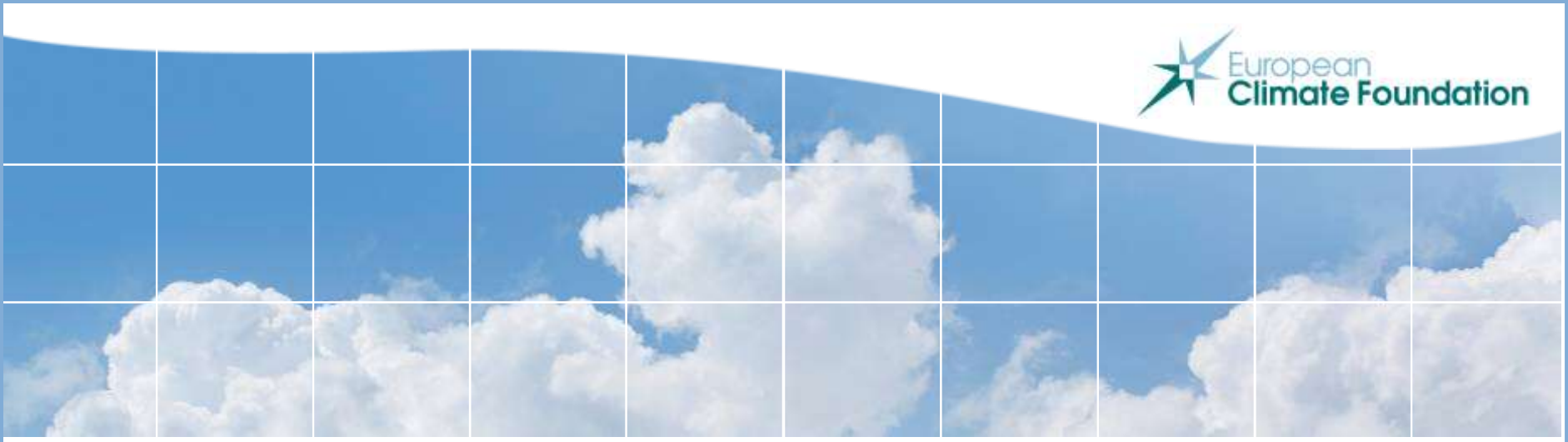


Egmont Royal Institute for International Relations / Development Group Symposium
Brussels, 11 October 2016

TAPPING THE POTENTIAL OF DOMESTIC BUILDINGS

Erica Hope, European Climate Foundation

Who is ECF?

The European Climate Foundation (ECF) is a philanthropic initiative. Its aim is to promote climate and energy policies that greatly reduce Europe's greenhouse gas emissions, and help Europe play a stronger international leadership role in mitigating climate change

To achieve this, the ECF:

- ➜ Collaborates with **grantees and experts** to design and fund strategies based on a thorough understanding of decision-makers, decision-making processes and political pressure points
- ➜ Acts as **convener** to builds alliances and create platforms among a wide range of partners in **government, business and NGOs**
- ➜ Has programmes in **Brussels, Germany, Poland, France and the UK**

ECF's grantee community in a snapshot

Summary

1. **Building regeneration will only happen at scale if consumers demand it.**

1. **Consumers will only demand it if:**
   - ✓ **There is a compelling proposition which makes it easy and attractive for them to undertake home improvements.**
   - ✓ **Costs and hassle are brought down through industrialisation of the retrofit process.**

2. **Compelling propositions and process industrialisation will require high levels of government focus and priority on the buildings challenge at EU, national and local levels:**
   - ✓ **Buildings to be considered as infrastructure.**
   - ✓ **Comprehensive application of the "Efficiency First" principle.**

