Book of recommendations

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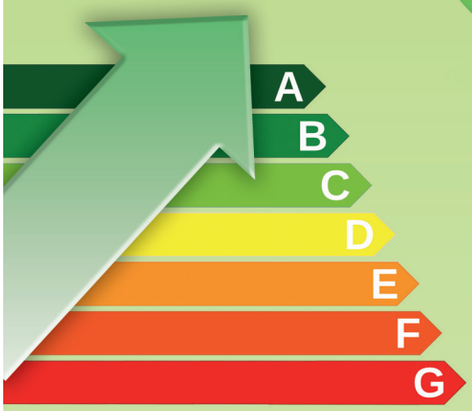
Tackling obstacles to energy efficiency in social housing



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INTRODUCTION

On 11 and 12 December 2008, the European Union has made ambitious commitments to reduce its greenhouse gas emissions, develop renewable energy and energy efficiency. Steps will be taken to achieve the 3 x 20% (20% reduction in Greenhouse gases, 20% reduction in energy consumption, and 20% renewable energy in total consumption of the European Union).

All economic sectors are encouraged to make efforts: through the carbon market, the industry must reduce its emissions by 21% between 2005 and 2020. Member States must also make every effort to reduce by 10% the fugitive emissions from transport, agriculture, waste treatment and of course the construction industry.

Buildings are in fact responsible for more than 40% of energy consumption and CO2 emissions in Europe. Meanwhile, the residential sector represents the largest potential for energy efficiency (27%).

In Europe, the social housing sector, with a stock of 25 million social rented housing is a key sector to meet this environmental challenge and achieves the energy package of the EU. The social housing sector has always been a strong motor of innovation for new technologies related to reducing energy consumption and increasing energy efficiency. Many pilot projects to provide social housing with very low energy consuming are developed and can rightly be considered as exemplary in this field. The relationship between operators of social housing and their residents is a main asset in the promotion of energy efficiency and the fight against climate change and the fight against climate change. Indeed, whether in their daily activities or projects aimed at increasing the participation of tenants, operators have a strategic position: they are able to inform, train and ultimately to encourage tenants to adapt their energy behaviour to tackle the climate challenge and thus increase their quality of life.

In a report by the United Nations Environment Program (UNEP) published in 2007 entitled "Buildings and Climate Change: State of the art, Challenges and Opportunities", the international organization demonstrates that a combination of government regulations associated with greater use of technology to reduce energy consumption and changes in behaviour can significantly reduce emissions from the sector. According to the report, 45 million tonnes of CO2 per year could be avoided by 2010 in Europe.

That is the challenge of this book of recommendations designed on Germany, Bulgaria, France and Italy initiative, to propose to social landlords and their partners with innovative solutions as a legislative point of view, technical, economic and cultural development at national level but also at European level to implement this energy transition. Reducing emissions of greenhouse gases will require a revolution in social housing. If the housing sector has indeed all the assets to meet the challenge of reducing energy consumption, it however needs to be, in concrete terms, supported by ad hoc measures in the frame of public policies to mark the try.

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COMMON RECOMMENDATIONS OF THE TACKOBST CONSORTIUM

I Introduction

This book of recommendations is organized as follows:
Obstacles, and therefore, the proposed recommendations are treated under the following three approaches:

- A legal and / or institutional approach when the blockage is more regulatory in nature or requires a modification of a legal text or involves a change in institutional practices,
- A technical, economic and / or financial approach where blocking is related to the need to use a given technique which involves an investment and, as a result, is subject to more or less favorable financial conditions which allow or not reimbursement of these investments,
- A social and / or cultural approach when the blocking is related to the lack of knowledge or lack of practice on the part of any stakeholders in the construction, real estate operation, technical management and / or behaviour of the tenants.

This division is, of course, formal as many of the obstacles are at the border of these different approaches or the same obstacle may be legal in one country, and techno-economic in another, even in cultural in a third. These obstacles and the resulting recommendations are described in the first chapter.

Given the different practices in each represented country, the division by domains is complemented by a division by country. After a review of national contexts useful for understanding the difficulties encountered in each country and the framework of possible solutions, each country presents the main identified obstacles impeding the process of social housing organizations to optimal energy efficiency of their stock and their residents and partners.

The following recommendations are further processed according to the three approaches identified above.

So it is not surprising to note that according to the country, the same problem can be found as an legal obstacle, because in a country, the law, in fact, prohibits the recovery of the necessary investment necessary near the tenants due to the inflexibility of the guidelines on rent, while in another country, if no legal obstacle that precludes recovery, the economic and financial conditions do not allow, in the present state of the technologies, to make profitable this investment. Finally, it may happen that, for some technologies that meet the above criteria perfectly, blocking lies in the lack of human resources able to control the implementation or the operation of the solution or in the lack of information on the existence of such a solution.

This mode of analysis does not mean solving a legal problem definitively settle this problem that can become a problem of economic and financial nature, then, again resolved in this domain become a cultural problem.

But the reader may then consider the solutions proposed in a neighbouring country to his own problem based on this proposed solutions.
Thus the essential problem of energy modernization of the social housing stock, ie the ability to reimburse loans needed to finance the work is hampered by rather legal and institutional obstacles in France, by rather technical and economic obstacles in Germany and financial and cultural in Italy.
Bulgaria is faced with the absence of a structured organization of social housing able to lead great energy work program, which also leads to direct its thoughts on the organization of condominium and of its financial tools, but with limited resources of its people.

This book addresses the issue energy rehabilitation of stocks and does not directly address the social problem, ie the ability of a growing number of people to cope with both the increasing cost of energy and reimbursement of investment, which is a matter for the fuel poverty.

II Legal and institutional issues

Synthetic comment on the obstacles

Buildings are the largest energy consumer in Europe (40% of all needs). Households occupying their homes account for 70% of this consumption, the service sector 30%.
It is important to note the central position taken by the heating in the energy consumption, and the interest that is therefore to reduce the expenditure of this position, both for the benefit of households and for an increased energy efficiency.

The legal context in the U. E.
The directive No. 2002/91 of the Parliament and the Council of 16 December 2002 on the energy performance of buildings:
- sets requirements on energy performance in the new buildings;
- imposes requirements of energy performance in existing buildings in major refurbishing work (corresponding to 25% of the value of the building, except the ground and only for buildings with a useful area of more than 1000m²).
The European Council set in the springtime 2006 the "3 x 20" taget for the year 2020: 20% of reduction of the emissions of greenhouse gases, 20% of decreasing od energy consumption, the transition to 20% of renewable energy in the energy consumption.
The proposed revision of regulation ERDFextending eligibility for investments in energy performance and renewable energy in existing housing is a significant progress in this direction. This measure must be confirmed and quickly implemented in the regions.

The main obstacles
The main identified obstacles relate to the institutional and legal issues are:
- The rigidity of the existing regulation in the evolution of rents and regulation of running costs to recover the investment or pay the debt (F, G, I);
- The requirements of regulation for thermal rehabilitation of buildings (G, I)

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• Procedural obstacles for energy efficiency operations; bureaucracy opposed to the movement of technologies and certification requirements; lack of innovation in town planning regulations adapted to the energy efficiency (B,F,G, I);
• The insufficient development of tax incentives on projects for social housing, particularly for the existing buildings (B,F,G, I)
• In Bulgaria the social housing stock is made with condominiums. The renovation of this stock has to be managed. A new social rental sector must be developed with the participation of municipalities and interested institutional parties.

In detail
In France: in the social housing sector, the rent is limited to a maximum regulated by the Ministry of Housing and defined according to the type of loan used for the financing of the construction of the buidling. This maximum cannot be adapted afterwards, even in case of later works for a better energy efficiency of the building. The impossibility to recoup investment in a limited rent must be corrected concerning the legal relations between tenants and landlords.

In Germany: the tenancy law and the system of orientation tables for the calculation of the rent are not adapted to the stakes of the climate change. Very high regulatory requirements (the technical doable H) could become an obstacle for energy savings in buildings. Increasing requirements and high standards are leading to significant additional costs. In rented housing units the saving of energy costs is only for the tenants' benefit, while the landlord is burdened with the investment costs. In practice energy saving often cannot be realized because of high necessary rent increase, higher than energy cost saving for the tenant. Due to the urban planning, for reasons of protection of historical buildings it is difficult to carry out energy efficiency in many cities.

In Italy: the obstacles are the need for coordination between different administration levels and the need of simplification for the authorization rules. Especially for the operations of refurbishment, the time spent to obtain authorizations is too long.

In Bulgaria: a social housing rental stock has to be created. The successful implementation of the energy efficient housing renovation process has to be supported in condominiums perceived as social housing in Bulgaria.

Synthetic comment on the recommandations

The proposals on the legal and institutional framework are:

Recommendation 1. Make possible the recovery of investment by the evolution of rules. FRA – ITA – GER - BUL

In general:
On the issue of recovery of investment by landlords, it first appears that only a so-called « global » approach of the matter is admissible. This means that the reflection on the new balance to be developed in the couple rent + running costs resulting from work to engage can only be developed if a suitable financial and innovative engineering for the work involved is provided, which also involves local or regional grants. In addition, it can not be considered that the energy efficiency policy based solely on the pooling of efforts between tenants of the social housing stock, increasingly poor.

In detail
In France: A new law in discussion in 2009 may change the situation. This law will open the opportunity for the tenants to contribute, under defined conditions, to the financing of the works for energy savings. It is partly offset by the expected savings of running costs.

In Germany: the possibilities to increase the rent are regulated and the law has to be changed for tenants' sufferance, concerning the energy and climate saving measurements.
A stable legal regulation, which does not go beyond the financial possibilities of the owners, offers a secure planning situation for energy saving measures. Medium legal requirements allow widespread effects in the energy efficient modernizations. Very high standards tend to give only pilot projects. New running costs resulting from energy or climate saving technologies have to be understood as a normal part of the running costs, even if this is not stipulated on the rent-contract.

In Italy: the path to solutions is in:
- the implementation of national and regional protocols and platforms for institutional coordination;
  a derogation of the regulation of the rents, in order to achieve an agreement with the tenants on a global cost including the service and on the way to recover the investment
- the implementation and spreading of Third Part Financing (TPF) scheme in the social housing sector

In Bulgaria: changes have to be introduced into the new housing legislation in order to facilitate the access to subsidies and subsidised loans for renovation. Information campaigns should be developed regarding financing tools for housing renovation.

Recommendation 2. Taking into account the modern technologies and services and new practices for running costs. FRA – ITA – GER - BUL

The evolution of the regulation of the running costs must be prosecuted. In Germany it should be done through the authorization to overcome the limitation of the contract signed between the landlord and the tenant, and in France through the modernization of the corresponding decree.
On the other hand, in France, it has been possible since 2006 to negotiate agreements with the tenants' associations: these agreements deal with the issues of sustainable development. Nevertheless, the precedence of the list of running costs to be recovered and its restrictive approach prevented greater investments in equipments for a better energy efficiency.

Recommendation 3. Integrate the energy efficiency issues in the urban and housing planning. FRA – ITA – GER - BUL

In Germany and in Italy it is necessary to adapt the legislation about the historical buildings (through compensation for example) to facilitate implementation of the energy efficient refurbishments

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Recommendation 4. To withdraw hidden barriers in order to share technologies and innovations at the E.U. scale. FRA – ITA – GER - BUL

The idea is to reduce the over-costs associated with the transfer and adaptation of innovative technologies from one EU country to another one. It presupposes e.g. the reciprocal recognition of the European labels existing at the national or regional levels. It's not the case today. Some technologies assessed as traditional in one country are considered as experimental in another country. The building insurances then increase steadily and their costs may be doubled.

Recommendation 5 Tax incentives turned towards social housing should be developed both in terms of VAT and tax on Property Built. FRA – ITA– GER

Due to the European Council of 10 March 2009, there should not be further developments. The housing sector would be generally eligible for reduced VAT rates beyond 2010. It opens up interesting perspectives in the EU in terms of work on buildings.
In Germany, necessary tax improvements concern the use of feed-in-tariffs for renewable energies in housing.
In Italy, the recovery from the tax deduction (the Tax Agency Decision 2008-380) lays down no tax detraction for rented dwellings.
In France, the allowed relief on tax concerning tax on real estate has been more favourable since 2009, due to the action of the Union Sociale pour l'Habitat.

III Technical and economic issues

Synthetic comment on the obstacles

Energy efficiency measures need investments. Investment costs need to be paid and to be recovered. Technical, economic, financial and social issues are overlapping, in the field of pure technology. The obstacles in the four Countries are quite diverse due to the national situations, but indicate some common issues which will be named hereafter. The ability to recover the investment is one of the main issues. The main obstacle is the economic organization of the social housing sector: The housing companies are obliged to find money for extensive energy efficiency measures, which primarily benefit to the tenants – the tenants profit by the landlords' investments. This is the so called landlord– tenant– dilemma.

The missing knowledge about the most efficient way to invest limited amounts needs to be overcome. As the amount to be invested is limited either by the financial capacity of the social landlord either by the low possibility to re-invoice the extra-costs to the tenants. The question is: with a certain amount invested, how can an operator achieve the economic optimum in terms of energy efficiency?

Convincing ways to answer this question without evaluating the whole buildings stock are to find the highest savings of running costs for each invested Euro, e.g. by low investments with high effects. Nevertheless, there is no doubt that this policy will not be sufficient when the need will be to decrease the average energy consumption of the existing housing stock below 100 kwh / m²/year as it's planned by some EU national governments.

Another issue is the deficient availability of energy efficient products, particularly in some new member states. In Italy, France- and Germany energy efficient products can be found more easily than in Bulgaria. But even in some western countries energy efficient products are too expensive (for instance in Italy). The knowledge about performance and productivity and about the quality is too low (Bulgaria) and sometimes the processes in the certification of some products (e.g. triple glass) are slow and without transparency (France).

In detail:
In Germany: a great obstacle is the financial structure of the social housing sector: most of the time, the increase of the rent to recover the investment is not feasible. In other cases the possible rent increasing is insufficient. The market limits a possible rent increase for energy saving investments (financed without subsidies) in some geographical sectors (e.g. Berlin) where the housing market is in deflation or depressed. The German Social Housing Associations have been searching for low-level investments with high efficiency to modernize as well houses that cannot get refurbished completely as houses that had been already modernized in the 1990ies. But as it was already mentioned above, this policy has its own limits.

In Italy: the main obstacle is the insufficient knowledge and limited information about the most energy-efficient investments. There is also a lack of global strategy for upgrading the energy performance of the social housing stock as social landlords have not developed up to now a global energy asset management. The wide dimension of the problem requires finding out priorities and a long term programming. Energy certificates don't help quickly, because certificates based on calculation are very difficult to implement in all residential stock. Besides the fact to know who will pay for certificates based on calculation, this calculation does not provide an accurate result.

In Bulgaria: the main obstacle is the low income of the private homeowners without any capacity to pay the necessary investments. The private ownership in condominium housing is the prevailing (97%) legal form of social housing in Bulgaria. Additionally the very different income groups in one condominium avoid having a consensus for the refurbishment of the building. Larger the estate is, bigger the difficulty is.
Subsequently the technical conditions of the buildings are rapidly worsening. Additionally the constant increase of the prices of the public utilities avoids savings on the costs of maintenance and refurbishment.
As a consequence there is high energy consumption, poor housing stock maintenance and management and no chance to maintain the property under the current market conditions.

In France: the obstacle about the recovery of the investment is more legal than economic, but it will begin the first economic obstacle when the legal obstacle is solved.
The second obstacle is the too high cost of the refurbishment which: with the current energy costs, it does not permit to cover, by the savings, the reimbursement of the loans. The operators have to find solutions to assume a big part of the investment (near 50% of the investment costs for the dwellings belonging to the classes E, F and G of the energy certificates). Among this solutions, we have to mobilize

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all the funds available at different levels [European level with the ERDF (~10%), national level (~25%), regional level (~10%) and local level (~5%)] and the conditions of the loans must be as favourable as possible (zero rate or no more than 2% if the complementary grants are sufficient).
Among the secondary obstacles the oligopolistic organization of the market is responsible for the high prices of the products and services necessary to be energy efficient. The costs of the standardization, the lack of mastery of costs and the lack of transparency of technical standards may initiate significant additional costs.

Synthetic comment on the recommandations

Recommandation 1:
Overcoming Landlord – tenant – dilemma – FRA – ITA – GER
To overcome the landlord– tenant– dilemma the housing associations should be given the opportunity to give tenants a share in extensive energy efficiency measures (social housing in France and Italy, partially Germany). The tenants profit by reduced running costs, they have to participate in financing their benefit. If the tenants are not able to pay higher rents, the governments may give financial assistance to improve the technical state of the buildings. The assistance can be a singular grant, a subsidy or lower taxes.
In Germany one recommendation to overcome the landlord– tenant– dilemma is a legislation amendment for the law of landlord and tenants, which allows a better refinancing for the investment without excessive demand for tenants.

Recommandation 2:
Decreasing Investment costs – FRA – ITA – GER – BUL
Incentives and subsidies reduce Investment costs for the investor and benefit the tenants. A recommendation is to reduce Value Added Tax VAT for energy efficient measures. This recommendation has the support of all partners. The Commission clears this way. The implementation is the responsibility of the member states.
A Bulgarian basic recommendation is to create economic incentives like deduction of the funds used for energy efficient refurbishment from the taxable income of the households – tax reduction – or to reduce the Value Added tax for energy efficient measures.

To overcome the high costs of products Social Housing Operators and their Unions have to organize the purchase of products by developing a catalogue of energy-efficient products and by launching calls between many social housing companies.
To overcome thehigh costs of the energy certification process in France the recommendation being to involve as early as possible all players using European standards and to take into consideration the prevailing costs.
The reciprocal recognition by national or regional public authorities of the different labels like Passive Haus, Minergie, Effinergie, Casa Clima or similar is recommended in order to avoid any monopolistic position of one label in one national market.

Recommandation 3:
Decreasing Investment costs – FRA – ITA – GER – BUL
In each country it is necessary to find out priorities for the most efficient expenditure with a limited amount of money. The information about the most energy-efficient investments (highest savings of running costs for each invested Euro) needs to be evaluated. Over and above that, both redevelopment plans and financing schemes have to be developed.

Using energy certificates is a possibility to overcome the lack of knowledge regarding energy use as first step for setting priorities. It has been shown that energy certificates based on energy use are a cost efficient way to increase the knowledge. Energy certificates based on calculation are not extensively implemented. Who will pay for the certification is a serious question in the countries, when the certificates are based on calculation.

A further recommendation is to implement an Energy Strategic Asset Management requiring a rough energy diagnosis of the complete housing stock to identify the most energy efficient investments and launch a global strategy for upgrading the energy performance.

An Energy Strategic Asset Management is also recommended, that should be framed by professional bodies specialized in energy efficient management and maintenance of condominium houses. The aim is to provide a training course to support the capacity building of homeowners associations in the field of energy efficient management. A strategy for energy efficient management and maintenance has to be set up; the Condominium Law has to be adapted in accordance with this.

