CONCERTED ACTION
ENERGY EFFICIENCY
DIRECTIVE

2nd Meeting CA EED

Summary of Proceedings

Date: May 2018

Contents

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 754521.

1 Opening Session

In the course of the second Meeting of the Concerted Action for the Energy Efficiency Directive (CA EED) in Vienna over 130 experts, policy makers and implementers gathered together to discuss issues related to the implementation of the EED in Member States (MS). The Meeting was designed to give Member States and Norway the opportunity to exchange experiences and learn from each other. In addition, the European Investment Bank (EIB), the Energy Community and Iceland were present as observers.

During the opening session DG ENER and EASME gave an overview of news and updates on current activities.

Following on, each Working Group presented their results on the following topics.

- Public procurement resulting energy and economic savings
- Energy performance contracts in the public sector
- How to improve the quality of energy audits and what we can achieve by doing that?

2 Parallel Sessions

The Parallel Sessions covered the following topics: Public procurement, resulting energy and economic savings, Energy Performance Contracts in the public sector and How to improve the quality of energy audits and what we can achieve by doing that.

2.1 Public procurement, resulting energy and economic savings

Policy and legislative

Issues were identified around Green Public Procurement (GPP) and VAT and it was agreed that GPP is important to increase knowledge and awareness of public bodies, and that although the current EU legislative support for GPP and energy efficient procurement is clear and satisfactory, more legal interpretation and guidance is needed. The European Commission can play a leading role in providing these missing elements. Barriers to GPP are a lack of data on energy and economic savings, and the need for more best practices on practical tools and methods sharing.

The audience concluded that: GPP is a powerful weapon in transforming the market towards sustainability but its potential is still hardly tapped, governments have taken steps to enable and widen the application of Article 6, there is a lack of information on the energy and economic effectiveness of measures related to GPP, and the existing procurement procedures do not produce feedback signals to the legislators and other stakeholders. This means it is difficult to control or amend procurement procedures in relation to energy savings or other sustainable benefits.

A presentation was given on "KEINO Competence Centre for Sustainable and Innovative Public Procurement" funded by Motiva. The Center: seeks to increase contracting entities' awareness of strategic procurement management and impact thinking, and assist in management tool development and measurement**,** will set up buyer groups for procurement in social welfare, health services, construction, energy use, mobility, logistics, and bio- and circular economy, will support the development of procurement competence, seeks to strengthen international networks and peer to peer learning for procurers.

The KEINO centre is also responsible for piloting the Green Deal - the Finnish Public Procurement Green deal which is a voluntary agreement between the government and the procuring authority. Its objective is to promote ambitious sustainability goals and achieve societal impact.

The Swedish Energy Agency (SEA) made a presentation on "Green Public Procurement. Using environmental management systems to assess procurement energy use and GHG". An outline was given of the energy and climate policy of Sweden and the role of public procurement, which is about 18% of the GDP of Sweden, in reaching these objectives. Experience shows that it takes years to come to effective Life Cycle Assessment tools. Sustainable criteria for different product groups are available at the Swedish Public procurement SEA website.

Participants were then asked to discuss the following questions:

- Are there gaps in the policy and legal framework for widespread adoption of energy efficient procurement practices?
- What are policy and legal solutions, and who needs to implement them?

Conclusions were that energy efficiency is part of a wider public procurement policy framework, existing legal framework still needs to be clarified, there is a variety of procurement schemes that may differ from country to country, GPP is slowly moving towards more standardised stage of development, many best practices of policy and operational tools are yet to be shared, GPP is governed and impacted by many institutions therefore better coordination is advised, and there is a permanent call for more data and accountability.

