CONCERTED ACTION
ENERGY EFFICIENCY
DIRECTIVE

1st Plenary Meeting CA EED

Summary of Proceedings

Date: November 2022

Contents

1 Opening Plenary Session

In the course of the first Plenary Meeting of the CA EED over 130 experts, policy makers and implementers from the CA EED and CA EPBD networks gathered together in Stockholm to discuss issues related to the implementation of the EED in Member States. The Plenary Meeting was designed to give Member States and Norway the opportunity to exchange experiences and learn from each other.

1.1 Presentations by DG ENER, CINEA and Coordinator

Opening speech from Swedish Ministry of Infrastructure

Coordinator opening presentation 1st PM

News from DG Energy, 1st Plenary Meeting

News from CINEA, 1st Plenary Meeting

Opening presentation 1.1 - Consumer behaviour and instruments providing information

Opening presentation 1.2 - MS technical and financial instruments assisting public building renovation

Opening presentation 1.3 - Art. 7 implementation 2021–2030 – examples of notified policies and their M&V

Opening presentation 1.4 - Efficiency and de-carbonisation of heating in industry

2 Working Group Parallel Sessions

The Working Group Parallel Sessions of the 1st Plenary Meeting covered the following topics: Consumer behaviour and instruments providing information (WG1.1), MS financial instruments designed to support public building renovation (Joint WG1.2), Art 7 implementation 2021-2030 (WG1.3), Efficiency & decarbonisation of heating in industry (WG1.4).

2.1 Working Group 1.1 – Consumer behaviour and instruments providing information

The aim of this working group was twofold. Firstly, the working group aimed to identify useful and successful online information tools for household customers that focus on energy consumption as well as energy costs. These online tools should be easily available and accessible to customers and have useful design and functionality. Secondly, the working group discussed several crucial questions:

- Are information tools harmonised in member states (MS) and is there legislation in place that defines (minimum) standards for such instruments?
- Is-real time data from smart-metering-systems used for information tools?
- Is the importance of such tools increasing in peak-price periods and do consumers use these tools to find ways to reduce energy consumption and costs?

Session 1
The implementation of Article 10 and 10a are limited. The focus of the implementation as well as the usage of online information tools is predominantly in the electricity sector. The implementation of the respective articles and online information tools are limited in the gas, heating and cooling sector. MS have online information tools, but in most cases, these are not harmonised nor regulated. Moreover, there is a discrepancy of availability and the usage of real-time data from smart-metering-systems for online information tools. Lastly, online information tools are available in MS, but not often used in peak-price periods to tackle energy consumption

DG Ener held a presentation on EU Commission's expectations on MS to use online information tools to influence behaviour in energy crises. The EU Commission's plan *REPowerEU* was presented as well as the EU Save Energy Communication. MS have taken various actions to mitigate the energy crises, but online tools and instruments were not used prominently.

OPower presented their *Home Energy Report*, a behaviour-based utility program with measurable impact. The program is based on an intersection of artificial intelligence and behavioural science to simplify the complexion of energy invoices and data to get customers' attention and influence their consumption behaviour. The tool necessitates access to meter data as well as it needs a proactive ability to communicate with consumers in a personalised way.

At the end of the session a discussion in large group was held. Participants were asked to discuss with their neighbours why they have chosen to attend the session as well what kind of information they will bring home from the session. Furthermore, different questions and comments were discussed:

- Low digital competencies in customers → a digital only approach will not reach all customers
- Smart meter data must be used, not only for reducing energy consumption, but it is also necessary for renewable energy communities, aggregate demand response, flexibility, etc. – smart meter data can also be used to identify customer's behaviour and alter it to a more sustainable energy usage
- Focus is not on energy efficiency, but on saving energy

Session 2
In session 2 best practice examples of online information tools from Austria and Italy were introduced and a round table discussion was held.

E-Control (Austria) presented the smart meter web portal. In Austria, distribution system operators are obliged to offer web portals to customers, if their electricity consumption is measured with a smart meter. Customers can access their individual web portal and get insights into their electricity consumption and consumption behaviour. A comparison with benchmarked households and with the consumption of the previous year is possible. Customers can also authorize third parties, e.g. energy consultants, to analyse and optimise the consumption behaviour for further efficiency gains. These web portals are not standardised, but minimum requirements through an ordinance exist.

