



Fuel poverty and energy affordability in France

Ute DUBOIS, ISG International Business School, Paris
ute.dubois@isg.fr

LIFE – Low-Income Forum on Energy Conference
Albany, 29th May 2014



Introduction

- **Fuel / energy poverty** (i.e. difficulties faced by some households to afford heating their homes) → not a recent problem
- Emergence of fuel poverty as a policy issue in **European countries** since the 1990s, but
 - Only **four countries have officially defined the concept**
 - The question of measurement has not been solved in a perfectly satisfactory way
 - Precise effects of being “fuel poor” not so clear
- This presentation
 - Shows the **diversity of situations in Europe** regarding energy poverty
 - Discusses **French policies** addressing the problem
 - Explores two specific topics:
 - **The main fuel poverty program Habiter Mieux (living better)**
 - The specificities of fuel poverty in **the region of Paris**

1.

FUEL POVERTY:
THE EUROPEAN LANDSCAPE



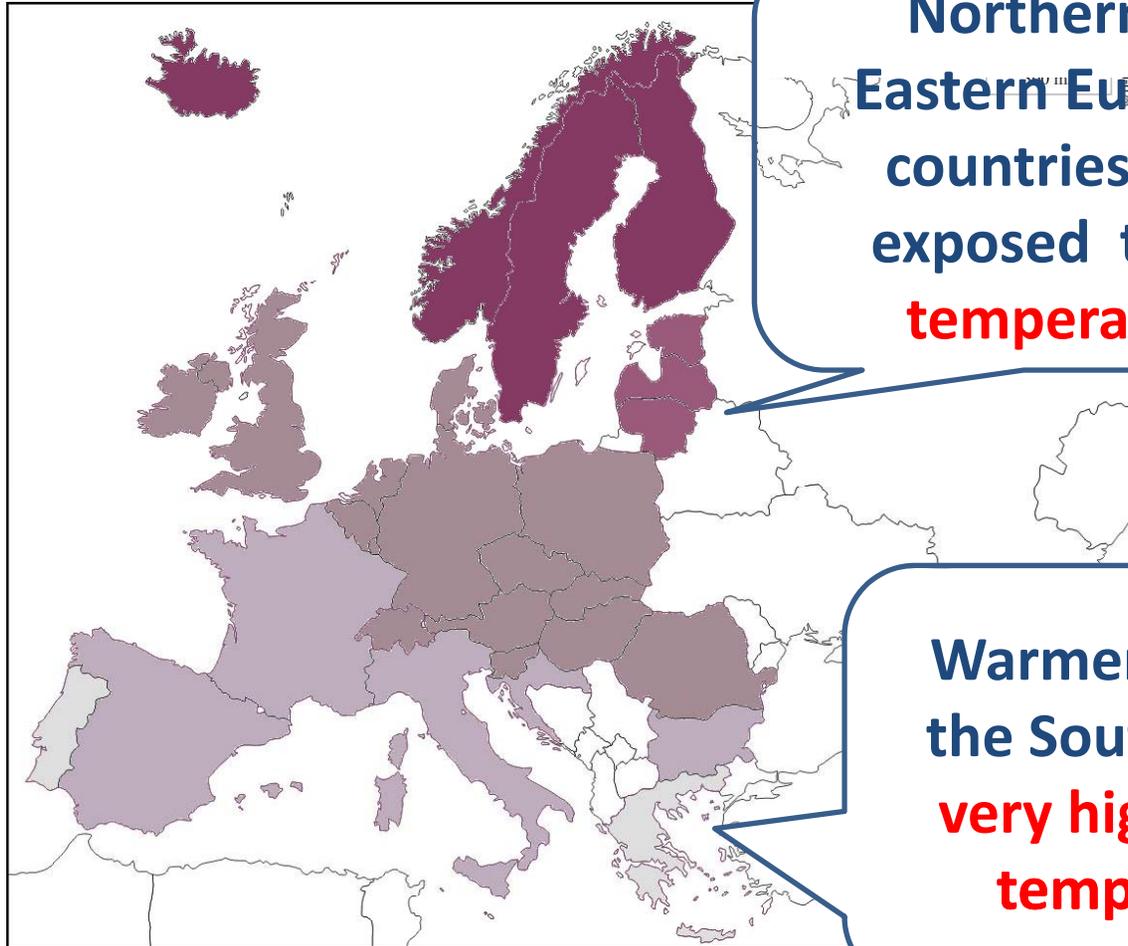


Fuel poverty in Europe

- Recognition of energy poverty as **a Europe-wide problem** is not debated anymore
 - Between 50 and 125 million people (out of 500 million people living in Europe)
- But we are still **lacking a clear picture** on what energy poverty actually is, i.e. who is mainly affected
 - Types of households,
 - Types of homes,
 - Areas, ...
- And there is still a **debate on how to define energy poverty**

Does climate diversity in Europe explain differences in fuel poverty ?

