

FINANCING ENERGY EFFICIENCY IN NORDIC COUNTRIES



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EXECUTIVE SUMMARY

The conference was a part of the series of events planned by the Sustainable Energy Investment Forum. The aim was to gather key stakeholders at a national and regional level to boost large-scale investment and financing for energy efficiency. The Forum events will form the basis for a long-term cooperation and provide roadmaps to improve access to sustainable energy finance in the various target countries.

111 participants, who deal with energy efficiency finance, were present at the conference and a range of different sectors were represented including the financial sector, national Governments, project developers, the renovation supply chain and local and regional authorities.

The duration of the conference was one day and included an opening and closing plenaries and a series of three breakout sessions: A) Energy efficiency finance in the public and social housing sector; B) Energy efficiency finance in the industry and tertiary sectors; C) Energy efficiency finance in the private housing sector.

The conference included speakers from Nordic countries as well as invited experts from across Europe. Through the presentations and discussions, the following key points emerged:

- To deliver against energy efficiency and carbon reduction targets in the coming years, the importance of addressing the energy performance of the building stock is increasing.
- There is considerable support and advice available for projects and programmes, described in detail by projects presented during the conference. The European Commission and other institutions are seeking to bring Governments, projects and programmes together to provide opportunities for exchange of experience and capacity building. This is supplemented with national programmes and initiatives, as presented by the energy administrations in Denmark, Sweden and Finland.
- The conference showed that institutional investors provide a promising source for accelerating energy efficiency finance in the Nordic countries. Presentation of initiatives related to green bonds and pension funds were specific examples of this development.
- There is a considerable interest in the current and potential future role of energy service companies, but also differences in terms of what is meant by an ESCo and the way in which they operate. The conference revealed prosperous good practice of Energy Performance Contracting, but also that the concept requires more support to release its full energy saving potential.
- The parallel sessions gave interesting insights and discussion on how to tackle the particular barriers and opportunities within the various sectors (public and housing sector; industry and tertiary sectors; private housing sector)
- While there are differences between the Nordic countries on these topics, bringing them together in this way was a valuable experience and there is scope for follow-up events and ongoing interaction.

BACKGROUND OF EVENT

The Energy Union Framework Strategy positions energy efficiency as one of its five dimensions and states that 'it is to be treated as an energy source in its own right'. The ambitious Paris climate agreement also underlines the importance of energy efficiency. Investments in energy efficiency have proven to be one of the most cost-effective ways to support the transition to a low-carbon economy. Not only do they help the EU in turning climate *ambition* into climate *action*, they also bring a number of significant benefits for European citizens and companies in terms of environment, health, security of supply, lower energy bills, more jobs and sustainable growth.

To realize the full potential of energy efficiency however, public funds alone will not suffice and private financing will have to be unlocked at scale. In that context, the energy policy should create more favorable investment conditions, encourage demand for energy efficiency and help consumers undertake energy efficiency investments more easily.

The conference was convened to share best practice from across Nordic countries and more widely from across Europe on financing energy efficiency. This included sessions on the use of private and public funds and innovative financing instruments, notably in the building and industry sectors. Speakers focused on practical experience in developing and structuring investment programmes. The event included panel discussion sessions as well as question and answer sessions for individual speakers. Summaries of these sessions are included within these event proceedings.

Copies of all presentations and recordings made at the event can be accessed at: <https://ec.europa.eu/energy/en/events/financing-energy-efficiency-denmark-sweden-and-finland>

PLENARY SESSION 1 – POLICY CONTEXT AND STATE OF PLAY

Session chaired by Morten Jastrup

Welcome and introduction by the host

Jens Klarskov, Director at Dansk Erhverv - Confederation of the Danish enterprises

Dansk Erhverv – Confederation of Danish Enterprises was event partner and Director Jens Klarskov completed a welcome speech on behalf of the organization. Dansk Erhverv finds the event topic important and therefore Dansk Erhverv is happy to sponsor the event.

There is a renowned and particular tradition in Denmark when it comes to Energy efficiency. Everywhere in Europe, businesses are eager to improve energy efficiency, but unfortunately financing is often a major barrier. Therefore, there is a hope that this conference will contribute to creating a co-understanding among the different stakeholders and about the necessity of energy efficiency, but also how to find the related financial challenges and solutions. The conference took place in the danish stock exchange building which is a fascinating historic building – a source of inspiration.

