WindEurope feedback on the roadmap & inception impact assessment on the revision of the Energy Efficiency Directive (EED)

September 2020

Decarbonising the economy and reaching carbon neutrality by 2050 require reducing resources demand - through energy efficiency, circular economy, or lifestyle/behaviour changes as well as technology options to decarbonise the energy supply – like fuel-switching, renewable energy sources.

Traditionally efficiency has meant "using less", but policies should pursue a goal of "producing the same or more while using less". Minimising energy use per unit of economic output entails a genuine transformation of the European economy.

To this end, WindEurope calls for the roadmap and the inception impact assessment of the European Commission on the EED revision to:

- **Be aligned with the European Green Deal and the EU Recovery Plan and to recognise the role of renewable electricity in the decarbonisation process; and**
- **Revise the value of the Primary Energy Factor (PEF) to trigger the use of electricity where and when it is most efficient option.**

1. EED to be aligned with the European Green Deal and the EU Recovery Plan and to recognise the role of renewable electricity in the decarbonisation process

The Energy Efficiency Directive was adopted in 2012 and was subject to a limited revision under the Clean Energy Package for all Europeans in 2018.

The revised Directive should be aligned with the initiatives of the European Green Deal and the implementation of the final 2030 National Energy & Climate Plans (NECPs).

The cheapest, cleanest and most secure energy is the energy not consumed. While renewable resources offer affordable and potentially inexhaustible energy, their efficient use across all stages of the energy chain, from transformation to end-use, will be critical to Europe meeting its long-term Climate and Energy objectives.

The European Commission states a clear direction forward: if Europe is to become carbon neutral by 2050 , it will have to phase out fossil fuels and mainstream the use of renewable electricity and energy efficiency in its most energy-intensive sectors, namely transport and heating in industry and buildings. And it will have to do it with the same ambition and determination that it applied to transforming the power sector over the last two decades.

Energy efficiency and electrification go hand in hand and, when taken together, they offer the greatest possible benefit in terms of achieving decarbonisation cost-effectively. Renewable-based electrification would indeed improve energy efficiency and reduce final energy demand. For instance, in the transport sector, energy savings could be significant, as battery electric vehicles have higher energy conversion efficiency rates than internal combustion engines. The same applies to heating and cooling sector: heat pumps provide about three times more thermal energy than the electricity they consume and are three to five times more energy efficient today than traditional fossil fuels boilers.

2. **EED to revise the value of the PEF to trigger the use of electricity where and when it is most efficient option**

One way to boost both energy efficiency and renewable-based electrification is to review the value of the PEF which indicates the amount of primary energy used to generate a unit of final energy (electrical or thermal). It allows a comparison between the primary energy consumption of products with the same functionality using different energy carriers (particularly electricity versus fossil fuels).

Energy efficiency accounting methods should not penalise electricity against the use of fossil fuels. However, the way companies currently account for energy savings under stringent energy efficiency regulations stifle electrification. The updated Energy Efficiency Directive and the Energy Performance Buildings Directive (EPBD) established that savings in electricity shall be multiplied by a primary energy factor of 2.1[1]. This assumes that all power generation in the EU has an average 40% efficiency rate which is approximately equal to the energy conversion efficiency of a conventional power plant. This value incentivises electricity savings over direct fossil savings to meet the energy efficiency target.

It does not reflect the transition of the European power mix towards larger shares of renewable energy sources from which energy is harnessed without the burning or combustion of a fuel. Indeed, as highlighted by the Energy System Integration Strategy, "most renewables are 100% efficient and have a low PEF. The PEF should reflect the real savings brought about by renewable electricity and heat."

The PEF should therefore not only reflect the need to reduce energy use by counting primary energy, but also recognise the role of electricity in improving "emissions efficiency"[2]. As the EU has set a clear direction for the decarbonisation of its power sector, WindEurope supports a "desired" PEF value that reflects this development. **We call for a PEF for non-combustible renewables to be lower than 1**.

WindEurope supports a dynamic approach to the PEF ensuring it triggers the use of electricity where and when[3] it is the more efficient option. This means allowing Member States to use the European or a national PEF, whichever value is the lowest, when implementing the EED and EPBD. However, eco-design and energy labelling regulations should apply a uniform value for the entire EU 25 market based on the annex IV of EED. Moving away from static PEF value that are set in stone for several years to a more frequent review of these values based on annual or even seasonal average.

Finally, the impacts of the PEF on the production of renewable hydrogen (i.e. hydrogen produced by 100% renewable electricity) should be considered and investigated.

[1] The previous regulation stipulated a PEF of 2.5

[2] Keith Dennis, et al, 2016. Environmentally beneficial electrification. The electricity journal. Volume 29, Issue 6, p.52-56

[3] If an efficiency measure reduces power consumption in hours of high demand, renewable energies and base load power plants will continue to produce and only the peak load plants (mostly gas and oil turbines) will adjust their power generation accordingly. While the average generation mix is easy to estimate, determining the marginal generation unit however requires more complex assumptions. European Commission (2016)