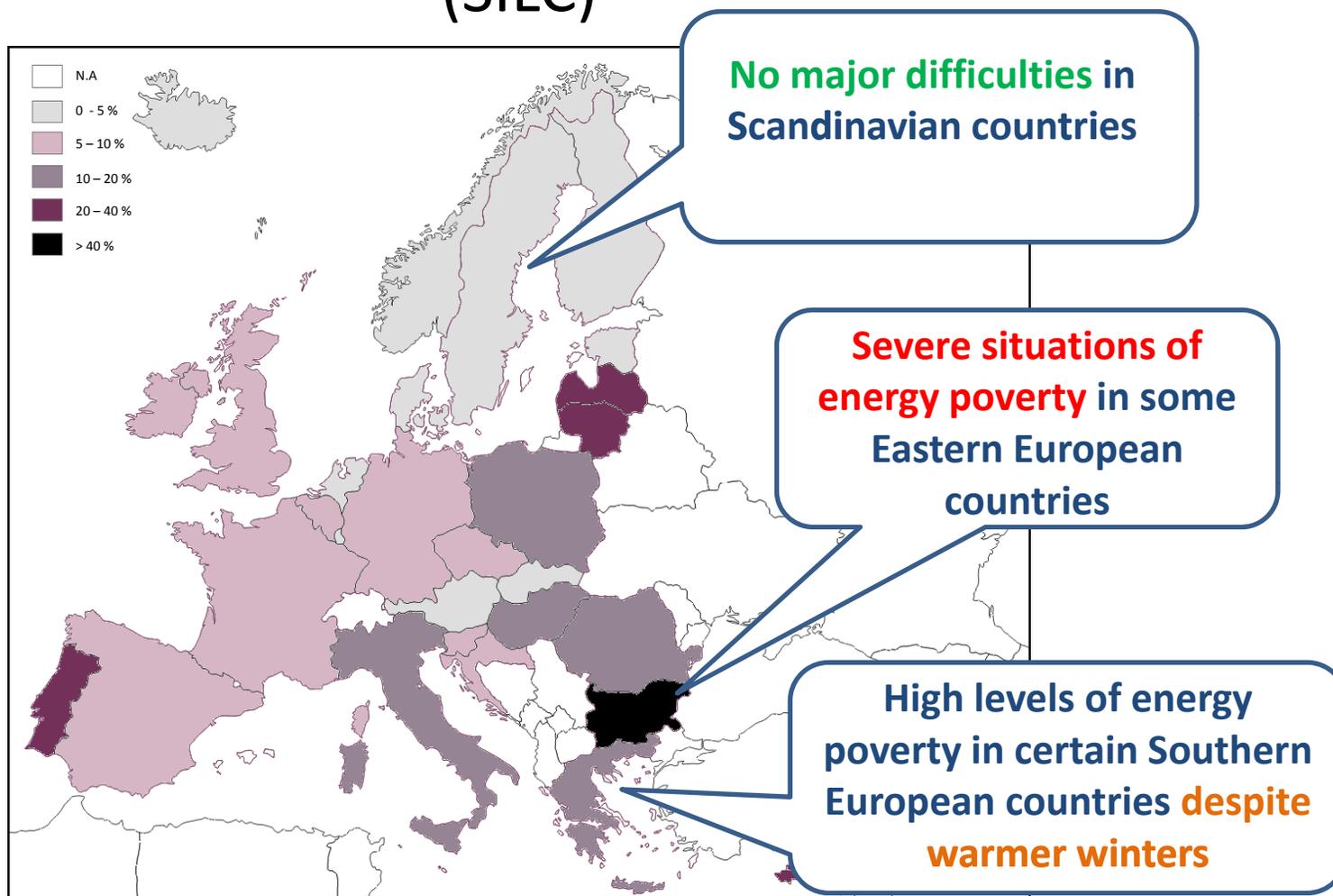
*Heating
degree
days
(2009)*



Inability to keep homes adequately warm according to the EU Survey on Incomes and Living Conditions (SILC)

Inability to keep home adequately warm

Source: SILC (2011)



→ no obvious link between cold climate and energy poverty → some countries seem to face the problem better than others

A larger perspective on fuel poverty in Europe: comparison of three indicators

2011	Inability to keep home adequately warm	Arrears on utility bills	Share of total population living in a dwelling with a leaking roof, damp walls, floors or foundation, or rot in window frames of floor
Luxembourg	0,9	2,2	15,5
Norway	1,2	6,9	7,6
Netherlands	1,6	2,4	14,6
Sweden	1,6	4,1	8,4
Finland	1,8	7,8	5,7
Iceland	2,0	7,5	16,0
Denmark	2,6	3,9	16,0
Austria	2,6	4,1	13,6
Estonia	3,0	11,8	19,2
Slovakia	4,3	6,4	7,8
Germany	5,2	3,9	13,7
Slovenia	5,4	17,3	34,7
Spain	5,9	5,0	15,6
France	6,0	7,1	10,9
Czech Republic	6,4	4,3	11,9
United Kingdom	6,5	5,0	15,9
Ireland	6,8	14,8	11,1
Belgium	7,1	6,0	21,2
Croatia	9,7	26,4	14,8
Hungary	11,7	23,0	21,8
Poland	13,6	12,9	11,5
Romania	15,7	27,2	18,0
Malta	17,6	8,2	9,9
Italy	18,0	12,1	23,2
Greece	18,6	23,3	15,3
Latvia	22,6	24,1	25,9
Cyprus	25,0	16,6	28,7
Portugal	26,8	6,7	21,3
Lithuania	35,7	11,9	19,2
Bulgaria	46,3	28,6	14,9

Source : Eurostat, SILC



Different fuel poverty situations

What possible causes ?

- Heritage of the past: types of homes (single family homes vs. collective) and year of construction (thermal regulations were developed after 1975)
- The attention given to the quality of housing (in its function of protection of people against cold climate)
 - Ex: Northern Europe
- The importance of mechanisms of social protection
 - Ex: Germany and Northern Europe
- Energy used for heating (type, cost, availability)
 - Ex: electric heating in France
- Income levels, that influence capacity of households to pay for energy, i.e. affordability
 - Ex: Eastern Europe

Differences regarding affordability of energy

2011	At-risk of poverty thresholds (source : SILC) [ilc_li01]	Electricity prices for households, taxes included (S2, 2011)	Cost of 1200 kWh	Cost of 1200 kWh in % of income of a person at poverty threshold	Cost of 3500 kWh	Cost of 3500 kWh in % of income of a person at poverty threshold
Belgium	12 005,00 €	0,21 €	254,28 €	2%	741,65 €	6%
Bulgaria	1 741,00 €	0,09 €	104,88 €	6%	305,90 €	18%
Czech Republic	4 471,00 €	0,15 €	175,92 €	4%	513,10 €	11%
Denmark	15 837,00 €	0,30 €	357,00 €	2%	1 041,25 €	7%
Germany	11 426,00 €	0,25 €	303,72 €	3%	885,85 €	8%
Estonia	3 359,00 €	0,10 €	125,04 €	4%	364,70 €	11%
Ireland	11 836,00 €	0,21 €	250,32 €	2%	730,10 €	6%
Greece	6 591,00 €	0,12 €	148,56 €	2%	433,30 €	7%
Spain	7 509,00 €	0,21 €	250,56 €	3%	730,80 €	10%
France	11 997,00 €	0,14 €	170,64 €	1%	497,70 €	4%
Croatia	3 326,00 €	0,11 €	137,52 €	4%	401,10 €	12%
Italy	9 583,00 €	0,21 €	247,80 €	3%	722,75 €	8%
Cyprus	10 328,00 €	0,24 €	289,56 €	3%	844,55 €	8%
Latvia	2 490,00 €	0,13 €	161,04 €	6%	469,70 €	19%
Lithuania	2 403,00 €	0,12 €	146,52 €	6%	427,35 €	18%
Luxembourg	19 523,00 €	0,17 €	199,44 €	1%	581,70 €	3%
Hungary	2 721,00 €	0,16 €	186,36 €	7%	543,55 €	20%
Malta	6 517,00 €	0,17 €	204,00 €	3%	595,00 €	9%
Netherlands	12 186,00 €	0,18 €	220,56 €	2%	643,30 €	5%
Austria	12 791,00 €	0,20 €	235,80 €	2%	687,75 €	5%
Poland	3 015,00 €	0,14 €	162,12 €	5%	472,85 €	16%
Portugal	5 046,00 €	0,19 €	225,72 €	4%	658,35 €	13%
Romania	1 270,00 €	0,11 €	130,20 €	10%	379,75 €	30%
Slovenia	7 199,00 €	0,15 €	179,04 €	2%	522,20 €	7%
Slovakia	3 784,00 €	0,17 €	205,20 €	5%	598,50 €	16%
Finland	13 096,00 €	0,16 €	188,76 €	1%	550,55 €	4%
Sweden	13 504,00 €	0,20 €	245,28 €	2%	715,40 €	5%
United Kingdom	10 281,00 €	0,16 €	190,08 €	2%	554,40 €	5%

Source : Eurostat

→ affordability of basic energy consumption is an important issue in countries with low poverty thresholds



Elements related to public policies at EU and member states level

- **Liberalization of electricity and gas markets in the EU:**
 - Initiated in 1996 (electricity) and 1998 (gas) with full retail competition in July 2007 at the latest
 - Effects differ across European countries
 - Eastern Europe: end of energy subsidies & price increases in a context of comparatively low incomes
 - Retail market liberalisation but certain countries still have regulated end-user tariffs (Ex: France)
- **Economic crisis**
 - Increase of energy affordability problems of low-income populations, e.g. in Southern Europe
- **Energy policies of some countries**
 - Ex: the German energy transition (massive development of renewable energy sources) that results in higher electricity taxes for small consumers



