Energy efficiency in buildings: how to accelerate investments?

Paris, 11 December 2017

A side event of the One Planet Summit and a key milestone of the Clean Energy Ministerial campaign on Nearly Zero Energy Buildings co-led by France and the European Commission.

Organised in the frame of the Sustainable Energy Investment Forums initiative, funded by the Horizon 2020 programme of the European Union.
The Role of Policies to Unlock Finance for Energy Efficient Buildings

Launch of the GABC Global Report 2017: Towards Zero in Buildings

Where is the Money? Developing the Supply of Finance for Energy Efficiency

How to Accelerate the Deployment of New Energy Efficient Buildings?

Where are the Projects? Developing the Investment Pipeline

Energy Efficiency: Risk or Opportunity for Financial Institutions?

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BACKGROUND

This conference, which took place on 11 December 2017, was co-organised by the European Commission and the French Ministry of Ecological & Solidary Transition, in partnership with UN Environment Finance Initiative (UNEPFI), the Energy Efficiency Financial Institutions Group (EEFIG), the Global Alliance for Buildings and Construction (GABC), the International Partnership for Energy Efficiency Cooperation (IPEEC) and the Clean Energy Ministerial. It was a side event of the One Planet Summit organised by the Office of the President of the French Republic in Paris on 12 December and represented a key milestone of the Clean Energy Ministerial campaign on Nearly Zero Energy Buildings co-led by France and the European Commission. The conference was part of the “Smart Finance for Smart Buildings” initiative launched by the European Commission to further unlock private financing for energy efficiency investments in buildings.

Energy efficiency is one of the most cost-effective ways to reach the objectives of the Paris Climate Agreement and the European Union’s climate and energy objectives. In particular, investing in energy efficient buildings, whether through new-build or deep renovation of the existing building stock, has great, as yet unexploited, potential – for jobs, growth and the transition to a low carbon society.

The needed acceleration of investments in buildings energy efficiency can only be reached through the mobilisation of private finance, which requires adapted policy frameworks. Delegates and speakers at the conference reflected on the progress made since the COP 21 which saw significant commitments taken by banks and investors on energy efficiency.

At European level, “energy efficiency first” is a core principle of the Energy Union strategy, and central to the recent Clean Energy for All Europeans legislative package presented by the European Commission in November 2016. In particular, the Energy Performance of Buildings Directive (EPBD), includes long-term strategic planning to ensure an energy efficient building stock in Europe, and providing the incentives to renovate through accurate data. In order to finance these plans, the EPBD requires that Member States commit to delivering accessible, transparent and simple financing tools, to help bring money to the market. At national level, France’s renovation plan (Plan Climat) aims at 500,000 renovations per year, with accompanying initiatives aimed at developing the role of private finance.

Globally, energy efficiency investment grew 9% in 2016, despite lower energy prices, pointing towards policy as a key driver. The role of the public sector is key in building confidence in markets and showing that government is willing to be hands-on and work with market action. However, despite potential for cost-effective emissions reduction, the buildings sector is not emphasized enough in the majority of countries’ Nationally Determined Contributions (NDCs).

Increasingly, public and private financial institutions are investing in energy efficiency. The European Investment Bank (EIB) lending for energy efficiency is now over €3 billion per year, and real estate investors see that investing in green buildings is a way to increase revenue. Tools such as the G20 Energy Efficiency Investment Toolkit and the EEFIG Underwriting Toolkit help financial institutions to scale up energy efficiency lending through better understanding and evaluation of the value and risks of investments. Developing new financial products, and closer cooperation between the public and private sectors are key to scaling up energy efficiency investments.
KEY QUOTATIONS

“We at ENGIE intend to invest €1 billion over the next five years for energy efficiency in buildings in France. Finding the right financial instruments and incentives, platforms and new business models is needed to attract some of the capital that we know is available at this time of low interest rates.”

– Isabelle Kocher, CEO, Engie

“I believe that collective action is the only way forward – a fact that is well understood by the European Commission and UNEP FI, and the reason why we are here.”

– Frédéric Janbon, CEO, BNP Paribas Asset Management

“For public buildings, the state must define the criteria and address the issue of profitability and payback for the state. For social housing, we need public money to favour investment in this sector. The most difficult is the private sector – we need a price signal, but this is challenging when the price of energy is low.”

– Pierre-André de Chalendar, CEO, Saint-Gobain

“Business models in the emerging world need to be innovative, scalable, embrace technology, learn to survive without public funds, incentivise all stakeholders and deliver outcomes in a time bound manner.”

– Saurabh Kumar, CEO, Energy Efficiency Services Ltd (India)

“In the Energy Efficiency Mortgages Initiative, 30 European banks are ready to follow us and launch energy efficiency mortgages in a first pilot phase.”

– Luca Bertalot, CEO, European Mortgage Federation

“When tenants demand green building certification in leased premises, this market demand shifts green building to the centre of real estate investment.”

– Karsten Kallevig, CEO, Norges Bank Real Estate Management (Norway)

“Energy efficiency is a big market opportunity for financial institutions, and can also reduce risk by improving clients’ cash flow and avoiding stranded assets as environmental regulation becomes increasingly stringent. It also contributes towards corporate social responsibility and achieving environmental objectives. Banking regulators are becoming increasingly interested in climate risk, for example the Task Force on Climate-related Financial Disclosures, and this will also drive the behavior of the financial sector.”

– Steve Fawkes, Managing Partner, EnergyPro
“To scale up, to make the best use of public money, and to share good practices widely—these are the aims of the new government’s renovation plan.”

