

ENERGY EFFICIENCY FINANCE MARKET PLACE



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Event organised by the Executive Agency for Small and Medium-sized Enterprises (EASME) in the frame of the Sustainable Energy Investment Forums contract funded by the Horizon 2020 programme of the European Union

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BACKGROUND TO THE EVENT

Accelerating investment in sustainable energy is key to meet the objectives of the Energy Union and support the transition to a clean energy system. This will bring significant benefits for all European citizens and companies in terms of jobs and sustainable growth, lower energy bills, health and security of energy supply. The European Commission's recent "Communication on Clean Energy for All Europeans" highlights the Energy Efficiency First principle, and establishes the Smart Financing for Smart Buildings initiative, which includes practical solutions to further unlock private financing for energy efficiency and renewables in buildings.

This event presented the current landscape of on-going initiatives at the local, national and European level that improve access to finance for energy efficiency investments along the three pillars of the Smart Financing for Smart Buildings initiative.

More effective use of public funding: the event presented successful experiences of innovative financing schemes using public funds to leverage private finance for energy efficiency.

Aggregation and assistance for project development: the event featured many projects developing an investment pipeline at local and regional levels, supported by the Project Development Assistance (PDA) facilities co-funded under the Intelligent Energy Europe and Horizon 2020 programmes, including the ELENA facility managed by the European Investment Bank (EIB). Since 2009, more than 120 projects have been supported under these facilities, expected to trigger around €6 billion of investments in energy efficiency and renewable energy focused on existing public and private buildings, street lighting, district heating and clean urban transport.

De-risking energy efficiency investments: the event presented the key initiatives in Europe contributing to better understanding of the risks and benefits linked to energy efficiency, reducing transaction costs and standardising assets in order to facilitate access to the capital markets.

Lasting over one and a half days, 350 key stakeholders from cities, regions and industry as well as the financial sector discussed the key success factors for financing energy efficiency at the operational level. The event featured a mix of plenary discussions and 23 breakout sessions with a focus on practical experiences and projects, looking at four thematic tracks:

- Standardisation and benchmarking;
- Innovative financing schemes, capacity building and awareness raising;
- Aggregation on public assets; and
- Aggregation on private assets

The conference hosted speakers from across the whole of Europe. Through the presentations and discussions, the following key points emerged:

- Mass-scale energy retrofit of Europe's buildings is an investment opportunity supporting jobs and growth in the clean-energy transition.

- The banking sector is open to financing low carbon projects that have been developed with public funds and strong local support.
- Across Europe, projects are developing investment pipelines at local and regional levels, many supported by EU project development assistance programmes

All presentations and recordings from the event can be found at:
<https://ec.europa.eu/energy/en/events/energy-efficient-finance-market-place>

AGENDA STRUCTURE

The event agenda took the form of an opening plenary, a session on mainstreaming energy efficiency finance, a series of parallel track breakout sessions and a closing plenary. These were supported by poster presentations during breaks and a group of display stands. These proceedings are reported in this order.

KEY POLICY MESSAGES

This opening session of the Marketplace heard from key European speakers about the policy framework, financial and research support and emerging findings from key underpinning projects supporting increased energy efficiency investments.

Chaired by Vincent Berrutto, Head of Unit Energy, EASME



The event presents successful initiatives demonstrating access to finance for energy efficiency so that these can be replicated and spread across Europe. Since the last similar event, held in April 2015, there had been several important international decisions, notably the Paris agreement, reached in 2015 and ratified 2016 and the Clean Energy-package announced on November 30 2016.

“The question now is how to turn that into action and mobilise finance for energy efficiency”.

The Marketplace conference presents local, regional, national and EU initiatives providing access to finance in response to the three pillars set out in the clean energy package – improved use of public funding; aggregation and de-risking of energy efficiency investment.

Policy development on energy efficiency and the importance of financing

Paul Hodson, Head of Unit Energy Efficiency, European Commission, DG Energy



Europe is doing well on energy efficiency – energy use and GDP have been decoupled as from 2006. Europe is on a good path to achieve objectives for 2020, even though a part of this is due to overall economic factors. Industrial policy and product policy have played a key part in the reduction of energy consumption.

The financial system doesn't work for energy efficiency as it should do and there is broadly an exaggerated risk perception of investing in the energy efficiency sector. The majority of public money going in to the sector is still in the form of grants instead of equity or loans. The route to achieving a 30% target for 2030 will need to be different than the way in which 2020 targets have been delivered: energy efficiency in buildings will have a much larger role to play.

This building renovation challenge will require much higher levels of financing and often over longer payback periods. The Commission wants to create demand and the policy framework is aiming to underpin this and address buildings, finance and new technology. Legislation is not

the key to finance. The Commission has created a framework that will support improved energy efficiency and better access to finance for it over the coming years.

Energy efficiency financing – what support from the European Structural and Investment Funds?

Gergana Miladinova, Team Leader, Competence Centre Smart and Sustainable Growth, European Commission, DG Regional and Urban Policy



ESIF - the set of five European Structural and Investment Funds, which include the Cohesion Fund, the European Regional Development Fund and the European Social Fund have €352 billion available for the 2014-2020 period.

Cohesion policy has undergone a huge reform between programme periods and there is now a mandatory requirement for all Member States to allocate funds to the low carbon economy (including energy efficiency).

During the 2007-2013 programming period, a maximum 4% expenditure of structural funds could be allocated towards energy efficiency. This ceiling has been lifted and there is now a 20% minimum level for energy efficiency expenditure. This represents a significant reform of the policy.

In the previous 2007-2013 programming period, funding for this area was €6 billion, this is now €18 billion (2014-2020). This amount is smaller than the investment need, but can act as important seed capital. Overall, across Europe in the 2014-2020 period, there is support for public building energy efficiency €8 billion, housing €5 billion and enterprises, with around €3 billion going to SMEs.

Operational Programmes from Member States had so far identified around €4 billion in financial instruments for renewable energy and energy efficiency. As of the end of 2015, €900 million have already been committed in financial instruments to support the low carbon economy – 12 instruments in 6 Member States. This represented a slow start for the uptake of financial instruments.

Further support schemes and tools have been pulled together through [FI-Compass](#), run with the European Investment Bank. Off the shelf financial instruments have also been made available, including a renovation loan that was being tailored to individual Member State requirements.

