Supporting Policy Implementation of EE measures in buildings

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Training course on EE and RES in buildings

24th February 2020 – Tunis
The French Environment and Energy management agency

Under the Joint authority of 2 supervising Ministries
- Ministry for the Ecological and Inclusive Transition
- Ministry of Higher Education, Research & Innovation

Staff: 960 employees
17 regional offices,
3 representations in overseas territories,
1 office in Brussels,
BUDGET 2018: 540 M€
+ 2010-2020: 4.5 Billion € for Investments for the Future

A public body founded in 1990

AQA air quality
AFME energy management
ANRED waste management

Renewable energies
Energy Efficiency

Solid Waste management
Circular economy
Pollution of soils

Air pollution
Noise
Reduction of food wastes

Transversal activities (energy efficiency indicators, climate change, environmental management, communication & training, etc.)

ADEME’s objective
Be the point of reference and privileged partner for the general public, private sector and local authorities

ADEME’s role
Generalize good practices, support research & innovation
Why do we care about energy efficiency in buildings?

• Private sector
  – New products and technology (industry)
  – Local construction market (SMEs)
  – Investment (finance)

• Public authorities
  – Climate change mitigation - *and* adaptation
  – Improve citizens’ well-being
  – Sustainable economic development

• *National energy agencies*
  – Often in charge of concrete policy implementation
  – Link between government and citizens, businesses, local auth.
  – Aware of difficulties and possible improvements
Implementing efficient buildings policy

• Many Mediterranean countries have or develop a legislative framework for EE in buildings

• Energy consumption in buildings remains hard to curb
  – Different responsibilities (builder, owner/s, tenant, appliance manufacturer and consumer, national/local authorities)
  – Unsufficient enforcement and controls
  – Broader socio-economic issues (e.g. quality in the building sector, energy policy/prices)
The French building sector at a glance

- 1st energy consumer (45%), high opportunities for energy efficiency
- 25% of GHG emissions
- 7% of the national GDP, staff = 1.5 million people

<table>
<thead>
<tr>
<th>68.7 MToe: 45% of total energy consumption</th>
<th>New construction annual flow</th>
<th>Stock of existing buildings</th>
<th>Life duration of construction</th>
<th>70 million TCO2 25% of total CO2 emissions</th>
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<tbody>
<tr>
<td>1.05 Toe per year and per inhabitant</td>
<td>330,000 dwellings</td>
<td>32.6 million dwellings</td>
<td>&gt; 100 years on average</td>
<td>0.3 ton of carbon per year and per inhabitant</td>
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<td>20% increase over the past 30 years</td>
<td>33.7 M m² non residential buildings</td>
<td>931 M m² non-residential buildings</td>
<td></td>
<td>32.5 million tons of carbon</td>
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Main challenges in 2050: dividing energy consumption by 2, reduce GHG emissions by 40% (reinforcement of thermal regulation in new buildings, and renovation of existing buildings)
The long way to phasing out inefficient dwellings (2025) and a nZEB building stock (2050)

Evolution of energy band for individual housing at current renovation rate

Source: ADEME
Combine legislation and non regulatory measures to solve the efficient buildings puzzle

• Better regulation (market « push »)
  – Towards full implementation of EE policy
  – « EE first »: consistent policies across sectors (NECPs)
  – Evaluation of policies (conditional NDCs)

• Non legislative tools (market « pull »)
  – Good practices, innovation
  – Focus on achieving performance over implementing regulation

• Different types of finance can help in different ways
  – Public finance to help improve regulatory / market framework
  – Private investment to multiply viable EE actions
  – Hybrid approach (white certificates)
Typical scheme of new building regulation process

- **Currently**: Thermal regulation « RT 2012 »
  - Maximum consumption of 50 kWh/m²/year for heating, cooling, DHW, lighting and ventilation

- **2020-2022**: Next regulation « RE2020-2022 »
  - Setting criteria not only on energy, but also on carbon.

- **To get there**: Prefiguration and test ➔ E+C- label (voluntary label)
Tools and programmes for the mobilisation and training of professionals
Capacity building measures

- Training – Focus on PRAXIBAT approach
- Certification – RGE
- Awareness Raising of professionals
- Mobilisation charter
Mobilisation at the local level

Les Plateformes Territoriales de Rénovation Énergétique (PTRE)

- French experimentation developed by ADEME since 2014 (within the PREH and LTECV)

- Missions:
  - supporting each HH in its renovation project
  - mobilizing all the professionals of the building sector (including BCE, engineers, architects, banks, etc.)
  - facilitating the emergence of a private supply for deep energy renovation

1 outils financiers, banques
2 sur Evaluation PTRE en 2017, dans une phase de montée en puissance des PTRE
Training on thermal regulation in Morocco

