


An aerial photograph of a residential neighborhood. In the foreground, several multi-story apartment buildings are visible, with solar panels installed on their flat roofs. The buildings have a mix of orange, white, and grey facades. Behind the buildings, there is a green lawn and a line of trees. In the background, a small building with a red roof is visible on a hillside.

Social Housing Sector Rising to the Climate Change Challenge – Strategies, Obstacles, Incentives

**Sorcha Edwards – Energy Coordinator
Alice Pittini – Research Assistant
CECODHAS, The European Liaison Committee for Social
Housing
Renewable Energy & Social Housing
Ancona, Italy 21 April 2008**

International Consensus:

- >> **International Energy Agency** Recommendations to 2007 G8 Heiligendam Summit: *"Worldwide, existing buildings represent a major potential for energy savings: through renovation, the total **energy consumption of existing buildings can be halved over 30 years.** Despite the technical and commercial feasibility of improving an existing buildings' energy efficiency, **many market barriers hamper its realization.**"*
- >> **Intergovernmental Panel on Climate Change** 2007 Mitigation of Climate Change Report: *.."there is a **global potential to reduce approximately 29%** of the projected baseline emissions by 2020 cost-effectively in the **residential and commercial sectors,** the highest among all sectors studied in this report."*
- >> Communication from the European Commission 'Action Plan for Energy Efficiency': Realising the Potential: *"**..the largest cost-effective savings potential lies in the residential (households) and commercial buildings sector** ... where the **full potential is now estimated to be around 27% and 30%** of energy use respectively. In residential buildings, retrofitted wall and roof insulation offer the greatest opportunities.."*



**SIZE COMBINED WITH LONG TERM
COMMITMENT TO SHIELDING RESIDENTS
FROM RISING UTILITY BILLS MEAN THAT THE
SOCIAL HOUSING SECTOR HAS THE WILL AND
THE POTENTIAL TO TRIGGER THE SHIFT FROM
PILOT PROJECTS TO THE **MAINSTREAMING**
OF OPTIMAL ENERGY EFFICIENT PRACTICES –
IN OTHER WORDS TO TRIGGER THE ENERGY
TRANSITION IN THE RESIDENTIAL SECTOR**

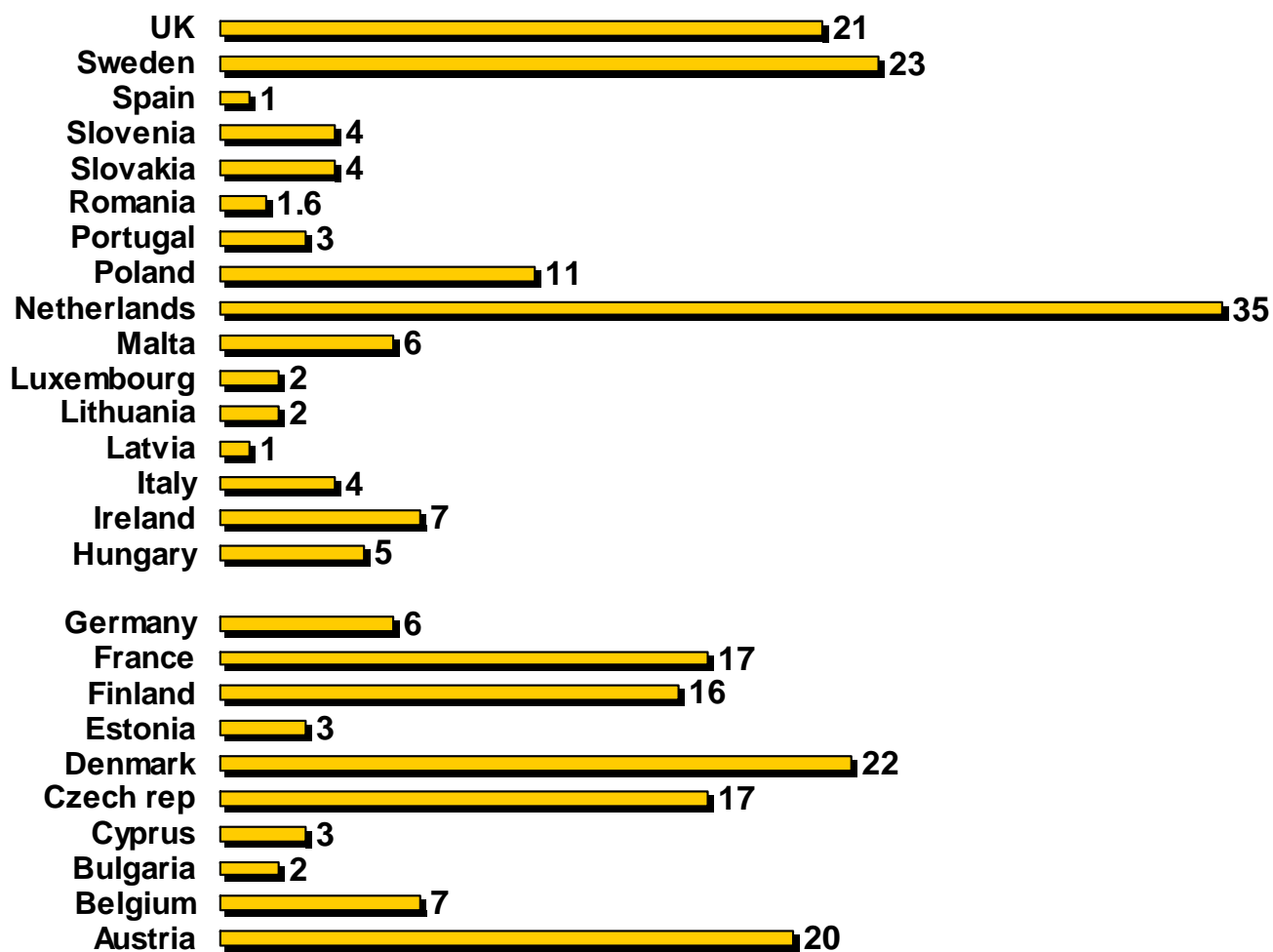
What is the Social Housing Sector in the EU?



