



Streamlining Energy Savings Calculations

Dialogue Meetings | Bi-annual Summary

January 2025 to June 2025



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Energy savings in industry, monitoring of local energy savings, energy savings in data centres, monitoring tools and programmes, methodological developments, national context

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Introducing the dialogue meetings

streamSAVE+ stands for ‘Streamlining Energy Savings Calculations in the EU Member States’. This 36-month project co-funded by the EU-LIFE programme aims to address the gap between trends in energy savings of the Member States and the goals of Article 8 of the Energy Efficiency Directive by assisting national public authorities in the development of new policies, and especially with their energy savings calculations. More specifically, streamSAVE+ builds capacity through the development of an open dialogue that focuses on **streamlining bottom-up calculation methodologies** to estimate energy savings and assess cost effectiveness of technical energy savings actions. The project targets **Priority Actions** with high energy saving potential considered as a priority issue by national public authorities.

The **Dialogue Meetings** gather experts and policy officers from various Member States to share experience and discuss technical and economic issues related to the savings calculations for a given action type or calculation method. The streamSAVE+ team facilitates the exchanges by organising web-meetings and workshops, and summarizing the main lessons learnt from the discussions.

Overview of the activities of the semester

The table below provides the list of activities organised during the semester January – June 2025.

Note: the minutes of the online meetings and all relevant presentations are available on the [streamSAVE+ platform](#). To get updates about the dialogue meetings and latest streamSAVE+ news, you can subscribe to the [streamSAVE+ newsletter](#). If you would like to receive further information, please contact us: contact@streamsaveplus.eu

List of activities of the semester

Topics	Dates
Energy savings in companies: technology-focused vs. system approach	6 March 2025
Local energy savings in national monitoring	9 April 2025
Data centres & savings data: from potential to action	26 June 2025

The **semester’s figures**:

- ✦ Number of meetings and workshops organised: 3
- ✦ Total number of single participants: 150
- ✦ Average number of participants per activity: 50
- ✦ Number of speakers: 11 from 7 countries (Austria, Belgium, France, Germany, Portugal, Slovenia and UK)

The **semester's Take Away's**:

- National implementation strategies vary greatly. Countries continue to tailor their methodologies to local factors, such as climate, energy markets, and policy maturity. This emphasises the necessity for flexibility within EU-wide regulation, while also encouraging gradual methodological convergence.
- Defining and adjusting baselines emerged as a common methodological challenge.
- National energy efficiency efforts are increasingly focussing on data centres. Although some countries, such as France and Germany, have developed registries and performance indicators, there is still no common framework for calculating and reporting data centre energy efficiency.
- Immersion and liquid cooling technologies have been suggested as possible solutions for both buildings and IT infrastructure, but adoption is still limited due to high upfront costs and a lack of standardised evaluation metrics.
- To achieve energy savings in industries, policy initiatives should encompass both technology-focused and system-approach projects. It is easier to replace the standalone motor than to conduct a full energy assessment. However, simpler solutions can serve as a starting point for larger projects.
- The funding schemes for the energy efficiency measures requires a very good monitoring and verification scheme. From the side of the supporter, clear guidelines and technical support, from the clients a good source of data and feedback.
- Developing national tools to assess energy savings at the local level can provide further support to local authorities and reduce administrative burdens. They can be complex in terms of data collecting and detail, yet they should be simple to operate.
- Reporting energy savings at the local level will be the most difficult for small local governments that lack automated systems of monitoring energy consumption and the necessary skills to monitor it.

Summary about Dialogue meeting 3: Energy savings in companies: technology-focused vs. system approach

(see also the [proceedings](#))

✦ Objectives of the meeting

The third streamSAVE Plus dialogue meeting addressed calculating methodologies and policy design for company energy savings, as well as the distinctions between technology-focused and system approaches. The presentations covered:

- a practical case of a typical action type: replacing electric motors;
- details when assessing energy savings from whole system improvement and benefits of an enhanced motor system beyond electricity savings;
- overview of a German flagship funding initiative, including its issues, applicants, and benefits.

These examples have demonstrated that combining different methods and types of support is the most effective strategy. Simpler activities are easier to implement and create a dynamic approach to looking for energy-saving options. These simpler acts then operate as door openers for complex modules, which can produce more savings but require more extensive assessment and monitoring.

✦ Speakers and participants

- João Fong (ISR – Coimbra University, Portugal, and EU-MORE project): *From electric motors to motor systems: potentials and challenges to deliver and monitor larger savings*;
- Lisa Neusel (Fraunhofer ISI, Germany): *Evaluation of multi-measure schemes: Lessons learnt from the German scheme “Energy and Resource Efficiency in the Economy”*.
- **38** participants from **20** countries.