Public policy approaches regarding fuel poverty

- At EU level:

- Energy poverty not directly under the responsibility of the European Union, but
 - European directives liberalising the electricity and gas sectors mention energy poverty since 2009
 - European Economic and Social Committee has expressed concerns about the problem (2010, 2013)
- Defining “energy poverty” or “vulnerable energy consumers” is a responsibility of the Member States

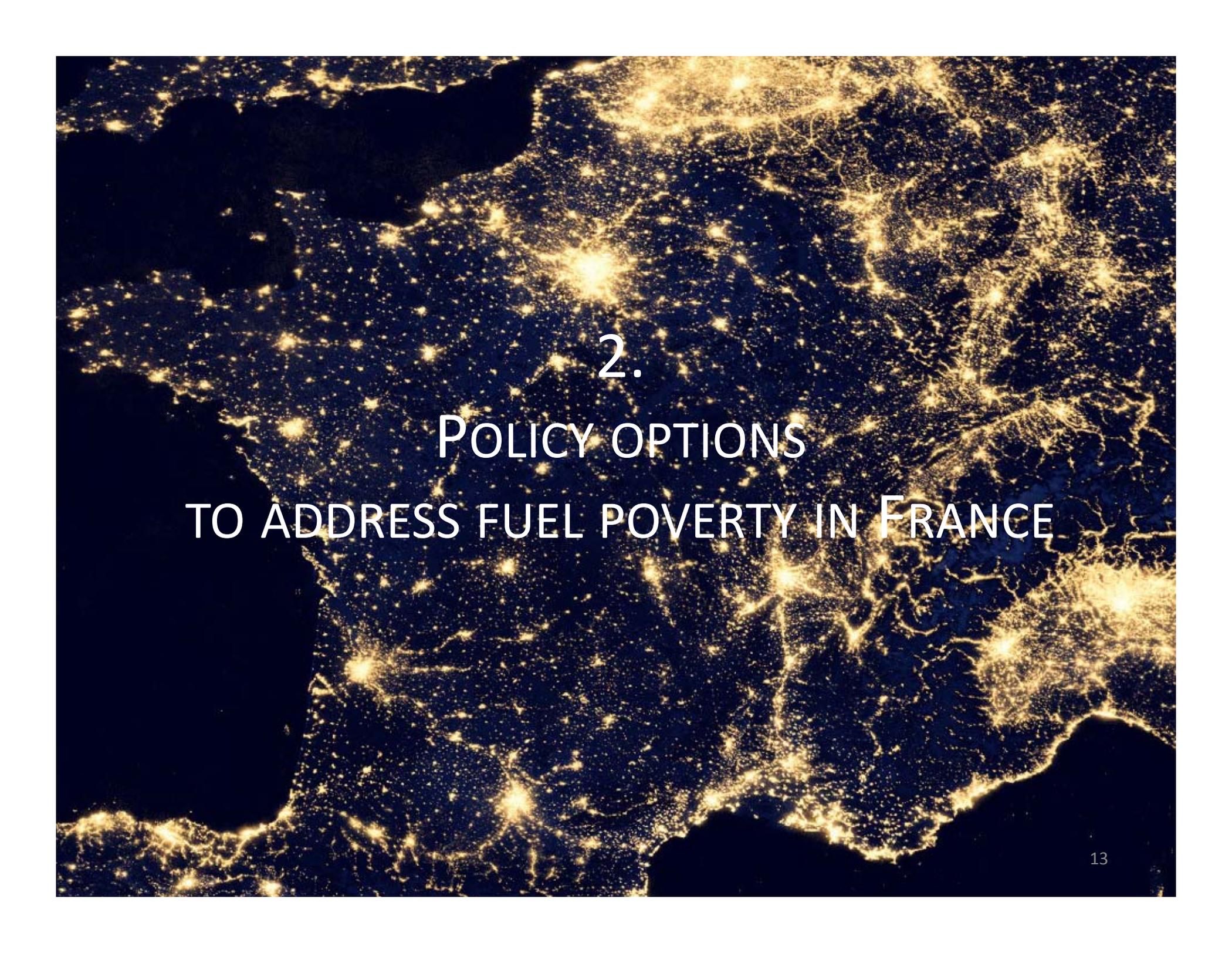
- In Member States: different ways of viewing the problem

- “*inequality*” view in the definition adopted in 2013 in England & Wales → focus on those households that have disproportionately high energy needs
- “*poverty*” view in countries like Germany → no specific problem of energy poverty but one aspect of poverty in general



To summarize: two main challenges for European countries regarding fuel poverty

1. In times of cheap energy, energy poverty was mainly affecting **the poorest populations living in the worst homes**. These « low income high cost » households are the most vulnerable to future energy price increases
 2. Future price evolutions could modify that picture, with more and more households becoming fuel poor, i.e. “constrained” in their budgets → **towards a “massification” of energy poverty?**
- Some countries seem to be less exposed, despite unfavorable conditions (cold climate)

A satellite night view of Europe, showing the continent's outline against a dark background. The landmass is densely packed with numerous bright yellow and white lights, representing city lights and urban areas. The lights are most concentrated in Western and Central Europe, with some smaller clusters in the East and South. The overall effect is a glowing map of Europe.

2.
POLICY OPTIONS
TO ADDRESS FUEL POVERTY IN FRANCE



Energy poverty as a political issue in France

- **Policy measures existed before the concept of energy poverty emerged**
 - Assistance mechanisms for households with payment difficulties (contract EDF-GDF & French state, 1985)
 - Social laws include a right for low-income households to be helped to consume energy
- Debate on “energy precariousness” (*précarité énergétique*) emerges **around 2000**
- 2007: creation of the **RAPPEL network** of energy poverty and precariousness actors, grouping individuals from different organisations
- 2009: first official **report estimating the extent of energy precariousness** in France (Rapport Pelletier)
- 2010: **official definition** of energy precariousness in the Grenelle 2 law

French approaches to defining energy poverty

England :

A definition that has been modified in 2013

2001-2013:

Households who need to spend 10% or more of their income for energy

Hills approach excludes certain households & number of fuel poor is less sensitive to energy price increases



Hills review (2012) → Low Income High energy cost



French approach excludes rationing & includes over-consumers

In France :

A vague official definition in the 2010 legislation

Rapport Pelletier (2009):

Actual energy expenses related to income (10% threshold)



National observatory of energy precariousness ONPE (2013):

