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Energy Efficiency Obligation Schemes in Europe -- Overview and analysis of main features and possibilities for harmonisation

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Energieeffizienzverpflichtungssysteme in Europa - Überblick und Analyse der wesentlichen Merkmale und Möglichkeiten zur Harmonisierung

This Technical Report was approved by CEN on 5 August 2013. It has been drawn up by the Technical Committee CEN/CLC/JWG 2.

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Foreword

This document (CEN/CLC//TR 16567:2013) has been prepared by CEN/CLC/JWG 2, Guarantees of origin and energy certificates, the secretariat of which is held by SIS.

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Introduction

The purpose of this Technical Report is to describe and analyse the energy efficiency obligation schemes and white certificate schemes which are in operation in some of the European countries. Based upon this analysis and taking into consideration the content of the newly approved energy efficiency Directive, a recommendation is given regarding the need for a possible harmonisation of the schemes through standard or other guidelines.

The interest in energy efficiency obligation schemes and white certificate schemes has increased very much since the European Commission presented its proposal for an energy efficiency directive on the 22nd of June 2011 and in which it was suggested to make this type of schemes mandatory for all EU Member States. In the Directive, approved by the Parliament on the 11th of September and the Council on the 4th of October 2012, it is stated that each country can either introduce an energy efficiency obligation scheme or use other policies and schemes in order to obtain the same energy efficiency improvements. Although all Member States can have their own energy efficiency obligation schemes, it could create some benefits if there were some kind of harmonisation of the schemes. Therefore CEN/CENELEC believe it is important to analyse the existing energy efficiency obligation schemes and white certificate schemes and come up with a recommendation if there are some advantages for Europe to write a standard or similar guideline.

The work with a technical report about white certificate schemes was initiated by Sector Forum Energy Management (SFEM), which is a CEN/CENELEC group for coordination of standardization work in the field of energy efficiency. SFEM was created in 2006 together with some joint work groups (JWGs) where the actual work to write standards take place. Besides coordinating the existing standardization work, SFEM also investigates the need for new standards. In line with this role, SFEM started a work group (WG) about Energy certificates already in 2007 that resulted in the recommendation to form a CEN/CENLEC JWG with the task to write a standard for Guarantees of origin and a technical report about white certificate schemes, see Figure 1. This group started up its work in June 2010 and during the first year the work was totally concentrated on writing the standard for Guarantees of origin but from September 2011 work has been going on with this Technical Report.

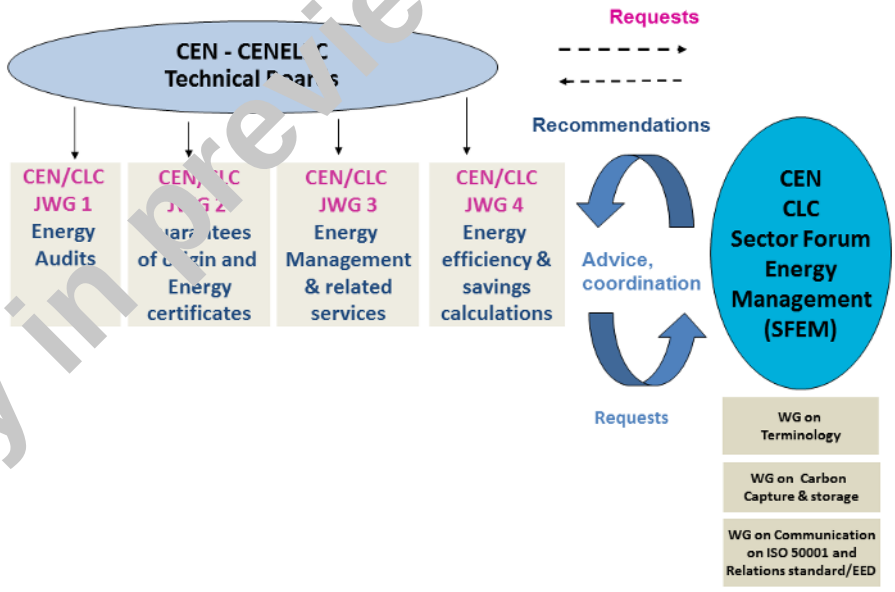

Figure 1 — Organisation chart CEN/CENELEC standardization work in the field of energy efficiency

1 Executive summary

This Technical Report describes and analyses different ways to achieve energy efficiency improvement through energy efficiency obligation schemes and white certificate schemes based on experiences in Europe. It also focuses on if there is a need and/or possibility to harmonise a system in Europe (i.e. to write a standard) as well as to look into why some countries are hesitant to introduce energy efficiency obligation schemes and white certificate schemes at the moment.