Cohesion Policy reform offers a lot of opportunity and energy efficiency is a priority “Now is the time to speed up the delivery”.

How to use ELENA and the European Fund for Strategic Investments for energy efficiency investments?

Reinhard Six, Senior Engineer, Energy Department, European Investment Bank



European Investment Bank (EIB) provides direct investment loans and framework loans with intermediary banks across Europe and the EIB also takes equity stakes in investment funds.

Support tools for preparing and implementing EE projects that are available include, for example, Private Finance for Energy Efficiency for commercial banks ([PF4EE](#)) and activity in support of the European Fund for Strategic Investment ([EFSI](#)). The bank also undertakes advisory activity, through the

[European Investment Advisory Hub](#) and the [ELENA](#) and [JASPERS](#) facilities.

EFSI should be used as guarantees, to support finance flows. The lending can be slightly risk averse, but can provide an important backup for risks that project developers would like to take. EFSI instruments can take the form of debt, equity, quasi-equity infrastructure funds. This funding line is becoming more important. As of 16 December 2016, €30 billion of projects had been approved, which will generate €163 billion in investment, or around half of the overall €350 billion target for EFSI. A discussion on an extension to the scheme is underway.

The Investment Advisory Hub was put in place to support project developers and to improve project bankability. It provides a single entry point for a comprehensive package of technical assistance and other support. It also acts as a co-operation platform for structural fund managing authorities and Member State level project promoters.

Examples of successful ELENA projects were presented like [Picardie pass](#) renovation or [Barcelona Electrobus](#). This facility supports private and public entities in preparation of substantial investment programmes.

R.Six concluded by stating that energy efficiency investment is a priority for the EIB, that support tools and technical assistance are available and that projects of both large and smaller scale can be supported. Further information is available on their website at: <http://www.eib.org/>.

Turning policy into action – Horizon 2020 support for energy efficiency finance

Anette Jahn, Head of Sector, EASME



H2020 is a research and innovation programme and a key funding instrument to help deliver Energy Union energy efficiency targets. The programme is based on annual calls for proposals, and works with collaborative proposals, where teams are formed to work on a specific challenge with 100% rate of funding. EASME is overseeing a portfolio of 300+ ongoing projects which involve 3-5,000 organisations across Europe.

The funding level equates to roughly €100 million per year. The H2020 support can act as seed funding and supports only highly impact oriented projects. This includes work to fill capacity gaps, to address market failures and to mobilise investment.

Within the energy efficiency call, work on finance has been underway for five years or so. When taken together with the forerunner Intelligent Energy Europe scheme, there is now a whole generation of projects that are able to change things and move them ahead. This includes work

in support of the Energy Performance of Buildings Directive, the Energy Efficiency Directive and the use of the convening power of the Covenant of Mayors.

The Smart Financing for Smart Buildings initiative of the Clean Energy-proposal is also supported by H2020 projects. There is support for de-risking through the establishment of standardised and commonly accepted frameworks, these can help get energy efficiency investment accepted as routine, not risky. EASME is also looking at teams that can improve valuation processes when banks look at securitization. On supporting best use of public funds, access to novel financing schemes and facilitating energy performance contracting is in the focus, e.g. the [EESI](#) 2020 project, which had created new services in European regions going beyond ESCO services. Support is also available to help with aggregation. Project Development Assistance (previously called "MLEI") is bridging the gap between sustainable energy plans of cities, regions and businesses and turning those into reality (about 30 projects have been funded). These projects are also developing novel and innovative structures for investment programmes. This has included energy performance contracting and work in the social housing sector.

On capacity building, there are two new elements – Sustainable Energy Investment Forums, taking place over the next three years, offering capacity building events to replicate successful financing schemes and initiatives across Europe as well as national roundtables for dialogue between stakeholders. EASME is also procuring an additional service for energy agencies, to offer in depth capacity building on financing.

There is important feedback into policy from these funded projects and initiatives. The most important outcome would be to take the findings from these projects and use them – then they will be a success. There are [H2020 calls for proposals](#) open until June 2017 for topics including Project Development Assistance, innovative financing schemes and de-risking.

ENERGY EFFICIENCY FINANCIAL INSTITUTIONS GROUP (EEFIG)

Key recommendations to accelerate energy efficiency investments

Peter Sweatman, CEO, Climate Strategy and rapporteur to the EEFIG and G20 EEFTG



The Energy Efficiency Financial Institutions Group (EEFIG) has membership drawn over 40% from financial institutions and also includes experts on energy efficiency and from the policy community.

Energy efficiency is the first fuel. There are multiple benefits from efficiency projects in addition to energy savings which include green premium, productivity, reduced emissions and increased health and comfort. A conversation is needed within the financial community on how to better measure and capture those.

EEFIG's work was focused around a series of themes: driving demand, reducing uncertainty and removing hurdles. EEFIG identifies seven imminent challenges. These include the need for bridging the finance gap, the need to blend grants and loans, the need for financial instruments that don't crowd out the private sector, the need for improved accounting treatment of Energy Performance Contracting projects (taking into account the practical requirements of ESCOs), the need to understand the difference between optimal renovation and easy single measures, and the need to tackle other financial and regulatory issues.

The www.eefig.eu platform is a source of useful information and EEFIG had also supported the development of the De-Risking Energy Efficiency Platform (DEEP - deep.eefig.eu) (covered in the subsequent presentation).

EEFIG is also listening to and taking on board issues from institutional investors and others, not just on energy efficiency, but more broadly on green investment.

The De-Risking Energy Efficiency Platform (DEEP)

Carsten Glenting, Market Director Economics and Management, COWI



Private sector investments in energy efficiency are held back by a lack of evidence on actual performance of financial investments in energy efficiency. Moreover, there are as many approaches to assessing these investments as there are financial institutions, and they are likely to ask for a guarantee against the borrower's balance sheet anyway.

To address this, the Energy Efficiency Financial Institutions Group (EEFIG) is developing Energy Efficiency Underwriting Guidance which is due to be released in the summer of 2017.

Furthermore, the De-Risking Energy Efficiency Platform (DEEP) deep.eefig.eu launched in connection with the EU Energy Policy Package in November 2016 is an open source database, providing insight into the performance of implemented energy efficiency measures, designed to lead to better understanding of risk and reward for energy efficiency projects. The database contains information on 8600 projects from 25 data providers.