Various approaches

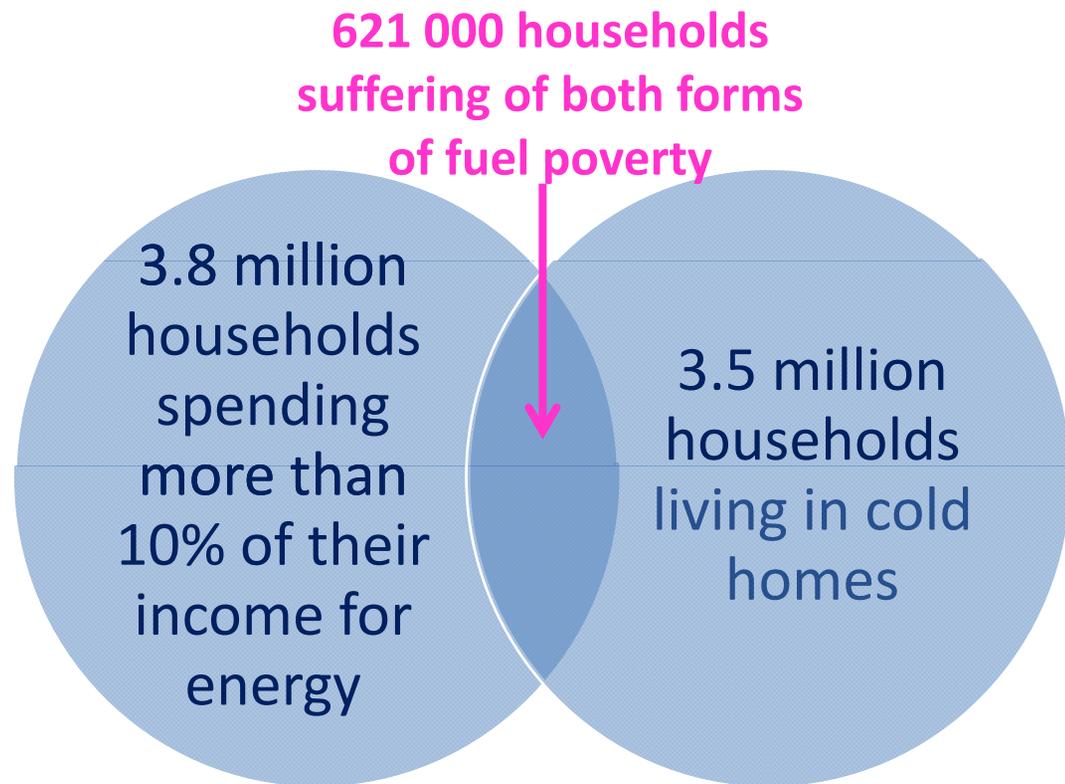
Energy poverty in France

What is the scale of the problem?

Total population of France in 2006:

63.6 million people

26.7 million households



Source : Devalière et al. (2011, based on 2006 data)

→ different forms of energy poverty & no important overlap between them

Three main policy domains to address energy poverty

1. Households' incomes

→ social policy (income support, energy subsidies)



2. Energy prices and supply conditions

→ regulatory measures (social tariffs & specific protections)



3. Energy efficiency of homes

& equipment → housing policy, environmental policy (thermal refurbishment, replacement of heating systems)



Public policies towards low-income energy consumers

1985 1996 2000 2005 2008 2009 2010 2011 2012 2013

1985: 1st measures (EDF-state contract on a solidarity fund)

1996: EDF discounts for vulnerable customers (techn.interventions)

2004: Reorganisation of solidarity funds for energy (FSL)



2004: Social tariff for electricity (TPN)

2007: Creation of Médiateur National de l'Énergie

2008: Social tariff for gas (TSS)

2012: social tariffs automatically applied

2013: Change of eligibility criteria → 4M



2002: FSATME (social funds for thermal refurbishment)

2011: Programme "Habiter mieux"

2013: reform of Habiter Mieux & start of SLIME





The recent debate on energy poverty & on policies for low-income energy consumers

- Preliminary remark: **no assistance scheme directly refers to the concept of energy poverty**
→ instead: low income
- Economic crisis and energy price increases: current **number of energy poor households is probably higher than 2006 figure**
- Recent debate:
 1. What impact of future price increases?
 2. How to increase the number of beneficiaries?
 3. How to reach the (truly) energy poor?

Recent debate (1): Expected electricity price increases

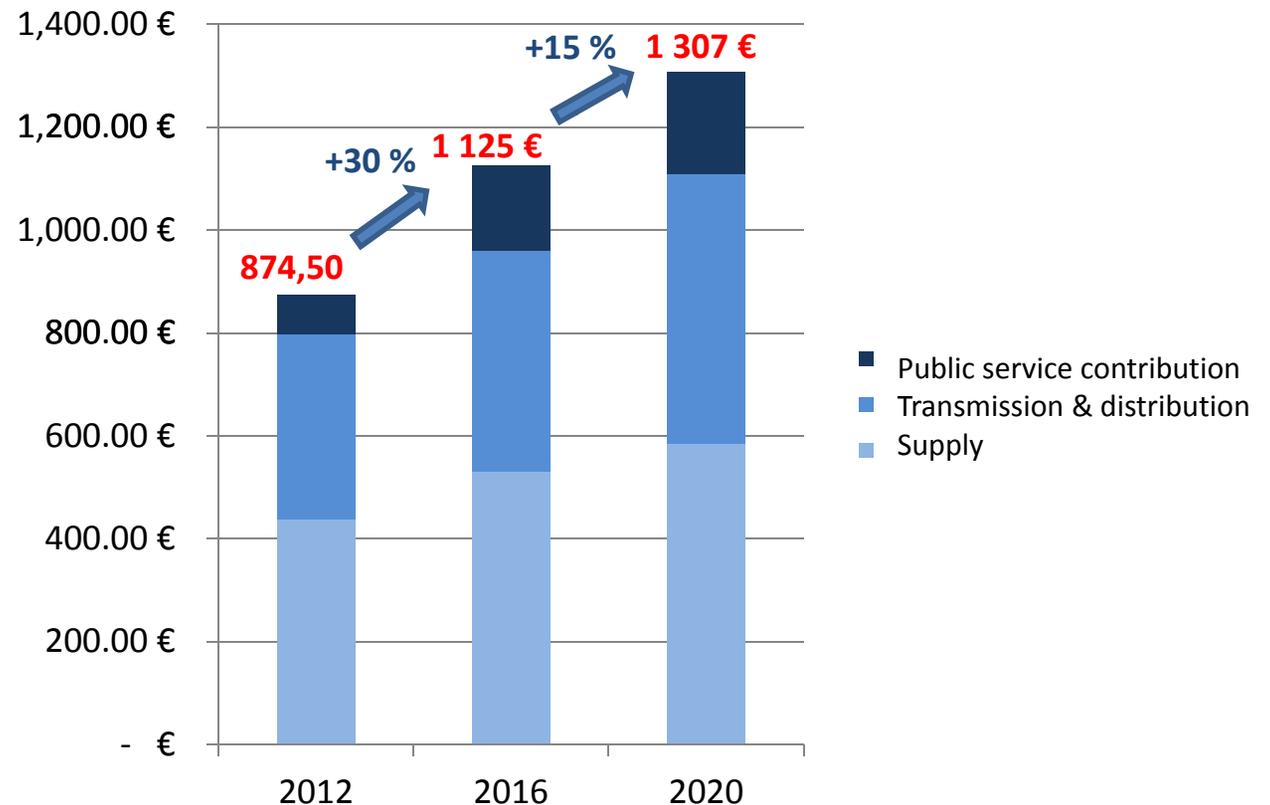
In France, 31% of households use electricity
as the main energy source for heating

Consumer price index
(1998 – 2012): largest
increase has been for
energy

2012 – 2020 estimation:
**+ 50 % for annual
electricity bills**

→ Energy budgets
increasingly put
households under pressure

**Law on energy transition
to be adopted in summer
2014 → what future
orientations regarding
electricity production
technologies?**



Source: French Senate (2012)

Recent debate (2)

How to increase the number of beneficiaries?