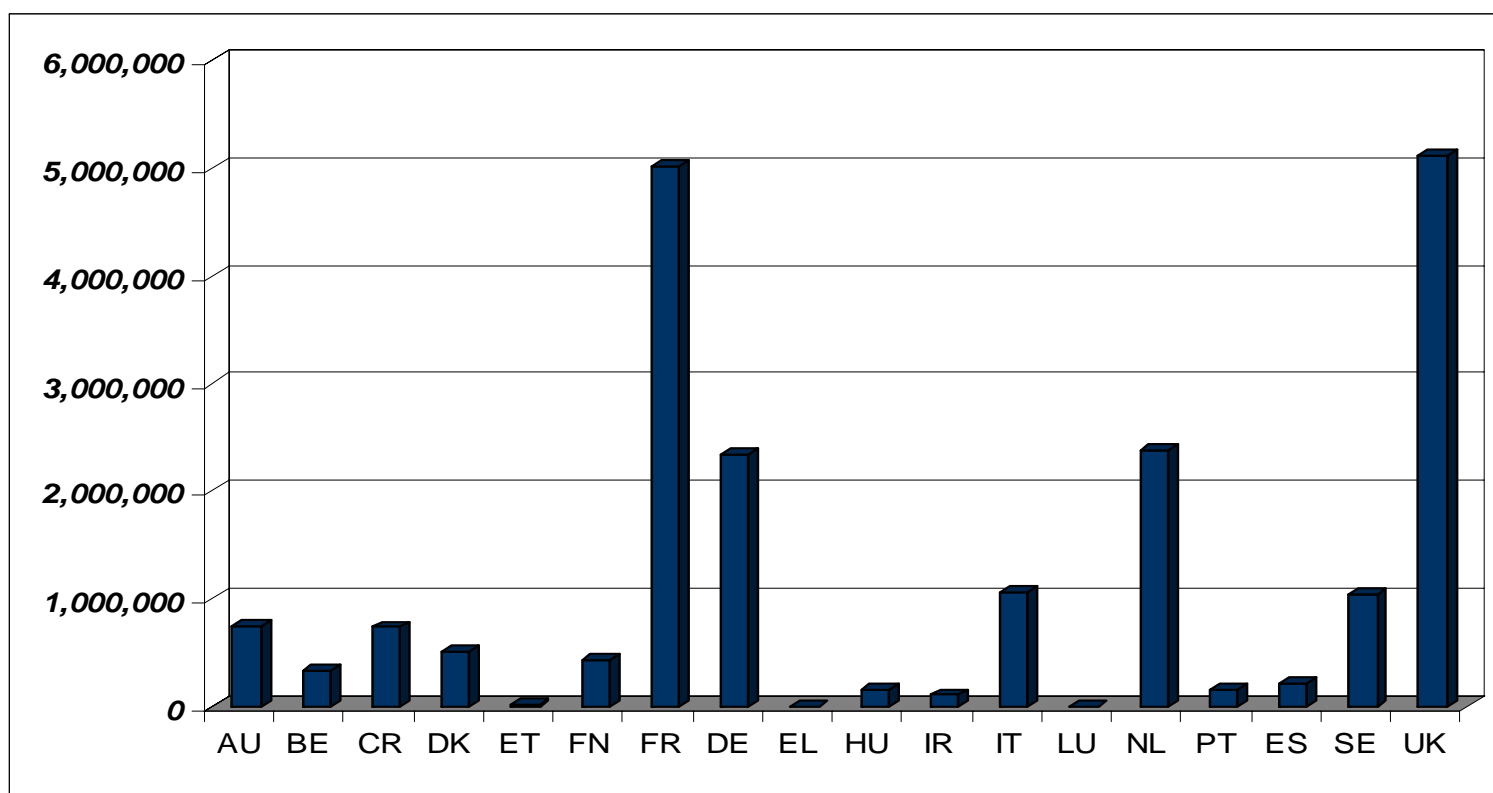
Social Housing Sector: Key actors represented by CECODHAS

