



**Importance of  
Energy Efficiency Benchmarking  
and  
Energy efficiency and savings calculation  
Methodologies**

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## **ENERGY EFFICIENCY BENCHMARKING**

### **Aim:**

**Improvement, for a company and in terms of energy efficiency, of a specific process**

### **Means:**

**Comparison of how others companies perform a such or similar process**



**These comparison allows the companies**

**To identify superior practices**

**To learn from experience available in similar companies**

**To become more competitive by increasing the process energy efficiency and by the way reducing production cost**



## Energy Efficiency Benchmarking Standard

**EE Benchmarking is a tool used by energy managers or experts or energy services companies**

**It implies a recognized over all methodology giving the main principles applicable at various level**



## CEN/CLC TF189

### Energy management and related services

Chairman Mario de Renzio, Secretary : Antonio Panvini (UNI-CTC)

#### Scope:

To elaborate EN standards in the energy management and related services field on the following items:

- Energy Management Systems
- Energy Efficiency Services (Ex ESCO)
- Energy Managers and Experts
- **Benchmarking Methodologies for industry**



## CEN/CLC TF189

- Creation of the project team "Energy Efficiency Benchmarking Methodologies" decided by TF 189 at the beginning of 2008 (Decision 1/2008) following the RESOLUTION BT C85/2007
- Chairman Jan Janssen - Secretary Bert Dijkstra (NEN)
- First Meeting 26th May 2009
- Next meeting planned 2<sup>nd</sup> September 2009



## **CEN/CLC TF189 Benchmarking Expert group**

**Recommendations which sets the framework for benchmarking activities like:**

- determining boundaries**
- (energy) conversion factors**
- correction factors like e.g. location specific factors**
- coverage, representative participation**
- data collection, validation, quality assurance**
- securing confidentiality of data**
- publication of results**



## **Energy efficiency and savings calculation methods**

### **Aim:**

**measuring the realized amount of energy savings due to the implementation of energy savings policies, at several scales in space and times**

**ascertaining the impact of individual measures of saving energy by using such or such variety of products or systems**



## Energy efficiency and saving calculation methods

### Mean :

Developping a recognized and harmonised method, which entail a minimum of administrative burden and cost.

Two approaches can be made

- a top down methodology
- a bottom up methodology



## Top down approach

A top-down calculation method means that the amount of energy savings is calculated using the national or larger-scale aggregated sectoral levels of energy savings as the starting point.

TD is often using statistical figures at an aggregated level e.g. energy consumption and production in sub-sectors of industry or hot water use and related energy use in households.



## Bottom up approach

A bottom-up calculation method means that energy savings obtained through the implementation of a specific EEI measure are measured and added to energy savings resulting from other specific measures.

BU is using more detailed data, focusing on one or more end-user actions, often as a result of specific facilitating measures. E.g. the implementation of high efficiency boilers in dwellings due to a subsidy scheme or various end-user actions due to an audit scheme



An overarching methodology can be defined  
to allow combining the saving results acquired  
through both methods  
But it will stay always a difference in the results  
of both methods



## **CEN/CLCTF 190**

### **Resolution CEN/CLC BT23/2006**

**Elaborate standards for common methods of calculation of energy consumption, energy efficiencies and energy savings and for a common measurement and verification of protocol and methodology for energy use indicators**

**NB: Main objective TF 190: develop general standards or guidelines giving general rules for calculation and measurement**



## **CEN/CLCTF 190**

**Chairman J-L PLAZY (F), Secretary B.DIJKSTRA (NEN)**

**TD group chair : D Bosseboeuf, BU group chair : H. Vreuls**

**Integration : P.Bonnekamp**

**Starting of the work : june 2007**

**Drafts for BU and TD approaches available for informal consultation: june 2009**

**Official enquiry planned for starting at beginning of september 2009**



## **CEN/CLCTF 190**

The drafts will include:

A terminology part giving the definitions of essential concepts, indicators and parameters in accordance with the work done by the SFEM working group on terminology.

Explanatory elements of the calculation method including for correction factors and default values based on agreement in the field and coming from expertise issued from previous european projects, national or international databases and recognized by the TF190 experts as confident ones.

Generalized bottom up and top down methodology of calculation of energy consumption, energy efficiencies and energy savings.

Measurement and verification of protocol methodology.



Thank you  
for  
your attention