1. The solidarity funds for housing (called FSL)

→ financial assistance in case of payment difficulties:



- Funding: energy suppliers and the state
- 300'000 beneficiaries per year (for over 3 million energy poor households)
- Total budget (2010): estimated at 80 million €
- Average subsidy per household: 230 € (2010)

➤ **Problem: stable budgets vs. increase of households asking for assistance → social services have difficulties to respond to increasing demands**

Recent debate (2)

How to increase the number of beneficiaries?

2. Social tariffs (TPN for electricity and TSS for gas)

	Electricity	Gas
Name of social tariff	TPN (First necessity tariff)	TSS (Special solidarity tariff)
Funding: consumers pay a contribution through their energy bills	CSPE (contribution to public service for electricity)	CTSSG (for gas)
Number of beneficiaries (2012)	1.2 million	450'000
Average reduction of bills	95 €	142 €
Total cost (estimation for 2014)	327 million €	94 million €

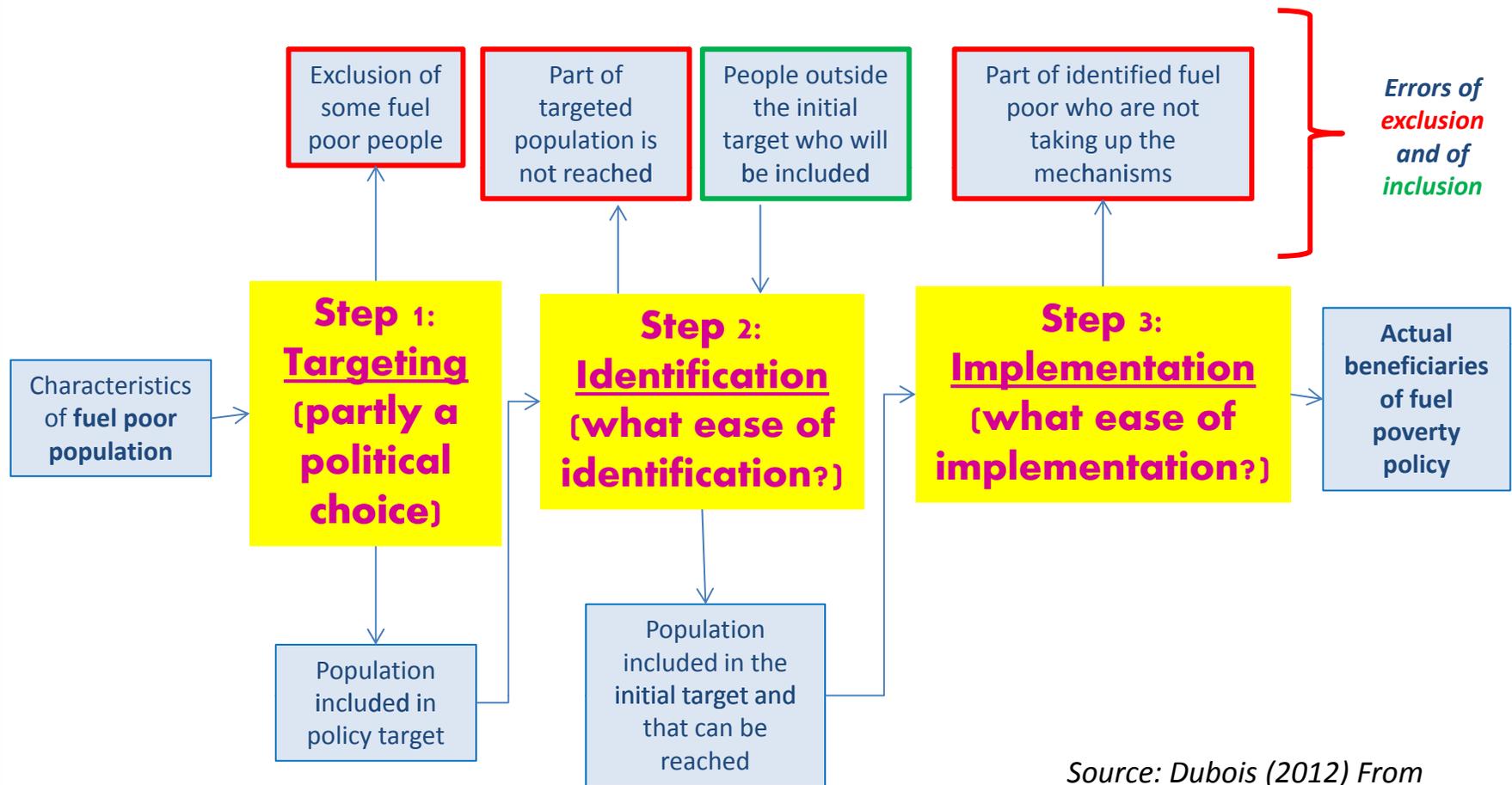
- **Problem: only half of potential beneficiaries actually get the social tariff (2012)**

In autumn 2013: **new eligibility criteria (4 million potential beneficiaries for TPN)** → what will be the real number of beneficiaries?



Recent debate (3)

How to reach the (truly) energy poor?



Source: Dubois (2012) From targeting to implementation

Recent debate (3)

How to reach the (truly) energy poor?



The main fuel poverty program Habiter Mieux that started in 2011

- In the initial phase, strong focus on low-income households, but not many households took up the program
 - Modification in June 2013: 45% of French households are now eligible
 - **how to make sure that this benefits not only the better-off households among the potential beneficiaries?**
- Measures adopted in 2013 to reach the (truly) energy poor
 - **“Energy Efficiency Ambassadors”** who are trained to identify low-income households
 - Increase of the **subsidy for the initial diagnosis**
 - Increase of per household subsidy, to **finance a larger share of the total cost of renovation** and allow people without financial resources/savings to take up the program
 - Question: **are these measures sufficient to keep the lowest-income households in the program?**



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+ DE 15 ANS ?**

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**Aide financière
+
Accompagnement
personnalisé**

**HABITER
MIEUX**

3.

FOCUS ON “HABITER MIEUX”



Energy efficiency measures for low-income households in France: one national program and several local initiatives

- **Comprehensive thermal renovations** → a national programme called “Habiter mieux” (living better) that was launched in 2011
 - Combination with White Certificates system
- **Smaller energy efficiency measures** → social funds for energy efficiency improvements (FSATME) - up to 1500 €
- **Distribution of small energy-saving appliances** → Achieve (European project) – experimental project on two areas in France
 - Investment cost: very low
 - Importance of information measures
 - Identification efforts of households
- **Local identification and diagnosis** of situations of energy poverty → SLIME (launched in 2013)

The national fuel poverty program “Habiter Mieux”: general principles



- General philosophy:

initially → adaptation to ageing of population

- Advantages : individual (80 % prefer to stay at home) and social (cost)
- What is necessary to stay at home?
 - Not only adaptation certain equipments (bathroom,...)
 - But also a warm home

today → 45 % of households are eligible

- Approach to identification: **decentralised**

- National coordinator : ANAH (national habitat agency, in charge of managing the fund for thermal renovation)
- Local contracts of commitment & networks at a more local level
- Standardised (optional) identification tools (= forms for data collection)

The national fuel poverty program “Habiter Mieux”: implementation



- Implementation process
 1. **Identification of households** by members of the network
 2. **Thermal diagnosis** (technical visit)
 3. **Realisation of thermal renovations**
 - Project engineering + financial engineering by a specialised operator
- Funding → **combination of different types of resources**
 - ANAH (traditional funding) (up to 50 % and 6000 €)
 - ANAH Habiter Mieux (3000 €)
 - Local authorities (500€ - 1000 €)
 - +Charities, pension funds, etc. who are partners to the programme
 - + Microcredit, ...