HERA (Italy) presented the introduction of the *Home Energy Report* to Italy. The report focused on the following: reinforcement based on social norms, the comparison of the customer's own consumption with a similar customer, self-comparison for continuous improvement, environmental key performance indicators as well as instant technological and behavioural tips. The report was introduced to the White Certificate programme in Italy. The impact of the report was mathematically and statistically measured and resulted in an average saving of roughly 3%. The effectiveness is further expected to decrease over the years. Therefore, continuous updates on the report format as well as the introduction of awards and prizes initiatives will be tested in the future.

During the round table discussion, the participants were asked how online tools can influence the behaviour of consumers and if there are any alternatives to online tools. All participants were formed into seven groups and asked to make posters and present them briefly afterwards. The following key messages were identified during the discussion group:

- The impact of online tools:
  - Analysis and reduction of energy demand
  - Empowerment of consumers
  - Increasing attention and awareness
  - Social comparison and motivation for activities
  - Easy identification of unusual high demand and broken appliances
- Requirements for successful online information tools:
  - Reduce complexity and keep it simple
  - Make it smart
  - Combination with other instruments
- What is still missing:
  - Solutions on how to increase the use and acceptance of online tools
  - Regulations and homogenous approaches
  - Responsibilities

2.2 Working Group 1.2 – MS financial instruments designed to support public building renovation

The main objective of WG 1.2 "MS technical and financial instruments assisting public building renovation" was to identify national successful financial instruments for public building energy renovation. The report also embraces technical instruments supporting the financial instruments. It was a joint working group of the CA EED and CA EPBD.

The sessions were designed to cover three main themes - existing instruments (financial and technical), plans for the future – transition from the short to long term, and possible synergies between national and EU financing.

Session 1 Overview of national and EU situation

Many effective financing and technical instruments are already in place; Energy Performance Contracting is an instrument to be more extensively used; technical instruments shall be designed concerning financial instruments to secure consistency and compatibility; further coordination between national and EU financial models and instruments is needed. In addition, there are emerging challenges related to the new EU regulation introducing the criteria for determining whether an economic activity qualifies as environmentally sustainable.

DG ENER spoke on the exemplary role of public buildings and briefed on preparation for further implementation of the EED and the EPBD. The public sector should take the exemplary role of market creator to excite the market. The development of the EPBD, the options and the ways from nZEB to ZEB were also discussed.

Session 2 MSs practical solutions for financing energy renovation of public buildings

Finland presented the "Green Bonds" scheme of using bonds to acquire money from the financial market (investors), allocating the money to green finance in the municipal sector and housing production. In addition, the criteria for projects, ensuring ESG were discussed.

The Netherlands presented the "Subsidy for Sustainable Public Buildings (DUMAVA)" which aims to stimulate owners of existing public buildings to invest in a combination of sustainability measures or a holistic and integrated sustainability project to improve the energy performance of the public building. There were many more applicants than anticipated since the energy crisis has increased the number of applications.

Austria presented the "Integrated Energy Contracting (IEC) (Renewable) Supply and Savings" business models and the scope of measures used in integrated energy–contracting systems in Austria. The system combines energy demand reduction through energy efficiency measures with an efficient supply of remaining energy demand, preferably from renewable energy sources.

Session 3 EU efforts in providing a technical and financial boost to energy renovation of public buildings

The Europen Investment Bank gave an overview of the EIB support activities for public buildings. They briefed on loans and funds, e.g. investment loans (direct), intermediated loans, Investment Funds, European Fund for Strategic Investment (EFSI), and dedicated schemes such as Private Finance for Energy Efficiency (PF4EE), blending with ESIF, technical assistance and advisory services, e.g. ELENA (European Local Energy Assistance), JASPERS (Joint Assistance to Support Projects in European Regions), EPEC (Support to public-private-partnerships), EIAH (European Investment Advisory Hub).