Recommandation 4:
Low-level investments for energy saving – GER
In the meantime, housing associations may find low-level investment measures like modernizing the heating system. Changing the heat pumps into electronically controlled ones and regulating the valves into a conformist manner initiates a 5 - 10 % reduction of the running costs and costs an investment of 5-10 €/ m² which is less than 5% of the investment costs of a complete refurbishment of the building.

There is a lack of specific information about the importance of levelling off the hydraulic system, and furthermore missing knowledge about how to do it with caretakers, tradesmen, engineers and architects. In addition a set of community based trainings for landlords and tenants should be introduced, as well as a dissemination of the results from successfully renovated pilot buildings (best practice examples).

In the meantime housing associations may find low-level investment measures like modernizing the heating system, changing the heat pumps into electronically controlled ones and regulating the valves into a conformist manner.

Recommandation 5:
Re-creating a social housing rental stock – BUL
In Bulgaria the fundamental recommendation is to re-create a social housing rental stock through feasible and sustainable Public Private Partnerships between Municipalities and interested institutional parties. The prevailing homeownership on housing has to be diversified by new legal forms that correspond to the profile of different social profiles of the residents and involve the municipality as the coordinator.

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Another basic recommendation is to create economic incentives like deduction of the funds used for energy efficient refurbishment from the taxable income of the households – tax reduction – or reduce the Value Added Tax for energy efficient measures.

Recommandation 6: Increasing the availability of energy efficient products – FRA – ITA – BUL

To improve the diversity of quality and prices the Bulgarians are recommending supporting of the construction industry to create an information database of certified energy efficient construction materials and construction companies.
The creation of criteria for evaluation of the energetic cost of the refurbishment operations in terms of energy saving during the use is necessary. The Italian team also suggests the creation of criteria during all the life cycle: production of the material: transport, installation, use and final possibility of recycling. But it must be taken into account that this method is very expensive and it is a second step

IV Social and cultural issues

Synthetic comment on the obstacle

Most of the participating countries identify the same principal obstacles as following:

- Lack of coordination between different public administrative levels (Italy)

For Bulgaria the problem is not only legal but also cultural and there is an urgent need for:

- The definition of political priorities and measures which will have a direct and significant impact on the energy efficient renovations;
- Lack of administrative and institutional capacity building in the field of the energy efficient housing renovation and management

- Lack of training for the principal actors of the energetic refurbishment (technicians, operators, maintenance companies) (Italy, France, Bulgaria)

Still missing sufficient professional expertise on energy saving techniques and energy efficient products for construction; lack of permanent information centres and training opportunities for professionals regarding the variety and diversity of rapidly developing energy saving techniques and energy efficient products for building;

- Need of increasing awareness of tenants in energy issues (France, Italy, Bulgaria, Germany)

The legal framework for condominium life is still not adapted to answer to the current economic, political and social circumstances in Bulgaria. The Draft of Condominium Law should be adopted very soon by the parliament but still there is long way to have it successfully implemented. Still there is no properly working legal and financial mechanism for the establishment and functioning of homeowners' associations in condominium housing that would take the responsibility for the energy efficient management, maintenance and renovation of their homes.
For France and Italy it is necessary to work in cooperation with tenants Associations.

The Bulgarian organization also identifies as an obstacle the scarce role of the central government as regulator and the local authorities as coordinators, who have to speed up and facilitate the integration of motivated homeowners and their associations to take an active participation in the implementation of the National Housing Renovation Program of Republic of Bulgaria as well as of the operation 'Housing Policy' of the Operative Program 'Regional Development 2007-2013' of the Bulgarian Government.
The rigidity of the system of social housing rents is another obstacle, concerning the cultural and legal issue: the difficulty to increase the rents is due to legal conditions that generate consequences in terms of tenants' attitudes. They are one of the main obstacles to be removed.

Synthetic comment on the recommendations

The main social obstacle identifies two principal directions for the development of new skills and increasing the awareness of the actors:
The creation of consensus and the coordination between the different levels of stakeholders, via voluntary agreements;
The development of training tools for all the actors (administration, technicians, SHO, inhabitants) and the sharing of good practices and knowledge.

Recommandation 1: Guide for Performing Institutional Framework and institutional coordination (social and legal issue) – BUL – ITA

The solution proposed is aimed to create a common language and commons rules between all the actor of the construction process (public administrations, Social Housing Operators, technicians, constructors and tenants)
A political prioritization for the energy efficient housing renovation and a clear distribution of the responsibilities of the involved parties is also needed.

Recommandation 2: Information campaign and training for tenants and homeowners – FR – ITA – BUL

The recommendation is aimed at building up a specific knowledge and relevant capacities to undertake feasible housing renovation projects. Additionally, the recommendation aims at increasing the public awareness and participation of homeowners' (BHA) and tenants (FR – IT) associations in the large scale housing renovation. It comprehends a set of community based training sessions and the dissemination of the results from successfully renovated pilot buildings

Recommandation 3: Training for technicians and for maintenance operators – FR – ITA – BUL

The overall process of energy efficient housing construction and renovation will be significantly supported by setting up of training initiatives on the energy efficiency for professionals at the design and construction stage, increasing the professional capacity and awareness and the elaboration of different sets of specialized training sessions.

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The recommendation proposes two level of training:
External and internal

External:

- To generalize lessons on sustainable development with integrating approach in all courses (school, high school, universities, schools of engineering, design, Masters,) whatever speciality;
- To promote the teachings and multidisciplinary training;
- To establish common curriculum between schools of architecture and engineering schools;
- To require such training to save energy in buildings and ensure that companies have the necessary skills;
- To train more specialized manpower and skilled tailored solutions to be implemented;
- To promote the emergence of new offices thermal studies
- To teach industrial players to work more effectively together;
- To create new teaching tools and documentaries;
- To develop tools for sharing knowledge and develop good practices and innovative experiments near the professionals or to share practices by web, local network and events.

Internal:

- To involve staff, specific training and awareness to save energy (courses to provide adapted to the level and to the responsibilities);
- To promote information on new techniques and new materials.
- To establish a cell Watch keeping (technology, methods, standards…).
- Disseminate and share knowledge and best practices.
- To establish an internal centre of competence in energy efficiency.
- To develop content on "Control of Energy demand" in building

Recommandation 4: Training tools and information campaign for inhabitants – FRA – BUL – ITA

Training proposals:

- Accelerate awareness of individual issues related to energy efficiency in buildings (housing and communal areas) by a policy of information, awareness and education;
- Publicize the impact of different uses (heating, hot water…) in consumption and ways to reduce these various items of consumption.
- Training of Energy Correspondents, local interlocutor of tenants on energy issues.
- Develop tools for information and advice (via the Internet for example) on the tenants' own consumption. Implement tools self assessment vis-à-vis energy consumption.
- Involve tenants' associations in informing tenants.
- Take into account the needs of special populations (the elderly, immigrants…) for specific information.

The French also proposes training sessions for children and specifically to establish or foster a partnership between housing agencies and schools, associations, outdoor centres to educate children about the energy savings (good practices, improved behaviour) and the dangers of excessive consumption

Recommandation 5: Relationship and agreements with tenant's Associations – ITA

- To achieve an agreement with tenants about the global costs of the maintenance, the Quality of Service and the recovery of the investments.
- To obtain a regional or national authorization to derogate from the rent's rules in case of energy saving operation (and partially recover the investment from the rents).
- To show and make understandable that the energy consumptions saved on the running costs make possible to increase the rent: in fact, after the refurbishment, keeping unchanged the global costs (rent + running costs) for the families, it should be possible to partially include the amount of the corresponding mortgage period.

The National Agreements with Homeowners' Associations will contribute to the implementation of the new legal provisions and to the improvement of the co-ordination between main stakeholders involved in the process of housing and urban renewal (BHA).

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GERMANY

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I GERMANY: POLITICAL NATIONAL CONTEXT & POSITIONING

1/ Political and legal context concerning the energy savings - Currently

Social Housing

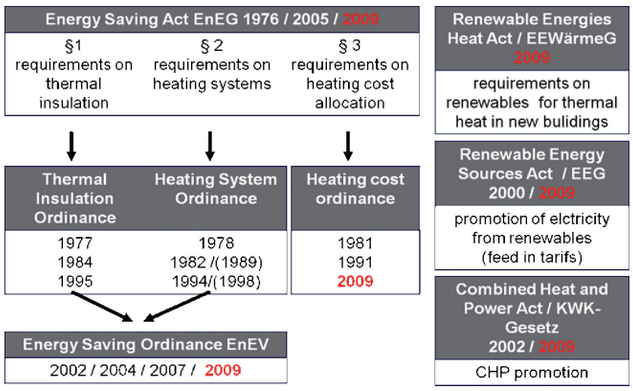
Social housing in Germany means governmental and federal state aid for living space ("Wohnraumförderung") by loans with reduced interest rates and by subsidies for
- households hardly having access to housing market, such as households with low income (rented flats)
- access of property for own use especially for families with children (private homes)

In the rental sector the aid is connected with controlled rents an occupancy restriction (this means the right for occupancy by the municipality i.e. for 15 or 20 years).
Within the general rules stipulated by the Federal Act, the rules of assistance differ widely amongst the various states, whereas it is the municipalities themselves who actually implement states decisions.
Social housing follows the federal principle, there are own programs off all federal states.

The German housing market is being regional differenced more and more. Since German reform of federalism in 2006 competences are given to federal states. The states achieves subsidies from the government annual.
There is a risk for using the housing-subsidies for recapitalizing the states budgets
There are no special requirements or subsidies for energy saving modernization of the social housing stock, federal law and subsidies are in force (see below).

Legal framework

Overview - year specifications relates to coming into force



Energy saving act (EnEG)
1976 / 2005 / 2009 (planned)

This is an authorization act for making ordinances. All requirements must be possible to be amortized (additional costs have to be no higher than reductions in energy costs)

Energy saving ordinance (EnEV)
1977 / 1984 / 1995 / 2002 / 2007 / 2009 (planned)

The energy saving ordinance implements the European directive on the energy performance of buildings into national law. In particular the ordinance regularizes the energy performing certificates. A general distinction is made between demand-based and consumption-based certificates. Which certificate is used for residential buildings depends on the size, the year of construction and the energy efficiency of the building. Housing companies usually use consumption based energy performance certificates, based on the energy use, given by the heating coast ordinance.
The Energy saving ordinance give energy requirements for new and existing buildings by limitation of primary energy use for (heating, hot water, ventilation and electricity for heating technology.
Limitation for the primary energy use of a typical multi-family house:
- EnEV 2007:
  New building 90 … 100 kWh/(m²a)
Existing building after modernization: 120…140 kWh/(m²a)
- EnEV 2009:
  New building 60…70 kWh/(m²a)
Existing building after modernization: 90 …100 kWh/(m²a)
Requirements are given to U-values in case of modernization of single components. For example for external walls:
EnEV 2007 U <= 0,35 W/(m²K) (8-10 cm of insulation)
EnEV 2009 U <= 0,24 W/(m²K) (12-14 cm of insulation)

Heating cost ordinance
1981 / 1991 / 2009

The Heating Costs Ordinance gives an incentive to minimize heating costs. Heating costs are allocated to 50...70% by energy use and to 50...30% by m² for all flats.
The use of energy has to be paid by individual heat cost allocation, typical savings are 15-20% of the heating costs

Combined Heat and Power Act (KWK-Gesetz)
2002 / 2009

Through simultaneous production of heat and electricity, combined heat and power (CHP) plants achieve an excellent efficiency of up to 90 percent. The grid system operators shall pay fees for electricity generated by CHP. The fee amounts to 5,11 Cent/kWh to small CHP (<50 kW). The fee is paid over 10 years

Renewable Energy Sources Act (EEG)
2000 / 2009

The grid system operators shall pay fees for electricity generated in plants exclusively using renewable energy sources. The fee is a compensation for electricity fed into the grid For example the fee amounts to 5,02 Cent/kWh for wind power and 43,01 Cent/kWh for solar power.
The fee is paid over 20 years and gives the economic efficiency for the system.

Renewable Energies Heat Act (EEWärmeG)
2009

The act gives a obligatory use of renewable energy in all new buildings built from 2009 on.

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All forms of renewables, or combinations of them, can be used. Renewable energies include solar radiation, geothermal energy, ambient heat and biomass. Those who do not wish to use renewable energies can take other climate protection measures: improve the insulation of their buildings, obtain heat from district heating systems or use heat from combined heat and power generation (CHP)

Rent legislation

Since the rental law reform in 2001, rental law is included in the German Civil Code (BGB).
Rent comparison tables are being created for major cities - they does not yet reflect energy criteria.
For energy saving measures, the landlord is allowed to increase the rent by 11% of the energy saving investment.

Loans and Grants

The KfW - program to reduce CO2 emissions

Anyone investing in owner-occupied or rented residential property and wishing to improve its energy efficiency can apply for a loan from the program to reduce CO2 emissions from buildings. The federal funding is provided to reduce the interest rate on loans for improving the energy efficiency of buildings. The interest rate can be fixed for a period of up to ten years
In addition, investors who modernize an old building and bring it up to the energy performance standard of a new building receive a grant towards repayment of the loan. This grant is even higher if the energy performance level of the old building is at least 30 percent better than that of a new building. The grant
The German government is providing a total of 1.5 billion euro in 2009 for the energy-efficient modernization of buildings.

Program to Promote Renewable Energies

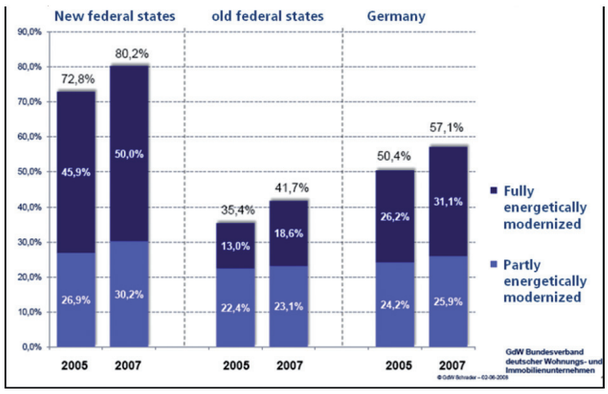
The program gives a long-term low-interest financing for investments in renewable energies for heating and hot water in new and existing buildings, like
- Solar thermal collectors
- Pellets oven/boiler
- Heat pumps
- The interest rate is below the capital market and is fixed for 10 years.

In addition to the low-interest loan a grant is provided.
The German government is providing 400 million euro in 2009 for the use of renewable energy for heating..

Technical and economical context

Energy saving measures

57% of the GdW-dwellings are partly or fully energetically modernized since 1990. Energetically fully modernized are 31% oft the dwellings, this means envelope insulation, new windows and new heating system respectively boiler. 26% of the dwellings are partial energetically modernized, this means new windows or partial insulation of the envelope or new heating system.

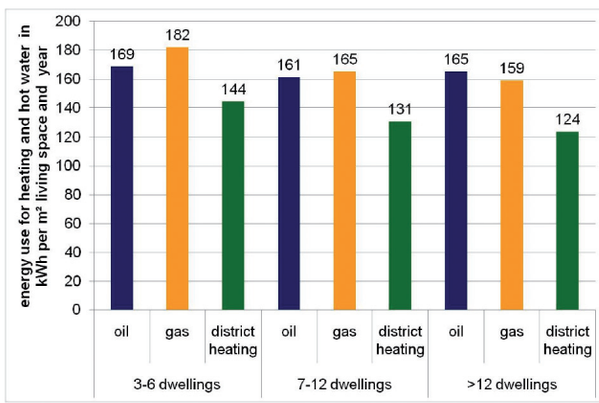


Picture 1 part of energetically fully and partially modernized dwellings since 1990, dwellings in GdW-housing companies

Energy consumption

In the new federal states an important potential for energetically modernization already is utilised. A part of housing companies shows an energy consumption of less than 70 kWh/(m²a) in the whole building stock and has reached the low energy standard for all rented buildings in this way.

In the result the energy consumption for rented dwellings in multi family buildings is approx. 160 kWh/(m²a) in average. This result was given by analysis of energy certificates based on the energy performance of buildings directive. The German energy certificates give the energy consumption for heating and, if centralized, for hot water for a three year average (degree-day-rectified)



Picture 2: analysis of over100.000 energy certificates, energy use per living space, average 160 kWh/(m²a) Source: ISTA

Best pilot projects in multi family houses reach 20 kWh/(m²a) end energy use for heating. Due to high investment costs (500 € /m² and more) this level is presently not for wide use.

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II GERMANY: MEASURES WITH HIGH ENERGETIC AND ECONOMIC EFFICIENCY ENERGY SAVING BY LOW INVESTMENT

Type of the issue: Technical and economic obstacles

Description of the obstacle

Extensive energy efficiency measures are loaded with high investment costs. Investments in rental buildings only can be refinanced through increasing rents. Often the allowed rent increase doesn't cover the costs, the final investment value would have a negative result. The necessary and allowed rent increase by extensive energy efficiency measures in most cases is exceeding the saving of energy costs for the tenants. For these reasons a far reaching investment for energy saving measures is becoming difficult. Further on in the nineties not enough attention had been paid to an optimal adjustment and running of the heating facilities.
For these reasons an optimization of the facilities is enabling a high cost efficiency for energy saving measures in buildings, which cannot be modernized completely as well as in buildings, which have already been modernized.

Statement of the recommendation:

Experience shows, that the optimization of the heating facilities requires investment of less than 10 € / m ² living space (without changing the boiler), in most cases the costs amount to 5 € / m².
For comparison: A complete energy saving modernization of a building requires investment of 200 € / m² and more.
For an optimization it would be necessary:

- Inventory of the real setting points of pipe – blocking valves and valves of radiators;
- Inventory of radiator sizes and trade marks;
- Inventory of the thermostat valves of radiators and the corresponding screwing;
- Calculation of the heating load of the building;
- Technical evaluations and calculations;
- Evaluation of the pre-setting points, of the valves of the radiators and the corresponding screwing;
- Analysis of the weak points according to DIN EN 31051;
- Investigation of the required heating load and allocation to the radiators in each room;
- Calculation of currents volume and hydraulic comparison of setting valves;
- Setting of the circulation pump of hot water without over sizing. In case of pump exchange installation of a electronically controlled pump;
- Information of residents about intervention in the facilities;
- Checking or changing the presetting to the newly calculated values

The information of the tenants about the interventions within the facilities is an essential element. Optimized heating facilities are leading to a better heat distribution within the building avoiding insufficient and excessive heating. With these measures an excessive heating by the tenant is not any longer possible. At the same time, radiators are not getting as hot as they used to become, but the temperature in the rooms is warm enough. There should be a consulting service for the tenants. Without this service tenants will make complaints.

Description of the stakeholders targeted:

Strategically the optimization of the heating facilities has to be decided by the housing association. Their technical staff members are the stakeholders, especially, if the analyzing can be made on their own. Furthermore engineer offices, executing companies and – last not least : the tenants.

Expected results:

In the framework of an experimental optimization of five buildings measures have been executed in two housing associations: DEGEWO and GBG Mannheim. The results of the controlling process will be presented in April 2009.
An energy saving result of at least 5 % is expected. The energy consumption of the selected buildings are actually 70 to 140 kWh (m² per year) If also the installed long distance heating load can be reduced, then the cost saving could be higher than the resultant cost saving from energy saving.

