Mid-term synthesis of the dialogue activities (July 2024 – December 2025)

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Content

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Executive summary

One of the main objectives of the streamSAVE+ project is to build 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 (DM) 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.

This report provides an overview of the dialogue activities organised by the streamSAVE+ project between July 2024 and December 2025. This included 8 dialogue meetings and 1 dialogue workshop:

- DM01: Assessing energy savings from deep retrofit programmes (22 October 2024);
- DM02: Assessing energy savings from water conservation measures (14 November 2024);
- DM03: Energy savings in companies: technology-focused vs. system approach (6 March 2025);
- DM04: Local energy savings in national monitoring (9 April 2025);
- DM05: Data centres & savings data: from potential to action (26 June 2025);
- Workshop1: Assessing the options for an EU-wide market for an energy savings certification scheme with streamSAVE+ (3 July 2025);
- DM06: Energy savings from heat recovery in ventilation systems (9 October 2025);
- DM07: Energy savings from public traffic management (20 November 2025);
- DM08: Energy savings from deep renovation of buildings (4 December 2025).

432 participants from 31 countries attended at least one of these activities. The total number of individual participants is 269, for an average number of participants per activity of 48. Building on the previous streamSAVE project, streamSAVE+ has therefore succeeded in further developing the community of stakeholders and experts interested in energy savings calculations.

Cross-country experience sharing occurred thanks to presentations by 29 speakers from 13 countries (Austria, Belgium, Croatia, Czechia, France, Germany, Greece, Ireland, Italy, Malta, Portugal, Slovenia, United Kingdom).

The dialogue activities also offered opportunities for direct interactions with 4 European projects or initiatives: CA EPBD, EnR Network, ENSMOV Plus and EU MORE.

1. 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. This report provides an overview of the dialogue activities done in the first half of the project, from July 2024 to December 2025.

2. Overview of the dialogue activities (July 2024 - December 2025)

The table below provides the list of activities organised during the first half of the project.

Note: the minutes of the online meetings and all relevant presentations are available on the streamSAVE+ platform, as well as bi-annual summaries. 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

Table 1 – List of dialogue activities organised from July 2024 to December 2025

Topics	Dates
DM01: Assessing energy savings from deep retrofit programmes	22 October 2024
DM02: Assessing energy savings from water conservation measures	14 November 2024
DM03: Energy savings in companies: technology-focused vs. system approach	6 March 2025
DM04: Local energy savings in national monitoring	9 April 2025
DM05: Data centres & savings data: from potential to action	26 June 2025
Workshop1: Assessing the options for an EU-wide market for an energy savings certification scheme with streamSAVE+	3 July 2025
DM06: Energy savings from heat recovery in ventilation systems	9 October 2025
DM07: Energy savings from public traffic management	20 November 2025
DM08: Energy savings from deep renovation of buildings	4 December 2025

Key figures about the dialogue activities from July 2024 to December 2025:

- Number of dialogue meetings and workshops organised: **9**
- Total number of participants: **432** from **31** countries (**269** individual participants)

- Average number of participants per activity: **48**
- Number of speakers: **29 from 13 countries** (Austria, Belgium, Croatia, Czechia, France, Germany, Greece, Ireland, Italy, Malta, Portugal, Slovenia, United Kingdom)
- Direct interactions with 4 European projects or initiatives: CA EPBD, EnR Network, ENSMOV Plus and EU MORE

The figure below presents an overview of the number of participants and registered stakeholders at each Dialogue meeting. The large number of registered individuals indicates that interest in the Dialogues has spread widely. Most registered stakeholders that are unable to attend the Dialogue follow the outcomes of the Dialogue through presentations and detailed minutes, which are available on the streamSAVE+ website.

