

# Making Money Work for Buildings

Financial and Fiscal Incentives for Energy  
Efficiency in Buildings in Europe

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# What is EuroACE?

- EuroACE is the European Alliance of Companies for Energy Efficiency in Buildings
- An association of Europe's leading companies involved with the manufacture, distribution and installation of energy saving goods and services in buildings
- We work with the European lawmakers to help Europe move towards a more sustainable pattern of energy use in buildings
- We believe that improving the energy efficiency of buildings is the most cost-effective (including zero cost) method of:
  - ✓ Meeting carbon reduction targets
  - ✓ Achieving energy security
  - ✓ Creating employment and securing economic recovery

# Who are its Members?

- Acciona Infraestructuras
- Aereco
- Armacell International
- PU Europe
- CRH
- Danfoss A/S
- Honeywell Europe
- Johnson Controls
- Kingspan Insulated Panels
- Knauf Insulation
- Paroc
- Philips Lighting
- Pilkington Group
- Rockwool International A/S
- Saint-Gobain Isover
- Solutia Inc.
- Somfy
- RPM Building Solutions
- United Technologies
- URSA Insulation
- VELUX Group

# Fiscal and Financial Instruments for Energy Efficiency in Buildings



EuroACE commissioned study, carried out by Klinckenberg Consultants

To assess the effectiveness of financial and fiscal instruments for energy efficiency upgrades in buildings in European Union countries:

- to identify and map the financial and fiscal measures that are in place across the community
- to clarify and categorise the types of support available
- to identify where impact can be assessed and cost-effectiveness quantified
- to draw some conclusions on both best practice and lessons learned as a guide for policy makers at EU and national level and for practitioners.

Results and appendices are available via [www.euroace.org](http://www.euroace.org).

# Types of Financial Instruments

- Preferential Loans
- Grants / Subsidies
- Trading (White/Energy certificates)
- Tax rebates
- Tax deductions
- VAT reduction
- Third party financing

# Types of Financial Instruments

- Loans / Preferential Loans
  - Loans, with better terms and/or reduced interest rates, provided for building EE improvements
  - Typically finance all or most of an investment
- Grants / Subsidies
  - Subsidies or grants for building EE improvements
  - Typically finance part of an investment

# Types of Financial Instruments

- Third party financing
  - Investment is paid for by third party (e.g., bank, ESCO, installer of systems)
  - Building owner has to pay back investment over time
  - Different forms of 3<sup>rd</sup> party financing, ranging from pay back as share of savings to financial lease
- White certificates
  - Tradable amounts of energy savings
  - Typically required by government, of energy suppliers
  - Savings generated with end users

# Types of Fiscal instruments

- Tax rebates
  - Various forms of personal tax reductions in response to building owners investing in EE
  - Examples range from personal income tax reductions to reduction of building transfer tax (stamp duty)
- Tax deductions
  - Deduction of personal income or corporate tax for amounts invested in EE
- VAT reduction
  - Low VAT rate for EE products and materials



# Overview of Identified Instruments in Use

	Preferential Loans	Subsidies	Grants	3rd party financing	Trading	Tax Rebate	Tax Deduction	Reduced VAT
Austria	1	1	3	2				
Belgium		5					1	1
Czech Republic	1	1	6					
Denmark			1					
Estonia	1							
France	5		2		1	1		1
Germany	3		1					
Hungary	4		3					
Italy	3		1		1	2	1	

# Overview of Identified Instruments in Use (cont'd)

	Preferential Loans	Subsidies	Grants	3rd party financing	Trading	Tax Rebate	Tax Deduction	Reduced VAT
Netherlands				1		1	1	
Norway	1		1					
Poland		1		1				
Romania			1					
Slovenia	2		5					
Spain	2		2					
Sweden			1				1	
UK	2		6			2	1	1

