

UNECE Green Economy Seminar Report



Seminar 1 - 04.2012

Greening Homes in the UNECE region: case studies, actions and financing

Buildings are among the longest lasting man-made structures with a lifespan of 30 to over 150 years. They have the greatest potential for greenhouse gas emission reductions in a cost-effective way using technology already available.

This makes buildings and housing priority sectors for green investments: failure to start acting now may result in environmentally damaging developments that would be difficult and costly to reverse. This is why we decided to dedicate the first session of the UNECE Green Economy Seminar series to sustainable buildings and energy-efficient housing.

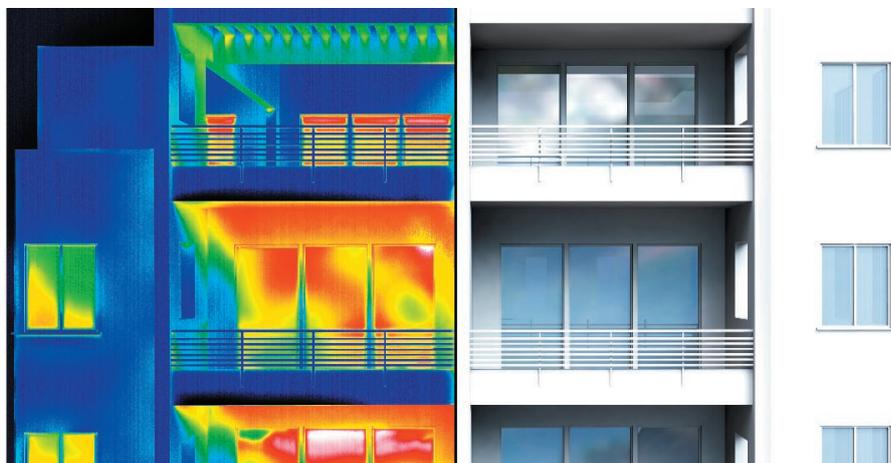
The "Green Economy" is considered to be "an economy that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities" (UNEP 2011).

In brief, a Green Economy is low-carbon, resource-efficient and socially inclusive.

This implies that economic growth, income and employment are driven by public and private investments which:

- Reduce carbon emissions and pollution,
- Enhance energy and resource efficiency, and
- Prevent the loss of biodiversity and ecosystem services.

To realize this transition, it is necessary to create an enabling envi-



The UNECE seminar series

UNECE works in many sectors that have or could improve their environmental performance, while supporting growth and production.

Therefore, UNECE is organizing a series of Green Economy Seminars to initiate exchanges on the way forward toward a Green Economy across the region. These seminars provide a platform for shared discussions on how to integrate environmental and social considerations within the mainstream of economic decision-making. They promote intersectoral

cooperation and present innovative projects and concepts from UNECE partners.

The first seminar took place on 4 April 2012 at the Palais des Nations in Geneva. The following articles summarizing the different presentations of this session for you.

The next sessions of the Green Economy Seminar are planned for **26 June** on Real Estate Markets and for **26 September 2012** on Cities in a Green Economy.

ronment. This includes regulations, policies and incentives as well as an international market and legal infrastructure. All of these should enable economic growth and investment while increasing environmental quality and social inclusiveness.

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Taking action for energy-efficient housing

Energy efficiency is the greatest energy resource. It is cheaper and quicker to invest in energy efficiency measures than in alternative sources of energy supply.

With its cooler and temperate climate zones, over 50 per cent of energy in residences in the UNECE region is needed for space heating.

Focus on existing housing stock

A priority area for energy efficiency investments is the renovation of the existing housing stock, especially the panel-built multi-unit apartment blocks. Why? Most buildings that will exist in 2050 have already been built. To avoid being trapped in a bigger

carbon footprint for years to come, we need to retrofit these buildings to be optimally energy efficient.

This means: using the latest technologies to achieve the maximum reductions in emission and energy consumption. Otherwise, we will be emitting more greenhouse gases in the coming decades than is necessary.

Benefits and barriers

Energy efficient housing comes with multiple environmental, economic, social and health benefits. It also leads to increased energy security and supports the regeneration of the built environment.

Unfortunately, a number of barriers prevent the broad application of energy efficiency measures in the residential sector. These include a lack of incentives, information, awareness and expertise as well as a lack of investment and innovation.

