

FinSH Financial and Support Instruments
for Fuel Poverty in Social Housing

Financial mechanisms for delivering energy efficient retrofitting in social housing



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1. Introduction

The main objective of this report is to review and compare relevant financial support schemes for energy efficient retrofitting of social housing currently existing and carried out in each participating country. The aim is to identify common financial mechanisms for replicability, and further development and dissemination.

The project aims to engage relevant organisations able to make practical use of the information in this report to increase access to financial products for energy-poor households and encourage social housing landlords to participate in energy efficiency programmes.

Major ultimate outcomes for the project are to increase energy savings and reduce CO₂ emissions. Social housing is responsible for some 45% of the energy consumption in the building sector in the European Community. The potential for energy saving from retrofitting will depend on individual building characteristics, but may be conservatively estimated as 30% of this sector.

The report summarises the main points from the review of existing financial products carried out in each country participating in the project, with all the information categorised as either **national** or **regional** to facilitate the comparison between existing mechanisms. **The UK is treated differently**, for two reasons: firstly the review covered two of the devolved countries in the Union (England and Wales) and it was found that the mechanisms were specific to each; secondly the UK has a centralised economic structure with no regional government, and the majority of the expenditure by local authorities comes from national government with only limited opportunity for local variation although some funding is accessed locally. It is simpler therefore to list all the activity as national.

2. Terms

Keywords

Loan	A 'loan' is an 'amount' of finance taken from a 'borrower' (for example, a financial institution such as a bank) by a 'lender' (for example, a social housing provider) which is paid back (usually in instalments) over a period of time. This may or may not include an interest charged against the amount of finance borrowed.
Grant	A 'grant' is a fund dispersed from one institution (for example, a government department) to another (for example, a social housing provider) for the use of a specific project. Most grants require an applicant to submit a proposal to the potential fund provider and some level of reporting. Grants differ from 'loans' as they are not required to be paid back to the fund provider once the works are complete.
Cold rent / warm rent	a 'warm rent' includes heating charges, while a 'cold rent' does not.
Dwelling	general term: any type of living place (house, flat, etc.)
Appliances	general term: any kind of energy-consuming device used in a dwelling and which belongs to the occupier (i.e. refrigerator, lighting bulbs)

Definitions of terms as used in this report

➤ Social housing

For the purposes of this report, social housing has been taken to mean:

housing provided for a household who couldn't otherwise access housing – because they are living on a low income, or are otherwise vulnerable.

There is generally some form of social support associated with the provision of such housing, where the prevailing market conditions are not providing adequately for this sector of the population.

➤ Energy poverty (also known as fuel poverty)

In the UK in particular the term 'fuel poverty' has been used with a similar meaning, since the problem was first recognised in the 1970s. In the frame of this European project, we thus found confusing the use of 'fuel poverty', as it seems to focus mainly on heating issues.

Energy poverty is a term that has come into use in recent years, and is generally used to describe 'a household's difficulty, or sometimes inability, to be able to afford its basic energy needs.'

3. Background - “Market” assessment

There are considerable economic differences between the countries participating in the project, as well as a wide variation in terms of their relevant governmental institutions, privately-owned enterprises, social policies and experiences in the field of combating energy poverty. This gives a very varied picture of actions and support mechanisms for this target group. Generally speaking, however, the number of households facing a choice between heating and eating appears to be growing in Europe.

Energy poverty is caused by the interaction of a number of factors, but three specifically stand out. These are:

- the energy efficiency of both dwelling and home appliances,
- the cost of energy,
- the income of the household.

For thousands of people, a warm and comfortable home is now a luxury that they cannot afford. Urgent action and support from energy suppliers and governments is needed to increase people's understanding of how to save energy, improve energy efficiency and increase the lowest incomes, particularly for the most vulnerable.

In France, consciousness of energy poverty is rising but it is still quite difficult to engage simultaneously all the relevant sectors – social, housing, energy, financial – to work together to tackle this global issue. Concerning financial mechanisms the problem remains the same: few financial mechanisms are designed for both energy efficiency improvement and vulnerable households (directly or indirectly through social housing structures). The list of financial mechanisms presented is not exhaustive but presents a panel of relevant mechanisms for both target households and social housing associations. The mechanisms are presented in two categories: grants on one hand and loans on the other.

In the UK, there are some differences in the way things are structured in England, Wales, Scotland and Northern Ireland - England and Wales are primarily covered in this review. Social housing is mainly provided by local authority landlords and Registered Social Landlords (RSLs). Most RSLs are housing associations, but there are also trusts, co-operatives and companies. A significant proportion of council housing stock has been transferred to the (private non-profit) housing association sector in recent years, and there are some differences in the ways that RSLs and local authorities are able to raise finance for improvements, including sustainable energy.

The present review of financial products **in Germany** focuses on mechanisms to increase the energy-efficiency in residential buildings. Besides programmes being provided on a national level by the Federal Government, a vast amount of financial products exist within the 16 Länder as well as on a regional and local level. Exemplary products were chosen, which can be accessed in order to relieve tenants from high energy costs on the one hand and at the same time increase the energy efficiency in residential buildings on the other hand. The mechanisms described have in common the fact that they were not specifically designed for households with a low income. The majority of the products target building owners rather than tenants. They promote (i) single measures like the insulation of walls and the replacement of the heating system, or (ii) extensive packages of measures, or (iii) a consultation service concerning the implementation of such measures. Only a few products subsidize the acquisition of energy efficient appliances and consultation programmes

concerning energy-efficient behaviour. Furthermore, most of the mechanisms are based on public funds but they differ concerning the coordination of the products.

