

# EEB Laboratory **Poland**

Collaborative action towards  
achieving improved energy  
security for Poland

Energy Efficiency in Buildings

## WBCSD EEB 2.0 project members active in EEB Laboratory Poland

**SKANSKA** (project leader)



## EEB Laboratory Poland partners



## About the WBCSD

The World Business Council for Sustainable Development is a CEO-led organization of forward-thinking companies that galvanizes the global business community to create a sustainable future for business, society and the environment. Together with its members, the Council applies its respected thought leadership and effective advocacy to generate constructive solutions and take shared action. Leveraging its strong relationships with stakeholders as the leading advocate for business, the Council helps drive debate and policy change in favor of sustainable development solutions.

The WBCSD provides a forum for its 200 member companies, which represent all business sectors, all continents and combined revenue of more than US\$ 7 trillion, to share best practices on sustainable development issues and to develop innovative tools that change the status quo. The Council also benefits from a network of 60 national and regional business councils and partner organizations, a majority of which are based in developing countries.

[www.wbcd.org](http://www.wbcd.org)

## EEB 2.0 project members:

Lafarge (co-chair)  
United Technologies (co-chair)  
AGC  
AkzoNobel  
ArcelorMittal  
GDF SUEZ  
Infosys  
Schneider Electric  
SGS  
Siemens  
Skanska



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# Summary



The Energy Efficiency in Buildings Laboratory (EEB Lab) in Poland convened a wide range of local stakeholders and international experts to investigate barriers and identify enablers for greater market uptake of energy-efficient buildings in Poland. The Lab was organized by the World Business Council for Sustainable Development (WBCSD) together with the members and partners of its Energy Efficiency in Buildings (EEB 2.0) project.

Through a process of stakeholder interviews and thematic roundtables informed by a market review, the EEB Lab developed 20 recommendations for action addressing the principal barriers to market transformation identified by the stakeholders in the building value chain who were interviewed during the Lab. The recommendations address four broad barriers:

1. Lack of awareness and leadership;
2. Lack of knowledge and skills;
3. Lack of support for long-term policy;
4. Lack of multi-stakeholder engagement

The recommendations for action are detailed in the main body of this report (see page 16 and 30). EEB Lab partners have collectively already committed to implementing more than half of the identified actions (see page 30) and to working together to identify ownership for the remaining recommendations as members of a new Multi-Stakeholder Platform (see below).

In Poland, buildings are responsible for well over 40% of final energy use. Improving energy efficiency in buildings therefore offers great opportunities to reduce emissions and mitigate climate challenges. Energy-efficient buildings can also deliver multiple benefits on national, sectoral and personal levels, such as improved energy security, employment, and social and health benefits.

The business case for energy efficiency in buildings is strong and the international investor and tenant base is demanding highly efficient buildings. Pilot projects are happening in other segments of the market, such as the residential segment, but the potential in these other segments is largely untapped. Lab participants observed that there is effectively a two-tier market for energy-efficient buildings. New building construction for international developers that targets international tenants and investors, a relatively small market, requires energy efficiency and is typically specified with reference to green building rating systems such as LEED and BREEAM. On the other hand, the market targeting local private tenants and owner/investors is driven by a mentality of lowest cost of construction with no interest in energy efficiency. As a result,

energy efficiency has not been a high priority for building owners, developers and other players in the market and Poland has lagged other countries in implementing relevant European Union (EU) directives.

However, the Lab demonstrated a significant appetite for action and collaboration towards transformation, driven by an understanding of the

benefits and anecdotal evidence from the market segment driven by international tenants and investors. This enthusiasm led to the establishment of a Multi-stakeholder Platform for energy-efficient buildings, founded by seven partner organizations. The Platform will allow members to complement each other's activities on energy-efficient buildings and communicate work done; engage with the public sector on the development of a long-term energy-efficient buildings strategy; and engage in EU policy consultation through the channels offered by international partner organizations.

The Platform members will act on recommendations including a sustained awareness campaign on energy efficiency supported by new education and training materials, developing a long-term energy-efficient buildings strategy, and considering procurement strategies that incentivize greater integration in the supply chain. Businesses are recommended to take a lead by disclosing policies and the energy performance of their buildings and improving training for users when buildings are handed over.

The EEB Lab, held over three days in Warsaw in June 2014, was part of the third local engagement of the WBCSD EEB 2.0 project, which was launched in 2013. EEB 2.0 aims to unlock financially viable energy-efficiency investments that are not being realized because of financial, regulatory, organizational and other non-technical barriers and to achieve transformation in local and national markets.

# 2

## Energy Efficiency in Buildings: Scaling up Action

## Buildings are central to action on climate change

Buildings are the largest energy consumers in the world, accounting for more than one-third of all final energy use (well over 40% in Poland) and approximately 30% of global carbon emissions. Energy-intensive sectors such as transport and heavy industry are more visible, but buildings have a major role to play in any corporate or national strategy to tackle climate change. This is why the WBCSD created the Energy Efficiency in Buildings (EEB) project, concluding that it is one of the key areas for action on climate change.

## Overcoming barriers to transform the market

The first EEB project identified how to overcome barriers to energy efficiency in buildings, following a four-year research project. *Transforming the Market* made recommendations and created a roadmap to transform energy use in buildings. EEB showed that transformation requires action across the building industry, from developers and building owners to policy-makers.

## From research to action in EEB 2.0

The second EEB project (EEB 2.0) began in 2013 to implement the recommendations and stimulate change. Its goal is to unlock financially viable energy-efficiency investments that are not being realized because of financial, regulatory, organizational and other non-technical barriers. EEB 2.0 is working with local and international stakeholders to develop the business case for energy efficiency in buildings with different groups of decision-makers and to provide recommendations for action.

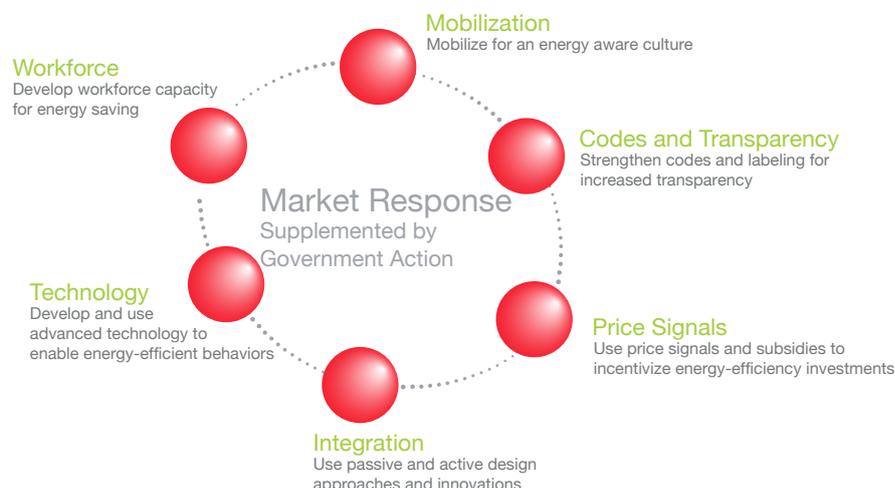
## Engaging to activate the market through EEB Laboratories

EEB 2.0 has developed a structured, replicable stakeholder engagement process to diagnose and tackle key barriers to energy efficiency in local building markets. It is pioneering at least eight market engagements – in the US, China, India, Brazil, Poland, Belgium/Netherlands, Singapore and Germany. EEB 2.0 acts as facilitator, especially through the EEB Laboratory, which aims to:

- Build a clear understanding of the market, identifying local barriers and enablers that could drive change;
- Define action to overcome barriers and catalyze enablers to assist in market transformation;
- Recruit key stakeholders to develop and implement an action plan for market-wide deployment.

The EEB Lab brings together local stakeholders and technical experts to pinpoint issues and priorities and create a coalition of actors who will drive transformation. This report presents the activities and outcomes of the EEB Lab in Warsaw on 10-12 June 2014.

Figure 1: How to transform energy use in buildings



Source: Transforming the Market, WBCSD, 2009

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EEB Laboratory  
in Poland

Warsaw was the third location for market engagement and an EEB Lab, following Shanghai and San Francisco. WBCSD chose Poland because of the size and the perceived condition of the real estate market, public interest in improving the country's energy security, and signs of an emerging interest in energy efficiency. Also, project members and partners have an interest and presence in Poland, allowing the project to leverage their local networks and resources.

## The EEB Lab Process

The Lab saw extensive preparation and operated over three days and with the involvement of international and local partner organizations. On the first day the Technical Committee interviewed stakeholders and then analyzed the contributions in these interviews to feed into roundtable discussions on day two. The final day brought together all participants in a high-level plenary session.

### Preparation

A **Technical Committee** is central to an EEB Laboratory. It brings together national and international experts who help to define the specific Lab objectives, carry out interviews with local stakeholders, and consolidate findings into meaningful recommendations for commitments and action. The Technical Committee in Poland consisted of 30 experts (see **Table 1** and the appendix for details on partners)



**Table 1:** Organizations represented on the EEB Lab Technical Committee

EEB 2.0 member companies	Laboratory partners	
Skanska (project leader)	Buildings Performance Institute Europe (BPIE)	National Energy Conservation Agency (NAPE)
AGC	Construction Marketing Group (CMG)	Royal Institute of Chartered Surveyors (RICS)
AkzoNobel	European Bank for Reconstruction and Development (EBRD)	UNEP Sustainable Building and Climate Initiative (UNEP-SBCI)
ArcelorMittal	Responsible Business Forum or Forum Odpowiedzialnego Biznesu (FOB)	World Green Building Council (WGBC)
Cofely/GDF SUEZ	Institute for Environmental Economics (IEE)	
Lafarge		
Schneider Electric		
SGS		
Siemens		
United Technologies		
JLL (project guest)		



## 1. Objectives

During a preparation meeting prior to the EEB Lab, the Technical Committee discussed the current market situation, identified key stakeholders to involve, and set the agenda and participant list. The Technical Committee set the following objectives for the Lab:

- Demonstrate the benefits of energy-efficient buildings to convince and commit stakeholders to invest in energy efficiency in buildings
- Deliver a tangible energy efficiency in buildings action plan for Poland
- Launch a self-sustaining stakeholder network with knowledgeable and skilled people who can connect with governmental organizations that will continue to drive a progressive agenda for energy efficiency in buildings.