— Laurent Michel, Director General for Energy and Climate change, French Ministry for Ecological and Fair Transition

"To mobilise private financing for energy efficiency in buildings, the Commission has launched the Smart Finance for Smart Buildings initiative, addressing three main challenges: the effective use of public funds, developing and aggregating projects, and working with financial institutions in order to help them have a better understanding of the risks and benefits related to energy efficiency investments.”

— Mechthild Wörsdörfer, Director for Renewables, Research and Innovation, and Energy Efficiency, European Commission

"The European Parliament recognises that a clear signal of priority to investors is certainty and long-term planning. The national long-term renovation strategies [under the Energy Performance of Buildings Directive] should provide exactly that signal."

— Bendt Bendtsen, Member of the European Parliament, rapporteur for the revision of the Energy Performance of Buildings Directive

"The global buildings sector is growing at unprecedented rates, presenting an opportunity to cut energy bills, energy use and greenhouse gas emissions through efficiency improvements. However, despite potential for cost-effective emissions reduction, the buildings sector is not emphasized enough in the majority of countries’ Nationally Determined Contributions."

— Fatih Birol, Executive Director, International Energy Agency (IEA)

"In Argentina, reforms are underway aimed at increasing investor confidence in the energy sector. This entails creating the right conditions for long-term investment and a robust path towards energy security; advocating for more renewable energy and reducing the impact of climate change.”

— Sergio Bergman, Minister of the Environment and Sustainable Development of Argentina

"Numerous barriers must be overcome to scale up and accelerate the transformation [of the buildings sector]—not least changing the traditional views of what a return on investment looks like.”

— Ibrahim Thiaw, Deputy Executive Director of UN Environment and Assistant Secretary General of the United Nations
OPENING STATEMENTS

Laurent Michel, Director General for Energy and Climate change, French Ministry for Ecological and Fair Transition

“The building sector is the leading final energy consumer in France (accounting for 42% of total consumption), making energy efficiency renovation one of the priorities of France’s energy transition strategy. There is a good understanding of what we must address: our buildings sector accounts for 45% of final energy consumption, and 27% of greenhouse gas emissions. Seven million of our households are poorly insulated, and 14% of our population are cold in their homes. By taking action, we can at the same time stimulate the economy, create employment, address energy poverty and security of supply.

“We are also facing the challenge of financing, and mobilizing all stakeholders. We are making progress, but not fast enough. We need to scale up, make the best use of public money, and share good practices widely. These are the aims of the new government's renovation plan, in public consultation since 24 November 2017. The proposed actions include the renovation of half a million homes per year: 100,000 of which should be social housing, 150,000 poorly insulated dwellings (as part of the fight against fuel poverty) and 250,000 private homes, using existing financial mechanisms (energy transition tax credit, zero-rate eco-loan (ECO-PTZ), energy saving certificates, etc.). The plan also aims at the renovation of 370 million m2 of public tertiary buildings and 480 million m2 private tertiary buildings.”

Plan de rénovation énergétique: consultation publique
 Mechthild Wörsdörfer, Director for Renewables, Research and Innovation, and Energy Efficiency, European Commission

“This event is a great opportunity, two years after COP21, to recall the importance of improving the energy performance of our building stock worldwide.

“It is an opportunity to remobilise market actors and to coordinate efforts while taking stock of the latest good practices, tools and policies coming from Europe and other countries such as India, Argentina or the United States. If we want to change current market practices and spur investments in energy efficiency in buildings, we need to mobilise the whole building value chain.

“Energy efficiency is the most available, secure and affordable energy resource in the world. Energy efficiency is central to achieve the temperature and mitigation goals of the Paris Agreement and it has already influenced the entire global energy system.

“According to the IEA, in 2016, the world would have used 12% more energy had it not been for energy efficiency improvements since 2000 – equivalent to adding another European Union in the global energy market!

“In this context, the European Commission has decided in its Energy Union strategy on the principle of putting energy efficiency first. This principle is at the core of the recent Clean Energy for All Europeans package presented by the European Commission in November last year.

“In order to further support the mobilisation of private financing for energy efficiency in buildings, the Commission has put forward last year, together with its package on clean energy, a specific initiative called Smart Finance for Smart Buildings. It includes a number of concrete actions to unlock private financing based on three main challenges: 1) the necessity to use of public funds more effectively; 2) the need to develop more projects on the ground with the help of more assistance and aggregation services; and finally 3) the importance to work with financial institutions in order to help them have a better understanding of the risks and benefits related to energy efficiency investments, and help them develop tailored energy efficiency financing products.”

🔗 The Smart Finance for Smart Buildings Initiative
ENERGY EFFICIENCY: RISK OR OPPORTUNITY FOR FINANCIAL INSTITUTIONS?

Moderated by Laurent Michel, Director General for Energy and Climate change, French Ministry for Ecological and Fair Transition

Investor Perspectives on Energy Efficiency in Real Estate

Karsten Kallevig, CEO, Norges Bank Real Estate Management (Norway)

“Successful investing means understanding trends and technologies in order to find a winning formula. But a worthwhile result, as opposed to simply generating profit, is our goal.”

The differentiation of value between ‘green’ and ‘brown’ buildings has moved through three distinct phases, from the investors’ perspective. The first phase is driven by legal standards, such as building regulations, whereby owners can be sued if buildings are not compliant. The second phase is where better buildings contribute towards corporate social responsibility reporting, but have limited impact upon profit.

The third phase is when tenants, and prospective tenants, demand green building certification in leased premises, and this market demand has shifted green building to the centre of real estate investment. It also is a shift away from doing less bad to doing more good. This third phase started about ten years ago, and now for investors, green buildings are a way to improve revenue.

