



ROUNDTABLE ON FINANCE FOR ENERGY EFFICIENCY IN DENMARK

16th November 2017, Copenhagen

Location: Eigtveds Pakhus, Strandgade 25G, Copenhagen

Organised by the European Commission in partnership with the Danish Energy Saving Council and the UN Environment Finance Initiative.

Background:

As part of the "Smart Finance for Smart Buildings" initiative, the European Commission is organising a series of "Sustainable Energy Investment Forums" to enhance the capacity of and co-operation between public and private stakeholders to develop large-scale investment programmes and financing schemes. The SEI Forums will consist of more than 30 events in up to 15 Member States in 2016-2019; information on past and upcoming events can be found on the SEI Forums [webpage](#).

An initial public conference on Financing Energy Efficiency in Denmark, Sweden and Finland took place in Copenhagen on 19 May 2017. This event gathered 113 participants working on energy efficiency finance from the financial sector, national Governments, project developers, the renovation supply chain and local and regional authorities. Taking place over one day, the event had opening and closing plenaries and a series of breakout sessions. The material from that event can be found [here](#), and make useful background reading in advance of the National Roundtable.

The objective of the National Roundtable is to initiate a dialogue on energy efficiency finance with key stakeholders in Denmark, in order to identify common objectives and potential improvements to be made in the policy framework within the country. The Roundtable will devote a significant amount of time to discussion in breakout sessions and interaction between participants.

AGENDA

09:30 Welcome and registration

10:00 Introductory plenary: Opening and introduction to the National Roundtable

- Welcome and objectives of the roundtable
- Meeting the challenge of bridging the energy efficiency and financing sector
 - The EU perspective
Niels Ladefoged, Policy Officer, Energy Efficiency Unit of EU Commission
 - Perspectives in terms of the energy efficiency financing framework
Peter Bach, Chief Advisor at Danish Energy Agency
 - Perspectives seen from the energy efficiency sector
Claus Bugge Garn, Vice President Rockwool, Chairman of the Danish Energy Saving Council
 - Perspectives seen from the financing sector
Niels Arne Dam, Executive Director at Finance Denmark

11:00 Topic groups – 1st session

- Topic 1: Home renovation
- Topic 2: Social housing
- Topic 3: Industry/SME
- Topic 4: Financing Energy Efficiency actions of municipal SEP/SEAP

12:30 Lunch

13:30 Topic groups – 2nd session (same topics, continued)

15:00 Closing plenary - Moderated by Claus Bugge Garn, Vice President Rockwool, Chairman of the Danish Energy Saving Council

- Report back from Topic Group Rapporteurs
- Discussion
 - Policy and administrative aspects of supporting Energy Efficiency financing
 - EPC as a financing/implementation concepts
 - Focus on how to promote EPC across the EE sectors
 - Engagement of the financial sector

16:15 Concluding remarks

- Marie Hindhede, Head of Department of Energy, Ministry of Energy, Utilities and Climate
- Niels Ladefoged, European Commission

16:30 Networking Cocktail

Background Paper

During the National Roundtable, participants will be split into 4 working groups on the topics:

- Topic 1 Home renovation
- Topic 2 Social housing
- Topic 3 Industry/SME
- Topic 4 Financing energy efficiency actions of municipal SEP/SEAP

These sessions will pick up the conclusions from the public conference and work to identify concrete solutions on each topic. This paper aims to summarise the key questions and discussion points which are relevant for each working group, in order for participants to come prepared and have an effective working session.

Working group sessions will include a presentation on the current Danish situation as well as by foreign experts on related experiences abroad. The core focus will be on how to improve the conditions for energy efficiency finance in Denmark. Discussions will take place in Danish with interpretation to English for foreign participants. We will ask a rapporteur in each of the breakout sessions to report on key issues arising from the discussion and 3-5 headline bullet point conclusions.