The Prospect+ project gave a presentation on "Capacity building for cities and regions - from learning to action!". It aims at supporting cities and regions in energy efficiency activities, e.g. to build the capacity of public authorities in financing sustainable energy plans, to enhance the decision-making of public authorities, to help public authorities and their agencies profit from the rich experience available, to help exploit synergies by linking public authorities along with energy policymakers, associations of planners, technical experts, financing bodies on sustainable energy, and local actors.

Slovenia talked about energy renovating public buildings in the City of Ljubljana with ELENA support. They presented the background, functioning, instruments, and results of the successful project embracing comprehensive and partial energy renovations of 48 city-owned public buildings, including elementary schools, kindergartens, libraries, healthcare centres, sports facilities, and administration buildings.

Conclusions

Momentum for energy efficiency is here, partially caused by the energy crisis. Therefore, it is time to work out how to use this momentum and keep the renovations going. It was raised that EPCs are a sound basis for mid-class buildings, whereas, in more complex buildings, renovation or applied mechanisms (ESCO), EPC is not recommended. It is much easier to issue grants in many cases because national coordination between ministries is weak. Administrative burden in public procurement sometimes scares contractors, reducing the bureaucracy needed.

2.3 Working Group 1.3 – Art 7 implementation 2021-2030

The new EED Art. 7 obligation period started in 2021 and lasts until the end of 2030. Member States have notified measures and methodologies as required in the EED Annex V and in the Governance Regulation Annex III. EED Art. 7 savings are expected to have a substantial contribution to the national overall targets and the Commission's EED recast proposal (July 2021) emphasizes both the objectives and their importance.

The session aimed to gather and share information from MS on policies/measures they have notified for Art. 7 implementation, and which are considered most essential and successful to achieve the Art. 7 target. Because M&V systems used in MS are also crucial part of policies and measures notified for Art. 7 implementation, information and lessons learned related to those systems were also included. In addition, e.g. possibilities to replicate the policies/measures in other MS were also worth exploring.

The working group was structured into three sessions with different main topics. The first session focused on notified measures in MS generating the biggest savings to implement EED Art. 7, named as 'key measures'. **Germany** presented three different kinds of key measures from their NECP (subsidy scheme, regulatory law and taxation): Federal funding for energy and resource efficiency in industry; Buildings Energy Act (GEG) – existing buildings; CO_2 pricing for the transport and heating sectors. In total Germany notified 27 alternative measures in their NECP to fulfil the Art. 7 EED savings obligation for the new period between 2021-2030. The presented three measures account for about 40 to 45% of this obligation. Based on the current versions of EED recast, for Germany it seems important to strengthen and enhance existing measures but also to come up with new measures to fulfil the rising savings obligation.

The discussion topics focused on MS experiences and possible challenges in delivering Art. 7 cumulative savings for the 2021-2030 obligation period and replicability of the measures in MS. Based on the results of the discussions in groups it seems that policy makers are speeding up policy adoption but not necessarily with regard to Art 7. There is momentum with regard to saving energy and guarantee affordability of energy for the consumers, but these developments based on the current energy crisis are not driven by EED. Although, high prices make measures more cost effective, the criteria for end-users seem to mostly remain the same, namely financial. Also, high inflation might work in the other direction. In addition, those with no financial buffer are not able to take action in order to enhance energy efficiency. The shortage of workforce and equipment are potential challenges in delivering Art. 7, cumulative savings would be rated far higher. In principle, the perceived replicability of policies/measures for Art. 7 implementation can be regarded as high for key measures. However, also general

measures like taxation, subsidy schemes etc., can be quite complex to implement on a national level and requirements can vary a lot.

The second session focused on M&V related to notified measures in MS generating the biggest savings to implement EED Art. 7. **Finland** presented their M&V system for the voluntary Energy Efficiency Agreements that is notified to cover over 55% of the current notified EED Art. 7 cumulative savings obligation for 2021-2030. The presentation also covered lessons learned on M&V of long-lasting voluntary agreements related to what to consider when planning a monitoring system and an application for that.

Planned and well-functioning M&V from the beginning of the voluntary Energy Efficiency Agreements (1997→) has played a central role in revealing the results, creating trust and credibility to all agreement parties and especially getting the highly important long term top-level commitment and resources from the Government.