## 2. Inputs

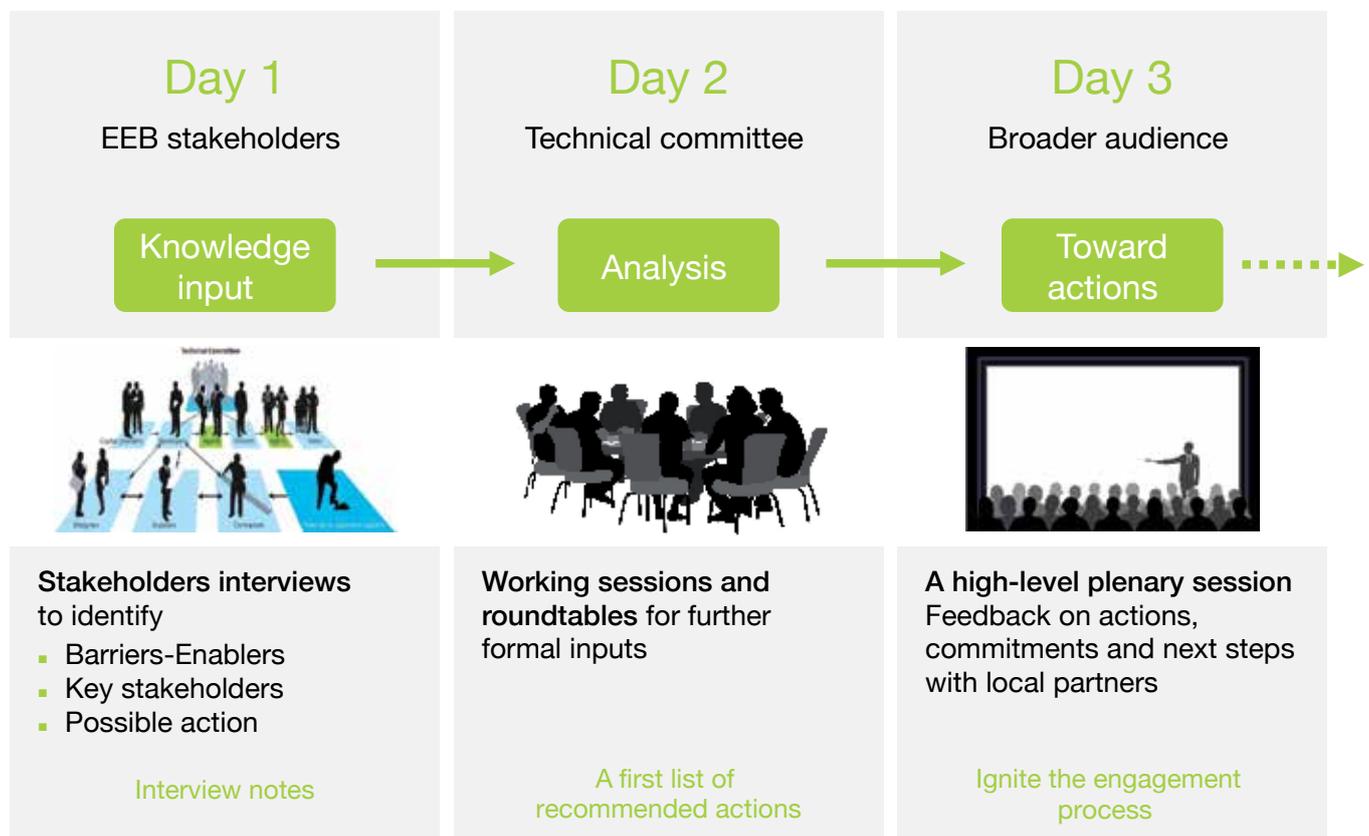
To support the Lab process, EEB 2.0 and local partner organizations produced a *Market Review*. The Review informed the interview process and roundtable discussions. It summarizes information available at the time, while not aiming to be an exhaustive description of the Polish building market. The *Market Review* can be downloaded from <http://www.wbcds.org/buildings.aspx>.

Interviewees were asked to complete a questionnaire providing background information to support the Lab process. (See **Box** on next page for a summary of responses.)



Plenary highlight: Roman Wieczorek from Skanska setting the scene and introducing the laboratory

Figure 2: The EEB Lab concept



# Focus

## How important is energy efficiency in buildings?

Energy efficiency in buildings is very important and has a strong business case. The average score was 4.2 on a scale of 1 to 5 (with 1 meaning not important and 5 meaning very important). It will become even more important – the score increased to 4.6 – over the next 3-5 years. It is most important for material suppliers (large international material suppliers only), followed by architects and design consultants. The business case featured among all groups of respondents.

The lowest rating came from developers, who do not appear to have specific company policies on energy efficiency in buildings. Some, notably those developing commercial properties, refer to the use of green building certification. Commercial developers all mentioned the positive business case for energy efficiency in buildings as one of the main drivers, with “a more attractive property – no increased value or premium” the typical argument. But they said it is not important for customers – mainly investors/home buyers and tenants – especially for home buyers. And it is of medium importance to their main suppliers – contractors, architects, design consultants and capital providers.

The majority of architects and design consultants made no mention of specific company policies regarding energy efficiency in buildings but referred to their customers’ use of green building certification systems. Some, however, do have energy efficiency in buildings policies focusing on their own facilities and creating awareness with their employees. More than half quoted the positive business case for energy efficiency in buildings

– multiple developer, investor and tenant benefits – being one of the main drivers for its importance. Despite that, they generally rated the importance of energy efficiency in buildings to their customers – mostly contractors, developers and investors/home buyers – as medium. Architects and design consultants said energy efficiency in buildings is increasingly important for their customers, mainly referring to green building certification systems (for commercial buildings). There is no clear position on the importance of energy efficiency in buildings to their suppliers.

Material suppliers said they have energy-efficiency policies in place covering their own facilities, usually including production facilities. They all mentioned environmental concerns as a driver, but two-thirds also mentioned the positive business case. They rated the importance of energy efficiency in buildings to their customers as medium for developers, contractors and investors/home buyers and high for other material or equipment suppliers. They have no clear opinion on the importance of energy efficiency in buildings to their suppliers – other (raw) material or equipment suppliers.

Few capital providers responded, which makes it difficult to draw conclusions. But it is worth highlighting the response from one international investment management company which said that energy efficiency in buildings is important in their firm and will become even more important over the next 3-5 years. The firm has a sustainability policy and introduced asset-level business plans for existing properties that incorporate measurable targets for reducing energy consumption and waste. It



participates in the Global Real Estate Sustainability Benchmark survey. The main driver quoted for this is the positive business case for energy efficiency in buildings.

Note: This summary is based on questionnaire responses from 23 participants, mostly from developers, material suppliers, architects, design consultants and capital providers.

## The three-day EEB Laboratory

### Day 1 Interviews

The Technical Committee held **43 interviews** with stakeholders from across the building value chain, representing most of the active segments. This series of interviews is a key element of every Lab and provided vital insights on barriers, enablers and actions relevant to Poland.

Table 2: Organizations interviewed

Architects, design consulting	Developers	Real estate advisors	Material / components providers	NGOs
Arup	BPI	CBRE		Polish Foundation for Energy Efficiency
APA Wojciechowski	Agena	Arcadis	BASF	National Fund for Environmental
Architekci	Capital Park	Jones Lang LaSalle	Philips	Protection and Water Management
WXCA sp. z o.	Ecoville	Grontmij	Rockwool	KAPE
Visio	Skanska Residential	CDP	Saint-Gobain	
PRC	UBM Polska	Dentons		
Kuryłowicz & Associates	Hines Polska		<b>Facility management</b>	<b>Academia</b>
Buro Happold	Ghelamco Poland	<b>Bank capital and finance</b>	Knight Frank	Warsaw University of Technology
Roger Preston	Kulczyk Silverstein Properties	Heitman Financial	Colliers	
WSP Polska	Echo Investment	Związek Banków Polskich	SPIE Polska	
ESCO		LHI		
Imtech Polska				

### Day 2 Analysis and discussion

At the end of day 1 and on day 2 the Technical Committee worked on consolidating the interview results. In parallel, WBCSD and its partners facilitated cross-sector roundtable dialogues on key barriers holding back green investments.

#### Roundtable 1

“Integrating energy efficiency and renewable energy in valuation practices” facilitated by RenoValue

**Focus:** Property valuation is essential to raise awareness of the value of investing in energy efficiency among developers and investors and other stakeholders.

See page 23.

#### Roundtable 2

“Energy performance and green design attributes improving social benefits” led by the World Green Building Council and Construction Marketing Group (CMG)

**Focus:** Social co-benefits of energy efficiency in buildings, such as improved health and productivity, can be a key enabler as they may significantly enhance the business case.

See page 19.

#### Roundtable 3

“Financing an energy-efficient building stock in Poland”, co-organized with the European Bank for Reconstruction and Development (EBRD) and Hines

**Focus:** Metrics and good practice examples can create the language and evidence to accelerate EEB investments.

See page 26.



## Day 3 **Plenary**

The Lab culminated in a high-level plenary: “Collaborative action towards achieving improved energy security for Poland – *Energy Efficiency in Buildings*” organized in cooperation with the Corporate Leaders Group – Europe Office (EU CLG).

The plenary achieved the key objective of sharing the Lab findings with a senior level audience of more than 100 building sector stakeholders, as well as fostering support and momentum for follow-up. The agenda and distinguished speakers are shown in **Table 3**

**Table 3:** Plenary session

### Collaborative action towards achieving improved energy security for Poland – *Energy Efficiency in Buildings*

#### Opening

**Roland Hunziker**, Director Sustainable Buildings / Energy Efficiency in Buildings project (EEB), WBCSD

#### Energy Security & Energy Efficiency

**Beata Jaczewska**, former Undersecretary of State in the Ministry of Environment, Ministerial Advisor in the Ministry of Economy’s Energy Department

**Robert Tromop**, Head of the Energy Efficiency Unit at the International Energy Agency (IEA)

#### Energy Efficiency Benefits

**Dan Staniaszek**, Senior Energy Efficiency Expert with the Buildings Performance Institute Europe (BPIE)

**Paul King**, CEO of the UK Green Building Council (UK GBC) and Chairman of the European Network of GBCs

#### Public-Private Finance

**Leszek Drogosz**, Director of the Infrastructure Department at Warsaw City Hall, Poland

**Alexander Hadzhiivanov**, Senior Engineer, Energy Efficiency & Climate

Change at the European Bank for Reconstruction and Development (EBRD)

**Mieczysław Godzisz**, Managing Director of Hines Poland

#### Summary and Way Forward

**Sandrine Dixson-Declève**, Director of the CLG/CISL EU Office (Moderator)

**Roman Wieczorek**, Executive Vice President, Skanska AB

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# General Findings

Poland has made tremendous economic progress and is quickly establishing itself as a major European economy. Its development has been driven by a very strong energy sector, fed by a national abundance of coal. National energy policies have therefore had little focus on reducing consumption. Participants said this lack of emphasis is a key barrier, exemplified by the fact that the country lags in implementing EU directives in relation to energy efficiency in buildings. As a result, the country is failing to capture the many co-benefits that energy efficiency in buildings can bring to private individuals and the national economy, such as improved energy security and additional employment.

## The market for energy efficiency in buildings in Poland

Lab participants observed that there is effectively a **two-tier market for energy-efficient buildings**. New building construction for international developers that target **international tenants and investors** require energy efficiency, typically specified with reference to green building rating systems such as LEED and BREEAM. Even though these systems lack specific energy-efficiency targets, projects are providing evidence of a positive business case and are starting to inspire other owner/developers. There has been limited energy-related renovation activity in this segment, however, probably because the building stock is relatively young and because of the well-known split incentives between owner and tenant that inhibit action.

In contrast, the market targeting **local private tenants and owner/investors** is driven by a mentality of lowest cost of construction. These local tenants show no interest in energy efficiency and are simply looking for the lowest cost space. With no demand from tenants and no sales premium for more efficient buildings, developers have no incentive to invest in energy efficiency. Some of this behavior may be explained by the fact that most developers divest shortly after completion, maximizing their development profit and leaving no incentive to optimize the total cost of ownership.

The Lab found no evidence of long-term owner/occupiers demanding energy efficiency. Participants said energy renovation of private sector buildings was virtually non-existent due to a lack of commercial interest and regulations demanding energy improvements for inefficient properties, despite the availability of regional and local support programs and incentives.

## Poland is lagging behind in implementing EU legislation

The EU is aiming for a 20% cut in Europe's annual primary energy consumption by 2020. By properly transposing and implementing EU legislation on energy efficiency in buildings, EU Member States can achieve a significant amount of cost-effective energy savings, improve energy security and avoid related greenhouse gas emissions. The main legislation is in two key directives:



July 2014 – The European Commission referred Poland to the Court of Justice of the European Union for failing to fully transpose the Energy Performance of Buildings Directive. The Directive was to be transposed into national law by 9 July 2012.

- Ensure the certification of building energy performance. (See [Box on Energy Performance Certificates](#), page 25.)
- Draw up national plans for increasing the number of nearly zero-energy buildings (NZEBs) and ensuring that all new buildings are to be NZEBs by 2021.

Poland has not submitted such a national plan to the European Commission, but after the Lab took place, the Minister of Infrastructure and Development launched a “Task force for preparation of the national plan to increase the number of low-energy consumption buildings” (ordinance number 28 from 16 June 2014).

