

Evaluation of public awareness campaigns in Greece

Background and objectives

The evaluation of the **public awareness campaigns** in Greece was initiated firstly within the framework of the **Energy Efficiency Obligation Scheme (EEOS)** in the period 2017-2020. Greece's EEOS requires energy suppliers (obligated parties) to achieve energy savings targets. The obligated parties stated their intention to carry out massive awareness-raising measures to achieve a significant share of their savings target. The public authorities therefore decided to develop a bottom-up methodology facilitating the calculation of energy savings resulting from behavioural measures. This methodology makes use of a standardised approach, in compliance with the provisions of Annex V of the Energy Efficiency Directive (EED), with the purpose to **minimize the administrative burden** for all the involved parties (obligated parties and public authorities).

CRES developed initially a bottom-up equation with the framework of its duties as the administrator for calculating, monitoring, controlling and verifying energy savings reported by the obligated parties to the EEOS. Nevertheless, the number of the end-users impacted by the implemented awareness-raising campaigns was necessary for the application of the developed bottom-up equation.

Consequently, a **survey** was conducted to a statistically significant sample of households at national level in **2017** in order to calculate the number of the households who read the leaflet distributed by PPC (main Greek electricity supplier) through a massive campaign to almost all households in Greece, and who declared their intention to implement the energy savings advice presented in the leaflet.

CRES carried out an **additional survey** in the beginning of **2023**, aiming at validating the number of the end-users impacted by awareness-raising measures including both the distribution of a leaflet and the utilization of social media. The results of the survey have been taken into account by CRES for updating the bottom-up equation within the framework of the EEOS in the period 2022-2030.

Evaluation method

The method corresponds to the use of "**surveyed savings**" as allowed in Annex V EED. This simplified approach makes it possible to minimize monitoring and verification costs. However, the results have a **large uncertainty**, due to the

various explicit or implicit assumptions made. Appendix VI of the [Commission's recommendation \(EU\) 2019/1658](#) indeed reminds that "*Member States are recommended to use, where appropriate, the randomised controlled trials (RCT) approach*". When not possible to use RCT, then quasi-experimental methods should be considered. The use of surveyed savings is therefore a default option that should be used with a **lot of caution** (see also discussion about replication at the end of this example).

In the method used for Greece's EEOS, the calculation of energy saving delivered by awareness-raising measures is performed through the following bottom-up equation:

$$TFES_{yr} = \sum n_{households} * FEC_{household} * S_Q * S_{affected} * (1 - S_{influenced_by_others}) * (1 - S_{affected_prev_year_households})$$

where,

TFES = Total final energy savings (kWh)

$n_{households}$ = Number of participating households into the conducted awareness-raising campaign.

$FEC_{households}$ = Average final energy consumption of each household (kWh)

S_Q = Energy savings factor (% - 2% for simplified advice, 3% for specialised advice, 5% for presenting the expected economic benefits along with the providing advice, 10% for providing advice in regular basis and 10% for issuing Energy Performance Certificates).

$S_{affected}$ = Percentage of the affected households (% as estimated by the conducted survey - 35% for the case of horizontal campaigns and 82% for the case of targeted campaigns).

$S_{influenced_by_others}$ = Percentage of the households affected by the conducted awareness-raising campaigns, which have been implemented by other obligated parties in the same year (% - 20% for avoiding double counting).

$S_{affected_prev_year_consumers}$ = Percentage of the affected households by the conducted awareness-raising campaigns in the previous year within the EEOS (% - as resulted by the clearance report of CRES for the previous year through the subtraction of the already affected end-users due to the fact that the lifetime of the measure has been considered equal to two years).

Main results or findings

The developed bottom-up equation was utilised extensively by the obligated parties in the period 2017-2020. More specifically, the controlled and verified cumulative energy savings triggered by the conduction of awareness raising campaigns in the residential, tertiary and transport sectors amounted to 138.6 ktoe, 50.8 ktoe and 125.0 ktoe in each sector respectively. The energy savings from behavioural measures represented about **53% of the total savings reported to the EEOS for 2017-2020**.