Participants are invited to read the background material and to **provide comments in Danish or English by email to cph@seiforums.eu**. These comments will be circulated to all participants ahead of the meeting. If you provide comments, please identify clearly the topic which they are related to.

Invited participants are asked to register the roundtable via the registration link below and by that indicating which session he or she wishes to take part in

[REGISTRATION LINK](#)

1. Home Renovation

Moderator: Tommy Olsen, Gate 21

Invited international speaker:

- SPEE Picardie (Picardie Pass Renovation), Alice MORCRETTE
Comprehensive initiative for home renovation in the region of Picardie in France
www.pass-renovation.picardie.fr
- EuroPACE
An innovative on-tax financing mechanism to boost energy efficiency investment in existing residential homes and buildings.

Danish speakers

- Facilitating loans for home renovations in the city of Frederikshavn
Presentation of experience gained under the EU-project Infinite Solutions.
<http://energycity.dk/infinite-solutions>
- REFURB: A one-stop-shop model for local partnerships and energy solutions
Experience gained in Sønderborg, South Denmark, as how to inspire owners of private single-family houses to move a step further with their energy renovations and achieve zero energy renovation. <http://go-refurb.eu>

State of play: There are initiatives to create momentum, of which the ‘Better Housing’ initiative is the most renowned. However, despite partial success in involving financial institutions in these initiatives, it has remained difficult to convince house owners to take action on saving measures.

Scope of intervention: Further develop existing financing ‘packages’ for EE in the residential building sector (to facilitate that the house owner can enter an investment project).

Key questions:

- 1.1. What can be learned from the existing initiatives in view of improving the future efforts?
- 1.2. How could the financing part of the offer to house-owners be improved and what other elements are to be included in order to boost the impact?
- 1.3. What would an improved set-up require in terms of financing instruments and stakeholder constellations?
- 1.4. How could it be ensured that such improved set-up (might be in form of separate initiatives supplementing each other) would be as sustainable and long-lasting as possible?

Outcome: Finding new ways of improving existing ways for EE financing of family buildings, incl. via learning of the efforts done so far nationally and internationally.

2. Social Housing

Moderators: Leo Pedersen Aarhus University, in coordination with EC Network

Invited international speakers:

- **RentalCal:** The RentalCal project focuses on the current level of energy efficiency investments in the rented housing sector, which is in danger of missing EU policy targets. RentalCal will show a clear road map towards a sustainable housing stock and is developing models and tools for assessing the commercial viability of energy efficiency retrofitting in rental properties
- **Sybrein Steensma, Climate KIC:** Innovative Business models for financing of social housing projects (dealing with split incentives, Dutch experience, Climate KIC initiatives). Dutch example regarding finance of social housing Energy Efficiency called the “Energy Performance Compensation”. This is a legal intervention on the national level that allows tenants in social housing to become investors and housing corporations to become energy producers, without raising the rent or overall cost of living. As a result, finance in “zero energy” projects were stimulated

Danish speakers:

- **Danish Social Housing:** State of play in the sector
- Aarhus University/EC Network, **H2020 MEnS project:** Designing and implementing suitable level educational and training programs for building professionals in 11 EU countries, in Denmark building on the holistic approach for retrofit in social housing
- Project Zero, **H2020 SmartEnCity project, H2020 HAPPI project:** Energy retrofit in social housing through project bundling and close interaction with tenants

State of Play: The social housing sector in Denmark has about 550,000 homes, making up approx. 20 percent - of the total Danish housing stock. Renovations are based on grants, loans and small rent increases (plus investment funds). Grants are coming from the National Building Fund (favorable loans). It is a private fund that is financed by the tenants through the rent in dwellings. It is revolving and solidary meaning that it generates saving for the entire sector. Due to ongoing and planned massive housing renovation efforts the sector plays a significant role in relation to energy efficient buildings and to Danish national goals of reducing energy consumption in buildings. Since 2007 the National Renovation Fund has provided support for renovation of public housing for over 34.5 billion DKK. There are plans for further rather big scale renovations in the next years and the challenge is to find ways to optimize the energy efficiency dimension of this effort.