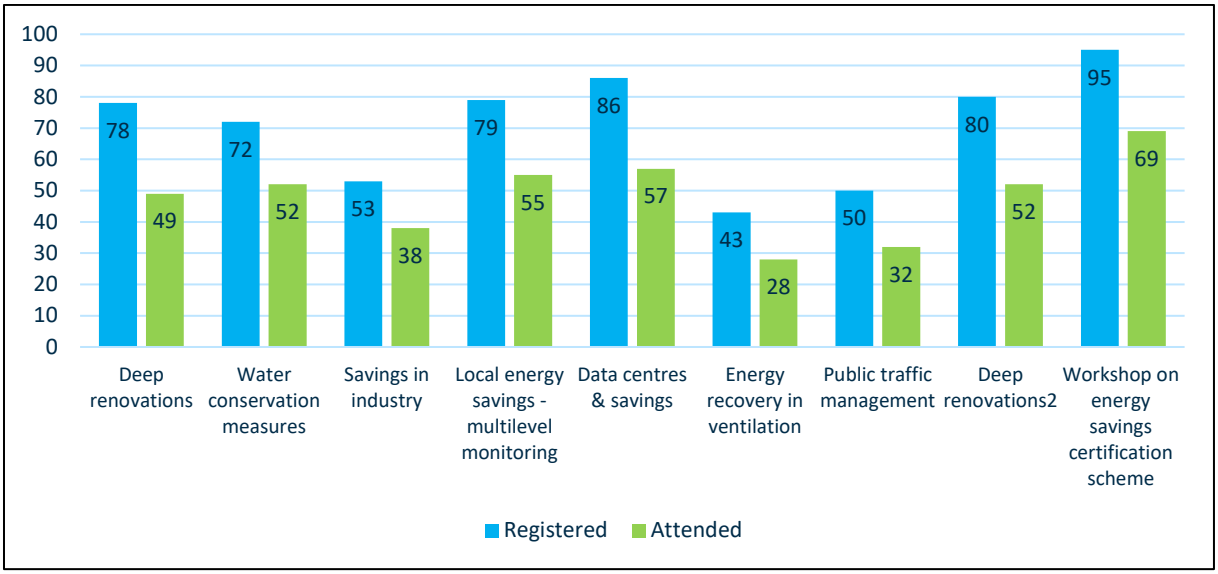

Figure 1. Number of stakeholders that registered and attended each Dialogue meeting.

3. Take away's from the three first semesters of dialogue activities

3.1. July 2024 – December 2024

- There is strong support for continued peer learning and technical exchange. The streamSAVE+ Dialogue has proven to be a valuable space to troubleshoot technical issues, share national approaches, and move toward greater harmonization in the calculation of the energy savings.
- Robust monitoring tools and programmes such as EMIS in Croatia and AQUA+ in Portugal were praised for their role in collecting, validating, and leveraging performance data. However, challenges remain around data quality, system maintenance, and ensuring that public authorities and end users have the capacity to use these tools effectively.
- Behavioural change, rebound effects, and user practices were repeatedly cited as difficult to quantify yet essential for accurate savings estimation. This was especially true in residential retrofits and water-saving interventions, where behavioural shifts may offset or enhance technical savings.

- Multi-measure retrofit programmes introduce complexity. When savings from several technologies are bundled into one project, estimating individual impacts becomes difficult. The risk of double counting or inaccurate attribution was identified as a significant issue that needs clearer guidance.
- Water conservation was recognized as an underutilized strategy for energy efficiency. Presentations highlighted the strong link between water efficiency and energy savings in hot water use and desalination.
- Data availability and quality emerged as a central concern.
- A number of participants expressed interest in more standardized methods for baseline setting and data collection. However, flexibility to accommodate different national contexts was also considered necessary.

3.2. January 2025 – June 2025

- National implementation strategies very 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.

3.3. July 2025 – December 2025

- New streamSAVE+ methodologies are available about energy savings from ventilation units, traffic management, deep retrofits of buildings and data centres.
- These methodologies provide EU-wide indicative values. However, it is recommended to use the methodologies with national data whenever possible, due to significant differences among countries (e.g. about building stocks, average distances travelled).
- Next steps in the streamSAVE+ project include the integration of the calculation modules in the online platform, national workshops and case studies, providing opportunities for further in-depth discussions.
- Heat recovery in ventilation systems represent a cost-effective and significant potential of energy savings on space heating. The related Ecodesign regulation and CEN standards provide a harmonised basis for calculating these energy savings.
- Understanding mobility is essential to design effective transport policies. National travel surveys and new sources of big data can provide valuable information.
- While travel surveys help understand behavior changes over time, big data can complement surveys by providing near real-time observations, although both have limitations in representing local or urban-specific patterns.
- The literature about results and costs of measures for public traffic management provides indicative values as a first guidance. Specific analysis is however required to consider national or local specificities, seen the broad ranges of values found in the literature.
- The streamSAVE+ methodology about traffic management measures represents a first step toward a harmonized framework for estimating energy savings in this field.
- The availability of energy data related to buildings is expected to improve significantly, notably from the development of national EPC (Energy Performance Certificates) databases, and the possible linkage between EPC and renovation passports.
- Successful strategies for deep retrofits of buildings require a better integration in the implementation of both, EPBD (Energy Performance of Buildings Directive) and EED (Energy Efficiency Directive).
- Further investigations are needed about performance gaps between calculated and actual energy savings, considering the influence of user behaviour on actual energy use, as well as other sources of performance gaps (e.g. installation quality and construction defaults; overestimations in manufacturers' data).
- The diversity of views and experiences across Member States and amongst the wide variety of stakeholders stood out, making it difficult to draw conclusions about the feasibility and added value of an EU-wide market for energy savings certification.
- Concerns were raised about the time needed to get agreement between Member States. It was also acknowledged that the diversity of national schemes can be a driver for innovation, experience sharing and capacity building (e.g. see recent developments of schemes in Cyprus and Spain).

