French experience with deemed savings in EEOS

Policy background: the French white certificates scheme

Energy savings estimation is used in France as part of the White Certificates scheme, **CEE scheme** in French (CEE: *Certificats d'Economies d'Energie* – Energy Savings Certificates). This scheme requires energy suppliers ("obligated parties") to achieve energy savings among consumers in **all end-use sectors**. Obligations are expressed in TWh cumac, where cumac stands for **lifetime-cumulated and discounted energy savings**. Obligated parties must meet their CEE quotas before the end of each compliance period, under penalty of severe fines per missing kWh cumac.

To meet these obligations, suppliers shall encourage energy saving actions , with an "incentivising and driving role" that usually includes a financial incentive. The energy savings actions or projects are monitored according to **three main types of interventions**:

- Standardised actions
- Specific operations (see more details in the example about "The use of measurement for specific operations in France's white certificates scheme")
- CEE programmes (support programmes, not necessarily delivering direct energy savings, or delivering energy savings that cannot be assessed in a standardised way)[1]

Standardised actions represent the largest share of CEE (89% in the 2022-2025 period). They are published in by-laws, and available on the ministry's website as an online catalogue, including 221 types of standardised actions as of December 2025. These types of actions cover all end-use sectors: residential, services, industry, transport, agriculture, and energy networks.

Energy savings from standardised actions are monitored with **deemed savings**, i.e. standardised energy savings ratios per type of action[2]. The types of action are specified so that deemed savings can be estimated as **average expected energy savings**. In other words, it is assumed that the number of actions implemented is large enough to assume that their average characteristics will be close to the

[1] For example, training programmes for building professionals, behavioural measures, schemes to identify households in situation of energy poverty, innovative programmes for sustainable mobility.
[2] These ratios may be differentiated according to main criteria (e.g. climate zones, building types, type of energy carrier used for space heating, …), and may be proportional to the size of the action (e.g. kWh saved per m² of insulation material installed).

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average characteristics of the stock considered[3]. Therefore, the deemed savings should not be used to assess energy savings from a given energy saving project. They can be used to monitor the average energy savings from the whole actions submitted to the CEE scheme.

The use of deemed savings is adapted for standardised actions in order to **scale up and accelerate the uptake** of energy efficiency actions. This gives **visibility** to stakeholders about how many CEE they can get from promoting or implementing standardised actions. Obligated parties and third parties (e.g., ESCos, installers) can then develop business models, which supports the development of energy efficiency markets.

Obligated parties must provide evidence of their actions to the National Office of CEE (PNCEE), which issues certificates in kWh Cumac. The PNCEE reviews the files submitted, and may contract controls and impose sanctions for non-compliance.

There is **no systematic measurement** of actual post-implementation energy savings to verify the reliability of estimations. Instead, for certain types of standardised actions, obligated parties shall contract **controls** of the issuing conditions of certificates. Likewise, the specifications of some types of standardised actions mandate the installation of measurement devices (especially in industry) to ensure that the actions work properly.

However, imposing such provisions across all actions is challenging and does not prevent overestimation due to underlying calculation methods. This issue was notably highlighted by the French Court of Auditors in a report reviewing the scheme in 2024, which identified significant **risks of overestimations** of energy savings.

Process to specify and update deemed savings

ATEE (Technical Association for Energy and Environment) organizes **technical working groups** that develop suggestions of new types of standardised actions, and the specifications of existing types of standardised actions, when needed. These groups are formed after public calls for contributions, which are announced during ATEE sectorial webinars. Competent stakeholders (e.g., those with relevant data or expertise) who respond to these calls join the working groups. Participants may represent any entity within the scheme, such as obligated parties (energy suppliers), manufacturers, installers, or other beneficiary companies. These groups also include technical experts from ADEME (French agency for ecological transition).

[3] For example, for action types related to individual houses, it is assumed that the average characteristics of the houses where actions are implemented correspond to the average values in the French stock of individual houses,

ATEE facilitates these meetings and supervises revision efforts to propose relevant updates to the Ministry. It also provides solutions, supports stakeholders in understanding the process, and assists with technical and administrative matters.