Referring to EED Annex V (1) savings calculation methods, 'deemed savings' is the most dominating calculation method for key measures; alone or in combination with 'scaled' or 'metred' savings. Discussion topics were related to these defined savings calculation methods. In addition, it was briefly discussed whether MS in practice see the possibility of significantly increasing the share of 'metered savings' in Art. 7 reported savings, which is sometimes raised related to Art. 7 M&V requirement discussions by the Commission and the stakeholders. Based on the discussions in the table, it seems that complex definitions of methods in EED Annex V (1) are not always interpreted in a common way. However, MS have managed with these slightly unclear definitions for years and at this point, new definitions are not expected. Metered energy savings were pointed in practice to be mostly impossible and thus the possibilities to significantly increase the share of 'metered savings' in Art. 7 reported savings were not seen as realistic.

The third session was dedicated to sharing information and discussing energy savings campaigns/actions aimed at end-users in the MS. A summary of 'short term measure' fact sheets from around 20 MS was presented in the session. Cyprus, Finland, Ireland, the Netherlands, and Spain had short presentations on some of their short-term measures related to the energy crisis. Most MS have behavioural campaigns, supported often with additional advice functions or increased subsidies. Only in a few cases these short-term measures were, at least until now, thought to serve also Art. 7 implementation. Some countries rely only on voluntary actions while others rely on mandatory measures. Public acceptance of measures seems to depend heavily on the national cultures. These quite controversial and mixed views related to public opinion in MS was again one example of how cultural issues play an important role in MS – the same hat does not fit all either in this case. It was also raised in discussions if there is a danger that long-term measures will take a backseat when there is now a lot of talk about short term measures, although for a good reason. One concern amongst participants was that short term measures can also be, and in many cases are, counterproductive to energy savings and have the potential to encourage energy consumption rather than encourage energy efficiency or energy savings.

The sessions were attended by ministries, authorities and energy agencies, and a Commission representative.

2.4 Working Group 1.4 – Efficiency & decarbonisation of heating in industry

- The industry sector is very important sector with more than 1/3 of the total final energy use for heating and cooling in EU.
- A climate neutral industry can only be reached with significant energy efficiency.
- Waste heat from industry can be used in other sectors.
- Waste heat projects are demonstrated, but there is potential for much more use of waste heat.
- Several policies and tools for the development of waste heat projects have been presented.
- Different governmental policies are in place for increasing the energy efficiency in industry.

Net zero is not possible without significant increase in efficiency, and prioritised (to 2030), stressed the IEA. We should consider long investment cycles and maturity of needed new technologies, especially in heavy industry and properly address their financing. Higher energy efficiency is being driven by current high energy prices and energy security challenges whereas fast development of heat pumps provides broad new opportunities for higher energy efficiency in heating and waste heat utilisation. Proper information, incentives and regulations (minimum performance standards for industrial technologies should be expanded) are key for successful energy policy in industry.

The demonstration of the use of waste heat and CO_2 from a paper and pulp plant for food-production in Sweden was presented as pilot case of the CORALIS project. WA3RM presented this model example of a circular economy in industry. WA3RM as a business facilitator first checked energy efficiency performance of the industrial plant to ensure a reliable 20-years contractual low temperature waste heat supply (45 C) before establishing 20 hectares for

greenhouses and prawn farm. Obtaining an environmental permit, the technological availability of carbon capture and utilisation (CCU) technologies, and problems with state subsidies for agricultural activities were the main challenges they faced during the implementation.

The waste heat from industry and services provides up to 8 % of district heat supply in Sweden today and the volume will increase with the foreseen hydrogen production. Mapping potential sources and users raises awareness. Facilitating the process of looking for partners and easy and transparent regulation are key policy elements for successful barriers removal. How to couple business and technology today is a key challenge for expanding waste heat utilisation today stressed Lund University. In the EMB3R project they developed an open-sourced heat and cold matching platform several GIS, techno-economic and business & market modules. This model can provide effective support to all involved stakeholders. Even small revenue from the waste heat sale can have remarkable share in company profit and significantly contributes to greater competitiveness of the company.

Economic tax incentive + energy efficiency obligation are key elements of voluntary agreements with the electric intensive industry in Denmark which by 5 % reduce energy demand in industry yearly. Simplified investment subsidies scheme based on CO_2 savings is new policy instrument in the period of 2020-2029.

