

# Achieving the EU's Energy Ambitions:

*The Need for a Pragmatic Governance Framework*



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POLICY PAPER - November 2024

# Achieving the EU's Energy Ambitions:

## Ambitions:

*The Need for a Pragmatic Governance Framework*

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Energy will be at the heart of the agenda of the new European Commission, which is expected to officially take office in December 2024. Despite the 2019–2024 European mandate having been marked by successive economic, energy, and diplomatic crises within the EU, it succeeded in defining a **shared goal: achieving carbon neutrality by 2050**. There are key interim targets on the way to achieving this objective, such as a 55 percent **reduction in greenhouse gas (GHG) emissions from 1990 levels by 2030** through sector-specific policies within the “Fit for 55” legislative package. The transformation of Europe’s energy system toward carbon neutrality is at the center of this initiative.

**There are, however, several obstacles on the road to achieving carbon neutrality by 2050.** Even if the goal remains uncontested, some EU Member States and European companies are raising concerns about the feasibility of the interim targets set for 2030 and 2040. Reaching these milestones will require a profound decarbonization of the European economy via a structural transformation of energy systems going well beyond the gradual expansion of tools such as renewable energy and energy efficiency. The challenge is significant, as highlighted by Mario Draghi’s recent report, which estimates that an additional €800 billion per year in investments will be necessary to prevent economic decline in the EU. The energy transition must, therefore, fully incorporate the goal of industrial competitiveness.

**The current approach has several drawbacks:** It fails to consider all tools Member States could leverage – particularly low-carbon, non-renewable energy sources such as nuclear energy or carbon capture and storage – and partially neglects the importance of energy networks in the transition. Moreover, it runs counter to the principle of technological neutrality, which dictates that the EU should allow Member States the freedom to choose their methods for achieving climate goals. These issues are generating political tension within the European Council,

significantly complicating negotiations on interim targets, and depriving both public and private investments of the regulatory framework necessary for mobilization. By confronting Member States with unrealistic targets, this approach also risks undermining European cohesion. **Without an awareness of the need for greater flexibility of approach, the structural transformation of Europe's energy systems cannot be achieved.**

**To overcome the risk of institutional gridlock in upcoming negotiations, a strategic shift toward a technology-neutral approach is essential.** A comprehensive perspective on energy and climate challenges is crucial. According to the principle of subsidiarity, the EU should allow Member States the freedom to choose the means they deem most appropriate and best suited to achieve EU goals. **Addressing this challenge will require a revision of the EU's energy governance framework.** An approach based on reducing the carbon intensity of final energy, rather than setting targets focused solely on renewable energy, would provide Member States with increased flexibility. It would also improve the chances of meeting interim targets for 2030, which are already in jeopardy for most Member States.

**This restructuring of governance should be accompanied by an equitable sharing of decarbonization efforts between Member States and the EU,** which is responsible for upholding the collective commitment under the Paris Agreement. The complexity of these targets also requires enhanced planning based on forward-looking assessments at the national level. Such an approach would better integrate local specificities, such as energy demand, available resources, and economic context.

**In this context, the Institut Montaigne presents a series of three action briefs to inform discussions within Member States and closely engage with the European Commission.** Our aim is to outline the optimal coordination between the competencies of the EU and those of its Member States, focusing on pragmatism and effectiveness.

1. The first brief focuses on the **evolution of European energy and climate governance**.
2. The second will address **accelerating capacity deployments** (networks and low-carbon energy production).
3. The third will focus on **energy markets** and the new flexibility levers required for the European electrical system.

Governance, infrastructure, market: This is the threefold challenge the new European Commission must work on over the next five years.

Rooted in the European legal framework, this first action note proposes concrete technical and legal solutions to address the challenge of European decarbonization.

## Summary of Proposals

### Proposal 1

Shift from a logic of targets based on the share of renewable energy in final energy to one of targets focused on reducing the carbon intensity of final energy.