• Important needs in terms of initial and lifelong training
  ▶ Needs Assessment done in 2011
  ▶ Priority given to professionals: implementers, construction site managers, architects, urban agencies, etc

• Design and implementation of FORMABAT training modules by AMEE (2013)
  ▶ Theoretical and practical sessions, organised in 6 modules
  ▶ Dedicated technical platform within the « green platform » of AMEE in Marrakech
  ▶ First sessions in 2015 – training of trainers
  ▶ Dissemination – 5 certified trainers have trained more than 200 professionals
MODULES D’EFFICACITÉ ÉNERGÉTIQUE DES BÂTIMENTS DE FORMABAT ET D’ÉVALUATION

1. Concevoir un bâtiment énergétiquement performant.
2. Approfondir les pratiques constructives spécifiques aux bâtiments énergétiquement performants.
3. Approfondir les choix des équipements énergétiquement performants.
4. Suivre et contrôler la qualité d’un chantier de bâtiment énergétiquement performant.
5. Passer commande avec la réglementation thermique de la construction au Maroc.
6. Mettre en pratique les matériaux d’isolation thermique.
7. Évaluer l’appropriation par les stagiaires.

Le plateau technique de formation de l’AMEE à Marrakech, sur la green platform : 1. Le « totem » intérieur. 2. La cellule pédagogique extérieure.
DISPOSITIF DE FORMATION

Modules techniques de 1 à 6, module 7 (module pédagogique), module E (évaluation)

Public Ingénieurs, Architectes

Module 1
Concevoir un bâtiment énergétiquement performant

Module 2
Approfondir les pratiques constructives spécifiques aux bâtiments énergétiquement performants

Module 3
Approfondir les choix des équipements et la gestion d’un bâtiment énergétiquement performant

Module 4
Suivi et contrôle de la qualité d’un chantier de bâtiment énergétiquement performant

Public Maîtres d’ouvrage, Décideurs

Module 5
Passer commande avec la réglementation thermique de la construction au Maroc

Public Techniciens, Chefs de chantiers

Module 6
Pratique des matériaux de construction et d’isolation thermique (parois opaques et parois vitrées)
Research, development and demonstration projects
Developing the concept of single-family, positive-energy houses for all uses

Constructing 25 demonstrator buildings that will be inhabited and situated throughout France

A partnership with 10 builders

- Partnership of 22 public-private institutions
- Total cost of the project: €16.7M
- Including PIA support: €4.6 M
- Form of PIA support: subsidies and refundable grants
- Delivery: 2019
Communication and awareness raising for households
Missions
- Welcome, advise and inform households
- Neutrality, independance and free service

Key results
- Since 2001, 261 Energy Info Points in the whole country
- 550 energy advisorss in contact with 183 100 households/year (2018)
- > 200 information leaflets published
- 94,5% people satisfied with the services (2017 survey)

Organisation
- General coordination by ADEME (funds, promotion, regular training of advisers on new technologiestraining and communication tools)
- Cost : 35M€ per year (ADEME : 42 %. Local authorities : 58%)
2018-2020 - A national awareness raising campaign for the new renovation plan

Facilitate, Support and Inform

- Encourage and mobilize all public and private stakeholders for renovation
- « make readable » a public service for information and advisory for energy renovation for citizens
- Navigating the renovation funding
  - Tax credit and zero interest rate loans for existing buildings refurbishment (insulation, equipment...), white certificates

Watch video

www.faire.fr
Other support measures

• Sector studies and analyses (market, prospective, behaviour)
• Observatories and data bases
• …
Activity (15min)

- Present your most successful experience with EE buildings implementation support
  - Topic
  - Main achievement (why was it successful?)
  - What did you learn during this activity?
  - How could it be improved if you did it again?
Perspectives for regional cooperation on support to EE buildings policy implementation
MeetMED1 results on EE in buildings (1)

• Strengthen regulatory framework with new and effective measures,
  – EE Building Codes (for the envelope and for technical systems),
  – Energy Performance Certification/Rating Systems,
  – Minimum Energy Performance Standards and Labelling systems for equipments/appliances

• Clarifying entities responsible for the implementation of the measures to avoid uncertainties
MeetMED1 results on EE in buildings (2)

- Voluntary measures tend to not be implemented
- For mandatory measures, enforcement procedures through ex-ante and ex-post control are required

- Energy prices reform is vital to reduce subsidies
- Data collection procedures to evaluate the effectiveness of measures at national and regional level
MeetMED1 results on EE in buildings (3)

- Incentives to encourage private owners/occupants to implement energy efficiency solutions
- Capacity building of experts for construction, renovation, control and inspections
- Awareness raising campaigns and pilot projects to demonstrate and promote the benefits of EE in buildings
MeetMED1 results on EE in buildings (4)