Welcome to the conference.

Morten Jastrup, event moderator

Morten Jastrup welcomed all participants and stated that we are all gathered because of an uncommon paradox; we have the potential for gaining energy savings and financial returns. If we reach our energy savings target, that might create a sustainable economic growth. This is one of the most attractive business opportunities in these years. On one side, we have a tremendous opportunity in energy efficiency – on the other side, tons of “cheap” money appear to be available and that might be a perfect match. This money could enable energy efficient building renovations that would then guarantee a steady return over the long-term. Energy efficiency projects can provide that! But surprisingly enough it does not work. At least not yet...

That’s why we’re here – the attendance today shows that there is a lot of interest, and potential engagement already. Based on the attendees list, there is roughly an equal representation from the different stakeholders, finance, energy, industry, NGOs, Government. We represent all the entire stakeholders needed to move forward together! This event is a huge opportunity to create connections and develop solutions.

EU Policies in support to Energy efficiency investments

Diana Barglazan, Policy Officer at Unit Energy Efficiency, European Commission

Increasing energy efficiency delivers some co-benefits, not least an increase in jobs and improved energy security. Since the year 2006, the EU has decoupled energy consumption, GDP and the EU is on track to deliver against targets set for 2020. These improvements are being driven by policy and product policy have been important drivers (including in the transport sector).

That will see us reach 2020 targets, but to deliver against our 2030 ambitions we will need to deliver the same efficiency savings again as the current decade. Products policy will remain important, but won't deliver the same benefits in the next decade as the present one. Policy on the buildings sector will be more critical during next decade and because of the different nature of the assets, finance policy will be more critical too.

Technology will also play a role, in directly enabling improved controls to reduce consumption for example, but also in demonstrating more readily how performance contracting and third-party finance are linked. ICT will allow buildings to play their full part in enabling the energy system to function.

The "Smart Finance for Smart Buildings" initiative is to be instrumental for fulfilling the policy goals, incl. its three pillars on 1) More effective use of public fund, 2) Assistance and aggregation and 3) De-risking.

[Presentation](#)

Mobilisation of the financial sector on energy efficiency

Tatiana Bosteels, Director for Responsibility, Hermes Investment Management/Board Member UNEP FI Investment Committee

The [UN Environmental Finance initiative](#) is a partnership between the UN and the finance sector in which most members are banks. Through the partnership there is an increasing focus on positive impacts through finance and long-term value creation.

Second to China, the EU is the place where energy efficiency must play its role in meeting emissions reductions agreed as part of the Paris agreement (INDCs). Globally this figure has a 50% average, but is two thirds for the EU.

The initiative has been working with the EU for the past four years. Unless the energy efficiency sector is working with policy makers, then we will not be truly transformative. Banks need to be conscious of what they can do and where to start and they should be working on energy efficiency wherever they can, not just through dedicated products. Having recognised the issue, there is then a need to scale up investment. Banks don't currently track what they are doing on energy efficiency- this needs to improve in particular for refinancing of lending portfolios. The European

Investment Bank and others are motivating partner banks to work with their clients. Experience sharing and knowledge transfer is essential to enable more organisations to be on that journey to a fuller business strategy.

The current trend speaks in favor of energy efficiency finance. Investors are bringing questions on energy efficiency to the general assembly of companies. Lots of investors delegate their asset management and we need energy efficiency included through the whole value chain and at portfolio level as well as individual asset management. Insurers are starting to play an important role too.

The European Commission support the development in form of the Energy Efficiency Financial Institution Group (EEFIG), aiming to determine how to overcome challenges to obtain long-term financing for energy efficiency. This entails DEEP, an open-source initiative to up-scale energy efficiency investments in Europe (see presentation later in the programme), an Energy Efficiency Underwriting Guide to be launched in June 2017 for development of common, accepted and standardized underwriting and investment framework for energy efficiency investing as well as additional activities supported by the Horizon 2020 Programme.

A change of scale and pace is needed. Building renovation should be a topic of importance for energy security at country level and it can enhance competitiveness and bring job creation locally. Our message is an inspiring one.