In Italy there are no existing governmental tools and instruments that directly tackle the energy poverty problem. However, some of the existing measures created to promote energy efficiency and the use of renewables have the potential to be used for this. The way to reach the energy poor through these measures can only be indirect but with the collaboration of social housing organisations a certain alleviation of the problems faced by this group can be achieved. At national level the Financial Act 2008 develops several instruments to enable house owners to upgrade the energy performance of their home. At regional level the POR (Regional Operative Plan, 2007-2013) promotes environmental sustainability in the fields of innovative technologies for sustainable energy production and supply, and energy efficiency innovative logistics regarding goods and persons. The Regional Energy Plan is its enacting document and sets the objectives that enable the funding to be made available. The aforementioned measures do not take in consideration the income of the applicants nor do they mention the concept of energy poverty. The only initiative discovered by the review that is promoted to specifically address this category is the one in which the Municipality of Sant Ilario D'Enza in the Reggio Emilia Province is involved together with the social housing organisation ACER RE. The ACER Organisation was created by the Regions in order to have a special dedicated body taking care of the maintenance of the social houses and their management. They also take care of the implementation of the energy efficiency interventions.

In the Eastern Europe countries under transition economy¹ such as **Poland**, the use of the term 'energy poverty' can be confused with indicating a lack of any access to energy infrastructure, or with the meeting of national standards of suitable dwellings. According to the Polish law, satisfying the housing needs of the local communities is the responsibility of the local council. Priority must be given to economically dependent persons. There is no practical policy for the building of flats for social purposes, legislation for the protection of tenants is moribund and there is a lack of coherent programmes of help for local authorities/communes (gmina) for social housing. Since the phase of economic transition, the duty placed on the communes has emerged as a very expensive one. Therefore, the issue of energy poverty still remains bounded to the syndrome of deep poverty in Poland. This syndrome is determined by unemployment combined with low education of the head of household. The risk rises when the households make a living on non-earned sources, mainly social benefits.

¹ A transition economy is an economy which is changing from a centrally planned economy to a free market. Transition economies undergo economic liberalization, macroeconomic stabilization where immediate high inflation is brought under control, and restructuring and privatisation in order to create a financial sector and move from public to private ownership of resources. These changes often may lead to increased inequality of incomes and wealth, dramatic inflation and a fall of GDP.

4. Financial mechanisms description

Existing support available touches on the problem of retrofitting many kinds of buildings, including those in the social housing sector. An important point worth highlighting is that most of the different types of financial mechanism have a wide range of target groups and are not created only for the needs of the social housing sector. The main objectives of existing products are to improve buildings energy efficiency and reduce both energy costs and CO2 emissions.

■ ■ ■ National level

France

▣ Grants

National tax credit for energy and environment for households (with reference to income tax)

The French State has an aim to encourage energy efficiency and renewable energy installations by private individuals, and has created a tax credit for this purpose, implemented for the period 2005 to 2009. To date this is only available for the main home (tenants and owner occupiers but not landlords).

A part of the equipment costs incurred (excluding labour costs) are deducted from income tax or reimbursed to households who don't pay any. Due to the income tax collection system in France, the deduction or reimbursement is only effective in September from the year following the one from the investment. Energy efficiency measures and renewable energy implementations are eligible with different levels of deduction (under specific performance conditions) including ceiling, wall, and floor insulation (25%), replacement windows (25%), timing and thermostatic control improvements (15%), new efficient boilers (25%), wood boiler, solar thermal and photovoltaic installations (50%) and heat pumps (40%).

In practice few energy poor households apply for this mechanism, as energy poor owner occupiers do not generally have the money to pay the advance, and tenants rarely want to invest in a flat they don't own.

The tax credit should soon be available for landlords (probably in 2009).

Complementing this mechanism, a **reduced level of VAT** is applicable for all retrofit works in homes built more than 2 years ago.

Grants from the National Housing Agency (ANAH)

Available for dwellings built more than 15 years ago. ANAH grants owner occupiers and also landlords (also social housing associations) to promote the creation of a private social housing stock. 20% to 35% (in case of low incomes) of the amount of the retrofit may be granted for owner occupiers. Landlords can receive from 15% up to 70% of the works costs if they commit themselves to rent the dwelling at a very low price (social rent). The amount of the grant could also be increased for dwellings situated in areas concerned by special programmes (planned programmes of buildings retrofitting).

These grants concern dwellings retrofit: security, health and safety, access, energy efficiency (including thermal insulation). Energy efficiency measures are promoted with for example a bonus from 900 to 1800 € per flat depending on the energy efficient equipment (900 Euros for a wood boiler). Minimum conditions on the efficiency are required in case of replacement windows or new insulation.

Grants from French State for social housing structures

Several grants concerning retrofitting measures are available for social housing structures depending on the rent level and the income level of households who will live in retrofitted dwellings. This mechanism is provided by the government. Energy efficient measures are not compulsory and their related costs are included in the global amount of the retrofit costs. As the rent levels are fixed energy efficiency measures are not really promoted since additional costs linked with energy efficiency measures will not increase the grant level.

■ Loans

Green loans

Private banks have developed green loans to finance energy efficiency measures from 1 000 to more than 30 000 € with an average global interest rate from 4%.

Energy suppliers also propose loans with reduced interest rates in the framework of the implementation of Energy Saving Certificates (Certificat d'Economie d'Energie – CEE).

Micro-credit for energy efficiency

Unfortunately energy poor households are not always able to apply for traditional loans (mainly because of their low incomes leading to an indebtedness rate higher than 30%). An implementation of a micro-credit in the framework of a social fund for energy efficiency (see paragraph 2.1.1) is experimented in Languedoc-Roussillon by GEFOSAT (a non profit organisation) and a bank (Crédit Coopératif). At the moment this mechanism is under development but the objective is to help households, applying for the social fund, paying the remaining part of works costs.