Link to the experimentation & existing best practices:

See the pedagogical guide and www.alfa-projekt.de

III GERMANY: REFINANCING FOR INVESTMENT BY RENT

Type of the issue: legal and institutional

Description of the obstacle:

Homeowners can refinance an investment in energy efficiency through the saved energy costs. For housing units rented out this is not possible, because the saving of energy costs is just for the benefit of the tenant, while the landlord is burdened with the investment costs. Refinancing of the investment costs leads to increasing rents. Mostly in social housing rent increasing is not allowed.
Also in the free/not subsidised sector the allowed rent increase does not refinance the investment. Because of the German system of orientation tables for rent calculations, rent increases merge into the comparable rent a few years after investment. So the landlord investing in energy saving measures has no benefit compared to the non investing landlord.

Statement of the recommendation:

Rent increase in social housing must be allowed in a socially acceptable way. In the free/not subsidised sector a legislation amendment is necessary. The rent increasing due to energy saving measures should stay above the comparable rent for the whole refinancing time.

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Description of the stakeholders targeted:

Policy, housing associations, housing companies

Expected results:

Improvement of financing possibilities for energy saving measures in rented buildings

Link to the experimentation & existing best practices:

- www.gdw.de/index.php?mod=article_detailid-art=2242
- Jürgen Pöschk (Herausgeber):Jahrbuch Energieeffizienz 2008, VMW-Verlag 2008, S. 97 ff
- www.dena.de/fileadmin/user_upload/Download/Veranstaltungen/2006/09/zh-kongress/WBG_Nuernberg_Richter_Wohnbestand.pdf

IV GERMANY: REMOVE TAX BURDEN FOR USE OF RENEWABLE ENERGYS FOR POWER GENERATION THROUGH HOUSING COMPANIES

Type of the issue: legal and institutional

Description of the obstacle:

In many cases housing and real estate companies cannot use the feed in tariff offered by the Renewable Energy Act EEG because of heavy tax disadvantages. Therefore they cannot produce electricity from renewable energies for example through photovoltaic facilities. According to the Law EEG, the business of facilities of this kind is regarded as a commercial activity and the profit of this activity is regarded as a commercial income. But the profit is an indispensable condition for an economic running of the corresponding facilities.
In this way the housing associations, which are fully due to tax payment, are losing the possibility for the use of an enlarged reduction of commercial tax. Also rental housing cooperatives, which are liberated from corporate tax could lose their status, if they go beyond the turnover – limit of 10 % caused by the profit of energy-saving according to EEG.

Statement of the recommendation:

In order to avoid these tax disadvantages for the housing associations and cooperatives, represented by GdW, there should be a clear instruction for the corresponding authorities, to interpret the rules of the law EEG, that the feed in tariff:

1. in case of housing companies and cooperatives these profits should be regarded as a tax freed side activity for the administration and use of the own real estate;
2. that in case of the tax freed rental housing cooperatives these profits should be regarded as side activity, which is not interpreted as main activity in order to avoid the tax effect.

Description of the stakeholders targeted:

Policy, ministry of finance

Expected results:

A higher growth through the use of renewable energies for housing associations and cooperatives especially by using photovoltaic facilities and the use of the combination of strength of heating systems and heating results.

Link to the experimentation & existing best practices:

No experimentation. In this field.
In this field GdW promotes political measures…

V GERMANY: STEADINESS AND PREDICTABILITY IN ENERGY EFFICIENCY LAW

Type of the issue: legal and institutional

Description of the obstacle:

In 2009 a reform of the energy saving law (EnEV) there will be in power in Germany. The primary energy need (for heating, hot water and assisting energy) will be nearly 90 - 100 kWh/m² per year for the building stock, which has to be modernized. In order to get subsidies, a modernized building will have to reach 75 – 85 kWh/m² per year. From the 1.January 2009 on the Law on Renewable Energies will be in power, demanding for each new construction the use of renewable energy or a corresponding substitute (e.g long distance heating or being below the requirements of the Energy Saving Law). Already in these days there is a discussion about a further increase of requirements of the energy saving building. Furthermore duties for the use of renewable energy in the existing stock are also discussed. Both political measures could become an obstacle for energy saving measures. Further increasing requirements of a very high standard to be demanded are lead to significant additional costs, especially through the use of ventilation systems and renewable energies.

Statement of the recommendation:

The effects of the requirements for the energy – saving building should be evaluated. Further on it should be investigated, which energetic level could achieve the highest energy saving and reduction of running costs in total, taking into account limited investment capital. The possibilities of refinancing and economic outcome have to be considered. This is due for homeowners as well as for the rented buildings. After a corresponding analysis a further development of the requirements should be discussed. An obligation of use of renewable energy should not be introduced in the existing stock. The objective is a reduction of fossil energy need and CO2 – emissions. According objectives should be set, but the way to reach these objectives, should be open for any techno-logy and be decided by the stakeholders. In an intelligent accordance with the existing funds, in all situations, where it is economically convenient,

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energy saving measures could be implemented, which go beyond the requirement

Description of the stakeholders targeted:

Policy, Federal Ministry of Transport, Building and Urban Affairs,
Expected results:
A stable legal regulation, which does not go beyond the financial possibilities of the owners, offers a secure planning situation for energy saving measures. The sooner Energy saving measures can be refinanced through rent income, the more modernization measures will be realized. A energy-, cost- and climate efficient use of available investment capital is the best way for saving of energy – and running costs as well as CO2 – reductions.

Link to the experimentation & existing best practices:

No experimentation in this field.
In this field GdW promote political measures.
See http://www.gdw.de/uploads/files/pressedownloads/GdW-Forderungen_BT_Wahl_2009_Papier_250209%20(2)digitalendg.pdf (German version only)

VI GERMANY: INFORMATION AND TRAINING

Type of the issue: legal and institutional

Description of the obstacle:

Regarding energy efficiency there are still gaps in knowledge. Especially special aspects of energy saving like heat system optimization need more attention and knowledge for all involved stakeholders. Further a continuous information for tenants regarding energy saving behaviour should take place. On the other hand new technologies for tenants such as smart meters or control systems for dwellings lead to new information need.

Statement of the recommendation:

Information and training for tenants and homeowners as well as training for technicians and for maintenance operators
The recommendation should increase the public awareness and participation of homeowners' and tenants associations in the large scale housing renovation. In particular tenant information projects should be launched much more than in the past. The needs of special populations (the elderly, immigrants…) should be taken into account for specific information.
The experiences with the testing of the suggestions on low level investments have to be written down in a pedagogical guide and of course disseminated. Furthermore the recommendation aims to build up knowledge and capacities to undertake feasible housing renovation projects. The efficiency of specific measures - like for instance the levelling off of the hydraulic system - should be communicated. Regarding the limited amount of money, priorities have to be defined; because one need to know which measure brings the highest effect, a priority list of feasible measures must be set up.

In order to increase the professional capacity and awareness, different sets of specialized trainings have to be launched. Two levels of training are needed: External and internal. External: Specialized manpower and skilled tailored solutions are to be implemented; the training should give the opportunity for professionals to share knowledge, good practices and innovative instruments by local networking, seminar events and the internet. Of course teachings and multidisciplinary training has to be promoted. Internal: The staff has to be involved in specific training and awareness to save energy. Furthermore an internal centre of competence in energy efficiency should be established and the control of energy demand should be secured. Information of tenants about the interventions with the heating facilities in an essential element.

Description of the stakeholders targeted:

Housing associations, tenants associations, housing companiese

Expected results:

To tap the full energy saving potential by energy saving measures and by tenants behaviour.

Link to the experimentation & existing best practices:

- www.degewo.de/content/de/Service/_3-5-Ratgeber.html
- www.energiesparwohnen.de
- EU-Projekt save@works4home

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ITALY

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I ITALY: POLITICAL NATIONAL CONTEXT & POSITIONING

1/ Political and legal context concerning the energy savings - Currently

Framework of laws

Social Housing:
The national law 1998/431 for private rental building stock allows personal aids to tenants of private sector and the national law 1993/560 regulates Rental and selling matters of social housing criteria;
the D.L. 1998/112 reshapes the national policy framework and it decentralizes former central competencies.
- The rent is laid down by Regions. Now the change of rent isn't possible.

Energy and energy certification of buildings:
The Directive 2002/91/EC of the European Parliament and of the Council promotes the improvement of the energy performance of buildings within the Community, taking into account outdoor climatic and local conditions, as well as indoor climate requirements and cost-effectiveness and it lays down requirements as regards the energy certification of buildings.
The Directive 2001/77/EC of the European Parliament and of the Council promotes an increase in the contribution of renewable energy sources to electricity production in the internal market for electricity and to create a basis for a future Community framework thereof.

1) NATIONAL LEVEL
The national D.L. 2005/192 reshaped by D.L. 2006/311, having regard to the Directive 2002/91/EC, regulates the technical and legal criteria on the energy performance of buildings and, waiting national guidelines, lays down requirements on the energy certification of buildings but not on the kind of professional man.
The national D.L.115/2008, having regard to the Directive 2006/32/EC, in the energy refurbishment, allows the possibility to not account the reduction of the distance between buildings cause of the bigger thickness of walls and ceilings for insulation (volumetric bonus).
The national Decree of 19 February 2007, having regard to the Directive 2001/77/EC, on the promotion of electricity produced by renewable energy sources in the internal electricity market, establishes the possibility to subscribe a energy contract with the manager and supplier company in order to sell the surplus of electricity production, and allow "incentive tariffs" for a 20 years period.
- The implementation is postponed

2) LOCAL LEVEL
The Regional Laws:
R.L. 2007/13 of Piemonte, R.L. 2007/22 of Liguria, Decision 2007/8-5018 of Lombardy having regard to R.L. 2006/24, Decision 2008/1050 of Emilia Romagna having regard to R.L. 2004/26: lay down professional requirement and criteria to qualify subjects to release energy certification of buildings and to develop the checks of the thermal systems.
- There are different types of calculation to certify buildings

Project of technical installations:
The Republic President Decree 412/1993 regulates project and maintenance of technical installations in order to energy efficiency.

TPF (Third Party Financing):
The Directive 2006/32/EC of the European Parliament and of the Council, repealing Council Directive 93/76/EEC, aims to enhance the cost-effective improvement of energy end-use efficiency in the Member States. In the article 3 it defines the TPF like a financial instruments for energy savings in order to cover partly or totally the initial project cost for implementing energy efficiency improvement measures;
The national D.L. 2008/115, having regard to the Directive 2006/32/EC, regulates end-use efficiency and energy services. It defines TPF (article 2) and establishes a rotating fund for TPF by ESCOs (article 9).
- The rotating funds isn't implemented
- Banks are affected by economic crisis
- The ESCOs haven't tax incentives

Public markets:
The Directives 2004/17/EC and 2004/18/EC of the European Parliament and of the Council regulate the procurement procedures of entities operating in the water, energy, transport and postal services sectors and the coordination of procedures for the award of public markets, works, supply and services;
The national D.L. 2006/163 regulates Italian public markets procedures and criteria.
- It's difficult to set mixed contracts of works and services for example in the case of TPF.

Budget law:
The budget law 2006/296 for the year 2007 and the budget law 2007/244 for the year 2008 lay down the tax deduction (55%) for energy refurbishment of buildings.
- There isn't this opportunity for rented housing

2/ Political and legal context concerning the energy savings - From the set up of a performing framework (proposal of a global system of relationships (Performing Institutional / Economic / Social Frameworks)

Performing Institutional Framework

- simplification
- coordination
- flexibility

Procedural simplification for the energy efficiency operations;
Implementation of national and regional Protocols or Platforms for institutional coordination

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More flexibility in local plans and municipal regulations:
- to choose better orientation for news buildings;
- to choose between refurbishment and demolition/reconstruction for not efficient buildings;
- to modify the total volume of the building without to implement the internal surfaces (for insulation). The national D.L. 2008/115 allows the possibility to not account the reduction of the distance between buildings cause of the bigger thickness of walls and ceilings for insulation (volumetric bonus).

Performing Economic Framework

- derogation from rent rules, grants for TPF, fiscal aid
- production of green products stimulation and joint negotiation with energy suppliers
- Energy strategic Asset Management
- Mix operations and SHO activities in energy sector

The aim is:

- to have a regional authorization to derogate from the rent's rules in case of energy saving operation (and partially recover the investment from the rents);
- to have a (national) regional grant founds to make more easy the TPF and to obtain loans from banks;
- to have a legal certitude for the tax deduction of 55% for energy saving refurbishment;
- to negotiate the quality and the price of energy products with suppliers;
- to stimulate the production of "green" building's components;
- to create purchasing groups for joint supply of green construction products
- to make Energy Strategic Asset Management to allow long term programming of the energetic refurbishment;
- create mix operations of energy refurbishment and RE implementation;
- to extent SHO activities in energetic sector.

Performing social framework

- tenants information
- agreements with tenants
- technicians training

Information campaign on energy efficient buildings (for tenants)

- to improve the awareness of tenants;
- to facilitate the locals agreements on energy efficiency:
- to negotiate the refurbishment project.

National and Regional agreements with tenants' association

- to have a common aim of improvement of energy efficiency;
- to develop together awareness campaigns;
- to have a consensus on the partial or total recuperation of the investment on the energy saving of the tenant for TPF.

Training sessions for professionals (SHOs' staff / construction, architects)

- to improve the technical knowledge of involved operators;
- to exchange practices.

II ITALY: INSTITUTIONAL COORDINATION AND PROCEDURAL SIMPLIFICATION

Type of the issue: legal and institutional

Description of the obstacle

In Italy is very difficult and it take a lot of time to obtain all the necessary authorisations for the operations of refurbishment, in particular in case of buildings in historical center or for the public buildings with more than 50 years (automatically under Monumental and fine Arts Office protection).

The national law provide a tool named "Conferenza dei servizi" (All services Summit), aimed to obtain in a single time all required authorizations, but it's very difficult to use it.

1) Need of simplification for the authorization rules:

The system of authorizations for the operations of refurbishment and improving energy efficiency is very complicate and the time spent in the procedural thinks is too long:

1. maximum ceiling of cost for new construction and for refurbishment (not adequate to make a quality building);
2. refurbishment needs several authorisations from many institutions:
   - Municipality (construction authorization);
   - Monumental and fine Arts Office (for all public owned buildings 50 years oldest);
   - Fire-fighters.
3. the energy certification is very expensive cause of the law limit-values:
   - At national level the D.L. 2005/192 reshaped by D.L. 2006/311, having regard to the Directive 2002/91/EC lays down limit-values of energy performance of building shape.
   - At regional level there are other laws about energy certification of building: R. L. 2007/13 of Piedmont, R.L.. 2007/22 of Liguria, Decision 2007/8-5018 of Lombardy having regard to R.L. 2006/24, Decision 2008/1050 of Emilia Romagna having regard to R.L. 2004/26. These local laws lay down also professional requirement and criteria to qualify subjects to release energy certification of buildings and to the development of the inspections of the thermal systems.
4. local plans and municipal regulations are not flexible:
   - At the national level the D.L. 2008/115 lays down a volumetric bonus for the bigger thickness of walls and ceilings;
5. public organisations should make public tenders (call for tenders to works, call for tender to services) so they need to set up quality criteria for each operation.

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2)Need for coordination between different administration levels:

In Italy there need many authorizations for the refurbishment project:

a) at municipal level

- municipal commission for building authorisation
- fire-fighters
- health services
- cultural assets supervisor office

b) at regional level

- control of the costs

Statement of the recommendation:

1) Procedural simplification for the energy efficiency operations

1. starting statement of all actions related to energy refurbishment (it have to be done in according to regional and local laws);
2. Services Conference about authorizations that have to be requested;
3. more flexibility in local plans and municipal regulations:
   - to choose better orientation for news buildings;
   - to choose between refurbishment and demolition/ reconstruction for not efficient buildings;
   - to modify the total volume of the building without to increase the internal surfaces (for insulation) and in this way the D.L. 2008/115 lays down a volumetric bonus for the bigger thickness of walls and ceilings allowing to grow the exterior surfaces. Now we need for local implementation, via Regional and local regulation.

1)Implementation of national and regional Protocols and Platform for institutional coordination

Legal coordination's opportunity like programme agreement and services coordination should be used to improve institutional coordination.

In the Italian framework of laws there are legal opportunities to facilitate the institutional relationship at different levels.

The D.Lgs 2000/267 defines association forms and lays down programme agreement in order to ensure coordination of actions, establishment of time and financing model for some particular programme asking integrated actions at different institutional levels (art.34).

The D.L 2008/112 implemented by Law 2008/133 establishes the possibility to make a programme agreement for carry out integrated programmes of implementation of residential buildings and urban regeneration in order to develop private and public participation (art.11 – Housing Plan).

The DPR 2001/380 having regard to the Law 1990/241 lays down the services coordination like an instrument to simplify administrative action. In fact that is more useful to get authorizations and agreements.

Also for this instrument the D.L 2008/112 implemented by Law 2008/133 recalls the utility of services coordination.

In the field of energy these opportunity could accelerate the process on the energy refurbishment of buildings.

Description of the stakeholders targeted:

- Administration: Regions, Departments (Province),
- Municipalities
- SHOs
- Monumental and fine Arts Office

Expected results:

Better coordination between regulations and in delivering authorizations; better coordination between regulations and reductions of time spending in obtaining authorizations.

Link to the experimentation & existing best practices:

No exp. In this field.

In this field Federcasa promotes political measures.

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III ITALY: OPTIMISATION OF THE INVESTMENT PROCEDURAL SIMPLIFICATION

Type of the issue: Legal and financial issues

Description of the obstacle

Financial restrictions

Lack of public financing for energy saving refurbishment of the 60% of the SH stock in need of energy performance improvement.
Public regional aids for investments in social housing refurbishment are scarce, the internal resources of the SHO are insufficient to invest, without a possibility of recovering. The recover from tax deduction (allowed by budget Law of 2007) is already too difficult for SHOs and the legal framework is not so clear; the Tax Agency Decision 2008/380-E lays down no tax detraction for dwellings rented.

Statement of the recommendation:

Optimisation of the investment in energy saving measures:

It's necessary to optimize the investment in energy saving, so before decide about the type of operation to implement for reduce the energy needs of the buildings, it's necessary to compare the different technical solutions in order to choose the cheaper solution.
In this aim, is necessary to make:

1. preliminary study to achieve costs/benefits balance in the refurbishment of building stock:
   - preliminary analysis of buildings
   - audit of existent plants and its efficiency
   - appraisal of possible technical solution in terms of investment and of its return;
2. studies in order to implement low costs measures for energetic refurbishment;
3. results monitoring of energy saving operations.