Tools and best practices

A discussion was facilitated focusing on practical tools and best practices in GPP. As an introduction, a representative from SEAI gave the presentation "Practical examples of energy efficiency in public procurement and M&V". He briefed on the context of GPP in Ireland - policy, legislation, governance. Energy related procurement is a part of GPP. The four energy related elements of GPP embrace purchasing energy supplies, energy using equipment, energy services, new facilities/buildings. He stressed that quality aspects shall be taken into account in GPP. He explained the system of M&V, exploiting mainly standards ISO50015 or IPMVP, being in place Ireland. Then the "Energy Performance Guarantee" project was introduced as a means of risk reduction in GPP. He finally provided some illustrative examples of energy related procurement, e.g. boiler controller, Dublin Port, postal service – transport, energy performance in procurement of pumps, Energy Performance Contracting.

The audience then attempted to answer the following questions:

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- What is needed in order for energy efficiency to become part of the overall management system of procuring authorities?
- What tools and methodologies are in place and good practice?
- What new tools or methodologies are needed and who needs to implement them?
- In what way could we better make use of the good examples?

The discussions can be summarised as a need for: networking, training, guidance, and tools for procurement officers; provision of assurance; harmonization at policy level and consolidation of legislation; more effective cooperation among all actors involved, especially within governmental organisations; simplified procurement rules; a focus on "good" procurement rather than too many confusing terms.

The following Good Practice factsheets on the session topic are available:

- Competence centre for sustainable and innovative public procurement, Finland.
- National guideline for life cycle costing, Poland.

2.2 Energy Performance Contracts in the public sector

Energy Performance Contracts (EPC) are only being used to a small extent in the public sector in EU Member States, despite the advantages they could bring, such as access to capital for energy efficiency improvements of public buildings. Several barriers have been identified and the aim of this session was to find ways to overcome these barriers.

The session started with a presentation by the European Investment Bank (EIB) on advisory services for EPC from project preparation to financing. It also gave an overview of the coming practitioners guide for the statistical treatment of EPC based on the Eurostat guidelines on EPC accounting published in September 2017. This new practitioner's guide, which is a joint document by Eurostat and EIB advisory service, will include clauses common to typical EPC contracts and explain their impact on sheet treatment. There will be a special focus on the effect of grants and financial instruments on balance sheet treatment.

One conclusion from the discussion is that there seems to be a need for a model contract which incorporates the changes in the guidelines. Also, during the discussions in the session there was a big focus on the role of EPC facilitators and the need to certify the skills of the facilitator as well as the need for financial support from public bodies to ensure a neutral position of the facilitators and strengthen trust from beneficiaries.

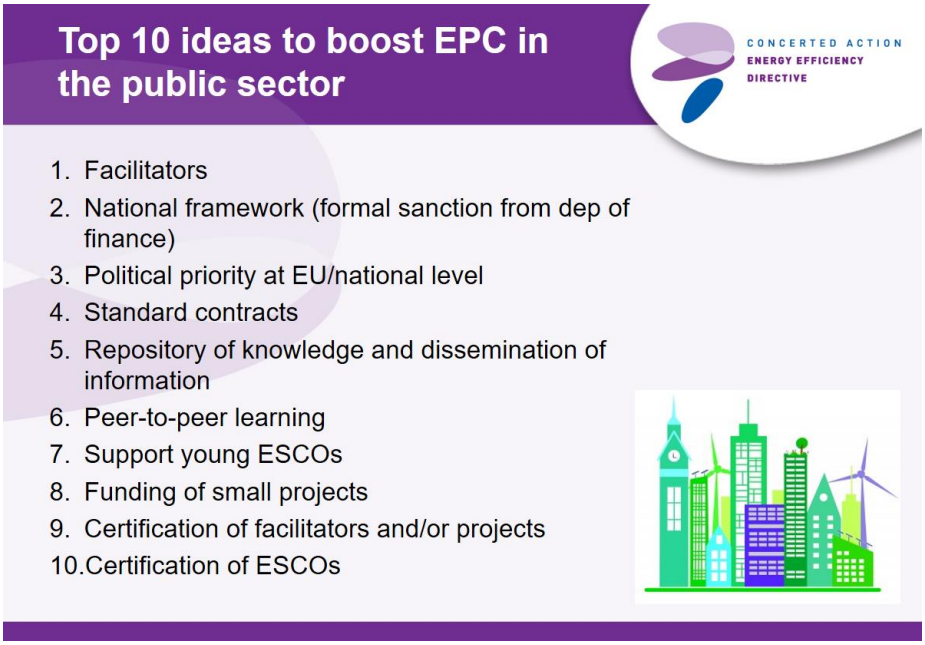
Following that, there was a presentation from a member of ADEME based on the first results from the recently launched EPC observatory. The aims of the EPC observatory are data collection, mapping and development of training material and it serves as a guidance for the development of public policies to support EPC. There is a good development of EPCs in the public sector in France mainly in local authorities and public institutions such as social housing.