EEFIG Work and the G20 Energy Efficiency Finance Toolkit

Peter Sweatman, CEO, Climate Strategy and rapporteur to the EEFIG

The Energy Efficiency Financial Institution Group (EEFIG) was established to determine how to overcome the well documented challenges to accessing long-term financing for energy efficiency. The group is comprised of 40% representatives of financial institutions, along with policy makers, representatives of buildings, industry and SME sectors and energy efficiency experts.

The initial phase addressed the main challenges, and the findings are detailed in the report recommendations. The second phase resulted in the EEFIG Underwriting Toolkit and the DEEP database (EU’s largest of its kind with over 10,000 energy efficiency projects, across most member states, in buildings and industry from 26 data providers). DEEP shows the continued cost competitiveness of energy
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Efficiency investments, and reveals gaps in the data in multiple non-energy benefits that could drive many more similar projects if factored into the investment decisions.

EEFIG is contributing to the G20 Energy Efficiency Finance Task Group (EEFTG), that aims to enhance capital flows for energy efficiency investments in G20 economies. Working with fifteen G20 countries and co-chaired by France and Mexico, in 2016 EEFTG engaged with around 1,200 individuals through a programme of 18 workshops and contributions to G20 and related activities in Europe, USA, China and Latin America. These efforts culminated in the 2017 launch of the G20 Energy Efficiency Investment Toolkit to scale up energy efficiency investments in G20 nations.

View Peter Sweatman’s presentation

The EEFIG Underwriting Toolkit: Value and Risk Appraisal for Energy Efficiency Financing

Steve Fawkes, Managing Partner, EnergyPro

The EEFIG Underwriting Toolkit is designed to help financial institutions scale up energy efficiency lending by: helping financial institutions better understand and evaluate value and risks, by providing a common framework for evaluating energy efficiency investments and analysing the risks, helping developers and owners develop projects in a way that better addresses the needs of financial institutions, and fostering a common language between project developers, project owners and financial institutions.

The target audiences are senior management, valuation and risk teams, originators and project developers. See http://valueandrisk.eefig.eu/. Energy efficiency is a big market opportunity for financial institutions, and can also reduce risk by improving clients’ cash flow and avoiding stranded assets as environmental regulation becomes increasingly stringent. It also contributes towards corporate social responsibility and achieving environmental objectives. Banking regulators are becoming increasingly interested in climate risk, for example the Task Force on Climate-related Financial Disclosures, and this will also drive the behavior of the financial sector.

View Steve Fawkes's presentation
Integrating Energy Efficiency in Mortgages

Luca Bertalot, CEO, European Mortgage Federation

Two years after COP21, there is a need to make progress towards the commitments of the Paris Agreement. Developments like the Capital Markets Union will change the way we do business. The mortgage business uniquely joins many stakeholders, and mortgage lending represents about 53% of European GDP.

“If we want to change consumer behavior, then we need to change our houses – and this is how we will bring in the energy efficiency revolution.”

Retrofitting impacts positively on property value ensuring wealth conservation and loss mitigation by preventing “brown discount.” “Brown” risk is something that banks cannot ignore, especially in the context of new rules agreed by the Basel Committee. Every consumer should be provided with a special offer, a dynamic package of a revolving mortgage, to help them to renovate and to change their energy behavior. Banks have tried to offer green products that have failed due to lack of consumer demand. Small changes have to start from somewhere, and gathered together in the Energy Efficiency Mortgages Initiative, 30 banks are ready to follow us in the pilot phase of energy efficiency mortgages.

View Luca Bertalot’s presentation

EIB Experience and Perspective on Financing Energy Efficiency

Ambroise Fayolle, Vice-President, European Investment Bank

Noting that the European Union is on track to meet the 2020 target for energy efficiency, Fayolle stated that this progress cannot be taken for granted, with 1.5% increase in energy demand in 2015. Thanks to energy efficiency measures, energy consumption has decoupled, to a large extent, from economic growth.

The importance of this decoupling cannot be overestimated: the link with energy consumption has been one of the defining features of economic growth since the industrial revolution.

The International Energy Agency has estimated that almost half of the additional CO2 reductions, the existing gap between the post-COP21 and the 2 degrees pathways, must be achieved through energy efficiency measures. It is therefore indispensable to improve the energy performance of the building stock, which accounts for around 40% of energy demand. Two aspects are particularly important: most buildings were built prior to the first oil crisis of 1973 and the renovation rate is very low; the second aspect is that contemporary buildings are much more
efficient – a building from the 1960s has an energy demand of around 20 barrels of oil per year, in a new building this is just 6 barrels of oil per year. An NZEB needs less than 1.5 barrels of oil per year.

Therefore, increasing the renovation rate and following best performance standards in new buildings is necessary. European Investment Bank (EIB) lending for energy efficiency is now over €3 billion per year, and investing to reduce energy consumption is the most cost-effective way for the EU to meet its climate and energy objectives.

Challenges to energy efficiency investment include fragmentation: small investments with multiple beneficiaries. The EIB response is aggregation, such as the SPEE project in Picardie. A second challenge is financial and capital constraints whereby commercial banks are unfamiliar with energy efficiency investments. Risk-sharing instruments, such as Private Finance for Energy Efficiency (PF4EE) can help address this.

A third challenge for energy efficiency investments is its horizontal role: it cuts across traditional sectoral boundaries, such as social housing, SME lending and transport. This necessitates changes to the traditional way of appraising projects, and with this aim, the EIB has set up an Energy Efficiency Taskforce, an internal working group to increase collaboration. A fourth challenge is the lack of technical expertise, especially in financial institutions. Technical assistance provided through the European Local Energy Assistance (ELENA) initiative seeks to address this, along with the European Investment Advisory Hub. Economic barriers include split incentives and subsidized electricity and heating prices for retail consumers, which are beyond the scope of the EIB to address.