✦ Main messages from the meeting

- Presentations highlighted the significance of electric motors in total electricity use and the possibility for significant energy savings by replacing old, inefficient motors.
- Presentations emphasised the benefits of sensing and digitisation in detecting defects, suboptimal conditions, and operational irregularities, as well as facilitating system integration and real-time energy usage monitoring.
- Improving energy efficiency may not be an attractive enough incentive to encourage investment in industry. Showing other benefits closer to company aims can make these investments more appealing to the companies' decision makers, such as improving the production process.
- Assessing energy savings from improvements of the whole motor system is challenging and difficult to provide with a standardized calculation (deemed savings). A significant amount of data is required, yet current information on the parameters is outdated.
- The funding scheme's success depends on its adaptability to various technologies and long-term trends.
- To carry out a successful funding scheme, the evaluation and monitoring procedure is essential, along with a well-informed data source for energy saving measures. These might be derived from

- administrative data and relevant online surveys completed by selected candidates, ensuring complementing information about the statistics and perspectives on how the scheme operates.
- Behavioural effects, such as free-rider or spill-over may affect the impact of the funding scheme.
 - The subsidy schemes mostly cover the expense of replacing the standalone motor. The system approach is typically encouraged through energy audits, notably the mandatory audits required by the Energy Efficiency Directive. However, simpler modules serve as door openers for more complex applications.
 - The most effective approach is likely to mix policy measures for technology-focused and systems-oriented projects.

➤ Interesting sources to look further

Reference
EU-MORE website: https://eu-more.eu/
Presentation about assessing the potential from early replacement of electric motors: http://ee1st.eu/wp-content/uploads/2025/02/04_ElectricMotors_EUMORE_RBarkhausen.pdf
BMWK Annual Evaluation report 2023 (long version, in German): https://www.bmwk.de/Redaktion/DE/Evaluationen/Foerdermassnahmen/241217-evaluation-eew-jahresbericht-2023.pdf?__blob=publicationFile&v=6
BMWK Final evaluation report 2019-2023 (short version, in German): https://www.bmwk.de/Redaktion/DE/Evaluationen/Foerdermassnahmen/250130-evaluationeew-abschlussbericht.pdf?__blob=publicationFile&v=10

Summary about Dialogue meeting 4: Local energy savings in national monitoring: can standardised methods help?

(see also the [proceedings](#))

✦ Objectives of the meeting

The fourth streamSAVE Plus dialogue meeting reviewed methods and resources for harmonising monitoring procedures and centralising data on energy use and savings in municipalities. This was demonstrated by the experiences of Austria, Belgium-Flanders, and France. In particular the presentations detailed:

- discussion over the timeline for public entities to fulfil their EED commitments;
- tools, methodologies, and case studies for measuring consumption of energy and savings at regional and local levels;
- Practical examples of national programs, initiatives, and methods for collecting and analysing data at the municipal level.

These examples increased cross-country awareness of concepts and developments that might be used as inspiration when preparing to report local energy savings under the EED.

✦ Speakers and participants

- Gabriele Brandl (Austrian Energy Agency): *Monitoring energy savings in the public sector: what will the streamSAVE Plus project provide in this field?*;
 - Martin Schaber (Salzburger Institut für Raumordnung und Wohnen – SIR): *Experience from the Austrian Province of Salzburg*;
 - Tom Capiou (Flemish Energy Company - VEB): *Flemish experience with the Terra tool: a data platform to monitor energy consumption and savings in public buildings*;
 - Adam Soussana (ACTEE programme, FNCCR): *French experience with the ACTEE programme in the white certificates scheme*.
- **55** participants from **16** countries.

✦ Main messages from the meeting

- Article 5 of EED aims to reduce the total final energy consumption of all public entities by at least 1.9% annually from 2021 levels. Depending on their size, companies will need to begin reporting on their energy savings. Those with a population of more than 50,000 are going to fulfil the commitments by 2025, a population of less than 50,000 but more than 5,000 by 2027, and a population of fewer than 5,000 by 2030.
- Several initiatives exist to support local energy savings, including voluntary energy efficiency programs, national evaluation tools, technical assistance, peer-to-peer exchange, and the development of local skills and funding schemes. Certification schemes, such as white certificates, are also available in some countries.

- The national energy inventory, which collects data, and energy performance certifications appear to be effective in driving energy savings.
- Communities can report data in various formats, such as excel sheets or commercial software. Developing a national monitoring tool and reporting platform reduces administrative burdens.
- Furthermore, the tools can readily calculate CO2 reductions, annual cost savings, and return on investment. Public agencies can benefit from using this tool to simulate and establish energy master plans, assess energy carriers, create heat maps, and benchmark buildings for energy efficiency.
- The majority of local authorities in the presented cases have a population of 500 or less, placing them in the third category for EED monitoring.
- Major difficulties for the local authorities include:
 - a shortage of automated methods to track their energy consumption;
 - the skills to monitor it;
 - clear definition of what to declare under Article 5 of the EED (e.g. buildings under multiple ownerships, social housing, rented buildings, etc.).
- Maintaining a 1.9% annual savings rate over time might be challenging, particularly in small municipalities with few buildings.
- The following could lead to an improvement:
 - automated reporting for all data imports;
 - benefits of the evaluation tools that provide additional services and support to local authorities, making reporting less administratively burdensome;
 - increased professional capacities in small communities;
 - facilitate effective communication.