- Diverse sector with wide variations between systems and providers throughout the EU
- Main actors: Municipal Housing Companies, Voluntary Housing associations and Housing Cooperatives
- Common denominator: non-for-profit

% of Social Rental Housing of total housing stock by Country



Number of Social Rental Dwellings by Country





Huge Diversity but common challenge:
Climate Change

How is each individual member of
CECODHAS rising to this challenge?

Initial overview of Energy Profiles



CECODHAS 2 page 'Energy Profiles'

- Strategy
- Future Potential energy saving, Needs & Impact
- Obstacles
- Incentives & Regulations
- National market scenario
- Example of work of Members

Housing Executive

NIHE currently has a social housing stock of approx 90,000 dwellings with approximately 116,000 properties sold. The N.I. Housing Executive also provides grant aid to home owners to tackle dwelling unfitness and disrepair. It is also Northern Ireland's Home Energy Conservation Authority (HECA).

Energy Action:

How is the NIHE Rising to the Challenge of Climate Change?

>As Home Energy Conservation Authority the Housing Executive has a strategy to try to improve the energy efficiency of Northern Ireland's housing stock by 34% across all tenures. To date the Housing Executive has recorded a 20% improvement in energy efficiency. This has been achieved through large scale fuel switching from solid fuel to natural gas or oil, insulation programmes and Marketing Campaigns to influence more energy efficient behaviour by householders.

>Total Northern Ireland housing stock is 20% more energy efficient than it was in 1996 when the Housing Executive became a HECA Authority.

2000 dwellings have solar panels. 32 have PV panels, 1 wind turbine, 1 Ground Source Heat Pump and 120 solar ventilation systems.

>Solid fuel replaced in 80,000 dwellings with high

efficiency gas or oil boilers. All dwellings insulated. Solar panels installed in 2000 houses and other renewables have been tested.

Annual marketing campaigns to promote energy efficiency including TV and radio advertisements, press articles, energy exhibitions, direct mail to tenants, etc.

Future Potential, Needs & Impact:

20,000 social housing units are in need of refurbishment at an estimated cost of €130,000,000 resulting in 20-25% more energy efficiency with corresponding savings in CO2 and other pollutants. These measures should reduce by between 10 and 20% at current prices fuel bills depending on size of dwelling, type of fuel used and type of boiler installed.

Priorities include:

Replacing solid fuel and electric heating with more efficient and less polluting fuels such as natural gas. Promoting behavioural

change in how tenants make more efficient use of their heating. Upgrading existing insulation levels in lofts.

Financial Incentives & Regulation:

Reduction of VAT to 5% on energy efficiency measures. For private sector households, grants of up to 50% are available for renewable. Energy efficiency levy fund of £5m available through the local electricity company to fund energy efficiency mainly in the private sector. N.I. Housing Executive is Home Energy Conservation Authority for Northern Ireland and has to produce an annual progress report for Government.

Obstacles:

Technical barriers: lack of knowledge on new technologies for energy retrofitting; lack of installers and know-how.

Lack of awareness: from tenants, housing providers and institutions.