Description of the stakeholders targeted:

- SHOs
- Technicians

Expected results:

Criteria for analysis of residential buildings and parametric data to orienting the choices

Link to the experimentation & existing best practices:

ITALY- IPES Bolzano: Analysis of comparative data about energy saving refurbishment (passive standard versus normal performances) - Refurbishment of 69 dwellings in Bolzano
ITALY- ACER Reggio Emilia: Integrated retrofitting experience - Refurbishment of 22 dwellings in the municipality of Sant'Ilario d'Enza (Reggio Emilia)

IV ITALY: JOINT NEGOTIATION TO CREDIT ACCESS FOR ENERGY EFFICIENCY PROJECTS

Type of the issue: Legal and financial issues

Description of the obstacle

Financial restrictions

Lack of public financing for energy saving refurbishment of the 60% of the SH stock in need of energy performance improvement.
Public regional aids for investments in social housing refurbishment are too little and the internal resources of the SHO are insufficient to invest, without a possibility of recovering. The recover from tax deduction (allowed by budget Law of 2007) is already too difficult for SHOs and the legal framework is not so clear; the Tax Agency Decision 2008/380-E lays down no tax detraction for dwellings rented.

Statement of the recommendation

Joint negotiation to credit access, for energy efficiency projects

It's very important to reduce the cost of the credit and to have specific financial products to finance the energy saving operations.
The main characteristics of this type of operation are:

- the mortgage period of the credit is to relate to mortgage period of the investment (normally 10, 15, 20 years)
- the guarantees needed are of two types:
  1. feasibility of the plan
  2. guarantee of payment arrearage

The recommendation is aimed to facilitate the credit access for the SHO and to create:

- standard evaluation systems, agreed by credit institutions;
- better credit conditions for energy saving operations.

So it's necessary to work in partnership with credit institutions and to plan, at national and local level an Agreement with local institutional and financial bodies.

Description of the stakeholders targeted:

- Administrations (local)
- SHOs
- Banks

Expected results:

Financial schemes
Guarantee schemes
Agreement schemes

Link to the experimentation & existing best practices:

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V ITALY: IMPLEMENTATION AND DIFFUSION OF TPF SCHEME

Type of the issue: Legal and financial issues

Description of the obstacle

Rigidity of rents system in SH sector

The system of rents in social housing is very strict and the rents are inadequate to pay the costs of maintenance and of the refurbishment. Increasing the SH rents is not allowed in Italy and the SH rents are inadequate to recover any cost for extraordinary maintenance (national average 80 Euro per month).

Statement of the recommendation:

Implementation and diffusion of TPF scheme in SH sector.

Description of the system of Third Party Financing (TPF)

The basic principle of TPF by ESCOs is quite simple: the ESCOs input their know-how and the necessary financial resources into the project; that is they plan, build, maintain and finance at their own risk. It is their responsibility to ensure that adequate investment is made in buildings, so guaranteeing that there are energy savings.

These energy savings are based on the average energy consumption for the previous years. The contractors finance their investments through the savings made in energy costs. The SHO, or the tenants pays the energy bill as normal and, at the end, becomes owner of the efficient equipment.

Profits are reaped by both client and contractors, not forgetting the important benefits for the environment.

This type of contract guarantees installations of high quality, therefore, since this is in the contractors' interests: high quality installations will mean reduced operating and maintenance costs.

Energy efficiency will be optimised, since the greater the amounts of energy saved, the more contractors earn. If installations stop working, the contractors must ensure service continuity.

At the end of the contract, the client profits fully from the cost savings achieved.

Third Party Financing (TPF), may also be attractive to energy users who have financial resources available, since it allows them to obtain a profit from energy savings, without them needing tie up their capital. These resources can then be used for other purposes.

TPF in Social Housing

The main problem is the presence of three actors:

- the ESCO
- the SHO owner of the buildings
- the tenants, responsible to pay energy bills

So it is necessary to have the agreement with tenants to be aware and to agree to pay a part of investment on energy bill and to have a regional grant found to cover the arrearage of payments.

In fact, the tenants pays more for bill's costs than for rent; the aim of this recommendation is the maintenance (or better the reduction) of global costs for tenant, improving the service.

Conditions:

1. to obtain a regional authorizations to derogate from the rent's rules in case of energy saving operation (and partially recover the investment from the rents) or to obtain the agreement of tenants to recover the investment on service supply
2. to obtain a regional grant founds to make more easy the TPF and to obtain loans from banks;
3. to have legal schemes for the implementation of TPF scheme (call for proposals, criteria for evaluation);
4. to ask the banks specials loans for investments in energy efficiency;
5. to increase and to diffuse the relationship with the Energy Saving Companies (ESCOs) for the TPF:

Description of the stakeholders targeted:

- State and Regions
- SHOs
- Tenants associations
- ESCOs
- Banks
- Energy suppliers

Expected results:

To establish a legal framework for the investment in energy saving measures;

To arrange a guide for TPF implementation.

Link to the experimentation & existing best practices:

ITALY – ATC Biella: Biella Retrofitting one - Scheme of TPF for refurbishment of 161 dwellings in Biella.

Link with recommendation SH Rent derogation

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VI ITALY: SH RENT DEROGATION

Type of the issue: Social issue

Description of the obstacle

Rigidity of rents system in SH sector
Rigidity of rents system in SH sector
The system of rents in social housing is very strict and the rents are inadequate to pay the costs of maintenance and of the refurbishment. Increasing the SH rents is not allowed in Italy and the SH rents are inadequate to recover any cost for extraordinary maintenance (national average 80 Euro per month).

Statement of the recommendation:

Rent's rules derogation:
The aim is to achieve an agreement with tenants on the maintenance of global costs improving the service and on the way of investment's recovering.

1. To obtain a regional (national) authorization to derogate of the rent's rules in case of energy saving operation (and partially recover the investment from the rents).
2. To show and to do understanding that the saving consumptions on the energy bill make possible to increase the rent; In fact after the refurbishment, keeping unchanged the global costs for the families, it's possible to have the amount of mortgage period.

Description of the stakeholders targeted:

- State and Regions
- SHOs
- Tenants associations

Expected results:

To establish agreements for the investment in energy saving measures

Link to the experimentation & existing best practices:

ITALY – ACER Reggio Emilia: Integrated retrofitting experience - Refurbishment of 22 dwellings in the municipality of Sant'Ilario d'Enza (Reggio Emilia)
ITALY – Federcasa, Tenants' Unions, ACER Reggio Emilia: Scheme of agreement with tenants - Negotiation with tenants in order to share the costs. Example in the municipality of Sant'Ilario d'Enza (Reggio Emilia)

Link with recommendation Implementation and diffusion of TPF scheme

VII ITALY: MIX OF OPERATIONS

Type of the issue: Legal and financial issues

Description of the obstacle

Rigidity of rents system in SH sector, lack of resources to invest in SH stock refurbishment
The system of rents in social housing is very strict and the rents are inadequate to pay the costs of maintenance and of the refurbishment. Increasing the SH rents is not allowed in Italy and the SH rents are inadequate to recover any cost for extraordinary maintenance (national average 86 Euro per month)

Statement of the recommendation:

Mix of operations: refurbishment, energy saving and renewable energy production.

This mix of operations makes possible to increase financing flow reducing the mortgage period.

The more usual system is the recovering of part of the investment on the renewable energy supply:
Photovoltaic mixed to energy saving measures
In Italy the photovoltaic installation is promoted by many national and regional aids, par example the diffusion of the energy contract for electricity with the manager and supplier company (Enel...)
The National Decree of 19 February 2007 having regard to the Directive 2001/77/EC of the European Parliament and of the Council of 27 September 2001on the promotion of electricity produced from renewable energy sources in the internal electricity market, establishes the possibility to subscribe a energy contract with the manager and supplier company in order to sell the surplus of electricity production, and allow "incentive tariffs" for a 20 years period.
The way to use this opportunity are, for example:

1. Substitution of old component, for example old roofs, with a new cover of photovoltaic panels to produce electricity. This integrated action makes possible economic and financing balance thanks to subscription of energy contract.
2. Promotion of the mix of actions like a solution to recover investment: to carry out measures for the refurbishment of buildings shape components and to install photovoltaic system to produce electricity.
3. Diffusion of the Project Financing scheme with private subsidies to implement energy regeneration at urban level. Project finance is the financing of long-term based upon a complex financial structure where project debt and equity are used to finance the project. Usually, a project financing scheme involves a number of equity investors, known as sponsors, as well as a syndicate of banks which provide loans to the operation. The loans are secured by the project itself and paid entirely from its cash flow. In other words project financing is a loan structure that relies primarily on the project's cash flow for repayment, with the project's assets, rights, and interests held as secondary security or collateral.

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Description of the stakeholders targeted:

- State and Regions
- SHOs
- Tenants associations
- ESCOs
- Banks
- Energy suppliers

Expected results:

To establish a legal framework for the investment in energy saving measures.
To take out process and financing scheme

Link to the experimentation & existing best practices:

ITALY - Casa S.p.A Firenze: Out asbestos in photovoltaic - Roofs' refurbishment of 424 dwellings by substitution of old roofs with new covers of photovoltaic panels to produce electricity
ITALY – ATC Torino – Example of Project Financing in Torino - Refurbishment of heating system and use of renewable energy sources for 651 dwellings, District 0133

VIII ITALY: SHO'S ACTIVITIES IN ENERGETIC SECTOR

Type of the issue: Legal and financial issues

Description of the obstacle:

Rigidity of rents system in SH sector
The system of rents in social housing is very strict and the rents are inadequate to pay the costs of maintenance and of the refurbishment. Increasing the SH rents is not allowed in Italy and the SH rents are inadequate to recover any cost for extraordinary maintenance (national average 86 Euro per month).
SHOs haven't got resources sufficient to the maintenance of buildings so the income of the rents can't be an amount for other investments

Statement of the recommendation:

To extent SHO activities in energetic sector:
The Italian SHO dispose of internal technical structure (architects, engineers), with interesting know how in energy saving measures.
So they are in the possibility to offer:
1. technical services for municipalities;
2. energy production and supply (for public and private sector besides the SH tenants):
   - photovoltaic
   - co-generation

The energetic sector is becoming a new economic market also for SHOs. In fact the SHOs, like municipal operating companies, could supply several services.
For example if they install photovoltaic or co-generation systems to produce energy for common spaces of social housing they make possible to reduce a part of the costs of tenants.
The aim is to take advantage of know-how of SHOs and to use this one to supply services to public and private administrations.
The outcomes are:
- scale economies
- the increase of the incomes with rentable services
- the improvement of the relationship with the municipalities

Description of the stakeholders targeted:

- State and Regions
- SHOs
- Tenants associations
- Municipalities
- Condominium

Expected results:

Economies of scale and the increase of the incomes

Link to the experimentation & existing best practices:

ITALY – ATC Torino: FORMULA ENERGIA - Company in house to develop activities in the field of energy selling for heating supply

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IX ITALY: ENERGY STRATEGIC ASSET MANAGEMENT

Type of the issue: Technical and economic issues

Description of the obstacle:

Need of very important investments in SH

For Italy 400.000 dwelling need to have important refurbishments aimed also to energy saving measures. Many building have mixed tenure and it's difficult to involve private owners.
The wide dimension of the problem requires to find out priorities and a long term programming

Statement of the recommendation:

Energy Strategic Asset Management

To implement Energy Strategic Asset Management on multi-years basis to allow long term programming of the energetic refurbishment based on balance within needs and financial resource.
Energy Strategic Asset Management requires:

- to make an energy diagnosis of the housing stock
- to identify the most energy-efficient investments
- to define a global strategy for upgrading the energy performance of the housing stock

Description of the stakeholders targeted:

- SHOs

Expected results:

Schemes for energy saving needs analysis and residential stock refurbishment.
Schemes for monitoring of energy consumption

Link to the experimentation & existing best practices:

ITALY- ACER Reggio Emilia: Strategic Plan for energetic refurbishment - Analysis of a sample of buildings to make a general evaluation model

Link with: Factor 4 Project supported by Intelligent Energy Europe (Save)

X ITALY: AVAILABILITY OF AFFORDABLE ENERGY EFFICIENT PRODUCTS

Type of the issue: Technical and economic issues

Description of the obstacle:

The cost of products for insulation and of bio-compatible construction is too high

- The market of the products for energy saving operations is very high and the performances of the products are not well demonstrates.
- It's necessary to take in account the LCA (Life Cycle Analysis) in the choice of the products for construction and refurbishment.

Statement of the recommendation:

Stimulate the availability of the energy efficient products (for construction and refurbishment)

The way for stimulating the market of products for construction and energy saving operation (insulation, windows, boilers etc.) is base on two pillars:

1. the creation of criteria for evaluation of the energetic cost of the refurbishment operation not only in terms of energy saving during the use, but also during all the life cycle : production of the material, transport, installation, use and final possibility of recycling;
2. the increase the scale economy of each operation at local/ regional level.

The public residential sector as pilot sector and as stimulating innovation opportunities with:

1. joint negotiation : to promote local group of SHOs to increase the negotiation ability;
2. green procurement : to find out criteria to choose products with a low impact to health and environment. Based on the LCA.

Description of the stakeholders targeted:

- State and Regions
- SHOs
- ESCOs
- Construction companies
- Materials production sector

Expected results:

Increasing the availability of materials for energy saving measures.
Reducing the cost of green product

Link to the experimentation & existing best practices:

Work in progress: National plan of action about green public procurement.
The European COM 2003/302 invited member states to carry out a National Plan of Action about GPP.
- Work group to define environmental criteria in the building materials (Federcasa with the coordination of ENEA

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XI ITALY: INFORMATION CAMPAIGNS

Type of the issue: Social and cultural issues

Description of the obstacle:

Lack of awareness of tenants on energy efficiency

Problems with tenants concern:

1. single heating management;
2. bad use of ventilation systems;
3. accountancy in central heating;
4. automatic valve for thermal regulation.

Other main problem is Fuel poverty in SH tenants, with consequence of:

1. Arrearage of payment
2. Single heating inadequate

Statement of the recommendation:

Information campaign on energy efficient buildings (for tenants)

1. to improve the awareness of tenants;
2. to facilitate the locals agreements on energy efficiency
3. to have a common aim of improvement of energy efficiency;
4. to develop together awareness campaigns;
5. to have a consensus on the partial or total recuperation of the investment on the energy saving of the tenant for TPF.

Description of the stakeholders targeted:

- SHOs
- Tenants

Expected results:

Awareness of tenants about energy issues
Better cooperation on the refurbishment operations between SHOs and tenants

Link to the experimentation & existing best practices:

ITALY – Social Housing Organizations: Newspaper - information for tenants ; tools to increase awareness and knowledge on energy saving
ITALY - Bologna & Pistoia: Questionnaire for tenants
Tools of tenants' involvement in the planning phase.
Best practice: Federcasa/WWF Campaign - 1Million of efficient buildings: http://generazioneclima.wwf.it/

XII ITALY: TRAINING TOOLS

Type of the issue: Social and cultural issues

Description of the obstacle:

Need of training:

- for maintenance enterprises
- for technicians (architects, engineers)

The technicians, engineers and architects can't be always upgraded cause of the continuous evolution of laws and of technologies. The main problem could be the absence of new technologies use or the inadequate knowledge to work.

Statement of the recommendation:

To have tools for training

1. training courses for professionals (SHOs' staff / construction, technicians, maintenance operators);
   - the courses topics should include all information related to energy saving : climate change, new technologies, energy certification, energy audit, laws evolution, tax deduction, financial aspects;
2. promotion of outputs of the other European programme on energy saving like guidebook or guidelines for analysis of energy performance of building and criteria of retrofitting measures choose;
3. to improve the technical knowledge of involved operators thanks to the participation of upgrade seminars;
4. to share practices by web, local network and events.

Description of the stakeholders targeted:

- SHOs employees
- Technicians
- Consultants
- Employees of maintenance companies

Expected results:

Awareness of technicians about energy issues
Better cooperation in refurbishment operations between SHOs and technicians
Better maintenance and management

Link to the experimentation & existing best practices:

ITALY - ACER Reggio Emilia: training - Training courses for public and private professionals in Reggio Emilia and Livorno
Link with: ROSH Project supported by Intelligent Energy Europe (Save) – Tools & Products Guidebook I &I

ROSH Project financed by Intelligent Energy Europe (Save) – Tools & Products Guidebook I &II

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I BULGARIA: POLITICAL NATIONAL CONTEXT & POSITIONING

1/ Political and legal context concerning the energy savings - Currently

Framework of laws

Social Housing:

The basic existing policy document regarding social housing in Bulgaria is the National Housing strategy. It is adopted by the Council of Ministers in 2005 and is a frame document describing the main policy direction that should be followed by the Government. According to the Housing Strategy a Housing Association law must be adopted in order to regulate emerging and operation of social housing landlords in Bulgaria. However currently there is still no dedicated social housing stock created. Existing housing stock constructed during socialist governments in the period 1950-1990 is considered as "social".

In 2005 the **National program for renovation of the Housing Stock** was approved by the government foreseeing budget subsidies for large scale renovation activities of existing condominium housing.

Condominium Law was adopted by the Bulgarian Parliament in the beginning of 2009. It creates opportunities for easier renovation and better maintenance and management of condominium buildings by establishment of homeowners associations.

Energy efficiency and energy certification of buildings:

EPBD Directive has been transposed in a package of Bulgarian Acts and Regulations for building energy certification. They define a national methodology for evaluation of building energy performance and procedures for building energy certification.

The Energy Efficiency Act (in force since end of 2004) stipulates that the responsibility for the energy certification of buildings in the Republic of Bulgaria lies with the Minister of Energy and Energy Resources (Minister of Economy and Energy, since June 2005) and the Minister of Regional Development and Public Works.

The immediate responsibility for the entire process of carrying out the state policy for energy efficiency in buildings is assigned to the Executive Director of the Energy Efficiency Agency.

Further regulations were defined in:

- Regulation for energy conservation and heat retention (in force since march 2005)
- Regulation for energy audit of buildings (January 1st 2005)
- Regulation for building energy certification (January 1st 2005)
- Regulation for design of HVAC systems (2005).

Bulgarian Energy efficiency law and its Regulation for building energy certification provide that two categories of building energy certificates are possible:

- Certificate category A
- Certificate category B

Every building can be certified;
The method for evaluation of the building energy performance is based on calculations and measurements;
The method is based on Bulgarian and CEN standards;
For building comparison and for displaying the building energy performance, the following parameters have to be determined:

- Primary energy is expressed in kWh/m² for one building.
- Carbon dioxide emission expressed in kgCO2/m² for one building

The procedures for evaluation of building energy performance and certification are implemented in the real practice since July 2005. The existing norms regarding EPBD application in Bulgaria do not anticipate on the specific demands for energy performance certification of residential buildings and moreover to multi-storey condominium buildings. The calculation tools adopted by Bulgarian legislation are considering buildings in general. There is a need to further specification of the norms when it comes to residential buildings in order to get prepared for large scale renovation activities in the Bulgarian housing sector. No tools are available for analyzing renovation strategies at building stock level.

Tax legislation:

The only existing tax incentive regarding energy efficiency renovation is the provision in the **Law for local taxes** allowing property tax vacation period for homeowners that renovated their properties and obtained energy certificate following energy audit procedure.