# Some examples:

## Preferential Loans

- Estonia: The Credit and Export Guarantee Fund (KredEx) (2001 – ongoing)
  - To improve the financing of enterprises in Estonia, decrease export-related credit risks, enable people to build or renovate their homes and promote energy efficiency in Estonia.
  - Uses a combination of Structural Funds and EIB loans
  - Fund offering a long time low interest loan for energy renovations of apartment buildings
  - Minimum energy saving of 20% required
  - By the end of August 2009, 36 contracts with multi-apartment buildings had been established totalling € 2.7m

# Some examples:

## Subsidies

- UK: Carbon Emissions Reduction Target (2008-2012)
  - To alleviate fuel poverty as well as increase energy efficiency in homes
  - Obliges energy suppliers to achieve CO<sub>2</sub> emission reductions in households
  - Suppliers promote and often subsidise a range of energy efficiency measures including cavity wall and loft insulation
  - 40% of all savings must be achieved with vulnerable consumers (low-income and elderly)
  - Estimated cost to suppliers £2.8bn (€ 3.1 bn) for 2008-2011
  - Estimated CO<sub>2</sub> emission reduction 185 Mt cumulatively

# Some examples:

## Grants and Preferential Loans

- Slovenia: Financial stimulation for energy efficiency renovation and sustainable buildings of new buildings (2008-2016)
  - To promote the implementation of energy audits, feasibility studies, investment and project documentation for EE and RE
  - Financing for energy renovation, building of low energy buildings and building of new passive solar buildings
  - Subsidy is limited to 2.5% of the proposed investment
  - Small or medium-sized enterprises are eligible
  - Estimated energy saving 210 GWh p.a. and CO<sub>2</sub> emission reduction of 54 kt p.a.

# Some examples:

## 3<sup>rd</sup> Party Financing

- Austria: Successfully establishing a regional Market for Third Party Finance (2001 – ongoing)
  - To establish a market for third party financing for public buildings (and later commercial clients and renewable energy sources) in Upper Austria
  - Financial support up to 6 % of the energy investment (maximum 100,000 €) depending on the type of project
  - Minimum investment costs have to be 40,000 €
  - Also a number of advice and information activities
  - More than 100 TPF financed projects have been implemented with total investment of about 35 M€

# Some examples:

## Tax Rebates

- Belgium: Tax Rebates for Home Improvements (2003 – ongoing)
  - To increase energy efficiency in existing residential buildings through income tax reductions
  - Investments to improve the rational use of energy give entitlement to income tax reductions
  - Qualifying investments: replacement/maintenance of water heaters with new heaters which meet minimum efficiency standards; installation of insulation; installation of certain renewable technologies and undertaking of energy audits
  - Budget €37m in 2003

## Some examples:

### Tax Deductions

- Netherlands: Energy Investment Allowance (2004 – ongoing)
  - To support businesses investing in energy saving equipment and sustainable energy
  - 44% of the annual investment costs for qualifying equipment are deductible from corporate tax, up to a maximum of €115m
  - Budget €137m in 2005. Budgets are set annually
  - In 2004, estimated savings amounted to 40PJ (1.2 Mt CO<sub>2</sub>) p.a.



# Some examples:

## Reduced VAT

- UK: Reduced Sales Tax for Energy Savings Materials (2000 – ongoing)
  - To encourage uptake of energy efficient materials in the residential & charitable sectors
  - A reduced rate of 5% VAT is charged on energy saving materials, provided that they are professionally installed
  - Qualifying products: all insulation, draught stripping, hot water and central heating controls; solar panels, wind and water turbines; ground-source and air-source heat pumps and micro-CHP; wood/straw/similar vegetal matter-fuelled boilers.
  - Savings vary by product, e.g. 430 ktCO<sub>2</sub> (est.) for micro-CHP

