

Shaping the post-2030 EU energy framework: Orgalim recommendations on energy efficiency, renewables and industrial competitiveness

Executive summary

Europe's revised Climate Law sets a binding target of a 90% reduction in greenhouse gas emissions by 2040 compared to 1990 levels – in order to achieve climate neutrality by 2050. This ambition requires adapting the current EU energy framework which sets objectives until 2030, to create long-term visibility for investors and to tackle the next decade's new challenges – ensuring the widespread adoption of new technologies needed for decarbonisation, preparing energy systems for high levels of clean and renewable energy and strengthening European competitiveness. In this context Orgalim wishes to share essential priorities that should guide the revision exercise and contribute to maintaining a solid pathway for industry's clean transformation.

Main messages

1. **Policy target architecture:** maintain binding EED and RED targets as the legal backbone and complement them with a limited, well-defined set of monitoring KPIs embedded in the Governance Regulation and NECPs.
2. **Energy Efficiency Directive (EED):** prioritise full and consistent implementation first, with targeted, evidence-based improvements focused on delivery, simplification and adaptation to electrification, digitalisation and industrial capacity needs.
3. Strengthen & operationalise the Energy Efficiency First (EEF) Principle: turn the principle into an operational investment planning tool
4. Complement current energy consumption targets with new KPIs to track progress
5. Recognise the structural contribution of electrification to energy efficiency
6. Seize simplification opportunities to reduce the administrative burden of reporting and monitoring: digitalise reporting, remove overlaps between EU instruments and replace overly prescriptive requirements
7. **Renewable Energy Directive (RED):** avoid structurally reopening RED before implementation is complete, while allowing targeted fixes where they are necessary to support investment certainty and delivery.
8. System integration: plan renewables deployment with grids, storage & demand-side infrastructure
9. RFNBO rules: simplify delegated acts and protect first movers
10. RED and electrification: create enabling conditions, not mandatory requirements

Context

The revision of the Energy Efficiency Directive (EED) and Renewable Energy Directive (RED) is a milestone moment for Europe's energy legislation at a critical point in time when Europe is experiencing its second energy crisis and price shock in four years. In addition, the 90% climate target requires a major transformation of Europe's energy system in the coming years – and thus within the working lifetime of investments that are being made today.

Four structural aspects define the stakes of this revision:

1. Energy crises continue to reveal Europe's energy dependencies, affecting every aspect of the economy from consumer prices to global trade. Energy security and autonomy should be strengthened to prevent serious consequences. The 2019 energy legislation reforms have already helped to mitigate some impact thanks to a higher share of home-grown renewables and low-carbon energy generation, but we have an opportunity to further support Europe's autonomy with greater energy efficiency and more fossil-free energy.
2. Industrial competitiveness and decarbonisation can, and should, evolve together. As the EU pursues an industrial competitiveness agenda based on innovation and digitalisation, total energy consumption is expected to grow even as the carbon intensity of production processes decreases. This is why energy efficiency measures are strategically important to help manage and mitigate rising energy demand.
3. Electrification is the primary decarbonisation pathway for most industrial processes below 1,000 kW¹ – but it requires affordable, abundant and reliable low-carbon electricity. Electrification must accelerate significantly from currently stagnant levels (electricity accounts for around 23% of final energy consumption today), yet grid capacity and system readiness are not advancing at a sufficient pace – creating a structural delivery risk. Without significant progress on grid infrastructure, digital optimisation, flexibility solutions and generation capacity, electrification targets will remain aspirational rather than actionable, with negative implications for investment attractiveness, industrial competitiveness and energy security.
4. The technology industries represented by Orgalim are both enablers and users of this transition. They manufacture the motors, drives, heat pumps, automation systems, smart meters and grid equipment that make the transition physically possible – and they consume energy as producers. A coherent policy framework must serve both roles.

I. Policy target architecture

Maintain binding EED and RED targets as the legal backbone, complemented by a limited, well-defined set of monitoring KPIs embedded in the Governance Regulation and National Energy and Climate Plans (NECPs). KPIs should be explicitly designated as monitoring indicators – not automatic compliance triggers or quasi-targets.

The design criteria for any KPI or target in the post-2030 framework should adhere to the following principles

- Technology neutrality – allow a broad range of technologies, suited to the economic and technical realities of different industrial sectors, to contribute to decarbonisation².
- Proportionality for industrial sectors – requirements must reflect the levers available in each sector and the constraints of industrial sites.
- Carbon leakage prevention – achieving clean energy targets must not result in increased imported emissions.
- Full value chain coverage – from components and materials through machines to final products.

