

Brussels, 11/11/2016

The Primary Energy Factor for grid electricity in the Energy Efficiency Directive

To avoid negative impacts on the market and unrealistic savings calculations, we call on the European Commission to apply a solid methodology in the light of the principles outlined below. This reconsideration should result in a Primary Energy Factor for grid electricity close to the already established 2.5.

The Heating & Cooling Strategy has provided a progressive and integrated way forward

We welcome that the European Commission has made heating & cooling a priority highlighted by the first ever EU Strategy for Heating & Cooling (EUSHC). Prioritising heating & cooling is crucial in the light of the ambitious efforts that are needed to achieve the Paris commitments. We are, however, concerned that the progressive and integrated approach taken in the EUSHC is not appropriately reflected in the upcoming legislative proposals to the extent that is needed to shift towards a sustainable energy system in 2050 in a cost-effective manner.

Wild electrification doesn't equal decarbonisation – there are more solutions than grid electricity

The EUSHC recognized that the role of electricity in heating will slightly increase. However, it is not physically, economically, and technically efficient to rely on a single energy carrier (electricity). Additionally, despite the progress made in decarbonising the European electricity grid, the challenge for replacing the remaining share of fossil fuels is substantial, even without considering the electrification of the transport sector with its otherwise limited decarbonisation options. For heating & cooling, numerous renewable and highly-efficient solutions (including individual and district heating) exist. The sector generates more energy from renewable sources in absolute terms than any other sector and this without being adequately addressed at European level, before the EUSHC.

Primary Energy Factors must be calculated based on sound and comparable methodologies

It is crucial that the contribution to the sustainable system of the future that different technologies can make is assessed on a technically sound, comparable and fair manner reflecting the actual development of the energy system. Primary Energy Factors are the instrument of choice to assess primary energy savings, to compare different solutions through products labeling and to evaluate the energy performance of buildings and systems. Given their central role, it is of major importance that their calculation is based on a scientifically sound methodology to reflect the real progress in the average generation efficiency of the electricity sector. This is in order not to mislead consumers and distort competition in the heat sector. To ensure this, we believe that the principles outlined in the annex below must be respected.



The PEF methodology proposed does not reflect these principles and leads to distortions

The methodology as discussed during the last official stakeholder meeting on the matter in June this year does not reflect these principles and includes other technical conventions that are not sound, such as the consideration of grid losses and the accounting of cogeneration. The methodology that the European Commission is expected to include in the Energy Efficiency Directive proposal deviates from these principles even more. The resulting value of 2.0 is unrealistically low and does not present a realistic picture of the actual state of the electricity grid. The assumptions made do not allow for the consideration of real savings and create a bias towards the use of grid electricity compared to other technical solutions. This creates wrong investment incentives and promotes consumer choices that are not cost-optimal.

To avoid negative impacts on the market and unrealistic savings calculations, the signatories of this letter call the European Commission to reconsider the methodology in the light of the principles outlined below. Taking into account these principles and adjusting the treatment of CHP should result in a Primary Energy Factor for grid electricity closer to the previous value of 2.5.

We would like to thank you for considering this suggestion. In the case of questions, we are happy to provide additional input and explanations.

AEBIOM – the European Biomass Association

COGEN – the European Association for the Promotion of Cogeneration

EFIEES – the European Federation of Intelligent Energy Efficiency Services

EGEC – the European Geothermal Energy Council

ESTIF – the European Solar Thermal Energy Federation

Euroheat & Power – the European District Heating & Cooling Association

The signatories to this letter represent the biomass, geothermal, solar thermal, cogeneration, district heating & cooling and efficient energy services sectors.

Basic principles

The actual composition matters

The contribution of electricity supplied via the grid to the decarbonisation depends on the actual composition of the electricity in the grid. Therefore, it must be ensured that only the electricity actually delivered to the European grid is considered in the assessment. Electricity for self-consumption in industry or the building sector as well as local grids must be excluded. Moreover, the assessment must be based on actual developments and not anticipate possible developments. Only realistic numbers allow investors and consumers to make the right choices.

The purpose matters

The purpose the factor is used for is crucial for the methodology behind. The purpose in this case is the calculation of savings under the regime of article 7 EED. These savings solely concern energy savings in a given year. Accordingly, the factor must reflect the electricity production of this given year to enable an assessment of actual energy savings without accounting for future savings. Actual future efficiency gains in the electricity grid will be reflected in the primary energy savings of future years. As the methodology behind is partially set by the purpose, any mechanism for automatically applying it to other purposes such as eco-design or building assessment must be prevented.

Energy is energy when calculating efficiency gains

As the purpose of art 7 is the assessment of energy savings, the methodology must focus on efficiency gains. A given unit of electricity must not be treated differently whether it is renewable or fossil but only on the basis of the efficiency of its extraction, transformation, delivery and use. Otherwise increases in the renewable share that do not coincide with efficiency gains are mistakenly counted into both.

Fuels have upstream chains

Primary energy is the energy before extraction, transformation, delivery and use. Primary energy factors must therefore reflect this whole chain, otherwise they do not express the primary energy content. This would thwart the primary energy approach. Assuming zero upstream and transformation losses for PV and wind is a convention that already stretches the boundaries of the primary energy methodology. This convention must not be extended to other fuels. By extending this the role of fossil fuels in the overall electricity production is underestimated, especially coal based electricity would be hidden by convention.

Fuels don't change their nature

When fuels and sources are used for different purposes, this does not change their nature. Accordingly, the assessment of the fuels as such must be the same for all purposes, be it their use for electricity production in the grid, for district heating or district electricity or in individual installations. In CEN TC371 WG1 technical experts from various sectors and all Member States have agreed on a set of primary energy default values for all common fuels that include the upstream chain, which can be used for all these purposes. Using different values for the overall grid compared to decentralised solutions, disadvantages the development of local energy systems lead by cities, communities and consumers.