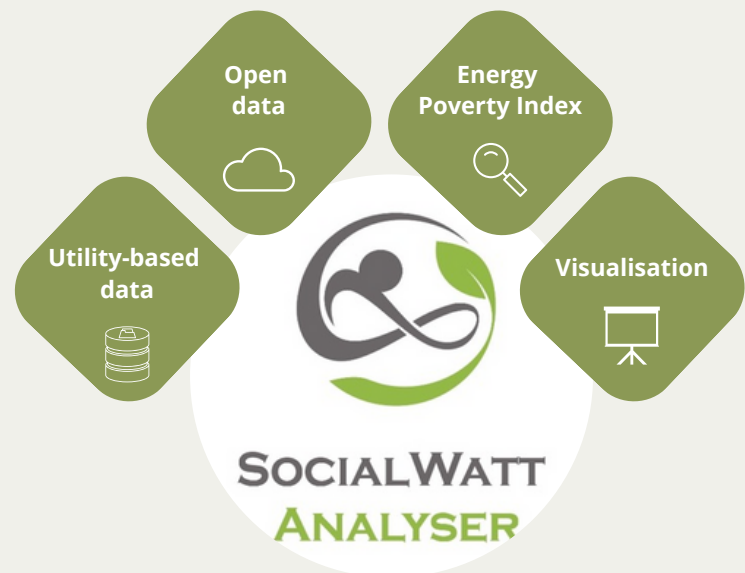


SOCIALWATT IN A NUTSHELL

The SocialWatt Analyser tool aims to help energy companies identify energy poor households among their clients. It is a user-friendly decision support tool designed to facilitate users to identify and target more effectively households in energy poverty. It ensures that households are encouraged to participate in energy efficiency/renewable energy schemes developed and implemented by energy companies, in order to benefit from them and escape energy poverty. Particularly for energy efficiency interventions, where benefits for residents go beyond reduced energy costs and include improved health, well-being and comfort. The SocialWatt Analyser:

- Enables utilities, energy suppliers and energy service companies to identify energy poor households, using customer data collected and held internally, especially energy consumption and cost data at household level, as well as readily available data (such as climate data and income data), computed data (e.g. energy needs), and other customer data (arrears on utilities, type of buildings etc.).
- Allows user customisations, in terms of different input methods, data types and structures, and consequently facilitates utilities (even those with limited expertise) to identify energy poor households. Functions for configuring the tool and appropriately adjusting its settings are built in, for example the tool enables users to select different energy poverty indicators.
- Provides information on energy poverty levels at national, regional and local level.



ENERGY POVERTY INDICATORS

SocialWatt Analyser incorporates six indicators for identifying energy poor households, i.e.: high share of energy expenditure in income (2M), low absolute energy expenditure (M/2), 10%, low income high cost (LIHC), arrears on utility bills and the SocialWatt indicator. This enables energy companies to delve into the issue of identifying energy poverty by testing different indicators and selecting the most appropriate one for their analysis based on national requirements (e.g. official national energy poverty indicator) and business preferences, considering the limitations associated with each indicator.

The main driver behind the development of the new SocialWatt indicator, is that some of the indicators are particularly sensitive to the accuracy of household income data. The use of statistical income data (local, regional or national) is less likely to accurately reveal energy-poor households. The SocialWatt indicator circumvents this issue with its two-stage analysis, as it first identifies households that are rationing energy, before assessing the share of energy expenditure in income. This is particularly important since energy companies do not typically collect household-level income data of customers.

SOCIALWATT ANALYSER RESULTS ACROSS EUROPE



Croatia

Status: There is no national definition for energy poverty. HEP ESCO is an energy service company and does not have direct access to a full customer database. As such, two datasets with a very limited number of customers were analysed, one of “regular” customers and one of “vulnerable energy” customers defined according to national criteria.