In addition, we should not lose sight of the fact that effective delivery of the post-2030 target architecture will also depend on key enabling conditions:

¹ European Commission, Electrification of the EU energy system: https://energy.ec.europa.eu/topics/eus-energy-system/electrification_en

Digitalisation and automation are essential delivery layers of Europe's energy and climate framework, enabling energy efficiency and electrification to translate into operational reality by optimising energy and material flows, supporting flexibility, improving reliability and addressing skills constraints – particularly in existing industrial assets.

Skills and workforce readiness are increasingly becoming binding constraints for the clean energy transition. Addressing skills shortages through coordinated upskilling, reskilling and lifelong learning initiatives is essential to enable energy efficiency, electrification and renewables deployment at scale.

II. Energy Efficiency Directive (EED)

Over the past five years, geopolitical crises have shown that energy efficiency should serve as a strategic cornerstone of Europe's quest for greater energy security and strategic autonomy – not only as a cost-saving or climate tool. Every percentage point of energy saved is a direct reduction in import dependency on fossil fuels and critical raw materials and thus contributes directly to the strengthening of Europe's resilience and industrial competitiveness. For many technologies, the business case for energy efficiency investments is extremely strong, with comparatively short payback periods of only a few years – and in some cases merely a couple of months.

The EED entered into force in 2023 and has not yet been fully implemented across the EU. Orgalim's strong recommendation is that the European Commission and Member States prioritise full and consistent implementation first.

After 2030, it will be paramount to maintain the stability of the current policy framework to give certainty to economic operators for their investments. Legislative action should always be targeted and evidence-based – focused on supporting delivery, removing overlaps, closing implementation gaps, and adapting the framework to structural changes in the energy system such as electrification, widespread digitalisation, and the reinforcement of industrial capacity.

1. Strengthen and operationalise the Energy Efficiency First (EEF) Principle

The Energy Efficiency First (EEF) principle was an important addition to the EED in 2019. To be effective, it needs to be strengthened further and to evolve from a legal principle into an operational investment planning tool.

Strengthening the EEF principle requires:

- A legally robust definition in Article 3, with clear guidance on how to apply it in procurement and public support schemes as well as in infrastructure planning decisions.
- Life cycle cost criteria in public procurement (Article 7 of Directive 2014/24/EU and aligned provisions), replacing upfront-cost-only assessments to unlock the business case for energy-efficient equipment. The framework should support strategic CAPEX investments, lower OPEX, and ensure that the most efficient option is assessed together with its payback period.
- Industrial investment public funding criteria based on demonstrated energy efficiency performance, where appropriate and proportionate.
- Clear Commission guidance on how the EEF principle interacts with electrification – recognising that switching from gas to electric processes is itself a major efficiency gain when powered by low-carbon electricity.
- Integration of EEF assessments into National Energy and Climate Plans (NECPs), EU funding instruments and major infrastructure decisions, with transparent documentation of how efficiency and demand-side solutions were considered before supply-side expansion.

2. Complement current energy consumption targets with new KPIs to track progress

Orgalim believes that the Primary Energy Consumption (PEC) and Final Energy Consumption (FEC) targets should be maintained as the overarching legal framework for energy efficiency, as they provide investment predictability and political accountability.

However, these indicators have inherent structural limitations in the context of electrification and reindustrialisation: for instance, a company that electrifies its processes and expands production may increase its absolute energy consumption while dramatically reducing its emissions. The current PEC/FEC framing could inadvertently penalise this outcome.

In addition, methodological inconsistencies – particularly in the application of primary energy factors – can create uncertainty as to whether reported improvements reflect genuine system-wide energy savings. This risks undermining investment signals and should be addressed through greater harmonisation and transparency.

Further to PEC and FEC considerations, electrification efforts are constrained by insufficient grid capacity, which can limit the ability of industry and buildings to realise energy efficiency gains in practice. This underlines the need for a more coherent system approach linking energy efficiency targets with infrastructure planning and system optimisation.

Orgalim recommends:

- Maintain PEC/FEC targets as the binding legal backbone for stability and investment certainty.
- Include complementary intensity-based metrics (e.g. energy use per unit of value added) that better reflect efficiency improvements under a growing, electrifying economy
- Complement with a dashboard of KPIs reflecting structural change: including electrification rates by sector, uptake of energy management system (EMS), participation in flexibility mechanisms, digitalisation of energy systems, and implementation rates of energy audits recommendations – explicitly designed as indicators for progress tracking.

3. Recognise the structural contribution of electrification to energy efficiency

Electrification is a powerful energy efficiency tool. For instance, replacing a gas boiler with a heat pump, or a combustion process with an electric arc, typically increases system efficiency significantly – especially when powered by low-carbon electricity. The EED should explicitly recognise and account for such efficiency gains.