✦ Interesting sources to look further

Reference	Why it is interesting
https://www.sir.at	The Institute for Regional Planning and Housing which assists communities in plans for renovation and how determine their EED obligations in Salzburg region.
TerraTool, Belgium https://www.veb.be/energiebeheer	The data platform to monitor energy consumption and savings in public buildings for Flemish municipalities.
ACTEE	ACTEE program which assists local authorities with energy efficiency measures and building renovations in France.

Summary about Dialogue meeting 5: Data centres & savings data: from potential to action

(see also the [proceedings](#))

✦ Objectives of the meeting

This fifth dialogue meeting of streamSAVE Plus focused on energy consumption in data centres and related energy efficiency measures and savings potentials. It included insights from international reviews, and lessons learned from the German regulation on energy efficiency in data centres and how data centres are addressed in France's white certificates scheme. The presentations covered:

- key findings from international evaluations of energy efficiency in data centres and related policies;
- examples of the most common energy savings in the sector;
- overview of policies and regulations for improving energy efficiency in data centers;
- Example of a German legislative framework with data center-specific provisions;
- French experience with energy savings in data centres.

These examples demonstrated that the IT sector is rapidly developing, and energy demand is significantly increasing. Thus, energy efficiency measures play a growing significance in this sector.

✦ Speakers and participants

- Pedro Moura (ISR – Coimbra University, Portugal) and Matevž Pušnik (Jozef Stefan Institute, Slovenia): *Monitoring energy savings in the public sector: How data centres are addressed in streamSAVE+;*
 - Fiona Brocklehurst (Ballarat Consulting, UK): *Main findings from international reviews of energy efficiency in data centres and related policies;*
 - Christopher Niederelz (BAFA - Federal Energy Efficiency Center, Germany): *Regulating energy efficiency in data centres: experience from Germany;*
 - Nathan Chiantaretto (Max Dubois Consultant, France): *Potential for energy savings in data centres in France, and Example of a new standardized calculation method about free cooling in data centres.*
- **57** participants from **19** countries.

✦ Main messages from the meeting

- Until recently, energy efficiency advancements somewhat offset the rapid growth in demand for data centre services. However, the recent exponential growth in the demand due to the development of AI represents a major challenge to improve energy efficiency as fast and big.
- Up to now, most energy savings came from increasing energy efficiency of servers, improving infrastructure, and moving from small data centres to large clouds and hyperscale. Further improvements are possible (e.g. liquid cooling), as well as in optimising utilisation and using more efficient software. According to the operators, the most promising energy-saving technologies include free-cooling, Direct Liquid Cooling (DLC), geo-cooling, and immersion cooling.
- The sector's rapid expansion need legislative interventions, as market-driven improvements cannot keep up with rising electrical consumption.
- Two key reporting issues are the unknown overall population of data centres (handled by literature estimates) and the case of co-location data centres.

- France's white certificates scheme demonstrates a market-based financial incentive that can increase energy efficiency investments in data centres through uniform monitoring.
- Germany sets a good example of reporting regulations, going above the obligations of the Energy Efficiency Directive. Providing information and technical assistance has been critical from larger to smaller data centres and with increasing demands.