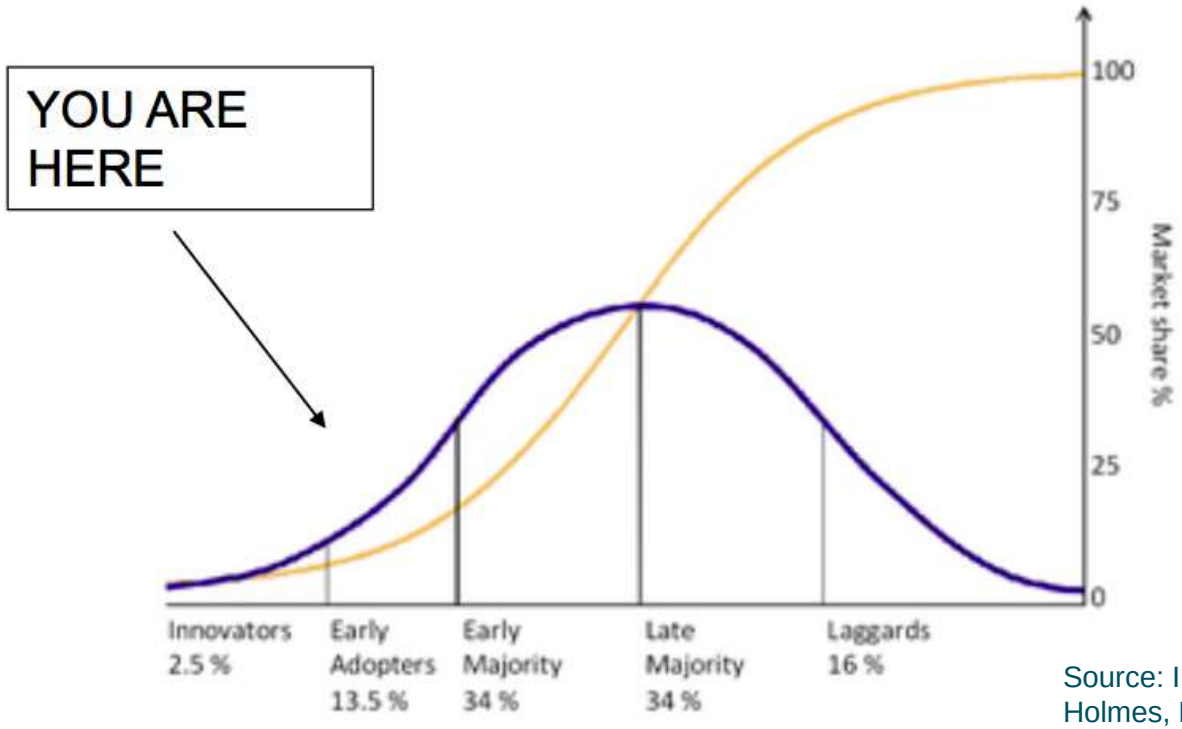
1. **Building regeneration will only happen at scale if consumers demand it.**

1. Consumers will only demand it if:
   - ✓ There is a compelling proposition which makes it easy and attractive for them to undertake home imrpovements.
   - ✓ Costs and hassle are brought down through industrialisation of the retrofit process.

2. Compelling propositions and process industrialisation will require high levels of government focus and priority on the buildings challenge at EU, national and local levels:
   - ✓ Buildings to be considered as infrastructure.
   - ✓ Comprehensive application of the “Efficiency First” principle.

The need to create consumer demand

Rogers "Diffusion of Innovation" curve describes the technology adoption lifecycle according to the demographic and psychological characteristics of defined adopter groups