DEEP data showed that single measures such as LED lighting and HVAC have very short payback periods, of the order of three years. Building fabric improvement measures typically have longer payback periods but at a 2% socio-economic discount rate, building fabric measures typically represent good investments.

OPENING OF THE MARKET PLACE

Vincent Berrutto, Head of Unit, EASME

Based on the opening session and supplemented by a panel discussion of financial institutions on how to mainstream energy efficiency finance, the market place was officially opened. It featured parallel sessions of presentations in four tracks;

Track A - Standardization and benchmarking

Track B – Innovative financing schemes, capacity building and awareness raising

Track C – Aggregation and Project Development Assistance: Public Assets

Track D - Aggregation and Project Development Assistance: Private Assets

Additionally, poster sessions were held during coffee breaks and there were a series of stands for delegates to visit. Information on posters and stands is given at the end of this document.

MAINSTREAMING ENERGY EFFICIENCY FINANCE

In Order to deliver energy efficiency at scale, standardization, aggregation and an improved understanding of risk and real-world performance are required. Presentations in this session set out the state of the art in supporting and delivering energy efficiency investment at large scale and working to bring the topic from a niche interest into the mainstream.

Moderation: Peter Cripps, Environmental Finance

Institutional investors are talking a good game on green investment, but energy efficiency may not be on their radar. Many organizations may have also improved their own office buildings. If we want the marketplace to scale up, then we need to move the market. If we are to tackle 2030 targets, then we will need to tackle the hard to treat building stock.

Standardisation, data and risk for energy efficiency investments

Steven Fawkes, EnergyPro



There should be three key words that govern our thinking when thinking about investment in energy efficiency in buildings: standardisation, data and risk.

The prevailing sentiment that energy efficiency is a low hanging fruit, is incorrect, and those within the relevant communities should refrain from saying this – investing in energy efficiency is really hard work. Energy efficiency investment needs to be standardised and automated before it can be scaled up and mainstreamed. This standardisation need was the genesis of EEFIG.

“Energy efficiency investment needs to be standardised and automated before it can be scaled up and mainstreamed.”

Standardisation is needed for project development and in documentation, and the [Investor Confidence Project](#) had been helpful here. EEFIG was then playing a key role in helping to develop understanding of risks and values. There are now also various EU standard forms of contract available and the DEEP database is providing performance data and reporting.

There is very little data on energy efficiency performance and some contract forms such as Energy Performance Contracting mask performance risk. Tools such as DEEP, the Investor Confidence Project building button and the [Crowd Curve](#) were attempting to bring greater transparency, but there is currently little real-world in use building performance data in those databases.

Different financing structures take different levels of risk. For example, PACE in the US is low risk as it is tied to property tax. Energy Performance Contracting takes higher performance risk. Emerging models such as metered efficiency and pay for performance had yet to emerge in Europe. Debt capital market access will require standardization.

The key thing is data, data, data, data.

Standardisation and forfeiting energy performance contracts

Nicholas Stancioff, CEO, Latvian Baltic Energy Efficiency Facility



The majority of Eastern Europeans, almost all senior citizens, live in panel buildings. These multi-family apartment buildings (approximately 500,000,000 m²) were built in standardised building typologies over a 35-year period from Estonia to Kyrgyzstan. Given the proper framework, this allows for standardised contracts, processes, designs, and M&V at a very large scale.

In Latvia, LABEEF, a "masteresco facility", designs and delivers contracts as well as the targets to be reached through energy performance guarantees. When targets are met, the receivables generated by energy performance contracts are exchanged for cash allowing companies to repeat and enlarge the number of projects.

The online platform sharex.lv documents and informs beneficiaries and suppliers about LABEEF projects, and provides the master guidelines which include contract models, eligibility criteria for companies, buildings and targets and, most importantly, measurement and verification protocols.

LABEEF worked to first identify the key risk: performance risk and separated it from the payment risk. Ensuring a transparent framework and consistent methodology, LABEEF aligns the interests of all stakeholders on those of the final beneficiary.

The Energy Efficient Mortgage initiative

Luca Bertalot, CEO, European Mortgage Federation



The Energy Efficient Mortgage Initiative is involved in building links between the Energy Union, capital markets and the low carbon agenda. If Europe wants to deliver on commitments made under the Paris agreement, then significant investment will be needed - €100 billion/year had been given as a globally estimated figure. There is a need to ensure a level playing field for all citizens.

“Europe needs a revolutionary approach to how energy efficiency will affect every citizen in Europe.”

The market has changed - young people are struggling with mortgages, the population as a whole is more mobile and the labour market has changed.

A household's capacity for mortgage repayment is linked to disposable income and energy efficiency will impact this. The Mortgage Federation had observed that energy cost was a driving factor in bad debt. There is an element of energy bill shock in every single family and there are households that are choosing between heating and eating.

There are also multiple benefits of household energy efficiency improvements – in more energy efficient homes, additional borrowing could be possible by increasing the value of mortgages. The value of the property will also be improved and banks would have a better asset on their balance sheets in event of default. It is therefore important for banks to think about these issues. Micro-incentives could be given to all households for energy efficient mortgages, but these should be directed to energy efficiency works and strong standards would therefore be needed.

European Mortgage Federation is in the opening phase of elaborating its standards.

Prospects for energy efficiency bonds

Sean Kidney, CEO, Climate Bonds Initiative



The required emission reduction curve is now steeper than it was 20 years ago. International Energy Agency 1.5 and 2 Degrees Centigrade pathway modelling require drastic changes to energy supply. There should be no more coal after 2030. If we don't hit the curve, then there will be catastrophe in the second half of the century. Climate scientist James Hansen was predicting 4-6m of sea level rise, migration rising from 1 million to 100 million and 1 year in 5 monsoon failures.

There is a need to step up quickly and take action. The challenge is not just around ramping up ESCo models, but in changing the models.

“What is needed is the application of existing technology at a scale that's unprecedented”

“The stakes are extraordinarily high”

It is clear what action is needed. IEA transition pathways set out the way ahead, not reliance on Research and Development or innovation. What is needed is the application of existing technology at a scale that is unprecedented.

The issue is not one of lack of capital. More capital is available than ever before in the history of humankind. Substantial sums of institutional capital in Europe are invested in negative interest rate instruments. This should go into large scale ESCo investments. We should stimulate the green economy in a way like never before.

There has been significant growth in the green bond market. Yields are good and green bonds had tended to trade at tighter spread than other bonds.