Loans from banks with an agreement with the state for social housing structure

The main banks are Caisse des Dépôts, Dexia and Crédit Foncier de France. The funds used for the reduction from interest rates come from the incomes of national bankbooks (Livret A, livret d'Epargne Populaire ...). These banks offer loans for social housing associations with reduced interest rates depending on the rent level and the income level of households who will live in retrofitted dwellings. Social housing providers use the income from rents to repay the loan – but the rent levels are fixed, and this limits the ability of the housing provider to increase the loan to cover enhanced energy efficiency measures.

Finantoit: an innovative loan for social housing associations

Finantoit is a cooperative structure composed of social housing associations and a bank - Crédit Coopératif. The objective of this structure is to encourage the production / renovation of dwellings for (very) social housing. Finantoit has been created to help social housing associations to pre-finance their retrofit project. This is needed because these social housing associations have to pre-finance the works for which they will later receive local and national grants. The money used for these loans comes from social investment (around 55 000 € / flat in collective buildings). The mechanism involves at the moment two banks: Crédit Coopératif that insures the local service to the associations and Natixis that secures the loans with funds coming from social investment.

Why is this mechanism an innovative one? Each of the social housing associations participating in Finantoit is quite small and not influential enough to negotiate effectively with a bank and benefit from an attractive interest rate. The mechanism has been developed with the head office of the bank and is locally operated by local branches. The Finantoit advisory committee selecting the projects is composed of the bank and representatives from social housing associations, and ensures both a technical and financial assessment of the retrofitting projects.

However this product is based on the principle that associations will benefit from public subsidies for social housing within approximately one year. At the moment energy efficiency is not taken into account for the selection of the projects and no additional money is available for energy efficiency

improvements. A problem with energy efficiency measures is that the payback on the investment is rarely under 5 years to reimburse a loan and the rent increases are moreover very limited for the social housing dwellings (fixed maximum rent).

Germany

The **National Banking Group (KfW)** is the pivotal national coordinator of financial products to promote investments concerning the retrofit, construction and technical equipment of (residential) houses. It is owned by the Federal Government (80%) and the Länder (20%). The programme is executed on a local level, which means that homeowners apply to their home bank when applying for the subsidy.

KfW provides three different mechanisms of financial support in order to improve the energy standard of residential buildings.

- *CO2 Building Rehabilitation Programme* promotes extensive energy-saving investments. It encompasses two categories. In category A an authorized expert has to be consulted. He provides advice in order to reach at least the standard of a new building according to the Energy Saving Ordinance (EnEV), which is to be followed. The better the standard, the higher the repayment bonus being offered. In category B, one can choose between five pre-made packages of measures.
- *Modernization of Housing Space* offers a loan for less extensive measures compared to those being required in the programme described above. The version ÖKO PLUS requires measures to improve the energy efficiency of the buildings. It therefore offers better financial conditions compared to the STANDARD version, which includes measures to improve the over-all standard of buildings as well. Consultation costs are eligible but services are not requested.
- *Ecological Construction* supports the construction, set up and the first acquisition of low-energy and passive houses and single measures to increase the energy-efficiency of new residential houses. The subsidy by the Federal Republic is granted in the form of a reduced and fixed interest rate in the first ten years. The required standards have to be proved by an authorized expert. The higher the standard, the higher is the disbursement and the lower is the annual interest rate.

In addition to these mechanisms for the promotion of structural measures, there are several **consultation programs** on a national level in the form of grants.

The most extensive one is an **On-Site Consultation** service promoted by the Federal Office of Economics and Export Control (**BAFA**). It targets home owners and grants up to 50% of the consultation costs. Consultations have to be provided by an independent authorized expert (experienced architects/engineers, certified craftsmen) and include a detailed assessment and advice concerning issues such as heat insulation, heat generation and distribution and the use of renewable energies.

Energy consultation by consumer advice centres is promoted by the Federal Ministry of Economics and Technology (BMWi). Local consumer agencies hire experienced, but not specifically certified architects and engineers and offer energy consultation hours. The programme targets both owners and tenants. Energy efficient behaviour, energy efficient domestic appliances as well as technical details and promotion possibilities are taken into account. If necessary, a broader consultation concerning single structural measures can be utilized on-site.

The Federal Ministry of Environment, Nature Conservation and Nuclear Safety (BMU) promote **Heating Surveys**. The programme is coordinated by the non-profit limited liability company co2online in the context of the climate protection campaign "Klima sucht Schutz". It provides a grant to municipalities in order to disseminate consultation services to owners and tenants. Municipalities with more than 60 000 inhabitants can order a municipal heating survey for a highly cut-rate price (average investment: 2 000€ by municipality, 10 000€ by programme). For both surveys, the

municipal and the nationwide, data is provided by individual consultants who use an online heating check, which is also offered by the coordinator.

Italy

The State, through the **Financial Act 2008**, has developed several instruments to enable house owners to upgrade the energy performance of their home, making it possible to obtain an income tax rebate of part of the costs incurred for these improvements of energy efficiency. All home owners or tenants (with the permission of the owner) can apply. Enterprises can also apply but with slightly different conditions.