“A total of €330 million is being mobilized by the EIB in cooperation with prime financial partners committed to climate action, such as BPCE Group, here through ENERGECO, to support Akuo in their renewable energy investments. This is a strong signal from EIB that we are stepping up financing to climate action.”

Signature of the agreement, AKUO II, between the European Investment Bank, Natixis and Akuo Energy
WHERE ARE THE PROJECTS? DEVELOPING THE INVESTMENT PIPELINE

Moderated by Vincent Berrutto, Head of Unit Energy, European Commission, Executive Agency for Small and Medium-sized Enterprises

Energies Posit’If, a public ESCO for the Energy Renovation of Condominiums

Raphael Claustre, CEO, Energies Positif (France)

Energies POSIT’IF is a joint enterprise (85% public, 15% private shareholders) targeting the energy efficient renovation of residential buildings in the Ile-de-France region. Out of the regions 4.7 million homes, 72% are apartments, and the project prioritises the renovation of the 1 million homes rated E,F or G on the energy performance certificate A-G scale.

Achievements include contracts with 41 apartment blocks, and work has begun on 8 apartment buildings. Renovations completed yield an average 47% energy savings. Ongoing challenges include: low energy and carbon prices, complex implementation of third party financing, green value must be better understood (possibly reinforced by taxes), subsidies must be more efficient and should only support global renovations, not single actions (e.g. window change).

Experience from the project shows that it can take one year from considering to actual engagement in renovations, and that energy efficiency is not just for the rich – 20% of the beneficiaries are in receipt of social welfare payments. A fifteen-year, as opposed to twenty-year, payback period is recommended, and it is necessary to invest 5-10% of the value of the building every ten to twenty years in order to maintain it.

View Raphael Claustre’s presentation
Renovating Public Buildings through Energy Performance Contracting

Erika Honnay, Project Director, Renowatt (Belgium)

RenoWatt, a project which carries out energy retrofit of public buildings in the Liège province, is an initiative of GRE-Liège (Group for the Economic Redeployment of Liège) launched in August 2014 with the support of the European Energy Efficiency Fund (EEEF) and the Walloon Ministry for Economic Affairs. The potential for investment in energy retrofit in the Liège province is estimated at €10 billion, and with 93% energy import dependency in Wallonia, energy independence is an important driver.

RenoWatt is a one-stop-shop providing technical, legal and financial expertise to participating public entities, seeking innovative funding options while promoting local businesses and employment. The three main operating principles are using energy performance contracts (EPCs) on aggregated / groups of buildings, and participation in the public procurement process in order to limit the administrative burden on participating public authorities. In three years, five EPCs have been launched from twelve different public authorities to a value of €60 million.

Success factors include political commitment, a solid understanding of operational energy use, support from experienced buildings professionals. Plans for 2018 include an ELENA project.

Achieving Scale on Energy Efficiency in India

Saurabh Kumar, CEO, Energy Efficiency Services Ltd (India)

Business models in the emerging world need to be innovative, scalable, embrace technology, learn to survive without public funds, incentivise all stakeholders and deliver outcomes in a time bound manner.

Energy Efficiency Services Ltd (EESL) is a public company, and is a joint venture of four large power sector companies valued at more than USD 33 billion.

EESL delivers energy efficiency without any subsidies. Sample projects include 280 million LED lightbulbs distributed in two years, through the UJALA scheme, which enabled mass production with a consequent 90% reduction in cost and established LED lighting as the market standard. Aggregation of demand creates a virtuous cycle.

In e-mobility, EESL has started procurement of 10,000 electric vehicles, which will be leased to government, and aims at scaling up as almost half a million vehicles will be replaced in the next
few years. This also creates an opportunity for aggregated demand response. EESL looks for strategic opportunities to intervene across different sectors. An initial programme on smart meters will connect 5 million homes, reducing meter reading costs and improving consumer controls, with potential to scale up to 250 million homes.

View Saurabh Kumar's presentation

Investor-led Programmes for Home Renovation: the PACE System

David Gabrielson, Executive Director, PACE Nation (USA)

PACE (property assessed clean energy) is a type of innovative financing that can be used on any type of building for energy upgrades. It provides up-front long-term financing, and covers 100% of project costs, which frees up disposable income for families and capital for businesses. Unlike a standard bank loan that rarely exceeds 5-7 years, PACE enables low interest rates for terms up to 20 years. PACE is associated with / attached to the property and transfers to a new owner on sale.

Starting from 2007, PACE funded projects are now in the region of USD 4.5-5 billion, with 33,000 jobs created and more than 200,000 homes renovated. Fossil fuel savings achieved are equivalent to taking 1.1 million cars off the road.

View David Gabrielson’s presentation
HOW TO ACCELERATE THE DEPLOYMENT OF NEW ENERGY EFFICIENT BUILDINGS?

Moderated by Peter Sweatman, CEO, Climate Strategy and rapporteur to the EEFIG

Setting a Policy Pathway Towards Positive Energy Buildings

José Caire, Director for Sustainable Cities and Territories, ADEME

“The new buildings market in France is about 400,000 residential dwellings per year, for office and commercial buildings 6.1 million m², storage buildings 10 million m², accommodation 4.8 million m², and industry 3.3 million m² per year. Increasingly strict building regulations are trending towards positive energy buildings. On market value, a study from notaries highlighted that property values linked to energy performance certificates can add value up to 13% and decrease value by as much as 17%.

“When we set a new building regulation, we always consider how much cost this will add to construction. Usually this is around 10%, which normalizes after 4-5 years. We have introduced a voluntary label E+ C-, with the aim of addressing not only energy efficiency, but also carbon (greenhouse gas emissions based on life cycle analysis), and advancing towards net positive energy buildings. Our building regulations are moving from thermal/energy performance to more holistic environmental regulation.