2/ Political and legal context concerning the energy savings - From the set up of a performing framework (proposal of a global system of relationships (Performing Institutional / Economic / Social Frameworks)

Performing Institutional Framework

To revise and update the National Housing Strategy taking into account the importance of development of the necessary institutional framework for its implementation at central and local level;
Further development and update of the National Renovation Program with bylaws allowing better regulation for utilizing of budget subsidies according to the Program for each year;

To initiate the start of large scale renovation of condominium housing stock in Bulgaria under the National Renovation Program by creation of a Central Project Management Unit responsible for allocation of the state subsidies for housing renovation;

To convey the process of large scale renovation of condominium housing stock in Bulgaria under the National Renovation Program by creation of Urban regeneration support centers al local level (URSC) URSC are responsible for delivering of targeted information and training campaigns and distribution of renovation subsidies at local level;

To motivate the active participation of homeowners associations in renovation activities involving them in targeted information campaigns and trainings via municipality based Urban regeneration support centers;

To provide governmental support for further development and enlargement of the National Union of homeowners associations (CAC) as an important body and a key player for implementation of the new Condominium Law;

Municipalities will not be able to get sufficient control over housing management and renovation as well as on urban regeneration processes if no social rental sector is developed for those who

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cannot bear the financial burdens of homeownership – therefore Housing Association Law must be drafted and approved in the nearest future;

Performing Economic Framework

Creation of further tax incentives for housing renovation activities:
- enlargement of property tax relieves;
- deduction of expenses for interest payments for energy efficiency l oans from taxable income
- VAT tax exemption for materials used in housing renovation

To provide clear and adequate procedures to access existing Bulgarian budget and EU subsidy instruments - National Housing Renovation Program, EU funds under Operation 'Housing Policy' of the Operative Program "Regional Development 2007-2013";

Extension of the home renovation program developed by EBRD through local Bulgarian banks must be secured allowing longer implementation of this successful scheme stimulation loan based renovation activities with a 30% grant portion;

Performing social framework

To specify the clear distribution of responsibilities of involved parties in building renovation activities and to specify the importance of homeowners associations at building level and their central body - CAC;

To develop specialized targeted training tools accustomed to the specific needs and educational level of end users of building renovation product – homeowners and their associations;

To elaborate different sets of training curricula for different types of stakeholders at different stages of the housing renovation process;

To allocate the major attention for development of community based trainings and dissemination of results from pilot buildings among homeowners associations and their members as main stakeholders in renovation process;

Strengthening of the role of the municipalities in implementation of particular investment projects for energy efficient renovation of condominium buildings and residential areas:
- To assist for the setting up of different forms of public-private partnerships
- To organize training and awareness raising activities directed to apartment owners and their associations
- To coordinate the activities of Urban regeneration support centers (URSC)
- to exchange practices.

II BULGARIA: CREATION OF SOCIAL HOUSING RENTAL STOCK AS MAJOR PREREQUISITE FOR THE LARGE SCALE ENERGY EFFICIENT RENOVATION OF EXISTING CONDOMINIUM HOUSING

Economic & technical issue

Description of the obstacle:

The process of the large scale energy efficient renovation of condominium housing in Bulgaria meets as one of the major obstacles the lack of affordable rental social housing that would shelter the law-income socially week residents who at the moment are homeowners without capacity to perform the responsibilities related to the homeownership.
Currently, there are no housing options that would give alternatives to the prevailing at 97% homeownership including on social housing condominium housing in Bulgaria.
In the same time, the homeownership is accompanied with mixture of different income groups as additional obstacle to reach feasible consensus at building level. This fact worsens the feasibility of energy efficient renovation especially in the enormous prefabricated buildings.

Statement of the recommendation:

The analysis of the ongoing process of energy efficient housing renovation requires the creation of social housing rental stock through feasible and sustainable PPPs between Bulgarian municipalities and interested institutional parties in order to promote, implement and develop working organizational and financial models for the provision of social rental housing. Thus, the prevailing homeownership on housing will be diversified with more tenure forms that correspond to the profile of different social profiles of residents.

Description of the stakeholders targeted:

Main stakeholders to be involved:
National State as regulator of the process through the means of the legal framework to be adopted and the results of the National Housing Renovation Program to be achieved;
Local government authorities as coordinators of parties involved;
Other targeted stakeholders:
Nongovernmental housing organizations as promoters and facilitators of the process;
Social housing organizations as suppliers of adequate social housing rental options;
Homeowners' associations as subject of the energy efficient housing renovation activities;
Tenants' associations to be created as partners in the process;

Expected results:

Expected result of this recommendation is the provision of sound practical ground for the transformation of the housing stock in Bulgaria to EU qualitative standards and to guarantee the feasibility of the energy efficient large scale renovation of existing condominium housing. In the same time, this recommendation will support the establishment of appropriate institutional social housing operators.

Link to the experimentation & existing best practices:

The existing long-term operating housing systems in Old Europe confirm the necessity of to combine different housing options including social rental housing that in some cases reaches more than 50% of the overall housing stock. There are no examples without such "buffer" segment that guarantee the feasibility and the flexibility of the housing system to answer the public needs for affordable housing as inherent human right.

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III BULGARIA: RECOVERY OF THE INVESTMENT FOR THE ENERGY EFFICIENT RENOVATION ACTING ON THE VALUE OF CONDOMINIUM HOUSING AND ON THE DECREASE OF EXPENSES FOR PUBLIC UTILITIES

Economic & technical issue

Description of the obstacle:

One of the main obstacles for the energy efficiency in condominium housing is the rapidly worsening technical condition of dwellings as well as the subsequently decreasing value of condominium housing stock. Additional negative factor is the constant increase in prices for public utilities. As a result, the compendious increase of expenses decreases the affordability of housing over time as well as the capacity of homeowners to manage and maintain their homes.
There is no properly working mechanism of economic incentives that are targeted to support residents in maintaining and preserving the exploitation condition and quality of condominium buildings over time.

Statement of the recommendation:

There is urgent need to create economic incentives and financial mechanisms at central level in order to guarantee the recovery of the investment for the energy efficient housing renovation acting on the value of condominium housing and on the decrease of expenses for public utilities.
Such measures could be deduction of the funds used for energy efficiency renovation from the taxable income of the households, reduction of VAT for energy efficiency renovation of buildings

Description of the stakeholders targeted:

Main stakeholders to be involved:
- Homeowners' associations as subject of the energy efficient housing renovation activities;
- Other targeted stakeholders:
- National State and the Ministry of Regional Development and Public Works;
- Local government authorities;
- National Energy Efficiency Agency;

Expected results:

The expected results are mainly related to:
- The provision of sound economic incentives for the preservation of the technical condition of existing condominium buildings;
- The provision of financially feasible mechanisms for the preservation of the value of condominium housing over time;
- The provision of technically sound renovation measures to diminish the expenses for the public utilities;
- The facilitation of the large-scale energy efficient housing management and renovation;

Link to the experimentation & existing best practices:

The best practice Zharna Fabrika block 10 reveals a reduction at 50% of energy quantities needed for heating. Thus, the pay back period of the investment for renovation of the building envelop is 10 years with no subsidies and loan interest rate at 5.8%. The building renovation reached an A Certificate for energy efficiency after auditing.

IV BULGARIA: FINANCIAL SYSTEMS AND FINANCIAL ENGINEERING AT NATIONAL LEVEL BY MEANS OF LOANS AND GRANTS

Legal & financial issue

Description of the obstacle:

The existing legal norms do not support the development of energy efficiency activities in the housing sector. In some cases like the property taxation, the taxes are even higher after renovation of the building. The legal incentives that the Government started to introduce are not yet at the needed stage.
The National Housing Renovation Program that provides a subsidy for energy efficient renovation is not yet transposed in the relevant bylaws determining the way of funds use.
There is an urgent need to create properly working and sustainable legal and financial forms and models for stimulating the initiative of the homeowners and their associations to take their responsibilities as active subjects of the energy efficient renovation of existing condominium buildings.

Statement of the recommendation:

Introduction of relevant changes in the new housing legislation in order to facilitate the access to subsidies and subsidised loans for energy efficient housing renovation; Provision of clear and adequate procedures to access existing financial instruments - National Housing Renovation Program, REECL program; EU funds under Operation 'Housing Policy' of the Operative Program "Regional Development 2007-2013"

Description of the stakeholders targeted:

Main stakeholders to be involved:
- Ministry for Regional Development and Public Works;
- Other targeted stakeholders:
- Ministry of Finance; National Energy Efficiency Agency;
- Energy Efficiency Fund;
- Union of Homeowners' Associations in Bulgaria;

Expected results:

To simplify the administrative procedures for subsidizing the energy efficient housing renovation within the framework of the National Housing Renovation Program of Republic of Bulgaria in order to facilitate initiative HOAs; To avoid the negative impact of existing income mixture when taking the initiative for housing renovation project;

Link to the experimentation & existing best practices:

NA

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V BULGARIA: INFORMATION ON STRUCTURAL FUNDS AND ENERGY EFFICIENCY

Legal & financial issue

Description of the obstacle:

The use of Structural Funds for the renovation of existing condominium housing is allowed by EU convention and decision. However, there are still no national regulations providing the ways and models for utilizing them. The Bulgarian Government set a deadline to create and establish such framework and provisions until end of 2009. In the same time, there is lack of concrete information about the capacity of the structural funds to support and speed up the overall process of housing renovation and urban regeneration.

Statement of the recommendation:

The emphasis should be put on the creation of adequate and properly targeted information campaign and permanent delivery of necessary information regarding financing tools available for housing renovation under Operation 'Housing Policy' of the Operative Program "Regional Development 2007-2013" in due terms.

Description of the stakeholders targeted:

Main stakeholders to be involved:
- Ministry for Regional Development and Public Works
- Other targeted stakeholders:
- Ministry of Finance
- National Energy Efficiency Agency
- Union of Homeowners' Associations in Bulgaria

Expected results:

Among the main expected results is the provision of institutional and legal support to facilitate the access to Structural Funds for energy efficient housing renovation by homeowners' associations. Such comprehensive information will support the provision of instruments to avoid the low level of absorption of Structural Funds for housing renovation. The establishment of support centres and targeted information campaigns are expected to be among the most practical results that would directly enable the homeowners and their associations to take proactive role in the process of large scale financially and technically sound housing renovation.

Link to the experimentation & existing best practices:

During the experimentation the training session on the energy efficient housing management, maintenance and renovation for homeowners and their associations put a strong emphasis on the availability of targeted EU funds and the necessity to build up relevant capacities at community and neighbourhood level for their absorption and effective use.

VI BULGARIA: TAX INCENTIVES FOR ENERGY EFFICIENT HOUSING RENOVATION

Legal & financial issue

Description of the obstacle:

The tax incentives are still missing, thus preventing homeowners to invest in their property. The financial systems and financial engineering in the field of energy efficient housing renovation is impossible to be thought without appropriate and targeted tax incentives for the homeowners and their associations as the subject of this process. Any housing renovation policy at central level should be accompanied by such tax incentives.

Statement of the recommendation:

The process of energy efficient housing renovation includes the introduction of relevant changes in the new housing legislation in order to facilitate the access to subsidies and subsidised loans for energy efficient housing renovation. There is an urgent need for proper legislation regarding the energy efficient management and renovation of condominium buildings in order to provide and regulate the legal basis for relevant tax incentives.
Such tax incentives could be the deduction of investments in energy efficient renovation from the taxable income of households, and the reduction of VAT rate for energy efficient renovation of houses. In addition, such incentives could envisage actions related to incentives in regard to existing property tax as well as to deduction of expenses for interest payments for energy efficiency loans from taxable income;

Description of the stakeholders targeted:

Main stakeholders to be involved:
- Ministry of Finance
- Other targeted stakeholders:
- Ministry for Regional Development and Public Work
- National Energy Efficiency Agency
- Union of Homeowners' Associations in Bulgaria

Expected results:

Expected results are to give financial stimulus for the energy efficient housing renovation and management as well as to increase of the affordability for energy efficiency operations related to housing renovation and management

Link to the experimentation & existing best practices:

NA

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VII BULGARIA: GUIDE FOR PERFORMING INSTITUTIONAL FRAMEWORK

Social & cultural issue

Description of the obstacle:

The central government as regulator and the local authorities as coordinators have to speed up and facilitate the incorporation of the motivated homeowners and their associations to take an active participation in the implementation of the National Housing Renovation Program of Republic of Bulgaria as well as of the operation 'Housing Policy' of the Operative Program 'Regional Development 2007-2013' of the Bulgarian Government.
The biggest problem of the institutional framework for housing in Bulgaria is the lack of coordination between stakeholders involved at different levels of governance.

Statement of the recommendation:

There is urgent need for:
Political priority for measures with direct impact on energy efficient housing renovation;
Emphasis on the administrative and institutional capacity on the energy efficient housing renovation and management
Widening the National Housing Renovation Program to a larger number of motivated HOAs
Political priority for the energy efficient housing renovation
Specification the clear distribution of responsibilities of involved parties

Description of the stakeholders targeted:

Main stakeholders to be involved:
- Ministry of Regional Development and Public Works

Other stakeholders:
- National Association of Municipalities in Republic of Bulgaria
- National Energy Efficiency Agency
- Union of Homeowners' Associations in Bulgaria
- Bulgarian Association for Construction Insulation and Water Proofing
- Specialized Non-governmental organizations

Expected results:

The expected result is to create prerequisites to optimize the co-operation and co-ordination between different parties involved in the process of energy efficient renovation of condominium housing. Thus, it will regulate the process of mass housing management and maintenance of condominium housing stock in Bulgaria.

Link to the experimentation & existing best practices:

During the experimentation the training session on the energy efficient housing management, maintenance and renovation for homeowners and their associations emphasised on the necessity to enable local communities to cooperate with different institutions especially at local level. The importance of the bottom up approach was explicitly shown as crucially important especially in cases of prevailing ownership on housing where the homeowners' associations are the main investor in the sustainable energy efficient housing renovation.

VIII BULGARIA: NATIONAL AGREEMENT WITH HOMEOWNERS' ASSOCIATION

Social & cultural issue

Description of the obstacle:

The legal framework for condominium cohabitation is still not up to date in order to respond to the current economic, political and social circumstances in Bulgaria. The Draft Condominium Law is to be adopted but still there is long way to have it successfully implemented. Still there is no properly working legal and financial mechanism for the establishment and functioning of homeowners' associations in condominium housing that would take the responsibility for the energy efficient management, maintenance and renovation of their homes.
The institutional and organizational ambiguity causes additional amorphousness in the relations between homeowners and different levels of governance of the urban and housing development process. The residents of condominium housing are far from their mission to become proactive stakeholders in the urban renewal process to be started. There is lack of communication between different levels of public governance and the civil society organizations of homeowners.

Statement of the recommendation:

There is an urgent need to adopt an adequate legislation regarding the establishment and proper functioning of homeowners' associations in order to enable homeowners to become leaders in the sustainable energy efficient management and renovation of condominium housing.
The National Agreement with Homeowners' Associations will contribute to the implementation of the new legal provisions and to the improvement of the co-ordination between main stakeholders involved in the process of housing and urban renewal.

Description of the stakeholders targeted:

Main stakeholders to be involved:
- Ministry for Regional Development and Public Works
- National Energy Efficiency Agency

Other targeted stakeholders:
- Union of Homeowners' Associations in Bulgaria
- National Association of Municipalities in Republic of Bulgaria

Expected results:

The national agreement chart on the priorities and the distribution of responsibilities will increase the efficiency of common efforts in regard to financially and organizationally sustainable process of large-scale housing renovation. The national agreement chart will support the achievement of common interests by giving the initiative to the community based organizations of residents in cooperation with public authorities and professional organizations.

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Link to the experimentation & existing best practices:

During the experimentation special attention was given to the establishment of homeowners' associations in the pilot buildings. The experimentation included training with special emphasis on the capacity building how to work together at neighbourhood level and how to cooperate with local authorities, specialized providers of public utilities, professional organizations in the field of energy efficient housing management and renovation.

IX BULGARIA: INFORMATION CAMPAIGN AND TRAINING PROGRAMS ON ENERGY EFFICIENT BUILDINGS FOR HOMEOWNERS AND THEIR ASSOCIATIONS

Social & cultural issue

Description of the obstacle:

The current situation in Bulgaria is characterized by the lack of knowledge about the energy efficient housing management and renovation of condominium housing for homeowners' associations. Still there is no special attention to the capacity building of homeowners and their organizations how to undertake initiatives in the field of sustainable management and maintenance of condominiums and surrounding areas.

Statement of the recommendation:

The recommendation is aimed to build up specific knowledge and relevant capacities to undertake feasible housing renovation projects. Additionally, the recommendation aims to increase the public awareness and participation of homeowners' associations in the large scale housing renovation. It comprehends a set of community based trainings and dissemination of results from successfully renovated pilot condominium buildings.

Description of the stakeholders targeted:

Main stakeholders to be involved:
- Union of homeowners' Associations in Bulgaria

Other targeted stakeholders:
- National Energy Efficiency Agency
- Specialized Nongovernmental Organizations

Expected results:

The information campaign on energy efficient buildings for residents aims to raise the public awareness of homeowners and their associations about the advantages of the energy efficient housing renovation and management.
The recommendation emphasize on the need for an active and competent participation of homeowners' associations as subject of the energy efficient housing management and renovation.

Link to the experimentation & existing best practices:

The experimentation includes a training program Management, Maintenance and Renovation of Condominium Apartment Buildings that consists of subject modules that introduce the definition, advantages and obligations of homeowners associations, their organization and structure. The program emphasizes on the necessity and rules for establishing and functioning of homeowners associations. Major subject module represents the essence and different types of property maintenance as well as the types of running costs. The training program shows the importance of long-term financial plan as well as the methods of its elaboration. Special attention is given to the types of conflicts in the homeowners association as well as to the approaches to deal with them. The program includes information about the energy efficiency of housing buildings – advantages and relation with investment and energy efficiency measures. The current housing and construction legislation in Bulgaria is extensively presented as well as the need for changes. The training program includes also information about existing instruments for subsidizing the renovation of condominium apartment buildings

X BULGARIA: TRAINING SESSIONS FOR PROFESSIONALS AT DESIGN AND CONSTRUCTION STAGE OF ENERGY EFFICIENT HOUSING RENOVATION

Social & cultural issue

Description of the obstacle:

Still missing sufficient professional expertise on energy saving techniques and energy efficient products for construction; Lack of permanent information centres and training opportunities for professionals in regard to the variety and diversity of rapidly developing energy saving techniques and energy efficient products for construction;

Statement of the recommendation:

The overall process of energy efficient housing construction and renovation will be significantly supported by setting up of training initiatives in energy efficiency for professionals at design and construction stage, increasing the professional capacity and awareness and the elaboration of different sets of specialized trainings.

Description of the stakeholders targeted:

Main stakeholders to be involved:
- National Energy Efficiency Agency

Other targeted stakeholders:
- University of Architecture
- Union of Architects in Bulgaria
- Chamber of Architects in Bulgaria
- Chamber of Engineers in Bulgaria
- Bulgarian Association for Construction Insulation and Water Proofing

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Expected results:

The successful implementation of this recommendation will optimize the participation of professionals in the process of large scale energy efficient renovation of existing condominium housing in Bulgaria.