The Action Plan for energy-efficient housing in the UNECE region offers a framework to accelerate the transition towards energy-efficient housing and to create the enabling conditions for a broad application of existing technical solutions. Three key policy areas for action have been identified:

- Governance and financial infrastructure
- Energy performance standards and technology integration
- Affordable and energy efficient housing

As a next step, a series of sub-regional training workshops is under preparation where the Action Plan will be discussed with national governments. Also National Action Plans can be prepared for interested member States.



Maïke Christiansen
Sustainable Building Officer
UNECE Housing and Land Management Unit
maïke.christiansen@unece.org
www.unece.org/hlm/welcome

Delivering homes of the future – today

The Building Research Establishment (BRE) Innovation Park in Watford, UK is a demonstration park which contains some of the world's most sustainable houses. These houses are designed to provide a high quality of life with minimal environmental impact and are built to meet the environmental standards of the future. Among them is a building which already meets the future UK's code level 6 for Sustainable Homes (the highest level). Each of the houses was constructed with green technologies that were built in from the planning stages onward.

The park gives housing professionals, policy makers, and consumers the

opportunity to learn about the most modern green construction methods. In addition to ten residential structures, each of which demonstrates a unique way to construct a greener home, the park contains a visitor's center, a healthcare campus, a renovated Victorian stable block, and landscaping, all of which also highlight green technologies.

Homes made of hemp

Currently, a new Innovation Park in Ravenscraig is under development. Some of the highlights of this park are houses made of recycled shipping containers and renewable vegetable raw materials like hemp. These ho-

mes feature technologies which save energy in many ways, including increasing thermal mass, harvesting rainwater, and efficiently using daylight and solar heating.

BRE has recently signed an agreement with a Chinese developer, the Chinese government, and other partners to construct a 450,000 m² Innovation Park in Beijing to feature up to 20 demonstration homes and buildings. BRE Innovation Parks are also planned in Brazil and Canada.



Rufus Logan
Director
BRE Scotland
loganr@bre.co.uk
www.bre.co.uk



How **building rating systems** can drive the change

In Europe, more than 3,500 companies including architects and engineers, developers, contractors and builders, research and education institutions, manufacturers and distributors, are committed to sustainable buildings. They are members of national Green Building Councils (GBC), non-profit, member-based organizations which seek to make the building industries more sustainable. A key activity of GBCs is the implementation of environmental rating tools. These tools include a range of environmental performance criteria related to energy, water and resource use, ecological impacts, site selection, indoor environmental quality and construction processes.

Accelerate change

Sustainable building rating systems accelerate the change to sustainable buildings and construction at little or no cost to public administrations as they create demand for green buildings and thus help move the benchmark for building codes forward. Experience shows that the market recognizes the value of certified buildings as they are, comparably more quickly occupied by tenants and generate higher rental incomes. Moreover, initial extra costs for the building



design are compensated by lower construction and operational costs.

Customize existing protocols

A number of such sustainable building protocols are already in use around the world (such as LEED, BREEAM or Green Star). Each national GBC has the choice to adopt one of the existing tools, adapt an existing tool and customize it for the local context or create a new tool, customized specifically for its market.

GBC Italia, for example, developed

an Italian version of the US building rating tool LEED for New Constructions and Major Renovation in 2009. In March of this year, GBC HOME, a protocol for residential buildings in Italy was released. This tool is based on the building standards of the American LEED for HOMES but was adapted to meet European and Italian legislation.



Mauro Roglieri

Executive Officer
Green Building Council Italia
mauro.roglieri@gbcitalia.org
www.gbcitalia.org

Financing **energy efficiency investments**

Access to funding for cost-effective energy efficiency improvements is one of the main barriers to achieving a sustainable housing sector in the UNECE region. Several factors are hindering investment in this area: complexity of the regulatory framework, lack of operational instructions, and cumbersome authorization procedures. All these problems are amplified by a low level of awareness and professional skills as well as the lack of commercial banks' experience in financing schemes.

Through the Energy Efficiency 21 Programme (EE21), launched in

1991, UNECE works to enhance regional cooperation on the formation of an energy efficiency market. As a part of this programme, UNECE initiated the Financing Energy Efficiency Investments for Climate Change Mitigation (FEEI) project and the creation of a new public private partnership investment fund with target capital of € 250 million. FEEI aims to assist member States in identifying, developing and implementing energy efficiency and renewable energy investment projects.