Renovations typically reduce energy consumption by approx. 30 percent, and in some innovative projects with much more. Looking ahead, the potential is even bigger as much of the future renovations will be carried out in housing stock typically built in the 60s or 70s, and thus with a poorer energy standard.

The National Building Fund provides financing for comprehensive refurbishment, and is thus able to facilitate deep energy renovation while at the same time improving the overall quality of the buildings and the residential homes. A learning from the process is that deep energy renovation cannot stand alone, but must be proactively considered when there is a general need for refurbishment in a housing department.

The building retrofit is typically based on a holistic approach to building retrofit combining many complex issues: user involvement, indoor climate, social sustainability, job creation, sustainable building materials, technical upgrade, optimisation of energy savings and environmental aspects, ethical justification etc.

However, the overall investment need is bigger than the funds available through the National Building Fund and which, as indicated, only finances comprehensive refurbishment as part of an overall building renovation process.

Further, there are some general barriers related to uncertainties on the amount of energy savings realised at the renovation projects, and thus also the future energy costs. In the end, tenants are going to approve the renovation through the housing democracy and in relation to the consequences for the rent (often creating split incentives between the housing association and the tenants).

As to retrofit of public buildings it is obligatory to base this on a “total economy” approach (holistic approach), and efforts are ongoing to transfer this approach to the private sector to ensure deep renovation and well documented and economic viable projects (bankable refurbishment projects).

Scope of intervention:

Key Questions:

- 2.1. How do we create sufficient incentives for tenants, including tackling economic uncertainties relating to comprehensive energy renovation projects (in relation to financing schemes/business models)?
- 2.2. How do we ensure financing for projects that is not necessarily a part of comprehensive renovation projects that are eligible for financing from e.g. the National Building Fund?
- 2.3. How do we ensure continuous financing in relation to the various funds and business models available (attracting outside capital)? Which are the benefits/differences of the various options?

Outcome: Pathway to increased rates of building renovation with possible funding routes and engagement programmes and mechanisms identified.

3. Industry / SMEs

Moderator: Erik Gudbjerg, YourEnergy, in coordination with EC Network

Invited international speaker:

- **Steam Up** aims to assess the substantial and easy to reach energy-saving potential of steam systems in heavy industries, to support the EU objectives for energy efficiency. To this end, Steam Up is going to present concrete business cases to decision makers, based on 75 detailed audits from several European countries. <https://www.steam-up.eu/>

Danish speakers:

- Creating incentives for EE investments in industries, Steam Up Project
- Siemens, Using the EPC concept in Industry/SMEs

State of Play: One of the prevailing barriers is missing prioritisation of long term investments in energy efficiency measures. Industry enterprises typically focus on energy savings with a payback period of up to 2 years, unless the energy saving project takes place as part of a prioritized effort within the company. Often core business investments are prioritised rather than energy efficiency projects with a favourable economy.

The energy companies' energy-saving efforts (EEOs) require the repayment period to be over one year to receive subsidies. This is to ensure that no grants are granted for energy savings which would have been made also without subsidies. However, it is essential to provide enterprises with better incentives to implement energy efficiency measures with a longer (1 year or more) payback time as these face difficulties in competing with investments in the core business areas.

One way to give companies such incentives is to make it easy and cheap to provide outside capital for energy saving projects, for example in the form of pension funds or the like.

For private actors who finance energy savings (financial institutions / ESCOs), the primary barrier is the risk that a given company will end before the financing is repaid. The barrier concerns both the company's ability to commit itself for a longer period as well as the investor's security for repayment of the invested capital.

Therefore, one of the initiatives discussed is a business guarantee fund that could lift part of the risk from companies and financing actors in ESCO models or the like. A guarantee fund may also help to make it easier to bundle (pool) energy saving projects to make the portfolio more attractive to investors while at the same time making it easier for administrators. The intention is primarily to facilitate energy savings with longer payback times. As the risk increases with the length of the repayment period, the Fund's guarantees are expected to be particularly attractive for long-term projects.