Source: IEA presentation by Ingrid Holmes, E3G, March 2012

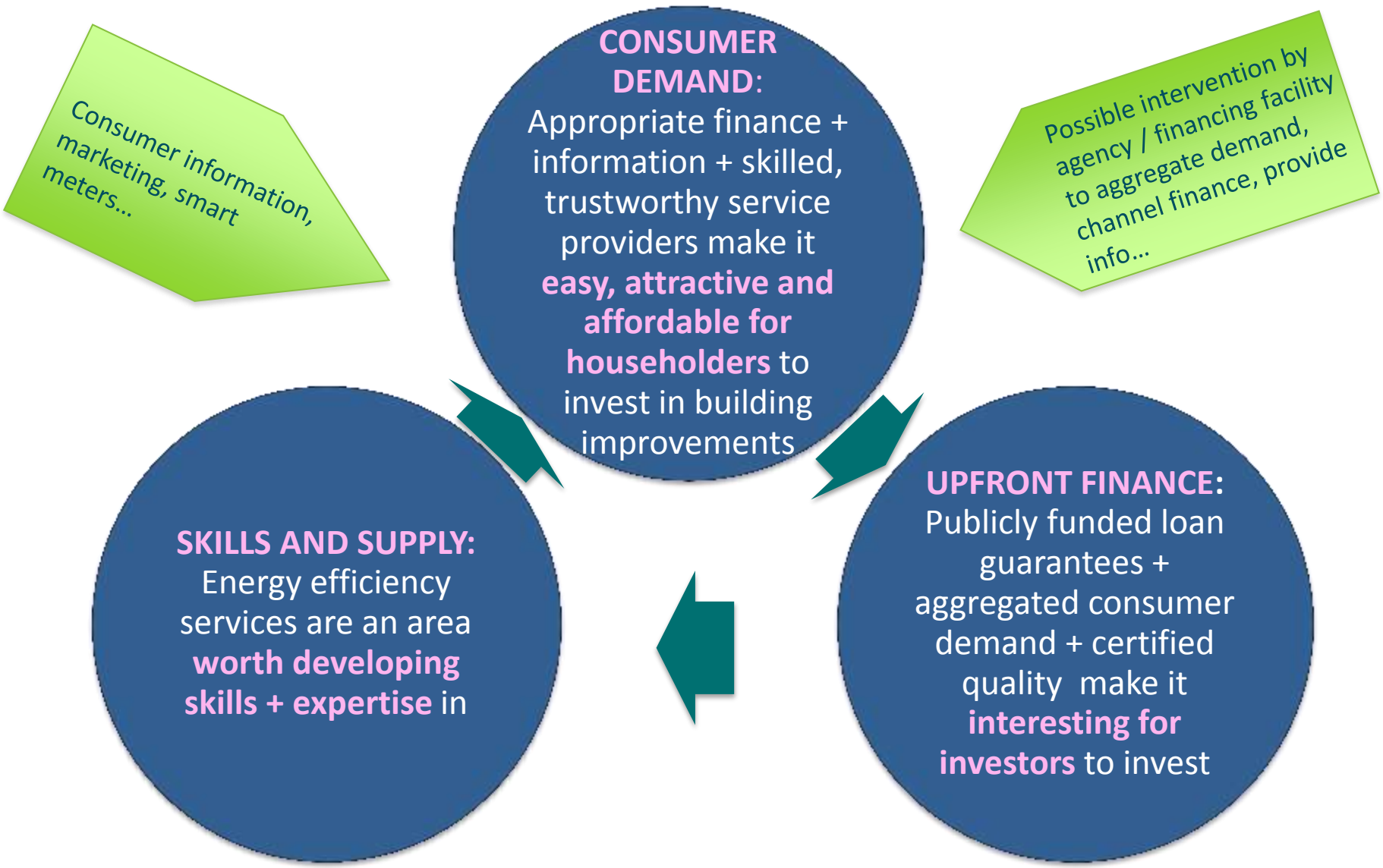
- Innovators are the 2.5% of the population who are enthusiasts and move early
- Early adopters (13.5% of population) are opinion leaders and carefully try new ideas
- Then comes the majority ('follow the crowd')… and laggards (may need regulation)

Householders need a genuinely attractive front-end proposition…

- **A well-marketed, appealing, affordable package that minimises hassle throughout the customer journey:**

- ➜ **Easy-to-find information** on what's available ***(one stop shops?)***
- ➜ **Affordability** – costs as low as possible, financial support that is easy to understand, repayment arrangements that have little impact on monthly bills or long term liabilities
- ➜ An **incentive** ***(e.g. cash-back, stamp duty rebate?)***
- ➜ **Peer pressure / encouragement** ***(neighbourhood approach?)***
- ➜ Maybe even **requirement**… ***regulation?***
- ➜ **Trustworthy service providers** ***(certification?)***

… underpinned by a strong supply chain, skills, private investment…



... creating conditions to support positive feedbacks through industrialisation of the retrofit process

- Renovation market in EU28 (2015): €109bn. **Potential to increase this by 50% by 2030***
- A large enough market makes it interesting to in innovate in:
  - ➜ Shifting from **step-by-step component-based** renovations to **overall, one-step** renovations
  - ➜ Robotics and 3D measurement systems to allow manufacture of **customised prefabricated components**
  - ➜ **Cooperative business models** between architects, manufacturers, assemblers and customers
  - ➜ **Aggregation of projects** by municipalities, builders and property owners **
- Pilot projects possible cost reductions from **€130,000 (2010) to €60,000 (2014)**; economy-wide value add of **€200 billion/year*****