The energy saving measures that can be covered includes:

- Insulation of roof, attic and terrace;
- Wall insulation, including the replacement of all windows and the installation of double-glazed windows
- Replacement of condominium heating system, complete with separate thermo-control of every shell and every unit must have a meter system;
- Installation of central heating systems including measuring and control systems for each unit;
- Installation of solar thermal system for hot water;
- Installation of solar thermal heating systems, if connected with a low temperature heating system;
- Installation of geothermal heat pump / air-conditioning system, only as feed for a low temperature heating system;
- Installation of photovoltaic panels, but not bigger than 20kW and must be connected to the grid.

The **Financial Act 2008** uses a tax rebate system:

- 55% of the costs incurred, deductible in 3 (or 10, to be decided by the applicant) equal annual instalments for interventions regarding energy efficiency and use of renewable energy sources;
- Municipalities are allowed to reduce the house property tax for those who change to renewable sources;
- The rebate can also be applied for the change to highly efficient heat pumps or to geothermal installations at low enthalpy;
- The Ministry of Environment has made 40m euro available for the promotion of renewables.

The ENEA institute provides administrative support to the applicants, explaining the requirements, how to obtain the incentives and explains the proceedings.

Photovoltaic (PV) Feed-in Tariff: (part of the Financial Act 2008). The government created the opportunity to obtain a capital grant for the installation of photovoltaic systems. The energy produced can be sold to the grid at a higher price than the market price (3 times as much) for a period of 20 years. For installations smaller than 20kW the VAT for the purchase and installation costs is reduced from 20 to 10% and it will be possible to integrate it with other incentives.

United Kingdom (England, Wales)

There is no fund that specialises in the precise target market of sustainable energy retrofit in social housing, but several finance options have been identified in the following categories:

- funding for social housing renovation that can include sustainable energy
- funding for sustainable energy that can include social housing

The main finance mechanisms in each category are:

1. Funding for social housing renovation that can include sustainable energy

National and regional government funding for local authority housing is provided through various mechanisms including:

- Single Regional Housing Pot (England)
- Neighbourhood Renewal Fund (England)
- General Capital Funding (Wales)
- Specific Capital Grant (Renewal Areas) (Wales)
- Major Repairs Allowance (Wales)

Similarly, national and regional government funding for Registered Social Landlord housing is provided through various mechanisms including:

- National Affordable Housing Programme (England) / Social Housing Grant (Wales)
- Single Regeneration Budget (Single Programme) (England)
- Single Regional Housing Pot – (England)

Local authorities and RSLs can in theory finance improvements, including sustainable energy ones, through rent revenues and capital receipts from sale of properties. In reality sale of stock is of course limited and the potential for rent revenue available for investment is limited by allowable (and affordable) rent increases. There is also competition for available funds with other modernisation and improvement needs, particularly for older housing stock.

RSLs (but not local authorities) can raise loans from private sources, using the asset value of the stock as security. In fact all RSLs are required to match their Social Housing Grant with private borrowing. For local authorities, this is possible through the 'private finance initiative' (PFI) requiring specific approval, and this may be applicable to sustainable energy measures, particularly if they are part of a major refurbishment programme.

Another mechanism is using bulk procurement processes to achieve discounted and quality controlled goods or services – possibly together with other social housing providers. This may be done through a managing agent, and sometimes in partnership with specific installers.

2. Funding for sustainable energy that can include social housing

The CERT programme (Carbon Emission Reduction Target) is a four year programme under which electricity and gas suppliers to the domestic market are obliged to achieve carbon saving targets. It applies to all housing, but has specific targets for 'priority' customers who are defined as certain categories of lower income households. Social housing is an important target group for this programme, and so are lower income home-owners. However, as suppliers have to finance the measures themselves they focus upon the most cost effective measures, which have in most cases been applied already in social housing through earlier programmes.

The Low Carbon Buildings Programme is a government fund which started in April 08 and is likely to close in mid 2009. For public sector buildings, which include social housing as well as schools, hospitals etc, it offers grants of up to 50% of total project costs for the supply and installation of any combination of the following technologies:

- Solar photovoltaic

- Solar thermal hot water
- Wind turbines
- Ground source heat pumps
- Automated wood pellet stoves & wood fuelled boiler systems

The Warm Front Programme is the main government funding programme for energy poverty, and provides (only) the main most cost-effective measures such as cavity wall and loft insulation, draught-proofing and heating for the most vulnerable households. Eligibility is based on being in receipt of certain welfare benefits, as well as being a pensioner, with children or a disability. In Wales, the equivalent programme is HEES (Home Energy Efficiency Scheme). The English programme does not currently include social rented housing, but the Welsh programme does (however, as resources are limited, it may also be restricted in future to the private sector).

An interesting recent development is the potential for use of the Area Based Grant (England) to support targets agreed under Local Area Agreements, for example in support of the following National Performance Indicators:

- 186: CO₂ emissions per year per capita of population
- 187: low income households living in homes with poor energy efficiency performance rating

Local Area Agreements are three year strategic plans agreed jointly, delivered and monitored by the significant statutory bodies and voluntary sector providers in each area: including the local authorities, health authority, police, fire and rescue services, education and skills development bodies, councils for voluntary service. In producing the plans, each LAA engages in a process of development and negotiation to select priorities from a national indicator set provided by government, and to agree one and three year targets for the selected indicators. Indicators 186 and 187 are still very new, but have a great deal of potential for a more structured approach to energy poverty and climate change.

An ESCO could be established for sustainable energy in social housing, for example to sell energy and use the proceeds to fund energy efficiency measures (in effect this is what UK energy suppliers to the domestic market do through the CERT scheme, described above) or to generate and sell heat and power through a co-generation plant.

The National Parks Sustainable Development Fund (available to the 13 national parks in England and Wales) could be used for capital grants for small groups of social housing, however our research found no evidence that this has happened yet. Grant awards tend to be quite small (up to £15,000) so this fund has limited relevance.