Costs: energy efficient

boilers are more expensive renewable technologies are very expensive with long payback periods; **Need for more public financial support;** Have to compete with other Government Departments for scarce resources

Snapshot of National Priorities Trends

All domestic heating fuels have risen sharply in the last years. 240,000 households in fuel poverty – 34% of all households. (2006 House Condition Survey, NIHE). Electricity and gas markets opening in 2008.

NIHE contact for energy issues & Member of CECODHAS Energy Experts Group: Noel Rice

Examples of the work of NIHE

Northern Ireland Housing Executive Solar Water Heating Panel Program

Northern Ireland – various locations (2006-2008)



The Housing Executive installed solar water heating panels in 2,300 dwellings that were simultaneously receiving a change of heating from coal to natural gas or oil (high efficiency or condensing boilers). Tenants were consulted about all aspects of the work and received advice on how to get the most out of both the heating system and solar panels. Depending on the weather, tenants are now getting up to 60% of their annual hot water demand from the solar water heating panels. When they need to use their gas or oil heating systems they are benefiting from boilers which are up to 95% efficient.

Key features:

- 2,300 dwellings concerned
- € 7.8 million funding from Department for Enterprise, Trade & Investment.
- Solar water heating panels
- Conversion to natural gas heating
- Use of locally manufactured panels
- Installers trained under the Action Renewables Installer Academy
- Involvement and advice to tenants



- Full range of controls (meters recording water temperature, cylinder thermostats, etc)

Northern Ireland Housing Executive Heating Programme

Northern Ireland – various locations (2000-2011)

The Housing Executive, together with the Department for Social Development, has developed a programme to

convert solid fuel or electric heating systems to natural gas, where available, and to oil heating elsewhere. The gas and oil boilers installed are either high efficiency or condensing boilers. Tenants therefore benefit from boilers which are up to 95% efficient. The programme involves over 90,000 dwellings, which also receive an upgrade of insulation. Tenants are consulted about all aspects of work, and they are provided with an advisory service on how to maximise the use of technologies.

Key features:

- Conversion to natural gas heating system
- Boilers up to 95% efficient
- Better insulation
- Involvement and training of tenants
- Carbon reduction (25% increase in energy efficiency)
- 90 000 dwellings concerned
- Government grant funding



Strategies

- Using **multiplier** potential of federation structure
- Establishing partnerships with **Government, Private Sector, Environmental Organisations** and Energy Specialists
- Promoting **best practice** within membership
- **Training & Awareness** raising
- Setting **targets** based on certificates
- Establishing **labels** specific to social Housing sector (not only energy but also spatial planning, environmentally friendly construction principals, materials, car free)
- Conferences/publications
- Competitions / **Awards**

Snapshot of some features of strategies

- Multiplier effect: SABO (830,000 Sweden): In cooperation with other organisations, authorities, companies and members have launched a project to develop new effective ways of renovating existing buildings. To replicate good experiences and learn from mistakes.
- Targets using Certificates: AEDES (2.5 M - Netherlands) has set a goal to save at least 20% energy over 10 years in all its members stock and achieve level 'B' on the energy performance certification. This in cooperation with the construction sector, the installation sector and energy companies

- Existing stock: BL (542,000 Denmark):
Members have improved the insulation of existing buildings built between 1960 and 1980 through the attachment of protection shields on the outside of buildings
- Best Practices: Feberabitazione (3,500 members, delivers 15,000 units annually Italy) has established a network to capitalise on best practices developed in the EU funded programme Sustainable Housing Europe

- Partnerships: Federcasa (116 organisations, IT) agreement with WWF and ESCO Italia on energy efficiency in Condominiums
- Multiplier: AVS (172, 000 for rent, 23,000 built annually Spain) has established a network dedicated to energy efficiency in collaboration with the government
- Partnerships & Targets: GBV (198 housing organisation, Austria) has signed an official agreement with the Austrian federal ministry to achieve an annual rate of retrofitting of 3% and reduce CO2 emissions by 10%

- Monitoring: GdW (Germany): has developed a running costs benchmarking system called the 'Geislinger convention' to optimize the comparability of operating costs of rental dwellings
- In 2001 VMSW (117 social housing organisations, Flanders) adopted Sustainable living and integrated design protocol whereby each project should optimise intelligent use of resources such as space, materials, energy with less waste and more than basic comfort. Standards are to be made stricter in 2008

NBBL (360,000 units Norway) : Has developed a web-based interactive energy accounting system whereby housing cooperatives can track the fluctuations of energy consumption and how different activities influence energy consumption



Awareness raising & tenant involvement: VVO (39,000 units Finland) runs an energy campaign lasting one week in October and a campaign to raise awareness of tenants. All tenants can become 'energy experts' whose task it is to find weaknesses in the energy efficiency of the apartment block. Each year a energy efficiency competition is held between all houses with a cash prize to improve communal facilities.