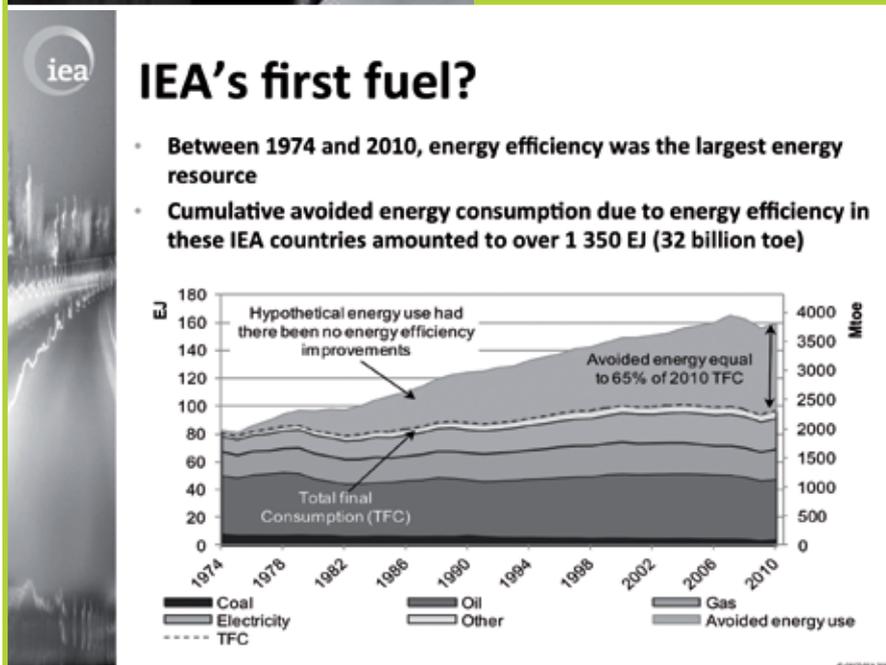
## Energy Efficiency Directive (EED - 2012/27/EU)

Lab participants drew attention to an insufficient response to the EU EED directive. The Directive came into force on 4 December 2012 and most of its provisions were to be implemented by 5 June 2014:

- From 1 January 2014, 3% of the total floor area of heated and/or cooled buildings owned and occupied by the central government must be renovated each year to meet at least the minimum energy performance requirements the government has set.
- By 30 April 2014, governments to submit to the Commission a long-term strategy for mobilizing investment in the renovation of the national stock of residential and commercial buildings. Poland has not yet submitted its strategy.
- By 30 April 2014 and then every three years, governments to submit a National Energy Efficiency Action Plan (NEEAP) to the Commission. The draft of the NEEAP, valid for 2020, was announced by the Ministry of Economy on 10 September 2014.

EU Energy Performance of Buildings Directive (EPBD –2010/31/EU)  
Under the recast EPBD adopted in 2010, Member States must:

- Establish and apply minimum energy performance requirements for new and existing buildings;



# Focus

## Benefits of building renovation

Extensive, detailed analysis of the potential for building renovation has spelled out the many economic, social and environmental benefits. The analysis, by experts in Poland and at the EU level, supports recommendations for a much stronger commitment to building renovation in response to the Polish government's draft renovation strategy published in May 2014. The government draft was intended to meet the requirements of Article 4 of the EU Energy Efficiency Directive but fell short of the expectations of many players in the energy efficiency in buildings community. Following the Lab, a growing number of stakeholders from across the supply chain are now forming a coalition to argue the case for an effective long-term building renovation strategy for Poland.

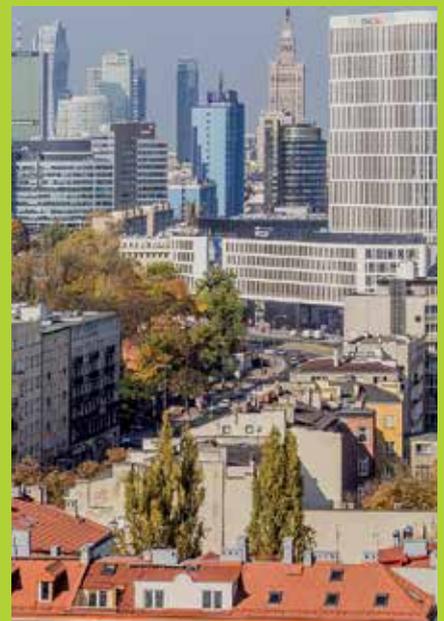
Details of the analysis, and the partners involved, are at <http://www.renowacja2050.pl/> (in Polish).



Plenary highlight: Dan Staniaszek building the case for energy efficiency in buildings and an ambitious renovation roadmap

### What are these co-benefits “worth”?

ITEM	MULTIPLIER
Energy Cost Saving	1.0
Economic Stimulus	1.5
Societal (health) Benefits	1.0
Environmental Benefits	0.1
Energy System Benefits	1.0
<b>TOTAL</b>	<b>4.6</b>



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# Detailed Analysis and Recommendations



In the following pages, we analyze in more detail the barriers identified by building market stakeholders interviewed during the Lab and the Technical Committee's recommendations for action in four areas:

- 1 Lack of awareness and leadership on energy efficiency in buildings;
- 2 Lack of knowledge and skills;
- 3 Lack of support for long-term energy efficiency in buildings policy; and
- 4 Lack of multi-stakeholder engagement on energy efficiency in buildings.

21% of developers surveyed are not aware that the design and construction cost premium on a green building can be offset.

*Analyzing the sustainable construction market in Poland, CMG*

## 1. Lack of awareness and leadership on energy efficiency in buildings

The barrier to wider adoption of energy efficiency in buildings mentioned most frequently during the Lab is a lack of awareness among the public but also among building professionals. This prevents decision-makers from choosing energy efficiency in building investments and is due to several factors:

- **The relatively low energy price** – Although the idea of “saving energy” is gaining importance, low energy prices mean there is little incentive to save energy and wasteful consumer behavior still prevails.
- **Lack of communication/education on the contribution of energy** – efficient buildings to improving the energy security position, reducing emissions and improving related impacts such as pollution, and curbing climate change.
- **Lack of clear leadership on energy efficiency in buildings** – many Lab participants mentioned that the market for energy-efficient buildings is driven by a relatively small group of international tenants and investors who rely on green building certification rather than specific energy performance.
- **Perception gap** – Building professionals think that the cost to build or retrofit an energy-efficient or green building is too high. However, Lab participants confidently reported that the additional cost to achieve a highly energy-efficient building is offset by the achieved energy savings.
- **Information gap** – Many participants quoted the lack of transparent data on the actual energy performance of Polish buildings.

## Recommendations for lack of energy efficiency in buildings awareness and leadership

The Technical Committee formulated the following recommendations for action to create greater awareness among the general public and building professionals, including clearer leadership in the private and public sector.

### Awareness

**01 Create a coordinated and sustained awareness campaign, supported by the private and public sectors and others, targeting different segments of society by appealing to their respective values.**

**02 Develop training materials for education curricula targeting young people.**  
Many participants mentioned that the key in raising the profile of energy efficiency in buildings is to educate young people – future decision-makers – who are likely to be much more receptive to the societal benefits of energy efficiency.

**03 Business to develop and disseminate Polish case studies that substantiate the business case for new and retrofit energy-efficient buildings to foster awareness and credibility.**  
Participants said information on actual building performance and case studies are essential to move beyond mainly anecdotal information. To achieve transparency, credibility and large-scale dissemination, it is important that energy performance and associated benefits be calculated for these case studies and presented in a consistent way, and that the results be widely accessible. The first steps should therefore be to define the case

study format and the calculation methodology, together with a dissemination strategy including a “central hub” for these case studies.

- 04 **Case studies and communication materials to include health and productivity benefits of energy-efficient buildings, based on adopting global metrics for health and productivity benefits in offices** (see information on the Co-benefits Roundtable on page 19 for details).  
These materials should include a human resources communication and education plan to help human resources departments understand their role in measuring and improving health and productivity in offices.

## Leadership

Clear, inspirational leadership is essential to create greater awareness and drive change. Participants argued that there is a lack of clear leadership in Poland in both the private and public sectors. Some exceptions exist, notably some local municipal authorities and international firms with energy efficiency and sustainability policies. However, this has yet to inspire greater leadership within the largely fragmented private and public sector. A key step is for governments and businesses – especially those in the building sector – to manage energy in their own buildings.

To achieve **greater private sector** leadership and consequently improve awareness of energy efficiency in buildings, we recommend that **businesses:**

- 05 **Publicly disclose the energy performance of the buildings they occupy – especially businesses in the building sector.** Businesses should consider demonstrating their commitment

by signing the WBCSD Manifesto, and/or committing to disclose building performance through initiatives such as GRESB, Greenprint and/or the use of certification systems.

- 06 **Publish their policies on the development, investment and leasing of energy-efficient buildings – especially international firms currently leading in this area.**  
By publishing corporate policies and creating increased transparency, firms currently providing leadership may provide further awareness and inspiration.

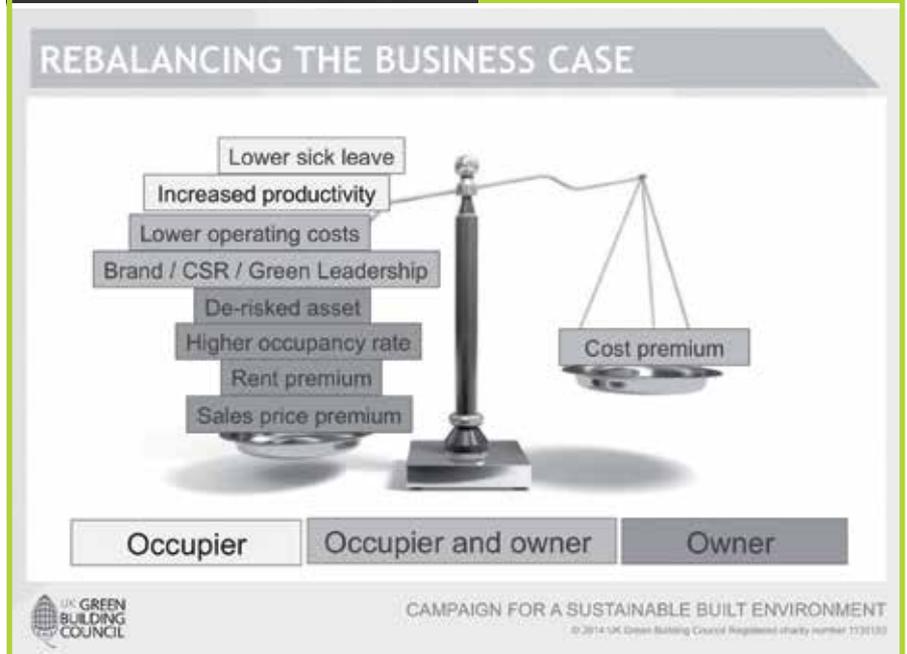
All participants acknowledged the potential of a well-coordinated public sector taking a leadership

role. In a largely fragmented building market, the public sector represents the largest customer. Furthermore, buildings occupied by the public sector – especially organizations providing public services – provide excellent opportunities to disseminate information and help foster greater awareness around energy efficiency in buildings. This potential is the basis for the exemplary role for the public sector required by EU directives (see **Box** page 20).

Lab participants suggested that other priorities have inhibited a greater role for the public sector, as well as the general lack of awareness.



Plenary highlight: Paul King from UKGBC and WGBC articulating the business case for green office buildings



“ Education on energy efficiency should cover all, from elementary schools to higher education.”

Laboratory participant

The following recommendations for the public sector address these shortcomings:

- 07 Engage with the private sector and others to build the business case for energy efficiency in buildings in terms of other national priorities such as unemployment, energy security, and competitiveness.
  - 08 Define the benefits of energy efficiency in buildings for their staff in terms of improved recruitment, staff retention, productivity, health and well-being.
  - 09 Publicly disclose and benchmark the energy performance of their buildings and use buildings to communicate on energy performance and planned interventions.
- The following additional recommendations for motivated local/municipal authorities highlight best practice in the public sector and encourage cooperation with building stakeholders during pre-competitive stages of project definition:
- 10 Develop and communicate powerful exemplary case studies inspiring building sector leadership.
  - 11 Engage with the private sector during the early definition of energy-efficient building projects.

# Focus

## Focus: Co-benefits Roundtable

Research\* shows that a building's indoor environment can significantly affect the health, well-being and productivity of its occupants. Green building design attributes can have a positive impact on the indoor environment, resulting in bottom-line benefits for businesses. In this roundtable, participants explored international cases where improvements to indoor environmental quality resulted in benefits to occupant well-being that could be directly converted into cost savings for business owners.

Although awareness around this topic in Poland is quite low, examples emerged during the roundtable of companies starting to make this link locally.

