

***CASH “Cities Action for Sustainable Housing”
Energy efficiency for social housing***

RHÔNE-ALPES REGIONAL ACTION PLAN
Zero Draft - December 2010

PREFACE

The baseline study carried out during the Development Phase has only focused on the cities partners and not on the regional level. That’s why the first part of this document highlights Rhône-Alpes context in terms of social housing and energy efficiency and presents actions and measures already implemented in Rhône-Alpes in those fields.

The second and third parts of this document are resulting from Rhône-Alpes Local Support Group exchanges. Its main members are:

- Rhône-Alpes Regional Council Departments : Housing, Finances and Environment/Energy
- Rhône-Alpes Managing authority
- ADEME Rhône-Alpes, French Environment and Energy Management Agency
- ARRA Habitat, Rhône-Alpes regional association of housing associations
- DREAL, Environment, Planning and Housing Regional Department of Rhône-Alpes under the authority of Sustainable Development and Housing French Ministry

Our LSG, during the implementation phase, met twice: on 29 October 2010 and on 29 November 2010. These meetings enable us to identify issues that our regional action plan has to tackle and to set up our action plan’s strategic axis.

This ‘zero’ regional action plan prepared in December 2010 will evolve and be revised at the end of 2011 thanks LSG and CASH network exchanges.

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RHÔNE-ALPES CONTEXT

Rhône-Alpes covers 43,698 km², which represents 8% of the total surface area of France. This makes it **comparable in size to Denmark or Switzerland**. With nearly 6 millions inhabitants, our region has **a larger population than Scotland or Denmark**. In terms of demography and GDP (9,7% of total French wealth), Rhône-Alpes Region ranks 2nd in France (out of 22 Regions).

In Rhône-Alpes, there are 8 administrative units called “Départements”: l’Ain, l’Ardèche, la Drôme, l’Isère (where is located the Lead Partner Echirolles), la Loire, le Rhône, la Savoie and la Haute-Savoie.

1. RHÔNE-ALPES SOCIAL HOUSING

➤ Public social housing stock

Social housing stock amounts to about **415 000 homes** or **16%** of main residences. Among the **40% of residents who rent** their homes, **one third** lives in social housing.

93% of this housing is collective (compared to the national average of 87%). The rotation rate for social housing is 9.7% and the average occupation rate is 10.3 years. Overall vacancies remain low at 2.2%. The average number of persons per social housing unit is 2.43.

Two thirds of households have income fewer than 60% of the resource ceiling required for access to social housing. **One fifth of occupants live below the poverty threshold**.

36% of occupants of low-rent housings are isolated persons and 18% are single-parent families. In total, households with children represent 46% of tenants.

For more than 15 years, the new supply of public housing (about 10 000 constructions each year) has not been large enough to meet the demand. As a result, construction has felt behind, **100 000 new housings are lacking**.

➤ Private social housing stock

Alone, public housing stock is not able to satisfy the needs of low-income households of getting affordable housing. Social function of private stock is essential. In Rhône-Alpes, there are 120,000 contracted homes in the private sector and 805 000 co-owned properties which represent 38% of the privately-owned main residences. Private stock houses 63% of low-income households of Rhône-Alpes, whether they are owner (30%) or tenant (33%).

2. ENERGY EFFICIENCY : THE ANSWER TO A TWOFOLD HOUSING ISSUE IN RHÔNE-ALPES

➤ Social issue : fuel poverty

Social housing stock houses frail population, who is particularly affected by housing prices raising (100% in 10 years). With the economic and social crisis and the continuous rise in energy costs, fuel poverty is constantly increasing.

A household is affected by fuel poverty as soon as over 10% of its income is devoted to paying their household energy bills. 3.4 millions households would suffer from energy poverty in France and over **300 000 households in Rhône-Alpes are affected by energy poverty**. We value Rhône-Alpes households which have reduced their heat consumption because of financial reasons to 25 000.

In private sector co-owned properties built between 1950 and 1975, which offered initially good quality housing in terms of surface area, heating, lights, etc, are from now on aging and energy inefficient. Their low-income occupants are thus in a situation of vulnerability.

Support retrofitting of social housing is therefore the best answer to reduce energy costs of tenants and improve health and comfort of livings.

➤ Environmental issue

Adopting sustainable approach in housing sector is essential : in France, housing is the **biggest energy consumer with 43% of total final consumption** and is **responsible for 25% of greenhouse gaz emissions**. In view of national and regional commitments undertaken to answer to the energy and climate challenge, we have to act rapidly in this field.

