BELLONA EUROPA

POSITION PAPER

Renewables and Efficiency: Building up Europe's Energy Future

SETTING A RENEWABLE ENERGY FRAMEWORK

Bellona Europa welcomes the update of the renewable energy framework as it is a vital tool for accelerating the deployment of renewable energy sources (RES) in pursuit of the 90% greenhouse gas (GHG) reduction target for 2040 set in the European Climate Law.

The current political climate makes strengthening the conditions that enable swift RES deployment, advancing efficiency and energy system integration and driving electrification across demand sectors more urgent than ever. Throughout this process, high climate ambition must remain an absolute baseline.

This position paper sets out Bellona's key recommendations for designing the updated framework.

1. CLIMATE AMBITION

The update of the RED must ensure high climate ambition. Any new targets must be based on credible pathway to 90% reduction by 2040 climate neutrality by 2050, and be backed by stronger enforcement mechanisms to hold Member States accountable. To ensure delivery of the targets, the updated RED framework should double down on accountability of Member States to close the gap between commitments and delivery.

With the Governance Regulation also under revision, now is the time to strengthen the coherence and consistency between the two files. The next round of NECPs and LTSs should reflect a systematic integration of both laws. Should KPIs be developed under the Governance Regulation, they should be designed to help Member States convert the requirements of the next RED into implementable national commitments, and in no case weaken or substitute binding targets.

2. RES DEPLOYMENT

Article 15c RED requires Member States to designate **Renewable Accelerations Areas (RAAs)** where simplified permitting and environmental impact assessments apply. Theoretically Article 15e should complement this by allowing, but not requiring, Member States to also designate dedicated areas for grid and storage infrastructure where streamlined environmental assessment applies. Together, these two articles are meant to create the

conditions for faster renewable energy deployment.

However, it seems that these fall short because the spatial planning framework they establish is one directional and non-binding in its connection to actual grid capacity. The core problem is that while Article 15b(2)(c) requires grid availability to be considered in the area mapping exercise, this does not convert into a planning obligation; nothing requires RAA designations to be backed by confirmed or planned network capacity before accelerated permits are granted. The post-2030 RED should make Article 15e designation mandatory, and should require that RAA designations are coordinated with network development plans, so that accelerated permitting is conditional on confirmed or planned transmission capacity, not just simplified administrative procedures.

Article 15e limits designation to grid infrastructure "necessary to integrate renewable energy", without clearly including reinforcement driven by electrification loads such as heat pumps, EV charging and industrial demand, which create equally significant transmission needs. The Commission's own grid connections guidance acknowledges the case for grid acceleration areas covering electrification of heating, cooling and industry, yet Art. 15e does not enable this. The post-2030 RED should broaden Art. 15e's scope to cover all grid reinforcement necessary to support both renewable energy integration and end-use electrification.

Articles 20a RED currently focuses on **facilitating system integration of renewable energy**, including by making **electricity data** available to consumers and enabling small assets like batteries and EVs to participate in energy markets, but it misses a critical link to grid planning. The **Commission's own Guidance on Efficient Grid Connections** identifies lack of transparency on available capacity as one of the root causes of grid connection backlogs, and calls on TSOs and DSOs to publish hosting capacity and congestion data in real time- yet this remains a recommendation. The revised RED should strengthen obligations on system operators to publish not just renewable share data but also real time transmission hosting capacity and congestion data, which would give both grid planners and electrification investors the locational signals they need to make better decisions.

On smart grid upgrades, the current vague requirement for Member States to "provide incentives" should be replaced with binding, measurable targets and in line with the energy efficiency first principle. System operators should be required to demonstrate that demand-side flexibility options have been properly assessed before new grid capacity is approved.

3. ELECTRIFICATION

The urgency of electrification has never been greater. As momentum builds, the updated RED framework must rise to the occasion by including a robust, dedicated section on enabling clean electrification. Clean electrification is one of the most powerful and cost-effective tools available to decarbonise industry. Beyond reducing carbon emissions, it boosts competitiveness and protects businesses from the volatility of fossil fuel markets.

A fully integrated EU single market for renewable electricity will be crucial for clean electrification. PPAs and Guarantees of Origin are powerful tools for driving corporate renewable energy procurement, but their potential is undermined by market fragmentation and inconsistent national frameworks. Priority must be given to harmonising standards and improving market liquidity.

Moreover, faster industrial heat electrification, including for high-temperature applications, is essential if the EU is to achieve its climate neutrality goal by 2050 and maintain the competitiveness of European industry. We strongly support efforts to help industry reduce CO_2 emissions and energy consumption by using electrified and direct renewable process heat technologies. As electrification represents one of the best ways to reduce the use of fossil fuel and decarbonise energy-intensive industries, funding should also be allocated to support research into viable options to electrify higher temperature applications above 200°C. Robust safeguards must accompany these measures. Temporal and geographical correlation requirements are needed to ensure that renewable electricity claims reflect actual, matched consumption.