The World Green Building Council has completed a global project on this issue\*\* that explores common metrics and methodologies for gathering data on how occupants respond to their built environment. The main objectives of the project are to:

- Provide a toolkit of metrics that can be used by companies around the world to start collecting data in a common way;
- Provide best practice guidance on design features that help enhance the quality of the indoor environment;
- Identify an online global hub where resources on metrics and measurement can be hosted.

Locally, the Construction Marketing Group, led by BuroHappold Engineering, has launched an initiative to pilot these global metrics in Poland and the roundtable identified several companies interested in participating.

The project will analyze and adapt the global metrics and methodologies to the Polish market. These metrics and methodologies will then be applied by several companies to help create a set of case studies. The roundtable advised on using the findings to develop a *Facilities Management Guide* that can help building managers communicate with occupants and incorporate practices that help enhance the building's indoor environment. A human resources communication and education plan geared at helping human resource departments understand their role in this data collection and assessment process will also be implemented once a common set of metrics is agreed for Poland.

\* *The Business Case for Green Buildings*, Jan. 2013, World Green Building Council.

\*\* *Health, Wellbeing and Productivity in Offices*, Sept. 2014, World Green Building Council.



# Focus

## EU Directives on Public Leadership

The public sector's exemplary role in energy efficiency has been defined directly and indirectly in Polish strategic documents and legislation. European legislation has inspired the discussion about the ways and means to fulfil this role in Poland: Directive 2010/31/EC and Directive 2006/32/EC. The latter states that:

*“Member States shall ensure that the public sector fulfils an exemplary role in the context of this Directive. To this end, they shall communicate effectively the exemplary role and actions of the public sector to citizens and/or companies, as appropriate.*

*Member States shall ensure that energy efficiency improvement*

*measures are taken by the public sector, focusing on cost-effective measures which generate the largest energy savings in the shortest time-span. Such measures shall be taken at the appropriate national, regional and/or local level, and may consist of legislative initiatives and/or voluntary agreements [...] or other schemes with an equivalent effect.”*

This requirement is strengthened by Directive 2010/31/EC, which obliges the public sector to construct all its buildings in accordance with the nearly zero-energy standard after 2018. Also, Directive 2012/27/EU on energy efficiency says that the public sector has to lead by example by renovating 3% of buildings owned and occupied

by central governments, starting from 1 January 2014. (See page 14.)

Public institutions should, therefore, be equipped with relevant tools and measures. This exemplary role should be implemented in all areas of government and should be particularly visible in investments that have a direct impact on energy consumption – from green procurement through to construction of new buildings and to education.



Plenary highlight: Leszek Drogosz on the City of Warsaw's Sustainable Energy Plan



### Sustainable Energy Action Plan



**SEAP target – improvement of energy efficiency and reduction of GHG emissions - calculated as:**

- 20% reduction of CO<sub>2</sub> emission in 2020 comparing to the base year,
- 20% reduction of energy consumption in 2020 comparing to the base year,
- at least 20% of energy will be produced from RES,
- information and promotion actions regarding energy management/conservation will be implemented.

**SEAP target for 2020 compared to the base year 2007**

Year	Energy consumption [MWh/year]	CO <sub>2</sub> emission [MgCO <sub>2</sub> /year]
2007	28 394 431	12 952 984
2020	22 715 545	10 362 387

## 2. Lack of knowledge and skills

Lab participants referred to an inadequate level of knowledge and skills in Poland's building supply chain as a significant barrier to wide-scale adoption of energy efficiency. This confirms research from the first EEB project which demonstrated that achieving a transition to low-energy building stocks requires decision-makers and the construction workforce to have the right knowledge and skills. Participants called for training on energy efficiency for all building stakeholders, including vocational programs for building workers. The following subjects were highlighted as being particularly important.

- Energy calculations and simulations** – building design increasingly uses very sophisticated energy calculations and simulation software. Education on calculations and simulations is therefore essential and should continually be improved with feedback from actual building performance. Participants also saw a need for education to achieve greater consistency and confidence in the energy performance certificate (EPC) calculations.
- Financial calculations** – using methodologies for calculating life cycle cost or total cost of ownership would greatly increase awareness of the benefits of energy efficiency in buildings and provide decision-makers with arguments for investments in energy-efficient buildings. The Polish real estate market is currently driven largely by first or construction cost, ignoring future savings. Investments in energy-efficient buildings would be more feasible if investment decision-makers or influencers such as valuers and tender evaluation teams had greater technical knowledge surrounding energy efficiency in buildings and could evaluate buildings, building

systems and components on life cycle costs.

- End-user training** – building users, including facility managers, should be trained in the use of relevant equipment and should be aware of available technologies and services that can optimize energy consumption. This would help to increase awareness and address wasteful behavior patterns encouraged by the low price of energy in Poland.
- Supply chain involvement** – education and training must extend throughout the supply chain, which is a complex, diverse network of relatively small and local actors (see Figure 3 below). This fragmentation in the design, construction and management of buildings makes it more difficult to increase workforce capacity in energy efficiency in buildings. Even the largest construction projects rely, to a large extent, on a myriad of small and medium enterprises (SMEs – under 250 employees) as suppliers and subcontractors, often providing specialist skills on site. Education programs therefore need to extend to all these supply chain stakeholders.

“ There is a lack of a holistic approach at the beginning of a project.”

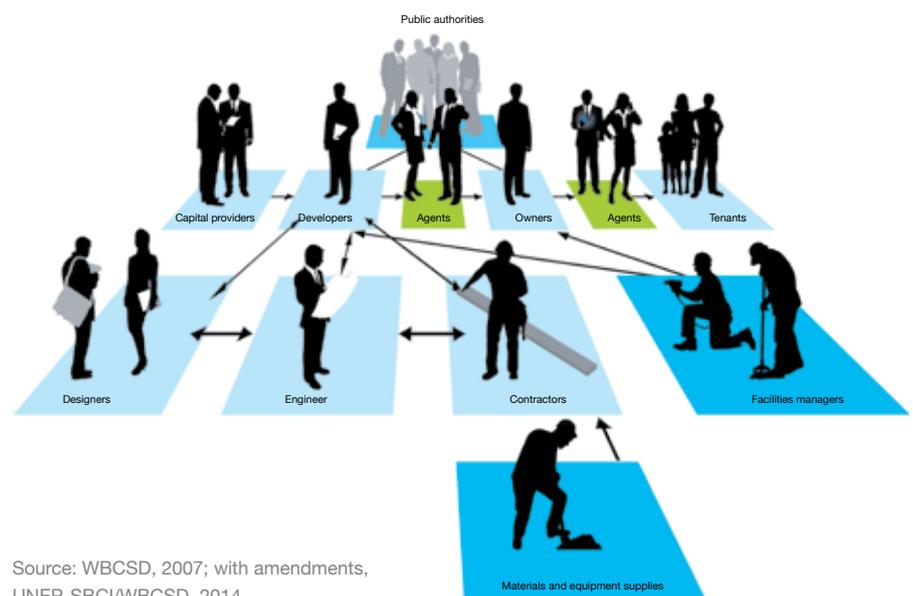
*Laboratory participant*

### Cooperation in design and operation

Laboratory participants called for early cooperation and integrated design to improve the energy performance of both new and existing buildings. The best building performance at the lowest total cost of ownership is achieved through the early involvement of the various participants in the building supply chain. Greater cooperation is also relevant during a building's use as this will optimize energy performance and cost.

The complexity of interaction in the supply chain inhibits coordination among project stakeholders. This lack of coordination is reinforced by the traditional tender process, which does not encourage a holistic approach.

Figure 3: The fragmented building value chain



Source: WBCSD, 2007; with amendments, UNEP-SBCI/WBCSD, 2014

Decisions made during the concept definition, design and construction phases have a major influence on the impact of a building during its use. But they tend to be made without considering lifetime impacts or costs since these are often not seen as the responsibility of the property developer. Similarly, the supply of equipment and materials is often done in isolation, with little or no incentive to pursue product development or alternative options, since those directly involved in the process do not reap the benefits.

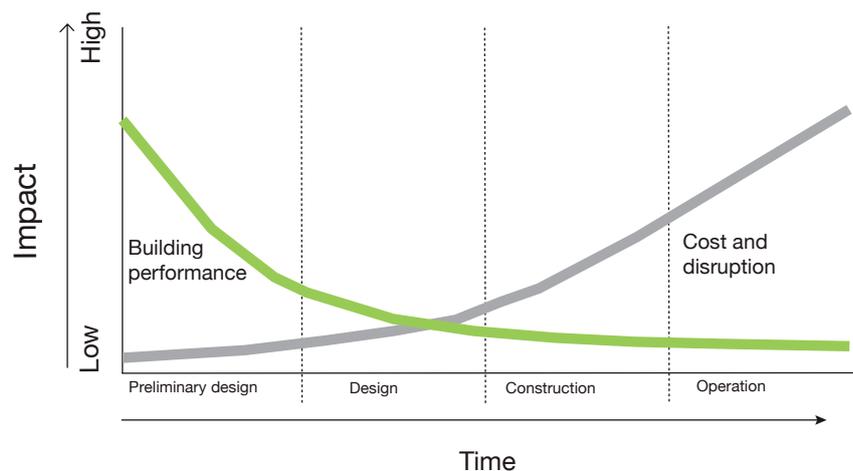
Greater cooperation or integration would establish energy-efficient building design principles, constructability principles, incentives and benefits at the outset, clarifying the roles and responsibilities of multiple stakeholders while achieving the overall project objectives. Integrated intervention at an early stage can also improve building performance most cost-effectively. Interventions that occur later in the building delivery process generally result in higher costs due to the effects on other elements of the process, and may not result in optimum building performance (see Figure 4).

Furthermore, and similar to advantages of early cooperation during the definition of a renovation or new construction project, participants also mentioned the need for more cooperation between stakeholders during the in-use phase to cost optimize energy performance of buildings.

## Recommendations for lack of knowledge and skills

- 12 Professional bodies, educational institutions, businesses and other relevant organizations to develop training materials for education curricula. Priorities should include vocational training of the construction workforce and valuation training material tailored to accommodate the commercial and residential segments, based

Figure 4: The benefits of early integration



Source: WBCSD, 2007; with amendments, UNEP/WBCSD, 2014

on a practical example. Examples that can provide inspiration include:

- The World Green Buildings Council’s European “Common Education Platform”;
- Build Up Skills and Build Up Skills Poland (BuPs) – National Platform for the national training and qualification scheme for workers in the construction sector: <http://www.pjcee.pl/bups/>;
- The UK Supply Chain Sustainability School.

The UK Supply Chain Sustainability School is particularly relevant for smaller businesses (SMEs), which are an important target for these initiatives, as it has been successful in reaching SMEs since its launch in 2012. It is a free, mainly virtual learning environment that aims to help construction suppliers and sub-contractors develop their organizations’ sustainability knowledge and competence. The School was jointly founded by some of the sector’s largest contractors and materials and equipment suppliers in the UK, and provides a common, collaborative approach to addressing sustainability within the supply chain. It is publicly funded in part, with the partners

contributing an equivalent amount in kind. In its first year, the School had 2,400 registered members – exceeding the original target of 800 – from more than 1,300 companies, three-quarters of which are SMEs. In 2014, the school had more than 5,000 registered members. Initial feedback from across the construction industry indicates that it should have a significant long-term impact.

- 13 Businesses to improve end-user training on building handover and work with others to develop a Facilities Management Guide to energy efficiency in buildings.
- 14 Businesses and other relevant organizations to capture integrated design/delivery best practices and highlight the life cycle benefits in case studies.
- 15 The private and public sectors to lead by example by considering procurement strategies incentivizing a higher level of integration in the supply chain, such as design-build and collaborative contracting (integrated project delivery and alliance contracting).

# Focus

## Valuation roundtable

Real estate valuation is an essential aspect of decision-making at every stage of the real estate life cycle. Incorporating sustainability issues such as energy efficiency into valuation practices would raise awareness of the value of investing in energy efficiency among developers, investors and owners. The roundtable brought together valuers, real estate advisors, banks, investors, developers, construction firms, architects, wider industry representatives and researchers to discuss current valuation practices and how to raise awareness among building sector stakeholders in Poland.