Five things are needed:

1 - Focus on scale – investors think big. There is a need to think about the performance of assets, not inputs. Bonds should be issued against buildings, not energy spent.

2 - Easy tagging – data is essential, including performance data. The Climate Bonds Standard could play a role here. This will need incentives.

3 – Markets will need a risk weighting differential.

4 – The process of building renovation needs to become simpler, or there should be greater access to expertise to support or lead the process. Public institutions should lead by example.

5 – The Indicative Nationally Determined Contributions to overall emissions reduction targets under the UN climate change process should be converted into green investment and capital raising plans. The Conferences of the Parties should be run by finance ministries.

We do not have time to act slowly we should run, not walk.

PARALLEL SESSIONS OF PRESENTATIONS

TRACK A - STANDARDISATION AND BENCHMARKING

Session A1 – ICPEU

Steven Fawkes, EnergyPro

The [Investor Confidence Project \(ICP\)](#) is an international programme to bring standardisation and transparency to the development of building energy efficiency projects.

ICP addresses the needs of investors and lenders by reducing due diligence costs, reducing performance risks, enabling capacity building around standard process and facilitating the aggregation of small projects.

The ICP's Investor Ready Energy Efficiency project certification, which is backed up by independent quality assurance, is being used in a growing number of projects and programmes across Europe (& in the US and elsewhere) and is supported by over 250 Allies including major financial institutions. In Europe the ICP is funded by Horizon 2020.

Session A2 – SEAF

Jessica Stromback, Joule Assets Europe

[SEAF](#) - the Sustainable Energy Asset Framework - has developed a holistic, IT-based platform (eQuad) that bridges the gap between project developers and investors in energy efficiency, actively enabling investment in small to medium-sized energy efficiency and energy management projects. eQuad combines four key modules: 1. Independent project valuation and optimization from Joule Assets Europe, 2. Project standardization protocols from the Investor Confidence Project, 3. Performance insurance pre-qualification from HSB, and 4. Project owner-investor matchmaking services.

During the project duration, the SEAF consortium aims to enable €15 million investment in small projects. Funded under Horizon 2020.

Session A3 - Trust EPC South

Paolo Michele Sonvilla, Creara & Jakub Bartnicki, Bureau Veritas

[Trust EPC South](#) aims to raise awareness for Energy Performance Contracts projects in southern Europe by setting up a standardised approach allowing for risk assessment and benchmarking of energy saving investments, in order to create a common understanding, transparency and trust for all investment project stakeholders (financial institutions, real estate actors and EPC providers). The development of an ad hoc investment assessment and benchmarking framework building upon an established real estate assessment tool (Green Rating™) is at the core of the project. It will be accompanied by tailored capacity building activities assisting market actors in accessing more easily third party financing, thus unlocking the large tertiary sectors potential. Funded under Horizon 2020.

Session A4 - Renovalue/Energy Efficient Mortgage Initiative

Ursula Hartenberger, RICS

The objective of [Renovalue](#) was to raise awareness and build capacity amongst property valuers with regard to reflecting a building's energy performance in daily valuation practice and in valuation reports for their clients. The project produced a training toolkit for property valuers, available in 8 languages. Funded under Intelligent Energy Europe.

Luca Bertalot, European Mortgage Federation

The European Mortgage Federation's [Energy Efficient Mortgage Initiative](#) is investigating the effects of energy efficiency improvements on the value of a home and the risks of default associated to a mortgage, and how this could result in lower interest rates and higher lending capacity for home energy renovations.

Session A5 - Solar Bankability

David Moser, Institute for Renewable Energy (EURAC Research)

The [Solar Bankability](#) project aims to establish a common practice for professional risk assessment which will serve to reduce the risks associated with investments in PV projects. The risk assessment and mitigation guidelines are developed based on market data from historical due diligences, operation and maintenance records, and damage and claim reports. Different relevant stakeholders in the PV industries such as financial market actors, valuation and standardization entities, building and PV plant owners, component manufacturers, energy prosumers and policy makers are actively engaged. Funded under Horizon 2020.

Session A6 - SEI Metrics & ET Risk

Jakob Thomä, 2 Degrees Investing Initiative

The [Sustainable Energy Investing Metrics](#) project has developed a framework for investors and policy makers to translate high-level climate policy goals (e.g. limiting global warming to 2°C) into a benchmark that can inform portfolio allocation targets. The benchmark is being tested by over 125 institutional investors worldwide.

The [Energy Transition Risk](#) project provides standardised tools for assessing carbon risk by translating the economic risk indicators around capital misallocation in the economy into financial risk indicators for financial market actors. The project develops risk scenarios and databases, as well as models piloted by credit ratings agency S&P Global, equity research house Kepler-Cheuvreux, and consultant CO-Firm.

Both projects are funded under Horizon 2020.

TRACK B - INNOVATIVE FINANCING SCHEMES, CAPACITY BUILDING AND AWARENESS RAISING

Session B1 - CITYnvest

Jean-Francois Marchand, Energinvest, Ivanka Pandelieva, Sofia Energy Centre (SEC), Rafal Ataz Gomez, InfoMurcia & Elise Steyaert, Climate Alliance

[CITYnvest](#) strives to facilitate the implementation of innovative energy efficiency financing mechanisms by providing adequate financing solutions to address large-scale and deep energy efficiency renovations in buildings and increasing corresponding in-house capacities in local and regional authorities. After profoundly analysing 24 cases across the EU to foster their replication, CITYnvest tests and implements new financing models in three pilot regions (Liège in Belgium, Murcia in Spain and Rhodope in Bulgaria).

The project intends to trigger investments of approx. €117 million during the project duration. Funded under Intelligent Energy Europe.

Session B2 - ENERINVEST & SEFIPA

Fernando Garcia Gutierrez, Deloitte

[ENERINVEST](#) establishes a Spanish national platform for financing public and private sustainable energy projects (SEPs). It provides technical, legal and financial solutions for renewable and energy efficiency projects and facilitates dialogue among the different stakeholders. The project enhances the capacities of the public and private sectors to structure projects and promotes the mobilization of investments in SEPs.

During the project duration, it intends to prepare the ground for investments of €25 million. Funded under Horizon 2020.