“To address the financing gap, banks must align with the Nationally Determined Contributions (NDCs), and if available, an action plan for implementation. In France, the recently launched consultation will help us determine the final form of our national plans.”

View José Caire’s presentation
Report on Financing Energy Efficiency of Buildings by Multilateral or National Development Banks

Andreas Hermelink, Associate Director, Ecofys (Germany)

adelphi, the German Energy Agency GmbH (dena) and Ecofys Germany GmbH are developing a study on the continuing development of the global roadmap and recommendations on future requirements for action and measures to be taken by the Global Alliance for Building and Construction (GABC). The focus of the study is on funding and financing measures for private residential building via national and international development banks.

The study finds that the energy efficiency investment gap in the building sector is expanding with the growth of cities in emerging countries. Closing the gap will require fixing the market failures and a blend of public domestic finance, international public finance and private sector investments. GABC can help countries to prioritise energy efficiency in buildings investments in national agendas, by highlighting energy efficiency in buildings in national energy strategies, capitalizing on NDC platforms, monitoring energy efficiency investments and tailor strategies to the appropriate level of market maturity.

View Andreas Hermelink’s presentation

Technical Assistance Programme for Energy Efficiency in Buildings

Rima Le Coguic, Director of Energy and Digital Transitions, Agence Française de Développement

The Programme for Energy Efficiency in Buildings (PEEB) is a French-German joint-initiative and forms the first implementation programme of the Global Alliance for Buildings and Construction (GABC). The majority (80%) of the buildings that will exist in 2050 are not yet built: signaling an opportunity to build energy efficient and low emission building in developing countries.

PEEB aims to facilitate financing of large-scale programmes in the building sector, with a focus on new buildings in developing and emerging countries. Initial partner countries are Mexico, Morocco, Senegal, Tunisia, and Vietnam. Read more about PEEB at http://ideas4development.org/en/buildings-climate-change/

View Rima Le Coguic’s presentation
Nearly Net Zero Energy Buildings in the Asia-Pacific Economic Cooperation Area

Sarah Stinson, Director of Building and Industry Division, Office of Energy Efficiency, Natural Resources Canada

In Canada, 17% of greenhouse gas emissions are from the buildings sector, and due to the cold winter climate, 75% of buildings’ energy demand is for space and water heating. Due to the governance structure, building codes are made at the federal level, but the regional (provincial) governments can choose whether to adopt these codes. This can make it difficult to drive action from the federal level.

The national strategy is detailed in the Pan-Canadian Framework on Clean Growth and Climate Change, under which federal budget is allocated to energy efficiency in buildings, as well as updated building codes, and new standards for equipment and appliances. Financial support is also available through the Low Carbon Economy Fund.

Between 1990 and 2014, energy efficiency in residential buildings improved by 47%, in part driven by certification programmes Energuide and Energy Star. The potential impacts of implementing the Buildings Strategy to 2030 are a 21.6 MT carbon reduction, along with job creation, healthier indoor environments and contributing towards long-term decarbonization.

View Sarah Stinson’s presentation
Building Code Policies in Emerging Economies

Benoit Lebot, Executive Director, International Partnership for Energy Efficiency Cooperation (IPEEC)

IPEEC’s member countries account for 80% of global GDP, and IPEEC manages the G20 energy efficiency agenda. Of the twelve task groups run by IPEEC, the Buildings Energy Efficiency Task Group (BEET) have published six reports on different aspects of energy efficiency in buildings.

In emerging economies, the extent of building in the informal sector means that energy efficiency happens in commercial buildings, but not in residential buildings. In general, the conditions and tools for scaling up energy efficiency are well understood, but more needs to be done to mobilize all stakeholders, especially with regard to the power of evidencing the value of energy efficiency investment through aggregated data, and by properly articulating the case for energy efficiency investment at the local and national level. Decarbonizing the building stock can bring multiple benefits – but not all building owners understand this yet.

View Benoit Lebot’s presentation
WHERE IS THE MONEY? DEVELOPING THE SUPPLY OF FINANCE FOR ENERGY EFFICIENCY

Moderated by Françoise Réfabert, CEO, Vesta Conseil Finance

The Challenge of Financing Home Renovation for Retail Banks in France

Jean-Baptiste Sarlat, Head of Green Growth and Responsible Growth, groupe BPCE (France)

Around a quarter of BPCE’s investments are in buildings, and increasingly stakeholders are requesting the integration of energy efficiency into loans for buildings. The Group’s ambition is to have €20 billion in green investments by 2020.

This strategy is reacting to the needs of clients and addressing the climate stress test for real estate. Green investment has a positive impact on credit ratings, which is an important factor for investors. Simple tools, that enable banks to work in tandem with local authorities are needed to lower transaction costs. Today, financing mechanisms are too complex, and refinancing costs are too high.

The early stage results from the BPCE-KFW-ELENA initiative are positive, however the dialogue between the public and private sector is complex. Bank loans can catalyse the objectives of multiple stakeholders and address the energy transition in real estate; but strong partnerships between local authorities, energy agencies (ADEME), energy experts and finance professionals are paramount.

Looking to the future, aggregation will become possible through digitalization, which will simplify the customer journey. Insurance and a supportive regulatory environment for green lending will be key factors, and recognized quality standards essential for market facilitation.