On the global scale G20 is underway with an “EE Investment Toolkit”. This concerns integrating energy efficiency in the policy discussions of G20, an effort to involve the private sector including long term investors as well as public sector finance incl. all the financing institutions involved in that sector.

[Presentation](#)

National Overviews

Peter Bach, Chief Advisor, Danish Energy Agency

The Danish perspective of financing energy efficiency is slightly different compared to the rest of Europe, especially in the Central and Eastern Europe. EU has as a whole been able to decouple economic growth and energy consumption over the last 10 years, but DK has done this for the past 40 years! EE has delivered a lot already, but there are still barriers and market failures. Financing itself might not be the only factor to focus on, as most of the building owners can get cheap loans, but anyway don't invest in EE.

Therefore, market solutions are to be accompanied by measures to overcome barriers such as imperfect information, principal-Agent issues and not economic rational behaviour. The owners of buildings and companies shall be convinced to engage in these investments and the credit institutions can play a role in making that happen.

[Presentation](#)

Sandra Lennander, Swedish Energy Agency

The national target on energy efficiency by 2020 is to decrease energy intensity by 20% compared to 2008, and by 50% by 2030. The financial situation in Sweden is characterised by good conditions for lending money, e.g. the interest rate is low, but nevertheless it is a problem to make energy efficient renovations profitable.

The Government reacted by developing new financial instruments such as loans for housing stock. The purposes are the following - 1) Make a proposal aimed at increasing housing construction and energy efficiency of the housing stock, 2) Examine the possibility for state to fund governmental loans and credit guarantees. Other policy instrument is a programme to promote Nearly Zero Energy Buildings and provision of 800 million SEK to energy efficient renovation of apartment buildings in area with socio-economic challenges as well as an innovation cluster aiming at the development of energy efficiency in the building stock. The government is also active on the industry sector with a program for improving Energy Efficiency that took place between 2004 and 2014. Through the program, companies received a tax reduction of 0,5 eur/Mwh. There is ongoing work to put in place an alternative instrument. Beyond this programme, a support of 5,000 euros per company were offered to SMEs to invest in EE.

In a broader perspective, the Swedish Government has launched an investigation aiming to promote the development of a sustainable financial market. This investigation should provide proposals for the development of the Green Bonds Market and provide examples of projects that could be funded with green bonds.

[Presentation](#)

Päivi Laitila, Motiva

Financing the energy efficiency in investments in Finland, is not the problem. Indeed, resources are available for economically feasible projects, if the applicant is creditworthy. Plus, there is an increasing interest in the topic among banks and financial institutions. This is the result of a successful long term, persistent work for energy efficiency, based on aids granted by the Finnish Government; especially through investment subsidies (and grants for energy audits) granted to businesses, industry and local authorities within the energy efficiency agreements. But the Government also provided few energy subsidies for improving the housing conditions (only for special groups); as well as tax deductions for consumers (e.g. for repair work for energy efficiency repairs etc.). The Energy Efficiency Agreement (EEA) has a key role of EE implementation. Between 2008 and 2016, 17000 measurements have been taken through the EEA representing 1200 M€ in invested in EE and 500M€ savings from energy costs.

Beside the governmental activities, the role of the communities is a crucial in EE investments through third party financing schemes, joint green procurements and MuniFinGreen Bond. MuniFin is a framework drafted according to the Green Bond Principles that ensures an independent and objective methodology to validate projects.

The European perspective is also encouraged. Attention is drawn to the possibilities offered by the European Regional Development Fund (ERDF), the European Social Fund (ESF) and Rural

Development Programme (RDP) - promoting low-carbon economy. The Government developed some supporting material for applying including a guidebook “Low carbon approach in structural funds” with some case examples.

To further bridge the energy efficiency and financing sectors there is a need to provide simple targeted information on different mechanisms and possibilities, to enhance collaboration between stakeholders, to provide examples, best practises and sharing experiences of implemented cases and last, but not least, have an open mind set for new opportunities.

[Presentation](#)

Panel discussion and Q&A

Q – How to bring dynamics into energy efficiency investments

A – Peter Bach: The coin has two sides. It is about matching the user and financing side of energy efficiency in an appropriate manner.

A – Nicholas Stancioff: People are not purely rational and the financing models need to take into account the realities of motivations and behaviour.