Katharina Muner-Sammer, Austrian Society for Environment and Technology (ÖGUT) & Clemens Plöchl, Energy Changes

The overall goal of the project is to implement a [Sustainable Energy Financing Platform in Austria \(SEFIPA\)](#) removing selected challenges and triggering additional investments in sustainable energy (SE). Two main elements of SEFIPA are the Finance Lab, constituted of executive representatives of stakeholder groups who work in regular sessions on the realization of solutions to the identified challenges for increasing SE investments, and the implementation of a crowdinvesting-platform for SE. Funded under Horizon 2020.

Session B3 - Home energy renovation in France

Françoise Réfabert, Vesta Conseil & Finance

Several regions in France have developed public operators to accompany households throughout the whole process of home energy renovation, including the provision of third-party finance. The presentation covered 3 key recommendations: 1) give confidence to consumers in a global offer for home renovation, based on quality and performance commitments; 2) induce banks and real estate professionals to play an active role in the prescription of this offering; 3) make these refurbishment works accessible to the lower-middle class. Examples covered include: [Énergies POSIT'IF](#), [Picardie Pass Rénovation](#) and [ARTÉÉ](#).

Session B4 - Complementary financing instruments

Filippo Gagliardi, European Commission, DG Climate Action & Jan Rosenow, The Regulatory Assistance Project

A number of (market-based) instruments are available that could be integrated in innovative financing schemes for energy efficiency complementarily to more traditional funding sources. In this context, the session discussed the potential role of carbon financing and the European Emissions Trading System, the Private Finance for Energy Efficiency ([PF4EE](#)) financial instrument, as well as energy efficiency obligations. The use of obligation schemes around the world is growing and a review by the Regulatory Assistance Project had shown that the median cost was 2 US cents per kWh saved.

Session B5 - Infinite Solutions

Peter Schilken, Energy Cities & Perrine Ethuin, Bruxelles Environnement

[Infinite Solutions](#) involves 11 cities across Europe which are implementing internal performance contracting on public buildings, soft loan schemes for home owners, and energy contracting support service for home owners. Five European cities and regions have set up soft loan schemes, getting 15 local banks on board! Among them, the Brussels Capital Region who set up the [Brussels Green Loan](#) in cooperation with two local cooperative financing institutions. Funded under Intelligent Energy Europe.

Session B6 - RESCOOP MECISE

Karel Derveaux, Ecopower

In the [RESCOOP MECISE](#) (Mobilizing European Citizens to Invest in Sustainable Energy) project, well established citizens energy cooperatives (REScoops) from different EU Member States develop projects and set up innovative approaches in order to launch concrete investments by European citizens and local authorities, both in renewable energy and energy efficiency. The creation of a REScoop-dedicated financing vehicle on a European level should allow efficient and flexible financing of a wide range (in scale and type) of sustainable energy investments with the involvement of citizens all over Europe. So far, six citizens energy cooperatives are participating and projects totalling €20million have been launched.

During the project duration, RESCOOP MECISE will trigger more than €110 million of sustainable energy investments. Funded under Horizon 2020.

TRACK C – AGGREGATION / PROJECT DEVELOPMENT ASSISTANCE ON PUBLIC ASSETS

Session C1 - INEECO

Rüdiger Lohse, KEA Baden-Württemberg

[INEECO](#) provides support of up to 90% of the facilitation costs of Energy Performance Contracting projects in Baden-Württemberg's public building stock. It aims at the implementation of total investment cost in energy efficiency and supply measures of in total €30 million by EPC projects. Funded under ELENA.

Session C2 - ESCOLIMBURG2020

Patrick Boucneau, Province of Limburg & Dirk Schreurs, Infrax

[ESCOLimburg2020](#) consists in the development by the public energy grid operator Infrax of an integrated service for the renovation of municipal buildings, from audits to works implementation and finance. This public ESCO service is organized in the context of the implementation of local climate plans (SEAPs) for the Covenant of Mayors, for which the Province of Limburg is a Covenant Coordinator. So far, €14.2 million have been invested and €10.6 million more are expected. Funded under Intelligent Energy Europe.

Session C3 - 2020TOGETHER

Silvio De Nigris, Region of Piemonte

[2020Together](#) aims to bundle public buildings and street lighting projects for energy retrofit in the Italian Region of Piedmont using Energy Performance Contracts and Third Party Financing schemes.

To date the project successfully launched more than €10 million of energy investments. The investment projects include deep renovation of buildings owned by small and medium-sized municipalities and bundled in a centralised tendering procedure as well as a large refurbishment scheme of heating boilers owned by the city of Torino. Funded under Horizon 2020.

Session C4 - L-CIF & Re:FIT

Sheryl French, Cambridgeshire County Council

[L-CIF](#) successfully set up the organisational structures and mechanisms for delivering investments into energy efficiency and renewable energy projects and to build capacity in local authorities to bring forward and deliver successful projects.

The project established an Energy Investment Unit and Local Authority Fund of €30 million which has delivered energy efficiency and renewable energy measures in 37 schools and public buildings at a value of €11.5 million as well as a solar park investment of €12 million which is now generating electricity for 3,000 homes and providing income for the authority of approximately €420,000 p.a. Funded under Intelligent Energy Europe. Confidence in the L-CIF

project has meant further investment of €3.48 million is now committed into a Smart Energy Grid project on a park and ride site for 1 MW of energy generation with battery storage, electric vehicle charging along with a power purchase agreement to sell electricity to local customers.

Vicky Kingston, Local Partnerships

The [Re:FIT](#) programme is a procurement initiative for public bodies in the UK wishing to implement energy efficiency and local energy generation measures across their estate, with support to assist in the development and delivery of the schemes. Over 250 organisations have already engaged RE:FIT.

Over £165 million of works has been procured across more than 1,000 assets and the current pipeline is over £50 million and growing. The programme in London was originally funded by ELENA and ELENA subsidy is also now available in Wales.

Session C5 - ZagEE & NEWLIGHT

Melita Borić, City of Zagreb

Project [ZagEE](#) (Zagreb Energy Efficient City) bundles a wide range of energy efficiency and renewable energy investments in order to implement comprehensive solutions, instead of investing in single measures. It realises two types of investments: a) refurbishment of 87 public buildings through the implementation of economically viable energy efficiency measures combined with the installation of renewable energy sources; b) modernization of public lighting which features LED lamps with late night regulation functionalities.

So far, €13 million have been invested and €17 million more are expected. Funded under Intelligent Energy Europe.