France commits to divide by 4 its carbon dioxide emissions by 2050 (Factor 4). **Rhône-Alpes Energy Plan** is boosting again its actions to **reduce by 20% greenhouse gas emissions and energy consumption** and to **raise the amount of renewable energy consumed to 23% by 2020**.

The national legal framework has been recently modified by the laws called « Grenelle 1 » and « Grenelle 2 ». The name “Grenelle” designates the Environment Round Table, instigated by the French President in 2007, whose aim was to define the key points of government policy on ecological and sustainable development issues for the coming years. For the first time, the Round Table brought all the civilian and public service representatives together (State, unions, employers, NGOs and local authorities).

The “Grenelle 2”, adopted in 2010, sets higher energy performance standards:

- Regarding new buildings

From 2013 (November 2011 in urban revitalization area), all constructions will have to get an energy consumption lower than **50 kwh/m²/year (BBC – low-energy buildings)**

- Regarding existing buildings

By 2020, energy consumptions will have to be reduced by 38% and 800 000 public housings will have to be renovated at national scale and reach the **renovation BBC-level (80kwh/m²/year)**.

Some measures also concern **co-owned properties**:

- From 2012, mandatory **energy audit** for co-owned properties with more than 50 units and with collective heating,
- Obligation, 5 years at the most after the audit, of putting on the general assembly’s agenda an energy saving works plan or an energy performance contracting.

It has been demonstrated that, in co-owned properties, an energetic renovation plan is often the way to consider a more global renovation. That’s why it is nowadays necessary to launch energetic audits combined with technical audits.

➤ Energy overview of existing social housing in Rhône-Alpes

A study commissioned by the regional association of housing corporations (ARRA – Habitat) has been realised in 2008-2009 in order to give a precise picture of the existing social housing in terms of energy efficiency. This study highlights the **strong potential of energy savings which could be reached through an energy managing plan**.

60% of public housing was indeed **built before 1975** and the first Thermal Regulations. Under the terms of the Grenelle environment agreement, 130 000 homes are energy inefficient (**EFG energy classes**), that is **33% of social housing**.

On average, public housing stock in Rhône-Alpes consumes 227 kWh/m²/year on heating and hot water. There are almost 150 000 homes where energy consumption for just heating exceeds 250 kWh/m²/year. These energy-inefficient homes are for the most part in specific areas and concern collective buildings built between 1949 and 1976, featuring communal heating methods powered by gas, heating oil or a district heating network. The tower blocks **built in the 1960s are therefore the focus of a renovation programme** with the objective of reducing CO2 emissions.

However, this energy inefficiency of the regional housing stock has to be qualified: 43% of the existing housing stock falls into class D et 24% into class B and C. Since years housing associations have

invested in renovation programme and so put housing stock in a good energy position which allows now to reach higher energy performance levels.

Concerning private social stock, over **300 000 primary residences are in co-owned buildings built between 1950 and 1975**, with energy consumption between **335 and 400 kWh/m²/year**.

Regarding to the Grenelle objectives (defined at a national stage), the **targets in Rhône-Alpes would be by 2020:**

- construction of 100 000 social housings with energy class A and B,
- **rehabilitation of 80 000 social housings reaching BBC-renovation level** (10 000 in class D, 50 000 in class E, 20 000 in class F&G).

3. REGIONAL ACTIONS INITIALLY TARGETTING NEW CONSTRUCTION AND PUBLIC HOUSING, RECENTLY EXTENDED TO RENOVATION AND PRIVATE HOUSING

➤ The “QEB – Building Environmental Quality” approach developed by the Rhône-Alpes Region, with ARRA-Habitat and ADEME

• QEB on new constructions

Since 2007, Rhône-Alpes Regional Council, ADEME, the French Agency for Environment and Energy Management and ARRA-Habitat, association of Rhône-Alpes housing associations, has committed together in a voluntarist approach aiming to promote environmental quality and energy efficiency in social housing.

In order to promote among housing associations a thermal regulation ahead of time towards the actual one or the next to come, a **technical reference document called Building Environmental Quality** (“*Qualité environnementale du Bât*” - QEB) was developed by this regional partnership for the new buildings.

The intention is to foster the reduction of rent charges but also to train professionals, capitalise and share experience. The Region supports training programs opened to all actors in the production process and provides assistance to project managers to facilitate the organisation of operations. It also partially compensates additional investment in new construction operations. In order to answer technical questions regarding the reference framework and to gather information in a free-access data-base, a “hotline” and an Internet site www.logementsocialdurable.fr has been dedicated to the QEB approach.