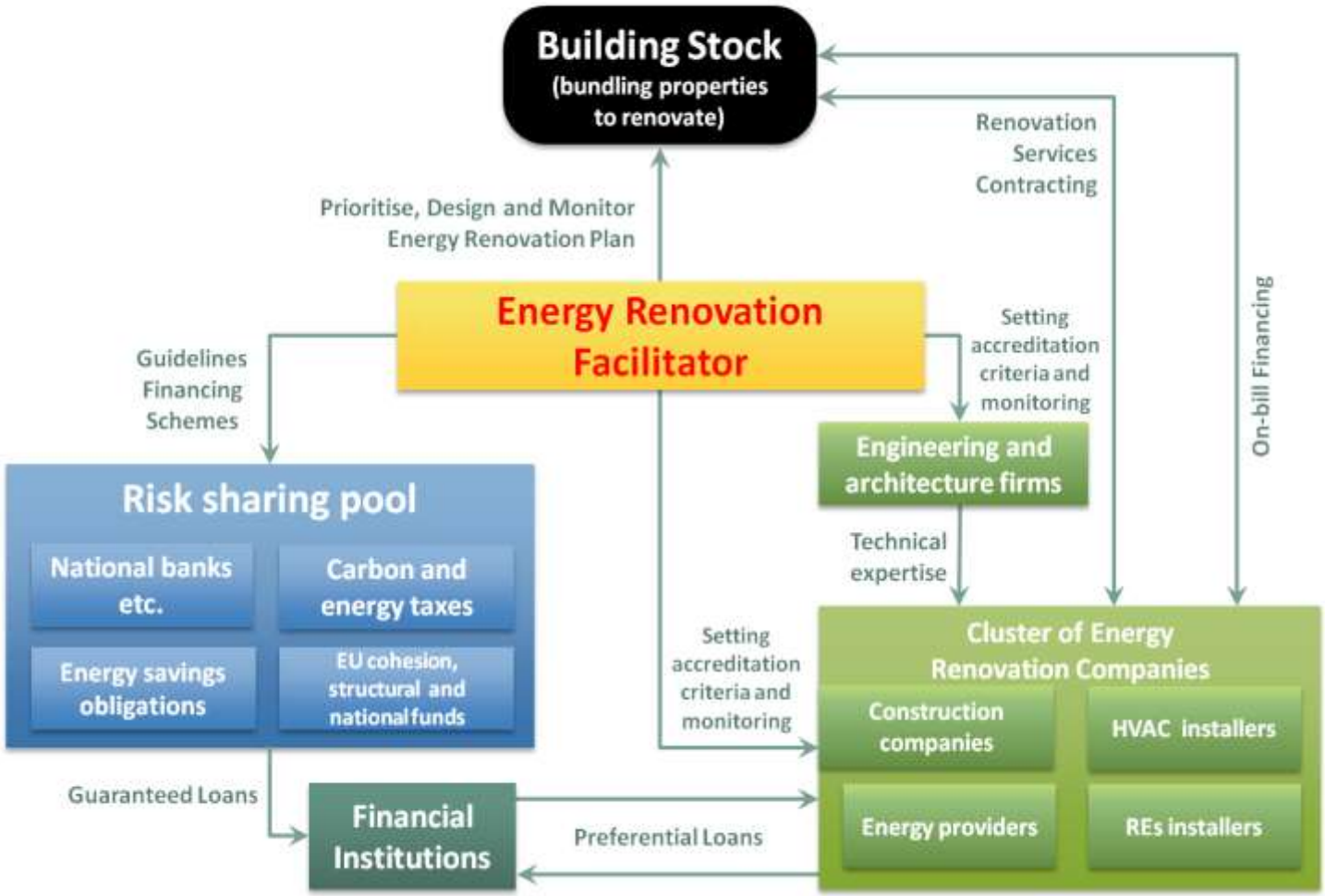
* Saheb (2016): Energy Transition of the EU Building Stock: Unleashing the 4th Industrial Revolution in Europe

**i24c (2016): Scaling Up Innovation in the Construction Value Chain

***BPIE (2016): Driving Transformational change in the Construction Value Chain

An idealised programme structure need political focus

An Energy Renovation Facilitator & a Risk Sharing Pool are needed to create a renovation market



Source: Saheb (2016): Energy Renovation: The Trump Card for the New Start for Europe

Buildings need to be recognised as infrastructure (1)

- "Infrastructure" is not only pipes, wires, power stations, roads and bridges… **Buildings are a core part of infrastructure.**
  - ➜ **Long-lasting capital stock** with high upfront cost… provide input to a range of goods and services..

    free up capacity elsewhere in the economy (IMF definition)
  - ➜ EE programmes can provide **comparable economic returns** to other forms of infrastructure:

  - ➜ Can play a key role in **balancing the wider energy system** *(see BPIE (2016): "Buildings as Micro Energy Hubs")*
  - ➜ Integrating EE investments into national infrastructure planning will **reduce the risk of stranded assets** on the supply side

Buildings need to be recognised as infrastructure (2)…

- In practice, classifying buildings as infrastructure means including EE programmes within **national infrastructure plans**, and shifting EE to sit within **capital expenditure budgets rather than operational expenditure.** This would mean:
  - ➜ Building programmes are considered for **long term, stable funding** rather than austerity-vulnerable, short-term, add-on funding, and will no longer compete with operational spending on (say) **health and education**
  - ➜ **Benefits as well as costs** will be visible on governments' balance sheets
  - ➜ Strengthened case for changing the **Eurostat accounting rules** for productive debt and **State Aid classifications**

Source: E3G (2016)

… and EE needs to be a first order priority: "Efficiency First"

"(…) it starts with taking "Efficiency First" as our abiding motto. Before we import more gas or generate more power, we should ask ourselves: "Can we first take cost-effective measures to reduce our energy use?"

- European Commissioner for Climate Action Miguel Arias Cañete, 2015

"(…) Efficiency First can and should be a guiding principle for the Energy Union… To make Efficiency First a reality, we need to embed the principle into our models and impact assessments, funding and infrastructure decisions, and into all energy and climate policies."

- European Commission Vice President for Energy Union Maroš Šefčovič, 2016

What is Efficiency First? (E1st)

- **Efficiency First** is the principle of **considering the potential for energy efficiency first** in all decision-making related to energy.
- **Where EE improvements are shown to be most cost-effective**, considering also their role in driving jobs and economic growth, increasing energy security and reducing climate change, **these should be prioritised**.
- Applying the principle will start to **redress the historic bias** towards prioritising increasing supply over saving energy – a bias which still persists.

Source: Coalition for Energy Savings (2015)

Thought leadership group on Governance for E1st

- Representatives of the Regulatory Assistance Project, E3G, ClientEarth, eceee, the Smart Energy Demand Coalition, CAN Europe, Friends of the Earth Europe, OpenExp

- **"Efficiency First: A New Paradigm for the European Energy System"** and **"Governance for E1st: Plan, Finance and Deliver**" published June 2016

Operationalising E1st in the Energy Union (EU level)

Commission to adopt an action plan	Efficiency as a core principle in bringing Paris home	Revise upwards the 2030 energy efficiency targets	Guiding principle in the National Energy and Climate Plans	Value the multiple benefits of energy efficiency
Consistent energy demand projections	Align financial flows	Extension and strengthening of article 7 of the EED	Compatible market design	Support local actors

Source: https://europeanclimate.org/wp-content/uploads/2016/06/ECF_Report_Summary_v9-screen-spreads.pdf (2016)

Conclusions

- Tapping buildings' full potential will require **consumer demand for renovation**… which cannot be assumed.
- Encouraging, incentivising (or requiring) renovation and creating the conditions for it requires **careful and concerted governmental focus.**
- This is a big job which will require politicians to **value EE as highly as they do supply side infrastructure**, and to think of it as a **first order resource.**
- Far-reaching **conceptual shifts** can be driven through and by efforts to ensure that governance frameworks:
    - Treat **Buildings as Infrastructure**, and
    - put **Efficiency First.**

Thank you!

Erica Hope
erica.hope@europeanclimate.org

Extra slides

The average consumer…

- **Does not think about energy improvements** in the same way as they think about kitchen replacement.
- **Has other things they would rather spend any spare money** on than home energy improvements.
- **May not live long enough in any one place** to justify an expensive retrofit.
- Would find it a **hassle** to have builders in their home.
- **Is too busy** to invest lots of time in looking for solutions

➔ ***Home energy improvement is not (yet!) a "must-have" item***

Examples of programmes

- **KfW, Germany:**
  - funding from **capital market guaranteed by Federal government**
  - **grants** of €3750-€15 000 available + **subsidised loans with long term fixed interest rate of ~3%**
  - subsidy depends on **level of refurbishment** reached
  - ~3 million homes / **5.6% of housing stock** addressed over 30 years