Q – It has become clear that proper information is needed to provide the sufficient decision-basis, how can this be improved in the coming years

A – Peter Bach: Encouraging energy efficiency finance often requires the right information at the right time to trigger the investments to happen

A – Päivi Laitila: Supplemented that the challenge is complex and hence the means of information like toolkits, best practices are to be designed for the specific cases.

PLENARY SESSION 2 – HOW TO STIMULATE ENERGY EFFICIENCY FINANCE?

Session chaired by Morten Jastrup

Institutional investors perspective

European policy perspectives for bringing institutional investments in place

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

For the European Parliament, the revision of the EPBD, and the improvement of EE represent a huge potential for job creation and sustainable growth. Regarding the position of the Institutional Investors, we have to bear in mind that there is always a higher demand for money than what is available. Recently, we've noticed a growing interest from the society for green investments. However, public money is not sufficient; it needs to be supplemented by private money. EFSI and EFSI 2.0 are good examples on how public money can activate private funds to invest at large scale in a greener economy. Public money can diminish the perceived risk by providing guarantees to private investors.

EFSI is a EUR 16 billion guarantee from the EU budget, complemented by a EUR 5 billion allocation of the EIB's own capital. EFSI has been integrated into the EIB Group and projects supported by EFSI are subject to the normal EIB project cycle and governance. In addition, EFSI has its own dedicated governance structure which has been set in place to ensure that investments made under EFSI remain focused on the specific objective of addressing the market failure in risk-taking hindering EE investment in Europe. In doing so, EFSI will also increase the volume of higher risk projects supported by the EIB Group.

The new proposal, referred to as EFSI 2.0, includes an increase in the EU guarantee from €16 to 26 billion and in EIB capital from €5 to 7.5 billion, which should mobilize private and public investment of €500 billion over the period until 2020. The proposal also focuses on project sustainability, enhancement of geographical coverage and ways to reinforce take-up in less developed regions, while also aiming to enhance the transparency of investment decisions and governance procedures, and reinforce the social dimension by means of additional financial instruments.

We know there is a lot of money out there. The priority of the public investors is not to invest directly but instead to activate these huge amounts of money. For that we need more information, more certainty, more standardization.

The energy renovation fund SustainSolutions

Pelle Pedersen, Head of Responsible Investment at PKA

The banks have indeed a lot of money to invest. Political power, needs to understand how a bank thinks. Some people say that investing in energy efficiency is a guarantee for a new kind of growth. Then, it's how it should be sold to the bankers: as simply as a new kind of growth.

The major problem is the lack of dialogue between the different kind of stakeholders: bankers talk to bankers, scientists to scientists, etc. The silence needs to be broken out. The institutions need to address the stakeholders' needs. They need to understand what they want. Too much energy is spent on trying to educate bankers to EE, which tends to be useless, as they will never be able to understand the science behind it. What they need is a clear standardization and certification guaranteeing their investments. Something that would make the entire industry easy to understand, to assess, and finance. To say it simply – the banker should only take the money out of his pocket!

PKA is one of the biggest Danish pension funds. It is investor in the SustainSolutions initiative, aiming to serve a one-stop-shop providing the products and services needed for making energy solutions happen. This entails a holistic offer to building owners on undertaking the technical and financial aspects of EE measures in form of guaranteed savings and where the generated energy savings bear the investment costs. Pelle Pedersen showed a couple of cases incl. EE measures at Aalborg Zoo, a project with an investment of 1,825,000 DKK (nearly € 250,000) and a return period of 6.5 years.

[Presentation](#)

Green bond financing in Sweden via SEB Bank

Mats Olausson, SEB Bank Sweden

The Swedish bank SEB has issued its first green bond of EUR 500 million for loans to green initiatives. According to the bank these green loans will initially be offered to large companies and institutions, municipalities, county councils and housing associations. Ahead of the release of the green bond, SEB has gone through the loan portfolios of the entities involved, selected and separated the loans which comply with the bank's framework for green bonds.

Clearly defined projects within renewable energy, energy efficiency, green buildings, clean transport, water and waste water management, waste management, sustainable forestry and clean air are eligible for green loans. This is due to a systematic framework building on five pillars ranging from the identification and definition of investment areas /assets to the selection of projects, verification, monitoring and reporting with a view to be transparent towards investors and the market. The environmental aspect of SEB's green financing is quality-assured by independent, external climate and environmental research institute Cicero, through its network of independent universities. In addition, the audit firm PwC will analyze whether SEB's processes and systems for separating green borrowing and lending is in line with SEB's framework for green financing.

