess the interaction or double accounting between measures. But it is an important input for modeling works.



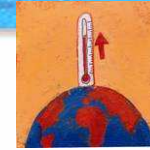
Objectives of the Permanent Observatory of Energetic Improvement of Dwellings (OPEN)

- To monitor quantity, cost and energy efficiency performances of the efficient equipment of dwelling beneficiating of public financial tools
- To assess the coherence between supply and demand in terms of volumes, cost and energy efficiency performances of retrofiting actions
- To monitor the market development of equipments and construction materials
- **To monitor market shares of financial and fiscal tools and their multiplying effect**

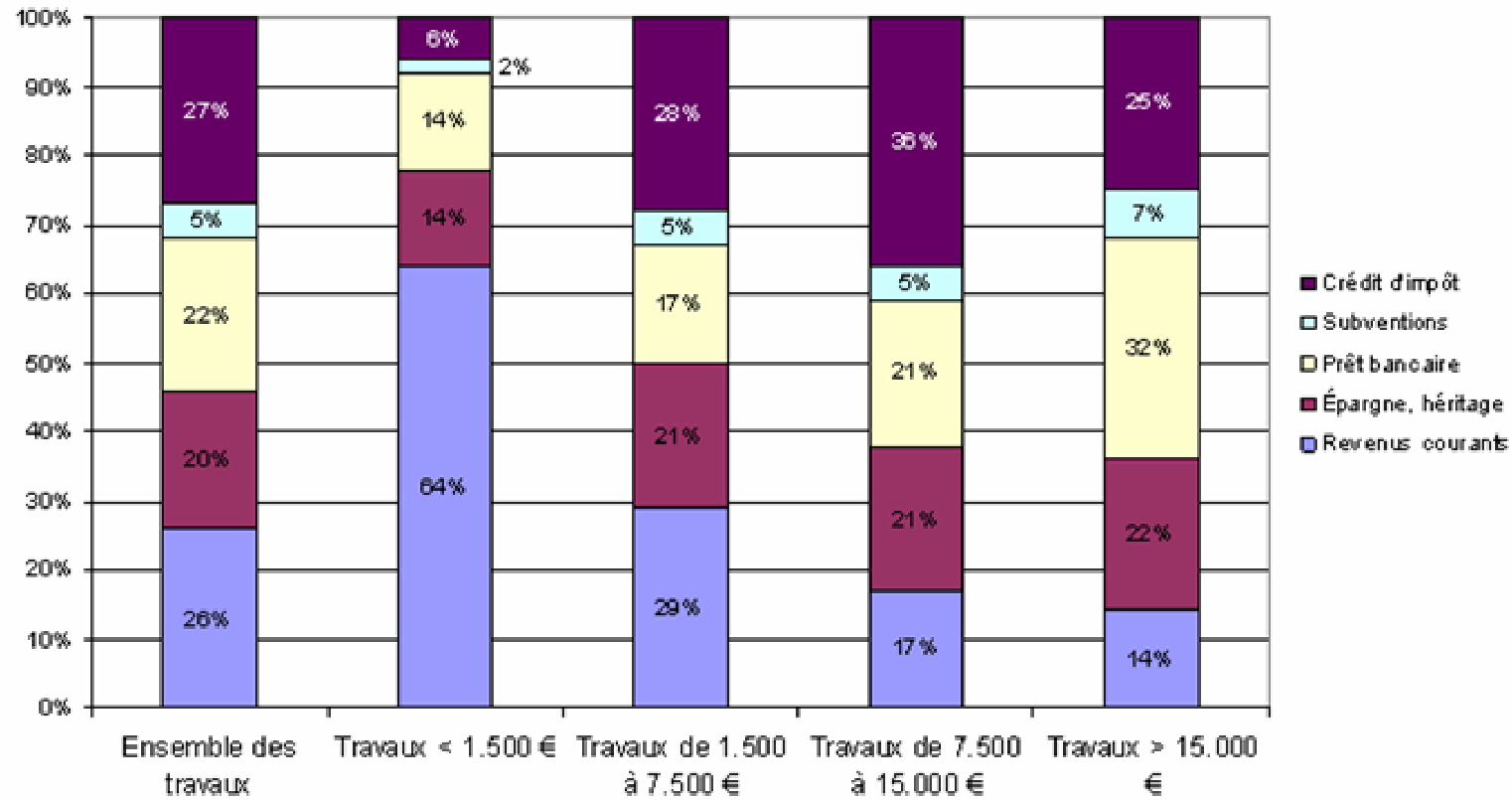


Methodology of OPEN

- **Postal survey towards 1000 industrials with phoning ressetting** on equipments (type of equipment, power, type of manufacturers, distribution or installors networks, by regions, by geographical provenance, by year etc.) (Response rate 35%).
- **Phone survey towards 5000 instalors panel** on equipment follow-up including questions on training of instalors
- **5000 construction sites** studied in details
- **Postal survey towards 32000 households in order to identify those which have made EE works** including interactions(qualitative and quantitative analysis)
- **Postal survey towards 2500 households** which have made EE works
- Analysis of the audits calculations
- Cross-checkink of the coherence between supply and demand data
- Cost of works and equipments sales follow-up
- Monitoring of the quality, performances and associated prices of equipments
- Monitoring of works according to the financing tools and the occupant status



Impact of subsidies on energy retrofitting works





Conclusion : a Working group for the evaluation of retrofiting measures in building.

- **Objectives**
 - Evaluate the relative efficiency and the complementarity of the policy-mix in analysing the cumumulative, interaction, free riders effects, spillover effect etc.
 - To propose a commun evaluation frameworks of financing tools for the dwelling retrofiting in order to avoid double accounting
- **Open-mind Methodology**
 - Several evaluation criteria : cost effectiveness of public financing (€/tCO₂), but also social equity etc.
 - Combinaison of several approaches : ADEME's modelling dwelling stock, study case, socio-economic evaluations
 - association with main publics statkeholders : DGTPE, DGEC, DHUP, CGDD, etc.
- **Using of results**
 - Recommandations for fine tuning of existing tools, ie combinaison eco-PTZ/CIDD, Anah -Aid and white certificates or social criteria for the tax credit scheme.