- Other market-based mechanisms, such as auctions or tenders, might be better suited to promote cost-effective energy saving actions that can contribute to specific EU objectives (as done at national level with the PPEC scheme in Portugal).
- The use of measurement protocols, such as IPMVP and equivalents, already means that there is some standardisation of approaches towards industry sector energy savings. Stakeholders view the standardisation of ex ante deemed savings methods, such as those being developed within the streamSAVE+ platform, as more impactful, potentially driving up quality and enabling ESCos to operate more easily across borders. However, stakeholders also recognised the substantial effort required in managing such a process.

4. Summary about Dialogue meeting 1: Assessing energy savings from deep retrofit programmes

(see also the proceedings)

4.1. Objectives of the meeting

This first dialogue meeting of streamSAVE+ discussed how energy savings from deep retrofits of buildings can be assessed. Examples from the Czech Republic, Croatia and Ireland, covering non-residential, public and residential buildings showed a diversity of approaches, each with pros and cons. In particular the presentations detailed:

- National approaches to quantifying energy savings from deep renovations, with examples from Ireland, Croatia, Ireland and Czechia;
- Methodological developments in monitoring and evaluating energy savings in public and non-residential buildings, using tools such as Croatia's EMIS, the Czech Republic's sector-specific frameworks, and the Irish Building Energy Rating scheme;
- Challenges like establishing reliable baselines, avoiding double-counting, and properly attributing energy savings across multiple measures.

These examples showed that the design of the scheme and the use of online platforms enable data collection and monitoring of energy savings in a systematic way.

4.2. Speakers and participants

- Miroslav Honzík (Czech Ministry of Industry and Trade, Czechia) and Jiří Karásek (SEVEn, Czechia): *Support of energy savings in the Framework of OP TAC 2021 – 2027 Czech programme for non-residential buildings*;
- Valentina Madžarević (APN, Croatia) and Vanja Hartman (EIHP, Croatia): *Energy Management Information System (EMIS): Monitoring and reporting on energy consumption and savings in renovated public buildings in Croatia through EMIS System*;
- James Palmer (SEAI, Ireland): *Monitoring of energy savings from domestic deep retrofit: Ireland's EEOS*.

- **49** participants from **18** countries.

4.3. Main messages from the meeting

- Presentations emphasized that quantifying energy savings from deep renovation requires consistent baselines, high-quality data, and long-term monitoring infrastructure.
- Presentations emphasized the need for harmonised methodologies that still allow for local adaptation, especially when baselines, climatic conditions, and user behaviour differ across Member States
- The importance of robust baseline definition was a recurring theme. Several Member States noted difficulties in collecting or standardizing historical energy consumption data, which complicates the verification of retrofit impacts.

- The Czech Republic shared updates on its revised support scheme for non-residential buildings, which includes new calculation parameters. However, open questions remain about how to align financial incentives with observed energy performance outcomes.
- Croatia's EMIS platform was presented as a digital tool for tracking energy consumption and savings in public building renovations. While its structured approach to monitoring was highlighted, participants also raised concerns about data gaps and long-term system maintenance.
- Ireland's experience with residential deep retrofits drew attention to challenges in double accounting or energy poverty.
- Participants noted that technical exchanges and methodological dialogue, such as those hosted through streamSAVE+, can support peer learning and help clarify complex reporting requirements.
- Technical challenges remain, especially around:
    - Accounting for user behaviour and rebound effect;
    - Avoiding double counting in multi-measure retrofit programmes.
- Participants agreed on the need for:
    - More context-specific assumptions that remain methodologically sound;
    - Improved capacity building at the national and municipal level;
    - Stronger integration of the different approaches.

4.4. Interesting sources to look further

Reference	Why it is interesting
EMIS (Energy Management Information System), Croatia https://www.emis.hr	Demonstrates how digital tools can monitor energy consumption in public buildings and support policy evaluation and retrofitting strategies. Used extensively in Croatia's public sector energy renovation programme.
Czech OP TAC Programme (no public link available)	Supports deep retrofits in non-residential sectors, with updated evaluation protocols and sector-specific adaptation.
SEAI Methodology on Deep Retrofits in Ireland James Palmer, SEAI presentation in Dialogue Meeting 1. No public URL, but see: https://www.seai.ie/	The methodology outlines baseline setting, behavioral factors, and savings attribution in domestic energy retrofits, useful for replication and policy learning.