The terms energy efficiency obligation schemes and white certificate schemes can be somewhat confusing since they are used differently in different countries. There is no harmonised definition for these terms but an explanation of the design of the schemes is included in this Technical Report. It is not only that the terms "energy efficiency", "obligation schemes" and "white certificate schemes" are not harmonised; these schemes are also used in different ways in the different countries and their purpose of use differs as well. Together with the fact that conditions for using these schemes and to achieve energy efficiency improvements differ very much from country to country makes it is complicated to harmonise these schemes. Furthermore, it can be noted that the same energy efficiency improvement action in the existing schemes very often is claimed to result in different amount of energy savings according to the calculation methods in the different schemes.

For this Technical Report mainly data and information about the energy efficiency obligation schemes and white certificate schemes in four different countries have been used. Those countries are France, Italy, Denmark and Great Britain. The reason for selecting these countries is that their existing schemes have been in operation for some years (since 2005 in some cases) and information was easily accessible. There have been members of all these countries in the group producing this Technical Report and meetings have been arranged in Rome, Paris, Copenhagen and London during 2011 and 2012 in order to collect the best available information and data. However, in some tables a limited amount of information about similar schemes in some other European countries has been included. A general description about the energy efficiency obligation schemes and white certificate schemes in different countries can be found in Clause 6 and more detailed information regarding the schemes in the four specific countries, including experiences and further development, is included as an annex.

The Directive for energy efficiency states that each country can either introduce an energy efficiency obligation scheme or use other policies and methods in order to obtain the same energy efficiency improvements. It is therefore important for the purpose of this report to describe both the energy efficiency obligation schemes and the white certificate schemes which are in operation in some European countries taking into consideration also the other instruments used by some of them to reach energy efficiency. Illustrating the different ways to obtain the necessary energy efficiency this Technical Report gives voice also to objections moved against the energy efficiency obligation schemes. For some countries an EEOS seems to fit in and bring the desired benefits and results. In other countries, both local market conditions and the historical experience of implementing energy efficiency measures means that alternative measures to EEOS are preferred to facilitate the achievement of energy efficiency targets. More about this can be found in Clause 7 in this Technical Report. Regardless of which approach the Member State chooses the approach is to be evaluated by the use of the same methodology (Annex V in the Directive).

The most drastic recommendation that could come out of this Technical Report would be to suggest an extensive standard that would require a totally harmonised energy efficiency obligation scheme or white certificate scheme to be used in all EU countries. But since several countries do not want to introduce energy efficiency obligation schemes or white certificate schemes it seems like the need and possibility to create this type of standard is rather small. Moreover, there appears to be little interest for a harmonised system among countries with existing energy efficiency obligation schemes or white certificate schemes as this will entail countries to make extensive changes in their own individually designed schemes. With this combination of very different conditions in different countries, a harmonised energy efficiency obligation schemes or white certificate schemes might not be suitable and it could be better to continue with the specially designed systems in each country.

Typical for all energy efficiency obligation schemes and white certificate schemes in operation today is that there is no common way to calculate the achieved energy savings. The result of this is that the same energy efficiency action will be valued differently even after local conditions, i.e. climate, have been excluded. Since the Directive does not specify the calculation methods to be used, this Technical Report concludes as its

recommendation that a harmonisation of the calculation methods used to achieve energy savings could be a possible way forward.

2 Scope

This Technical Report, analyses and describes the concept of energy efficiency obligation schemes and white certificate schemes for energy efficiency improvement, based on the experiences in Europe. It is mainly focussed on the current systems in use in Italy, France, Denmark and Great Britain. These national systems have been in operation long enough to gain some valuable experiences about the systems. Information about these experiences is easily accessible. Some additional information about the regional system in Flanders, Belgium, Poland, Ireland, Spain and Portugal have been included in this Technical Report when considered relevant.

This Technical Report also analyses the need and/or possibility to harmonise a system in Europe (i.e. to write a standard). It also includes an analysis of some countries' hesitation to introduce white certificate systems.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
energy
electricity, fuels, steam, heat, compressed air, and other like media

Note 1 to entry: For the purposes of this document, energy refers to the various forms of energy, including renewable, which can be purchased, stored, treated, used in equipment or in a process, or recovered.

Note 2 to entry: Energy can be defined as the capacity of a system to produce external activity or perform work.

[SOURCE: EN ISO 50001:2011, definition 3.21]

3.2
energy consumption
quantity of energy applied

[SOURCE: EN ISO 50001:2011, definition 3.7]

3.3
primary energy
energy that has not been subjected to any conversion process

Note 1 to entry: Primary energy includes non-renewable energy and renewable energy. The sum of primary energy from all energy sources may be called "total primary energy."

[SOURCE: CEN/CLC/TR 16103:2010, definition 4.1.6]

3.4
energy conversion
transformation of the physical or chemical form of energy

Note 1 to entry: The term "energy transformation" may be used with this meaning.

[SOURCE: CEN/CLC/TR 16103:2010, definition 4.1.7]