Gothenburg is the first city to engage in municipal Green Bond, with a key feature to build public awareness around the green initiatives of the companies in the city.

[Presentation](#)

The Investor Confidence Project

Frédéric Brodach, Serimus S.A.

The Investor Confidence Project team is dedicated to market transformation in the energy efficiency sector in Europe. Our goal is to standardize the way energy efficiency projects are developed, documented and measured to facilitate private investments and enable project aggregation. The standardization methodology we have developed, which follows best practice and involves independent verification, is essential to increase transparency, consistency and trustworthiness of energy efficiency projects and therefore builds investors' confidence in this market. These principles apply equally to publicly funded projects and programmes as well as to projects internally financed by all types of organisations.

ICP has developed the Investor Ready Energy Efficiency™ Certification for energy efficiency projects which can be granted to projects that are developed following ICP Protocols and are independently verified by an ICP accredited Quality Assurance professional. IREE™ is already available for building energy efficiency projects and will soon be launched for industrial, street lighting and district energy projects. ICP engages investors in Europe committed to energy efficiency through its Investor Network, representing 1.5bn euros in capital available to deploy, with some of them offering incentives to IREE projects.

[Presentation](#)

Energy Efficiency Financial Institutions Group: DEEP database and risk appraisal framework

Carsten Glenting, COWI

The De-risking Energy Efficiency Platform (DEEP) is a direct response to the EEFIG recommendation from its report “Energy Efficiency – the first fuel for the EU Economy: How to drive new finance for energy efficiency investments” of the need to better understand the real risks and benefits of energy efficiency investments based on market evidence and track record. By disclosing thousands of data points showing the real technical and financial data from a large number of implemented energy efficiency projects across the economy, the DEEP platform is a new source of operational risk management information, which will help project developers, financiers, and investors better assess the risks and benefits of energy efficiency investments across Europe. Thus, the DEEP platform provides insight on financial performance indicators such as payback time and discounted avoidance costs.

On 22 June 2017 during the EU Sustainable Energy Week (www.eusew.eu), EEFIG launched an Underwriting Guide to provide a value and risk appraisal framework for energy efficiency finance and investments to help developers and owners seeking to attract external capital to energy efficiency projects to develop projects in a way that better addresses the need of financial institutions and to foster a common language between project developers, project owners (hosts) and financial institutions.

[Presentation](#)

Panel discussion and Q&A

Q – The first question was how to ensure the real results of energy efficiency projects, meaning the actual, obtained energy savings compared to the estimated ones

A – Carsten Glenting: Answered that according to the DEEP analysis there are gaps in the realised and estimated results, but that the gaps are generally not too big.

Q – how to avoid stop and go in energy efficiency measures that tend to block the desired development

A – Bendt Bendtsen: It is important to commit countries to actions in the EU regulations, incl. avoiding such unwanted stop and go effects

A – Pelle Pedersen: Added that from an investor viewpoint it is important to ensure long term stability of the energy efficiency investments.

Q – Why not moving faster in using public money to accelerate energy efficiency finance

A – Bendt Bendtsen: We must use the public money better, but it is a complex task.

Energy performance contracting as a vehicle for energy efficiency investments

EPC as a way to ensure investment in the Nordic region

Liv Randi Lindseth, NEE

The presentation took point of departure in a study of the Nordic market for Energy Performance Contracting/EPC financed by the Nordic Council of Ministers. The typical Nordic EPC project has municipalities as clients and range in the volume from small projects of 0.5 MEUR to big projects of up to 20 MEUR. The bigger projects are often characterized by comprising a pool of buildings like schools, city hall, nursing homes, etc. and entailing a mix of energy efficiency measures with long pay-back time in a way that the entire project will lead to deep renovation of the buildings.

The financing conditions are generally good and so are most of the experiences with EPC projects in the region. Nevertheless, and despite the successes so far, inconsistency in the governmental and administrative practices as well as lack of awareness of the EPC user side – both in the public and private - hinder the progress that the EPC concept deserve.