This framework would involve introducing a definition of low-carbon energy sources (a definition currently absent from European law), considering the entire life cycle. It would be based on a consistent methodology for determining the carbon intensity of final energy. The carbon intensity threshold qualifying an energy source as “low carbon” could be lowered over time in a planned manner. This would take into account the gradual reduction in the carbon footprint of production equipment accompanying technological progress.

### Proposal 2

Initiate a reflection on a gradual phase-out, in several stages, of the final energy sources that emit the most GHGs (over the entire life cycle). It is understood that setting such dates would be likely to require unanimous adoption by the Council.

Such a framework, which would cover all sources and vectors of energy (electricity, heat, gaseous, liquid, and solid fuels), would help harmonize the various existing provisions in this area. It would also send a clear signal to the market.

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### **Proposal 3**

Technological neutrality must be the foundation of all European energy–climate legislation, including the revision of existing texts.

This principle is a direct consequence of the principles of subsidiarity and proportionality. According to these principles, European law must define a framework for action that minimizes infringements on Member States' competencies while allowing for the achievement of the common objective – that is, carbon neutrality by 2050.

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### **Proposal 4**

Reassess the effort-sharing rule in the Governance regulation by not only looking at GDP but also taking the carbon intensity element of GDP (i.e., the amount of GHG emissions produced per unit of gross domestic product) into account.

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## **Proposal 5**

Establish a framework for statistical transfer between the different sub-targets of the Renewable Energy Directive (RED). Also, provide a framework for transfer between the RED targets and those of other emitting sectors that are not covered by the main emissions trading system (ETS). These statistical transfer frameworks would offer greater flexibility in achieving overall targets.

The RED defines several specific sub-targets for different sectors (industry, transport, buildings, etc.) and technologies (such as nonbiological renewable fuels). Such a framework would allow Member States to offset a deficit in one subsector (for example, if they do not meet their renewable energy target for transport) by achieving a surplus in another subsector (such as industry).

In addition to allowing transfers between the sub-targets of the RED, this framework could establish connections with objectives in other sectors that are not covered by the ETS, such as land transport, buildings, agriculture, and natural carbon sinks related to land use. It would thus enable the transfer or exchange of efforts among these different sectors to achieve common goals.

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## **Proposal 6**

If a state does not meet its sectoral renewable energy targets, allow that state to offset its shortfall by contributing to the common renewable platform, which serves to finance renewable energy projects at the European level. Make the platform “vector neutral” by creating a bidding mechanism that covers the production of liquids, advanced low-carbon gases, and low-carbon electricity.

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## **Proposal 7**

Provide the platform with a guaranteed minimum contribution from the EU as a whole, making it possible to reduce, by the same amount, the overall renewable target still to be achieved through the efforts of the Member States.

## Proposal 8

Review the policy planning approach by requiring Member States to document a study on the “Future of Energy” at least two years before the submission of the integrated national plan. This study should present various energy scenarios up to 2050 and compare their major physical and economic characteristics. It would be based on long-term system-wide energy modeling and clearly articulated, accessible, and justifiable scenarios (based on various forecasts: cost of capital for low-carbon energy sources, cost of production technologies, trends in energy consumption, etc.). ACER,<sup>1</sup> supported by ENTSO-E/G<sup>2</sup> and ENNOH,<sup>3</sup> could be tasked with overseeing this exercise.

<sup>1</sup> *EU Agency for the Cooperation of Energy Regulators (ACER).*

<sup>2</sup> *European Network of Transmission System Operators (ENTSO-E) and European Network of Transmission System Operators for Gas (ENTSO-G).*

<sup>3</sup> *European Network of Network Operators of Hydrogen (ENNOH).*

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## **Proposal 9**

Within the integrated national plans, provide for a comprehensive presentation of the various incentive schemes aimed at achieving the objectives outlined in these plans. The target rates for electrification in general and by sector should also be specified.

When a Member State submits a subsidy scheme for approval by the European Commission under the state aid regime (to verify that it complies with EU competition rules), it would need to specify that this program aims to help achieve the targets set out in its integrated national plan. This requirement would ensure that the aid schemes are well aligned with the strategic objectives defined at the national and European levels and that they are transparent in their intent and scope.