The discussions identified two main aspects of commercial buildings:

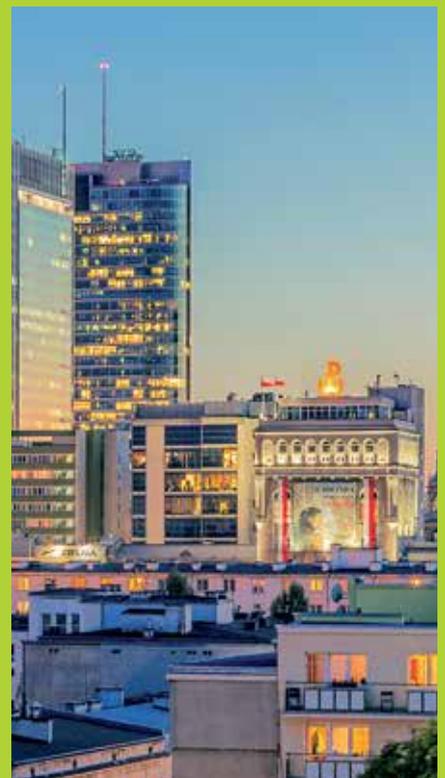
1. The stock is relatively young (15-29 years max.);
2. It is divided into a first-tier market driven by international investors

and tenants who are clearly leading the demand for energy-efficient and green buildings, and a second-tier local market with much less interest or awareness.

The roundtable recommended that valuation training material should be developed to raise awareness and be tailored to reflect the differences between the commercial and residential segments. This training material should be highly practical, referring to actual performance data in valuation practices (i.e. real energy consumption) and not only calculated performance data and certifications such as EPC. For example, the material could contrast two real, comparable buildings with different energy performance. Short videos could feature a valuer highlighting the energy-efficiency features with an explanation of how they could be incorporated in a discounted cash flow

calculation and how the lack of energy efficiency should be a risk factor in a valuation report.

The RenoValue project, co-funded by Intelligent Energy Europe, will use the Polish roundtable results and those of other roundtables held in six other EU Member States to develop training materials that will be piloted and rolled-out via the Royal Institute of Chartered Surveyors' (RICS) Online Academy. For more information see: <http://renovalue.eu/>



### 3. Lack of support for long-term energy efficiency in buildings policy

Many Lab participants said the lack of a long-term consistent regulatory framework to support market confidence and stimulate investments in energy-efficient buildings is a serious barrier to progress in Poland.

There is some awareness of the benefits and political will towards more progressive public policies, and Poland has some effective policies and funding schemes. But there is insufficient progress and a lack of harmonization and support for holistic approaches.

This weakness may be because public authorities do not fully comprehend the benefits (see awareness on page 17) or lack the political will or capacity to prioritize energy efficiency in buildings among competing priorities. On the other hand, ambitious proposals by public authorities are often met with resistance by a conservative and risk-averse industry that is unwilling to change and may not understand the long-term benefits.

Increasing energy-efficient building can happen without policy intervention, but effective interventions are essential to accelerate uptake and increase coverage. Policies and legislation that encourage, facilitate or mandate the delivery of energy-efficient buildings can provide an important stimulus to act. In particular, strengthening building codes – coupled with greater enforcement – will increase the stock of better performing buildings.

Ultimately, harmonized, ambitious, long-term policies are needed to facilitate greater understanding and foster market certainty. Holistic approaches are necessary to maximize energy efficiency in buildings, aligning

urban planning/zoning, development plans, district energy systems and investments, building codes and financial incentives, along with economic development, climate and sustainability strategies.

Policies should provide legal certainty and a roadmap with tools to support the upgrading of the country's building stock, including increasing the number of nearly zero-energy buildings. Uncertainty is unhelpful. The private sector may be unwilling to commit the investment or resources required to achieve market transformation because of doubts about the durability of specific policies. A solid policy framework would create certainty and stability in the market and encourage investments in energy-efficient buildings.

A range of policies and incentive schemes can be implemented at little or no cost to government, which can stimulate local economies in the short term and increase their stability in the long term. Such initiatives can also provide a means to mitigate capital restrictions and development risks, help define a new benchmark for financial institutions, encourage innovation, provide justification for adopting new technologies, and establish a common goal to foster collaborative approaches.



Beata Jaczewska, former Undersecretary of State in the Ministry of Environment, Ministerial Advisor in the Ministry of Economy's Energy Department, on climate negotiations, Poland's position on energy efficiency and the role of buildings

### Recommendations on lack of support for long-term policy on energy efficiency in buildings

- 16 **Establish a public-private engagement platform** to discuss a long-term energy efficiency in buildings strategy (see also recommendations under Lack of Multi-stakeholder Engagement on page 27).

And in particular, for the public sector to:

- 17 **Improve on the current EPC framework** to ensure future market confidence in the system, with greater transparency and awareness.
- 18 Engage with business, non-governmental organizations and others to **seek feedback and input on the recast Energy Performance of Buildings Directive (EPBD)**.
- 19 **Review current and past energy efficiency in buildings funding schemes** and create a greater awareness of available and successful funds



# Focus

## An energy performance certificate (EPC) system lacking market confidence

Energy performance certificates became obligatory in Poland on 1 January 2009. The EPC system is governed and administered by the Ministry of Infrastructure and Development.

Certification provides energy-efficiency information that building occupiers can use in the decision-making process at sale or rental. The information should give an incentive to builders and owners to invest in energy efficiency. EPCs were discussed at length during the Lab. They are seen as a potentially powerful instrument to drive awareness around and investments in energy efficiency in buildings, but are far from having lived up to this potential in Poland – as in many other EU Member States. The system is criticized for partial implementation and low reliability of results, driven both by lack of sufficient definitions as well as an overcrowded market of consultants performing sub-standard energy performance calculations at low cost.

The result is low market confidence in EPCs.

### Act on the energy performance of buildings

The Act, prepared by the Ministry of Infrastructure and Development, introduces a central register of the energy performance of buildings. The aim is to ensure an independent system for auditing, public access to regularly updated lists of experts, and information on the energy standard of buildings occupied by public authorities. The Act introduces many improvements but:

- An EPC is not required for new buildings erected by investors for their own use;
- There are no sanctions or penalties for not preparing an EPC on change of ownership or rental;
- There is no obligation for random verification of at least 1%, although monitoring and verification is planned;

“ EPCs are not seen as an effective market driver. ”

*Laboratory participant*

- The Ordinance on Methodology for preparing an EPC for Buildings (3 June 2014) was issued in advance of the Act and suffers from shortcomings such as the definition of energy classes (A, B, C.....).

Note: the Act was accepted by the Polish Parliament on 29 August 2014 and announced on 8 September 2014. It will come into force in March 2015. <http://dziennikustaw.gov.pl/DU/2014/1200>

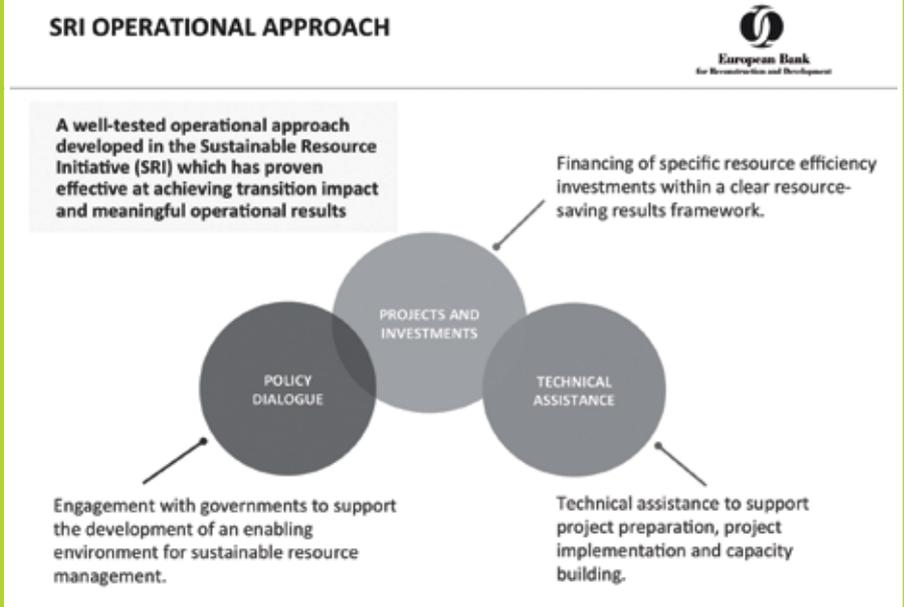
# Focus

## Financing Roundtable

While public sector policies such as incentives and financing can stimulate investments in energy efficiency in buildings and mitigate capital restrictions, market transformation requires investments in energy efficiency in buildings to become mainstream and integrated into commercial financing products. The Financing Roundtable and Technical Committee discussion identified a lack of a dedicated financing facility for energy efficiency. Such a facility could provide a one-stop-shop for businesses in need of financing and technical assistance. A methodology for financial institutions to internalize energy efficiency in credit risk assessments would help to scale up sustainable energy investments with additional resources from local financing institutions.



Plenary highlight: Alexander Hadzhiivanov, EBRD, on financing energy efficiency in Poland



## 4. Lack of multi-stakeholder engagement

A consistent theme throughout the discussions was the need for the building sector to collaborate across private sector segments and engage with the public sector, non-governmental organizations (NGOs) and others. Many recommendations for action in this report would benefit from a high level of multi-stakeholder engagement.

Many participants commented that the Laboratory had demonstrated how engagement can increase awareness of energy efficiency in buildings and argued that sustained multi-stakeholder engagement was needed to effectively define a long-term strategic energy efficiency in buildings agenda for Poland. They identified several reasons why this was absent:

- A fragmented private sector – the building and construction sector is characterized by fragmentation and many SMEs. Relevant knowledge is scattered among many stakeholders and a lack of trust often prevents more collaborative approaches even if the collaboration is pre-competitive.
- Split responsibility on energy efficiency in buildings within the public sector – fragmentation also exists in the public sector and is a barrier to effective engagement. At the government level, too many ministries are directly involved. The ministries of Environment, Economy, Infrastructure and Development are responsible for the definition and implementation of energy efficiency in buildings, but there is no clear government coordination structure.

- There is a lack of trust or a negative preconception in the public sector about the private sector's motives for engaging with the public sector.
- Cultural and historical reasons have contributed to the lack of stakeholder engagement – especially between the public and private sector.

### Recommendation for lack of multi-stakeholder engagement

- 20** Establish a multi-stakeholder platform for engagement within the private sector, with the public sector, and with other relevant organizations on the subject of energy efficiency in buildings and green buildings.

The platform should have the following objectives:

- Complement each other's activities on priority issues surrounding energy efficiency in buildings and/or find support and communicate work done by participating stakeholders. Such issues can include the recommendations for action defined by the Lab.
- Work with the public sector to develop a long-term energy efficiency in buildings strategy and act as a consultation partner for the public sector in the development of policies.
- Use the platform to engage in EU policy consultation processes.



Plenary highlight: Sandrine Dixon-Declève, The Prince of Wales's Corporate Leaders Group, wrapping up a high-energy plenary with clear messages on energy efficiency benefits and a call for collaboration



# 6

## Actions and Commitments

Plac Unii  
CITY SHOPPING

The Lab yielded many insights on the state of play of the Polish building market in terms of energy efficiency. The candid and valuable contributions of the people interviewed helped the Technical Committee to analyze the key barriers and recommend actions to overcome these barriers. The success of the Lab in Warsaw was a good basis for engagement in other countries.

The Lab helped to increase energy efficiency in buildings awareness in the market, especially with architects and designers. It occurred at an important moment, giving attendees a good background for the coming changes in regulations on energy efficiency in buildings in Poland, discussions on nearly zero-energy buildings and decisions on the allocation of funds. The new requirements will be more robust and will require a good level of knowledge about energy efficiency among architects and designers.

Following the Lab, the Technical Committee reconvened in Warsaw to consider feedback, review actions, seek commitments from participating organizations, and consider a potential Multi-Stakeholder Platform on energy efficiency in buildings.

Following the feedback session, the defined actions were reviewed and commitments sought to take actions forward. The table below summarizes recommended actions, the commitments made at the follow-up meeting, and actions that do not have an owner. Actions with no commitment/owner are to be reviewed by the Multi-Stakeholder Platform on energy efficiency in buildings. (See next section.)