# Impacts and Cost-effectiveness

- Assessment of cost-effectiveness is difficult:
  - No evaluations or impact analyses for many instruments
  - No obvious tracking of actual investments in building EE measures
  - Where evaluation results are available they are often non-standardised and incomparable with other programmes
- This study's assessment of cost-effectiveness:
  - Simple methodology - cost of programme per ton CO<sub>2</sub>.
  - Not necessarily representative of all instruments in place
  - Examples of what can be achieved

# Case (Germany): KfW Renovation Programme

- Programme resulted in very substantial investments in energy efficiency
  - First phase €2.5bn loans
  - 2002-2004 €2.4bn loans; €5.4bn investments
- Emission reduction of 1.9 Mt (first phase) and 0.8 Mt p.a. (2002-2004)
- Programme cost: interest rate subsidy, plus grants
- Our estimate of programme cost (2002 - 2004): approx €0.5bn interest rate subsidy; approx €0.25bn grants
- Cost effectiveness (for gov't) estimated €25/tCO<sub>2</sub>

# Case (Czech Republic): Green Savings Programme

- Budget Koruna 25bn (€ 1bn) over programme lifetime
- New programme, no results available yet
- Expected impacts, by 2012:
  - 250,000 houses improved
  - CO<sub>2</sub> emission reduction of 1.1 Mt p.a.
  - Energy savings 6.3 PJ (1.75 TWh) p.a.
  - 3.7 PJ (1 TWh) heat generated from renewable sources
  - 2.2 kt reduction in fine particle matter
  - 30,000 jobs created or retained
- Cost effectiveness (for gov't) estimated around € 20/tCO<sub>2</sub>

# Case (Spain): Support Programme for EE in Buildings

- Ongoing programme, 2008 to 2012
- Programme budget € 800m; expected resulting investment volume € 13bn
- To support:
  - Refurbishment of the building envelope;
  - Improvement of heating, ventilation and cooling systems
  - Improvement of interior lighting efficiency;
  - Promotion of new and existing very low energy buildings.
- CO<sub>2</sub> emission reduction estimated at 35 Mt over 5 year period
- Cost effectiveness (for gov't) expected € 23/tCO<sub>2</sub>

# Conclusions

1. Monitoring and evaluation of programmes appears to be underdeveloped:
  - There is a lack of comparable impact analyses
  - Metrics and methods of assessing the results of the instruments are neither uniformly adopted nor rigorously enforced
  - More detailed understanding is required of the wider benefits of schemes beyond simple energy and CO<sub>2</sub> savings.

# Conclusions (cont'd)

2. Grants and preferential loans are the most prevalent forms of instrument, and the most cost-effective
3. Schemes not directly delivered by Governments but by third parties seem, generally, to be effective
4. Complex application or transactional procedures can badly affect take up of an instrument
5. Some instruments are only successful in practice if they are accompanied by a good information campaign, particularly for residential schemes

# Conclusions (cont'd)

6. Instruments aimed at reducing fuel poverty sometimes have relatively poor take-up rates from those in the eligible groups
7. For instruments involving loans, there would appear to be a correlation between take up and the level of interest rates.
8. There is a danger of negative impact from poorly conceived schemes



# Conclusions (cont'd)

9. Within Individual Member States, different instruments need to be coordinated with each other to ensure success
10. Accurate targeting of eligible audiences is key to a scheme's success.
11. Schemes aimed at improving a building's efficiency should be developed with long-term in mind – substantial renovation should be encouraged whenever cost-effective.

# General Recommendations

- Financial and fiscal instruments should be part of wider policy packages, to include regulatory, facilitation and communication elements.
- Collaborative working with all stakeholders is important, ensuring that the same message is sent out to all
- Advice needs to be targeted and clear; procedures should be standardised; administrative costs, processing times and inconvenience should be minimised for all parties
- Appropriate training needs to be given to all those involved in the delivery of an instrument
- Eligible technology lists for tax deductions and rebates should be 'open', and manufacturers and entrepreneurs should be engaged with such schemes
- Monitoring and evaluation need to be built in to new policies from the start

Thank you for your attention!

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