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## **Proposal 10**

Establish an irreversibility clause in European sectoral law. For any project of sufficient size, this clause would prohibit modifying or retroactively canceling the incentive frameworks supporting a project once the final investment decision has been made by the company carrying out the project. If a Member State were to challenge this framework afterward, the EU would guarantee economic compensation to the operators. It would then seek to recover this compensation from the responsible state.

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### **Proposal 11**

Make the governance of the Energy Union and its planning a continuous process in three phases over a period of five years rather than a periodic exercise updated every five years.

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### **Proposal 12**

Wait until 2027–2028 before reopening the debate on the practical implementation of the 2040 objectives and, ideally, on their definition. Allow time for a calm and quantitative assessment of the 2030 objectives and for the deployment of the economic action framework for the transition.

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|                      |   |
|----------------------|---|
| <b>Summary</b> ..... | 5 |
|----------------------|---|

|                           |    |
|---------------------------|----|
| <b>Introduction</b> ..... | 18 |
|---------------------------|----|

|          |   |    |
|----------|---|----|
| <b>1</b> | <b>Legal Framework and Governance<br/>of the EU’s Energy and Climate Objectives</b> ..... | 20 |
|          | 1.1. The Paris Climate Agreement .....  | 20 |
|          | 1.2. Governance Regulations .....   | 21 |
|          | 1.3. The Treaty on the Functioning<br>of the European Union (TFEU) .....                  | 25 |

|          |  |    |
|----------|--|----|
| <b>2</b> | <b>EU Renewable Targets and National Plans</b> .....   | 28 |
|          | 2.1. The Renewable Energy Directive .....  | 29 |
|          | 2.2. Increasingly Difficult to Reach Targets... ..   | 35 |
|          | 2.3. The Renewable Energy Directive on the Brink<br>of a Likely Stalemate .....                  | 38 |
|          | 2.4. Technological Neutrality as a Way Forward:<br>Toward a “Low-Carbon Energy Directive”? ..... | 39 |

---

|          |   |    |
|----------|---|----|
| <b>3</b> | <b>Technological Neutrality for Carbon Neutrality</b> .....   | 45 |
|          | <b>3.1. Technological Neutrality Must Be the Cornerstone of the EU's Energy and Climate Policy</b> .....                  | 45 |
|          | <b>3.2. Application to the European Taxonomy of Sustainable Investments</b> .....   | 47 |
| <br>     |   |    |
| <b>4</b> | <b>Overcoming the Obstacle: Rebuilding the Governance Framework and Rethinking the Structure of Objectives</b> .....      | 51 |
|          | <b>4.1. A New Governance Framework for European Energy: Joint Effort and Financing</b> .....                              | 51 |
|          | <b>4.2. A New Method for Planning: Costs, Physical Constraints, and Investment Rather than Political Directives</b> ..... | 59 |
|          | <b>4.3. No Time to Wait: 2040 Targets and Technological Neutrality</b> .....  | 72 |
|          | <br>  |    |
|          | <b>Acknowledgements</b> .....   | 74 |

The Paris Climate Agreement,<sup>4</sup> agreed upon during the UN Climate Change Conference (COP21) in 2015, formalized the international community's commitment<sup>5</sup> to limiting global warming to “well below 2°C above pre-industrial levels and continuing action to limit the temperature increase to 1.5°C above pre-industrial levels.”<sup>6</sup> This landmark agreement, which was adopted and ratified by the European Union (EU) and its Member States, has been central to shaping the EU's climate policy. In line with these commitments, the outgoing European Commission has set an ambitious target of achieving carbon neutrality by 2050.<sup>7</sup> This long-term goal is complemented by the intermediate objective of reducing greenhouse gas (GHG) emissions by 55 percent by 2030 compared to 1990 levels.<sup>8</sup> These targets have been embedded in a wide range of sector-specific policies, notably through the “Fit for 55” legislative package.