There are also some charitable trusts of relevance, such as the Scottish Power Energy Peoples' Trust, which funds schemes to reduce energy poverty, by up to £100,000 per project.

Some energy suppliers have Green Tariff Funds, to which local community groups and non-profit organisations can apply for funding towards the cost of renewable energy installations – these do not appear to have been used for social housing, and the funds are probably too small to be of high relevance (average award only £10,000).

The National Lottery programmes often have a sustainability and/or community theme, but none as yet have been identified as suitable for housing association or local authority social housing – although smaller charitable housing trusts may be eligible.

Poland

The range of existing support mechanisms is really very poor. The types of help available in Poland are focused on loans and credits, but many of programmes and tools supporting retrofitting are dedicated only for public utility buildings. Generally speaking, there is only one financial instrument at national level in Poland which is used for social housing energy efficiency improvement. It is The Act on Support for Thermal-Modernisation Investments. Moreover in a few regions of Poland that is the only help which directly tackles the fuel poverty problem in social housing.

The **Thermal-Modernisation mechanism** came into power on 28 December 1998, together with the establishment of the **Thermal-Modernisation Fund**. It was assumed initially that the necessary finance from the state budget would be allocated to this fund on an annual basis, and that the fund would be run for approximately 10 years.

1. The main aims of the thermo-modernisation investment programme are:

- Reduction of consumption of energy supplied for heating and domestic hot water purposes in all types of residential buildings and buildings used by municipal entities for purposes of public service (such as schools, kindergartens, hospitals, social housing,);
- Reduction of heat losses in local distribution networks and local heat sources, with a maximum capacity of 11.6 MW of thermal power, if efforts in order to reduce consumption of energy in buildings supplied have been undertaken or when those buildings are meeting the adequate energy efficiency requirements;
- Total or partial replacement of conventional energy sources with non-conventional ones, including renewables.

2. Principles for establishing of the Thermo-Modernisation Fund and its application.

The Act defines the conditions and range of thermal-modernisation investments that can be financed from the Thermal Modernisation Fund, which are:

- Improvement that results in a reduction of annual energy consumption for heating and hot water purposes of :
 - in buildings where only the heating system is modernised: at least 10%;
 - in buildings where the heating system has already been modernised: at least 15%;
 - in other buildings: at least 25%;
- Improvement that results in a reduction of annual primary energy losses in local heat sources and local distribution networks - by at least 25%;
- Installation of technical couplings to the centralised heat sources, in connection to removal of point heating, aimed at reduction of costs of purchase of heat supplied to buildings - by at least 20% per annum;
- Replacement of conventional energy sources with non-conventional ones.

If the investment fulfils the criteria, an energy audit is required to provide technical and economic evaluation. Submission of the energy audit is obligatory and is a basic condition of eligibility for a support (premium) from the Thermal Modernisation Fund.

All the audits delivered to the commercial banks and then to Bank of National Economy (BGK), as a basis for applying for the grant, are verified by independent institutions. There are three such institutions at present, appointed by the BGK through competitive tender. Verifying institutions had to fulfil a number of criteria, of which the most important are:

- experience, technical and organisational competences,
- independence from producers and deliverers of components used in thermo-modernisation processes in buildings, heat networks and heat sources,
- independence from commercial and consulting companies dealing with energy auditing.

The scheme is available to all investors, as owners or administrators of buildings, local heat sources and local heat distribution networks.

The State Office for Housing and Town Development is obliged to monitor the results of operation of the Act and to report them to the parliament, government and to the Minister of Finance.

■ ■ ■ Regional level

France

▣ Grants

Grants from local authorities for renewable energies and energy efficiency for households (owner occupiers and landlords)

Several local authorities (regional government, county government or municipalities) have developed subsidies for the implementation of renewable energy installations (mainly for solar thermal and wood energy) and a few of them also promote insulation (roof as priority, walls, floor...) and green construction.

The grants are distributed under different forms: direct grants to households, reduced prices by craftsmen, loans with reduced interest rates (see paragraph 2.2.1). Landlords can often also apply for these subsidies (depending on the local conditions). Energy consultations before works are rarely requested. The amounts of these grants and the eligible conditions vary from one local authority to another one, from around 400 € to 3000 € (on average).

Social funds for energy efficient measures: a direct grant for fuel poor households

These local social funds (at county level) are integrated into the National Housing Solidarity Fund (FSL). In the field of energy, the National Housing Solidarity Fund is often used for helping households to pay their unpaid energy bills.

Social funds for energy efficiency consist of global mechanisms (i.e. including detection of fuel poor households, energy consultation, energy efficiency measures financing and assessment) : the applicants are fuel poor households either with unpaid energy bills or living below the minimum comfort level (low temperature, condensation). Households are identified either by social workers or when they apply for FSL.

The financial grant for energy efficiency measures is decided after an energy assessment of the dwelling, and works are carried out by the household, or by professional trades-people. An assessment of the outcomes (energy bill alleviation, comfort improvement) is made with the households at a later stage.

This mechanism requires the involvement of various partners (from housing, social and energy sectors) and a good coordination of the different source of finance. In practice the package of financial support is composed of different existing grants (tax credit + Family Allowance Fund + ...) and is completed by specific local grants (for example from ADEME at regional level). This comprehensive approach effectively allows for reallocation of funds dedicated for the payment of energy bill arrears to preventive measures (encouraging a reduction in the energy bill). This mechanism could be complemented by a micro-credit to help the household paying a part of the retrofit costs.

At the moment, these mechanisms are often under experimentation and are developed in only one third maximum of the counties (in less than 30 "Départements" out of 100 in France). They are mainly implemented in rural areas.