Link to the experimentation & existing best practices: NA

XI BULGARIA: ENERGY STRATEGIC ASSET MANAGEMENT

Economic & technical issue

Description of the obstacle:

The current condominium housing in Bulgaria is characterized by:
Poor housing stock management and maintenance;
High energy consumption by the buildings – poor thermal insulation of the walls and physically worn out window frame insulations, which make the energy consumption increase;
Inefficient building heating, except for the buildings furnished with central heating and gas;
Increased share of house-owners, incapable of maintaining their property under the current market conditions;

Statement of the recommendation:

Therefore, it becomes crucial for the sustainable development of the housing system in Bulgaria to ensure the needed prerequisites to guarantee energy strategic asset management by means of:
Establishing of adequate legal, institutional and financial framework for creating the necessary professional bodies specialized in the energy efficient management and maintenance of condominium housing stock;
Setting up of strategies for introducing energy efficient management and maintenance of existing condominium stock;
Enforcing of provisions in the Condominium Law to be adopted that regulate the responsibilities of the homeowners and their associations for the energy strategic management and maintenance of their assets;

Description of the stakeholders targeted:

Main stakeholders to be involved:
- Ministry for Regional Development and Public Works

Other targeted stakeholders:
- National Energy Efficiency Agency;
- Local authorities
- Union of Homeowners' Associations in Bulgaria

Expected results:

To put in place properly functioning, legally, financially and technically sound mechanisms for sustainable energy efficient housing management, maintenance and renovation and thus, to stop urgently the decay in quality of the existing condominium stock in Bulgaria

sx

Link to the experimentation & existing best practices:

The main target of the experimentation under the project is to provide training tools for energy strategic asset management and thus, to build up the relevant capacity of the homeowners' associations in Bulgaria. The aim is to provide a sample training program to support the establishing and capacity building of homeowners' associations in the field of the energy efficient management and renovation of existing condominiums.

XII BULGARIA: IMPROVE THE AVAILABILITY OF THE ENERGY EFFICIENT PRODUCTS FOR CONSTRUCTION

Economic & technical issue

Description of the obstacle:

As part of the common EU market, the current Bulgarian market for construction materials is characterized by the availability of the main groups of energy saving technologies and energy efficient products for construction. However, there is still need to improve the diversity of quality and prices.

Statement of the recommendation:

To provide sufficient variety as quality and quantity of energy efficient construction materials on the current Bulgarian market;
To support the construction industry to provide the required quality of energy efficient housing renovation activities;
To create an information database of certified energy efficient construction materials and construction companies;
To facilitate the supply market channels through adequate tax incentives;

Description of the stakeholders targeted:

Main stakeholders to be involved:
- Ministry of Regional Development and Public Works
- Ministry of Economy and Energy
- National Energy Efficiency Agency

Other targeted stakeholders:
- Bulgarian Industrial Association
- Bulgarian Chamber of Commerce and Industry
- Chamber of Architects in Bulgaria
- Chamber of Engineers in Bulgaria
- Bulgarian Association for Construction Insulation and Water Proofing

Expected results:

The recommendation aims to reach as a result the improvement of the quality and diversity of energy saving technologies and energy efficient construction materials on the current Bulgarian market;

Link to the experimentation & existing best practices: NA

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FRANCE

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I FRANCE: POLITICAL NATIONAL CONTEXT & POSITIONING

1/ French context concerning the energy savings - Currently

Legal and institutional context

The program law establishing the direction of energy policy (No. 2005-781 of 13 July 2005):

- Is based on new instruments to encourage savings for operators, such as certificates of energy savings, and analysis of the energy performance of buildings, such as energy performance diagnostics;
- Provides, as regards sectoral policy of housing, a fall in minimum energy performance in new buildings of 40% by 2020, and, in existing buildings, considers the need for «encouraging landlords to undertake work of saving energy through an fair sharing of savings with tenants.»

The Grenelle of Environment

The French approach has been accelerated by the choice of government in setting the French ambitions in the «Grenelle of Environment in the year 2007, then in the bill "Grenelle 1 «in 2008. One of its initial findings is to launch a large-scale thermal plan in buildings, i.e. to the sustainable reduction of energy expenditure in order to establish lines of purchasing power and meet the challenge reducing greenhouse gases.

It is specifically set out a program of technological breakthrough on the new buildings in order to comply with the following steps:

- **2010:** early transition to the regulation "Very High Energy Performance" (THPE in French), with a goal of one third of buildings in low energy consumption or passive or positive energy.
- **2012:** generalization of new low consuming housing (50 kWh / m²).
- **2020:** goal of the new housing energy with passive or positive energy.

With regard to the existing buildings, the idea is to establish a radical energy renovation site of buildings to reduce energy consumption by 12% by 2012 and 33% by 2020 with several tools:

- A label "BBC" ("Bâtiment Basse Consommation": low consumption building) retrofitting for heavy refurbishing (80 kWh / m² per year),
- A high objective of energy saving certificates,
- An improvement of existing Energy Performance Certificate (EPC).

And above all:

- The financial and banking products adapted to take into account the energy savings,
- A revision of rules which impede the energy and climate change rehabilitation and the definition of new construction rules more favourable to the development of renewable energy.

Social housing is an important contributor to the process

In the social housing stock, in particular, the negotiation of agreements with operators, social housing providers, will allow an accelerated upgrading of the entire stock, starting with the 800 000 housing, the most deteriorated, thanks to the access to improved subsidized funding in the long term.

Programs funded by the National Agency for Urban Renewal (ANRU) will also be made in advance by applying future standards (80 or 50 KWh), here also with the idea of improved subsidized funding.

Bill "Grenelle 1", passed by the National Assembly and in debate in the Senate in early 2009, provides, for the HLM stock, the realization of the renovation of 800 000 housing with the following schedule:

- **2009**: 40 000 dwellings
- **2010**: 60 000 dwellings
- **2011 to 2020**: 70 000 dwellings per year.

Provided funding are loans at preferential rates and a possible grant that remains at the discretion of government. The Union Sociale pour l'Habitat asked for inclusion in the law of a mandatory grant of 20% but has not succeeded yet.

Moreover, the modification of ERDF (structural funds) regulation for the 2007 to 2013 period, making it eligible housing operations related to energy efficiency and renewable energy in existing buildings, will help to finance part of the cost of refurbishment projects.

The barriers identified in the legal and institutional

The main identified obstacles relate to the institutional and legal are:

- The lack of incentives to develop projects for energy efficiency because of the existing regulation in the evolution of rents and regulation of running costs;
- Bureaucracy opposed to the movement of technologies and certification requirements and weight of standardization;
- The insufficient development of tax incentives on projects for social housing, particularly for the existing buildings.

Proposals for social housing in France:

The French proposals on the legal and institutional framework are:

1. on the issue of recovery of investment by landlords, it first appears that only a so-called «global» approach of the matter is admissible. This means that the reflection on the new balance to be developed in the couple rent + running costs resulting from work to engage can only be developed if a suitable financial and innovative engineering for the work involved is provided by the network of funding, which also involves local or regional grants.
   In addition, it can not be considered that the energy efficiency policy based solely on the pooling of efforts between tenants of the social housing stock, increasingly poor.
2. To allow progress on the issue of sharing technology and innovations on a European scale, the idea is to reduce the over costs associated with the transfer and adaptation of innovative technologies for recognition in European labels approved for a national or regional level.
3. Finally, tax incentives turned towards social housing should be developed both in terms of VAT and tax on Property Built (TFPB).

Economic and technological context

Background

The retrofitting of the existing housing stock, since the first energy crisis in the middle of the 1970s, has always made a significant contribution to energy-saving in the work carried out.

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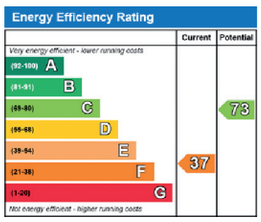
With the support of the authorities setting the subsidy rate for energy-saving works at 40% ("Fonds Spécial Grands Travaux" - special fund for major works) at the beginning of the 1980s, this contribution had been noticeably reinforced.
This is why the social housing stock, which houses 16% of the population, now accounts for only 11% of the CO2 produced by the residential sector.

In 2006, the median energy consumption of the social housing stock (heating + hot water) was 170 kWh/m²/year of primary energy as opposed to 240 kWh/m²/year of primary energy for the entire residential housing stock, whereas at the beginning of the 1980s, a survey carried out by L'Union sociale pour l'habitat covering 750,000 dwellings placed the median social housing stock consumption at 250kWh/m² of primary energy.

This progress over the last 30 years and the contribution of the housing stock constructed after 1975 with increased thermal standards have therefore enabled median energy consumption related to heating and hot water production to be reduced by a third (32%).



This progress required important investment to insulate buildings and modernise heating and hot water production and distribution facilities.

The investment was generally greater than €15,000 (in 2008 terms) per housing, two-thirds of which was devoted to improving energy efficiency.

It involved more than half of the housing stock present in 1975.

It enabled three-quarters of the housing stock to be brought into classes B, C and D.

Nevertheless, a quarter of the not retrofitted housing stock remains in classes F, G and H.

Due to the impact of the 1985 oil slump and reductions in the priority given to works relating to the obsolescence of certain facilities and the need to make them safe (electricity, lifts, dwelling access security, etc.), this effort which focused on the thermal aspects of the buildings slowed down from the beginning of the 1990s.

Public authorities therefore greatly reduced their energy rehabilitation aid and now grant no specific advantages to work relating to energy efficiency in the social housing sector, unlike many provisions which favour work related to energy efficiency in the private sector through significant tax deductions with no assessment of their actual efficiency.

State of the energy deposit and potential gains

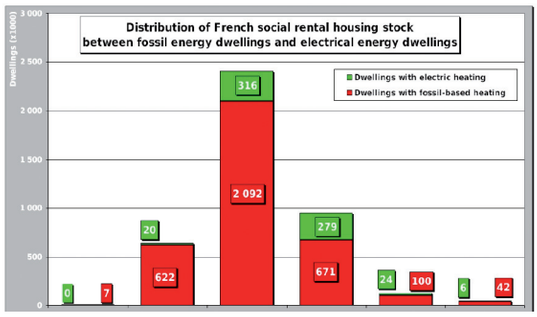
The total consumption for all heating and hot water production in the French social housing park (4,177,000 dwellings) can be estimated at 56,800,000 MWh, i.e. an average of 13.8 MWh per dwelling.

The three most unfavourable classes of the French Energy Performance Certificate (E, F and G – see the graph of the previous page) to which 27% of dwellings belong thus represent 39% of consumption.

The average value weighted in accordance with consumption thus represents 209 kWh/m² and the average of the three higher energy consumption classes (E, F and G) stands at 298 kWh/m², as opposed to an average of 172 kWh/m² for the 3 lower energy consumption classes (B, C and D) which represent 61% of the housing stock.

Housing park repartition between fossil-based energy and electrical -based energy

The terms of intervention must target actions in a relevant manner.



The most numerous housing stock which is inside classes E, F & G is an old stock which uses fossil energy (oil, gaz, coal).

The refurbishment of the built frame is appropriate because the walls and roofs are badly insulated. This housing stock includes around 800 000 dwellings.

French electric housing stock is recent (from 1975 onwards) so its buildings meet the increased insulation standards introduced by the regulations following the first energy crisis. Action focusing on the buildings no longer seems the most pertinent.

Dealing with the electrical housing stock should therefore target actions which enable the conventional coefficient of 2.58 for converting final energy into primary energy to be reduced.

Effort required according to the extent of the action

Two strategies can be implemented in order to determine the action to be taken.

1. The first – that of economic rationality – consists of the belief that investment must be reasonable and must focus on moving dwellings up one, or even two energy efficiency class.
2. The second – that of social rationality – consists of favouring the worst situations and dealing with the most unfavourable situations as a matter of priority (class G, then F, then E).

Social and cultural context

Background

Tenants of public housing have incomes below the national average and are generally not subject to tax on income.
Unlike owners of the private sector who have the ability to invest beyond the cover of repayments by the generated savings, their income would not allow them to go beyond.
Moreover, as tenants, they can not benefit – in satisfying conditions -

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from aid (tax credit) that can compensate for the difference between the amount of refunds and savings generated by the investments.

These kinds of financing being not relevant to this specific public, the use of grants is necessary.

Moreover, the first refurbishment operations for high energy performance showed a lack of know-how of enterprises, but also a breach of knowledge of the most powerful solutions and of the constraints they pose for social landlords both in terms of achievement and in operational terms.

In addition, tenants, when they can act on their consumption by improving their behaviours, are seldom aware of the economic impact of their actions (opening windows, interior temperature levels).

Effort required:
A huge effort to professionalize the various actors in the construction sector remains to be done.
The provision of tools to enable tenants to be more aware of their consumption is needed. The next generalization of the Internet and its new possibilities for analysis and return of information should help us.

2/ General context concerning the energy savings - From the set up of a performing framework (proposal of a global system of relationships (Performing Institutional / Economic / Social Frameworks)

Performing Institutional Framework

Adaptation of the SHO regulation to encourage the investment in the energetic sector and the reduction of not useful costs,

- to facilitate the invoicing in the rent of a part of reimbursement of the investment devoted to the energy efficiency actions;
- to facilitate the invoicing of the running costs of new services (maintenance of new equipments, analysis of data collected) provided in case of enhancement of energy plants (BEMS for example);
- to facilitate the negotiation of the quality and the price of saving energy products with product suppliers;
- to facilitate the negotiation of the prices of energy with energy suppliers;
- to stimulate the production of "green" building's components by creation of purchasing groups for joint supply of green construction products.

Flexibility of architectural rules,

- to choose better orientation for news buildings;
- to permit to add external areas for external insulation without negative consequences.

Performing Economic Framework

Energy strategic asset management for each SHO

- to allow long term programming of the energetic refurbishment,
- to identify the stock on which the better profitability,
- to choose between refurbishment and demolition and reconstruction for not efficient buildings.

Very incentive grant covering 75% of the ESAM costs is necessary to generalise this action to all the French SHO.

Enhancement of the financing possibilities to permit to cover the reimbursement by energy savings

- to have European, national, regional and local grant founds to make more easy the realisation of the energy efficiency works and to obtain more easily complementary loans from banks;
- to have very reduced rate of loans for energy efficiency works (near zero rates);
- to have a tax reduction for the energy efficiency works for reducing the investment,
- to have a tax reduction for renewable energy use for motivating this kind of investment.

Very incentive grants covering a minimum of 30% of the energy efficiency over costs is necessary to have the level of grant available for French private owner.

Performing social framework

Tenants information

- to improve the awareness of tenants;
- to facilitate the locals agreements on energy efficiency:
- National and Regional agreements with tenants' association
- to have a common aim of improvement of energy efficiency;
- to develop together awareness campaigns;
- to have a consensus on the partial or total recuperation of the investment on the energy saving of the tenant for TPF.

External and internal professional training

- to organize of training sessions for professionals (SHOs' staff / construction, architects, enterprises) to improve the technical knowledge of involved operators;
- to facilitate exchange of information on best practices between social housing organisations at the European and national level.

Agreements with tenants

- to negotiate the refurbishment projects;
- to facilitate the negotiation of the quality and the price of energy products with suppliers.

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II FRANCE: TOWARDS GLOBAL RENT RECEIPT

Legal issue

Description of the obstacle:

For every social housing programme today, the maximum rent is limited by an agreement signed between the lessor and the government. This maximum rent is calculated at the beginning of the programme and can no longer be exceeded. It depends, in fact, on the original programme funding conditions, irrespective of any work or changes from which the building has benefited or, conversely, from which it has suffered.

Obstacles

The maximum rent can sometimes be considered unattainable, under specific market conditions, or, in other cases, too low in comparison to the actual market. The regulations can thus be considered a hindrance to housing optimisation as well as that of social policy for lessors. Over time housing rent can no long take into account aspects which affect the building (services, location, comfort, etc.).

Furthermore, the housing rent charged by social landlords is based on a surface area calculation to which the authorised price is applied. This surface area, know as the corrected surface and applicable to the vast majority of the housing stock (more than 90%) takes into account facilities and comfort provided by the landlord. The list of such facilities has not, however, been modified since 1964, which prevents the evaluation of new technological facilities (individual boilers, double-glazing, etc.) for housing built before 1998.

Statement of the recommendation:

1. An initial analysis can be carried out based on the concept of a global rent receipt. The approach is as follows:
   It consists in assessing the conditions of a new balance between rent on the one hand, which will take into account the self-financing of investment in favour of energy efficiency, the total running costs, on the other hand, reducing effects due to work carried out and economical installations acquired, with work being financed at an advantageous rate, and subsidy moderation in order to achieve the best balance for the occupier.
   These days it is impossible to recoup investment in anything other than rent, which is itself limited. The difference between the maximum rent and the rent actually charged is not generally sufficient to fund work and the landlord is not encouraged to invest. The question of the guarantee enforceable against lessors through running costs remains nonetheless unanswered.
   This approach necessarily relies on the legislative development of the issue of rent and social housing running costs.
2. The second path to assess draws on the so-called "global housing agreement" reasoning.
   A 2004 law allows for a reorganisation of the maximum rent based on the characteristics of the housing in question, in particular its location, level of comfort and surroundings, based on the outlining of a strategic housing plan and taking into account local housing policy.
   In return, the social housing organisation must make commitments so as to guarantee households with modest resources (equal to less than 60% of the normal resource limit) access to the best part of its housing.
   The new rent depends on programme classification in view of their position in terms of services to tenants.
   The global agreement is signed with the local State representatives for the entire housing stock and is renewable every 6 years.
   It enables the energy performance axis to be retained in housing thought and in the global scoring of homes classified according to the quality of service provided.
   However, the question of works funding has not really been answered. Furthermore, it is not desirable for organisations to see their self-financing capacity removed, or for financing to be based solely on the pooling of efforts between social housing tenants, who are becoming increasingly poor, through a reorganisation of rent limits within a single housing capital pot.

Description of the stakeholders targeted:

State

Expected results:

The opening up of new perspectives for the shared but interdependent funding of work related to energy-saving measures. The combination of subsidy, access to preferential financing and a tax incentive scheme. The sharing of expense, as well as expected gain, between landlord and tenant.

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III FRANCE: RUNNING COSTS

Legal issue

Description of the obstacle:

The issue of rental running costs is a source of problems in lessor-tenant relationships due to the fact that the list of recoupable running costs has not been revised since the 1982 decree in France.

And yet, over 25 years, the context has changed somewhat.

The service provided to lessors has been improved: facilities development, proximity management and the change in the role of security guards.

The economic and social environment has changed: increase in neighbourly unrest, disrepair and crime. The security guard's duties have taken on a new dimension which the decree does not take into account.

Furthermore, the decree has fallen behind in relation to the improvements which have taken place in terms of the technological quality of collective and individual facilities, building and accommodation security and services provided to lessors.

This situation reduces lessors' ability to innovate since maintenance expenses for new facilities or services cannot be recouped from tenants in accordance with the decree on running costs. It penalises tenants who could benefit from an improved service without their global rent receipt necessarily increasing (see sheet on rent).