The second example was from the H2020-project GuarantEE, which aims at supporting the uptake of EPC through facilitators and an on-line tool; the EPC precheck. 14 MS are part of the project, representing a mix of advanced and emerging ESCO markets. The project will run until March 2019.

Facilitators are also an important part of the German support for EPCs, and in the presentation about the German experiences of EPC implementation at national and local level, the "Bund-Laender-Dialog" was highlighted. This dialogue was established in 2015 and aims at removing obstacles for the realization of EPC and strengthening regional competencies.

Germany also presented a support programme for contracting consultancies who act as a facilitator between the customer and an energy service provider and help preparing an EPC. The programme was launched in 2015 and applicants for the support can be municipalities / municipal companies, non-profit organizations and SMEs. Finally, Germany announced the integration of public sector demand in its next energy services market study (including EPC).

After these examples were presented, the participants were asked to present their best ideas to boost EPCs in the public sector. The proposals were the following (by order of priorities according to participants):



2.3 How to improve the quality of energy audits and what we can achieve by doing that?

The aim of the session was to explore the methods that MS are currently using to ensure the quality of energy audits and how MS can get companies to take action on identified measures. Furthermore, the aim was to understand the key opportunities MS see for ensuring the quality of audits and recognise the key challenges they face. Topics were investigated in three sessions which consisted of presentations of MS examples and discussions.

The first session investigated the aspects that affect the quality of audit report. A representative from the Netherlands Enterprise Agency presented the main issues and conclusions related to a Netherland's extended evaluation concerning Article 8 of the EED and in addition to that, her presentation included information on how quality marks are rated as being sufficient enough as an alternative for carrying out an audit in the Netherlands.

Participants were asked to identify issues that affect the quality of energy audit reports and what are the biggest challenges. Almost all participants said that the main barrier related to energy audits is how to get companies to implement the measures identified in audits. Also, the quality of audit reports and the lack of finance in the company level seems to be very common challenges in MS. Energy cost is not always relevant for the company. Many times, audits are seen as an obligation only, not a way to make savings. The most important issues in the audit report were that the report should be useful for the company, it should be understandable for different stakeholders, it should be based on real seasonal data (not assumptions) and it should provide clear guidance of what are the options.

The second session offered information on what kind of schemes MS have in place to assure and check the quality of audits. A French survey addressed to companies that were obliged to make an energy audit showed that the lack of skills is the most common problem in energy audits. The lack of details in calculations and the lack of information on the recommendations of the measures was an issue in almost half of the energy audit reports in France. In the presentation by a member of ANRE, participants got a concrete example of the deontological code for energy auditors in Romania. The deontological code is a set of rules that states the position and the quality of energy auditor`s professional activity.

Discussions in the sessions showed that there are many ways to do quality control cost-efficiently: use random sample and mix it with plausibility checks, requirements to submit summaries of audits or key numbers, develop algorithm for control, use checklists, keep the quality of auditors high, check audit reports from the new auditors and have clear instructions on how to do an energy audit.