Energy, which accounts for three-quarters of GHG emissions within the EU, is at the core of the EU's decarbonization efforts. However, the division of competencies between the EU and its Member States in this area, along with certain political biases, has constrained the EU's scope and impact of action. This division has limited the EU's ability to make full use of all available policy instruments and has restricted its influence to certain levers while excluding others. Despite these limitations, this approach enabled the EU to quickly launch an ambitious climate policy, capitalizing on the legal and political tools available at the time.

<sup>4</sup> *Paris Agreement to the United Nations Framework Convention on Climate Change, Dec. 12, 2015, T.I.A.S. No. 16-1104.*

<sup>5</sup> *The Paris Agreement was adopted by 196 parties.*

<sup>6</sup> *Paris Agreement, Article 2.*

<sup>7</sup> *Article 1 of Regulation (EU) 2021/1119 of the European Parliament and of the Council of June 30, 2021, establishing a framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 (“European Climate Act”).*

<sup>8</sup> *Article 4 of Regulation (EU) 2021/1119 of the European Parliament and of the Council.*

However, for our institutions to be ready to confront the climate and energy challenges on the horizon, a shift in strategy is needed. Although a piecemeal approach to balancing national hesitations against the need to swiftly implement the most widely accepted climate policy measures at the EU level may have been effective in the past, it is no longer sufficient. The negotiation of climate targets for 2040, along with their integration into sectoral policies, will require a comprehensive overhaul of Europe's energy and climate strategy.

The challenge now is no longer to initiate action in specific sectors or to spark a broader movement but rather to scale up efforts across the board, with the ultimate goal of achieving deep decarbonization of the European economy by 2050. This represents a significant challenge for both the EU and its Member States. Given the continued reliance on fossil fuels in Europe's energy mix, it is essential to adopt a pragmatic, technology-neutral strategy that establishes a clear hierarchy of objectives and respects each Member State's unique strengths and constraints in meeting the challenge of decarbonization.

Achieving carbon neutrality by 2050 will require a holistic, nonrestrictive approach that goes beyond simply tightening existing targets whose achievement is already increasingly uncertain. This shift in energy-climate governance must focus on anticipating and preventing institutional roadblocks that could hinder progress toward carbon neutrality. At the same time, it should provide Member States with access to the broadest possible array of tools to achieve this objective. Moreover, this evolution must ensure energy security while respecting the sovereignty of Member States.

This study will focus on three key areas: the evolution of European energy-climate governance, the acceleration of capacity deployment (including grids and low-carbon energy production), and the critical challenge of developing new flexibility levers for the European power system. This note covers the first area, while the other two will be addressed in subsequent publications.

# From Renewable Targets to Low-Carbon Targets: A Challenge for EU Governance

## 1 Legal Framework and Governance of the EU's Energy and Climate Objectives

### 1.1. THE PARIS CLIMATE AGREEMENT

**Climate and energy policy is an area of shared competence between the EU and its Member States.** This shared competence arises from the participation of both the EU and its Member States in the United Nations Framework Convention on Climate Change (UNFCCC)<sup>9</sup> and their commitments under the Paris Agreement. This framework establishes procedures that allow “regional economic integration organizations and their Member States [to] agree to take joint action.”<sup>10</sup> Ultimately, the EU is responsible for allocating effort-sharing and emissions-reduction targets among Member States, as well as coordinating their mitigation actions.

Under the Paris Agreement, to which both the EU and its Member States are signatories, the EU is committed to pursuing “a global peak in greenhouse gas emissions as soon as possible, [...] followed by rapid reductions thereafter, in accordance with the best available science, in order to achieve a balance between anthropogenic emissions by sources and

<sup>9</sup> *United Nations Framework Convention on Climate Change, May 9, 1992, S. Treaty Doc No. 102-38, 1771 U.N.T.S. 107.*

<sup>10</sup> *Paris Agreement, Article 4(16–19).*

removals by sinks of greenhouse gases in the second half of this century.”<sup>11</sup> **To this end, the EU “establishes, communicates, and updates successive nationally determined contributions (NDCs) it plans to make [and takes] internal mitigation measures to meet the objectives of those contributions.”**<sup>12</sup>

These **NDCs** must represent “an improvement on the previous nationally determined contribution and correspond to its highest possible level of ambition”<sup>13</sup> and must be communicated to all parties “every five years.”<sup>14</sup> These NDCs must be consistent with the objectives set out in Articles 2 and 4 of the Agreement and thus with an emissions trajectory containing the rise in the planet’s average temperature to below 2°C, continuing the action taken to limit it to 1.5°C and aiming for climate neutrality “in the second half of the century.”