Velimir Šegon, North-West Croatia Regional Energy Agency (REGEA)

The main objective of [NEWLIGHT](#) is the modernisation of 34,000 public lighting luminaires in 57 Croatian cities and municipalities based on a bundling process. The investment costs of the streetlight modernization of over €20 million will be primarily financed using an ESCO scheme (PPP or EPC). The preparatory activities for cities and municipalities are co-financed by the ELENA facility of the EIB. NEWLIGHT started in November 2015. First investments are planned to be realized in 2017, while all investments will be completed by October 2018. Funded under ELENA.

Session C6 - EFIDISTRICT

Beatriz San Martín Zaragüeta, NASUVINSA

[EFIDISTRICT](#) aims for an integral energy rehabilitation of the Chantrea District in the city of Pamplona. The project includes the deep renovation of condominiums, the retrofit of the existing district heating network and the implementation of a new thermal grid supplied by biomass which will be extended to neighbouring public buildings and the cooperatives.

The expected investments during the project duration are €12 million. Funded under Intelligent Energy Europe.

TRACK D – AGGREGATION / PROJECT DEVELOPMENT ASSISTANCE ON PRIVATE ASSETS

Session D1 - POSIT'IF

Raphaël Claustre, SEM Energies POSIT'IF

The Ile-de-France Region launched a semi-public Energy Service Company (ESCO) able to provide an all-inclusive "Design-Implement-Operate" package with guaranteed energy savings and provision of Third Party Finance (TPF) for a comprehensive deep retrofit programme for condominiums, social housing and public buildings through Energy Performance Contracting (EPC). The works phase is now underway in 6 condominiums, representing 1500 apartments and an investment value of 20.5€ million with another 60 more contracts in the pipeline. 78% of retrofitted apartments have reached low energy building standards. The ESCO [Energies POSIT'IF](#) signed a loan over €100 million with the EIB thanks to the guarantee made possible through the Juncker Plan (EFSI). Funded under Intelligent Energy Europe.

Session D2 - PadovaFIT!

Daniela Luise, City of Padova & Marco Devetta, SOGESCA

[PadovaFIT!](#) aims to retrofit multifamily buildings through energy performance contracting (EPC). Since 2014, the consortium has been engaging condominiums throughout the City of Padova (Italy) in order to build significant demand for energy retrofits.

In the meantime, the municipality has procured a private ESCO which will contractualise with each condominium, and then finance the energy retrofit which will be paid through the energy savings. The investment target is at least €15 million, but the pipeline of interested projects currently stands at €19 million. So far, 5 condominiums have signed EPC's worth €1.2 million, and 20 more are in preparation. Funded under Intelligent Energy Europe.

Session D3 - FI COMPASS & Lithuanian Energy Efficiency Fund

Miglena Dobreva, European Investment Bank

[Fi-compass](#) is a unique platform, provided by the European Commission in partnership with the European Investment Bank, for advisory services on financial instruments under the European Structural and Investment Funds (ESIF) and microfinance under the Programme for Employment and Social Innovation (EaSI).

Fi-compass is designed to support ESIF managing authorities, EaSI microfinance providers and other interested parties, by providing practical know-how and learning tools on financial instruments. This includes "how-to" manuals, factsheets for quick reference, e-learning modules, face-to-face training seminars and networking events.

Justinas Bučys, VIPA

The Energy Efficiency Fund ([ENEF](#)) is managed by Public Investment Development Agency (VIPA) and implements the financial instruments in Lithuania including the multi-apartments renovation programme, which is one of the most successful energy efficiency initiatives in the

EU. The scheme uses €150 million from the 2014-2020 ESIF Operational Programme and has managed to approve 3,600 building investment plans worth €800 million of which 700 buildings already completed renovation. After refurbishing multi-apartment buildings, Lithuanian residents enjoy an increase in property value and comfort while reaching energy savings of up to 80% (average energy saving so far is 67%).

Session D4 - PSEE ALSACE

Marie Herth, Grand-Est Region & Eric Gaspard, ADEME

The Public Service for Energy Efficiency aims to develop a public operator to implement low energy renovation of single-family homes in Alsace and the Greater East region. The project provides an integrated service of energy efficiency, [Oktave](#), assisting homeowners at all stages of the home renovation process and providing loans based on the energy savings generated by the renovation. Oktave delivers in close co-operation with nine local refurbishment platforms set up by local authorities, providing one-stop-shop service.

The supply chain is also addressed by training consortia of craftsmen on site, in order to reduce investment costs and ensure proper level of energy efficiency, better market value of the house as well as better level of comfort. The project aims to renovate 1,000 houses with an expected investment of €40 million. Funded under Intelligent Energy Europe.

Session D5 - SUNSHINE

Claudio Rochas & Nicholas Stancioff, Funding for Future

[SUNShINE](#)'s consortium members have set up a large scale deep retrofit scheme of multi-family buildings through long term energy performance contracting. The project demonstrates the ESCO market opportunity for deep retrofit with guaranteed energy savings and long-term forfaiting by delivering 80 refurbished multi-family buildings within a framework of structured standardised contracting and 20-year financing.

The stakeholder platform [sharex.lv](#) standardises the process and reduces transaction costs. This combination of a transparent standardised financing mechanism is attracting private sector financing as well as a loan from EBRD. The expected investment is €30 million. The Accelerate SUNShINE project, also funded under Horizon 2020, adds an additional pipeline of mixed public sector and private sector projects (€30 million).

CLOSING PANEL – MAIN OUTCOMES AND OUTLOOK

Moderation: Didier Gambier, Head of Department, EASME



The Energy Efficiency Finance Market Place has impressively shown the exponentially growing interest in energy efficiency investments and their financing. The event has taken stock of what has been achieved so far on the ground and set the scene for further work in the future, a future that can be seen with optimism.

Rapporteur: Peter Cripps, Environmental Finance



The rapporteur provided an introduction to the closing panel, drawing together key messages that had emerged from previous sessions and setting the scene for the final panel members' interventions.

The market has progressed, but it is not clear that mainstream investors are already hooked on energy efficiency. For 2020 targets, we are on track, but when it comes to 2030, we will need to get deeper into the retrofit of buildings and we will need greater support from the finance sector, which is not really working for energy efficiency at the moment.

