Energy efficiency: A science advice perspective

Monday 28 March 2022, 12:00-14:00 CEST
Online Event

Hosted by MEP Miapetra Kumpula-Natri (S&D)

Speakers

- **MEP Miapetra Kumpula-Natri (S&D)**, Co-Chair of the European Parliament Intergroup on 'Climate Change, Biodiversity and Sustainable Development'
- **Joanna Drake,** Deputy Director General, DG RTD, European Commission
- **Peter Lund,** Co-chair of the SAPEA working group on Europe's energy transition and Professor in Advanced Energy Systems at Aalto University
- **Nebojsa Nakicenovic,** Deputy Chair of the Group of Chief Scientific Advisors to the European Commission
- **Tudor Constantinescu,** Advisor to the Director General, DG ENER, European Commission
- **Malgosia Rybak,** Climate Change & Energy Director, Cepi
- **Quentin de Hults,** Director Green & Healthy Buildings, European Copper Institute
- **Verena Bax,** Energy Savings Policy Coordinator, Climate Action Network (CAN) Europe
- **MEP Radan Kanev (EPP),** Rapporteur for the ENVI Opinion on the Energy Performance of Buildings Directive
- **MEP Petros Kokkalis (The Left)**

Opening Remarks

MEP Miapetra Kumpula-Natri

"Some of the low-hanging fruit has been picked up, and a science perspective is needed to further improve energy efficiency."

MEP Ms. Miapetra Kumpula-Natri started by highlighting that improvements in energy efficiency have been a driving force for energy savings over the last decades. Increasing efficiency is also a measure the EU can take to become independent from fossil fuel imports, a big challenge that needs to be tackled right now. The EU must increase its **strategic autonomy in energy**, which is still a work in progress. Earlier objectives to reduce energy demand have been achieved. However, with some of the low-hanging fruit being gone now, improving efficiency further must rely even more on a **science perspective**. No time can be wasted in this pursuit, despite many efforts being focused on the issues of energy dependency and cleaner energy sources. **Affordable and secure energy** for all citizens and companies must be ensured by next winter. Negotiations are ongoing to amend the **Energy Efficiency Directive**, the **Energy Performance of Buildings Directive** and the **EU ETS system**. All these tools must contribute to optimizing energy efficiency as quickly as possible.

Presentations

Joanna Drake, Deputy Director General, DG RTD, European Commission

"The Commission recognizes the vital role of Research and Innovation in achieving the European Green Deal agenda."

Ms. Joanna Drake recognized the vital role that **Research and Innovation** (R&I) have in achieving the European Green Deal agenda and the 2050 goal of climate neutrality. The **best available science** must push innovative technologies and policies forward at all times. Such use of **scientific expertise to inform policymaking** is a core European value, rooted in the foundations of liberal

democracy. **DG for Research and Innovation** is focused on funding and mobilizing R&I resources at the EU level to address societal challenges. The European Commission has also established a **group of scientific advisors** as part of the **'Scientific Advice Mechanism' (SAM)**, which ensures that policymaking is supported by timely and independent scientific advice. The SAM produces **important contributions on key themes for the Green Deal**. The SAM works at the request of the College of Commissioners. The Commission uses this scientific advice to inform its policies and R&I across many departments.

Peter Lund, Co-chair of the SAPEA working group on Europe's energy transition

"Systemic change that tackles different perspectives is needed to push the energy transition forward and improve energy efficiency."

Mr. Peter Lund stated that the **SAM** works through **two channels**: **SAPEA** (Science Advice for Policy by European Academies), which provides Evidence Review Reports to the Commission; and the **Chief Scientific Advisors** who provide Scientific Opinions. Mr. Lund further presented the content of **the Evidence Review Report 'A systemic approach to the energy transition in Europe'**. This Report details **which measures are feasible** to accelerate the energy transition and what factors into the success of such a transition.

The **key message** from the Report is that **systemic changes are needed in different aspects**: technology, economics, policy and social. **Different combinations of policies** are possible, but **carbon pricing is essential** to all of them. On **energy efficiency**, MEP Kumpula-Natri's point that it is equivalent to the biggest source of energy was echoed. **Major gains have been made** in buildings, industries and transport. The **rebound effect** may cause some of the benefits of energy efficiency to get lost, but carbon pricing may mitigate this some.