Obstacles

The decree of 9th November 1982 did not make provision for adaptation over time; it has not been revised since the date it came into force, except through a legislative measure taken in 2006.

The National Commitment to Housing Act of 13th July 2006 makes it possible to resort to new services which are not mentioned on the decree list provided that they take sustainable development into account.

This provision does not, however, alter the general terms of the law governing lessor-tenant relationships where rent is concerned.

Consequently, no investment in rental running costs c an be anticipated, even though this may be ideal. Similarly, the recovery of running costs is only possible to the extent of costs incurred. On the other hand, an energy efficiency service can be part of a rental agreement but this service cannot conceal investment.

Statement of the recommendation:

Facilitate the consideration of modern technologies and practices (BMS, performance monitoring services and personalised tenant services, intelligent metering facilities, etc.) with the addition of new services and three-yearly revision of the list in order to integrate new practices.

Consequently include the possibility of revising and promptly updating the list of running costs in the corresponding regulations.

Improve dialogue with tenants and their associations with respect to outlining sustainable development objectives. In particular, routes to alternative solutions must be sought.

Description of the stakeholders targeted:

the State, communities, tenants and landlords

Expected results:

Moving towards a definition common to all those actively involved (the State, communities, tenants and landlords) in the sustainable development objectives of housing blocks is about getting involved from a dynamic viewpoint from which all players could benefit in their activity.

The search for a better quality of housing requires a joint in-depth analysis of the issue of recoupable running costs.

Link to the experimentation & existing best practices:

IV FRANCE: SOCIAL HOUSING TAXATION

Legal issue

Description of the obstacle:

Any questioning of the effectiveness of reduced VAT rate (5.5%) for work in social housing, as part of the ongoing discussions in Brussels on the VAT Directive could make it exceedingly difficult the balance of funding of the work to reduce energy consumption.

Moreover, the older housing, which often require the most work to promote energy savings and reduce the dispersion of greenhouse gases that poor insulation makes it ossible, do not benefit from the TFPB (Tax on real estate. Property tax on building) exemptions provided for recent buildings and a relief of TFPB for saving energy work has been adopted under the Act of 13 July 2005 laying down guidelines for energy policy. However, the possibility of allocating these reductions have been limited, this measure has lost its attractiveness for social housing organizations.

Finally, investment in energy efficient equipment is not encouraged for social housing organizations, as it can be for individuals. The tax credit scheme does not apply.

Statement of the recommendation:

Proposals:

1. Maintain the possibility for Member States of the EU to set a reduced rate of VAT for the work in the social housing sector, thus including those relating to energy saving.

2. Improve the measures of TFPB relief to make them more effective for older buildings that require more work.

3. Extend to social housing organizations the tax credit available to individuals for materials and energy saving equipment.

Description of the stakeholders targeted:

Governmental authorities

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Expected results:

Promote a significant start of work on social housing building would have a triple effect:

- Affect the energy consumption of these buildings
- Moderate the efforts of their inhabitants, who are among the most modest
- Give a strong signal to other sectors (private housing, tertiary).

This start cannot take place without appropriate taxation measures. It will express the national solidarity with the tenants of these flats, who are called in parallel to contribute financially to these expenditures, with an expected gain in terms of rental running costs.

Situation in March 2009:

The situation in early 2009 concerning the tax has changed from the start of the analysis of the situation in late 2007 in the framework of the Tackobst study.

These developments provide evidence of satisfaction with the three proposals described above. The measures taken or envisaged both at European and national level allow a new reading.

They illustrate the work done in France by USH to change the rules in favour of a taking better account of energy efficiency objectives in the field of social housing.

Three illustrations can be advanced on these questions:

1. The action of the Council of the European Union (meeting of 10 March 2009) on VAT:

   The Council (ECOFIN) had a thorough discussion on the overall system of reduced VAT rates, as a result of which the council has reached political agreement that all member states, by amending Directive 2006/112/EC, should have the option to apply reduced VAT rates on a permanent basis to:
   "Renovation and repairing of private dwellings, excluding materials which account for a significant part of the value of the service supplied."

   In particular, we will remember the evolution that leads to retain the reduced rate as a permanent basis for work, instead of the transitional situation that prevailed before.

2. The action of the USH regarding TFPB (Tax on real estate. Property tax on building):

   The TFPB Relief was possible up to 25% of the amount of energy saving work (Section 1391 E of the General Tax Code). This measure could only apply, however, on the contribution due by the social housing organization for the building in which the work had been carried out.

   Now, since the law to mobilize on the housing, the base

   for the relief was extended to the municipality or municipalities answerable to the same tax service. This solution helps to enhance the relief in a proportion of 1 to 5 compared to before.

3. Outcome of the "Grenelle de l'Environnement"

   The third proposal comes from the observation that, in the private sector of housing, the owner who invested in the work of saving energy could benefit from a tax credit, under certain conditions. It was noted that these provisions have no equivalent in the social housing sector. An agreement has been signed on 26 February by Thierry Repentin, President of the USH, with the Minister for Ecology, Energy, Sustainable Development and Spatial Planning and the Minister of Housing, for the renovation by 2020 of 800 000 social housing which are the most energy consumers. In 2009 and 2010, funding for the renovation of 100 000 of these units is provided by the access of social housing organization in an "eco-social housing loan" at subsidized rate of 1, 9% over 15 years, distributed by the Caisse des Dépôts, of an amount of € 1.2 million

USH also requested an adjustment of the tax credit for the benefit of tenants.

Link to the experimentation & existing best practices:

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V FRANCE: APPENDIX

Energy-related tax measures in France (2009)

Taxation of legal persons:

1. Taxes on properties built (Tax on real estate. Property tax on building):

LEGAL PERSONS	TAX ON PROPERTIES BUILT	OBSERVATIONS
1. **All owners** of residential buildings	**Total or partial exemption for 5 years** in case of saving energy work and sustainable development	- On optionally of communities - Threshold of work per unit - CGI Art. 1383-0 B (+ Art. 200 quarter) - Applicable at the end of the exemption
2. **Social housing owners**	**Relief equal to ¼ of the expenditures** for saving energy work	- To the extent that social housing organizations are exempt from TFPB for 15, 20, 25 or 30 years, the relief can be made after the end of the period of exemption Capped-relief in the amount of the TFPB due under the building or buildings within the same service tax, without the possibility of deferring a year to the next - CGI Art. 1391 E + CCH Art. L. 111-10
3. **Owners of social buildings** that have benefited from a social loan or financed more than 50% by a helped loan by the State	- **Extension of the exemption from 15 to 20 years** for new construction to meet 4 criteria of environmental quality after 01/01/2002 - **Extension from 15 to 25 years** for new construction between 1/07/2004 and 31/12/2009, and to 30 years for new construction after 17/07/2006	- **Criteria** : Technical assistance by professional of environment, Terms of outputs (waste management site for ex.) Energy and acoustic performance Use of energy and renewable materials, fluid mastery - CGI Art. 1384, 1384 A, 1384 C, 1384 D, DB CCH. L. 301-1

2. Special depreciation on the purchase of equipment

LEGAL PERSONS	TAX ON PROPERTIES BUILT	OBSERVATIONS
Companies or individuals according to the industrial and commercial taxable profits	**Equipment** for energy saving and equipment of production of renewable energy	- depreciation limited to taxable sector only (ie outside the core business of SHO) - Source Art CGI AB 39 - Acquisition or manufacture before 1 January 2011

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VI FRANCE: STANDARDISATION

Economic issue

Description of the obstacle:

The social housing sector is, in many ways, governed by many standards concerning energy, the environment, industrial products, construction, etc. For the directive relating to construction products alone around 1,500 standards are obeyed by organisations.

Standards are generally considered a means of saving time and a clear identification of the state of the art and facilitate inter-product compatibility and thus allows free choice and provides legal security and a guarantee for the consumer and the end-user. The fact remains that this can have many drawbacks for project managers.

Obstacles:

- Drafting:

  Conditions for drafting standards may appear unsatisfactory, in the sense that they result in constraints, additional costs for project managers and users and an increase in responsibility for the players in the housing market. The main perpetrators of new standards are manufacturers, with the understandable objective of selling their products through other players' obligation to conform. Many standards thus escape policy controls whilst they have significant consequences, notably in terms of price, for project managers but also for residents.
- Encouraging innovation: the energy sector (energy efficiency + renewable energy sources) is a developing sector and standardising can result in the impeding of development in this field.
- Cost: Feasibility and opportunity studies in terms of standards do not examine the question of the cost of the latter to project managers or residents of the social housing stock who have modest resources which must be taken into account.

Statement of the recommendation:

- Involve all players in question, including elected representatives, project managers and residents associations, as early as possible using national and European standards.
- There is a need to clearly establish the most valued specifics of the standard as well as the intended objectives before actually beginning standardisation work.
- The opportunity and feasibility studies must examine the issue of costs associated with the standard.

Description of the stakeholders targeted:

Landlords, manufacturers, elected representatives, project managers and residents associations

Expected results:

The drafting of energy and environmental standards which are better adapted to social housing and with a reasonable implementation cost.

A more transparent standardisation process.

Link to the experimentation & existing best practices:

VII FRANCE: CERTIFICATION OF THE ENVIRONMENTAL AND ENERGY PERFORMANCE OF THE BUILDINGS

Legal and economic issue

Description of the obstacle:

Most of the social French housing companies are supported financially by local public authorities (regions, counties, communities of municipalities,…) in the production and delivery of building having a + 10% or + 20% energy performance compared with the existing legislation set up in 2005. The counterparts of these public subsidies are consisting in an official certification of the energy performance of the financially supported buildings.

Obstacles

Only one organization provides the certification of the labels (Habitat et Environnement, Effinergie) required by the public authorities to obtain grants. As a consequence, the certification costs are significant (i.e. a lump sum of 4.000 Euros / new building) and are not related to the size of each development. So far, for the little developments (x < 10 units), the certification costs can be seen as being prohibitive. In rural areas, the average size is sometimes of only some units.

Statement of the recommendation:

Technical solution to be proposed:

To certify on a yearly basis the capability of the housing company to produce friendly environmental buildings, the production being controlled on a random base.

Economic and financial solution to be proposed:

To combat the existing monopoly of the national certifying organisations and the hidden barriers attached with by creating and legally authorizing a clear competition between the different labels existing at the European level. It means to create a competition between "Casa clima" & "Habitat et Environnement", "Effinergie", "Minergie", "Passiv Haus" and others. A system of mutual recognition could and should be created and provided to the national and public authorities to help them in the implementation and the control of their environmental policies.

Description of the stakeholders targeted:

Expected results:

- To decrease the costs of the certification and to improve the global balance of each new building development.

- To improve the Quality of Service provided by the certifying organizations.

Link to the experimentation & existing best practices:

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VIII FRANCE: DISTRICT HEATING SYSTEM

Economic issue

Description of the obstacle:

The district heating systems provide heat for heating and in some cases, domestic hot water. The public distribution of heat falls within the competence of local authorities that can either provide themselves with their own services, the management (usually state-controlled company), or delegate the management to a public or private operator under a delegation of public service. Finally, when they have chosen to manage with a state-controlled company, they can call an operator to whom they entrust the operation of all or part of the district heating system as part of a public contract. The public district heating systems use, at least in part, the public domain and allow the Territorial Community, which has competence, to make that public service available to the inhabitants who are, in general, free to use it or not.

The billing system issue:

It generally consists of two parts that reflect a portion of each service provided:

- A fixed part called R2, which is a function of the power that the network makes available to the subscriber. It is expressed, generally, in €/kW and includes, in particular, the personnel costs of operation, maintenance costs and renewal, as well as the cost of electricity for home workers. In the case of concessions, it will add financial charges linked to the self financing and the depreciation of start-up loans. In the case of "leasing", there is a surcharge, repaid to the delegating community, to compensate for the investments it has made.
- A proportional part called R1 (sometimes P1), which depends on the amount of energy drawn by the subscriber to the substation. It is expressed in €/kWh.

The part of the fixed part is generally high and sometimes superior to the proportional part.

When a social housing make heavy investments on the building, it is very difficult to reimburse the investment because of the fixed part which is difficult to adapt to the new situation.

As it is impossible to permit to the tenants to have a benefit of the works done, the capacity of investment is oriented towards other buildings not involved in a district heating system.

The economic performance issue:

Housing companies regret the lack of flexibility of this equipment: subscribed energy powers, which serve as a basis for calculation of the subscription, have not changed since the original, while at the same time, the energy needs of buildings dropped following the work of improving thermal engaged for 25 years. So, they are not incited to retrofitting the existing stock..

The Housing companies do not have performance indicators and tools to compare networks and steer their stock strategies.

The renewal of facilities issue:

In many districts built for forty years, the concessions are maturing and raise the question of renewal of concessions networks. In some cases, investments are sometimes very expensive and would involve an increase in the price of the subscription for tenants.

The impact of urban renewal issue:

In the context of urban renewal, which provides for the demolition of homes, the overall economy of some district heating systems is questioned. Operational costs, deferred on the remaining housing, could weigh on charges of tenants.

The place of the end customer issue:

In many cases, the end customer (landlords-tenants) was ousted in the negotiations that may take place between the delegator (local communities) and the proxy (the dealer).

At some sites, social housing organisations are experiencing difficulties in obtaining conceding annual economic review.

Statement of the recommendation:

- Develop Indicators of economic and environmental performance, taking into account the cost of investment, maintenance and the cost of providing energy,
- Introduce clauses of modularity of the power purchased in the current contract and the new contracts,
- Introduce special funds to facilitate the investment on the production of energy to eliminate energy with very bad performances in cost, in energy efficiency and in Greenhouse Gas production (coal, oil or gas) to substitute them by renewable fuels.
- Empower delegators and proxies on the consequences of high investment
- Develop mounts that combine full-fledged final clients so that they can influence the technical-economic choices

Description of the stakeholders targeted:

European Commission, French State

Expected results:

- Costs more acceptable by the tenants.
- Possibility to reimburse the investment on the building and on the plants.

Link to the experimentation & existing best practices:

See the pedagogical guide (Les Foyers de Seine-et-Marne)

IX FRANCE: LOCAL PLANNING OF THE URBANISM

Legal issue

Description of the obstacle:

The local conception of the urbanism facilitates traditionally in France an east-west exposure of the streets. It makes more difficult to build Low Energy Housing and furthermore passive houses. The town planners argue that the north-south exposure often produces very poor northern facades from the architectural point of view. They do not take into account the constraints attached with the energy designing the local planning of the cities

Statement of the recommendation:

1. To systematically integrate the dimension of the energy efficiency in the administrative procedures which define the definition

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of the city local planning. In any case, it means that the existing local planning should be reviewed by local public authorities in order to integrate the challenges attached with the climate change.
2. To develop an attractive architectural design of the northern facades and green spaces to overcome these cultural habits.

Description of the stakeholders targeted:
Local public authorities.

Expected results:
Encouraging the integration of the energy dimension in the design of the local planning would have a double effect:
- To favour a north-south exposure of the building will increase the solar inputs
- To promote more easily the development of the renewable energies (photovoltaic) due to an higher energy efficiency and to improve the financial profitability of new buildings and constructions.

This work cannot be developed without an adequate legal framework.

Link to the experimentation & existing best practices:
- Design of eco neighbourhoods.

X FRANCE: MASTERY OF THE COSTS AND OF THE PRODUCTS QUALITY

Economic issue

Description of the obstacle:
The works of energy retrofit in the social housing stock require a control of costs and quality of construction products. The social landlords do not necessarily have a good knowledge of building products to integrate into the building to achieve a given energy performance. This lack of knowledge implies a connection with industries.

Statement of the recommendation:
- Establishment of a group of social landlords who develop a catalogue of products to organize the market and to facilitate the prescription of quality products at the best cost.
- Developing a catalogue of energy-efficient products:
- After a public call for applications with a view to consultation, experts will select the products on objective criteria (product quality is assessed with references and technical and economic criteria).

Procedure:
The landlord of a social housing company draws up the list of the products he wishes to use for his work, both in new construction than in retrofit. This list of products is found in the catalogue produced by the group.

He passes it on to the designer who includes the products in the file of consultation of the firms. Firms must meet with the products required by the landlord. They can also offer an alternative if they provide all information necessary for evaluating the quality and costs of these products.
At the time of signing the contract, the landlord sends the registration market outputs to the buying group. The company receives a certificate of registration to the market that allows it to access the negotiated costs when selecting products. At the end of the building site, the manufacturer checks the effective installation of the products before paying the prescription in the form of bonus of the end of building site.

Description of the stakeholders targeted:
Landlords, Industry

Expected results:
- Approach that reduces the cost of products.
- Quality process through the development of the product catalogue and verification by the industrial of installation of the product
- Establishment of a real partnership with industry specialized in thermal products..

Link to the experimentation & existing best practices:

XI FRANCE: EXTERNAL TRAINING

Social issue

Description of the obstacle:
The engineers, control offices, architects are little or misinformed and are therefore little mobilised on these issues or those not covered by regulatory obligations.

The issue of training is crucial.

This little interest or capacity for environmental issues from the stakeholders in the construction and renovation led to some difficulties in the phase of bidding and during different phases of construction sites. It follows a heavy penalty of operations and a decline in the quality of execution especially when it comes to implementing innovative techniques or new materials.

It is to find a certain inertia in the world of building facing the innovation (an innovation is actually accepted that on average after 10 years)

There is a lack of experience and data available on the techniques and materials.

Currently, there are few training opportunities for sustainable development in engineering schools or building technicians.

The experiences and know-how innovative are poorly developed.

There is a lack of competition in the implementation of innovative techniques.

Statement of the recommendation:
- Generalize lessons on sustainable development in all courses (school, high school, then CAP, BEP, BTS, OTC, learning, universities, schools of engineering, design, Masters,) whatever speciality

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- Integrating issues related to sustainable development in all areas of teaching each cycle (bachelor, master, and doctorate) in all schools forming architects, engineers, landscape architects, urban planners and technicians of the building, creating synergies between these institutions.
- promote the teachings and multidisciplinary training
- Establish common curriculum between schools of architecture and engineering schools
- require such training to save energy in bidding and ensure that companies have the necessary skills
- train a sufficient number of stakeholders capable of building design and implement new construction and renovations conform to new regulatory requirements.
- Train more specialized manpower and skilled tailored solutions to be implemented;
- Valuing initial training and mandatory training;
- promote the emergence of new offices thermal studies
- teach players in the industry to work more effectively together.
- create new teaching tools and documentaries
- Develop tools for sharing knowledge and develop good practices and innovative experiments near the professionals

Description of the stakeholders targeted:

Engineers, control offices, architects

Expected results:

Effects at short / medium term:

- taking into account by professional bodies concerned needs to build or renovate buildings in compliance with the obligations energy efficiency.
- Skills Development of stakeholders;

Link to the experimentation & existing best practices:

XII FRANCE: TRAINING OF TENANTS AND THEIR ASSOCIATION

Social issue

Description of the obstacle:

While generally aware of environmental problems, households contribute little to controlling energy consumption.
In particular, even if they deny, household behaviour vis-à-vis their energy consumption is less efficient.