The European Commission has recognised the scale of the problem. Smart Financing for Smart Buildings is a useful next step, recognising the key issues of using public finance more effectively, providing aggregation and technical assistance and thirdly de-risking. The policy framework is emerging and funding is following. EIB had allocated more capital to energy efficiency in 2015, more than for renewable energy. Capital flows can be seen, for example through increases in ESIF to €18 billion.

Energy efficiency is really hard work. Projects are typically of small deal size compared to for example solar PV projects. Due diligence can be tricky and costly, which means that more money is going into proving the business case. Deals also take a long time and the legislative environment is changing.

The energy efficiency investment market needs to find ways to become attractive for mainstream investors. There is no shortage of capital, success is about finding a way to package propositions. Acting alone, the public sector can't meet the capital requirements in this area.

Investors and project developers are not speaking the same language and they are looking at different metrics. These two sides need to be brought together to push deal flow.

The energy efficiency investment market is still rather nascent and needs support and there is a clear role for the public sector in trying to develop and push it. There should though be an ongoing conversation about whether public money is being best used – public funding should crowd in, not crowd out private finance.

“Even if energy efficiency is not low hanging fruit, it is a no brainer”.

“Public funding should crowd in, not crowd out private finance”

Marie Donnelly, Director, European Commission, DG Energy



Policies come from two sources – macro-economic analysis and the reality on the ground. For the macro economic analysis, the case is simple – Europe imports energy, it’s expensive and we can’t necessarily rely on imports and want to reduce them. As to the reality on the ground, there are more than 30 supported projects in the energy efficiency finance area. These provide inspiration for what we understand and what we need to do. The primary target is the renovation of existing buildings. The Commission

has undertaken analysis on the nature of the challenge, which is enormous. As a community working in this area, we will need to rely on a number of things and the public sector can help by putting a policy framework in place. But we need to generate attention and interest.

On attention, energy efficiency finance was not known as such, ten years ago. Attendance at events such as the marketplace had doubled. We need to keep positioning energy efficiency as the first fuel.

We have to be able to satisfy interest. Public sector entrepreneurs are key to development in this whole space, they can be demonstrators, but public money should be used to maximum effect. We need to support entrepreneurs and market actors in various ways. Technical Assistance support in this type of space was doubling.

We need to develop this field so that it’s better known. That is where the private sector come in. Energy efficiency should be on the agenda for every bank in car and home loans etc. When it is ubiquitous we will have achieved the first step of our policy.

Stephen Hibbert, Global Head of Energy & Carbon Efficiency Finance, ING Bank



ING Bank is a commercial and retail bank, with most of its client base in the private sector. An example was given of a request for financing from the city of Groningen, which had worked on deep geothermal energy for use in district heating for homes, a university and a science park, and social housing developments. The project developers from the local authority and a local water company had used EU ELENA funding and had come to the bank with a well prepared proposal containing an information memorandum, a financial model, risk assessment and cashflow sensitivity modelling.

The project proposal had a number of positive characteristics. It was well prepared, was well supported at local and national level and there was sufficient equity. Where that wasn’t the

case, as in many smaller private sector projects with insufficient equity and an expectation that debt can fund the equity gap, then the feeling was that a bank has to kiss 10 frogs to find one prince: a “solid” project.

We should speak about investable, not bankable projects. A project may well be investable, but not necessarily bankable; that is, ready for third-party debt finance. Project size being an important issue; the financial structuring and legal contractual arrangements to finance small projects with non-recourse project finance debt is relatively costly and often the project economics cannot support these costs. Bank lending committees do not like novelty. The quality of third-party equity finance is an issue; who are the investors? What is their motivation and what experience and knowledge can they also contribute? It is often the case that project developers ask a bank for non-recourse project finance debt, but actually what they need is an equity partner or development capital provider.

ING Bank’s experience is that there are often unrealistic expectations about who should carry which risk on a given project. Often the projected cash flows in a project are insufficient to service the amount of senior debt requested by project developers. This makes these propositions unrealistic for banks that, in the interest of their stakeholder depositors and shareholders, need to have the highest certainty that any loans they make will be repaid.

The success ratio for energy efficiency projects is not as high as it could be.

Jessica Stromback, Chairman, Joule Assets Europe



There is a contrast between private and public sector financing for energy efficiency. Private sector project finance is driven by demand. In the public sector, financing rules, such as the Eurostat rules governing public sector accounting are a barrier.

We have a good opportunity to build on past success. A whole array of European Directives and policies sit behind household level decision making about issues like heating. As a financier, deal flow is important.

Legislation changes in previous years, such as the introduction of parts of the Energy Efficiency Directive and rules governing energy market and network access had been helpful in speeding up project implementation. However, in some cases, incumbent network operators and others had sought to block straightforward clean energy supply and demand reduction projects. Transmission and distribution network codes had been an issue in the past, but parts of the Energy Efficiency Directive have helped to overcome this. From a legislative perspective, deal flow is key. The more practical things we can do that go from end to end of a project, the better. New market structures are emerging in parts of Europe, notably in Belgium and in Austria.

Joost Venken, Deputy Mayor, City of Hasselt

As a local decision maker, tackling the existing building stock is the key issue. The city of Hasselt has created a Special Purpose Vehicle, which functions like an internal agency that is



trying to tackle the challenge of project bundling. Work is progressing slowly due to the nature of diverse projects, the complexity of financial modelling and limited capacity.

It's good that the overall ELENA budget has been increased, but bundling under ELENA and its requirements mean that there is a roughly €30 million minimum programme size. The Covenant of Mayors has shown that 70% of energy investments being made by municipalities are less than €1 million. This therefore implies very significant bundling.

Work on standards for Energy Performance Contracting would be beneficial. Some permanent, politically independent structures should be created to avoid short-term political cycles. ESCO structures are often not known at the local level. Greater awareness is needed, to convince other politicians and the general public that such projects would be of benefit.

Thresholds for technical assistance and project development support should be lowered - this could unlock significant potential in the market.

ABSTRACTS - POSTER SESSIONS

ENPC INTRANS

Bruno Wilhelm, GIZ

The [EnPC-INTRANS](#) project intends to develop local capacities for the design and implementation of energy performance contracting business cases facilitating energy efficiency investments in public buildings; the project targets at European markets at different stages of transition towards a low-carbon economy. Capacity building and information activities are thus being organised in Croatia, Germany, Greece, Latvia, Romania, Serbia, Slovakia, Slovenia, and Ukraine. A minimum of 3,000 experts and stakeholders from at least 9 European countries will have participated in the training programme. The project was expected to trigger €60-90 million of new energy efficiency investments in the partner countries; the developments so far with new contracts of a total investment of €49 million suggest that this target can be met and even be exceeded. Funded under Horizon 2020.