The Report identified several **opportunities** for efficiency improvements. Since many limits of efficiency are being approached, the **use of best practice technologies** is essential. **Consumer awareness** and the sharing economy can contribute as well. **Urban systems** can also be optimized from a holistic point of view. Regulations seem to be more appropriate than mechanisms relying

on economic incentives, as carbon pricing alone would not be enough. **Low-income households** must receive special funding to ensure a just transition.

As final remarks, Mr. Lund highlighted that behavioral aspects have not yet been addressed adequately. Consumers often ignore energy-efficient practices because they are not given accurate information and price signals. **Citizens** must therefore be viewed as **central participants**, whose lifestyles must be better aligned with the Green Deal policy framework.

Nebojsa Nakicenovic, Deputy Chair of the Group of Chief Scientific Advisors to the European Commission

"A systemic and holistic approach may achieve synergies and avoid barriers and trade-offs."

Mr. Nebojsa Nakicenovic continued the discussion on the science advice for the European energy transition from the point of view of the **Group of Chief Scientific Advisors**. He explained the **workflow** of this Group within the SAM process. Regarding the **energy transition**, a **general recommendation** was made by the Group: **the design of EU energy policies must clearly be aimed towards achieving climate neutrality**. At the same time, **social issues** must also be taken into account. To achieve this, a **holistic approach** is necessary that maximizes synergies and avoids trade-offs.

Huge efforts in all domains are indispensable to make Europe the first climate neutral continent by 2050. **Three specific recommendations** follow from this. **First**, **EU energy systems must be made flexible, efficient and resilient**. This can be done by integrating decarbonised energy sources, electrification and using blue and green hydrogen.

Second, **an inclusive and participatory environment** that supports low-carbon energy choices should be created by recognizing the roles of all actors. Mr. Nakicenovic stressed that this environment should facilitate the choice for energy efficiency through **incentives**. **Sufficiency** - not wasting energy - is also essential to being able to provide energy to all households.

Third, **a combination of measures** needs to shape **an effective and just regulatory system**. In any case, **carbon pricing** should be the driving force of the policy mix. Echoing Mr. Lund's argument, **the rebound effect** must be tackled at multiple levels to avoid overuse. In short, efficiency plays a key role in the energy transition; **doing more with less** is a must.

Tudor Constantinescu, Advisor to the Director General, DG ENER, European Commission

"Energy efficiency is definitively at the core of the EU's energy policies."

Mr. Tudor Constantinescu shared the **key initiatives** of the European Commission in the field of energy efficiency. This concept is at the core of the **EU's energy transition** because it helps decouple energy consumption from GDP. However, energy efficiency can be only a piece of the puzzle in reaching the objectives of the Green Deal; the Fit for 55 package tries to address this. **Challenges on energy poverty** have been exacerbated by the Ukraine crisis and are crucial to address.

In 2020, the European Commission proposed a strategy on **energy system integration**. Together with electrification and renewables, **efficiency is a key element to achieving such an integrated energy system**. Another key initiative by the Commission is the **Renovation Wave**, which highlights heating and cooling, public building and energy poverty as key areas that will be given an impetus.

Next, Mr. Constantinescu explained that the Fit for 55 packages has urged a **revision of two crucial directives**. First, the **Energy Efficiency Directive** should propose **more ambitious objectives** while stressing the Energy Efficiency First principle. Second, the **Energy Performance of Buildings Directive (EPBD)** revision brought **a vision of zero-emission buildings by 2050**. Four focus areas are identified: renovation, decarbonisation, financing, and modernization & system integration.

Finally, comments were made on the recent **REPowerEU communication** by the European Commission. Energy efficiency can contribute to the **reduction of fossil fuel dependency.** The EU has a **coherent set of funds** that financially support the implementation of energy efficiency projects, including the European Structural and Investment funds, the Recovery and Resilience Facility, INVEST EU, and the Just Transition Mechanism.