4. BIOENERGY

Bioenergy must be governed by robust, integrated **monitoring, reporting and verification (MRV)** across land and energy sectors to ensure it delivers genuine climate benefits rather than merely shifting emissions between accounting silos. We call for MRV rules under the RED to be fully aligned with LULUCF and climate legislation, so that carbon flows from biomass are transparently tracked from feedstock production to final energy use. The zero rating of biomass in energy and climate accounting must be revised to reflect the carbon flows between the LULUCF and the RED, especially with emerging biomass-based removal technologies for calculating their net negativity.

The current treatment of biomass and waste in the RED still risks overstating the climate contribution of some pathways. We recommend r**evisiting the effective "zero rating" of biogenic emissions** so that emissions from biomass combustion, residues and waste streams are transparently reported and only discounted where robust lifecycle analysis shows that stringent climate neutrality or net removal benchmarks are met. This would better differentiate between high and low risk pathways and help avoid over crediting of problematic bioenergy uses. Moreover, the carbon payback period should be reflected in the revision of the zero rating of biomass, reflecting the carbon and energy efficiency of burning biomass for bioenergy is not climate neutral.

Safeguards on biomass sourced from outside the Union must be reinforced. Sustainability and GHG criteria already apply in principle, but enforcement and verification are uneven. Bellona calls for tighter approval and oversight of certification schemes used for imports, stronger transparency and traceability requirements, and the ability to limit or exclude biomass from high-risk regions or supply chains that cannot credibly demonstrate compliance.

Ban certain controversial feedstocks with the worst impact on the climate (woody bio-

mass, forestry 'residues' from intensive logging) for bioenergy. Moreover, Bellona calls for more stringency on the delays in the implementation of RED and reporting on the cascading use of biomass from Member states, as well as conflicts of interests and lack of transparency from certification schemes.

Member States should be required to report in a comparable way how their support schemes and allocation rules apply the cascading principle and avoid locking in low value or high-risk bioenergy options. Controversial feedstocks such as primary and old growth forest biomass and certain high impact forestry residues should be effectively excluded from counting towards targets and from public support, which should focus bioenergy on genuinely low risk residues, wastes and non-land constrained resources. Sustainable domestic European biomass is scarce, and this finite resource should only be used as a last resort for bioenergy following the cascading principle.

The **role of biomass in delivering carbon removals through bioCCS and durable biochar must be approached with caution**. Such options can provide net removals only where they rely on sustainable, low risk biomass and are subject to stringent MRV, permanence, additionality and liability rules fully aligned with the wider EU carbon removals framework and the agricultural sector. Any integration of bioCCS or biochar into RED-related targets and support mechanisms should avoid creating incentives for increased biomass harvesting, or expansion of high-risk bioenergy uses.

Bellona remains highly sceptical of integrating **international credits** into the EU's climate and renewable energy architecture, including in relation to bioenergy. Introducing such credits to meet climate targets risks weakening domestic ambition, outsourcing due diligence to third countries and market actors, and exposing the EU to reputational and environmental integrity risks. We therefore advocate to keep international credits strictly outside the accounting for RED targets and related EU climate goals, and to ensure that any emerging nature or land-based credit schemes cannot be used as offsetting tools for energy sector emissions.

In addition to strengthening sustainability criteria, the revised framework must address **biomass resource scarcity**, how limited biomass resources are allocated across competing uses. Biomass availability in the EU is inherently constrained, while demand is expected to increase across energy, materials, chemicals, and feed sectors. Without clear prioritisation, there is a significant risk that biomass will be diverted towards low-value energy uses, undermining both resource efficiency and climate objectives.

Considering the current implementation of the cascading use principle remains limited in scope and inconsistent across Member States, Bellona calls for the establishment of a robust and operational EU-wide biomass value hierarchy, rooted in the cascading principle and applied across all biomass types.

In this context, the European Commission should evaluate and strengthen the implementation of the cascading principle under the RED, including Article 3(3), to reflect biomass resource scarcity and adopt a more holistic approach that accounts for carbon efficiency, energy efficiency, and biodiversity impacts. In parallel, inefficient biomass combustion

should be progressively disincentivised, particularly where alternative renewable energy solutions are available, in order to free up biomass for higher-value uses within the Bio-economy.

5. HYDROGEN

The post 2030 RED should **preserve the existing renewable hydrogen framework**. Additionality, temporal correlation and geographical correlation are basic safeguards that ensure renewable hydrogen supports, rather than undermines, the decarbonisation of the economy. Without these safeguards hydrogen production risks drawing on existing clean electricity that is already needed for direct electrification, increasing pressure on the power system and weakening the climate value of RFNBO.

Maintaining these safeguards is also essential for investment certainty and regulatory credibility. Weakening the current framework would penalise early movers that have invested on the basis of the agreed rules, while creating new uncertainty for projects still in development.