Grants from energy suppliers to complete the above described social funds

Gaz de France, gas supplier, offers a grant to help households to pay for energy efficiency measures. Ecogaz (name of the product) is currently being trialled in the Region Nord Pas de Calais with the help of the non profit organisation CRESUS.

National and regional funds for energy efficiency and renewable energies

ADEME, the National Environment and Energy Management Agency, and the different regional governments sign agreements to provide grants at regional level in the fields of energy efficiency and renewable energies. Energy consultations with recommendations for energy efficiency measures are often compulsory before applying for grants for equipment.

The main measures financed (in the field of energy efficient retrofit) are: solar thermal installations, automatic wood fuel boilers, insulation of roof and wall insulation, photovoltaic installations connected to the grid. Some grants may also cover awareness-raising and support measures for tenants after renovation depending on the relevance.

Social housing structures can apply for these grants. Some local authorities have also developed subsidies that complement the national/regional ones.

Germany

Over and above several supplements to the nationwide KfW-programs described above, there is a wide range of **grant programs** at a regional level which include consultation services as well as the promotion of structural measures. They are operated by different local institutions such as banks, chambers, authorities, regional non-profit energy efficient organizations and energy suppliers as well as through different kinds of collaborations.

The **city of Hamburg** plays an important role since it has passed its own Energy Saving Ordinance whose standards are around 30% higher than those required by the national ordinance. The city provides a set of financial products that are coordinated by the bank of the city of Hamburg (Hamburgische Wohnungsbaukreditanstalt, WK). Both, the programme 'Extent energy-saving and modernization measures on rental buildings' and the 'Climate Protection Programme plus Single Measures', provide a grant with a running disbursement over 9 respectively 6 years. With regard to the measures being promoted, they are comparable to the KfW programme 'Modernization of Housing Space', since they include measures to increase the overall standard of the building as well. They require a professional consultation in the form of an Energy Performance Certificate for Hamburg. The programmes are elements of a package of financial products, which aim to create and preserve affordable living space. Therefore, the conditions include a cap for the allocation of investment costs which goes beyond the general restrictions set by tenancy or social housing law.

There is also an initiative ("Arbeit und Klimaschutz") consisting of the authority of Urban Development and Environment and around 60 organisations (handcrafts, housing companies, tenants, architects, scientists and local authorities). The initiative targets an increase in the energy-efficiency in the building sector and offers a fixed amount grant for measures of thermal insulation. The grant will be doubled if the measures decrease the annual energy demand by 50%.

The **cities of Heidelberg, Freiburg and Hannover** offer programmes, which include fixed amount grants for a selection of measures (such as thermal insulation, improvement of heating system, blower door test) that can be combined if necessary. Applicants apply directly to the respective authorities before starting the work.

The programme QUAB offered by the **City of Berlin** is coordinated by the non-profit limited liability company KEBAB and realized through a cooperation with the Investment Bank of the Land Berlin (IBB). It combines a fixed amount grant for thermal insulation of buildings with the objective to

advance qualification and employment. Therefore the implementation of measures requires the employment of unemployed persons. KEBAB cooperates with the local Employment Offices (Job Centres) in order to recruit unemployed people, who will be qualified for the work in a building company in the context of a national scheme aimed at creating employment.

The 'Energy-Saving-Check' being offered in the Land **Baden-Württemberg** is coordinated and executed by the chamber of handcrafts. The Land grants 50% of the fixed amount costs of 200€ for owners of one- and two-family houses.

Programmes being promoted by the Land **Nordrhein-Westfalen** are coordinated by the regional energy agency and executed by the chamber of handcrafts or architecture/ engineering. The consultants offer a determinate service for a fixed fee, which is partly granted by the Land.

In the **region of Hannover**, the fund 'Pro Klima' was launched by municipalities and the regional energy supplier. They offer fixed amount grants for different measures which can be combined within programmes concerning the construction and retrofit of houses and the installation of Combined Heat and Power (CHP) systems.

Finally, several **energy suppliers** provide grants for single measures like insulation, changeover of the heating system or the acquisition of efficient household appliances etc. The subsidies are provided as a fixed amount grant either in Euro or in the form of a certain amount of free kWh. The single measures can be combined and are reserved for customers of the respective supplier, either tenants or building owners.

Italy

▣ Grants

The Emilia Romagna Regional Energy Plan sets the objectives for an environmentally sustainable development. The Plan foresees incentives for energy saving interventions in the building, transport, industry and agriculture sectors. For funding it uses a grant system, funds coming partially from the FESR and partially from the Regional funds.

▣ Loans

The Province of Milan has established an agreement with several banks in the territory to allow loans at a zero interest rate. Undersigning the agreement the applicant obtains a normal loan with the guarantee that the interest will be paid back by the bank the moment that the applicant proves that the intervention has been completed and done in compliance with the rules and regulations as agreed. The bank will not only see to the restitution of the interests paid until that moment but also deduct the calculated interest from all the future instalments until the discharge of the loan. The final loan (to the applicant) for the intervention can then be regarded as a zero interest loan. No mortgage is asked in order to obtain a loan. No restrictions are set to the applicants of the loan, one can be the owner occupier or landlord of the house. Nor are there any restrictions regarding their income.