Interventions from representatives of civil society & industry associations

Małgosia Rybak, Climate Change & Energy Director, Cepi

> **''Energy efficiency is one of the key decisions when it comes to investments, however, it is necessary to redesign the entire process."**

Ms. Malgosia Rybak started by highlighting the importance of including the industry in this dialogue and outlining the contribution of Cepi. She underlined that all of Cepi **investments** are aimed to **improve energy efficiency.** Two examples were explained, showing how Cepi improves energy efficiency and the interconnectedness of the industry. Ms. Rybak highlighted that **energy efficiency** is one of the key decisions when it comes to investments, however, it is necessary to **redesign the entire process**. She concludes by highlighting the existence of a knowledge gap between the producers and the industry. The **Energy Solution Forum closes this gap** and brings together the technical knowledge and the stakeholders who can provide Cepi with the right equipment.

Quentin de Hults, Director Green & Healthy Buildings, European Copper Institute

> **"2% of electricity, generated in the EU, is lost within behind-the-meter electrical installations."**

Mr. Quentin de Hults outlined **three levels of energy efficiency:** product performance, system performance, and building performance. Different policies are needed to deal with the three

levels. **Eco-labels** are used for product performance. For the building performance, the **Energy Performance Building Directive** is in place, which requires certain obligations for buildings. Mr. de Hults highlighted two examples of technical building systems which can better be addressed by policies and increase energy performance. The examples shows that **efficiency gains** can be best accomplished on a system level, and heat recovery has to be included in the Energy Building Performance Directive. Then Mr. de Hults highlighted that **2% of electricity** generated in the EU is **lost** within **behind-the-meter** electrical installations. To avoid this loss of electricity the electrical installations must be optimized. The Directive must consider electrical installation as a **Technical Building system.** To conclude Mr. de Hults stressed that the untapped energy efficiency potential must be addressed.

Verena Bax, Energy Savings Policy Coordinator, Climate Action Network (CAN) Europe.

> "**There is still an opportunity to halt the impacts of the climate crisis."**

Ms. Verena Bax started by stating that the EU must **decrease its energy consumption** considerably within this decade. There is still an **opportunity** to halt the impacts of the **climate crisis.** She underscored the urgency for Europe to prove its **climate leadership** at the global level. It is necessary to **immediately roll out transformation measures** in the transition period. The efforts made to reach the energy efficiency target have not been sufficient so far, which shows the need for a **binding target**. She highlighted that higher **energy prices** are bringing us closer to the **technical potential** because the energy efficiency option, that would usually be too costly, gets cost-effective. To conclude, she underlined that we need to have **short-term measures** until the new Energy Directive is in place.

Reaction from MEP Radan Kanev, Rapporteur for the ENVI Opinion on the Energy Performance of Buildings Directive

> **"The problem is that there is a disbalance in social issues and in market implications of the changes needed."**

MEP Mr. Radan Kanev outlined the most **problematic issues** regarding energy efficiency. The problem is that there is an **imbalance** of social issues and in market implications of the changes needed. He explained that middle and high-income households tend to use energy efficiency solutions, whereas low-income households tend to use less energy efficient solutions. The **demand** for better **energy efficiency technologies** is much higher among high-income households since they have more resources and investment options.

Q&As Session

Moderator Mr. Grampas addressed a question from the audience towards MEP Mr. Radan Kanev, about the key challenges of implementing Mr. Kanev's recommendations from an EU policy cycle perspective. MEP Kanev answered by highlighting that the **scientific opinion** on the **coordination of policies** is central. Lower-income households need to have **positive incentives** for investing in energy efficiency technologies. A combination of policies is needed to create synergies and avoid trade-offs. He concluded by emphasizing that policies need to have a **long-term commitment** so that citizens can plan future activities.

Closing Remarks

MEP Petros Kokkalis

> **"It is necessary to deliver a just transition, investing in clean energy and in safe and healthy homes."**

As closing remarks, **MEP Mr. Petros Kokkalis** stressed that the issue is about **energy inefficiency** and the **waste** of energy. However, energy efficiency may come at the cost of **social inequality** and **political blackmail. Political innovation** must be the key driver. In the context of REPowerEU, a higher ambition is set which needs to be delivered. He highlighted that it is necessary to deliver a **just transition**, investing in **clean energy** and in **safe** housing. He concluded by emphasizing the instruments and opportunities to reach a **45%** renewable energy target.