Synergy with mandatory energy audits: Energy efficiency measures identified through energy audits represent a relatively high potential. There is a big difference in how companies are following up in relation to these suggested measures, but generally more could be done. Supporting the implementation of identified profitable energy savings could be based on a combination of advisory services and funding, for example by supporting energy audits being continued towards financing (business plans). Further, the mandatory energy audits of large companies may benefit from the use of a guarantee fund.

SMEs: The SME segment is currently served mainly by craftsmen. Various actions have been taken, but generally measures have not generated attractive business opportunities for craftsmen.

A technology approach, in the form of a catalogue with standard solutions and standard values, could reduce transaction costs for energy savings. However, an option for specific inventories must continue to exist for non-standard processes.

To engage new private actors in the SME segment, there is a need to create volume, for example by bundling (pool) based on technology, geography or sectors/measures. In addition, the municipalities, regional clusters, etc., can be used with advantage in communicating contacts with SMEs (ongoing to some extent). For example, a system of "rolling technology access" could be established in the form of campaigns in collaboration between actors / suppliers, professional organizations, municipalities and state organisations.

Scope of intervention: To explore ways on how better to motivate and channel initiatives in this segment.

Key Questions

- 3.1 What opportunities are needed to ensure that industrial enterprises priorities long term EFF investments, could it be:
 - Business guarantee fund
 - EPC concept
 - Tender model for EFF
 - *To be considered in relation to possibilities within existing funding schemes and their requirements to project bankability*
- 3.2 How do we ensure effectiveness of energy management schemes and audit schemes to make sure relevant EEFF measures are identified, documented, implemented and monitored in all segments incl. SMEs.
- 3.3 Do we look at energy efficiency investment the right way ex. do we include the value of non-energy benefits in calculations, is simple payback a relevant assessment tool.

Outcome: Roadmap to increased outreach and technical assistance support with actors and timelines/key opportunities where possible.

4. Financing EE Actions of Municipal SEAPs

Moderator: Pelle Bournonville, RealDania, in coordination with EC Network

Invited international speaker:

- The RE:Fit initiative in the UK
A procurement initiative for public bodies for implementation of energy efficiency measures in buildings
<http://localpartnerships.org.uk/our-expertise/refit>

Danish speakers

- EU experience and financing tools developed under Covenant of Mayors and City Invest project - Jeppe Mikel Jensen, Climate Alliance
www.covenantofmayors.eu/support/funding-instruments_en.html
www.cityinvest.eu
- Relevant Danish examples for inspiration
- Danish regions' situation and views
Tour de table of the representatives of the five Danish regions and municipalities, incl. review of concrete initiatives like MLEI/PDA/ELENA and public-private partnerships

State of Play: In recent years have been undergoing Strategic Energy Planning (SEP) projects in the five Danish regions aiming to realise the Danish vision of a CO2 neutral society by year 2050, of which energy efficiency actions in Danish municipalities play a major role.

Scope of intervention: To explore how to meet the challenge of making energy efficiency actions under Danish SEP/SEAP bankable in view of the financing requirements

Key questions:

- 4.1. What are the key challenges for Danish municipalities in financing energy efficiency actions and which of the presented good practice examples could be of inspiration?
- 4.2. What specific initiatives could be taken in terms of financing instruments or other ways to improve EE financing with municipalities as facilitator?
- 4.3. What are the organisational structures to be put in place to ensure the needed momentum for energy efficient building renovations, incl. upscaling strategies?

Outcome: Increased understanding of the opportunity to use appropriate financial instruments, to put in place public-private partnerships and seek practical ways approaches to energy efficiency financing related to SEP/SEAP in Denmark.