The third session focused on schemes that can make companies take action on measures identified in energy audits. The session started with a brief overview of survey results and following this the links between Articles 7 and 8 in Austria were presented. Among other things, the presentation highlighted what kind of criteria there is for energy efficiency measures and how measures can be sold to obligated energy providers. Finally, a presentation was given

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on the promotion and development of energy efficiency in process industry by Hera Group. The presentation focused on describing the barriers that are most frequently faced in the industrial sector towards the implementation of energy efficiency recommendations. Among other things, barriers included huge variety of technologies, technical solutions are sometimes unknown and that production and quality (not energy) are the priorities for the company.

Based on the discussion in the third session, some examples of good ways to get companies to implement the proposed measures were discussed. Such examples were; a post audit meeting between client and auditor, realistic measures, grant and subsidies and clear calculations.

3 Other Parallel Sessions

Other Parallel Sessions were organised to inform participants about developments on specific topics: National rules for allocating heating, cooling and hot water costs in multi-apartment and multi-purpose buildings supplied from collective systems; Changing reporting landscape and links with EED and a follow up to the Consumer feedback through ICT session which took place at the previous CA EED plenary meeting.

3.1 National rules for allocating heating, cooling and hot water costs in multi-apartment and multi-purpose buildings supplied from collective systems

The central focus in the session was EED Article 9(3): "Where multi-apartment buildings are supplied from district heating or cooling, or where own common heating or cooling systems for such buildings are prevalent, Member States may introduce transparent rules on the allocation of the cost of thermal or hot water consumption in such buildings to ensure transparency and accuracy of accounting for individual consumption".

In this context, three different presentations were made, with the objective to inform the MS present about the design of cost allocation rules in EED Article 9(3) context.

The session started with an overview of the implementation of Article 9(3) in the EU. The presentation of the JRC report, showed that at least 16 MS have already introduced thermal cost allocation rules, whereas some had explicitly forbidden it. The discussion between the participants addressed different themes, such as the cost share on metered consumption, different approaches to the use of correction factors, introducing minim and maxim cost limits and different approaches on common area allocation rules. One important conclusion is that individual heat cost allocation rules should also include appropriate and effective penalties or incentives. The second presentation from the Slovenian Ministry of infrastructure outlined the Slovenian heat cost allocation policy approach and provided an example of a penalty. In Slovenia, a tenant, who either does not allow installation, reading of metering devices or damages them, is charged three times the building average consumption costs.

Introduction of cost allocation with a significant consumption based component is key to achieving significant energy savings, as show in the presentation by the European Business Association for Energy Cost Allocation. And the identified key factors for successful introduction of legal provisions on allocation are: clear and understandable rules, elements on variable and fix costs, not entailing unnecessary costs, if correction factors are used to keep them as simple as possible, mechanisms to grant access to apartments for installation and reading, communicate introduction of allocation rules to users timely and include effective penalties.

Following the session presentations, a lively discussion ensued.

JRC Report: http://publications.jrc.ec.europa.eu/repository/bitstream/JRC106729/kjna28630enn%281%29.pdf

3.2 Changing reporting landscape and links with EED

The aim of the session was to offer MS information and the possibility to discuss the preparation of the 1st draft National Energy and Climate Plans (NECPs) due at the end of 2018, targeting especially parts which have linkages to energy efficiency and the EED. Discussions relating to the preparation of the 1st NECPs were continued during the second part of the 'H2020 EPATEE and links to EED' session. Both of the abovementioned sessions were popular, drawing in around 30 participants from 25 Member States.

A presentation based on the results of the query sent to all National Contact Points and all registered session participants highlighted the issues MS are faced with when planning or preparing the 1st NECPs. These issues were related to different aspects including: organizing and coordinating the new process on national level, uncertainties in target setting not yet having the final text from EED and Governance, lack of clarity regarding the criteria on how the possible gap in target setting in EU level will be filled, impact assessment and modelling, status of the NECPs compared to the previous NEEAPs in MS, updating possibilities of the plan and measures as well as unawareness of the concrete changes in practice in connection to energy efficiency planning and reporting requirements in NECPs compared to NEEAPs and linkages to other energy efficiency reporting.