## EEB Laboratory recommendations for action

1. Awareness and leadership	Commitments
<p><b>01</b> Create a coordinated, sustained awareness campaign, supported by the private and public sectors and others, targeting different segments of society by appealing to their respective values (see page 17 for details).</p>	<p><b>CMG</b> will be working on developing an awareness campaign relevant for <b>CMG</b> partner companies and is willing to coordinate an increased scope for such a campaign subject to sufficient interest from other organizations. <b>PLGBC</b> is willing to join <b>CMG</b> and other stakeholders in the development of a coordinated awareness campaign. Several awareness initiatives already exist, and partners need to discuss how these shall be incorporated into the plan and which stakeholders should therefore be involved.</p> <p>Specific projects and organizations mentioned were:</p> <ul style="list-style-type: none"> <li>▪ The “Ecological Education” project, which began a couple of years ago as an initiative of <b>IEE</b>, <b>KAPE</b> and Poland’s Ministry of Economy. The project gained funding from the EU (through <b>NFOŚiGW</b>). The campaign has been suspended but <b>IEE</b> proposes to investigate whether the work can be rejuvenated.</li> <li>▪ The “Friendly Home” awareness campaign organized in 2004-2006 in cooperation with insulation material suppliers. During the project, some 1 million brochures reached building end users. <b>NAPE</b> suggests that the concept be reused.</li> <li>▪ <b>FOB/PwC</b> proposes inviting <b>Vision 2050</b> members and the Ministry to this campaign when it is sufficiently defined.</li> </ul>
<p><b>02</b> Develop training materials for education curricula targeting young people (see page 17 for details).</p>	<ul style="list-style-type: none"> <li>▪ <b>All participating organizations</b> committed to contribute to education of youth and building awareness on energy efficiency in buildings. All organizations present to schools and universities from time to time and all could incorporate energy efficiency in buildings information in their presentations.</li> <li>▪ <b>FOB</b> introduced the “Responsible League” project with universities and offered that as a channel to reach out to youth.</li> <li>▪ <b>WGBC/PLGBC</b> will review the youth education program of the Dutch Green Building Council</li> <li>▪ <b>WBCSD</b> committed to provide a set of “standard” slides that can be used by all organizations for such presentations/activities.</li> </ul>
<p><b>03</b> Business to develop and disseminate Polish case studies that substantiate the business case for new and retrofit energy-efficient buildings to foster awareness and credibility (see page 17 for details).</p>	<p><b>PLGBC</b> committed to the development and dissemination of Polish case studies. Early thoughts include developing a local website with case studies showing the business case for energy efficiency in buildings. International sites such as <b>Construction 21</b> and <b>GBIG</b> exist with data from various countries, including Poland. The <b>PLGBC</b> will research them and potentially reach out for collaboration.</p> <p>See also action point on disclosure (05).</p>
<p><b>04</b> Case studies and communication materials to include health and productivity benefits of energy efficiency in buildings, based on adopting global metrics for health and productivity benefits in offices (see page 18 for details).</p>	<p><b>WGBC</b> is working on a global toolkit to measure health and productivity. <b>CMG</b> committed to translate the <b>WGBC</b> toolkit into one systematic approach for Poland, to agree on the methodology and to publish the tool for broader discussion. Once published, stakeholders will be asked to provide data from offices using this methodology, which will be used to develop case studies.</p> <p><b>CMG</b> also committed to a human resources communication and education plan.</p>

05	Businesses – especially those in the building sector – to publicly disclose the energy performance of the buildings they occupy (see page 18 for details).	<p>CMG is currently working on a project to create one methodology to measure the energy performance of buildings. When it is developed, the group will invite stakeholders to report/disclose the data from their buildings.</p> <ul style="list-style-type: none"> <li>■ IEE committed to seek cooperation from the Association of Polish Banks (Związek Banków Polskich).</li> <li>■ Heitman will share its data on the energy performance of buildings in Poland, which is based on the ISO methodology, and seek the engagement of ULI Poland.</li> <li>■ ULI, CMG, PLGBC and JLL will discuss how best to capture the energy data, agree on the methodology after reviewing national (including EPC) and international best practice (see also case studies and FM education), the format of case studies, and provide input into education of facilities managers.</li> </ul>
06	Business – especially international firms currently leading in energy efficiency in buildings – to publish their policies on the development, investment and the leasing of energy-efficient buildings (see page 18 for details)	WBCSD will discuss with ULI a potential Polish initiative to engage multiple tenants, investors and developers to publishing their energy efficiency in buildings or related policies.
07	Public sector to engage with the private sector and others to build the business case for energy efficiency in buildings in terms of other national priorities such as unemployment, energy security and competitiveness (see page 19 for details)	<p>This action was considered extremely important but also difficult. It will require a detailed engagement strategy to be developed by participating organizations. As part of the strategy development to address this issue:</p> <ul style="list-style-type: none"> <li>■ WBCSD will engage with IEA to discuss potential cooperation following their recent work on this subject;</li> <li>■ CLG and the Polish Business and Science Climate Platform will research whether the “Green Growth Group” could extend its work into Poland;</li> <li>■ IEE to work with an energy services company (ESCO) on the benefits of energy efficiency in buildings.</li> </ul>
08	Public sector to define the benefits of energy efficiency in buildings for their staff in terms of improved, recruitment, staff retention, productivity, health and well-being (see page 19 for details)	
09	Public sector to publicly disclose and benchmark the energy performance of their buildings and use buildings to communicate on energy performance and planned interventions (see page 19 for details)	
10	Local/municipal authorities to develop and communicate powerful exemplary case studies inspiring building sector leadership (see page 19 for details)	<p>CLG and the Polish Business and Science Climate Platform will seek to engage the city of Warsaw, which is seen as an essential stakeholder.</p> <p>FOB/PwC and IEE committed to seek engagement with Energie Cités and the Covenant of Mayors, which are working on sustainable planning of cities.</p>
11	Local/municipal authorities to engage with the private sector during the early definition of projects on energy efficiency in buildings (see page 19 for details).	

2. Knowledge and skills		Commitments
12	Professional bodies, educational institutions, businesses and other relevant organizations and projects to develop training materials for education curricula (see page 22 for details).	<p>The RenoValue project, co-funded by Intelligent Energy Europe, will use the Polish Roundtable results and those of other roundtables in six other EU Member States to develop training materials that will be piloted and rolled-out via the Royal Institute of Chartered Surveyors' (RICS) Online Academy. For more information see: <a href="http://renovalue.eu/">http://renovalue.eu/</a></p> <p>In addition, IEE committed to reach out to the Association of Polish Banks on the evaluation of bank loans and taking into account the energy efficiency of buildings in loans.</p>
13	Business to improve end-user training on building handover and work with others to develop a Facilities Management Guide to Energy Efficiency in Buildings (see page 22 for details).	<p>WGBC (through its European Network) is developing a "Sustainable Real Estate Management" training module directed at property and facility managers. This module is expected to be completed within the first quarter of 2015. PLGBC will bring together the leading real estate companies with the help of ULI in Poland to consult on how best to adapt and deliver the module to the Polish market.</p> <p>CMG will make available the relevant outcomes from the health and productivity work for the development of the Polish "Sustainable Real Estate Management" training module.</p>
14	Businesses and other relevant organizations to capture integrated design/delivery best practices and highlight life cycle benefits in case studies (see page 22 for details)	
15	The private and public sectors to lead by example by considering procurement strategies incentivizing a higher level of integration in the supply chain, such as design-build and collaborative contracting (integrated project delivery and alliance contracting) strategies (see page 22 for details).	

3. Supporting long-term policy		Commitments
16	Establish a public-private engagement platform to discuss a long-term strategy for energy efficiency in buildings (see page 24 for details).	
17	Public sector to improve the current EPC framework to ensure future market confidence in the system, with greater transparency and awareness (see page 24 for details).	
18	Public sector to engage with business, NGOs, and others to seek feedback and input on the recast of the EPBD (see page 24 for details).	
19	Public sector to review current and past energy efficiency in buildings funding schemes and create a greater awareness of available and successful funds (see page 24 for details).	

4. Enabling multi-stakeholder engagement		Commitments
20	Establish a multi-stakeholder platform for engagement within the private sector, with the public sector, and with other relevant organizations on the subject of energy efficiency in buildings and green buildings (see page 27 for details).	See the following section

The background of the slide is a photograph of a city street. On the left, there are green trees with dense foliage. In the center, a tall, modern glass skyscraper reaches towards the sky. On the right, there is a multi-story residential or commercial building with a light-colored facade and many windows. A red and white flag is visible on a pole in front of the building. The sky is clear and blue.

# A Multi-stakeholder Platform on energy efficiency in buildings

During the follow up meeting, Lab partners agreed to create a Polish Multi-stakeholder Platform on energy efficiency in buildings. This initiative will convene stakeholders on subjects related to energy-efficient buildings and coordinate action between stakeholder groups. The aim is to help Poland adopt a more progressive agenda for energy efficiency in buildings and experience the multiple economic and societal benefits.

The Platform is open to public and private sector organizations, academia and NGOs that are active on issues related to energy efficiency in buildings and are interested in engaging with other stakeholders to complement and strengthen each other's activities. They will be able to use the Platform's collective knowledge to engage with the public sector on a long-term strategy for Poland on energy efficiency in buildings and use the Platform to engage in EU policy consultation processes.

The following organizations agreed to become members of the Platform:

- Construction Marketing Group (CMG)
- Forum Odpowiedzialnego Biznesu (FOB)
- Institute of Environmental Economics (IEE)
- National Energy Conservation Agency (NAPE)
- Polish Business & Science Climate Platform
- Polish Green Building Council (PLGBC)
- Urban Land Institute (ULI) Poland
- World Business Council for Sustainable Development (WBCSD), on a temporary basis during the initial stage

CMG, represented by BuroHappold Engineering, and NAPE are the initial

co-chairs; IEE will provide administrative and communication support. In addition to the tasks identified at the Lab, the Platform members will work with WBCSD to develop energy efficiency in buildings performance indicators. Progress will be reviewed after six months.

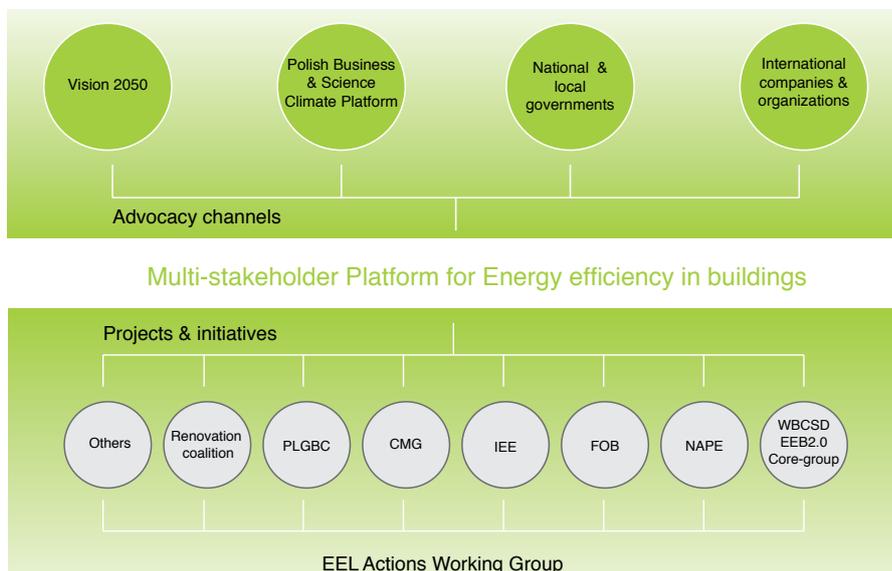
WBCSD member companies operating in Poland as well as other companies that participated in the EEB Lab can support the work of the Platform in their areas of interest. They will coordinate this support through WBCSD and the members of the Platform.

Principles of the Platform

- All parties have an equal voice;
- All parties are in control of their own agenda and activities but can seek support/input from Platform members according to the objectives of the Platform;
- No fees are required for membership in the Platform – all organizations participate through knowledge sharing;
- No new organization and no heavy administrative burden;
- Co-chairs will be elected by members annually.

Figure 5 introduces a conceptual structure for the Multi-stakeholder Platform on energy efficiency in buildings.