5. Summary about Dialogue meeting 2: Assessing energy savings from water conservation measures

(see also the proceedings)

5.1. Objectives of the meeting

The second dialogue meeting of streamSAVE+ discussed energy savings from water conservation measures. Water services require energy, from intake to wastewater treatment. Water conservation measures thus represent a significant energy savings potential. This meeting discussed scopes of energy consumption, data sources, examples of water conservation measures and how the related energy savings can be assessed.

In particular the presentations detailed:

- Different national approaches to quantifying energy savings from water-related measures;
- Tools, methodologies, and case studies that highlight how water savings contribute to final and primary energy savings;
- Examples of national programs that integrate hot water consumption and desalination energy demands into energy accounting frameworks;
- Methodological challenges, such as baselining, behavioural variability, and attributing savings to water conservation;

These examples facilitated cross-country knowledge exchange to strengthen the integration of water-energy nexus considerations into energy efficiency policies.

5.2. Speakers and participants

- Hugo Jacque (University College of Dublin, Ireland): *Evaluating water-related energy savings within buildings: insights from research studies*;
- Patrícia Malta Dias (ADENE, Portugal): *Contribution of water efficiency in buildings to primary energy savings: example of the AQUA+ programme in Portugal*, and *Water Energy Nexus Working Group of the ENR network*;
- Manuel Sapiano (Malta's Energy and Water Agency, Malta): Malta's Experience with Water Conservation and Related Energy Savings;
- Stefan Cachia (Malta's Water Services Corporation, Malta): Calculation methods on energy savings: water conservation measures in the context of Art.8 of the EED.

- **52** participants from **17** countries.

5.3. Main messages from the meeting

- Presentations and discussions emphasized that water-related measures, such as reductions in hot water usage or improved water efficiency in buildings, may contribute to measurable energy savings.
- The AQUA+ programme in Portugal was introduced as a voluntary labelling scheme for water efficiency in buildings. While it does not currently quantify energy impacts, participants discussed how such tools could indirectly support energy savings if integrated into broader efficiency strategies.
- The presentation from Malta highlighted the specific case of water desalination, which accounts for a significant share of electricity consumption. The case illustrated how water-saving measures can have a direct impact on energy demand, particularly in systems with high water-related energy use.
- Discussion raised questions around how to define baselines for water-related energy savings, especially in the absence of detailed consumption data.
- There was strong consensus that water-energy nexus measures, such as hot water efficiency and reduced leakage in public water systems, offer substantial energy savings and should be more consistently integrated into national policies.
- However, participants acknowledged that technical challenges remain, especially around:
    - Disaggregating hot vs. cold water use
    - Estimating energy intensity per cubic meter
- The meetings reaffirmed the importance of top-down and bottom-up methodologies, each with trade-offs:
    - Top-down methods offer simplicity and scalability but often lack precision.
    - Bottom-up methods offer detail but require better data and can be more complex to implement.

5.4. Interesting sources to look further

Reference	Why it is interesting
AQUA+ Programme – Portugal https://www.aqua-add.eu	Provides a building-level framework for water efficiency, with potential for integration into energy policy.
Further readings	
Cabrera, D. J., Njem Njem, H., Bertholet, J.-L., Patel, M. K. (2023). Simple solutions first - Energy savings for domestic hot water through flow restrictors. Energy Efficiency, 17(1), 1.	
Faia, V., Newton, F., Dias, P. Simões, M. (2023). Water-Energy Nexus: Contribution of water efficiency in buildings to primary energy savings. Proceedings of the CEES 2023 conference. Available at: https://www.cees2023.uc.pt/projectos/cees2023/index.php?module=atas	
Faia, V., Newton, F., Dias, P. Simões, M. (2023). Water-Energy Nexus: Contribution of water efficiency in buildings to primary energy savings. Proceedings of the CEES 2023 conference. Available at: https://www.cees2023.uc.pt/projectos/cees2023/index.php?module=atas	
Sapiano, M. (2022). “Energy and Water” links in the provision of Water Services - Case Study: Malta. Presentation at the Concerted Action EED, March 2022.	

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

(see also the proceedings)

6.1. Objectives of the meeting

The third streamSAVE+ 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:

- 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.

6.2. 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.

6.3. 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.

6.4. 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

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

(see also the proceedings)

7.1. Objectives of the meeting

The fourth streamSAVE+ 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.

7.2. Speakers and participants

- Gabriele Brandl (Austrian Energy Agency): *Monitoring energy savings in the public sector: what will the streamSAVE+ project provide in this field?*;
- Martin Schaber (Salzburger Institut für Raumordnung und Wohnen – SIR): *Experience from the Austrian Province of Salzburg*;
- Tom Capiau (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.

7.3. 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.

7.4. 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.

