



**CONCERTED ACTION
ENERGY SERVICES
DIRECTIVE**



Concrete examples of measuring energy saving impacts

Executive Summary

WGR 2.1

Core Theme 2
Working Group Report 1

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In order to draft their 2nd National Energy Efficiency Action Plans (NEEAPs)¹, Member States (MS) needed to calculate energy savings for different energy efficiency (EE) improvement measures and programmes. The aim of the Working Group on 'Concrete examples of measuring energy saving impacts' was to create a general overview of the energy savings measurement methods applied and to identify some concrete case study examples of how energy savings were calculated and monitored for the specific measures included in the 2nd NEEAPs. All CA ESD participating countries² provided input. Data collection was conducted via a questionnaire circulated in Summer 2011.

The topic was divided into two main categories – top down (TD) methods and bottom up (BU) methods. At the time of data collection, fewer than half of the MS had finalised their 2nd NEEAP. Therefore the focus of this Working Group was to get an initial overview of what measurement methods have been used or will be used across MS to evaluate and report energy savings in the 2nd NEEAPs. It was also interesting to learn whether the MS reporting organisations preferred to use European Commission (EC) recommended methods or national methods as well as to extract concrete examples of methods used in areas/sectors not covered by EC recommended methods.

21 national CA ESD representatives reported that they use TD methods for energy savings calculations in at least one sector (household, service, transport, industry, agriculture) in the 2nd NEEAP. Two thirds of these use TD methods widely across the sectors. However, 5 representatives reported that they use TD methods in only one or two of the five sectors. TD methods are used more frequently in the industry and transport sectors and less frequently in the household and service sectors. Only about a quarter of the 21 CA ESD representatives who use any TD methods apply them in the agriculture sector.

4 CA ESD representatives reported that they use only TD methods for the calculation of energy savings reported in the 2nd NEEAP. This is noticeably fewer than the 9 MS representatives who reported that they use only BU methods for savings calculations.

According to the CA ESD representatives, almost half of the MS who use TD methods use a combination of TD and BU methods for their savings calculations.

The data gathered from CA ESD representatives suggests that over one quarter of MS (8) do not use any TD methods for their savings calculations compared to 4 MS who do not make any calculations using BU methods.

Some CA ESD representatives reported that the TD method they use for a specific sector covers the whole energy use of that sector. Major differences were identified in the share of the savings these sectors were reported to contribute to the total national ESD energy savings target. This may be caused by the large variations in the share of energy end-use of different sectors as a proportion of total end-use energy consumption in different MS. However, the variations were notable in most sectors.

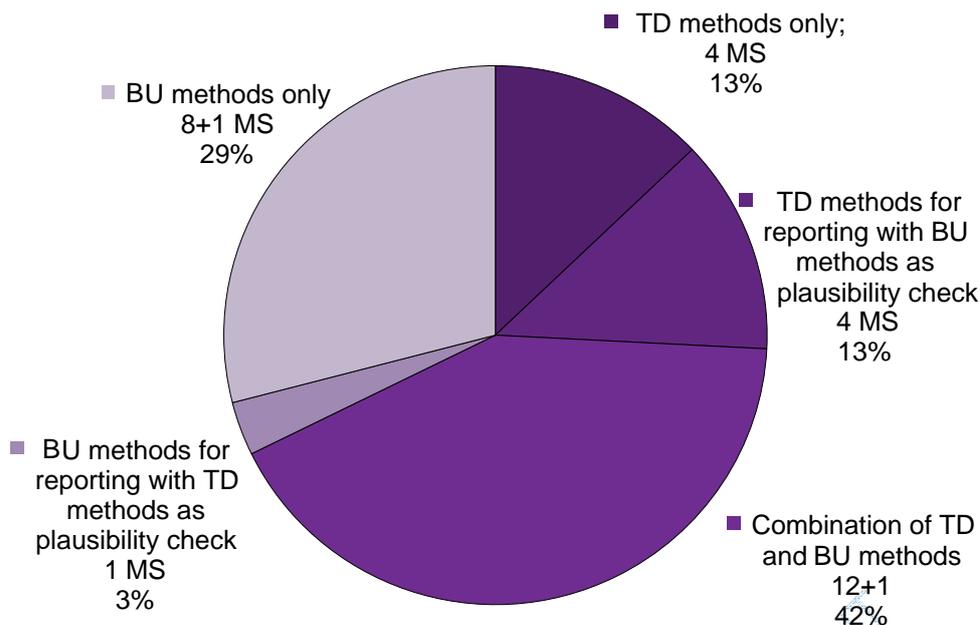
BU methods were reported to be widely used across the MS (25 MS), with almost one third (9) of MS using BU methods exclusively for energy saving calculations within their 2nd NEEAPs. The survey showed that all of these 9 MS are using their own national BU methods. EC recommended methods are used in 11 MS. The most commonly used EC recommended BU methods are those related to solar water heating and measures related to the heating requirements of buildings. In contrast, EC recommended methods related to air-conditioning in buildings and to office equipment are only used in a small number of MS. The results show that, even if there is an EC recommended BU method available for a measure/end-use/sector, the majority of MS use national methods rather than EC recommended methods for those measures/areas.

A variety of national BU methods are used both for areas/sectors/measures where EC recommended methods are available and for areas that are not covered by the EC recommended methods (such as soft measures, energy auditing, transport, industry, the agriculture sector and complex integrated energy efficiency improvement (EEI) measures).

¹ Norway has not submitted a NEEAP but they still provided input based on own BU methods for some of the major energy saving measures currently in place.

² Member State Energy Services Directive implementing bodies as well as Croatia and Norway.

Figure 1: Reported use of top-down and bottom-up methods in the 2nd NEEAPs



There is a significant variation in the contribution of savings calculated by each BU method to the total national ESD energy savings target for 2010. On average, the largest share of savings is calculated with methods related to building codes (20–30%), followed by methods related to the heating requirements of buildings and measures in the industry sector (10–20%). MS that use BU methods for the evaluation of soft measures reported that the share of savings in the national ESD target in 2010 is between 2% and 5%. The lowest share of savings was reported for air-conditioning and office equipment, which could be related to the lack of data needed for calculations.

Two case study examples of BU methods applied in MS were presented during the 1st CA ESD II Plenary Meeting. One case study explored energy savings from highways and national roads in Slovakia; the other, energy counselling for households in Austria. Good practice factsheets are available for both case studies (see Annexes 1 and 2).

CA ESD work related to savings calculations and the TD and BU methods being used in the 2nd NEEAPs will be continued in Spring 2012. CA ESD MS representatives will then be asked to share in more depth their experiences related to energy savings calculations and reporting in the 2nd NEEAP. They will also be asked to assess elements such as the data used for calculation, data sources and data gathering methods used, assumptions and reference values used, resource intensity, use of results within the national context and possible barriers encountered.

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The Concerted Action for the Energy Services Directive II (CA ESD II) was launched by Intelligent Energy Europe (IEE) in May 2011 to provide a structured framework for the exchange of information between the 29 Member States during their implementation of the Energy Services Directive (ESD).

For further information please visit www.esd-ca.eu or contact the CA ESD Coordinator Lucinda Maclagan at lucinda.maclagan@agentschapnl.nl