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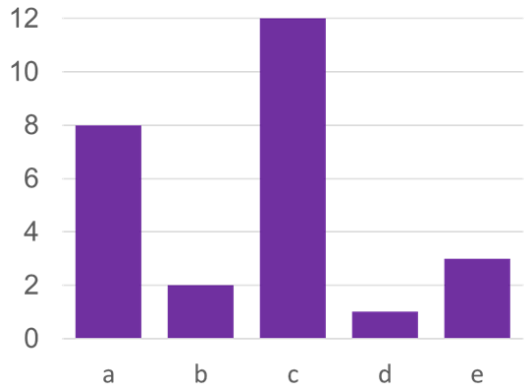
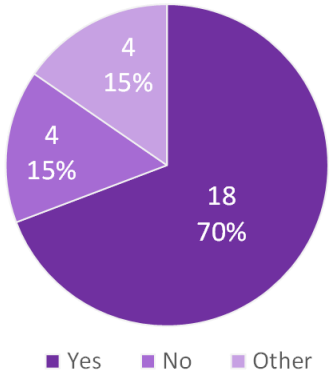
In addition, based on the MS answers, a summary of the current status of the preparation of the 1st NECPs in MS was presented.

Status of preparing the plan in 26 MS in March 2018



Current understanding if the plan will be delivered by the end of 2018 (26 MS)



A representative from DG ENER (A1 – Energy Policy Coordination) provided the most recent information in the context of the ongoing Governance negotiations especially related to interlinkages to energy efficiency aspects. After the presentation MS had the opportunity to ask questions and discuss the topic further.

In the latter part of the 'H2020 EPATEE and links to EED' session, discussions turned to the practicalities of developing NECPs. Related to the issues raised in the previous NECPs session MS were asked to share their experiences, challenges and examples of what is working well. It was clear that more collaboration would benefit MS and creating discussion possibilities to overcome the various challenges would be beneficial.

One issue which was raised in the discussion was the range of modelling tools used by MS to develop the NECP scenarios. Comparability of the MS scenarios and assessments will still be an issue in future as has been discussed also earlier in the CA EED. The new EE model POTEnCIA, developed by the JRC may perhaps in future serve as a tool also for MS in parallel of their own models.

There seemed to be only a few MS who knew that the Commission had established a Technical Working Group for the Governance not to mention the name of the appointed participant of their country in that group. This was in line with the comments by many participants that it looks like energy efficiency experts have not been involved in the discussions during the Governance process. Transferring information from the Technical Working Group of the Governance to the broad range of stakeholders in MS is a particular challenge that needs to be overcome.

The outcome of the sessions could be summarized, that even though MS got valuable up-to-date information on the topic and welcomed the possibility to ask questions as well as to discuss the topic, it seems that there are still many unanswered questions in relation to the new planning and reporting landscape and its linkages to energy efficiency and EED.

Links to the presentations and poster can be found in Chapter 5.

3.3 Consumer feedback through ICT – a follow up

This was a follow-up to the previous meeting in Sofia, October 2017, which dealt with consumer feedback through ICT. To follow-up on this topic some of the companies providing or using such tools, as well as companies participating in relevant EU projects were invited to present their experiences.

The objective of the session was to raise awareness among the persons responsible for the implementation of the EED, of the opportunities for energy efficiency through new and innovative ICT solutions. Of course, there are not only opportunities related to ICT tools, there are also threats. It was concluded that ICT enables many possibilities for consumer feedback and the topic is likely to be more important in the future due to the need for demand-side management for the integration of variable renewable energy production, therefore there was a need for the follow-up session. During the follow-up session the topic raised great interest and lively discussions, and it is highly recommended that the CA EED still revisits this topic.

Heat Demand Response in Helsinki
The first presentation was from the Finnish energy utility Helen. The presentation was about three case studies of innovative models for heat demand-response in multifamily buildings with district heating. In two of the case studies the systems were fully automated and in one case study the system was based on active participation from the consumers.

