

Good Practice Factsheet

Energy Saving measurement methodology used in the Spanish 2nd National Energy Efficiency Action Plan

Topic area	Feedback from the 2nd National Energy Efficiency Action Plans (NEEAPs): Top down and Bottom up energy savings calculations (WG 2.2)
Name of work programme/project	Energy Saving measurement methodology within the 2nd Spanish Energy Efficiency Action Plan (2011–2020).
Project scope and description	
Short description of the project and the method	<p>The aim of the project was to evaluate the savings achieved up to 2010 and the objective proposal for 2016 and 2020 in terms of final and primary energy in compliance with the methodological recommendations of the European Commission.</p> <p>The method used was a result of a combination of top-down indicators and bottom-up calculations. The differences in the results obtained by means of this dual approach (top-down – bottom-up) explain indirect and/or unquantifiable effects associated with structural or temporary changes.</p> <p>The base year used for calculating savings in 2010 was 2007, so as to add the savings calculated for Spain within the framework of this Action Plan 2011–2020, the base year 2007 enables comparison of the results with other Member States within their respective action plans. Nonetheless, savings in 2010 were also calculated using the base year 2004, to include the savings derived from Spanish Action Plan 2005–2007 as approved in the Energy Saving and Efficiency Strategy for Spain 2004–2012 (E4) framework.</p> <p>The top-down indicators used in each sector were European Commission recommended preferred indicators, with the exception of road transportation of goods and the tertiary sector. In addition new indicators, which were not among the European Commission recommended methods, were included to identify or clarify the effects on the savings from specific measures in public services and agriculture. Bottom-up indicators were used to identify the direct savings of the supported measures individually within the both Action Plans 2005–2007 and 2008–2012 of the E4.</p>
What is the scope of the method?	The methodology covers all end use sectors (industry, transport, building, equipment and services, agriculture and fisheries). In addition it includes the energy transformation sector in the whole national territory.
Who are the key people involved?	The co-ordination and follow-up of the project is being done by the Energy Saving and Efficiency Directorate in Spain in collaboration with the Planning and Studies Department of IDAE.
Who was the target audience?	European Commission and the general public.
How was this work programme/ project financed?	Funding for “Spanish Energy Saving and Efficiency Action Plan 2011–2020” come from the national budget (total funding 35 M€, annually).
What was the cost of the work programme/project?	The technical assistance cost was 150.000 € (plus V.A.T.). This is exclusive of the costs of IDAE workers involved in the project

When did it start and end?	Spain started the calculation process around June 2010 and finished it in June 2011.
Project Outcomes & Communication	
What were the key achievements?	<p>Directive 2006/32/EC of the European Parliament and of the Council of 5 April 2006 on Energy End-Use Efficiency and Energy Services lays down in article 14 that Member States must present a second Energy Efficiency Action Plan (EEAP) before 30 June 2011. The Action Plan includes a thorough analysis and evaluation of the previous Plan, EEAP 2008–2012 (first Action Plan for the purposes of Directive 2006/32/EC) together with the results in terms of meeting the energy savings targets given in article 4 for the third year of application of the Directive.</p> <p>An Annex submitted with the Action Plan reflects the calculation methods and quantification of the energy savings obtained in 2010 with respect to the reference years 2007 and 2004. Calculating the savings obtained in comparison with 2007 allows us to assess the progress made in meeting the savings targets set for 2016 and 2020, whereas using the basis of 2004 enables us to gauge the results of the 2005–2007 Action Plan, approved as part of the Energy Savings and Efficiency Strategy in Spain 2004–2012 (E4).</p> <p>The scope of the study extends to the savings achieved in each of the sectors detailed in Action Plans 2005–2007 and 2008–2012 as a result of energy savings and efficiency measures using a variety of mechanisms implemented in the course of targeted programmes. The aforesaid programmes are usually combined with additional incentives (subsidies, tax incentives, etc.) to encourage alternative consumption patterns or changes to more efficient technologies.</p>
What were the outcomes and benefits?	See above.
What were the key lessons learned?	In 2010 we did not have ultimate or definitive data of some consumption indicators and activity variables which initially was a barrier to the calculation of savings. Once this hurdle was overcome, the calculation with certain indicators gave unexpected results. The economic crisis affecting the macroeconomic data for 2010, visibly distorts some results.
Is there anything you would do differently in future?	Not exactly, Spain has faithfully complied with the methodological recommendations of the European Commission to report the savings achieved for the 2 nd NEEAP, and it would be important to continue reporting on the same basis for the 3 rd NEEAP.
What makes this a good practice example?	The Spanish NEEAP serves as a base plan for the Spanish policy in energy efficiency.

<p>Web links to further information?</p>	<p>In Spanish: http://www.idae.es/index.php/relcategoria.1154/id.663/relmenu.331/mod.pags/mem.de.talle http://www.minetur.gob.es/energia/balances/Balances/Paginas/Balances.aspx http://www.ine.es/en/welcome_en.htm (in English)</p> <p>In English: Executive summary of Spanish 2nd NEEAP and the Annex including the methodology of savings calculation 2010. I hope that these documents are of your interest. http://www.idae.es/index.php/mod.documentos/mem.descarga?file=/documentos_11905_PAEE_2011_2020_Executive_Summary_AP_A2011_2a1f1f92.pdf http://www.idae.es/index.php/mod.documentos/mem.descarga?file=/documentos_11905_PAEE_2011_2020_Annex_AP_A2011_7ca0b43b.pdf</p>
<p>Contact details of named person for further information</p>	<p>Ms Francisca Rivero García, IDAE mfrivero@idae.es Mr Alberto Vivaracho Ruiz, IDAE vivaracho@idae.es Ms Charo de Julián Rodríguez, IDAE rjulian@idae.es</p>
<p>Please indicate if this case study can be made available to the public?</p>	<p>Yes</p>
<p>Specific to this topic</p>	
	<p>Quantifying the savings obtained was achieved using the methods recommended by the European Commission in its document, "Recommendations on Measurement and Verification Methods in the Framework of Directive 2006/32/EC on Energy End-Use Efficiency and Energy Services".</p> <p>The top-down indicators are based on the differences between the year of reference or base year (2004 or 2007) and the year of calculation (2010). These indicators employ aggregate information on sector consumption, mode of transport or energy usage plus the statistical data pertaining to the different activity variables.</p> <p>Upward or bottom-up (BU) calculations are based on reliable information on each energy-saving measure adopted in the course of the period under analysis. The result is calculated by multiplying of the difference in energy consumption before and after adoption by the number of improvements implemented.</p>