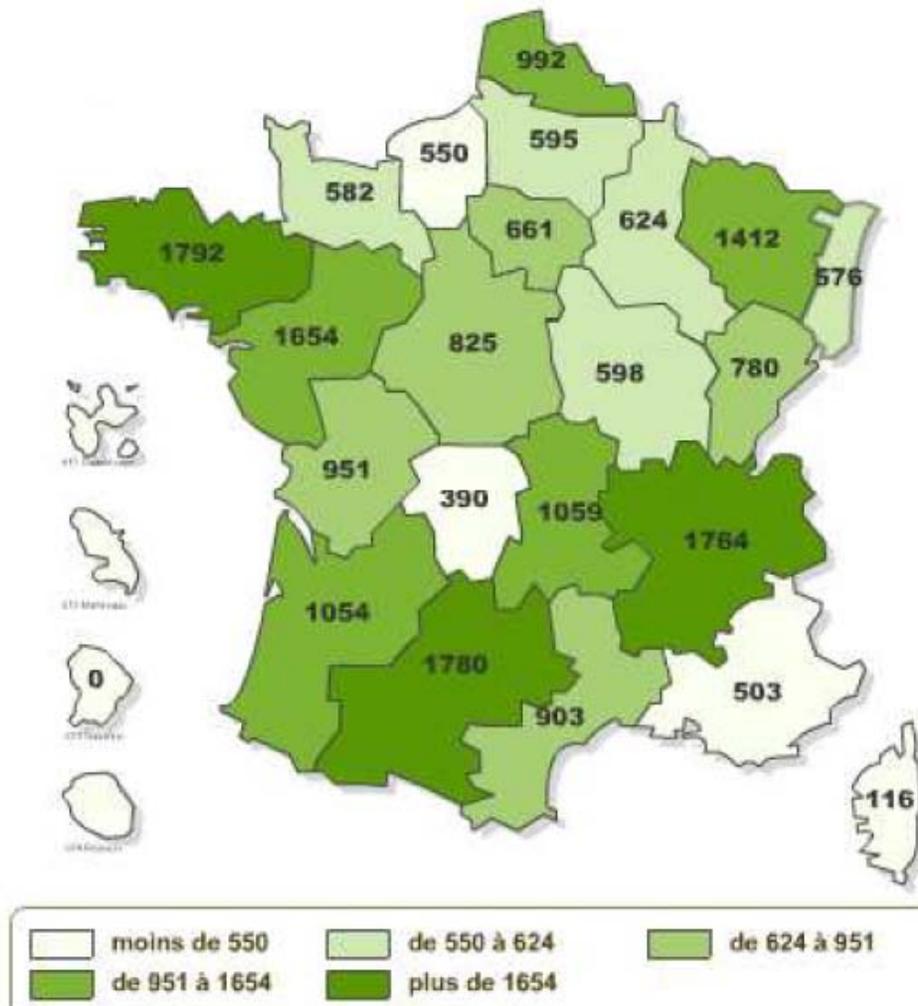
Since June 2013: at least 10'000 € subsidies (5'000 € before June 2013)

Habiter Mieux: objectives and results



- Initial objective: **300 000 homes over 7 years**
 - Comprehensive renovation including thermal insulation (roof, walls, windows) and replacement of heating equipments
 - Improve the efficiency of renovations, the technical operators give guidance on types of renovations
 - Energy efficiency gain: at least 25 %
- Results
 - Energy efficiency gains: **38%** on average
 - But start of program has been very **slow**
 - Year 2012 : **12 786 beneficiaries**
 - Year 2013 : **31 235 beneficiaries** (with a sharp increase in December)
 - Objective for 2014 : 38 000 beneficiaries

Situation of Habiter Mieux in November 2013



From January to November 2013, 20 161 households have engaged in a thermal renovation project (i.e. Projects not necessarily completed)

Average cost of refurbishment: 18 000 €

Average energy efficiency gain: 38 %

Some regions are more involved than others → dynamism of local networks

Since June 2013: new eligibility criteria

Characteristics of homes renovated by Habiter Mieux until June 2013



Year of construction	Total		Percentage of single family homes	Average amount of work	Average energy efficiency gain	Part of very low-income homeowners
	Number	Percentage				
Before 1949	10 887	47%	97%	22 056 €	40%	65%
From 1949 to 1975	9 151	39%	88%	13 879 €	37%	58%
After 1975	3 184	14%	89%	13 763 €	35%	56%
Total	23 222	100%	92%	17 679 €	37%	61%

Source: ANAH (2013) Programme Habiter Mieux – Etat d'avancement mensuel, juin 2013

Energy class of buildings renovated by Habiter mieux (June 2013)



Energy class (kWh/m ² /yr)	Percentage of homes	
	Before thermal renovation	After thermal renovation
A (less than 50)	0 %	0 %
B (from 51 to 90)	0 %	2 %
C (from 91 to 150)	1 %	14.5 %
D (from 151 to 230)	10.5 %	29.0 %
E (from 231 to 350)	23.0 %	29.0 %
F (from 351 to 450)	26.5 %	16.5 %
G (more than 450)	39.0 %	9.0 %

Source: ANAH (2013) Programme Habiter Mieux – Etat d'avancement mensuel, juin 2013

→ **Alleviates worst situations of fuel poverty but does not eliminate fuel poverty**

The reform of “Habiter mieux” in June 2013



	From 2011 to June 2013	Since June 2013
Eligibility criteria (1) types of homes	Homeowners of single family homes living in these homes	Homeowners of single family homes living in these homes + low income landlords + collective housing (co-ownership) in difficulty
Eligibility criteria (2) Income thresholds	Very low incomes Ex: single person in other regions than Ile de France → 11 811€/yr (January 2013)	Very low and low incomes Ex: single person in other regions than Ile de France → 18 262€/yr (January 2014)
Funding	Habiter mieux subsidy: 1600€ Total : 5 000€	Habiter mieux subsidy: 3000€ Total : 10 000€
Other conditions	Building older than 15 years, no other public subsidies for 5 years, expected energy efficiency gain = 25 %, work done by professionals	



Lesson 1: identifying households is difficult and specific efforts are required to perform that task

- **No spontaneous “demand” to be identified & helped**
 - Lack of information
 - Fear of stigma
 - Complexity of procedure, ...
- **On the “supply” side of identification**
 - Many possible identification actors
 - But none is specialist in energy poverty and controls the whole procedure
 - importance of cooperation & networks
 - local conditions matter
 - Multiplicity of policy layers makes things complex
- **Consequence :**
 - Identifying energy poor households is **time consuming** and **costly**
 - It takes time to build up **identification networks**



Lesson 2: implementing energy efficiency measures for low-income people raises specific problems

- **Problem 1: commitment of households**
 - They need to be **convinced**
 - “*Accompagnement*”, i.e. **supporting** households all over the implementation process is important
- **Problem 2: remaining financial burden for households**
 - Two possibilities
 - Either target the mechanism towards households who have a **minimum ability to invest**
 - Or propose **financing schemes that cover the whole project**
- **Problem 3: payback on investment**
 - Little willingness to invest in projects that are not **profitable in a relatively short time period**
 - Can be an obstacle to implementation of **comprehensive renovations**



4.