In this context, energy efficiency should be recognised not only as a means to reduce consumption, but as a critical tool to manage and optimise the electricity system as it faces rising demand. Efficiency measures – particularly in motor driven systems, industrial processes and digital infrastructure – can free up existing grid capacity, reduce peak loads and defer costly infrastructure investments, while enabling faster and more cost-effective electrification. This is also true in the buildings sector, where electrification combined with renovation measures can deliver some of the most cost-effective energy savings across the economy.

To support the uptake of electrification, an indicative EU target aligned with the contribution needed to reach the 2040 decarbonisation objective would be useful. The target should be set up taking into consideration two important aspects:

1. Electrification is not viable or economically optimal in all industrial processes and sectors. A diverse range of technologies are needed alongside electricity to support energy efficiency and decarbonisation efforts.
2. Member States are at different stages of electrification and, while all must keep progressing, those further ahead should not bear a disproportionate share of additional investment toward the EU-wide objective.

Orgalim recommends:

- Update the EED methodology to properly account for the efficiency gains from fuel switching to low-carbon electricity, so that electrification investments are not penalised under PEC/FEC accounting.
- Introduce an indicative EU target for electricity in final energy consumption, while recognising that all decarbonisation technologies will be needed across sectors.
- Track electrification quantitatively – by sector and region – as a KPI, possibly under the Governance Regulation and National Energy and Climate Plans (NECPs), providing visibility without creating rigid legal obligations.
- Introduce a diversity of electrification pathways in Commission guidance (buildings vs industry, northern vs southern climate zones) to reflect feasibility and infrastructure constraints.

4. Seize simplification opportunities to reduce the administrative burden of reporting and monitoring

The framework proposed to industry to adopt more efficient resource use should include clear objectives and milestones. Orgalim generally supports regulatory approaches that focus on achieving tangible results rather than prescribing methods, allowing companies the flexibility to decide how they achieve energy efficiency gains instead of mandating specific organisational structures. The revision should seize all simplification opportunities to ease the administrative burden of reporting and monitoring and:

- **Digitalise energy reporting and integrate it with existing national and EU data platforms** to eliminate duplicate submissions and reduce the administrative burden, particularly for SMEs.
- **Remove overlapping obligations between the EED, EPBD, Ecodesign/ESPR, and the Governance Regulation** and apply a simplification test to any new obligation: (i) measurable impact, (ii) proportionality for supply chain SMEs, (iii) compatibility with existing reporting.
- **Remove overly prescriptive requirements** with a principle-based provision for achieving the efficiency objective. An example of this is the current outcome-based approach to energy efficiency that allows companies and Member States to fulfil relevant obligations through a variety of measures, such as voluntary energy efficiency agreements between Member States and companies.
- **Data centres reporting obligation: overlap between the EED's operational-metrics focused approach and the EPBD's building-oriented requirements.** While both directives aim to ensure energy efficiency, they do so from different angles. The EED is focused on how the data centres operate, while the EPBD focuses on how the building is designed and maintained. Without reconciliation, there is a risk not only of duplication and utilising inconsistent metrics and methodologies, but also the outcome in the form of certification or labelling. For instance, a very highly efficient data centre operation could be housed in a building that does not fully comply with EPBD's building-level energy efficiency standards – or vice versa. Furthermore, the Draft Delegated Regulation supplementing Directive 2023/1791 on the establishment of a rating scheme and the establishment of a minimum performance standards Regulation for data centres will further encourage operators to improve the sustainability of such centres, providing the applicable sector-specific framework. We therefore suggest these rules should take precedence over the more general regime applicable to buildings. Furthermore, we would propose that data centres falling within the scope of the EED do not fall within the scope of the EPBD.
- **Replace overly prescriptive requirements in Article 22** on Information and awareness-raising on energy efficiency improvements, such as one-stop shops, target groups and cooperation structures, with a principle-based provision focused on delivering effective information and guidance through the most appropriate means.

III. Renewable Energy Directive (RED)

Renewable energy represents a cornerstone of Europe's long-term energy security and strategic autonomy. Homegrown renewable energy insulates the EU from external price shocks and supply disruptions, stabilising energy costs for households and businesses over the long term – also helped by an excellent ecosystem of renewable energy technology manufacturers, developers, and innovators, spanning wind, solar, heat pumps, biomethane, biogas and grid infrastructure.

RED III was adopted in 2023 and many Member States are still in the process of transposing and implementing it. Orgalim's strong recommendation is that the Commission does not structurally reopen the directive before implementation is complete.