With this partnership that has been developed over the past three years, the Rhône-Alpes Region and housing associations have integrated the requirements of the Environnement *Grenelle* agreement and the sustainable development principles in their operations management, all the while acquiring the experience required to **generalize the construction of low-energy buildings**. On 2008-2010 period, 4 000 houses construction have been supported.

A monitoring system running by the regional partnership guarantees a regular update on the reference framework. A new version, better and simpler than the 2007 one, has been adapted in 2009 and a new one with higher energy requirements (low-energy, passive and positive buildings) will be implemented for the 2011-2013 period.

• QEB in renovation

From 2007, the housing associations of Rhône-Alpes and the Regional Council were tackling the issue of the existing housing stock and its weight in terms of management of greenhouse gas emissions,

energy consumption and rent charges. For the Region, renovating the existing stock also means taking action against energy poverty and encouraging the creation of jobs.

In accordance with the regional QEB reference on new social housing, it was proposed by the Region for the **first time in 2009**, to **support energy renovation projects for the existing public housing**. This assistance was in the form of a call for projects with strict requirements in terms of energy performance. The renovation of this housing stock was intended to raise their rating from class D to at least a class C. 7 projects were retained, representing almost 600 homes to renovate.

➤ **Support for co-owned properties**

In Rhône-Alpes, co-owned properties have been subject to special attention since the mid-1980s. Each year over a hundred co-owned properties are assisted to some extent depending on their difficulties and the project phase (upstream, during or post-renovation). In 2009 on a regional level, 14 OPAH (*Opération programmée d'amélioration de l'habitat* – programmed housing improvement operation) for co-owned properties and 15 safeguard plans were in progress (a total of 7580 homes concerned).

Since the past few years, such operations have been pursuing objectives that are even more ambitious in terms of energy savings. These actions show that it is possible to significantly improve the energy performance of co-owned buildings, even to use renewable energy sources, on the condition that it is a committed, voluntary initiative with a long-term perspective. Nonetheless, such operations are complex: fragile co-ownerships encounter problems concerning the low investment capacity of owners (first-time buyers, elderly people, etc.), or the lack of knowledge about decision-making in co-owned properties, unpaid charges, lack of planning of work to execute, etc.

Rhône-Alpes Region has supported OPAH and safeguard plans by **subsidizing renovation of common parts but without energetic requirements**. Only since 2009, the national agency for private housing (ANAH) has included in its grants regulation some energy performance requirements.

➤ **ERDF support for energy efficiency improvements in existing social housing**

The renovation call for proposal of the Regional Council has been intended to be complementary to ERDF measures managed by the Managing Authority, the Housing Regional and Departmental State Departments, in collaboration with ARRA and ANAH. As part of the European Economic Recovery Plan agreed in April 2009, an amendment to the regulation on the ERDF was adopted stating that **energy efficient refurbishment in existing homes owned or rented by low-income households** can now benefit from up to four per cent of each member state's ERDF allocation in all Member States. It represents in Rhône-Alpes 12,9M€.

On the basis of the regional needs in public and private housing, the objectives of refurbishment operations to subsidize have been defined as follow:

- class C objective (between 150 kWh/year/m² and 91 kWh/year/m²),
- class C compatible with the BBC level objective: capacity to reach BBC level after several stages of work,
- BBC – low-energy buildings objective (80kWh/year/m²).

Before renovation, buildings could belong to classes E, F or G (or even D when it is the BBC level that is targeted).

ERDF has been mobilised very quickly by housing associations and co-owned properties and is totally affected at this end of 2010. About 4000 housings have been refurbished: 3500 in public housing and 500 in private sector. On average, 40% of energy savings were forecast.

Public associations have recognised that ERDF has had a strong leverage effect to increase investments in a very difficult financial context.

**ISSUES IDENTIFIED IN RHÔNE-ALPES
BY THE LOCAL SUPPORT GROUP**

→ **Product a common knowledge at regional scale in matter of energy efficiency and housing renovation**

Discussions about energy efficiency in social housing have **gone further in the field of construction than in the renovation one**. Energetic renovation issue is indeed more complex: work on the existing stock demands to consider a lot of factors which will impact on the achievement of energetic performance.

If Rhône-Alpes stakeholders are very invested in the energy efficiency field, they recognize they need to **benefit from collective resources, resulting from exchanges and share of knowledge and experiences at regional scale**, in order to enable each one to benefit from advances of some of them and to use elements necessary to the management of energetic renovation.