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

(see also the proceedings)

8.1. Objectives of the meeting

This fifth dialogue meeting of streamSAVE+ 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.

8.2. 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.

8.3. 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 needs 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.
- French 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.

8.4. 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.
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9. Summary about Dialogue workshop 1: Assessing the options for an EU-wide market for an energy savings certification scheme with streamSAVE+

(see also the proceedings)

9.1. Objectives of the meeting

The Action Plan for Affordable Energy, published by the European Commission in February 2025, highlights the central role of energy efficiency in decreasing energy costs and meeting long-term climate goals. Action 4 of the Plan is focused on energy efficiency, with a first axis on an energy efficiency market of European dimension.

The objective of this axis is to "*improve access to capital and provide financial incentives to support market actors who provide energy efficiency solutions for businesses*". Actions include an assessment of an EU-wide market for an energy savings certification scheme by the Commission, due by the end of 2025.

This workshop, jointly organized with the ENSMOV Plus project, aimed to contribute to this assessment by discussing possible design options for such an EU-wide market, and their feasibility. The purpose was not to endorse a specific model or pre-empt future policy decisions, but rather to understand better the conditions that would be needed for a cross-border market mechanism, and that could add value without undermining national policy autonomy or administrative feasibility.

The discussions built on the experience available from national white certificates schemes and other market-based mechanisms for energy efficiency. streamSAVE+ brought experience about harmonizing energy savings calculations, which is one of the key issues for an EU-wide market.

9.2. Speakers and participants

- Claudia Canevari (European Commission): *Affordable Energy Action Plan: towards an energy efficiency market of European dimension*
- Samuel Thomas (RAP – Regulatory Assistance Project): *Overview of options (pros and cons)*
- Jean-Sébastien Broc (IEECP – Institute for European Energy and Climate Policy): *Overview of EEOS in Europe*
- Jiří Karásek (SEVEn): *Streamlining Energy Savings Calculations in the EU Member States*

- **69** participants from **21** countries.

9.3. Main messages from the meeting

(*Summary prepared by Samuel Thomas, RAP*)

- The diversity of views and experiences across Member States and amongst the wide variety of stakeholders stood out, making it difficult to draw conclusions for policy makers.
- In an initial poll, 60% of the participants felt that there would be value in merging existing schemes, however, the subsequent discussion on this topic raised concerns over the time that would be needed to get agreement between Member States and a recognition of the innovation that can occur when there is a diversity of schemes.

- The organic harmonisation of schemes might be more successful and ultimately encourage others to join. The recently launched Spanish White Certificate Scheme was highlighted as an example of where one Member State can learn from another (France), with Spain modelling much of its scheme on the French experience, allowing ESCos to operate in both countries. However, no merging of schemes has been proposed so far.
- There was also some support (just over half of participants) for a new EU-wide scheme. Stakeholders saw the need to fill the gap to 2030 targets and to develop the market for energy efficiency improvements. Stakeholders recognised the role that white certificate schemes can play, especially in supporting the mass deployment of smaller, more cost-effective energy efficiency actions.
- Other market-based mechanisms, such as auctions or tenders, might be better suited to actions requiring more support, an example being actions with payback periods of over five years, recommended by energy auditors.
- There was however some push back on the idea of energy efficiency auctions at EU level, given the potential for the most cost-effective bids to be from a small number of member states with significant potential and lower labour costs. A tender mechanism with other criteria related to strategic EU objectives, along with cost-effectiveness, might be more appropriate.
- The Portuguese PPEC tender programme was mentioned as a potential model, with different pots for different types of energy efficiency actions, e.g., to alleviate grid constraints; or to overcome barriers to waste heat offtake.
- The use of measurement protocols, such as IPMVP and equivalents, already means that there is some standardisation of approaches towards industry sector energy savings. Stakeholders viewed the standardisation of ex ante deemed savings methods, such as those being developed within the streamSAVE+ platform, as more impactful, potentially driving up quality and enabling ESCos to operate more easily across borders. However, stakeholders also recognised the substantial effort required in managing such a process.
- There were no strong views on which organisation would be best placed to manage a cross-border scheme. However, there was a recognition that administrative costs should be minimised. One way of doing this would be to rely on independent auditors, certified by a public body, as in Spain, as part of the enforcement process. In Ireland, the requirement for obligated parties to be ISO9001 compliant provides some reassurance that reported energy savings will be more accurate.
- Another suggestion was that there could be some kind of quality marque or label that could be earned by ESCos having completed good projects, providing a signal to end-users and obligated parties in a market that can suffer from asymmetric information issues.