## 1.2. GOVERNANCE REGULATIONS

To implement the international commitments of the Paris Agreement and establish a framework for distributing and monitoring the contributions of all Member States, **the EU adopted an internal legal instrument: the Governance Regulation.**<sup>15</sup> This instrument assesses the complementarity, coherence, and ambition of the efforts made by the EU and its Member States.

<sup>11</sup> *Paris Agreement, Article 4(1).*

<sup>12</sup> *Paris Agreement, Article 4(2).*

<sup>13</sup> *Paris Agreement, Article 4(3).*

<sup>14</sup> *Paris Agreement, Article 4(9).*

<sup>15</sup> *Regulation 2018/1999 of December 11, 2018 on the Governance of the Energy and Climate Action Union, amending Regulations (EC) No 663/2009 and (EC) No 715/2009 of the European Parliament and of the Council, Directives 94/22/EC, 98/70/EC, 2009/31/EC, 2009/73/EC, 2010/31/EU, 2012/27/EU and 2013/30/EU of the European Parliament and of the Council, Directives 2009/119/EC and (EU) 2015/652 of the Council and repealing Regulation (EU) No 525/2013 of the European Parliament and of the Council.*

The resulting governance framework addresses both the general and the specific objectives of the energy union<sup>16</sup> in an integrated manner, as well as the EU's climate commitments, recognizing the strong inter-connection between tackling the climate challenge and transforming Member States' energy models. Each Member State must notify the Commission of its **national energy and climate plan** (NECP) no later than December 31, 2019, and then no later than January 1, 2029, and every ten years thereafter.<sup>17</sup> This notification comes after a draft plan has been submitted to the Commission a year earlier, enabling the Commission to assess it and issue recommendations, which Member States must take into account.<sup>18</sup> These plans are also subject to mid-term updates,<sup>19</sup> in line with a process that required Member States to submit draft plans to the Commission by June 30, 2023. After the Commission's review, the finalized national plans were to be submitted by June 30, 2024.

In this integrated approach to energy and climate issues, **the national plans are designed to present a coherent framework that includes the following elements:**

- **Measures implemented by Member States to** contribute to common climate commitments.
- Measures **designed to meet the energy union's various objectives**, particularly by aligning with the energy targets set by the EU across five key dimensions: energy security; the development of the internal energy market; energy efficiency; decarbonization; and research, innovation, and competitiveness.<sup>20</sup>

<sup>16</sup> *The Energy Union refers to the Energy Union strategy, a series of packages and measures adopted to ensure affordable, secure and sustainable energy for Europe and its citizens.*

<sup>17</sup> *Regulation 2018/1999, Article 3.*

<sup>18</sup> *Regulation 2018/1999, Article 9.*

<sup>19</sup> *Regulation 2018/1999, Article 14.*

<sup>20</sup> *Regulation 2018/1999, Article 1(2).*

**The drafting and structure of the plans are outlined in the Governance Regulation, which mandates a specific format<sup>21</sup> and a list of required parameters and statistical data.<sup>22</sup>** The structure of the NECPs, as defined in Annex I of the Governance Regulation, is relatively restrictive regarding the decarbonization dimension. It places a strong emphasis on the deployment of renewable energy, leaving limited scope for low-carbon nonrenewable energy sources. **The NECPs are complemented by long-term 30-year strategies, which each Member State develops every ten years and updates, if necessary, every five years.<sup>23</sup>**

**The Governance Regulation also provides feedback mechanisms if national plans are insufficiently ambitious in relation to the EU's objectives.<sup>24</sup>** It enables the Commission to issue recommendations to Member States whose contributions it deems insufficient. If a Member State deviates from a target – whether due to insufficient ambition in its plan or because the implementation failed to deliver the expected results – the Commission can request a revision of the plan and reassessment of its level of ambition. This is particularly relevant for sectors such as transport and heating, in which integrating more renewable energy requires a shift in fuel sources rather than simply deploying new installations. Furthermore, a Member State may engage in a statistical transfer with another Member State that has exceeded its targets – effectively purchasing compliance with the indicators from the over-achieving country.