FOCUS ON URBAN AREAS
THE REGION ILE DE FRANCE

Ile de France – the biggest urban area in France



Only 2% of the French territory but **18% of the French population**

12 million inhabitants

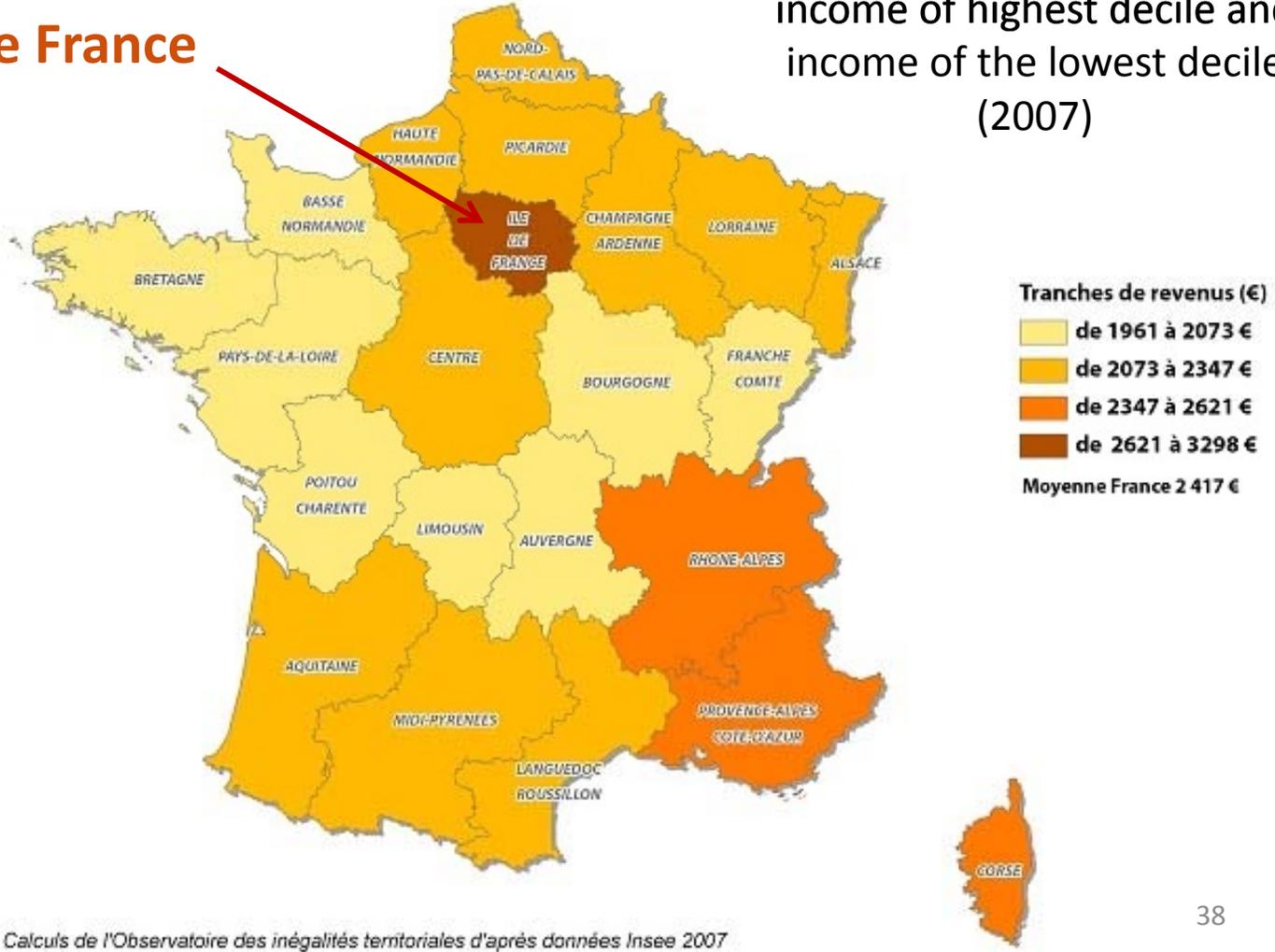
Urban agglomeration of Paris: 88% of the population of the region

GDP of Ile de France – **31% of the GDP of France**

A region with major income inequalities in comparison with the rest of France

Ile de France

Difference between monthly
income of highest decile and
income of the lowest decile
(2007)



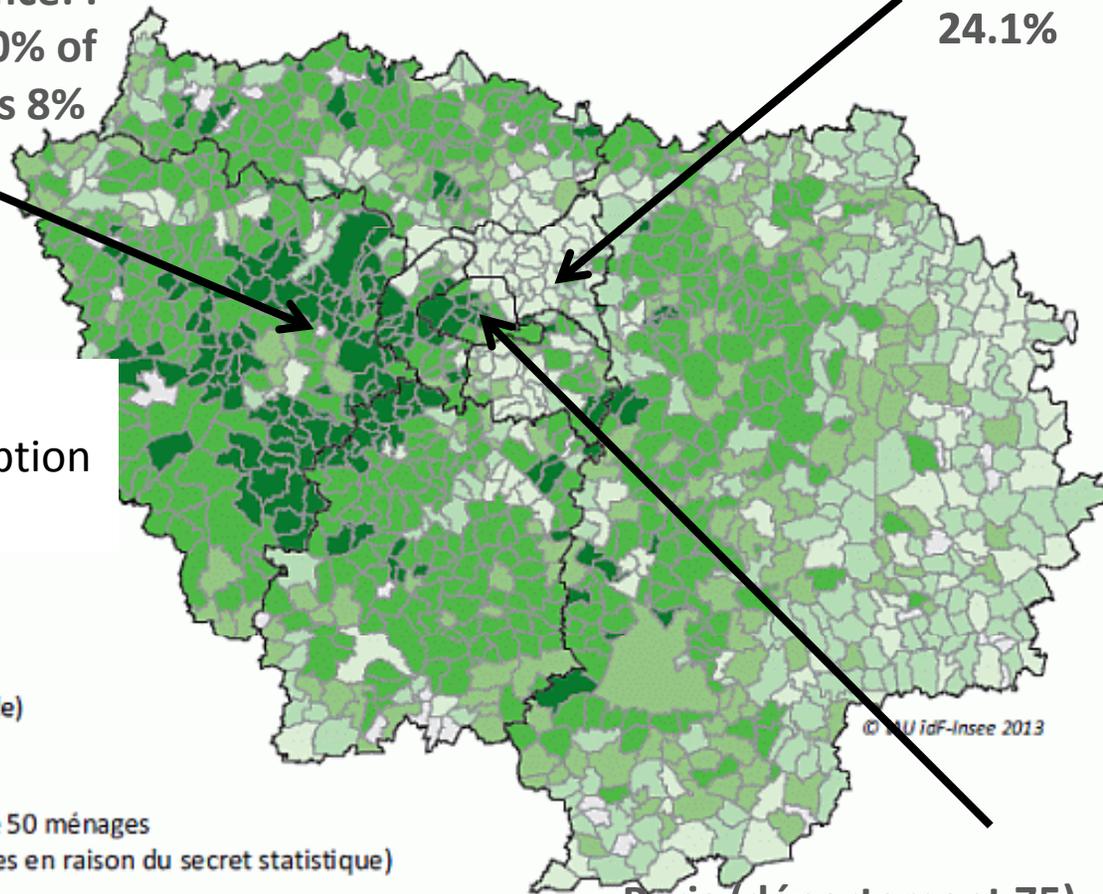
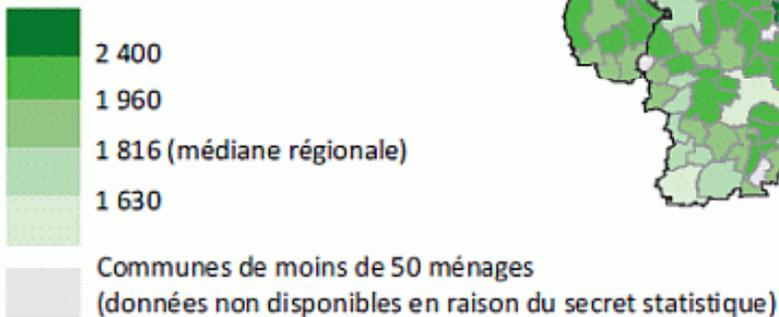
Calculs de l'Observatoire des inégalités territoriales d'après données Insee 2007