The conclusion was that the automated energy management systems can be used for customer demand response and there seems to be a demand from the market for this kind of services. In the case of the community based approach the engagement from the consumers turned out to be relatively low.

The discussion following the presentation was related to comfort levels, data ownership and data protection. Also, it was noted that this model for heat demand response has been developed for a district heating system and the situation is different in Member States with high share of individual heating systems.

Personal energy administration in your mobile phone – PeakApp
The second presentation was from the EU Project PeakApp. This project aims at giving consumers a tool to manage their electricity consumption and to shift the demand from peak hours. The data is entirely based on data from smart meters. The app uses games, social media and comparisons with other users to gain interest and it also provides energy saving tips.

The participants in the project are divided into three groups: one control group, one group that has the app and one group that has the app plus the possibility to use preferential tariffs to avoid peak loads. The project is on-going so there are only preliminary results so far, and these results indicate that around 40% of the users still use the app after one year (field test with around 1500 users in Austria). Surprisingly, the tool for comparison with other energy consumers, i.e. neighbours, is not used as much. The most used service is the dashboard that gives an overview of the energy consumption. The possibility of shifting demand to periods with low tariffs is used to a relatively small extent. However, after one year, the group of users with access to discount tariffs uses the app more than the group without access to these tariffs.

Video game for energy efficiency in public buildings
The third presentation was from the EU Project TRIBE. This project aims at creating engagement for energy efficiency among users and managers of public buildings. It is based on three categories of public buildings: public offices, academic buildings and social housing. As a basis for the game a catalogue with more than 250 energy efficiency measures has been developed and is available on the projects website. The app has so far been downloaded 20 000 times. The project is still ongoing and the final results will be available within a year.

3.4 Energy Poverty Observatory

The session on the Energy Poverty Observatory included an overview presentation from the European Commission on energy poverty and a presentation from the Wuppertal Institute, on the H2020-funded project Energy Poverty Observatory.

The Commission gave an update on energy poverty and its relation to the clean energy package. The package includes three dimensions for consumers (empowerment, better information, protection) and energy efficiency runs through all of them. Energy poverty is less present than energy efficiency. However, energy poverty is relevant for a number of Directives and has been introduced within them. The EED Article 7 mechanism includes energy poverty and the governance regulation includes national objectives with regards to energy poverty reduction. The latter was one of the main discussion points between participants.

With establishing the H2020-funded project Energy Poverty Observatory the importance of energy poverty has been highlighted on a European level. As energy poverty is gaining more recognition across Europe and is an issue in most member states, the project's aim is to provide an interactive platform providing information on energy poverty in Europe. The Wuppertal Institute stressed that the topic of energy poverty is not very well researched and little is known about which policies work well, which do not and what statistics are available. This is what the Energy Poverty Observatory tries to tackle by engaging with a wide range of stakeholders. The platform was launched in January 2018 and its key importance is to gather data – it is mainly based on EUROSTAT data as pan European comparable data is needed for the platform and its indicators (and any future ones). A benefit of using the platform is the possibility to make use of disaggregation of the indicators. The usefulness of indicators was discussed within the session and it was agreed that each will work differently for each country.

While some member states asked for a definition of energy poverty, it was highlighted that the clean energy package does not include one for a reason. National circumstances vary across member states (e.g. different income levels,

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housing stocks and climate conditions) and hence, no one-fits-all proposal for reducing energy poverty was imposed on countries. Discussions of the Nordic approaches showed that these are more general, more integrated and do not solely focus on energy. As the Commission's proposal has deliberately left defining and reporting the reduction of energy poverty to member states, this is not a problem and can be reported as functioning measure.

However, there was also discussion that energy poverty is indeed an energy issue as the energy use drives the reduction of available family income. With the Energy Poverty Observatory collating and making available all this data on energy poverty, the data is ready to be used and analysed to tackle this issue in the future.