The next mechanism is used in **Municipality of Sant Ilario D'Enza**. It is a common loan procured from a bank. The difference consists in the fact that the loan is being granted to a municipality (not a novelty) with the aim to upgrade the energy performance in social houses – innovative – reducing the energy consumption. This results in the reduction of the total (warm) rent of the tenant. (The rent includes the energy consumption bill, with instalments paid in advance and calculated on last year's consumption, paying the balance at the end of the period.). The signed agreement between municipality and tenants is an important step forwards to a higher energy consciousness of the

governmental body combined with a more direct social concern. The tenants agree to finance in part the retrofitting through a monthly increase of the rent (warm rent); the other part will be financed by the Municipality. The increase in rent is 50% lower than the estimated monthly savings on the energy bill by the interventions on energy performance of the apartments. The financial mechanism in itself is not new but the agreement between the parties is innovative. The agreed parties will open a regular loan by a regular bank, running time 15 years, and the costs are divided as follows: 66% will be financed by the Municipality and 33% by the tenants.

Poland

Loans

The National Fund for Environmental Protection and Water Management is the biggest Polish institution which fulfils Ecological State Policy through financing various investments in the field of environmental protection and water management. The Fund has its sixteen regional equivalents – one Regional Fund in each of Poland's voivodeships. Many Regional Funds provide loans for energy efficiency improvements to buildings from their own financial resources.

In **Lower Silesian Voivodeship** loans given by the regional fund can not be higher than 75% of the total project costs. Loans which are dedicated to improving building energy efficiency can be assigned for purchase and works connected only with wall insulation, door and window replacement.

Kuyavian-Pomeranian Regional Fund provides grants which can not be higher than 80% of project costs. On the one hand the conditions state than in case of wall insulation and purchasing and replacement of door and windows the maximum amount of loan is 300.000 PLN. On the other hand, in the case of other works such as energy efficient central heating boiler installation or heat distribution centre, the exchange loan can not be higher than 150.00 PLN

In **Lublin Voivodeship** the loan can be for a maximum of 80% of project costs. It can be assigned for complex thermo-modernisation, including energy sources improvement, walls and ceiling insulation or door and windows exchange, or for just one of these measures.

The conditions of the loan in **Lubusz Voivodeship** given by the Regional Fund are similar to those in Lublin Voivodeship. The maximum loan is for 80% of project costs and it can be used for complex thermo-modernisation.

This Regional Fund in **Łódź Voivodeship** can loan a credit for the same range of works as Lublin and Lubusz voivodeships – complex thermo-modernisation. The only thing which is different in this case is the maximum level of loan which can cover up to 90% of projects costs.

In **Lesser Poland Voivodeship** the maximum loan is for 70% of project costs. The loan can only be used for roof and ceiling insulation. There is a possibility of partial amortization of the loan. After punctual repayment of 60%, about 30% of it can be amortized.

The loan given by the Regional Fund in **Mazovian Voivodeship** is for a maximum of 90% of project costs. Support is for complex thermo-modernisation of the building. The amount of the loan can be amortized after repayment of 50%. Amortization is at level of 15% of the loan (only insulation of building) or 20% (insulation + energy source improvement).

In **Silesian Voivodeship** the maximum loan can be at level of 75% of project costs. It can be assigned for complex thermo-modernisation or only for one of the measures identified by energy audit. If all the financial commitments are repaid punctually by the beneficiary there is the possibility of partial amortization of the loan (50%). The amount of amortized loan must be intended for other pro-ecological activities.

The maximum amount of loan in **Świętokrzyskie Voivodeship** can be at a level of 80% of project costs. It can be assigned only for wall and ceiling insulation or door and window replacement. The loan can be partially amortized in a period not longer than 8 years. The amount of amortization is at level of 15% of loan.

In **Greater Poland Voivodeship** the loan can be at level of 70% of project costs. It can be assigned for complex thermo-modernisation or for only one of the measures identified by energy audit. If all the financial commitments are repaid punctually by the beneficiary there is the option of partial amortization of the loan (5%)

The energy law amendments project, prepared by the local authorities anticipates that the energy distributors and providers should embrace themselves for a number of the fuel poverty tenants and implement special energy helping programs. The project comprises a long list of available help, including an adjournment of the payment's deadline to avoid the discontinuance of the energy. In the event that the help program requirements are not met by the energy recipient, there is a threat that the energy delivery will break automatically.

5. Conclusions

The different economic situations in the countries taking part in the project FinSH make it difficult to form a uniform opinion regarding energy poverty in social housing. Countries such as UK, France and Germany have well developed policies for the subsidy of social housing, including a level of state intervention in the housing market, and a range of mechanisms for social assistance in place. The mechanisms that have developed over time in these mixed economies can, however, be complex, and social housing providers and those that advise consumers have to put a great deal of time into putting together finance packages by matching funds from a variety of sources.

The situation looks very different in those new EU member countries, such as Poland, which are undergoing economic transition and experiencing rapid change in legislation, economy and public awareness.

The most effective way to combat energy poverty, if one excludes compulsory re-housing, is to target energy efficiency measures on homes typically occupied by those on low incomes. A home with a very low energy requirement to provide adequate warmth can generally be occupied by those on relatively low incomes without leading to energy poverty. The sharp rise in energy prices from 2006-8 has led to an estimated doubling of the numbers in energy poverty in countries where it is a major problem.

■ ■ ■ France

There is a wide range of supporting mechanisms and a huge variety of institutions offering assistance to lower income households in France. Households, private landlords and housing associations which are target groups of existing mechanisms can count on help from the State (law regulations) and national funds and agencies (grants). Other actors involved in buildings energy efficiency improvement in France are commercial banks who offer low interest loans to relevant groups.

A very interesting supporting mechanism is the Finantoit loan, which is used for small housing associations to pre-finance works until they can get local and national help. It is notable that the biggest French gas supplier Gaz de France is also involved in a programme which is dedicated to energy efficiency improvements.