✦ Interesting sources to look further

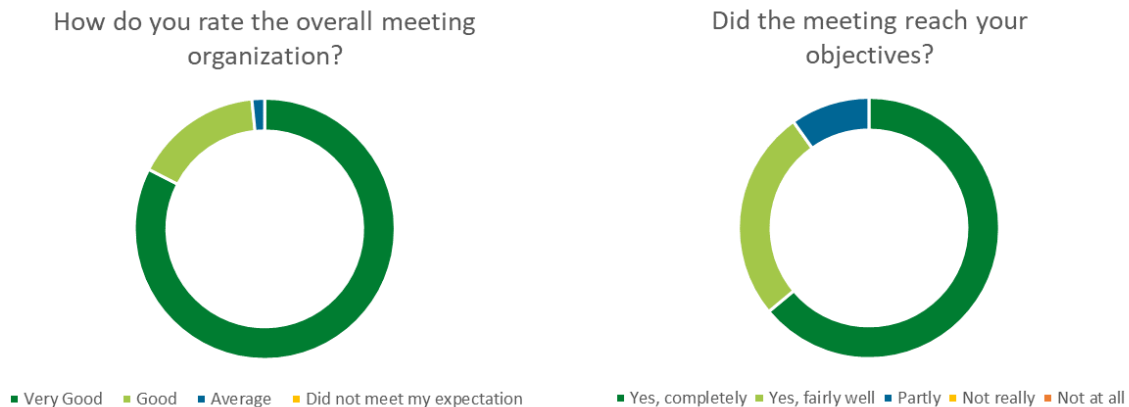
Reference
Acton, M., Booth, J., Paci, D. (2025). 2025 Best Practice Guidelines for the EU Code of Conduct on Data Centre Energy Efficiency . Joint Research Centre report JRC141521.
Brocklehurst, F. (2024). Public Data on Data Centre Energy Use . Report for the 4E TCP (Technology Collaboration Programme on Energy Efficient End-Use Equipment) – EDNA (Efficient, Demand Flexible Networked Appliances Platform).
Brocklehurst, F. (2024). Data Centre Energy Efficiency Labels . Report for the 4E TCP (Technology Collaboration Programme on Energy Efficient End-Use Equipment) – EDNA (Efficient, Demand Flexible Networked Appliances Platform).
Brocklehurst, F (2024). Policy development on energy efficiency of data centres . Report for the 4E TCP (Technology Collaboration Programme on Energy Efficient End-Use Equipment) – EDNA (Efficient, Demand Flexible Networked Appliances Platform).
Brocklehurst, F (2022). International review of energy efficiency in Data Centres . Report for IEA Energy in Buildings and Community TCP Building Energy Codes Working Group.
Hoberg, N. (2024). Implementing the EED: Data centers and the German Energy Efficiency Act . Presentation at the Concerted Action EED.
Kamiya, G., Coroamă, V.C. (2025). Data Centre Energy Use: Critical Review of Models and Results . Report for the 4E TCP (Technology Collaboration Programme on Energy Efficient End-Use Equipment) – EDNA (Efficient, Demand Flexible Networked Appliances Platform).
Kamiya, G., Bertoldi, P. (2024). Energy Consumption in Data Centres and Broadband Communication Networks in the EU . Joint Research Centre report JRC135926
MDC (2024). L'efficacité énergétique dans les datacenters [Energy Efficiency in Data Centres]. Extract of the report by Max Dubois Consultant for ADEME, ATEE and France Datacenter.
Montevecchi, F., Stickler, T., Hintemann, R., Hinterholzer, S. (2020). Energy-efficient Cloud Computing Technologies and Policies for an Eco-friendly Cloud Market . Final Study Report by Austria's Environment Agency and Borderstep Institute for the European Commission.
Yilmaz, C. (2023). Achieving Sustainable Digitalization: Strategies for Energy Savings in Data Centres . Presentation at the final dialogue meeting of streamSAVE.
Information and links on energy performance of data centres on the European Commission's website: https://energy.ec.europa.eu/topics/energy-efficiency/energy-efficiency-targets-directive-and-rules/energy-efficiency-directive_en#energy-performance-of-data-centres

Feedback from participants

A short feedback survey is carried out after each Dialogue meeting. This section summarizes the responses to the feedback surveys completed between January and July 2025.

The short survey includes both generic questions that are repeated and particular questions of multiple answer regarding each Dialogue meeting.

Results of the two general questions on the overall organization of the meeting are following:



In the 3rd Dialogue meeting, participants confirmed that they increased their knowledge about:

- How to assess energy savings in companies (43% of respondents);
- Pros and cons of technology-focused and system approaches (29% of respondents);
- Experience from other countries (50% of respondents);
- Different approaches to promote energy savings in companies (57% of respondents).

In the 4th Dialogue, participants confirmed that they increased their knowledge about:

- How to assess energy savings under the article 5 of EED (39% of respondents);
- Experience from other countries (87% of respondents);
- Reporting, collection data and monitoring (61% of respondents);
- General issues about energy savings calculations in public sector (39% of respondents).

During the open questions, they suggested that energy efficiency obligations scheme might bring more transparency than energy efficiency measures.

In the 5th Dialogue, participants confirmed that they increased their knowledge about:

- Ways to assess or monitor energy efficiency in data centres (32% of respondents);
- Energy savings potential in data centres (96% of respondents);
- How to assess energy savings from actions in data centres (32% of respondents);
- Experience from other countries (76% of respondents);
- Policies to improve energy efficiency in data centres (44% of respondents).

In the open question, they stated that the dialogue meeting was very interesting and productive. That they learnt more about how other countries are implementing EED or about the influence of AI on electricity use. They also confirmed that cooling has a significant potential for energy savings.

In the final question, a majority of participants of all three Dialogue meetings stated that they would like to attend another dialogue meeting.