9.4. Interesting sources to look further

Reference
ENSMOV Plus platform: https://energysavingpolicies.eu/

10. Summary about Dialogue meeting 6: Energy savings from heat recovery in ventilation systems

(see also the proceedings)

10.1. Objectives of the meeting

This sixth dialogue meeting of streamSAVE+ discussed the assessment of energy savings from ventilation systems, focusing on the new streamSAVE+ methodology about this Priority Action (see chapter 5 in the D2.2 report of streamSAVE+).

10.2. Speakers and participants

- Jan Verheyen (VITO): *The new streamSAVE+ methodology to calculate energy savings from heat recovery in ventilation systems*.

- **28** participants from **11** countries.

10.3. Main messages from the meeting

- The streamSAVE+ methodology is focused on energy savings from heat recovery in ventilation systems, taking into account the space heating energy demand reduction due to the ventilation heat recovery.
- The relative amount of energy savings is determined by the thermal efficiency of the heat exchanger. The methodology accounts for gains on space heating only (it does not cover possible gains on space cooling). Changes in the use of auxiliary energy (for example, fans, controllers, and defrosting) are not taken into account.
- In case other actions are implemented simultaneously with the installation of the new ventilation system, overlap between these individual actions should be considered to avoid double counting of energy savings.
- The methodology is applicable to all EU Member States and all types of buildings including retrofitted & non-retrofitted. The methodology differentiates between residential and non-residential buildings and considers three main climatic zones.
- Key data sources include the Ecodesign Regulation (EU) 1253/2014, the Ecodesign preparatory studies for ventilation units, the Ecodesign Impact Accounting reports, JRC IDEES database and Eurostat.
- The methodology provides EU-wide indicative values. However, it is recommended to use the methodology with national data whenever possible.
- Member States' reports on cost-optimal levels of energy performance can be a relevant source of national data in case heat recovery in ventilation systems is addressed in them. The definition and specifications of the input parameters of the streamSAVE+ methodology need to be respected.

10.4. Interesting sources to look further

References
Ecodesign regulation (EU) 1253/2014 about the minimum energy performance requirements for ventilation units, and related Commission's webpage about the Ecodesign Regulation for Ventilation Units
CEN standard EN 16798 series about ventilation parameters

11. Summary about Dialogue meeting 7: Energy savings from public traffic management

(see also the proceedings)

11.1. Objectives of the meeting

Traffic management is one of the main umbrella approaches contributing to a more efficient mobility. Traffic management is the organisation, arrangement, guidance and control of both stationary and moving traffic including all the types of users (such as pedestrians, cyclists and all types of vehicles). It may include various types of measures, such as measures on speed limits, various types of information measures, dynamic lane use control, on-demand transit, improving transfer connections (e.g. between trains and buses), active parking management, pedestrian and cycling infrastructures, etc.

This seventh dialogue meeting presented the new streamSAVE+ methodology to calculate energy savings from public traffic management, and discussed collection and availability of mobility data.

11.2. Speakers and participants

- Christos Tourkolias (CRES): *The new streamSAVE+ methodology to calculate energy savings from public traffic management.*
- Davide Fiorello (TRT – Transporti E Territorio): *Describing personal mobility: travel surveys and other data*.

- **32** participants from **12** countries.

11.3. Main messages from the meeting

The streamSAVE+ methodology represents a first step toward a harmonized framework for estimating energy savings according to Article 8 of the Energy Efficiency Directive from traffic management measures. It combines a structured calculation approach including the following elements:

- Number of affected vehicles;
- Specific final energy consumption per vehicle type;
- Annual distance travelled;
- Energy-saving factor associated with the measure.

A detailed analysis of the literature has been carried out to estimate indicative values for these parameters as well as about investment, operating and maintenance, and replacement costs. This provides policymakers with guidance to assess cost-effectiveness and identify potential areas for improving urban mobility and energy efficiency.

Understanding mobility is essential to design effective transport policies. Key points include:

- National Travel Surveys collect detailed information on trips, purposes, travel distances, transport modes, and demographics. Limitations include sparse spatial resolution and limited coverage of long-distance trips.
- Big data sources (from mobile phones, GPS devices, and transport operators) provide large, continuously updated datasets. Advantages include high sample coverage and reduced reporting bias, while limitations include difficulty identifying trip purpose and mode, data accessibility, and representativeness.

While travel surveys help us understand behavior changes over time, big data can complement surveys by providing near real-time observations, although both have limitations in representing local or urban-specific patterns.