**Finally, the Governance Regulation provides the Commission with a new tool: a financing mechanism for renewable energy projects across the EU. This mechanism involves issuing pan-European calls**

<sup>21</sup> Regulation 2018/1999, Appendix I, part 1.

<sup>22</sup> Regulation 2018/1999, Appendix I, part 2.

<sup>23</sup> Regulation 2018/1999, Article 15.

<sup>24</sup> Regulation 2018/1999, Article 31.

**for tenders to develop new renewable energy installations,<sup>25</sup> modeled on the support schemes used for tenders in individual Member States but applied on an EU-wide scale.<sup>26</sup>**

If a Member State fails to comply, the text of the Governance Regulation allows it to contribute voluntarily to the mechanism or for the Commission to impose a mandatory contribution. **In summary, Member States must either make adequate contributions to the European objective or, after several discussions to confirm that all efforts have been made to enhance their national contributions, the EU will take responsibility for meeting these objectives. This will be done through managed calls for tenders, funded by the Member States that are falling short. This framework thus ensures that, willingly or unwillingly, targets are met – either voluntarily or through enforced contributions.**

### The French National Energy and Climate Plan (NEPC)

Under French law, the preparation of the NEPC involves an energy–climate planning exercise structured around three documents: a Pluriannual Energy Program (PPE), a National Low-Carbon Strategy (SNBC) – both approved by decree in the Council of State – and a National Climate Change Adaptation Plan (Plan National d'Adaptation au Changement Climatique) at the infra-regulatory level.

<sup>25</sup> Regulation 2018/1999, Article 33.

<sup>26</sup> *In line with the division of competences regarding energy mixes, the text provides for an opt-out for Member States that are opposed to this call for tenders financing installations on their territory or that wish to specify specific criteria, on the understanding that since they would be contributing to the financing of this scheme, it would be strange economically not to want these installations to be set up on their territory.*

These three documents are combined to form the French NEPC, a draft of which was sent to the Commission in the second half of 2023. The final version was submitted at the beginning of July 2024.

### 1.3. THE TREATY ON THE FUNCTIONING OF THE EUROPEAN UNION (TFEU)

In domestic law, the sharing of powers between the EU and the Member States is also governed by the provisions of the Treaty on the Functioning of the EU (TFEU).<sup>27</sup> **According to Article 4 of the Treaty, energy and environmental policy fall under areas of shared competence between the EU and its Member States.** First and foremost, the TFEU upholds the principle of subsidiarity, which dictates that the EU should only intervene when objectives cannot be sufficiently achieved by Member States at the central, regional, or local levels. This principle applies even when the objectives might be better achieved at the EU level due to the scale or effects of the proposed action. **EU action must also respect the principle of proportionality.** In other words, it must be appropriate to the objective pursued and necessary to achieve that objective and must not impose excessive constraints on the subjects of law in relation to the objective to be achieved.

Article 191(1) of the Treaty states that “Union policy on the environment shall contribute to [...] preserving, protecting, and improving the quality of the environment, [...] prudent and rational utilization of natural resources, [and] promoting measures at international level to deal with regional or worldwide environmental problems, in particular combating climate change.”<sup>28</sup>

<sup>27</sup> *Official Journal of the European Union, Consolidated version of the Treaty on the Functioning of the European Union, 2012/C 326/01, [http://data.europa.eu/eli/treaty/tfeu\\_2012/oj](http://data.europa.eu/eli/treaty/tfeu_2012/oj).*