Figure 5: Multi-stakeholder Platform structure





Appendix

## EEB Laboratory partners



### Buildings Performance Institute Europe (BPIE)

#### Scope of activities

The Buildings Performance Institute Europe (BPIE) is dedicated to improving the energy performance of buildings across Europe, and thereby helping to reduce CO<sub>2</sub> emissions from the energy used by buildings.

BPIE is a not-for-profit think tank with a focus on independent analysis and knowledge dissemination, supporting evidence-based policy-making in the field of energy performance in buildings.

#### Mission

BPIE's mission is to undertake the necessary analysis and provide knowledge and advice to achieve a sustainable and low-carbon built environment. This mission is achieved by addressing the existing gaps in EU policies for buildings and supporting vigorous implementation of the relevant directives and programs at the country level.

BPIE's mission is to focus on:

- Supporting the development of ambitious – yet pragmatic – buildings-related policies and programs at EU and Member State levels;
- Driving timely and efficient implementation by teaming up with relevant stakeholders;
- Providing fact-based analysis and knowledge, and sharing best practice globally through networks in Europe and globally.

Main work in relation to energy efficiency in buildings in Poland

[www.ecofys.com/files/files/bpie\\_ecofys\\_2012\\_implementing\\_nzeb\\_in\\_poland.pdf](http://www.ecofys.com/files/files/bpie_ecofys_2012_implementing_nzeb_in_poland.pdf)

[www.bpie.eu/documents/BPIE/publications/Poland\\_nZEB/Executive\\_Summary\\_nZEB\\_Poland.pdf](http://www.bpie.eu/documents/BPIE/publications/Poland_nZEB/Executive_Summary_nZEB_Poland.pdf)

[www.buildingsdata.eu/country-factsheets](http://www.buildingsdata.eu/country-factsheets)



### Construction Marketing Group (CMG)

#### Scope of activities

Construction Marketing Group is a professional marketing initiative of construction and commercial real estate companies. The group brings together people involved in strategic marketing, business development and communication.

#### Mission

CMG's mission is to undertake activities aimed at networking, building and promoting the strategic role of marketing in the construction and commercial real estate industry; educating the industry in terms of sustainable development; engaging in dialogue with policy-makers; and professional development of the group members.

#### Activities

As part of the CMG's activities, the "Analysing the sustainable construction market in Poland" project has been initiated and regular workshops on marketing and sector meetings are held. CMG is a local partner of the Energy Efficiency in Buildings Poland Laboratory organized by the WBCSD. It is also a partner of VISION 2050, which is a joint initiative of the Ministry of Economy, Ministry of Environment, Responsible Business Forum and PwC.

#### Founding partner

BuroHappold Engineering

#### Co-partners

Philips Lighting, Colliers International, Spie Polska

#### Project partners and supporting companies

CBRE, DTZ, Echo Investment, FBService, HBReavis, Hill International, Imtech, JLL, Kuryłowicz & Associates, PRC Architekci, PwC, Saint-Gobain Polska, Savills, SG Ecophon, Skanska



THE PRINCE OF WALES'S  
CORPORATE LEADERS GROUP

## The Prince of Wales's Corporate Leaders Group – Europe Office (CLG)

### Scope of activities

The Prince of Wales's Corporate Leaders Group (CLG) brings together business leaders from a cross-section of EU and international businesses who believe there is an urgent need to develop new and longer-term policies for tackling climate change. The Group was brought together by The Prince of Wales and is managed by CISL.

The Group is essentially about driving strategic, long-term, transformational change in the economy which is often frustrated by short-term political economy and decision-making. The Group is focusing on the changes necessary to ensure long-term economic prosperity, competitive advantage and corporate sustainability at an EU-wide level. The CLG is the managing committee of the Ministerial Green Growth Group (GGG), an informal grouping of like-minded energy, environment and climate ministers from across 13 EU Member States who have come together to work towards a pro-growth and pro-climate EU agenda. Activities in Poland include running the Polish Business & Science Climate Platform and organizing roundtables, workshops and stakeholder meetings.

### Membership base

3M, Acciona, Anglian Water Group, British Telecommunications (BT), Coca-Cola, Doosan, DSM, EDF Energy, Ferrovial, GlaxoSmithKline, Heathrow, Interface, Jaguar Land Rover, Kingfisher, Lloyds Banking Group, Philips, Shell, Skanska, Sky TV, Tesco, Thames Water, Unilever, United Technologies.

### Polish Business & Science Climate Platform Members

Alstom, BuroHappold, European Climate Foundation, GE, Institute for Structural Studies, Saint Gobain, Philips, Shell, Skanska, TUP, West Coast Energy Polska

### Main work in relation to energy efficiency in buildings

<http://www.cisl.cam.ac.uk/Business-Platforms/Clean-Energy-Finance.aspx>

<http://www.cisl.cam.ac.uk/Business-Platforms/The-Prince-of-Wales-Corporate-Leaders-Group/Green-Growth-Platform.aspx>



## Forum Odpowiedzialnego Biznesu (FOB) / Responsible Business Forum

### Scope of activities

Responsible Business Forum is the oldest and the largest Polish non-profit organization providing in-depth focus on the concept of corporate social responsibility. The Forum is a think-and-do-tank promoting responsible business that considers its impact on society and the environment. FOB sets responsible business and sustainable development trends in Poland.

The Forum's mission is to make the idea of responsible business widespread as a standard in Poland in order to increase companies' competitiveness, to satisfy society and to improve the state of the natural environment.

To achieve these goals, it focuses its activity on:

- Helping businesses develop their social responsibility;
- Building business coalition that focuses on solving social problems;
- Creating a forum where managers, the state administration and non-governmental organizations can exchange information on corporate social responsibility solutions adequate to the needs and capabilities of companies in Poland;
- Promoting corporate social responsibility solutions adequate to the needs and capabilities of companies in Poland.

### Membership base

Antalis Poland, Bank Zachodni WBK, BASF, Bayer, British American Tobacco, Carrefour, CEMEX Poland, Citi Handlowy, Coca Cola HBC, Coca Cola Poland Services, Deloitte Poland, Fortum, Gas Transmission Operator GAZ-SYSTEM S.A., GlaxoSmithKline, Leroy Merlin, LOTOS Group, Grupa Żywiec S.A., Henkel, IKEA, Jeronimo Martins Polska, KGHM Polska Miedź S.A., Kompania Piwowarska, KPMG, L'Oreal Poland, Lyreco, Nestle Poland, Orange Polska, PKN Orlen, PGNiG S.A., Polskie LNG Company, Polpharma, ProLogis, PwC, Procter & Gamble Poland, Provident Poland, PZU, RWE Poland, Sanofi Group in Poland, Siemens, Skanska Property Poland, T-Mobile Polska S.A., Tchibo Poland, TESCO, Totalizator Sportowy and Unilever Polska.

### Website

[odpowiedzialnybiznes.pl](http://odpowiedzialnybiznes.pl)

## Instytut Ekonomii Środowiska (IEŚ) / Institute of Environmental Economics (IEE)

### Scope of activities

The Institute of Environmental Economics (IEE) is a non-governmental organization implementing projects related to environmental protection, climate policy and energy efficiency.

IEE specializes in economic and environmental-based policy analysis. It cooperates with many Polish and international organizations as well as local and national governments and institutions, among them: the National Fund For Environmental Protection and Water Management, the National Energy Efficiency Agency, the Ministry of Economy, the Ministry of Environment, the Organisation for Economic Co-operation and Development (OECD), the Polish Regulatory Office, the Regulatory Assistance Project (RAP), the Heinrich Böll Foundation, and others.

Between 2002 and 2008, IEE was active in the field of environmental protection and environmental economics, focusing on policies relating to municipal waste management, energy, renewable energy and water management. IEE has conducted a number of affordability studies and willingness-to-pay assessments in the field of environmental services. From 2008, IEE was dormant and restarted activities again at the end of 2011. IEE now focuses on issues related to energy efficiency, including the energy service company market, energy planning in municipalities, the Polish system of white certificates, virtual power plants, as well as environmental policy tools, including waste management.

### Main work in relation to energy efficiency in buildings

(links to reports published and used in the Market Review):

Energy Efficiency in Poland 2012 Review:

<http://www.iee.org.pl/?a=text&b=32>

The ESCO market in Poland – Current State and Development Perspectives:

<http://www.iee.org.pl/index.php?a=text&b=32>

## Narodowa Agencja Poszanowania Energii (NAPE) / National Energy Conservation Agency

### Scope of activities

The National Energy Conservation Agency (NAPE) was established in 1994 with an aim of popularizing efficient and rational energy usage, above all in the building sector, and the principles of sustainable development. It specializes in energy consulting, energy auditing and certification of buildings. NAPE is one of the few companies in Poland that elaborates energy performance certificates for complex buildings equipped with advanced technical systems and for public buildings. It trains energy auditors, publishes textbooks and spreadsheets for the preparation of audits, and issues educational brochures.

NAPE participates in projects co-financed by the European Commission concerned with energy efficiency of buildings, financing modernization of buildings, renewable energy sources implementation, polygeneration, promotion of energy savings, integrated design, and innovative heat, ventilation and air conditioning technologies.

The agency prepares applications for subsidies from the National Fund for Environmental Protection and Water Management, European Fund and from the Thermo-modernization fund. NAPE is also a verifying consultant for the Polish Sustainable Energy Financing Facility PoSEFF as well as projects financed by the European Investment Bank.

### Main work in relation to energy efficiency in buildings

(links to reports published and used in the market review):

Definition of deep thermal renovation and optimum cost of deep thermal renovation:

<http://www.renowacja2050.pl/?a=publikacje>

Spatial Analysis (in Polish Voivodeships) of the Activity of Local Authorities for a Low-carbon Economy [in buildings sector] in the years 2007-2011:

<http://gospodarkaniskoemisyjna.pl/?a=text&grupa=4>

Integrated design of buildings:

<http://www.zintegrowaneprojektowanie.pl/pl/publikacje>

Awareness raising in EE in buildings campaigns:

<http://www.nape.pl/en/broszury-informacyjne>

Calculation tool for analysis of alternative energy sources use in buildings: <https://aoze.pl/>

Handbooks on energy auditing of buildings and assessment of energy performance of buildings:

<http://www.nape.pl/en/textbooks>



## RenoValue

### Scope of activities

RenoValue – a two-year EU Intelligent Energy Europe funded project – will develop and pilot tailored training material for practicing valuation professionals from across the EU.

The training material will provide them with a more profound knowledge base regarding the latest energy-efficiency and renewable energy technological solutions, their respective impact on various economic building performance aspects, and relevant information resources. Its methodological and theoretical guidance will help valuation professionals to factor energy-efficiency and renewable-energy issues into their process, and advise their clients accordingly.

### Membership base

Business Solutions Europa, RICS, KIT, NAPE, CBRE, Troostwijk, Skanska

### Main work in relation to energy efficiency in buildings

Development of education materials that allow valuers to factor energy-efficiency and renewable-energy issues into their process, and advise their clients accordingly.



European Bank  
for Reconstruction and Development

## European Bank for Reconstruction and Development (EBRD)

### Scope of activities

The EBRD is an international financial institution that supports projects from central Europe to Central Asia and the southern and eastern Mediterranean region. Investing primarily in private-sector clients whose needs cannot be fully met by the market, the Bank fosters transition towards open and democratic market economies. In all its operations the EBRD follows the highest standards of corporate governance and sustainable development.

The Bank aims to promote market economies that function well – where businesses are competitive, innovation is encouraged, household incomes reflect rising employment and productivity, and where environmental and social conditions reflect peoples' needs.

EBRD provides project financing for banks, industries and businesses, both new ventures and investments in existing companies. It also works with publicly owned companies. Each of its projects is tailored to the needs of the client and to the specific circumstances of the country, region and sector. Direct investments generally range from a few million to several hundred million euros. The Bank has developed a specific approach to banking products related to the retail sector and sustainable property funds. For smaller-scale investments the EBRD has developed financing instruments provided through commercial aggregators – local banks, ESCOs and energy utilities. Examples of these successful financing mechanisms include dedicated credit lines through local banks – Sustainable Energy Financing Facilities (SEFFs) – operating in 18 countries. The EBRD provides loan and equity finance, guarantees, leasing facilities and trade finance.