- **"Better Energy Warmer Homes", Ireland:**
  - Funded through **EU structural funds** with government co-funding
  - Aimed at **housing corporations** who must identify **fuel poor households** and pay upfront costs before being reimbursed
  - Non fuel poor homes can be grouped with fuel poor but fuel poor must make up at least 50%, and receive more subsidy
  - **75 000 homes** have had measures installed since March 2009

Estonia's KREDEX programme

European Climate Foundation

- **State-owned non-profit provider of financial service**s, established in 2001 by Ministry of Economic Affairs and Communications
- Uses **EU structural funds**
- **Revolving fund** structure → self-sustaining
- Provides **state grants** for 15-35% of the cost of total apartment building renovation, **+ loans and loan guarantees**
- Comprehensive **marketing campaigns** to bring awareness of loans available
- Some **municipalities** set up own schemes to run alongside KredEx

Results 2009-2011:

- **391** loan agreements reached
- €34.3 million used (total investment **€45.2 million**)
- **14,680 apartments** = 33,700 residents
- Average predicted energy savings **~40%**

Comparison with JESSICA in Lithuania

- In 2009 Lithuania decided to launch a renovation scheme for apartment blocks using **JESSICA***
- **€127 million** of ERDF funds committed + **€100 million** national co-financing; modelled on KredEx
  - *Borrower = house-owner association*
  - *Loans with fixed interest rate at 3%*
  - *Increasing subsidy for higher savings achieved*
  - *Administrative costs paid for*

BUT the programme did not fly due to:

Source: Inesis Kiškis, Lithuanian Ministry of Environment

- Distrust of population in government
- Failed public relations programme
- Poorly organised apartment owners: all must agreee
- Heating bill subsidies act as major disincentive

**JESSICA = Joint European Support for Sustainable Investment in City Areas: joint initiative between European Commission/EIB/Council of Europe Development Bank*

Case study that didn't work: UK Green Deal

- **Green Deal**: launched in 2013, intended to improve 14 million homes by 2020 and a further 12 million by 2030
- Poor design of scheme meant that **between 2013-2015, just 15,138 Plans were sold**
  - ➜ **Unattractive financial proposition** – interest rates between 7-10%, combined with long repayment times led to high financing cost
  - ➜ **Poor communication of the scheme** – focus only on cost saving, rather than comfort
  - ➜ Scheme did not take advantage of **trigger points** e.g. point of sale
  - ➜ **Complicated, tortuous consumer journey** led to drop-off rate of 97.5%
  - ➜ **Poor quality assurance** and weak redress mechanisms damaged brand
- **Supply chain failed to develop**
  - ➜ Complex, expensive accreditation process
  - ➜ Political uncertainty over longevity of scheme
- **Failure to leverage private finance**
  - ➜ Only 1% of improvements used Green Deal finance- remainder were delivered free or heavily discounted via other scheme

Source: Bright Blue (2016): Better Homes: Incentivising Home Energy Improvements

Successful schemes tend to comprehensively:

- Increase **attractiveness to private investors** through state guarantees (e.g. KfW) or aggregation of projects (e.g. UK Housing Finance Corporation; Irish scheme)
- Minimise **administrative costs**
- Become **self-sustaining** through use of a revolving fund (e.g. KredEx)
- Address issues with **surrounding framework** including planning requirements, building codes, property law and ownership structures
- Include a **robust delivery mechanism**
- **Incentivise deeper savings** through higher subsidy
- **Generate trust** through links to household names, use of quality marks and certification, high quality marketing

EU funds available for energy efficiency

European Climate Foundation

Cohesion Policy funding (European Structural and Investment Funds) 2014-2020:

- Under the **European Regional Development Fund (ERDF)**, obligatory minimum percentages must be invested in sustainable energy (12%/15%/20% depending on development of region). Total: minimum **€23 billion**
- Investments from the **Cohesion Fund** and **European Social Fund** (supporting upskilling of labour force) can be spent on energy efficiency.

European Energy Efficiency Fund:

- Established in 2011 with **€265 million** from **EU, EIB, Italian and German banks** with 70% of funding intended for energy efficiency projects. Aimed to bring proven technologies to the mainstream, boost ESCO market and use of energy performance contracting.

Research funding:

- **€6.5 billion** to be allocated to the "Energy challenge on secure, clean and efficient energy" under **Horizon 2020**

International insitutions:

- **EIB** gives **€85 billion** annually to energy efficiency
- **Intelligent Energy Europe** programme funds ELENA to provide technical assistance for structuring and implementing projects
- **European Bank for Reconstruction and Development (EBRD)**