Awareness Raising & Tenants involvement: SWL (104,000 units Belgium) has held 148 awareness raising events between 2004 and 2007 with 1080 tenants participating with a follow-up where the consumption of 90 households has been tracked and given extra guidance



We have identified a huge learning and exchange potential between countries and organisations on best practices and strategies. CECODHAS as the only European Social Housing Network has boosted an intensive exchange through the Energy Experts Network to help Members address Challenge >>>

Needs – The Challenge

- Aedes - The Netherlands (2,408,000): Almost whole stock built before 1990 at a cost of 11 – 14 billion to save 40- 45% energy used.
- Bulgarian Housing Association – 680, 000 dwellings in buildings over 3 storeys to be refurbished at a cost of 4,150, 000 thousand BGN to save 35% off bills and cut carbon by 523,000 tonnes per year

The Challenge

- AVS, Spain: 33% of existing stock (approximately 6 million dwellings) at a cost of €6,000 per dwelling
- Federcasa, Italy: 450, 000 dwellings in need of refurbishment
- SABO, Sweden: 200, 000 dwellings to be refurbished at a cost of €7.5 billion to save an estimated 30 – 50% energy used

- NIHE (90, 000 units for rent, 116,000 units sold in Northern Ireland) estimates 20,000 units in need of refurbishment at a cost of €130,000,000 resulting in energy saving of 20 – 25%
- An estimated 200, 000 managed by Ancab, Italy dwellings are in need of renovation. To meet this goal, an investment of approximately 3.000.000 Euro is required. This would allow a reduction of CO2 emission to 40kg/sq m. and have a strong positive impact on resident's expenditures, reducing energy bills by an estimated total of €312.000.000

What are the main obstacles faced by
social housing organisations

Common Obstacles

- Technical difficulties of dealing with existing buildings cost-effectively
- Lack of awareness of architects, residents, employees, planners,
- Lack of qualified installers, architects, engineers
- Split Incentive: Landlord pays tenant benefits with often no flexibility in rent
- Lack of structures in place to manage projects
- Underdeveloped market
- **Finance – high costs insufficient funding**

What financial incentives are available?

Financial incentives

- Grants/Subsidies
- Fiscal incentives
- Preferential loans
- Incentive Tariffs
- Market Development incentives – white certificates/labelling/regulation
- Soft Measures – Training/Awareness Campaigns

Grants/subsidies

- Most used financing tool. Available in almost all EU25 countries.
- Finances different measures, from improvement of heating systems (e.g. Warm Front), to energetic refurbishment and insulation (notably in Eastern Europe especially prefab panel housing), to awareness raising and advise (Kompass), to project exceeding regulatory energy standards (e.g.. Austria)

Fiscal incentives

- Fiscal schemes to encourage actors to implement more EE investments represent the second most used measure throughout the EU
- Es. Italy Legge Finanziaria 2007, fiscal deduction of 55% of costs for retrofitting of existing buildings; Portugal fiscal incentives for production of renewable energy (intermediate VAT rate) since 2007

Preferential loans

- Usually from public or semi public banks and credit institutions, this financing tool is available to social housing providers in Austria, Germany, France, Poland and Spain.
- E.g.: KfW in Germany provides long term loans at low interest rate under different schemes, financing rehabilitation of existing buildings, solar PV generation, projects exceeding energy standards

Incentive tariffs

- Used to encourage the production of clean energy. Include possibility to sell surplus energy back to the grid.
- E.g.: available in Italy and Germany to promote the installation of photovoltaic systems

Key Message

- Need to increase financing for energy efficiency in the housing sector, currently insufficient to respond to the needs of the sector, especially refurbishment of existing stock
- Need for multi-policy packages combining different financing measures and providing for different actions with an integrated approach (purely financial measures+ "soft measures" +market development incentives)



Thank you for your attention ☺

For more information

Contact: info@[cecodhas.org](mailto:info@cecodhas.org)

Website: www.cecodhas.org