Financial incentives or tax are insufficient.
The search for comfort and ease of life premium on energy: rising standards of individual comfort induce consumption behaviour little thrifty.
There is no consideration of the impact of social structures that guide these behaviours.
There is a lack of training and knowledge on controlling energy.
There is little structures advice to residents on energy conservation.

Statement of the recommendation:

Proposals:

- Accelerate awareness of individual issues related to energy efficiency in buildings (housing and communal areas) by a policy of information, awareness and education;
- Develop a financial policy or tax incentives to save energy
- Information about the impact of different uses (heating, hot water…) in consumption and ways to reduce these various items of consumption.
- Training of energy correspondents, local interlocutor of tenants on energy issues.
- Develop tools for information and advice (internet for example) on the tenants' own consumption. Implement tools self assessment vis-à-vis energy consumption.
- Involve tenants associations in informing tenants.
- Take into account the habits and needs of special populations (the elderly, immigrants…) for specific information.

Description of the stakeholders targeted:

Tenants and their representative associations

Expected results:

Effects at short / medium term

- active participation of tenants to save energy by changing their behaviour.

Link to the experimentation & existing best practices:

1. The OPH of "Loir et Cher", the ADIL, district governance - and the school "Croix Chevalier" were mobilized to sensitize people to issues of environment. Events were held, targeting adults and children, in this neighbourhood where the OPH has a significant number of dwellings.
   Thus, "correspondents" of neighbourhood informed residents on ways to save energy. The goal is to better control running costs, while conserving resources (water) in the way of everyday life. Correspondents have undergone special training to answer questions from residents. Animations were held at the School "Croix Chevalier", around an exhibition on energy.
   The staff of the OPH was trained for eco gestures.
2. The "save@work4homes" project (EU Program SAVE):
   The SAVE@Work4Homes project aims to achieve a very significant reduction in energy consumption in social housing by providing information and support to tenants.
   The approach will develop and test a complementary set of viable and effective Energy Awareness Services, based on a "toolbox" of components to be developed in the project:
   - automatic monitoring of consumption and transmission of consumption data in respect of heating costs;
   - analysis and presentation of consumption data for access by tenants via Internet or other methods;
   - self-assessment scheme to assess the success of residents of a housing unit in reducing their energy consumption;
   - improvement of heating controls and feedback to users of heating settings;
   - tenant portals in the Internet;

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The means used are :

- notebooks by property managers;
- Internet access by tenants with low-cost WebTV or their own PC or notebook;
- Design of print media for tenants such as a handbook for identifying possible changes in building use behaviour of all residents to save energy.

Website : save.atwork4homes.eu

3. "j'écogère mon logement" Cilopée

XIII FRANCE: INTERNAL TRAINING

Social issue

Description of the obstacle:

The SHO staff must be trained in controlling energy consumption in order to:

- Select the best products and best techniques
- Carry out high-quality energy buildings and monitor their completion
- Follow the stock on the energy plan to ensure an optimization of energy consumption
- Educate and inform people

Obstacles:

It is to find a certain inertia in the world of building facing the innovation (an innovation is actually accepted that on average after 10 years)

Training continues on the theme of energy control are difficult to implement.

The dissemination of new products and new techniques is absent. There is little information on the innovative and successful experiences.

Statement of the recommendation:

Proposals:

- Involve personnel, training and awareness to save energy (courses to provide adapted to the level and to the responsibilities).
- Promote the development of training specific.
- Create new tools specific training.
- Promote information on new techniques and new materials.
- Establish a cell Watch keeping (technology, methods, standards…).
- Disseminate and share knowledge and best practices.
- Establish an internal centre of competence in energy efficiency.
- Develop a content on "Control of Energy demand" in bidding

Description of the stakeholders targeted:

SHO staff

Expected results:

Effects at short / medium term

- Involvement and awareness of staff to energy savings.
- Best monitoring and management of energy consumption on a stock.

Link to the experimentation & existing best practices:

XIV FRANCE: TRAINING OF CHILDREN

Social issue

Description of the obstacle:

It has been shown several times in the past that children could be a very effective vector of behavioural changes both for themselves and for their parents and relatives. In this respect, the example of the adoption of seat belts in automobiles is exemplary: heavily criticised by their children in case of failure to fasten seat belts, parents have quickly adopt the habit.

It would be interesting to acquire these types of reflexes to tenants in respect of bad behaviour vis-à-vis energy savings by training children to the ecology and sustainable development and changing their gaze on 'Environment. It is, therefore, to provide them with opportunities to participate in the laying of the problems and their resolution.

Obstacles:

- Very few clearly defined initiatives in this area, including the "Grenelle the environment" (5 to 10% of students in France would have been aware of the environmental problems).
- When such initiatives have been undertaken, they were inappropriate for children.
- Few relationships between SHO and schools, high schools and youth associations, and no action on these issues among young people.
- Messages of non-target organisms to children.

Statement of the recommendation:

Proposals:

- strengthen the teaching of ecology and sustainable development (including training of primary school teachers)
- Establish or foster a partnership between housing agencies and schools, associations, ventilated centres to educate children about the energy savings (good practices, improved behaviour) and the dangers of excessive consumption.
- To promote the development of e-learning and e-self assessment for young people by example via video games on the environment, questionnaires, adapted comics.
- Making posters or educational publications easily accessible to young people (drawings, simple messages…)

Description of the stakeholders targeted:

Children of the tenants

Expected results:

Effects short / medium term

- transfer of knowledge on energy saving children to their relatives and awareness by them needs to behave responsibly

Link to the experimentation & existing best practices:

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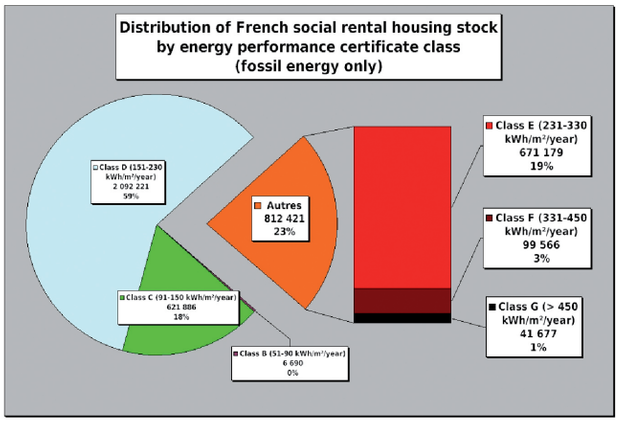
XV FRANCE: HEAVY INVESTMENT FINANCING OF LOW EFFICACIENCY BUILDINGS (E, F & G CLASS)

Technico-economic context reminder

A good quarter of the social housing stock has not been renovated and the performance levels thereof put them in the upper classes of the energy performance certificate (23% in class E, 3% in class F and 1% in class G).

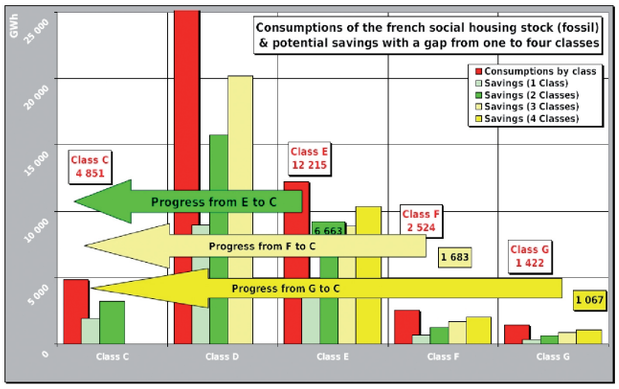
Obstacles:
Social housing organisations, whose principal task is to deal with the lack of accessible housing for modest households, must devote a large part of their own funds to this task and cannot therefore single-handedly make the necessary investment in energy rehabilitation.

Neither can they, for legal reasons, increase their rent in order to finance the repayment of loans taken out to finance the necessary investments.
Similarly, tenants can no longer bear the cost of all loan repayments insofar as the savings resulting from the work carried out do not cover the repayments for heavy work carried out on buildings in the absence of any subsidy.
In order to cope with the deterioration of tenants' economic conditions, the social housing stock which generates the highest additional costs in terms of rental charges, i.e. those placed in classes E, F and G, should be dealt with as a matter of priority by relying on national solidarity.



Recommendations

Suggested technological solution:
It is intended that the 800,000 lowest-performing dwellings* in terms of energy consumption, of which around 180,000 are social dwellings which are part of urban renovation programmes (excluding renovations undertaken since the beginning of the programme) be dealt with.
Classes F (331-450 KWh/m²/year) and G (>450 KWh/m²/year) must be eradicated and all corresponding dwellings brought down to class C (91-150 KWh/m²/year) level.
Similarly, the majority of class E dwellings (231 - 330 KWh/m²/year) requiring a district heating network or fossil energy for heating and hot water production would also be dealt with in order to bring these, too, down to class C level.



** 640,000 dwellings with central heating have been constructed since 1975 and are in most cases correctly insulated. There remain 812,000 dwellings whose heating still runs on fossil-based energy sources.*

Suggested economic and financial solution:
Investment in energy efficiency stands at around €15,000 per dwelling, giving a total investment of 12 billion Euros. This plan will not be executed unless it has the support of many actors in the field of sustainable development. The solidarity of players at various levels of communities of interest (European, national, regional, local and community) is therefore required.
Investment, in accordance with the capacities of the respective bodies, could be distributed as follows:

- Europe: 10% (eligibility for ERDF funding),
- French State: 20% (a owner of a dwelling can benefit of energy efficiency tax credits from 30% to 50%).
- Region: 10%,
- County: 5%,
- Town or association of towns: 5%,
- Funds belonging to social housing organisations: 10% (redistribution of tenant rent surcharges to higher income groups),
- Tenant contribution to the repayment of loans within 80% of the savings generated (subject to the removal of the legal obstacles mentioned elsewhere: separate line on the receipt): 40%.

Expected short and medium-term results

These 800,000 dwellings consume 16 TWh out of a total of 57 TWh consumed throughout the French social housing stock. Moving these dwellings to class C would mean a potential saving of 9.4 TWh, i.e. 58% of their consumption, 20% of that of the "fossil" housing stock and 17% of all French social housing consumption.
This investment, which mainly concerns buildings, has an estimated lifespan of 30 years.
The number of kWh saved over this period would be 282 TWh, for an investment of 12 billion Euros. The gross cost of each kWh saved would be 4.2 Euro cents, which is 13.4 times less than the buyback price for photovoltaic solar electricity in France (57 Euro cents) and a further 5 times lower then the buyback price when you incorporate the conventional energy conversion coefficient of 2.58.

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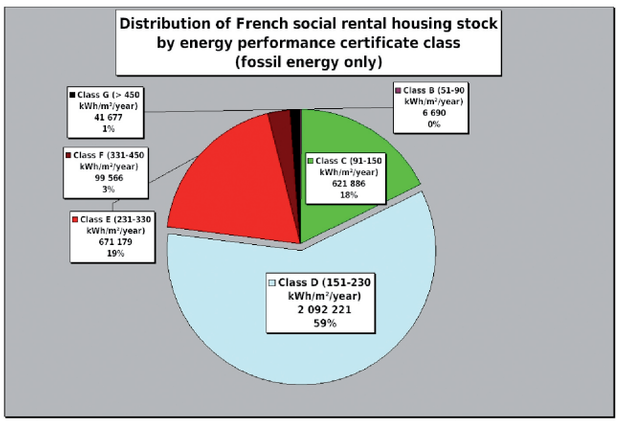
XVI FRANCE: FRANCE-MODERATE INVESTMENT FINANCING (C & D CLASS)

Technico-economic context reminder

More than three-quarters of the social housing stock has been renovated or has been constructed after 1975 to meet demanding building standards. A costly intervention in terms of buildings may be economically ineffective. However, their performance places them in still perfectible classes of the energy performance certificate (59% of the fossil energy housing stock is in class D and 18% in class C).



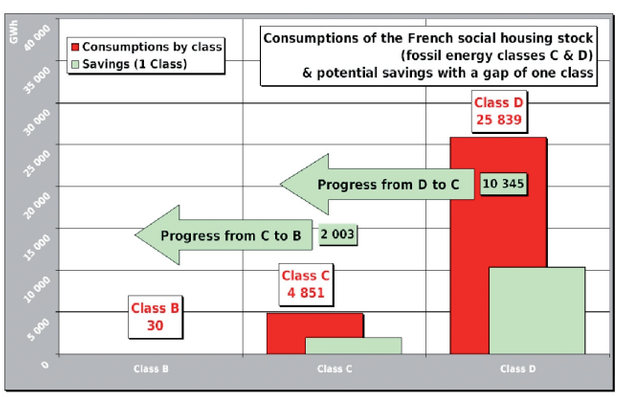
Obstacles:

Social housing organisations, whose principal task is to deal with the lack of accessible housing for modest households, must devote a large part of their own funds to this task and cannot therefore single-handedly make the necessary investment in energy rehabilitation.
The balance of their own funds will be mobilised by the building investment programme for the 800,000 dwellings in classes E, F and G.

They therefore have no capacity for this type of intervention.

Recommendations

Suggested technological solution:



The 2.1 million fossil energy dwellings in class D (151-230 KWh/m²/year) must be brought down to class C (91-150 KWh/m²/year) level.

Furthermore, two-thirds of the 620,000 dwellings in class C (91-150 KWh/m²/year) must be brought down to class B (51-90 KWh/m²/year) level.
In total, 2,500,000 dwellings could move up a class as a result of moderate investment aimed at improving operational conditions and intervention in terms of production facilities without intervening with buildings.

Suggested economic and financial solution:

Investment in energy efficiency stands at around € 5,000 per dwelling, giving a total investment of 12.5 billion Euros.
This plan requires the support of players in the field of sustainable development.
The solidarity of players at various levels of communities of interest (European, national, regional, local and community) is therefore called for.
Investment, in accordance with the capacities of the respective bodies, could be distributed as follows:

- French State: 25% (a owner of a dwelling can benefit of energy efficiency tax credits from 30% to 50%).
- Region: 5%
- County: 5%,
- Town or association of towns: 5%,
- Funds belonging to social housing organisations: 0%,
- Tenant contribution to the repayment of loans within 80% of the savings generated (subject to the removal of the legal obstacles mentioned elsewhere: separate line on the receipt): 60%.

Expected short and medium-term results

These 2,500,000 dwellings consume 31 TWh out of a total of 57 TWh consumed throughout the French social housing stock. Moving these dwellings from class C to class B and from class D to class C would mean a potential saving of 11 TWh, i.e. 36% of their consumption, 23% of that of the "fossil" housing stock and 19% of all French social housing consumption.
This investment, which mainly concerns heating and hot water production facilities, has en estimated lifespan of 15 years.
The number of kWh saved over this period would be 164 TWh, for an investment of 12.5 billion Euros. The gross cost of each kWh saved would be 7.6 Euro cents, which is 7.5 times less than the buyback price for photovoltaic solar electricity in France (57 Euro cents) and a further 3 times lower then the buyback price when you incorporate the conventional energy conversion coefficient of 2.58.

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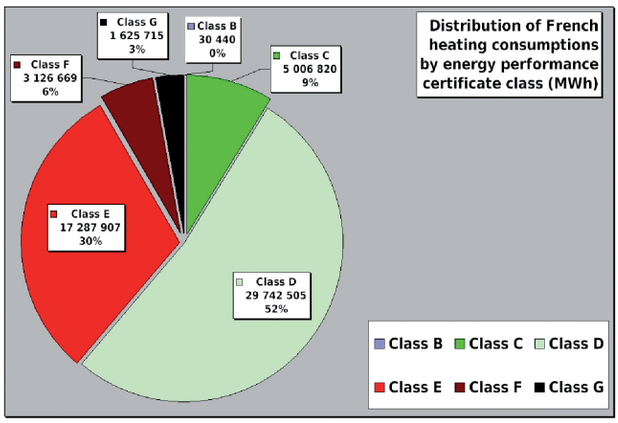
XVII FRANCE: FRANCE-MODERATE INVESTMENT FOR ELECTRICALLY-HEATED HOUSING (C TO G CLASS)

Technico-economic context reminder

Following the first oil price shock, part of the social rental housing stock was constructed using Joule effect electricity for heating. This housing stock, constructed after 1975, meets demanding building standards. A costly intervention in terms of buildings may be economically ineffective. However, their performance places them in still perfectible classes of the energy performance certificate (from class C to class G).



Obstacles:
Social housing organisations, whose principal task is to deal with the lack of accessible housing for modest households, must devote a large part of their own funds to this task and cannot therefore single-handedly make the necessary investment in energy rehabilitation.
The balance of their own funds will be mobilised by the building investment programme for the 800,000 dwellings which use fossil energy and are in classes E, F and G.
They therefore have no capacity for this type of intervention.

Recommendations

Suggested technological solution:
The 610,000 dwellings in classes C, D and E must be brought up a class and the 30,000 dwellings in classes F and G must be brought up two classes by changing the Joule effect electricity used for heating in favour of hot water and heating which uses a thermodynamic electric heating with a COP > 3, or wood or natural gas with a condensation boiler. The energy conversion coefficient is reduced from 2.58 to 1.25 by incorporating production/distribution losses as well as item by item regulation losses and the possibilities of intermittent individual electric heating.

In total, 640,000 dwellings could improve for a moderate investment aimed at intervention in terms of production facilities without intervening with buildings.

Suggested economic and financial solution:
Investment in energy substitution stands at around €6,000 per dwelling, giving a total investment of 3.8 billion Euros.

This plan requires the support of players in the field of sustainable development.
The solidarity of players at various levels of communities of interest (European, national, regional, local and community) is therefore called for.

Investment, in accordance with the capacities of the respective bodies, could be distributed as follows:

- Europe: 10%
- French State: 20% (a owner of a dwelling can benefit of energy efficiency tax credits from 30% to 50%).
- Region: 10%
- County: 5%,
- Town or association of towns: 5%,
- Funds belonging to social housing organisations: 0%,
- Tenant contribution to the repayment of loans within 80% of the savings generated (subject to the removal of the legal obstacles mentioned elsewhere: separate line on the receipt): 50%.

Expected short and medium-term results

These 640,000 dwellings consume 9.9 TWh out of a total of 57 TWh consumed throughout the French social housing stock. Dealing with these dwellings would mean a potential saving of 3.3 TWh, i.e. 33% of their consumption and 6% of all French social housing consumption.

This investment, which mainly concerns heating and hot water production facilities, has an estimated lifespan of 15 years.
The number of kWh of primary energy saved over this period would be 50 TWh, for an investment of 3.8 billion Euros. The gross cost of each kWh saved would be 7.7 Euro cents, which is 7.5 times less than the buyback price for photovoltaic solar electricity in France (57 Euro cents) and a further 3 times lower then the buyback price when you incorporate the conventional energy conversion coefficient of 2.58.

The electricity saved over the peak winter period will enable the consumption of French coal-fired power stations, which have disastrous effects on the environment, to be reduced.
The surplus electrical consumption thus freed up mid-season will enable the production of nuclear power stations to be exported to countries which use great amounts of coal for electricity production, such as Germany, Italy and Poland.

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For further information on the project or on products of the project see:

www.tackobst.eu

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