[Presentation](#)

Good practices of EPC

Lars Nielsen, Siemens

The presentation showed an EPC project at Hvidovre Hospital in Greater Copenhagen. It represents a new trend in Denmark of a boom of EPC in the hospital sector. The background of the project is that the hospital faced challenges with the maintenance and energy consumption of its buildings. As this is not a core business the hospital decided to outsource the project to an ESCO that could guarantee the energy savings. In addition, the project could also help to improve the indoor climate.

The project comprises mostly various energy efficiency measures, but also windmills and photo voltaic. It has resulted in heat savings of 41% and electricity savings of 23%.

<https://www.youtube.com/watch?v=tm37Xs7BzH4&feature=youtu.be> (in Danish with UK subtitles)

Since the event the project has been awarded Europe's "Best Energy Service Project 2017"

[Presentation](#)

PARALLEL SESSIONS

The concept of parallel sessions

The conference program entailed three parallel sessions in the time slot 14:00 to 15:45, comprising Session A: Energy efficiency finance in the public and social housing sector, Session B: Energy efficiency finance in the industry and tertiary sectors and Session C: Energy efficiency finance in the private housing sector.

In addition to the presentations the parallel session provided a space for event participants to contribute by developing and sharing ideas on how to move forward on energy efficiency finance. Thus, the last part of each session was devoted for the participants to identify opportunities, barriers and recommended actions within these energy efficiency sectors.

PARALLEL SESSION A - ENERGY EFFICIENCY FINANCE IN THE PUBLIC AND SOCIAL HOUSING SECTOR

Session chaired by Pelle Bournonville, Chief Consultant at the Danish funding institution RealDania

New financial and delivery models for retrofitting buildings

Martin Dam Wied, Programme Manager of Energy Efficiency of Buildings at Gate 21

The question of Martin's presentation was how to increase the pace and scale of building energy retrofits. Gate 21 is a non-profit partner organization, implementing inter-municipal projects and initiatives that promote green transformation and growth in Greater Copenhagen and Region Zealand of Denmark.

Gate 21 seeks to find solutions for standardization of investment projects that can allow a mass-market uptake. A key means to do this is to bring relevant professionals together in partnerships to explain and develop schemes and protocols together, incl. ensuring that all parties discuss and cover different risks, eliminates uncertainties etc. This is due to goals of making project proposals bankable (creating a credible financial product), reduce transaction costs and avoid sub-optimization.

[Presentation](#)

Delivery models for energy efficiency renovations in Copenhagen

Annette Egetoft, Programme Manager, Copenhagen Municipality

Annette's presentation provided a practical example of how Copenhagen Municipality interact with stakeholders due to its goal for reducing energy consumption in the building stock. Energy Leap is a partnership run by the municipal administration where interested parties commit to energy savings in their property, this way contributing to the City of Copenhagen's ambitious plan to become CO₂-neutral by 2025.

At this stage Energy Leaf represents 80 properties corresponding to 124.000 m². The objective is to expand this up to 7 mio sq.m. equivalent to 17% of total build area in CPH until year 2020. The initiative is accompanied by offering training on energy saving measures and branding of the involved parties. The challenge for the future is to attract funding for the development of the initiative and to keep it lively and relevant for all partners.

[Presentation](#)

Energy efficiency financing in the Danish social housing sector

Mikkel Jungshoved, Consultant, BL - Social Housing Denmark

BL – Social Housing Denmark is an industry- and interest organization with approx. 530 members – all non-for profit / Social housing organizations. It embraces 7,000 housing estates with a total of 570,000 flats and 1 million tenants. The intention is to undertake refurbishment for 35 billion DKK (around 4.5 billion EUR) over the next 4-5 years. As a result of the renovation project all flats will be equipped with additional insulation that can help reducing the levels of heat by 25% and up to 35%.

A key source of financing the renovations is the National Building Fund (LBF) that was established as a revolving fund in 1966 with the scope of activity to support renovations, social interventions, rent deficits and capital injections. LBF serve a key institution to fund EE renovations in the Danish social housing sector.