3.5 The importance of evidence based evaluation in view of future energy related targets and reporting requirements

The session with around twenty participants was structured in two parts. First the current Horizon 2020 funded project EPATEE was presented, followed by a discussion on the practical challenges of Member States around developing their first National Energy and Climate Plan (NECP).

With increasingly challenging energy and CO2 related targets on a national and international level the question of how effective energy efficiency policies are to achieve these targets becomes more important. The H2020 funded project EPATEE aims at raising the capacity of policymakers and implementers on ex-post evaluation. The presentation highlighted the challenges and opportunities associated with ex-post energy efficiency policy evaluation. Case studies of evaluations undertaken are available through the project website and a range of other resources to support Member States to develop their evaluations will be made available in the course of the project. Member States are invited to get in touch with the EPATEE team if they are looking for support around evaluating any existing or new energy efficiency policy.

Discussions then turned to the practicalities of developing NECPs. A summary of these discussions can be found in the chapter on the session "Changing reporting landscape and links with EED".

4 Site visit

Sustainable Smart Cities – sustainable city concept and real buildings with real energy data

Visit of Aspern Seestadt smart district and Wien Energie Simmering CHP plant

Aspern Seestadt smart district is a living "urban lab" in one of Europe's largest development projects in the northeast of Vienna ("brown field" area of the first Vienna airport). A multi-phase development until 2028 will see the creation of high-quality housing for over 20,000 people and an equal number of workplaces. The district is in line with "Smart City Wien Framework Strategy" set on three key pillars: quality of life, resources and innovation.

Several interesting aspects have been presented during the guided tour and ASCR Demo Center presentation:

- **Sustainable mobility:** metro line was built before first inhabitants settled in the district, only 0,7 parking place per flat is planned (car sharing, cycling and public transport priority), "short distance" concept – all important services are available at 300 steps (250 m), etc.
- **Building efficiency:** low energy (not passive) buildings are planned with all necessary energy infrastructure (water and electricity installation on the roof for exploitation of solar energy, option for district heating connection), to enable "medium" quality for reasonable rental cost.
- **Resident feedback:** 97% of tenants are "super happy" with the living conditions
- **Aspern Smart City Research (ASCR)** is a joint venture between a network operator, an international technology company SIEMENS, an energy generation and supply company (Wien Energie) and the City of Vienna. This partnership was established to develop and test the technical solutions required for future energy environments in new urban districts:
    - **Smart buildings:** residential building, a student home and a school campus pilot buildings are supplied by different energy sources & technologies (solar energy, different heat pumps, district heating, heat and electricity storages, etc.), equipped with advanced energy management systems.
    - **Smart user**: permanent smart measurement and home automation control technology is installed in flats that enable collecting energy consumption data and ambient air control system data (electricity, hot and cold water, room temperature, room air quality, etc. sampled every 2,5 minutes) and enable users to remote control their energy using a tablet or smartphone. Solutions are well accepted by tenants although only 10% are playing actively with smart controls so proper process optimization and technology setting is a key research priority.
    - **Smart grid:** smart active grid components are tested in real city labs, including smart metering, advanced management systems, etc. Established active grid communication with building management systems enables effective grid management especially important for RES electricity integration and e-mobility (identified peak demand due to charging of e-cars can be effectively controlled and decreased by reduced heat pumps operation in peak periods if the network has information on current temperature level in building and volume of heat in heat storage).
    - **Smart ICT:** advanced extensive data collection and management enables early stage fault detection, benchmarking, simulation, forecasting, systems optimization and is essential for future solutions and components design.