Key **resources** used for deemed savings calculations include:

- Statistics and studies from various stakeholders.
- Static or dynamic simulations to estimate energy savings.
- Calculations based on physical data.

A template gathers the information and data required to specify an action type[4] and the related energy savings calculations, in a **standardised action sheet**.

The specifications and estimations are validated or calculated by ADEME. The **Ministry** in charge of energy has then the **final decision-making authority** on the calculations and other specifications that are published by decree.

Updating deemed savings calculation is often necessary for several reasons:

- **Outdated or incorrect data**: Some standardised action sheets include outdated or inaccurate information.
- **Changes in calculation methods**: New methods may be adopted to better reflect actual energy savings.
- **Fraud detection**: Uncovering fraud highlights deficiencies in the documentation of these action types.
- **Evolution of the baseline scenario**: The reference scenario for calculating deemed savings may change due to:
    - Regulatory changes or stricter standards.
    - Increased market penetration of the solution, which improves the baseline and reduces additional savings.
    - Changes in users' energy consumption.
- **Sheet obsolescence**: Automatic expiration of standardised action sheets five years after their last revision ensures that estimations remain relevant.

This revision process is governed by a formal, often legislative, framework.

Following recommendations of reports done on the scheme in 2024[5], the Ministry issued a call for a special programme to establish an **observatory of the scheme**. This new programme, named **PRODICEE**[6], is led by ADEME and officially started in October 2025. One of its main objectives is to estimate actual energy savings to adjust the deemed savings' rates as closely as possible to reality. For more details

[4] In addition to the explanations and documentation of the deemed savings' calculation, the technical specifications usually include minimum energy performance requirements, and provisions related to the implementation of the action (e.g. installation by a qualified professional, compliance with technical standards).
[5] Including the report by the Court of Auditors, and a report by a cross-ministerial mission.
[6] In French: '*PRogramme d'Observation du DIspositif des CEE*' (Programme for the observation of the CEE scheme)

about PROCIDEE, see the presentation at the workshop about evaluations of energy efficiency policies.

Experience and feedback

ATEE's experience in organizing the deemed savings and coordination processes has provided valuable insights. It organizes revisions of standardised action sheets efficiently using a tracking file.

Detailed meeting minutes should document progress and decisions, ensuring **traceability**. Including neutral participants without commercial interests provides **unbiased evaluations**. Public and systematic calls for contributions with rigorous follow-up ensure that all relevant stakeholders have the opportunity to participate. Additionally, having at least two competing actors in each working group enhances objectivity.

Strengthening **collaborations with expert organizations** like ADEME or CEREN[7] enriches technical analyses, as these entities provide reliable and detailed statistical data on energy demand and related parameters.

Training and information materials, such as presentations or videos, can also help participants better understand the steps involved in estimating energy savings.

Critical Aspects of the Revision Process:

- A precise definition of the **baseline scenario** is crucial and may be governed by regulatory texts, as is the case in France. This baseline serves as the foundation for calculating energy savings and must be clearly documented.
- When adopting new calculation methodologies, the details should be **documented**, and all related documents should be archived properly.
- **Harmonizing** calculation methods across action types facilitates stakeholders' understanding of energy savings certificates.
- **Reliable data** is a cornerstone of the process. Every piece of data must be explicitly sourced, with clear information on its origin, date, and scope.
- Exemplary **traceability** is essential for comparing assumptions between different estimations. A tracking file may consolidate data used in each estimation.
- Calculation methods must rely on robust, representative, and well-referenced data. Establishing a **best practice guide with precise criteria**, such as a

[7] CEREN (Centre for Economic Studies and Research on Energy) is a statistical observatory of the energy demand in France. It is co-funded and supervised by ADEME and the transmission and distribution system operators for electricity (RTE and ENEDIS) and gas (GRT Gaz and GRDF). CEREN performs regular sectoral survey, being one of the key producer of statistics on energy demand, in close cooperation with the national statistical office (INSEE) and the statistics' unit (SDES) of the ministry in charge of energy.

minimum number of samples or multi-year indicator consolidation, ensures reliability.

By applying these principles, the revision and deemed savings process gains rigor, transparency, and efficiency.