GuarantEE

Georg Böning, Berlin Energy Agency

The project [guarantEE](#) further develops and tests performance-based energy services such as energy performance contracting (EPC) to be better applicable for private sector clients and rented facilities. The 14 partners will support 33 pilot projects until 2019 with total investments of more than €11 million. Funded under Horizon 2020.

MARTE

Cinzia Colangelo, Marche Region

The project [MARTE](#) develops and implements energy retrofitting investments in the healthcare sector (three acute hospitals and two health centres/polyclinics) of the Italian Marche Region by deploying innovative financing approaches. In this context, it will apply Energy Performance Contracting (EPC), promoting EPC model contracts, combined with financial resources provided by the Energy and Mobility Fund established based on European Structural and Investment Funds 2014-2020. The project expects to trigger investments of approx. €12 million during the project duration. Funded under Intelligent Energy Europe.

RESFARM

Julio Pombo Romero, Universidade da Coruña

[RESFARM](#) is developing and implementing financial instruments for the mobilization of investments in renewable energy in the agrarian sector. This includes the creation of pools of projects that follow a standard set of contracts and protocols, suitable to be transformed into tradable securities.

By December 2016 RESFARM identified more than 100 MW of installed capacity willing to go green under capital market-suitable business models, essentially in PV irrigation. RESFARM is already in contact with investors in order to develop projects under power purchase agreements with farmers. Funded under Horizon 2020.

Streetlight-EPC

Christiane Egger, OÖ Energiesparverband

The project [Streetlight-EPC](#) creates demand and supply for energy performance contracting (EPC) projects in 9 regions by setting up regional EPC facilitation services. These services provide comprehensive support to municipalities and potential ESCOs. So far about €10 million have been invested in EPC projects and around 38 million more are expected during the project duration. Funded under Intelligent Energy Europe.

BEenerGI

Anna Camp Casanovas, Diputació de Girona

The [BEenerGI](#) programme of the Girona Provincial Council provides the necessary technical, legal and financial assistance to more than 64 Covenant of Mayors signatories to mobilise bundled sustainable energy investments through Micro Energy Service Companies (MESCO). During the project duration, €23.21 million of investments will be facilitated by the BEenerGI team, €15 million will be invested through energy performance contracting in municipal street lighting and approx. €8 million in the installation of biomass boilers in public buildings (including the creation of district heating networks). Funded under Horizon 2020.

BUILDINTEREST

Roel van der Veen, PNO consultants

[BUILDINTEREST](#) aims to increase trust in investments in sustainable buildings. It develops three national financing platforms (France, Italy and the Netherlands) aimed at the creation of an ongoing structural dialogue between the financial and building sectors, and supports the development and exploitation of tools and financial instruments that support stakeholders in both sectors to increase access to finance and to increase investments in sustainable buildings. Funded under Horizon 2020.

EnerSHIFT

Giuseppe Sorgente, Regione Liguria

The main aim of the [EnerSHIFT](#) project is the preparation of an energy retrofit investment portfolio in the public social housing sector of Liguria (Italy) by promoting and applying financing models, which are very innovative in the region. Energy audits and feasibility studies will be performed on 44 social housing buildings and tenants (around 3,500 families) are actively engaged with regard to acceptance and behavioural issues. On this basis, investment tenders will be launched for energy performance contracts (EPCs) with energy service companies (ESCOs).

During the project duration, the project will prompt investments of around €15 million and contribute to energy efficiency policies by triggering energy savings of 14.5 GWh/year and renewable energy production of 1 GWh/year. Funded under Horizon 2020.

EPC PLUS

Aristotelis Botzios-Valaskakis, Center for Renewable Energy Sources and Energy Saving

The project [EPC+](#) aims to create pilot "SPINs" (SME Partnerships for Innovative Energy Services) in 11 EU member states (Austria, Belgium, Bulgaria, Czech Republic, Germany, Greece, Ireland, Italy, Portugal, Slovenia and Spain) and to put in place capacity building measures around these pilots to ensure the administrative, technical, legal and financial knowledge necessary to run and extend the SPINs operation. The SPINs can make use of standardised EPC+ packages (toolboxes for energy efficiency and renewable energy and model contracts). Moreover the project is setting up an [international platform](#). Almost 30 pilot projects have been already recruited. Funded under Horizon 2020.

LEMON

Piergabriele Andreoli & Claudia Carani, Agenzia per l'Energia e lo Sviluppo Sostenibile (AESS)

The project [LEMON](#) focuses on the energy retrofit of 622 private and public dwellings in the social housing sector of two regions of Emilia-Romagna by establishing an innovative financing approach. It expects to trigger energy efficiency investments of €15.29 million by applying EPC model contracts combined with a new green lease concept based on the energy performance of the housing units (Energy Performance Tenancy Agreement). Funded under Horizon 2020.

TrustEE

Christoph Brunner, AEE - Institut für Nachhaltige Technologien

The aim of [TrustEE](#) is to create a dedicated investment fund to scale up energy efficiency and renewable energy projects in European industry. It focuses on energy efficiency projects, companies and suppliers which due to their risk profile and/or size would not normally qualify for more traditional sources of finance and targets, inter alia, institutional investors. The project involves a number of innovative aspects, e.g. the establishment of a pool of suppliers for technology assessment and the set-up of a fund internal guarantee facility. Funded under Horizon 2020.

LIST OF STANDS

Stand	Website
BUILD UP	http://www.buildup.eu
Citizenenergy / Bettervest crowdfunding platform	https://www.citizenenergy.eu/
Covenant Of Mayors Office	http://www.covenantofmayors.eu/index_en.html
European Bank for Reconstruction and Development (EBRD)	www.ebrd.com/
European Investment Bank (EIB)	www.eib.org/
Executive Agency for Small and Medium-sized Enterprises (EASME)	https://ec.europa.eu/easme/
SI Capital Private Equity	http://www.sicapital.net/
Smart Cities Information System	http://www.smartcities-infosystem.eu/
The European Energy Efficiency Fund (eeef)	http://www.eeef.eu/home.html
Triodos Bank	https://www.triodos.com/