[Presentation](#)

Discussion on EE actions in the public and social housing sector

The discussion at the end of the session revealed these recommended actions:

- One recommendation was to pursue a holistic approach in the design of actions, incl. engaging the needed key stakeholders to bring momentum. The presented 'Energy Leap' initiative from Copenhagen (see above) in an inspirational example of how such action can be put in place.
- The key is to find the driving force to lead the action. This could be the municipality as in the case of 'Energy Leap' or it could be a regional agency that took the role of setting up the role and engaging the stakeholders

- Another recommendation was to build more on the guarantee element to provide 'evidence' for risk mitigation, making it more attractive for the investors. The EPC model could play an important role in such effort and it is important to establish a solid track record to convince the investors.



Picture from discussion under Session A

PARALLEL SESSION B - ENERGY EFFICIENCY FINANCE IN THE INDUSTRY AND TERTIARY SECTORS

Session chaired by Morten Jastrup

Financing the energy efficiency in industry via voluntary agreements in Finland

Kati Ruohomäki, Senior Advisor for Energy and Climate, Confederation of Finnish Industries EK

EK is an industry association representing 25 federation members from the private sector, incl. 16,000 company members, mostly SMEs, and almost one million employees.

The scheme for voluntary agreements with industries is put in place as a complementary measurement for regulations and taxes to implement the energy efficiency directive EED and the national climate and energy strategies. The scheme implies subsidies for energy audits for SME's as well as subsidies for conventional energy efficiency investments on a case-dependent basis.

The experience of the scheme reveals a hard competition inside companies, which investments will be approved and that subsidies are especially important for SME's, whilst subsidies are restricted for large companies under the ETS. One popular initiative concerns development projects within the agreement, where a group of companies, technology suppliers and energy experts focus on specific topic, for instance industrial ovens (such projects are partly self-financed).

[Presentation](#)

Energy efficiency finance in the commercial building sector

Steen Olesen, the Danish Green Investment Fund

The Green Investment Fund, <http://gronfond.dk>, is a relatively new fund in Denmark aiming to provide loan capital to investments in renewable energy sources and resource efficiency. Projects to reduce the energy consumption in buildings count for around one quarter of the fund's portfolio.

Steen Olesen presented the initiative Best Green aiming to fund heat pump solution. In principle, this should be a low hanging fruit, but in reality, there turns up barriers in terms of the project risk. Among the learning is that providers must create new business models and think partnerships and that there is a need for cashflow-based financing models, not asset-based. The Green Investment Fund seeks to find ways to put in place the needed matchmaking to enable such initiatives to happen.

[Presentation](#)

Investor perspective on energy efficiency in the commercial building sector

Martin Schoenberg, UN Environment Finance Initiative (UNEP FI)

Overcoming barriers to increased energy efficiency investment requires that the demand and supply are jointly advanced in a stick and carrot approach through regulation (stick) and project development assistance, technical assistance and other incentives (carrot). Martin Schoenberg accompanied this statement by showing case studies of energy efficient building renovations in the Netherlands, Sweden and UK, including further benefits like improving comfort and urban regeneration.

The concluding message was:

- There is a strong business case for the further integration of energy efficiency into investment practices. This delivers multiple benefits and produces attractive risk-adjusted financial returns
- Despite the growing awareness of investors of energy efficiency opportunities, much of the energy efficiency potential is at risk of remaining untapped
- Further dialogue between stewards of capital and regulators is needed to drive the demand for energy efficiency investment solutions, as well as the supply of energy efficiency investment opportunities

[Presentation](#)

Discussion on EE actions in the industry and tertiary sectors

The discussion at the end of the session revealed these type of recommended actions:

- Businesses should better adopt energy management practices. Standards for energy management are available to work by (ISO 50001). National government could incentivize if needed. Business associations should work on raising awareness among their members on the energy efficiency opportunities.
- To acknowledge that the zero/positive cash flow impact models like EPC has the potential to leverage private investment by:
 - Eliminating uncertainty of both financial and environmental impacts of EE projects.
 - Guaranteeing that businesses get a positive effect on the cashflow (or at least not a negative effect) from year one.
- To move energy efficiency projects up the ladder by reframing the importance of energy efficiency projects in the basic value proposition of businesses, for instance that:
 - EE projects can finance much needed maintenance in buildings and machinery thus “Reducing operational risks”.
 - EE projects can create better indoor climate “optimizing employee wellbeing, efficiency and reducing sick leaves”.