The primary risk from a premature revision is investment uncertainty. Clean energy projects, Renewable Fuels of Non-Biological Origin (RFNBOs), green hydrogen infrastructure, biomethane, biogas and renewable power generation all depend on long planning horizons. Regulatory instability is itself a barrier to the energy transition.

Targeted fixes are, however, appropriate in specific areas – particularly around the delegated acts governing RFNBOs, where current rules risk deterring the investments Europe needs to build a hydrogen economy.

1. System integration: plan renewables with grids, storage and demand

Renewable energy deployment cannot be treated in isolation from the electricity system it depends on. As wind and solar generation expand, their effective integration into the energy system must be ensured. A coordinated approach to system planning is essential, ensuring wind permitting is streamlined, solar deployment is matched with adequate storage, and reliable alternatives to fossil fuels are developed for data centres and industrial baseload.

Orgalim recommends embedding system integration requirements more explicitly in the RED:

- Require that national renewable energy deployment plans are co-developed with grid development plans and storage investment roadmaps – not treated as separate planning exercises. Heating and cooling and fuel infrastructure should also be considered in planning.
- Introduce KPIs linking renewable deployment rates to grid readiness, connection queue times and storage availability.
- Extend permitting simplification provisions (accelerated permitting areas, overriding public interest) to cover grid connections and related consumer infrastructure, including behind-the-meter electrification, storage and flexibility assets – not only generation assets. This is particularly important for industrial, commercial and data centre sites seeking to electrify.
- Explicitly recognise grid digitalisation, demand-side flexibility and storage as first-order tools to accommodate renewable electricity and electrification, alongside network expansion.
- Require Member States to assess whether digital optimisation, flexibility markets and local storage can unlock additional hosting capacity before resorting to major grid reinforcements.

2. RFNBO rules: simplify delegated acts, protect first movers

The delegated acts governing RFNBOs play a pivotal role in scaling green hydrogen and alternative fuels. Rules can be adjusted to allow more time for the generation infrastructure to operate. It is important to ensure that the framework encourages the early investments Europe needs to advance the hydrogen economy. As such, any reopening of the delegated act should aim to improve conditions for investors and expand the tools available for technology deployment.

Orgalim recommends the following targeted changes:

- **Additionality and grandfathering:** extend the period of renewable electricity eligibility beyond the current 36 month window, which does not reflect the reality of long industrial investment cycles.
- **Hourly correlation:** suspend the planned switch to hourly matching from 2030. Monthly correlation has proven effective in practice and the marginal climate benefit of hourly matching does not justify the significant cost increase. Instead of a hard switch, introduce bonus/incentive mechanisms for higher-integrity hydrogen (e.g. a weighting factor in target compliance calculations) to reward early movers without penalising all producers.
- **2041 industrial point source deadline:** postpone the 2041 deadline for the use of industrial point sources for RFNBO production, which deters investment in projects capable of delivering significant CO₂ reductions before alternative infrastructure is available. Compatibility with negative emissions accounting under ETS and CCS should be ensured.
- **Low-carbon hydrogen flexibility:** allow Member States to partially meet industrial renewable hydrogen targets through low-carbon (not only renewable) hydrogen, at least as a transitional measure, with clear safeguards and a defined phase-out trajectory.
- **Biomass for RFNBOs:** electricity based on sustainable biomass should not be unduly restricted for RFNBO production as these are often the source of biogenic CO₂ required for producing certain RFNBOs. In addition, locally produced bioenergy should be authorised for use in the onsite production of hydrogen.

3. RED and electrification: create enabling conditions, not mandatory requirements

The RED can, and should, support electrification through the enabling conditions it creates, not by introducing binding electrification targets in the directive.

- Do not introduce binding electrification targets or targets for the use of renewable electricity in the RED. Electrification is not viable in all sectors and processes, and such targets would undermine the directive's technology-neutral principle.
- The RED supports electrification by making renewable electricity more abundant and affordable through faster permitting, grid investment and a stable investment framework. Biomethane and biogas projects and infrastructure must be subject to the same conditions.
- Track progress by monitoring electrification rates and barriers in the Governance Regulation and NECPs, not in the RED target architecture.
- In the Grid Package legislative process, ensure that simplified and streamlined permitting is extended to grid connections and related consumer infrastructure upgrades covering households, industrial sites and data centres.

Orgalim represents Europe's technology industries, comprised of 770,000 innovative companies spanning the mechanical engineering, electrical engineering, electronics, ICT and metal technology branches. Together they represent the EU's largest manufacturing sector, generating annual turnover of over €2,972 billion, manufacturing one-third of all European exports and providing over 11,9 million direct jobs. Orgalim is registered under the European Union Transparency Register – ID number: 20210641335-88.