FEEI targets Eastern Europe and Central Asia. Countries who are in-



terested in implementing the UNECE Action Plan on Energy Efficient Housing could benefit from the potential investment fund and be assisted in establishing strategic partnerships between the private and public sectors and civil society and in providing a platform for potential partnership between governments.



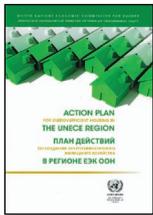
Oleg Dzioubinski

Energy Efficiency 21 Programme Manager
UNECE Sustainable Energy
oleg.dzioubinski@unece.org
www.unece.org/energy



Further reading on green homes and energy-efficient housing

Action Plan for Energy-Efficient Housing in the UNECE Region



The Action Plan provides a framework for member States to raise energy efficiency in the housing sector and thus enable them to more effectively address environmental and economic challenges and meet social needs. The Action Plan lists a range of measures aimed at removing barriers to energy efficiency and progressively moving towards a low-energy and ultimately zero-energy and carbon neutral housing sector.

<http://bit.ly/LXlWb8>

Languages: English and Russian

Green Homes: Towards Energy-Efficient Housing



This study outlines key benefits, challenges and prospects that UNECE member States should consider for developing their policies with regard to improved energy efficiency in housing. This report discusses policy implications and provides a set of recommendations for Governments to deliver better energy efficiency and improve the state of the housing sector.

<http://bit.ly/KZEwdf>

Languages: English and Russian

National Action Plan of Montenegro for Energy Efficiency Measures in the Residential Sector

The National Action Plan of Montenegro is the first spin-off of the UNECE Action Plan. It aims at assisting the Government in enhancing its energy efficiency policy for residential buildings by: assessing the existing legal



and institutional framework for energy efficiency in the housing sector; identifying institutional and legal impediments, as well as priority areas for action; recommending

action for improving energy efficiency in the residential sector. It specifically focuses on developing energy-efficiency measures in the context of regularizing informal housing.

<http://bit.ly/KmQKis>

Languages: English and Montenegrin

Building Codes for Residential Buildings



A sustainable building protocol and system called "GBC Home" was developed by GBC Italia. This tool is based on the building standards of the American LEED for HOMES but was adapted to

meet European and Italian legislation. GBC Homes covers different aspects related to building sustainability, including

- site selection and urban planning aspects,
- efficient water usage,
- energy performance of building and equipment,
- building materials as well as
- indoor environmental quality.

<http://bit.ly/KWqrRo>

Language: Italian

BRE Innovation Park Visitor Guide

The guide provides information about the buildings and landscape projects in the BRE Innovation Park in Watford, England. It was created in 2005 with the aim of trialling and testing the pioneering ideas of ar-



chitects, developers and manufacturers before applying them to real communities. The buildings and technologies in the Innovation Park will continue to be up-

dated, refurbished, added to or replaced, keeping them at the cutting edge of innovative sustainability.

<http://bit.ly/K6lruu>

Language: English

Regional Analysis of Policy Reforms to Promote Energy Efficiency and Renewable Energy Investments



South-Eastern European, Eastern European and Central Asian countries are confronted with a wide range of economic and environmental problems caused by their inefficient and polluting energy systems. At the same time, their energy economies provide some of the most promising opportunities for reducing global greenhouse gas emissions. This will require the use of cost-effective energy efficiency improvements and renewable energy technologies – the main self-financing methods to implement climate change mitigation. The main goal of the analysis is to provide recommendations addressed to the policymakers of the twelve participating countries in order to develop and implement policy reforms that will support market formation and foster a favourable climate for investments in the sectors of energy efficiency and renewable energy sources.

<http://bit.ly/HAIQ87>

Language: English

More information

United Nations Economic Commission for Europe (UNECE),
Housing and Land Management Unit, Palais des Nations, CH-1211 Geneva 10,
Switzerland, Email: housing.landmanagement@unece.org
<http://www.unece.org/hlm/welcome>

Credentials

Contributing authors: Maïke Christiansen, Michael Milligan, Nina Peeva
Photos by: BRE, C. Batac, Fotolia.com, P. Salize

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