It should be noted that CRES requested the submission of **specific control and verification elements** in regards the conduction of the awareness-raising campaigns in order to complete the clearance procedure, such as the production and the distribution of the dissemination material or the development of the awareness raising material and the publication to the various social media.

Moreover, the survey conducted in 2023 led to valuable insights about the reinforced awareness of the households. More specifically, **44% of the households read the distributed leaflets** with information about energy saving advice in 2023. It should be noted that the affected share was higher compared to the respective one in 2017 (38%). Moreover, **80% of the households intended to adopt the energy saving actions** presented in the distributed leaflets.

The utilization of the **social media** leads to slightly higher outcomes as **48% of the households read the information** about saving energy in 2023 through them, while **82% of the households had the intention to implement** the presented energy saving advice.

The **spill-over effects** were quantified also within the framework of the survey. 80% of the households declared that they will pass on the energy saving information or experience to another person depicting an improved performance compared to 2017 (75% of the households).

Furthermore, it was confirmed that the EEOS managed to improve the knowledge of the end-users considerably in the previous years. **44% of the respondents claimed that the EEOS contributed meaningfully to their decision** to alter their behaviour and to introduce more energy efficient practises. It should be mentioned that the resulted share was validated by the ex-post analysis of the affected end-users as resulted by the applied control and verification procedures by CRES.

42% of the respondents stated that they received energy saving **information from more than one obligated parties** during the same year. This highlights the need to incorporate into the bottom-up equation a factor to correct for double counting.

Finally, the possibility was explored for the households to upgrade their home's energy efficiency without receiving any financial support. According to the received responses,

58% of the respondents are not willing to renovate their buildings without any subsidy. 19% of the households appeared a possibility up to 40%, while it is more probable for 20% of the sample to implement energy renovation interventions without their participation into a national programme.

The main lessons learnt include:

- **Conduct surveys regularly** in order to obtain a more in-depth understanding about the parameters that shape the behaviour of the end-users.
- **Implement ex-post evaluation** approaches in order to assess the performance of the awareness-raising measures and the triggered impacts.
- Pursue the standardization of the methods for quantifying the delivered energy savings from the awareness raising measures ensuring the compliance with the requirements of Annex V and without increasing considerably the administrative burden.

Replication potential in the context of Article 8 EED

The developed bottom-up equation for quantifying the delivered energy savings by awareness raising campaigns comply with the requirements of Annex V EED. More specifically, the number of the affected end-users should be determined by a survey, which can be conducted centrally in order to assess the surveyed savings. The applied approach is compatible with Annex V for quantifying the surveyed savings as resulted by changes in consumer behaviour due to consumers' response to advice, information campaigns, labelling or certification schemes or smart metering initiatives.

Obviously, the developed method can be implemented to other countries through the determination of the required input data and the identification of the number of the affected end-users.

All types of behavioural measures can be assessed through the developed method giving the opportunity to all MS to exploit the energy savings potential from them. The implementation of the bottom-up equation can assist the MS to address effectively the challenges arisen during the quantification of the delivered energy savings and to minimize the administrative burden.

However, it should be reminded that Appendix VI of the [Commission's recommendation \(EU\) 2019/1658](#) clarifies that "*Member States are recommended to use, where appropriate, the randomised controlled trials (RCT) approach*". When not possible to use RCT, then quasi-experimental methods should be considered. While these methods may not always be applicable for large-scale programmes, they can at least be used to evaluate energy savings on samples, for example during a pilot stage. This provides a more reliable estimate of the energy saving factor used in the equation for surveyed savings, as shown above.

More details about RCT and quasi-experimental methods can be found in the example about the US protocol on the evaluation of energy savings from behavioural programmes (see example [here](#)):

Stewart, J. and Todd, A. (2020). [Chapter 17: Residential Behavior Evaluation Protocol](#). The Uniform Methods Project: Methods for Determining Energy Efficiency Savings for Specific Measures. October 2020.