Outputs: When using the 10% and the 2M indicators, which both heavily rely on average income data, a high number of households were found to spend more than 10% of national average income on energy to maintain an adequate level of thermal comfort, and thus were identified as energy poor.

When using the M/2 indicator, which does not rely on income data, approximately 40% of “vulnerable energy” customers and less than 2% of “regular” customers were identified as energy poor. This suggests that a considerable number of households spend on electricity more than half of the national median.

Italy

Status: There is no national definition of energy poverty. eVISO selected the SocialWatt indicator to identify energy poor households, within its’ direct customers and the customers of its’ resellers.

Outputs: Overall, approximately 22% of all customers were identified as energy poor, with a further 4% identified as at risk of energy poverty. Moreover, a sensitivity analysis revealed that a small change in the lowest energy consumption parameter, which is designed to exclude properties that are infrequently/not occupied or used as holiday homes, has a large impact on the energy poverty assessment. For instance, decreasing the parameter from 10% to 5% leads to an increase of 21% in energy-poor households.

Greece

Status: PPC decided to focus on analysing “vulnerable” customers, as defined by national law, from its customer database, using all six energy poverty indicators incorporated in the tool.

Outputs: Notably, the SocialWatt indicator identified more than 85% of vulnerable customers as energy poor. On the other hand, most other indicators identified less than 30% of vulnerable customers as energy poor. Further analysis of the results has revealed the importance of using correct input parameters and accurate data when using these indicators. For example, for most indicators using income data, low percentages can be explained by the fact that the national average income used in the analysis is not representative of vulnerable customers.

In addition, the LIHC indicator identified households as energy poor if they spent more than €2,000 on electricity, revealing an inherent limitation of this indicator, when using national average income, instead of actual income, to which actual energy costs (and in this case only electricity costs) are subtracted to identify households below the national poverty line.

On the other hand, a strong correlation between the number of energy-poor households in eVISO’s customer base in a region with the average income of that region was not shown.

COVID-19 Impact: The analysis was run for a second time using energy data for six months in 2019 and six months in 2020 to understand the impact of the COVID pandemic. The results returned with more energy-poor households (i.e. an increase of about 10%), reflecting changes in the energy consumption of households during lockdown."

SOCIALWATT ANALYSER RESULTS ACROSS EUROPE



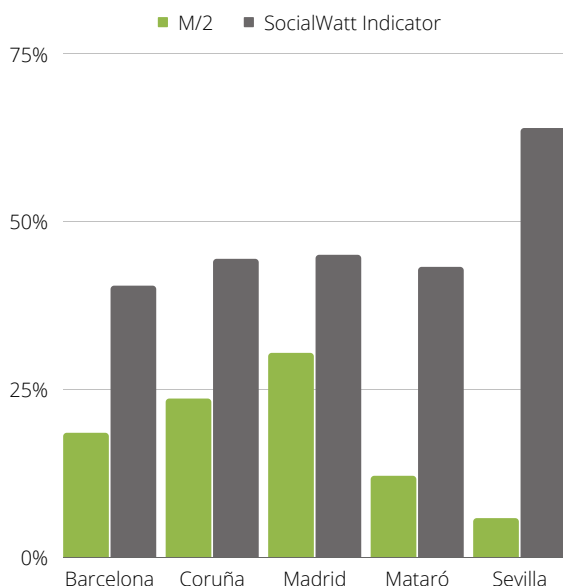
"The SocialWatt Analyser could be very effective at tracking households' energy poverty history over time."



Spain

Status: Energy poverty is defined in Spain as a household's inability to meet basic energy needs, as a consequence of low income and energy-inefficient housing. Naturgy used five of the energy poverty indicators incorporated in the tool to identify energy poor customers. Naturgy included in the analysis customer data from five cities (i.e. Barcelona, Coruña, Madrid, Mataró and Sevilla), for which the company provided both gas and electricity.