11.4. Interesting sources to look further

Reference
Armoogum, J., Borgato, S., Fiorello, D., Garcia, C., Gopal, Y., Maffii, S., ... & Schlemmer, L. (2022). Study on new mobility patterns in European cities: Task A, EU wide passenger mobility survey. Final report to the European Commission
Rózsai, M., Jaxa-Rozen, M., Salvucci, R., Sikora, P., Tattini, J. and Neuwahl, F. (2024). JRC-IDEES-2021: the Integrated Database of the European Energy System – Data update and technical documentation. Report JRC137809 of the Joint Research Centre
Tattini, J., Jaxa-Rozen, M., Salvucci, R., Rozsai, M., Sikora, P., Gea-Bermúdez, J., & Neuwahl, F. (2025). The transport sector in the Integrated Database of the European Energy System–Methodological update and potential for transport policy analysis. *Energy*, 318, 134400
US Department of Transportation – Federal Highway Administration (2022). Active Transportation and Demand Management
Useful webpages: EC, DG MOVE: https://transport.ec.europa.eu/transport-themes/sustainable-transport/sustainable-transport-studies_en Multimodal Traffic Management Cluster: https://www.polisnetwork.eu/news/multimodal-traffic-management-cluster-roadmap/ POLIS working group on traffic management: https://www.polisnetwork.eu/topic/traffic-management-2/

12. Summary about Dialogue meeting 8: Energy savings from deep renovation of buildings

(see also the proceedings)

12.1. Objectives of the meeting

The 8th dialogue meeting focused on deep renovation of buildings and its role in achieving EU energy and climate targets. The introductory presentation covered the developments brought by the recast of the EPBD (Energy Performance of Buildings Directive), highlighting instruments such as Energy Performance Certificates (EPC), renovation passports, the Smart Readiness Indicator, and National Building Renovation Plans, with a strong emphasis on data collection, interoperability, and reporting to the EU Building Stock Observatory.

Then, the streamSAVE+ methodology for calculating energy savings was presented, applicable to both residential and non-residential buildings, including guidance on system efficiencies, behavioural factors, cumulative savings, and costs. A practical demonstration of the Excel-based tool illustrated both simplified and full calculation options, with the possibility to use EU-average or national values.

12.2. Speakers and participants

- Susanne Geissler (SERA Institute, and leader of CA EPBD's Central Team 3 - CT3 on Deep renovation and renovation passports): *Role of deep renovation of buildings in meeting the EU energy and climate targets – EPBD perspective*.
- Vesna Bukarica (EIHP): *The new streamSAVE+ methodology to calculate energy savings from deep renovation in buildings*.
- Hana Gerbelová (SEVEn): *Demonstration of the streamSAVE+ calculation tool*.

- **52** participants from **13** countries.

12.3. Main messages from the meeting

Important points of future developments on the topic of energy savings from deep renovation:

- Expected improved data availability, notably from the development of national EPC (Energy Performance Certificates) databases, and the possible linkage between EPC and renovation passports;
- Better integration in the implementation of both, EPBD and EED (Energy Efficiency Directive);
- Need for further investigations about performance gaps between calculated and actual energy savings, considering the influence of user behaviour on actual energy use, as well as other sources of performance gaps (e.g. installation quality and construction defaults; overestimations in manufacturers' data).

Next steps in the streamSAVE+ project include a calculation integration to the online platform, national workshops and case studies, providing opportunities for further in-depth discussions.

12.4. Interesting sources to look further

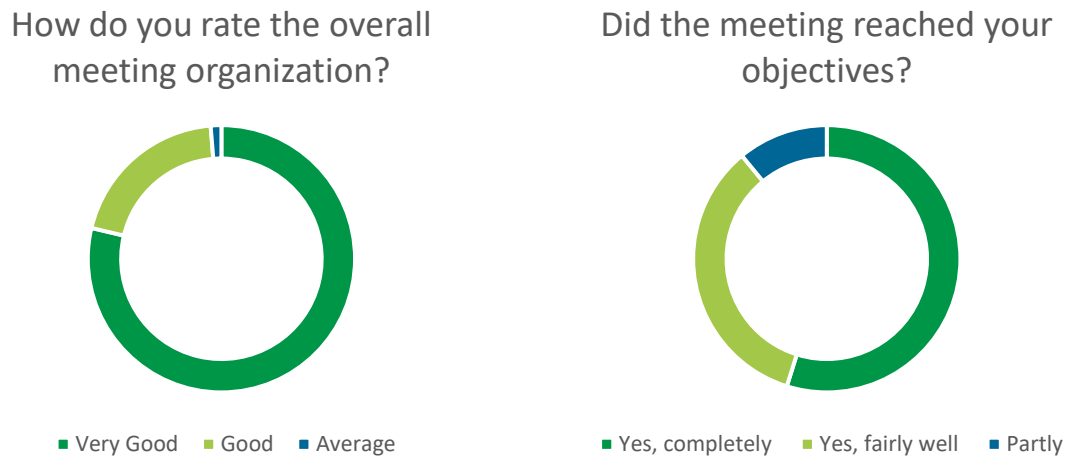
References
recast of the Energy Performance of Buildings Directive (EPBD) (EU)2024/1275
About BACS, see chapter 3 of the report D2.2 of the previous streamSAVE project, including a methodology to calculate energy savings from BACS
EU Building Stock Observatory
OBSERVE project about national building stock observatories
CA EPBD - Concerted Action for the Energy Performance of Buildings Directive: https://www.ca-epbd.eu/
BuildUp platform: https://build-up.ec.europa.eu/en/home

13. Feedback from participants

A short voluntary feedback survey was carried out after each Dialogue meeting. This section summarizes the responses to the feedback surveys completed between July 2024 and December 2025.