Industry is a very dynamic sector, and it is moving forward towards its energy transition goals encouraged by energy availability and current high energy prices. The main conclusion of group work and common discussion was that for a successful green technology transition industry needs effective business models, customized licensing and regulation, and availability of mature technology. Our topics of discussion included different short- and long-term policy and measures in MS, all of them very productive, even though doubts arise about whether we are progressing fast enough. So, we consider that even if current crisis is pushing MS to crisis management, we should shift to the "*preventive management*" with clear long term decarbonisation perspective.

3 Information Sessions

Information sessions were organised to brief participants about developments on specific topics: Energy Poverty (Info1.5), Tackling workforce shortages/Horizon2020 (Info10.6).

3.1 Info session 1.5 Energy Poverty

The session aimed to follow up on the best practices from Belgium, the Netherlands, Germany and Italy in the context of the high energy prices today. The three key challenges remain: how to find the energy poor households, how to monitor the effectiveness of measures and how to ensure adequate funding.

Belgium presented an update of the good practice in Flanders with loans for renovation to poor house owners and financial support for heating during winter. Local welfare actors are the link to the energy poor households. The financing has been increased substantially due to the high energy prices.

The Netherlands gave an update on their energy poverty project. Activities are divided into short-term solutions (small energy saving measures and financial support) and long-term solutions such as insulation of houses. Among the current challenges are to find and convince energy poor to join activities, and the shortage of workforce.

Germany gave an update on Energy Efficiency Measures to reduce Poverty, such as the Energy Saving Check where energy saving advisors give support to financially weak households. Until now 400,000 low-income households have taken part and reduced their energy costs by an average of 190€ per year. Germany are also offering substantial relief packages to reduce the impact of high energy prices in different target groups this year.

Italy talked about the policy response to the current energy challenges. The energy burden for households has been reduced with different financial support schemes. In the last 6 months, short-term actions cross-cutting energy, business competitiveness and social security are more common than measures with a comprehensive, long-term approach.

At the session ideas were collected from participants for future Info sessions or Expert study groups with a connection to energy poverty. Among these were:

- to better reach the energy poor through communication campaigns not just to themselves but to organizations in their network
- to use statistics from buildings such as Energy Performance Certificates in measures to relieve energy poverty
- to present the ENR survey on fuel poverty in 20 MS and the French observatory on fuel poverty
- to start a platform for discussion about general needs of energy poor
- Long term or short-term measures?
- to start an Expert study group on Energy poverty and health

3.2 Info session 1.6 Tackling workforce shortages/Horizon2020

This session looked into the issue of upscaling capacity and skills in the work force to enable the delivery of continuously increasing EU energy policy objectives as observed in the Fit455 communication (2021) and the REPowerEU Plan (2022).

The coordinator of the CA EPBD gave an overview on the activities of the CA EPBD on upskilling the work force. He emphasised the need for upskilling as regards new technologies and processes in the construction sector, but also as regards the skills needed to deliver the new developments in EU energy policies for the renovation of existing buildings. For example, the renovation wave, MEPs, phasing out of gas boilers, installation of heat pumps and solar systems puts skilled workers very high on the agenda. Due to the speed of delivering EU policy targets and with the supply crisis we need to go from 1-250 in very short time.

CINEA, presented the Build Up Skills initiative which started 2011 under the Intelligent Energy Europe programme and continued under H2020 and – since 2021 – under LIFE Clean Energy Transition. The initiative has supported over 90 projects with more than 54m EUR of EU support, which led to thousands of workers trained, new or updated qualification frameworks, mutual recognitions, on-site and online training toolboxes and materials, and 30 National Roadmaps for upskilling developed. In addition, over 14 European Exchange meetings were organised between Member States to learn from each other's approaches. BUS is referenced in a number of long-term renovation strategies (Slovakia, Croatia, Hungary, Italy, Romania, Sweden) as one of the main initiative available to train professionals towards the EPBD and Renovation Wave targets.

A CA-EPBD representative provided an insight into the Member States' accreditation for Energy Performance Certificate (EPC) experts. CA EPBD carried out a survey that was looking into how Member States evaluate categories of EPC experts and buildings associated and how they set up accreditation schemes and requirements for certification.