## International Energy Agency (IEA)

### Scope of activities

The International Energy Agency (IEA) is an autonomous organization which works to ensure reliable, affordable and clean energy for its 29 member countries and beyond.

Founded in response to the 1973/74 oil crisis, the IEA's initial role was to help countries coordinate a collective response to major disruptions in oil supply through the release of emergency oil stocks to the markets.

While this continues to be a key aspect of its work, the IEA has evolved and expanded. It is at the heart of global dialogue on energy, providing authoritative statistics, analysis and recommendations.

Today, the IEA's four main areas of focus are:

1. Energy security: Promoting diversity, efficiency and flexibility within all energy sectors;
2. Economic development: Ensuring the stable supply of energy to IEA member countries and promoting free markets to foster economic growth and eliminate energy poverty;
3. Environmental awareness: Enhancing international knowledge of options for tackling climate change; and
4. Engagement worldwide: Working closely with non-member countries, especially major producers and consumers, to find solutions to shared energy and environmental concerns.

### Main work in relation to energy efficiency in buildings

(links to reports published and used in the marker review)

World Energy Outlook: <http://www.worldenergyoutlook.org/>

Sustainable Buildings: <http://www.iea.org/topics/energyefficiency/subtopics/sustainablebuildings/>

Policy Pathways: <http://www.iea.org/publications/policypathwayseries/>

Technology Roadmap: Energy Efficient Building Envelopes  
[www.iea.org/publications/freepublications/publication/technology-roadmap-energy-efficient-building-envelopes.html](http://www.iea.org/publications/freepublications/publication/technology-roadmap-energy-efficient-building-envelopes.html)

Technology Roadmap: Energy-efficient Buildings: Heating and Cooling Equipment: [www.iea.org/publications/freepublications/publication/technology-roadmap-energy-efficient-buildings-heating-and-cooling-equipment.html](http://www.iea.org/publications/freepublications/publication/technology-roadmap-energy-efficient-buildings-heating-and-cooling-equipment.html)

And more roadmaps on <http://www.iea.org/roadmaps/>

## UNEP-SBCI

The United Nations Environment Programme's Sustainable Building and Climate Initiative (UNEP-SBCI) is a partnership of major public and private sector stakeholders in the building sector working to promote sustainable building policies and practices worldwide.

### Mission

UNEP-SBCI works to present a common voice for building sector stakeholders on sustainable buildings and climate change. It draws on UNEP's unique capacity to provide a global platform for collective action.

### Goals

UNEP-SBCI's activities are guided by four key goals to ensure that the Initiative achieves its mission and promotes the worldwide adoption of sustainable buildings and construction practices:

1. Provide a common platform for dialogue and collective action among building sector stakeholders to address sustainability issues of global significance, especially climate change;
2. Develop tools and strategies for achieving greater acceptance and adoption of sustainable building practices throughout the world;
3. Establish baselines, which are globally recognized and are based on a life cycle approach; focus has initially been concentrated on establishing baselines for energy efficiency and greenhouse gas (GHG) emissions, but is now expanding to account for additional indicators such as materials and water;
4. Demonstrate through pilot projects and inform policy developments of the important role buildings have to play in mitigation and adaptation to climate change at local, national and/or global levels.

### Website

[www.unep.org/sbci](http://www.unep.org/sbci)



## Urban Land Institute (ULI)

### Scope of activities:

ULI, the Urban Land Institute, is a non-profit research and education organization supported by its members.

The Urban Land Institute provides leadership in the responsible use of land and in creating and sustaining thriving communities worldwide. ULI is an independent global non-profit supported by members representing the entire spectrum of real estate development and land-use disciplines.

Founded in 1936, ULI has more than 32,000 members worldwide, representing the entire spectrum of land use and real estate development disciplines working in private enterprise and public service.

A multidisciplinary real estate forum, ULI facilitates an open exchange of ideas, information and experience among industry leaders and policy-makers dedicated to creating better places.

### Membership base

ULI today has more than 32,000 members worldwide, representing the entire spectrum of the land use and development disciplines in private enterprise and public service – leading property owners, investors, developers, service firms, planners, public officials, and academics.

### Main work in relation to energy efficiency in buildings

<http://uli.org/research/climate-energy/>



## World Green Building Council (WGBC)

### Scope of activities

The World Green Building Council (WGBC) is a network of national Green Building Councils in more than 100 countries, making it the world's largest international organization influencing the green building marketplace.

### Mission

The WGBC's mission is to strengthen national Green Building Councils in member countries by championing their leadership and connecting them to a network of knowledge, inspiration and practical support. National Green Building Councils are member-based organizations that empower industry leaders to effect the transformation of the local building industry toward sustainability.

### Membership base

Most national Green Building Council members typically represent all stakeholders of the built environment within the country of registration; although the exact objectives may differ, the mission of all members is to drive market transformation of the building industry through member consensus and cooperation. One such member is the Polish Green Building Council (PLGBC); see <http://www.plgbc.org.pl/eng/index.php>.

### Main work in relation to energy efficiency in buildings

The Business Case for Green Buildings:

<http://www.worldgbc.org/activities/business-case/>

The European Network of Green Building Councils:

<http://www.worldgbc.org/regions/europe>

Health, Wellbeing and Productivity in Office Buildings:

<http://www.worldgbc.org/activities/health-and-productivity/>

## Endnotes

1. <http://bip.mir.gov.pl/DziennikUrzedowyMIR/Dziennik/2014/Strony/DziennikUrzedowy.aspx>
2. <http://bip.mg.gov.pl/node/21640>
3. *Energy Efficiency in Poland 2012 Review*, Institute of Environmental Economics (IEE).
4. See *Greening the Building Supply Chain*, 2014, UNEP-SBCI. [http://www.unep.org/sbci/pdfs/greening\\_the\\_supply\\_chain\\_report.pdf](http://www.unep.org/sbci/pdfs/greening_the_supply_chain_report.pdf)
5. See *Greening the Building Supply Chain*, 2014, UNEP-SBCI.
6. *Greening the Building Supply Chain*, 2014, UNEP-SBCI.

## The WBCSD's EEB 2.0 project

In response to climate and development challenges of the building sector, the World Business Council for Sustainable Development (WBCSD) initiated the cross-industry Energy Efficiency in Buildings (EEB) project. In the first phase, from 2006 to 2010, the EEB project sought to create an understanding of both the challenges and the opportunities within the global building sector.

The project's first achievement was the publication of the *Facts & Trends* summary report, which combines the findings from research existing at the time of the project and stakeholder dialogues during hearings, workshops and forums with a breakthrough market research study that measures the stakeholder perceptions of sustainable buildings around the world.

The project's second milestone was the publication of its second report, *Energy Efficiency in Buildings: Transforming the Market*, launched in 2009. The report is based on a unique simulation model that analyzes the energy use of thousands of building types and millions of existing and new buildings, both commercial and residential. This model shows how energy use in buildings can be cut by 60% by 2050, which is essential to meeting global climate change targets. But this will require immediate action to transform the building sector.

Finally, the EEB project also developed a roadmap setting out the key actions in the short and medium term for the seven groups that can contribute to meeting this challenge, ranging from investors to government authorities.

**WBCSD's Vision 2050 sees "9 billion people living well, within the resource limits of the planet by 2050."**

As this 2050 timeline is too distant for businesses to plan against, the WBCSD launched a stepping stone initiative, Action 2020, which has identified priority areas for business action that are based on scientific facts and social trends. A societal "Must-Have" has been set for each priority area that business solutions should work towards achieving by 2020.

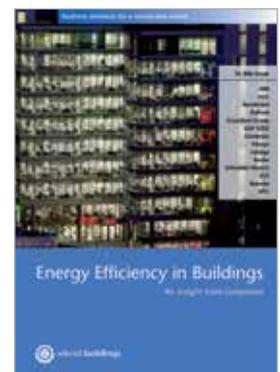
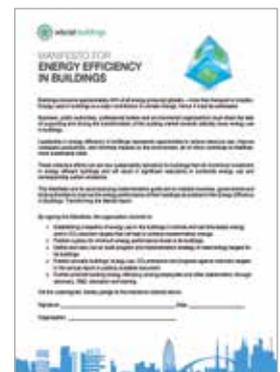
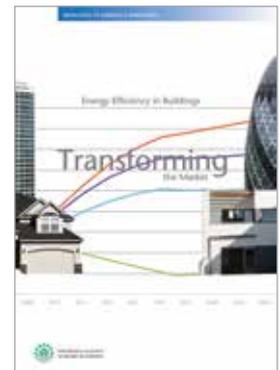
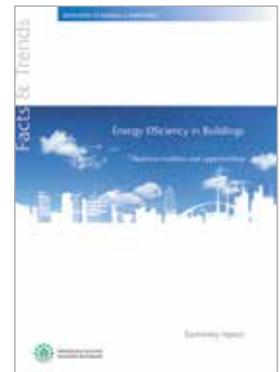
The Energy Efficiency in Building 2.0 project will contribute to the climate change "Must-Have" by working with member companies to dramatically reduce the energy consumption of new and existing buildings.

**Climate Change "Must-Have"**

With the goal of limiting global temperature rise to 2°C above pre-industrial levels, by 2020 the world must have energy, industry, agriculture and forestry systems that simultaneously:

- Meet societal development needs;
- Are undergoing the necessary structural transformation to ensure that cumulative net emissions do not exceed one trillion tonnes of carbon;+ peaking global emissions by 2020 keeps this goal in a feasible range;
- Are becoming resilient to expected changes in climate.

+ Anthropogenic CO<sub>2</sub> emissions from pre-industrial levels as outlined in the IPCC Working Group I Fifth Assessment Report. One trillion tonnes carbon = 3.67 trillion tonnes CO<sub>2</sub>.



The roadmap is an addendum to the main report, *Transforming the Market*. See: <http://www.wbcscd.org/work-program/sector-projects/buildings/eeb-first-phase.aspx>

As part of the EEB project, the WBCSD decided to bring a Manifesto for Energy Efficiency in Buildings to all its members, calling on them to take voluntary action. By signing the Manifesto, companies “walk the talk” and send a strong message to the market, stakeholders and employees. The Manifesto and its accompanying Implementation Guide outline five actions for companies:

- 1 Create a baseline for the company’s commercial buildings and set time-based energy and/or CO<sub>2</sub> reduction targets in line with transformative change;
- 2 Publish a company policy for minimum energy performance levels in the company’s commercial buildings;

- 3 Define and carry out the company’s audit program and implementation strategy to meet energy targets for its commercial buildings;
- 4 Publish buildings’ energy use, CO<sub>2</sub> emissions and progress against reduction targets annually in the company’s corporate social responsibility or other report;
- 5 Further promote energy efficiency in buildings among suppliers, employees and other stakeholders through advocacy, marketing activity, R&D, education and training.

By 2014, 142 member companies, non-member companies and regional network partners had signed the Manifesto. For more information on the WBCSD Manifesto for Energy Efficiency in Buildings, please see: <http://www.wbcscd.org/work-program/sector-projects/buildings/eeb-manifesto.aspx>.

In April 2014, WBCSD issued the EEB Manifesto magazine - An insight from companies, which describes the successes and challenges of 14 companies implementing the EEB Manifesto. <http://www.wbcscd.org/Pages/EDocument/EDocumentDetails.aspx?ID=16158&NoSearchContextKey=true>.

## Acknowledgements

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Roy Antink, Skanska  
Alicja Bieszynska, Skanska

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Dariusz Podobas, AGC  
Andrzej Rajkiewicz, NAPE  
Niels Schreuder, AGC  
Robert Sobotnik, AkzoNobel  
Dan Staniaszek, BPIE  
Adam Targowski, Skanska  
Marek Tobiacelli, Siemens  
Roland Ullmann, Siemens  
Andrzej Wiszniewski, NAPE  
Marek Zaborowski, IEE  
Teresa Zatorska, Cofely

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This publication is released in the name of the WBCSD and its partners in the EEB Laboratory Poland. Like other WBCSD publications, it is the result of a collaborative effort by members of the secretariat and senior executives from several member companies and partner organizations. A wide range of members and partners reviewed drafts, thereby ensuring that the document broadly represents the majority view of the WBCSD membership and the partners. It does not mean, however, that every member company and every partner organization agrees with every word.

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Designer: Anouk Pasquier Di Dio

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ISBN: 978-2-940521-24-1

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