List of Participants

Only Plenum

Peter Bach – Chief Advisor at Danish Energy Agency

Niels Arne Dam - Executive Director at Finance Denmark

Marie Hindhede - Head of Section at Danish Ministry of Energy, Utilities and Climate

Parallel Session 1 – Home Renovation

Tommy Olsen, GATE 21 (Moderator)

Signe Poulsen, GATE 21 (Co-moderator, Rapporteur)

Claus Garn, Danish Energy Saving Council / Energisparerådet

Birgitte Ostertag, Danish Energy Agency / Energistyrelsen

Line Kold, Danish Energy Agency / Energistyrelsen

Nils Kåre Bruun, BetterHome

Peter Rathje, ProjectZero, Sønderborg

Emma Hach, Finans Danmark

Camilla Damsø Pedersen, Danish Construction Association

Eva Hancock, Central Denmark Region / Region Midtjylland

Lotte Lindgaard Andersen, CLEAN / H2020 Refurb

Allan Malskær, Parcelhusejernes Landsforening

Bahram Dehghan, Frederikshavn Municipality

Kim Northoff Jensen, Middelfart Sparekasse

Kim Tobiasen, Sparekassen Kronjylland

Viktoria Nilsson, Baltic Development Forum

Henrik Christensen, Jyske Bank

Kristina Klimovich, GNE Finance

Ivo Georgiev, COWI Economics & Management

Parallel Session 2 – Social Housing

Leo Pedersen, Aarhus University (Moderator)

Tanja Smith, EC Network (Rapporteur)

Celine Tougeron, EASME, European Commission

Mikkel Jungshoved, Social Housing Denmark / BL Danmarks Almene Boliger

Mads Gudmand-Høyer, National Building Fund / Landsbyggefonden

Henrik Bielefeldt, Project Zero / H2020 HAPPi

Sybren Steensma, Climate-KIC

Christian Niepoort, SustainSolutions

Susanne Dyrbøl, Rockwool

Nils Jakubiak Andersen, Krydsrum Arkitekter / Danish Association of Architectural Firms

Elsebeth Terkelsen, European Green Cities / H2020 RentalCal

Frede Hvelplund, Aalborg University / H2020 RentalCal

Parallel Session 3 – Industry / SME

Erik Gudbjerg, Yourenergy (Moderator)

Kaj Leonhart Petersen, EC Network (Co-moderator, Rapporteur)

Niels Ladefoged, Energy Efficiency Unit of European Commission

Anders Gerhard Jørgensen, Ministry of Energy, Utilities and Climate

Anne Lund Wilhelmsen, Dansk Industri

Mogens Michael Møller, MiljøForum Fyn

Lars Nielsen, Siemens

Kim Enevoldsen, Siemens

Henrik Lilja, SMVdanmark (tidligere Håndværksrådet)

Søren Büchmann Petersen, Danish Chamber of Commerce / Dansk Erhverv

Søren Dürr Grue, Central Denmark Region / Region Midtjylland

Nikolaj Rasmussen, Dansk Energi

Thorkild Thomsen, SEAS-NVE

Christian Jastrup, Danish Ecological Council / Økologisk Råd

Carsten Glenting, Viegand Maagøe

Parallel Session 4 – Financing EE Actions of Municipal SEAPs

Pelle Bournonville, Realdania

Nils Daugaard, EC Network (Co-moderator, Rapporteur)

Thomas Jensen, Municipality of Hjørring / Hjørring Kommune

Guri Weihe, KommuneKredit

Jeppe Mikel Jensen, Covenant of Mayors / Borgmesterpagten

Majbritt Juul, Foreningen af Rådgivende Ingeniører

Heine Knudsen, Capital Region of Denmark

Johan Vedel, Energicenteret i Fredensborg Kommune

Theis Petersen, Københavns Ejendomme og Indkøb

Stephen Hart, European Investment Bank

Chris Spicer, RE:FIT Programme

Martin Dam Wied, Gate 21

Michael Stie Laugesen, House of Energy