• Encourage regional dialogue between stakeholders to achieve
  – regionalisation of standards,
  – development of cooperation programs,
  – monitoring and benchmarking procedures at regional level
MeetMED 2 state of play

- €5Mn for further MEDENER/RCREE cooperation after MeetMED on energy transition for climate change mitigation (2020)

- Expected results
  - Drafting, adoption and enforcement of energy efficient building codes;
  - Standardisation and labelling processes for appliances, enforcement of national and/or regional market surveillance mechanisms;
  - Regulatory frameworks that contribute to de-risking business environments;
  - Increased private sector involvement in the renewables and energy efficiency markets,
  - Support to national agencies and line ministries and enhanced staff capacities;

ANNEX I of the Commission Implementing Decision on the Annual Action Programme – Part 1 – for 2019 in favour of the ENI South countries
Proposed general structure of project

• Identify a limited number of concrete demonstration projects or "flagship projects" distributed among the beneficiary countries which will give high visibility to the whole programme;

• Define complementary activities for the different expected results to support the implementation (technical assistance, training, etc.) and dissemination (awareness raising, feedback, etc.) of these "flagship projects";
Activity (20min.)

• What sort of support measures for EE in buildings would you
  – need to achieve national policy objectives?
  – ou would like to share with MeetMED partners?

• New activity or upscaling of existing one
Possible activities

• "Cool buildings“ project for the reduction of cooling energy requirements

• Context: The growing demand for air-conditioning is a key factor in the increase of energy consumption and greenhouse gas emissions in the building sector in the Mediterranean (in 2018, air-conditioning accounted for 10% of global electricity demand). Despite significant efforts to improve the energy efficiency of cooling appliances (energy efficiency standards, energy labelling), the specific savings are offset by the increasing number of air conditioners. In addition, they reject heat to the outside and contribute to the increase of the city temperature, thus generating a greater demand for indoor cooling and thus more heat.

• Objective: To stop this vicious circle, energy-efficient cooling solutions should be promoted. Small-scale demonstration projects should show existing/promising solutions (appliances, building and urban design, behavioural change...) that are reliable, affordable and replicable throughout the region.
“cool building” demonstration projects for the reduction of air conditioning related energy needs

<table>
<thead>
<tr>
<th>Expected results from EC</th>
<th>Possible articulation with flagship project</th>
<th>Desired activities/needs</th>
<th>MEDENER member experience to put forward</th>
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<tbody>
<tr>
<td><strong>1. BUILDING CODES</strong></td>
<td>Develop practical recommendations / specifications for building cooling to be included in building codes, establish simple performance standards or verifiable technical standards.</td>
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<td><strong>2. PUBLIC AWARENESS ON EE (buildings and appliances) SMALL DEMO PROJECT</strong></td>
<td>Awareness campaign on alternative cooling solutions (exemplified by demonstration project)</td>
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<tr>
<td><strong>3. MARKET SURVEILANCE (appliances norms and labelling)</strong></td>
<td>Possible link with EE of cooling appliances and compliance/performance controls in the building sector</td>
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<td><strong>4. DE-RISKING BUSINESS ENVIRONMENT</strong></td>
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<td><strong>5. PRIVATE SECTOR INVOLVEMENT</strong></td>
<td>Create business opportunities for alternatives to AC (currently perceived as main cooling option) in the industry and building sector (can also include urban planning)</td>
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<td><strong>6. AGENCY AND MIN. STAFF CAPACITY BUILDING</strong></td>
<td>Training on relative costs and energy climate impacts of different cooling solutions and policy options to support alternatives to air conditioning</td>
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<td><strong>7. SUPPORT UfM SECRETARIAT</strong></td>
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To prepare your answer (1)

• Example of subjects
  – Appliances and systems
    • Efficient AC, alternative cooling technologies
  – Building envelope (retrofit)
    • Better insulation, …
  – Cooling practices (behaviour change)
    • Use of AC, avoiding AC
  – Passive design (new buildings)
  – Cool urban planning
To prepare your answer (2)

• Important information
  – L) Is there a legislation in place?
  – T) **Target** group of the activity
  – D) How would you **demonstrate** efficiency
  – M) How would you **measure** results?
  – S) Key institutions and **stakeholders**
Conclusions
• The building sector is central for the implementation of Mediterranean countries’ NDCs

• Many successful experiments and innovations exist (technological, social, organisational), the objective is to turn them into general practice and deliver massive savings

• International cooperation is important to achieve this change in scale, through the exchange of good practices and the mobilisation of funding
Please take 5 min. to fill the evaluation form
Thank you for your attention!

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