However it is easy to observe that the sectors and actors which can participate in such support are not working effectively together, which makes all the mechanisms less efficient. It would appear that deeper cooperation between institutions introducing financial mechanisms into the social market and target groups might achieve better results than are current. The vast majority of mechanisms existing in France is at national level and takes the form of grants.

■ ■ ■ Germany

The vast range of programmes in Germany, which target the increase of energy efficiency in residential buildings through retrofit measures, offers a high potential for alleviating the energy poverty situation in Germany in the long run. The requested quality of measures is in most of the cases high and ensured by the inclusion of consultation services.

Nevertheless, different barriers seem to inhibit realisation of the full potential. Even though internet platforms give a customised review of programs, the range of products is (too) complex, particularly concerning the possible accumulation of products. Nationwide programs, which are coordinated by the KfW banking group, are often criticised regarding the complex application procedure. Furthermore, building owners seem to avoid drawing on a loan over a long period of time and are not willing/capable to make high investments for extensive measures. Thus, an emphasis on grant or

micro-credit programs should be taken in consideration. In order to simplify the access to promotional programmes as well as the implementation of measures, an even stronger guidance for building owners on a local level would be welcome. The coordination of public funds by energy agencies, chambers and stakeholders seem promising.

The existing programmes have been neglecting tenants so far. Besides the improvement of the housing stock, there is a need of programmes which, for example, subsidise the acquisition of energy efficient equipment such as clock timers for heaters, or which offer guidance for energy efficient behaviour and provide feedback tools for the evaluation of effects. Finally, the described mechanisms are not explicitly designed for households with a low income and often do not reach energy poor households. Thus, the design and dissemination of products needs a closer cooperation with local authorities, organisations and individuals who are in touch with vulnerable households.

Italy

In Italy the most important support for overcoming fuel poverty is contained in the Financial Act 2008 which was created by the State. This document gives a huge opportunity to target groups which are interested in energy use reduction to save a lot of costs connected with introducing new technologies.

Another interesting tool is the photovoltaic (PV) feed-in tariff which allows building owners to invest in PV systems on preferential conditions. This mechanism, which assumes that produced energy would be sold to the grid at a higher than market price, offers a good solution to energy saving.

At local level support exists only in Emilia-Romagna Region and in Province of Milan. Municipality of Sant Ilario D'Enza which is situated in Emilia-Romagna Region has special rights which are different than the Regional Energy Plan being introduced in this district. In general the regional level support is very poor, and the main support created in Italy is at national level.

United Kingdom (England, Wales)

In the United Kingdom public housing is often referred to by the British public as "council housing" and "council estate", based on the historical role of district and borough councils in running public housing. Local semi-independent non-profit housing associations have begun to operate some of the older council housing estates in the United Kingdom. Despite being non-profit based, they charge generally higher rents than council properties. More recently the government refers to both as 'Social Housing', and Housing Associations are now referred to as 'Registered Social Landlords' (RSLs). Additionally local planning departments may require private-sector developers to offer "affordable housing" as a condition of planning permission. This is housing for private ownership intended for those unable to enter this market under the normal market conditions. It should be noted that energy poverty is also an issue within the lower income owner-occupied sector and thought to be worst of all in the private rented sector for which it is particularly difficult to implement appropriate interventions.

National as well as local programmes support, in the main, the installation of the most cost-effective energy efficiency measures, where the capital costs are low enough and the returns in energy saving high enough to provide a relatively quick 'payback' on the investment. This applies to social housing as well as the rest of the housing market.

The range of programmes detailed offer sufficient opportunities to ensure at least that all cavity walls and lofts in social housing in England and Wales are insulated. Many programmes also offer assistance with making heating systems more efficient through improving timing and thermostatic controls and replacing boilers with more efficient ones. Draught-proofing and low energy lighting are also covered in many cases although not comprehensively).

There are however barriers to financing the less cost-effective energy efficiency and micro-generation measures. This is a problem because the measures generally considered to be cost-

effective are insufficient to reach the 60-80% target set by national policy, or to achieve affordable warmth in lower income homes. This includes solid wall insulation (around a third of the UK housing stock has solid walls, with no cavity), insulation of ceilings with no loft (attic) above, solar hot water, and household scale renewable energy generation.

■■■ Poland

Social housing in Poland is mainly provided by municipal authorities. However, local authorities are one of many subjects which can derive advantages from above mentioned mechanisms. It was anticipated that the very wide scope of the thermal modernisation act, together with the environmental funds, would cover a significant part of the needs in the field of improvement of energy efficiency in existing buildings in Poland. No other initiatives were introduced on the national level. However a discussion has recently been initiated regarding the possible need to further increase energy efficiency requirements for buildings (including residential)

The range of existing support mechanisms is really very poor. The types of help available are focused on loans and credits. There is only one financial instrument at national level which can be used for social housing energy efficiency improvement. Moreover in a few regions of Poland that is the only help which directly tackles the energy poverty problem in social housing. Many of programmes and tools supporting retrofitting are dedicated only for public utility buildings.

There are local mechanisms of support related to social housing energy efficiency improvement in 10 out of 16 voivodeships. But the mechanisms of loan are very poor as well. All the Regional Funds have limited budgets what makes impossible to satisfy demand by applicants. The important factor is that demand for such help grows every year.

The energy law amendments project, prepared by the local authorities anticipates that the energy distributors and providers should embrace themselves for a number of the fuel poverty tenants and implement special energy helping programs. The project compromises a long list of available help, including an adjournment of the payment's deadline to avoid the discontinuance of the energy. In the event that the help program requirements are not met by the energy recipient, there is a threat that the energy delivery will break automatically.