Income inequalities at the local level

Yvelines (département 78) is the richest of France: : poverty rate at 60% of median income is 8%

Seine Saint Denis (département 93) is the poorest of France: poverty rate at 60% of median income is 24.1%

Median monthly income by consumption unit (euros, 2010)



Paris (département 75) : high median income, but huge inequalities and highest intensity of poverty

Homes of people in energy poverty: a diversity of situations

Tenants in the private sector, substandard homes & inadequate heating



Tenants in the social sector, trapped in the heat (district heating or other collective heating)



Homeowners of substandard homes



Slums

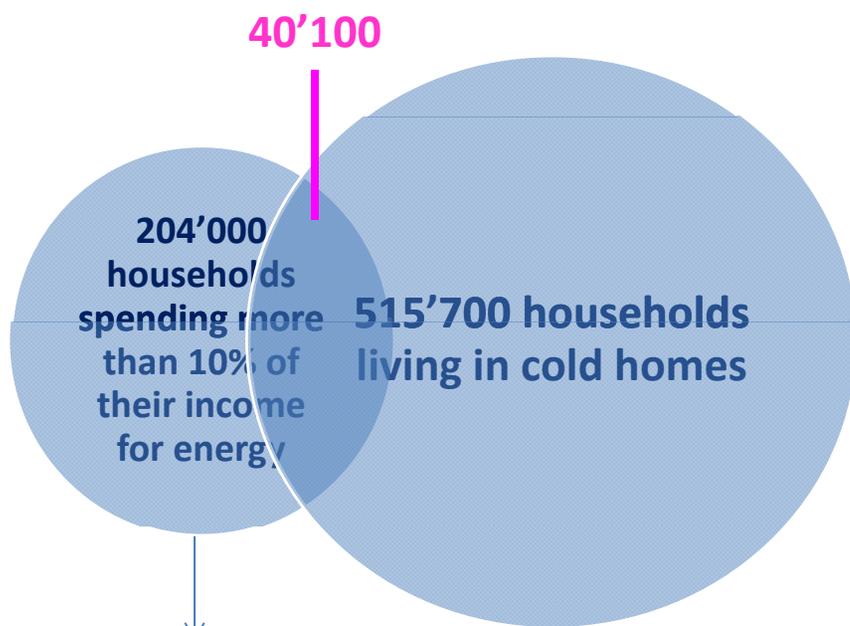
Owners of flats in large collective housing with heating & energy efficiency problems



Tenants in the social sector on low incomes

Energy poverty in Ile de France: scale of the problem and profiles of households

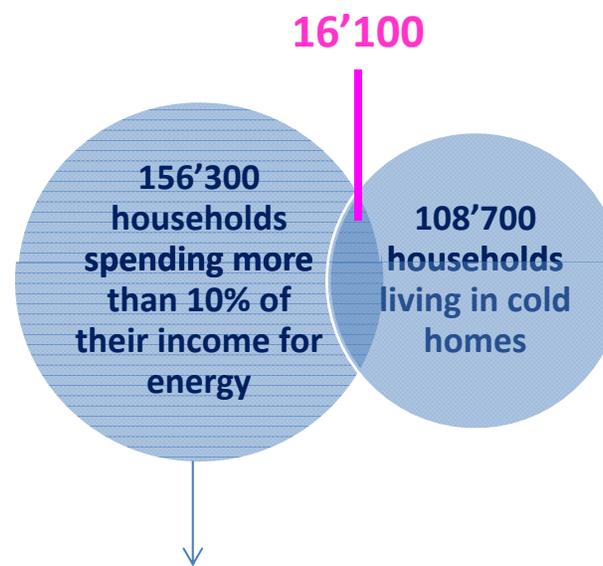
Households living in multi-family homes



Younger than 30 years
First income quartile
Single person
Electric heating

Single-parent families
Electric heating
Complementary heater
Less than 50 years

Households living in single-family homes



Older than 60 years
First income quartile
Single person
Heating oil

2006 data
Source: Host et al. (2014)



Specificities of energy populations in Ile de France

- **Target group of thermal renovation program** “Habiter mieux” (single family homes) is **comparatively small**
- Energy poverty of **young people** emerges as a new issue
 - Confirmed by certain local diagnoses
 - Relates to the more general problem of low income of younger households
- Problem of **cold homes** affects many people
 - But **not specific to low-income households**
 - **Rationing behaviours** (especially for people with electric heating) play an important role → self-constraints in response to energy unaffordability



What policy implications?

- Solutions have to be developed to solve collective action problems in order to realize **thermal renovations in collective housing** (especially in privately-owned multiple-owner buildings?)
 - Since June 2013, Habiter mieux allows this kind of renovations (but needs are huge)
- Important proportion of tenants
 - How to remedy to **lacking incentives of landlords** to engage in thermal renovations?
- Social tariffs & solidarity funds exist for low-income households but the **scale of affordability problem** is bigger. Cold homes and self-constraining behaviors are already observed for all types of households & future price increases could worsen the problem
 - argument in favor of developing energy-efficiency programs that can be deployed a larger scale (e.g. Achieve experimentation & SLIME)



To conclude

- **Characterizing energy poverty is not an easy task**
 - Still much work to do to know precisely
 - Countries' energy poverty profiles and
 - Profiles of households in each country
- **The diversity of situations suggests that there is not a unique policy solution to tackle energy poverty**
 - Two broad types of measures
 - Energy efficiency measures
 - Energy affordability measures
- **France is an interesting case study because it uses a large scope of measures**
 - Ex-ante objectives not always met when measures are implemented
 - A learning process on what works and what doesn't



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Ute DUBOIS, ISG International Business School, Paris
ute.dubois@isg.fr

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