6. FINANCIAL SUPPORT TO RENEWABLE ENERGY

The transition to a fully decarbonised energy system requires unprecedented levels of investment. Current estimates indicate an annual need of approximately €130 billion for renewable energy deployment and an additional €90 billion for grid expansion and modernisation. Such a scale of financing cannot realistically be achieved without leveraging private capital. Therefore, public support should shift from volume based subsidies to risk reduction tools, market design improvements, and infrastructure alignment.

Several barriers continue to constrain the financing of renewable energy projects across the EU. Key bottlenecks are price volatility, return on investment uncertainty, grid constraints, and fragmented national frameworks.

In this context, the RED should:

- Strengthen the RED's financing dimension by promoting de-risking instruments alongside competitive support schemes, including revenue stabilisation mechanisms and guarantees.
- Require Member States to demonstrate that renewable support schemes are coordinated with grid planning, so that awarded projects can connect and operate without delays.
- Improve implementation of Article 22 by setting stricter requirements for national enabling frameworks for renewable energy communities, including access to finance, one-stop support, technical assistance and fair participation in support schemes.

SETTING AN ENERGY EFFICIENCY FRAMEWORK

Bellona Europa welcomes the new initiative to establish the post-2030 framework of the Energy Efficiency Directive (EED), as it is an essential pillar of European energy policy. The aim of this section is to highlight the key principles that should inform the design of the new initiative and help to pave the way towards climate neutrality.

1. HIGH AMBITION IN ENERGY EFFICIENCY

Ambition in the EU energy efficiency target must be kept high and aligned with the trajectory needed to deliver the new 2040 target and climate neutrality by 2050. Energy efficiency and savings are the first resource we have: they contain prices, reduce import dependence and lower exposure to fossil fuel volatility. A strong and credible energy efficiency target is crucial for energy security and industrial competitiveness.

2. OPERATIONALISING AND ENFORCING THE ENERGY EFFICIENCY FIRST PRINCIPLE

The EED (2023) contributes to the operationalisation of the 'energy efficiency first' principle (EE1st),a fundamental, legally binding principle of EU energy law and policy. The EE1st requires cost-effective efficiency solutions to be systematically assessed in all planning and major investment decisions relating to energy infrastructure[1]. We reiterate the importance of this principle and the fundamental role it should have in designing the energy system to reduce costs, improve security of supply, and promote industrial competitiveness.

The operationalisation of the EE1st principle should advance to more binding approach, in particular in energy planning, by building the learnings of the past years to ensure that the principle unleashes its full potential over the next decade.

3. ENERGY EFFICIENCY IN INDUSTRY

A greater emphasis should be placed on helping both energy intensive sectors (such as steel, chemicals and cement) and SMEs to invest in efficiency as the first step of their decarbonisation pathways, in order to cut exposure to volatile energy prices and improve competitiveness. Public support schemes and auction frameworks for industrial decarbonisation should therefore include clear efficiency first design criteria, such as minimum energy performance requirements, efficiency benchmarks for eligible projects and higher scoring for deep process optimisation.

1 **Art. 3, Art. 4, Energy Efficiency Directive (2023/1791);** Art. 2(18) Governance Regulation (2018/1999)

4. ENERGY EFFICIENCY IN DATACENTRES

Data centres are deploying fast in Europe and leading to a rise in demand. According to some projections, data centres will account for more than 5% of the electricity demand in Europe[2]. It is therefore crucial that their energy efficiency is taken into account in this post 2030 Energy Efficiency Directive.

The existing provisions on data centres in EED are a good starting point, in particular the reporting obligations, the obligation to use waste heat in district heating network over a certain threshold, and the development of a minimum energy performance standards. However, Bellona believes more measures could be put in place.

- The forthcoming minimum performance standards for data centres should set progressively tightening thresholds for key efficiency indicators, aligned with the 2040 and 2050 climate targets.
- Minimum performance standards must include requirements on the use of waste heat and on grid friendliness (such as load flexibility or location in areas with high renewable energy availability), rather than just internal technical efficiency, to ensure data centres support wider system decarbonisation.
- Public sector cloud and data hosting procurement should, over time, be made conditional on using data centres in higher tiers in the EU rating scheme, to ensure demand is created for best performing data centres.

5. ENERGY EFFICIENCY IN BUILDINGS

With buildings accounting for 40% of final energy consumption in the European Union, improving the energy efficiency of the European building stock is a priority to reduce energy consumption, especially when 75% of Union buildings were still energy-inefficient in 2024. For this reason, it is essential to maintain the current renovation targets and ensure they are aligned with the 2040 climate objectives.

In addition, as the main lever to decarbonise the built environment is the Energy Performance of Buildings Directive, it is crucial to ensure proper alignment between the EED's and EPBD's ambitions and provisions.

2 **Unlocking the European AI revolution | McKinsey** (2024)

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Bellona Europa is an independent, non-profit organisation that meets environmental and climate challenges head-on. We are result-oriented and have a comprehensive and cross-sectoral approach to assess the economics, climate impacts and technical feasibility of necessary climate solutions. To do this, we work with civil society, academia, governments and polluting industries.