View Jean-Baptiste Sarlat's presentation
Accelerating zero energy renovations in social housing

Sébastien Delpont, Associate Director, Greenflex and programme coordinator of EnergieSprong, France

Transition Zero is a Horizon 2020-funded project, carried out by EnergieSprong, to establish the right market conditions for the wide-scale introduction of net zero energy homes across Europe. Building on the success of Energiesprong in the Netherlands, Transition Zero will kick-start net-zero energy refurbishment markets in the UK and France, using the social housing sector as a catalyst.

Market volume and proven solutions are necessary to scale up energy efficiency renovations. Targeting the social housing sector means that multiple buildings with just one owner (government) can be addressed and opens up innovation in the sector. Although initially the Dutch project was expensive, now deep retrofit costs have been reduced by 50% in five years. Along with the UK, the Netherlands and France, similar programmes are being developed in Luxembourg, Italy, and Vancouver and Toronto in Canada.

Scaling Investments in Full Renovations in Eastern Europe – LABEEF

Nicholas Stancioff, CEO, Latvian Baltic Energy Efficiency Facility

LABEEF leverages energy efficiency improvements to finance complete renovations in residential and public buildings. LABEEF offers legal, financial and technical standards to ESCOs. In exchange, once mandatory targets are meet, LABEEF purchases the receivables (a stream of future revenues) from the completed and certified project and frees up ESCO’s balance sheet. The ESCOs can now finance more energy-saving projects.

Under this model, resident associations and managers of public buildings can engage an ESCO to carry out works without needing to invest their funds.

The most important success factor for LABEEF is de-risking the investment, increasing comfort to all beneficiaries. LABEEF also promotes an 80/80 model, whereby LABEEF purchases only 80% of receivables, the remaining 20% staying with the ESCOs. This motivates ESCOs to select buildings with high technical potential and low default payment risk, as well as to implement energy performance contract sub-projects with the highest standards of technical design, materials quality and installation. Aggregation is by design: contracts and processes are standardized and delivered online to allow accelerated delivery depending only on access to long-term funding.
Energy efficiency in buildings: how to accelerate investments?

Isidoro Tapia, Energy Efficiency Expert, European Investment Bank

A 2°C pathway requires more technological innovation, investment and policy ambition, and investments in buildings are a crucial component in EU decarbonisation scenarios, and has the most, as yet unexploited, potential. Increasingly stringent building regulations have reduced the energy demand of new buildings, however progress on nearly zero energy buildings (NZEBs) remains slow.

Energy efficiency lending from the European Investment Bank (EIB) has increased three-fold since 2012, and 25% of energy efficiency lending is in France. Financial products include investment loans, framework (intermediated) loans, investment funds (equity) and advisory services.
**HOW TO SHAPE POLICIES TO SUPPORT ENERGY EFFICIENCY INVESTMENTS?**

*Moderated by Peter Sweatman, CEO, Climate Strategy and rapporteur to the EEFIG*

**Policies for Low Carbon Real Estate Transition and Investment Status**

Brian Motherway, Head of Energy Efficiency, International Energy Agency

Energy efficiency investment grew 9% in 2016, despite lower energy prices, pointing towards policy as a key driver. In terms of financing mechanisms, the market for green bonds is growing rapidly, however energy efficiency is not the biggest priority, which is a cause for concern. Municipal bonds are a big driver for greening city level infrastructure. China has the largest market for energy service companies (ESCOs), however this is nearly all in industry, and a direct result of a suite of policy actions including targets, incentives, capacity building and market stimulation.

It is not simply a question of putting more money into the market, as demonstrated by the [REEP Plus programme](#) from the European Bank for Reconstruction and Development (EBRD). In Korea, the nascent ESCO market is being supported with policy and finance instruments. Major efficiency gains are possible by enabling purchasing of more energy efficient appliances, as shown by the impact of refrigerator standards on energy consumption in the U.S. The role of the public sector is key in building confidence in markets and showing that government is willing to be hands-on and work with market action.

[View Brian Motherway’s presentation](#)
Involving the Financial Sector in Establishing Long-term Energy Renovation Strategies

Bendt Bendtsen, Member of the European Parliament, Rapporteur for the revision of the Energy Performance of Buildings Directive

In the current negotiations on the revisions to the Energy Performance of Buildings Directive, the European Parliament is strongly in favour of key elements of the proposed legislation, including long-term strategic planning to ensure an energy efficient building stock in Europe, and providing the incentives to renovate through accurate data.

The directive particularly focuses on the energy performance of new buildings, but new buildings comprise around 1% of the total building stock annually, so efforts must be targeted towards renovating existing buildings.

However, ministers from the Member States prefer that national long-term renovation strategies should not be too prescriptive or too binding – despite the recognition in the European Parliament that a clear signal of priority to investors is certainty and long-term planning. The national long-term renovation strategies should provide exactly that signal.

On the issue of long-term planning, there are also significant challenges in bringing financing for energy efficiency to market. Member States are being asked to commit to delivering accessible, transparent and simple financing tools, to help bring money to the market. These could be initiatives like using public money to leverage private investments, providing guidance to consumers through one-stop-shops and assisting third parties, for example municipalities, to invest in high-performance buildings.

It is hoped that the final form of the EPBD will help to create a long-term policy framework with clear incentives and accelerate the financing to achieve the extent of energy efficiency renovations that are necessary.
Ongoing Actions and Projects for a Building Energy Renovation Uptake in France

Jérôme Gatier, Director, Sustainable Building Plan (France)

Within the framework of European energy policy and the associated directives, France has maintained energy efficiency in buildings and real estate as a constant policy priority through successive governments over the past ten years (Le Grenelle de l’environnement [2007]).