Outputs: Income-based indicators (i.e. 10%, 2M and LIHC) identified a very low number of households as energy poor. Interestingly though, *the M/2 identified up to a third of customers as energy poor*, depending on the city. This indicator was considered more suitable for identifying energy poor households in Spain, although less suitable for Madrid, which can be explained by the fact that Madrid has many district heating systems and Naturgy does not capture such heating costs in its customer database (natural gas is used for cooking purposes only by these households).

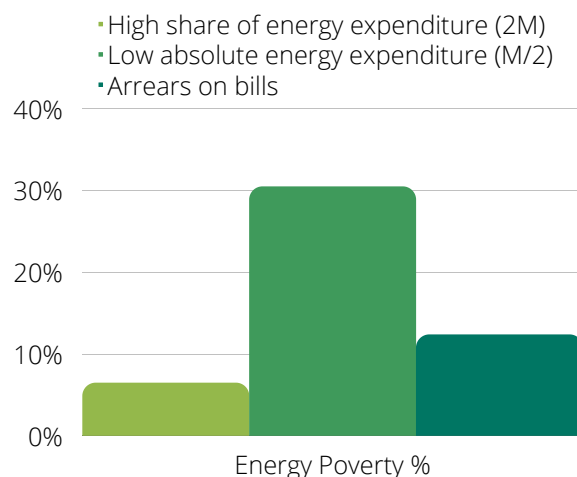


Latvia

Status: There is no national definition of energy poverty. Gren Jelgava used all six energy poverty indicators incorporated in the tool to identify energy poor customers. However, it should be noted that Gren Jelgava is a district heating provider, where energy consumption is typically measured at the building level, and as such it has limited data on end users' and households' energy consumption for the analysis.

Outputs: The indicators that rely on the use of income data (i.e. 10% and LIHC), in combination with the fact that only heat consumption data and not total energy consumption were used, did not return any results. *The 2M indicator identified 6.5% of customers as energy poor, whilst 12% of households were found to have arrears on utility bills* for a period of 30 days or more.

By contrast, *the results for the M/2 indicator showed that about a third of households spend below half the average district heating costs*, and are therefore considered energy poor. Taking into account data gaps and data limitations, arrears on utility bills could be the most suitable method for identifying energy-poor households for Gren Jelgava.



SOCIALWATT ANALYSER RESULTS ACROSS EUROPE



Romania

Status: The Law 96/2016, which came into force in 2021, includes the following definition: "Energy poverty is defined as the impossibility of the vulnerable consumer to meet their minimum energy needs for the optimal heating of the home during the cold season." CEZ Vânzare used five of the energy poverty indicators incorporated in the tool to identify energy poor customers. CEZ Vânzare customer data were analysed, which included customers on regulated prices.

Outputs: The SocialWatt indicator and the 10% approach identified about a fifth of customers as energy poor, whilst arrears on utility bills identified approximately 12% of households as energy poor. In addition, the LIHC and 2M indicators identified a very low number of customers as energy poor. Once again, the limitations of the LIHC indicator were revealed, as it identified households as energy poor when energy costs were higher than €4,200.

On the other hand, the low number of energy-poor households identified when using the 2M indicator implied that for the vast majority of energy-poor households identified under the 10% approach, the share of energy expenditure in income is between 10% and 16%. Considering the results of the analysis, CEZ Vânzare decided to tackle energy poverty by focusing on:

- Approximately 25,000 households identified as energy poor by all six indicators, provided that compliance with the GDPR can be ensured;
- Five cities with the greatest proportion of households estimated to suffer from energy poverty, with an emphasis on the poorest (Craiova and Drobeta-Turnu Severin).

More information

- Our website: <https://www.socialwatt.eu/>
- Contact us: contact@socialwatt.eu
- SocialWatt Tools: www.socialwatt.eu/en/socialWatt-tools

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"The SocialWatt Analyser is an innovative user-friendly tool that can facilitate energy companies to identify energy poor households amongst their clients."