It raises notably the question of the training on renovation. A quite important offer of training exists already but seems to mainly target master-builders whereas it is essential to provide training to project manager, notably those in charge of rental management (given the impact of renovation operations on rent charges and maintenance).

→ **Develop a renovation QEB approach (in public and private social housing)**

It is essential to capitalize on the acquired experience of regional partnership between ADEME, ARRA and the Regional Council developed since 2007 in the construction field. What is at stake today, is to **extend principles funding the QEB approach to renovation**:

- Priority given to energy saving, renewable energy and energy cost management;
- Global consideration of environmental quality, including tenants' health and comfort;
- Results assessment in order to promote experience learning;

and to **provide a technical frame of reference « QEB renovation »** which would be made up of :

- Assistance for housing associations (information, training, hotline);
- An assessment and monitoring system;
- A financial support for studies/audit and works;

This new approach needs to be prepared on the basis of renovation experiences developed in 2009 with ERDF and Region call for proposals.

→ **Provide a specific view of Rhône-Alpes social housing's state and evolution in terms of energy and environment**

Carrying out an energy saving program in Rhône-Alpes social housing required a **quantified view of environmental and social issues of it**. And yet, one of the weaknesses that have been identified by the study of 2008-2009, is precisely the difficulty to obtain **good quality, reliable and updated data**, providing a specific and regular picture of the housing stock.

Setting up a regional observatory of social housings renovation will enable to highlight and deal with some issues that are specific to Rhône-Alpes, as electric heat, class D stock, works impact on rent and energy costs. It will provide resources to housing corporations enabling them to integrate energetic and environmental criteria in their strategies and so better comprehend and plan their works.

→ **Promote energy efficiency monitoring and assessment culture**

The lack of tools allowing monitoring and running of energy efficiency in housing is damaging to the management of property holdings of housing associations. These tools would allow to **drive the building running (maintenance and operating), to provide a feedback on energy saving and**

rent, on the basis of regular and reliable data. Housing associations ask for a monitoring system which enables them to **identify and to work on variables**, in particular uses (tenants' behaviours), impacting energy efficiency of buildings. This monitoring system would aim to a better management of renovation operation and of the buildings maintenance.

→ **Get financial means necessary to lead renovation operations in social housing**

With an ambitious national framework (Grenelle) and in a difficult financial context, housing corporations and local authorities have two issues to deal with:

- To benefit from **sustainable and comprehensible subsidies** (ERDF, grants from the State, Regional council, Cities, etc.)
- To **handle financial engineering** related to energy efficiency which is more and more complex but offers lots of tools to housing associations and public entities:
 - Energy Performance Contracting, tool instituted by the EU and confirmed by the French Grenelle laws but which is still not very used in France. In Rhône-Alpes some EPC bench test will be launched on public buildings, owned by State et regional council, whose results would be useful for the housing field.
 - Energy Savings Certificates, tool which allows to find complementary funds, is used by housing corporations in Rhône-Alpes.
 - European funds like ELENA or JESSICA which are little-known in France and not very used.
 - Energy production, feed-in tariff

→ **Accompany and increase tenants awareness of energy efficiency**

The success of an energetic renovation operation depends mainly on behaviours of tenants. So it is essential to plan actions aiming at tenants such as awareness campaign and training, before, during and after renovation operations. This approach is **much more complex for a renovation than for a new construction insofar as the “unlearning” and behaviours change issues are raised.**

REGIONAL ACTION PLAN'S STRATEGIC AXIS

1. REGIONAL SUPPORT FOR RENOVATION OPERATIONS IN SOCIAL HOUSING

Following the regional elections and the change of executive committee in March 2010, the regional policy on housing is being reworked. Although they are still based on the same guiding principles (territorial solidarity and sustainable development), **new orientations have been passed in December 2010 by the plenary assembly in favour of a regional renovation plan.**

The **implementation of this plan in 2011-2013** is the principal action of this first axis. It will be lead by Regional Council in partnership with ARRA and ADEME. This plan will fit into the scheme of the QEB approach and will take advantage of the ERDF experience.

Elaborated since springs 2010, it proposes a **global approach of the renovation** (architecture, energy, material, charges, accessibility, health, etc.) which will be based on **technical, energetic and social diagnosis**. It will bring to housing corporations and to social co-owned properties assistance and financial support. Technical criteria are being elaborated et would be adopted by Regional Council at the beginning of 2011 (February). This plan is a progressive one which will be revised after a 1-year test-period thanks to the assessment results and the out-puts of CASH project.