Since 2009, the Sustainable Building Plan gathers a broad network of building and real estate stakeholders around a common mission: to promote the implementation of energy and environmental efficiency objectives, with over 1000 contributors at national level and 5000 contributors including the regional level. It’s important to tailor public policies to different markets (e.g. residential, commercial, etc.) and focus on multiple benefits of renovation, not just energy performance. Standards and labels are important in building market confidence, as is the role of the public sector as a trusted third party.

The new government’s renovation plan (Plan Climat) aims at 500,000 renovations per year, with accompanying initiatives aimed at developing the role of private finance. Items under discussion are related to the financial capacity of borrowers, business models for third party financing, debt refinancing, and overlapping responsibilities.

View Jérôme Gatier’s presentation
The Experience of the Sustainable Energy Financing Platform in Austria

Clemens Plöchl, CEO, Energy Changes (Austria)

Funded by Horizon 2020, The Sustainable Energy Financing Platform (SEFIPA) is run by non-profit organisation Austrian Society for Environment and Technology (ÖGUT) and consultancy Energy Changes Projektentwicklungs GmbH.

Working with public administration, financial sector, business and consumer associations, energy service providers, and NGOs, SEFIPA’s ‘Finance Labs’ address topics such as financial products for institutional investors, promoting energy performance contracting, incentives for energy efficiency investment, increasing investment in rooftop PV, and optimization of subsidies.

A specific output from the Finance Labs was the recommendation to real estate investment funds (a market volume of €6.7 billion in Austria) to include the basic criteria of the Austrian building certification system klimaaktiv for investments in buildings, and the development of further guidelines on how to make existing investments in buildings more energy efficient.

View Clemens Plöchl’s presentation
CLOSING PANEL — MOBILISING ALL STAKEHOLDERS TO ACCELERATE ENERGY EFFICIENCY IN BUILDINGS

Moderated by Mechthild Wörsdörfer, Director for Renewables, Research and Innovation, Amphi Sud and Energy Efficiency, European Commission

Frédéric Janbon, CEO, BNP Paribas Asset Management

“Energy efficiency investment is a win-win for all stakeholders, and for investors buildings represent the largest opportunity. Challenges include the “tragedy of the horizon” as described by Mark Carney, and the principal-agent issue, which according to a Dutch study affects up to 40% of commercial sector buildings. These, and other issues, make it difficult to invest at the necessary scale, around €100 billion per year in Europe. I believe that collective action is the only way forward – a fact that is well understood by the European Commission and UNEP FI, and the reason why we are here.

“The EEFIG report presented viable proposals for investors, and has greatly improved knowledge and know-how. At BNP Paribas Asset Management, since 2013 we have developed internal benchmarks to assess climate risks across our portfolios and help us select which companies to invest in. We find that 67% of companies have not yet established energy efficiency targets, and given this low level of disclosure, we are engaging directly with companies on this.

“We are also engaging directly in finance mechanisms like green bonds. Finally, a key challenge for growth in this market is a financial product that can aggregate many small investments. Aggregation through green ABS (asset backed securities) could transform the energy efficiency market.”
International conference on sustainable energy and the electricity grid in Brussels, 21 December 2017

Isabelle Kocher, CEO, Engie

“When the climate change debate began in earnest, a leading issue was can’t we consume differently? Many things are achievable with green energy, including moving towards a more active consumer relationship. Based on annual energy bills of around €1500, addressing energy efficiency at the household level can save 20-30% on costs, but also with high added value, extra comfort, job creation – in the region of 300,000-400,000 jobs in France alone.

“For Engie, greening energy is the best way to create added value. It’s about creating virtuous circles. At Engie, 100,000 of our customers are creating ‘negaWatts,’ or zero watts spent. Raising awareness is key – as soon as we install smart meters, consumers become smarter and reduce energy consumption by 5-10%. For renovated buildings we are seeing reductions in energy use of 20-30%. For these projects, we commit for a 12-15 year period and are remunerated only if we reach the savings predicted. One example is our work in schools, and investing in two sports centres in Nanterre for greenhouse gas reductions of 30-50%.

“To scale up, we are in favour of a 40% target for energy efficiency at EU level, but all projects are local. So, the state can set the rules, but to deliver projects, the dynamics are local. For example, in Paris’s climate plan (Plan Climat-Air-Energie Territorial [PCAET]), delivery of 70% of the actions listed are in the hands of citizens and private companies, and 30% with the city administration.

“We believe that this is something that will take off in France. We at ENGIE intend to invest €1 billion over the next five years for energy efficiency in buildings in France. Finding the right financial instruments and incentives, platforms and new business models is needed to attract some of the capital that we know is available at this time of low interest rates.”
Pierre-André de Chalendar, CEO, Saint-Gobain

“At Saint-Gobain, we have developed a number of technical solutions to significantly improve energy efficiency. Today, buildings account for 40% of energy demand – let’s hope that by 2030, this will be 20%. Technically, this is possible – but we have to consider how we get there.

“At the building level, there are two aspects: the building envelope, and the equipment and installations needed to heat and cool the building. To accelerate investment, we need a public policy framework, a clear long-term stable framework, which would come from public authorities. Today’s framework must come from the European level. Saint-Gobain is ready.

“For new buildings, the higher standard of building regulations is changing the traditions in construction, and thanks to higher volumes, reducing production costs. With a low renovation rate, retrofit is more difficult and here we need a cocktail of measures adopted to different countries and sectors.

“For public buildings, the state must define the criteria and address the issue of profitability and payback for the state. For social housing, we need public money to favour investment in this sector. The most difficult is the private sector – we need a price signal, but this is challenging when the price of energy is low.

