SESSION 7

POLICIES FOR BUILDING

Moderator: Dominique Osso, EDF

PAPERS:

Effectiveness of Financial Incentives to Energy Efficiency– Case: Croatia

Vesna, Bukarica, University of Zagreb - Faculty of Electrical Engineering and Computing
Slavko, Krajcar, University of Zagreb - Faculty of Electrical Engineering and Computing

Assessment of Building Energy Policies in the IEA and the BRICS Countries

Yamina, Saheb, International Energy Agency
Alastair, Blyth, Organisation for Economic Cooperation and Development
Aurelien, Saussay, International Energy Agency
Vida, Rozite, International Energy Agency
MaryRose, Cleere, International Energy Agency

Combining Theoretical Analysis with Empirical Evidence from an International Comparison: Policy Packages to make Energy Savings in Buildings Happen

Stefan, Thomas, Wuppertal Institute for Climate, Environment and Energy
Vera, Höfele, Wuppertal Institute for Climate, Environment and Energy

SESSION SUMMARY:

As it is generally acknowledged , that existing and even new buildings are one of the major sources of energy loss and are a valuable target to reduce energy consumption and green house gas emissions. However achieving the savings continues to be a difficult task. This session will focus on policies dedicated to buildings (residential and commercial) with presentations concerning theoretical analysis and current policy package options in various countries and an interesting European country (Croatia) case study

The case study paper presents an *ex-post* evaluation of an energy efficiency fund providing financial incentives targeting not only buildings but also industry and transport. It is interesting to know, in the specific case of Croatia, which was the most active and cost effective sector to fulfill required energy savings. This bottom-up evaluation allows us to assess the energy savings and the cost of saved energy from a government perspective (i.e. use of funds coming from environmental charges).

More than 880 projects were funded representing gross annual energy savings achieved in 2010 equal to 779 TJ/yr, with the main share relying on the industry sector (75%). The cost-effectiveness of the funds used to co-finance the different projects (up to 40% of the investment), appears to be lower than the energy cost (gas or electricity). The most cost-effective projects are those coming from the industry. Unfortunately, projects dedicated to buildings, dominantly related to envelope refurbishment, are on average not profitable as the evaluation deals with total investment cost, and not additional costs, and without considering co-benefits (e.g. living conditions). The worst cost effectiveness is shown by the transportation sector.

The second presentation of this session helps us to describe the overall picture of building energy policies of more than 25 countries. Moreover, the authors aim at evaluating the whole policy implementation process and the interactions between different policies. The analysed policies rely on both mandatory regulations and energy labels or certificates covering both new and existing

buildings. Moreover, various countries used a range of incentives (tax, grant or loan) as short-term tools.

Mandatory building codes appear to be the common situation in 70% of the surveyed countries even if in some cases the code is still voluntary. Energy labels are generally mandatory but only in the EU countries. Usually, the building energy codes are revised on a regular basis and rely on model based or prescriptive approaches. The verification process of compliance and the sanctions in case of non-compliance remain unclear in most of the countries even in case of mandatory scheme. Unfortunately, the lack of available quantitative data did not allows to use the developed indicators by the authors to quantitatively compares the countries situation.

The last presentation was designed to determine the best policies to stimulate energy efficiency in buildings from theoretical evidence and evaluation results. The theoretical study (actor centered analysis) allows us to identify which policies and measures should be used to overcome market participants' barriers along the complex value chain in the building lifetime and to avoid lock-in effects (i.e. missed opportunity even if case of cost-effectiveness). The new construction of a building was used as a case study to identify actor-specific barriers and incentives and strategy to tackle barriers.

Thus, the proposal of a policy package to develop adequate strategies should include: policy roadmap toward ultra-low energy buildings, infrastructure, infrastructure funding, minimum efficiency performance standard, education and training, energy certificate as well as adequate energy prices. Such proposal is then compared with 5 examples of already implemented good practices and fits well. In order to realise such a comparison a multi-criteria analysis was developed to qualify the rather vague "good practice" terminology.