PARALLEL SESSION C - ENERGY EFFICIENCY FINANCE IN THE HOUSING SECTOR

Session chaired by Christophe Milin, EASME

Existing practice and opportunities for financial institutions

Michael Minter, CONCITO

Michael Minter’s presentation took point of departure in a study that Concito is undertaking on behalf of the funding institution RealDania, comprising analysis of the potential of promoting energy efficiency in the Danish private housing sector. Part of the study has looked into obstacles of financing in renting housing, where distribution of costs and benefits and some cumbersome procedures for agreements between landlord and renters are among the barriers. Despite this there are signs that institutional investors are starting to show interest in rental housing.

The study is not completed, but the initial conclusions points for actions such as considering changes of the building value regulation, to strengthen information and advice to lenders in the right situations: House loans and period after purchase, to provide loss guarantee on energy loans from the state (PPP) and improving data (energy label) and transparency.

[Presentation](#)

LABEEF experience in Latvia

Nicholas Stancioff, the Latvian Baltic Energy Efficiency Facility

The presentation took point of departure in showing the animation from the website sharex.lv and explaining the link between stakeholders and final beneficiary and how this would support the financing process. This resulted in a discussion between most of the audience and the bankers in the room regarding the de-risking process to be provided through the financial engineering. The mechanism, which identifies the main risks as execution and payment, separates them through short term financing for the first, and long term on bill repayment for the second. This in turn allows us to allocate the execution risk to the companies responsible for the works and their banks under the "know thy client" principle and for the facility to take the payment risk based on proper execution of the contract. The contract in turn ensures through guarantees and step-in rights the level of performance necessary for payments to be the result of continuous benefits and therefore a strong motivation to pay.

The energy efficient mortgage initiative

Luca Bertalot, European Mortgage Federation

The European Mortgage Federation aims to create a pan-European private bank financing mechanism to encourage energy efficient improvement by households in Europa of the EU's by way of financial incentives linked to the mortgage. Such effort is seen to complement public funds and initiatives and requires an appropriate business case to support the development.

In support of the business case it was noted that every time a house moves up a notch in energy performance, its price gets around the same boost that it would from an extra 10-15 m² in size. In a broader perspective energy efficient building renovation can bring benefits such as better risk management, financial stability as well as jobs and growth.

Luca Bertalot showed the principles of how EE can be integrated before and after renovations as well as indicating how to establish an incentive chain in order that the stakeholders would tend to commit. Not least it is important to be aware of what specific benefits the house-owner would gain from the EE measures.

[Presentation](#)

Discussion

Energy efficiency value composition has to be rephrased – as the energy efficiency is not in mind of most of the individuals – no one wakes up and think “Hurray! I am going to save some energy today!”. The energy efficiency can get into the minds of the public by:

- Development of the metrics
- Making cash flows clear & visible – the gains of savings and investments

The way to finance energy efficiency is by cooperative thinking and cooperative business models. The cooperation should be started and maintained by the facilitators of engagements across sectors – such can be i.e. Copenhagen municipality, bringing together Business-Technology-Financing-Public. Regional body can take the conversation to the next level and this can be adapted in many places across Europe to speed up energy efficiency measures and investments.

Private energy efficiency investments should be done through the mortgage funding, rather than consumer loans. Through the increased values of the refurbished properties paving the way to increased loan value while keeping the risk of loan/value at the same level. Home owners shall furthermore be helped to reassure the quality of work done on their properties. To raise awareness of the energy efficiency, benefits such as health, comfort, affordability must be addressed – to understand the motivation of the owner.

Facilitators and refiners (such as energy contracts designers) are necessary. The development of the contract instructions, instruments and soft market infrastructure is the job that can be only done through facilitated cooperation.

CLOSING PLENARY SESSION

Diana Barglazan, Policy officer at Unit Energy Efficiency, European Commission

D. Barglazan – on behalf her boss Paul Hodson - thanked all participants, speakers and those involved in organising the event. The fact that many participants stayed until the very end shows the interest in energy efficiency finance and give hope for the future. There are many obstacles to be overcome in the years to come. Some of the challenges are to be solved at the national level. But there are also common challenges that can be dealt with on a European scale through cooperation and exchanges. Our Unit of Energy Efficiency is much interested in hearing the feedback of this event and take this into consideration in the planning of future initiatives.