“However, 70% of people who retrofit don’t do it for reasons of energy efficiency, so the right message for householders is: when you retrofit, make sure that it includes energy efficiency measures.”
Bendt Bendtsen, Member of the European Parliament, rapporteur for the revision of the Energy Performance of Buildings Directive

“I hope that in 2030, we will have an Energy Union and a single market for energy. Many heads of state came to Brussels asking for an Energy Union, but the reality is that the national energy ministers are not so keen. In the negotiations on the Clean Energy package, and in particular, the Energy Performance of Buildings Directive for which I am the rapporteur, we are having problems with the national approaches that are undermining the legislative proposals.

“Europe has an opportunity to lead the transition, and it makes good business sense. Ten years ago, Europe imported 40% of its energy, and now it is 50%. We are paying Russia and the Middle East for energy supply, instead of investing in our industries to become more competitive. This can create blue and white collar jobs, healthier living conditions and lower energy bills. Why is it so difficult?

“My heritage is as a farmer, and we have a tradition of taking care of our farms, so that we can leave better earth for our children. We have not yet done this in our buildings.

“We need commitment from Member States to give investors certainty for the future. There are too many stop and go policies, if we want to get private money working, public money must lead on deployment and leveraging. In the negotiations, I think often it is the finance ministers, not the energy ministers, who are driving the decisions.

“I think that we will succeed and that the transition will come, but there are many obstacles too.”

🔗 Bendtsen report on the EPBD

Fatih Birol, Executive Director, International Energy Agency (IEA)

Buildings and the construction industry are a major driver of energy demand and global CO2 emissions, together accounting for 36% of final energy consumption, and 39% of energy-related CO2 emissions in 2015. The global buildings sector is growing at unprecedented rates, presenting an opportunity to cut energy bills, energy use and greenhouse gas emissions through efficiency improvements.

However, despite potential for cost-effective emissions reduction, the buildings sector is not emphasized enough in the majority of countries' Nationally Determined Contributions (NDCs). And globally, nearly two-thirds of buildings still do not have comprehensive mandatory building energy codes. Energy efficiency improvements represented less than 10% of the $4.6 trillion invested globally in the construction and renovation of buildings in 2016.

IEA activities include bringing industry and governments together to focus on solutions, and reaching out to emerging economies, part of the changing global energy landscape. Energy efficiency topics have expanded, to include heavy goods vehicles, digitalization and cooling. And the recently launched Clean Energy Transitions Programme supports sustainable energy policy implementation in key emerging economies with a fund of €30 million.

This year’s Global Status Report looks at the state of global buildings and construction since the historic Paris Agreement. The report makes clear that while global progress is advancing, there is a growing urgency to address energy demand and emissions from buildings and construction. Current policies and investments fall short of what is needed, and what is possible.

Ambitious action is needed without delay to avoid locking in long-lived, inefficient buildings assets for decades to come. Examples across the multitude of actions by Global Alliance for Buildings and Construction (GABC) countries and partners illustrate that this ambition is indeed possible.

It is our hope that this status report, along with continued international collaboration and best practice sharing, helps to raise awareness of the needs and opportunities to put global buildings and construction on a sustainable pathway.

View Fatih Birol's presentation
Sergio Bergman, Minister of the Environment and Sustainable Development of Argentina

“Energy efficiency is a high priority for Argentina, and we are looking forward to working with the IEA on all energy-related issues during Argentina’s G20 presidency in 2018.”

In Argentina, reforms are underway aimed at increasing investor confidence in the energy sector. This entails creating the right conditions for long-term investment and a robust path towards energy security; advocating for more renewable energy and reducing the impact of climate change. In May 2017, rules were set out for Argentina’s first planned auction for renewable energy, expected to spur as much as 1 GW of new capacity led by wind and solar farms and drive as much as $2 billion in investment.

Already, these targets have been exceeded: in November, the first phase of an auction for renewables to generate 1,408 megawatts (MW) of power has triggered between $2.5 billion and $3 billion in investment, with the government planning to award an additional 600 MW in the second phase of the program. This will help to achieve the national target of 20 percent of renewable energy by 2025.
The Role of Policies to Unlock Finance for Energy Efficient Buildings

Ibrahim Thiaw, Deputy Executive Director of UN Environment and Assistant Secretary General of the United Nations

“It is almost 70 years since the Universal Declaration of Human Rights was adopted by the United Nations General Assembly in Paris. Towns and cities around the world have changed dramatically since then, but those fundamental rights have not, including the right to own property, the right to an adequate standard of living and the right to freedom of movement.

“With the population expected to reach almost 10 billion by 2050, the challenge of preserving and enjoying those rights will also grow. Latin America and the Caribbean could need up to 50 million homes. Asia is expecting 120,000 people to move to cities every day. And Africa’s urban housing is likely to triple. The fact that energy use per square meter continues to improve at a rate of about 1.5% is encouraging. But the surface area is increasing at 2.3% far outstrips those benefits.

“Numerous barriers must be overcome to scale up and accelerate that transformation [of the buildings sector] – not least changing the traditional views of what a return on investment looks like. The right policies and financial mechanisms can help break those barriers. Just as investment in renewable energy has increased six-fold in a decade, the same is must be done for energy efficiency.

“First, we can to build on the Energy Efficiency Financial Institution Group’s work on de-risking energy efficiency investments. Second, we can make energy efficiency a standard element of all mortgages, financing for new generating capacity and industrial upgrades. And third, we can better inform and coordinate the fragmented buildings and construction sector behind common objectives. The 100 partners of the Global Alliance for Buildings and Construction are helping with this.

“Ultimately, this is about—not investment opportunities, energy efficiency or beautiful buildings—but the people of every age, faith, gender and culture, who count on us to provide a suitable and affordable home for their family. When you realize that, you also realize that the real power of the Declaration of Human Rights is the power of ideas to change the world.

“Right now, that power is in our hands. How we use it is up to us.”