Primary Energy Factor (PEF)

Discussion Paper
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1. **INTRODUCTION**

In the context of energy efficiency policy implementation, a so-called Primary Energy Factor (PEF) has been used to transform electricity consumption into primary energy consumption. Directive 2012/27/EU on energy efficiency\(^1\) (the "EED") establishes in Annex IV a default coefficient of 2.5 which may be applied by Member States when transforming electricity savings into primary energy savings\(^2\).

This value is used by several implementing regulations under the Ecodesign\(^3\) and Energy Labelling\(^4\) Directives that cover both products using electricity and products using other fuels such as gas or liquid fuels, for comparing the efficiency of these products, including household tumble driers\(^5\) and space and water heaters\(^6\). The Commission is reviewing the Energy Labelling Directive and certain aspects of the Ecodesign Directive, and in this context some stakeholders have requested a review of whether the approach of using a PEF should be maintained in the future, and if this is the case, which value should be used and how it should be determined.

This discussion is also relevant in the context of the establishment of a common EU voluntary certification scheme for non-residential building under the Directive 2010/31/EU\(^7\) on the energy performance of buildings where a PEF for electricity has to be determined to calculate the energy performance of buildings.

Under Article 22 of the EED the Commission is empowered to adopt delegated acts to adapt the default primary energy coefficient in Annex IV to technical progress. It is

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2. Member States can also use a different coefficient if justified (EED annex IV footnote3)
therefore appropriate to discuss with Member States and stakeholders whether the current PEF should be revised, and if so what new value should be included.

The Commission services have decided to convene a meeting of the Member States and representatives of stakeholders in order to discuss the way forward on the issue. As the discussion might have further implications, for instance, on buildings, delegations are invited to be prepared to discuss all relevant Energy Efficiency aspects.

2. **ITEMS FOR DISCUSSION**

The first question to be asked concerns the necessity of using a PEF.

It seems clear that in cases where the same requirements or labels are applied to products using different fuels, a PEF is needed in order to obtain comparable information.

In addition, since the Regulations published under the Ecodesign and the Energy Labelling Directives are directly applicable in all EEA countries and the free movements of goods needs to be maintained, it seems clear that a single European PEF value needs to be used. National PEFs would be inconsistent and also impractical given the cross-border nature of energy markets.

If a PEF is to continue to be used, with a single European value, it seems necessary to ask what should be the basis for establishing this value – and to check whether the present value of 2.5 remains appropriate.

In this sense it can be discussed if the value should be based on today’s electricity production efficiency or if foreseen future developments of the European electricity mix, which will have an impact during the time life of the products, should be taken into account.

Another aspect to be considered is if the value to be considered is the average level of electricity production efficiency or its marginal value.

A third issue to be considered is whether there are purposes for which it is appropriate for the PEF to be time-variant, reflecting the fact that there are times with abundant electricity, and effectively zero or negative electricity prices, where electricity demand should rather be increased, in particular if substitution of non-renewable energy is possible elsewhere.

3. **FURTHER ACTIONS**

The objective of the meeting is to consider if a review of the PEF value is to be undertaken and if such is the case, what actions need to be carried out in order to prepare it.