The short survey includes both generic questions that are repeated and three to four multiple answer questions fitted to the topic of each Dialogue meeting. In total, **156** participants filled in the surveys over the Dialog meetings.

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



In the 1st Dialogue meeting on assessing energy savings from deep retrofit programmes, participants confirmed that they increased their knowledge about:

- General issues about energy savings calculations (67% of respondents);
- Data sources, collection or monitoring (37% of respondents);
- How to assess energy savings from deep retrofits (41% of respondents);
- Programmes for deep retrofits in other countries (48% of respondents).

In the open questions, they confirmed that they had learnt a lot about new programs and data calculations, and that it was interesting to hear about other countries' experiences. They also stated that more time and funding will be required to accurately monitor and assess energy savings.

In the 2nd Dialogue on assessing energy savings from water conservation measures, participants confirmed that they increased their knowledge about:

- How to assess energy savings from water conservation measures (61% of respondents);
- Experience from other countries (78% of respondents);
- Data sources, collection or monitoring (26% of respondents);
- General issues about energy savings calculations (52% of respondents).

During the open questions, they acknowledged learning about the "Water-Energy Nexus" issue.

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

In the 3rd Dialogue meeting on energy savings in companies, 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 on local energy savings in national monitoring, 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 on data centres & savings data, 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 6th Dialogue meeting on heat recovery in ventilation units, participants confirmed that they increased their knowledge about:

- Ways to assess or monitor energy efficiency in buildings (50% of respondents);
- Potential of energy savings via heat recovery in ventilation units (70% of respondents);
- How to assess energy savings from heat recovery in ventilations systems (40% of respondents);
- Methodological aspects on how to calculate energy savings (50% of respondents).

In the 7th Dialogue meeting on public traffic management, participants confirmed that they increased their knowledge about:

- Methodological aspects on how to calculate energy savings (53% of respondents);
- Potential measures of energy savings via public traffic management (67% of respondents);
- How to assess energy savings from traffic management (53% of respondents);
- Ways to assess or monitor energy efficiency in public sector (147% of respondents).

In the 8th Dialogue meeting on deep renovation in budlings, participants confirmed that they increased their knowledge about:

- Ways to assess or monitor energy efficiency in buildings (50% of respondents);
- Potential measures of energy savings in buildings (17% of respondents);
- Details of EPBD in supporting deep renovation in buildings (50% of respondents);

- Methodological aspects on how to calculate energy savings from deep renovation of buildings (39% of respondents);
- Data collection and resources for energy savings in building sector (28% of respondents).

In the open question, they stated that the dialogue meeting was very interesting and useful to attend. In the final question of each survey, a majority of participants of all here presented Dialogue meetings stated that they would like to attend another dialogue meeting.

14. Conclusions

This report includes a synthesis of the Dialogue meetings and workshops held during the first half of the streamSAVE+ project (June 2024–December 2025). These Dialogues provide an opportunity for expert presentations and debate on issues of energy savings calculations and monitoring, as well as capacity building and exchanging experience among different stakeholders.

The Dialogue meetings include a wide range of topics, including Dialogues focused on a particular end-use sector, on a given type of calculation or monitoring method and/or on issues raising debates among experts. As such, it allows targeting a large audience. In total, 269 single participants from 31 countries attended the eight carried out Dialogue meetings, with some attending more than one. in total, 29 speakers from 13 countries discussed their experience as speakers.

This report summarises objectives of each dialogue meeting, information about speakers and participants, the main outcomes and messages and interesting sources to look further. Finally, the report includes the results of a small survey done at the end of each Dialogue meeting. Based on the responses, it is clear that the majority of respondents thought the Dialogue meetings found the overall organization of the Dialogue meetings very good and the Dialogue meetings met their objectives.

Overall, the feedback has been very positive, indicating that these Dialogues are meaningful and have successfully facilitated discussions and experience sharing between technical experts from various Member States, as well as further developing the community of stakeholders and experts interested in energy savings calculations.

The agendas, minutes and presentation files of each dialogue meeting are made publicly available on the streamSAVE+ website.

List of figures

List of tables

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