2. THE STATE OF PLAY, MONITORING AND ASSESSMENT OF PUBLIC HOUSING RENOVATION IN RHÔNE-ALPES : DATA BASE AND STEERING TOOLS IMPLEMENTATION

This axis implies the implementation of several actions:

- ♦ **Study of characterisation of social housing stock** commissioned by the DREAL. Results would be known in *February 2011*.
- ♦ **Observatory of the advances of Grenelle in Rhône-Alpes in matter of housing, construction and city**, project lead by DREAL whose definition is *in progress*. It will consist in a map making and figures.
- ♦ **Regional observatory of the housing stock retrofitting and energy costs management**, lead by ARRA in partnership with Regional council and ADEME.

This observatory aims to give a view on 3 levels:

- 1) An energy cartography with the evolution of the performances ;
- 2) A mid-term view of housing associations investments in matter of renovation (part of energetic works, maintenance operations, etc.)
- 3) A long-term view on some representatives operations (30 to 50) with a comprehensive analyse of techniques, financial engineering, impact on charges, etc.

This action will have 2 phases

- *December 2010- April 2011*: a preliminary mission enabling the validation of the observatory perimeter, the relevance of the proposed data and to check the conditions of data collect and processing.
 - *April 2011-2013*: development of a collect tool and creation of a data base which will be easily used by housing corporations.
- ♦ **GOSPELS project: « generation of a monitoring tool of energetic performance in public housing**, *end of 2010-beginning of 2013*, partners : ADEME, ARRA, housing associations, Regional council, technical partners, etc.

It consists in the elaboration of a steering tool for the maintenance and operating of the buildings or for the leading of renovation operations. It aims at:

- Securing acquisition of regular and accurate data in order to provide housing corporations with automated reports which analyse all significant variables.

- Regularly correct maintenance of buildings thanks to monitoring indicators for all technical systems and thus avoid malfunctioning as over consumption of energy.

The first step for GOSPEL is to define a suitable methodology for energy performance monitoring in social housing and the second step will be to realize an operational prototype of software and make the housing corporations able to use and implement this prototype.

3. EXPLORATION OF FINANCIAL ENGINEERING: WHICH FINANCIAL TOOL TO FUND ENERGETIC RENOVATION OPERATIONS?

At the actual stage of the regional plan, it is planned to tackle the question of financial engineering in the framework of a **working group gathering departments of the Region**: Finances and Budget Department, Environment and Energy Department and Patrimony Department. These one have initiated discussions on financial tools related to energy efficiency.

With the project CASH, we plan to deal with the specific issue of housing and renovation and to **analyse/develop financial tools like Energy Savings Certificates, Energy Performance Contracting, invest funds**, etc. which could **complete the subsidize logic**.

In this respect, we will take advantages of what has already been implemented by the French State and Regional Council in matter of EPC in public buildings. Others actors like CDC and EIB would be invited to participate in our working group.

4. TENANTS ASSISTANCE AND AWARENESS ABOUT ENERGY EFFICIENCY

Regional level of our LSG, compared to city level, is the good one to :

- Initiate a **collective think about tenant consciousness raising** which could be then adapted by each housing associations with implementation of specific tools
- Guarantee a **function of dissemination of good practices** (notably those developed by the local action plan of Echirolles).

5. TRAINING OF PROFESSIONNALS

It is first necessary to make a **state of the art** in terms of existing training (pedagogic content, offer, targeted public) in order to precisely define the needs, which at first sight would concern mainly project managers, notably those in charge of rental management. Then, we could develop a **relevant training offer on energy efficiency in existing buildings** as it has been done in the QEB approach on the new constructions.

6. PRODUCTION AND DISSEMINATION OF A COLLECTIVE KNOWLEDGE

On the basis of the previous strategic axis and **in a transverse way**, the following actions will be implemented in order to produce and disseminate collective knowledge on energetic renovation in social housing:

- **Promotion and capitalisation of CASH actions lead in Rhône-Alpes through the website www.logementsocialdurable.fr and our regional networks** like the ORHL network (Observatory of regional housing) animated by the State (Housing Regional Department) and the Region. The 2011 actions plan of ORHL will notably include workshops on co-owned properties renovation et on new thermal regulation. The general assembly, at the *end of 2011*, will address the **housing issue at the European scale and will expose first CASH results**.
- Constitution of a **think tank/discussion group on energy renovation of social housing in Rhône-Alpes**, based on the members of the LSG and the different regional partners it works with.