It found that there are potentially more than 200,000+ EPC experts in Europe with often 2 categories of experts. Most experts are architects or engineers or with additional qualifications and on average 3 years of experience. Only 60% of MS require mandatory training before becoming an EPC expert. Only Some MS have evaluated the impact of training and support on the quality of the EPCs.

The project coordinator of H2020 HP4ALL project, presented current project findings from Ireland, Austria, Spain, Belgium and Italy. The project aims to develop, enhance and promote heat pump skills as ambitious EU policy targets such as the first Climate Action Plans and now the RePowerEU plan require an exponential growth in installations of heat pumps. The critical point is that MS need to ensure that efficiency gains afforded by heat pumps are realised in the field. The need for skilled workers was emphasized to install and programme heat pumps correctly. In particular, additional workers are needed with HP skills to deliver on the political targets. Policy recommendations include, certified HP training of installers, retrofit one-stop-shops, funding options for SMEs for heat pumps, national standards for larger heat pumps and EU funding for projects on implementing mutual recognition of HP skills.

4 Bonus session

DG ENER hosted a Bonus Session at the 1st Plenary Meeting in Stockholm on the support that the Commission can offer in the preparation of the updated National Energy and Climate Plans (NECPs).

The Commission recalled that the draft updated National Energy and Climate Plans shall by submitted to the Commission by 30 June 2023 and the final updated NECP by 30 June 2024. Member States were invited to consider the importance of being ambitious to achieve the climate neutrality objective and the intermediate 2030 targets agreed in the European Climate Law, as well as the agreed goal to decrease Union's dependency on Russia

Member States can obtain technical assistance under a contract by directly contacting the contractor. Further support for reforms supporting energy transition by providing larger targeted technical assistance can be obtained from DG REFORM, to be contacted through national contact points.

5 Closing Plenary Session

The Closing Plenary Session provided participants with an overview of the discussions and results of the Working Group sessions.

5.1 Conclusions from Working Group Sessions and CA EED Coordinator

Conclusions presentation 1.1 – Consumer behaviour and instruments providing information

Conclusions presentation 1.2 - MS financial instruments designed to support public building renovation

Conclusions presentation 1.3 - Art 7 implementation 2021-2030

Conclusions presentation 1.4 - Efficiency & decarbonisation of heating in industry

Conclusions from CA EED Coordinator: Coordinator closing presentation 1st PM

6 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. Some presentations are publicly available on the CA EED website.

Working Group 1.1 – Consumer behaviour and instruments providing information

Expectations on MS to use online tools to influence behaviour in the energy crisis - DG Ener

Introduction to the Opower platform – Oracle

Online information tools – The Smart Meter Webportal – Austria

Home Energy Report – case study on behavioural measures – HERA Group

Working Group 1.2 - MS financial instruments designed to support public building renovation

Integrated energy contracting (IEC) (Renewable) supply and savings - BEV

Subsidy for sustainable public buildings (DUMAVA) – Netherlands

Green bonds in Finland – MuniFin

MS Financial instruments designed to support public building renovation – European Investment Bank

City of Ljubljana large scale renovation – Slovenia

Capacity building for cities and regions – from learning to action – PROSPECT+

Working Group 1.3 - Art 7 implementation 2021-2030

Key Measures for Art. 7 EED savings obligation 2021-2030 - Germany

Energy Efficiency Agreements in Finland – M&V system

CY-FI-IE-NL-ES short term measure pitch presentations

Working Group 1.4 - Efficiency & decarbonisation of heating in industry

Experiences from the Swedish Case - CORALIS

Heat and cold matching platform: An overview of the EMB3Rs tool

Experiences with EE schemes - Denmark

Info session 1.5 Energy Poverty

The policy response to the current energy challenges – Italy

Tackling energy poverty - Good practice Flanders – Belgium,

Energy poverty projects revisited – Netherlands,

Info session 1.6 Tackling workforce shortages/Horizon2020

BUILD UP Skills: Improving skills along the building value chain – CINEA

Creating demand for skills and fostering expertise in the heat pump industry – H2020 HP4ALL

Legal Disclaimer

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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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