The visit of the CHP Simmering plant of Vienna's energy company Wien Energie offered real technical experience of the city largest CHP plant which with high total efficiency (more than 81 %) supplies heat and electricity to Vienna. A new 20 MW CHP unit on wood biomass replaced the old coal unit in line with the company's ambitious sustainability programme. The recently installed high pressure heat storage (11.000 m^3 with 850 MWh capacity) increased the CHP plant's efficiency and flexibility of plant operation that can gain important additional benefits on the market. The new small hydro power plant on the plant cooling water outflow to the Danube channel (700 kW capacity and 1.000 MWh electricity generation per year) is another small but very effective company transition measure.

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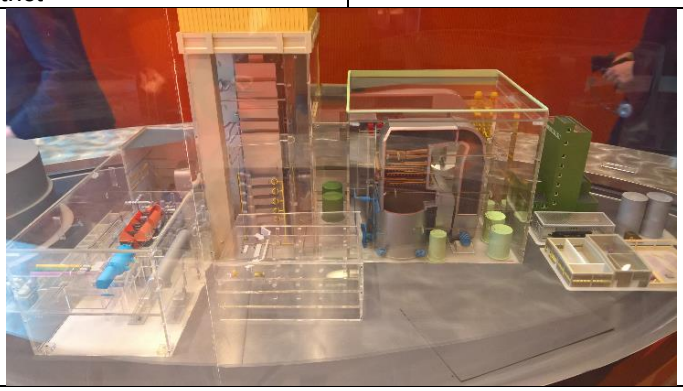
Site visit photos

Scale model of the Aspern smart Seestadt smart district

Visit of ASCR demo centre



Model of biomass CHP plant

5 Presentations and Good Practice Factsheets

A number of presentations provided participants with valuable insights into Member States' EED implementations as well as examples from EU projects and information from the European Commission. Presentations are available on the CA EED website:

Public procurement, resulting energy and economic savings

Energy efficiency and public procurement, practical examples of M&V, Ireland

Competence centre for sustainable and innovative public procurement, Finland

Good practice factsheet - KEINO competence centre for public procurement, Finland

Good practice factsheet - Life cycle costing guidebook, Poland

Energy Performance Contracts in the public sector

German experience from EPC implementation at national and local level

H2020 GuarantEE project Online Tool: EPC PreCheck

EIB advisory services for EPC

Public EPC: the French experience

How to improve the quality of energy audits and what we can achieve by doing that?

Links between Article 7 and 8 in Austria

Evaluation of article 8 of the EED in the Netherlands and the use of quality marks

Energy audits - The French experience

Deontological Code for energy auditors in Romania

Promotion and development of energy efficiency in the industrial sector, Gruppo Hera

National rules for allocating heating, cooling and hot water costs in multi-apartment and multi-purpose buildings supplied from collective systems

Analysis of MS' rules for allocating heating, cooling and hot water costs in multi-apartment/ purpose building supplied from collective systems, JRC

Allocation of the cost of thermal or hot water consumption in multi apartment buildings supplied from a central source, E.V.V.E.

Slovenian heat cost allocation rules

Supporting document - Energy cost allocation matters E.V.V.E.

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Supporting document - overview of MS rules for allocating thermal costs

Good practice factsheet - Heat cost allocation rules, Slovenia

Changing reporting landscape and links with EED – session 2.5 and session 2.8 NECP part

Governance of the Energy Union

The importance of evidence based evaluation in view of future energy related targets and reporting requirements

EPATEE - Introduction to the project

Consumer feedback through ICT – a follow up

PEAKApp - Personal energy administration kiosk application

Energy Efficiency and Heat Demand Response with the Customers

Tribe project

Energy Poverty Observatory

Introduction to the platform

Energy poverty in clean energy package

Legal Disclaimer

The Concerted Action for the Energy Efficiency Directive (CA EED) was launched in 2013 to provide a structured framework for the exchange of information between the 28 Member States and Norway during their implementation of the Energy Efficiency Directive (EED). Since spring 2017, the CA EED is funded by the European Union's Horizon 2020 in its second phase.

For further information please visit **www.ca-eed.eu** or contact the CA EED Coordinator Lucinda Maclagan at lucinda.maclagan@rvo.nl

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