<sup>28</sup> *This is the only mention of climate change in the Treaty.*

**To achieve these objectives, the European Parliament and the Council can act through an ordinary legislative procedure that requires a qualified majority of Member States within the Council. This process allows for compromise and consensus among the twenty-seven Member States. There are, however, certain exceptions, notably for “measures significantly affecting a Member State’s choice between different energy sources and the general structure of its energy supply.”<sup>29</sup>**

**In the area of energy policy, the Treaty outlines the following four key objectives of the EU’s policy:<sup>30</sup>**

- To ensure the **functioning of the energy market.**
- To ensure the **security of the EU’s energy supply.**
- To promote **energy efficiency and conservation, as well as the development of new and renewable energy sources.**
- To promote **the interconnection of energy networks.**

**To achieve these objectives, the European Parliament and the Council are empowered to act through ordinary legislative procedures.**

This is especially relevant for the development of “*new and renewable*” energy sources and energy efficiency, to which the Treaty grants special status among the various contributions to the EU’s energy and climate strategies. Article 194(2) stipulates, alongside the provisions on climate change, that these measures must not interfere with “the right of a Member State to determine the conditions for exploiting its energy resources, its choice between different energy sources and the general structure of its energy supply, without prejudice to Article 192(2)(c).”

<sup>29</sup> Treaty on the Functioning of the European Union, Article 192(2).

<sup>30</sup> Treaty on the Functioning of the European Union, Article 194.

**In short, the EU has the power to legislate on energy and climate issues in order to achieve the objectives set out in the Treaty in these two respective fields. However, in doing so, it cannot affect a Member State's right to define the structure of its energy mix,<sup>31</sup> which generally remains a national competence. Any infringement of this national competence must therefore be adopted unanimously. By way of derogation from this principle, however, measures to develop "new and renewable" energy sources or to promote energy efficiency may be adopted by a qualified majority, subject to the conditions set out in the previous paragraph.**

**Given the significant difficulty of achieving unanimity in the Council on these matters, the development of EU law has largely focused on areas governed by ordinary legislative procedures.** For instance, a European regulation proposing a ban on coal-fired power plants by a specific date or setting a maximum allowable share of coal in the European energy mix by a certain deadline could only be adopted unanimously. However, such a measure is unlikely to be approved, given the current balance of power within the Council.

On the other hand, it is possible to subject such power plants to an **emissions quota mechanism by a qualified majority**. Similarly, limits on the duration of long-term purchase contracts for fossil energy products can be imposed by the same procedure – although a general prohibition on the purchase of such products beyond a certain date would require unanimity. **Finally, national or European targets for the renewable share of energy mixes can also be set by qualified majority voting, as long as they do not contravene the conditions set out in Article 194(2).**

<sup>31</sup> *Treaty on the Functioning of the European Union, Article 192(2).*

## 2 EU Renewable Targets and National Plans

In this context, and in order to achieve the objectives of the EU's energy policy, the European co-legislators have successively decided on legislative packages structured around **three pillars**:

- **1) climate objectives**, in which the GHG emissions quota system plays a central role, and
- **the two energy objectives** for which the EU has the power to legislate: **2) the development of renewable energy sources** and **3) energy efficiency**.

The “Fit for 55” climate package<sup>32</sup> highlights the relevance of scenarios in which the EU's climate objectives are achieved not only through carbon pricing policy (the quota mechanism and its extensions to transport and buildings) but also through a diversified legislative package. The latter includes sub-targets for the main sectors and for the development of low-carbon energy vectors. They also include directives specifying targets for energy efficiency and renewable energy.

Historically, the EU has set separate targets for renewable energy and energy efficiency based on reasoning that aligns with the limitations imposed by the TFEU framework. **This is why the EU has favored this approach rather than integrating the targets into a single overarching decarbonization objective.** However, in the energy sector, the TFEU permits qualified majority voting only for matters related to “new and renewable” energy sources and energy efficiency, provided that – as with the 2030 targets – this does not infringe on the use of other energy sources. A straightforward interpretation of the Treaty would have led the European institutions to favor this approach.

<sup>32</sup> “Fit for 55” is a legislative package amending several European directives and regulations to bring them into line with the new target – adopted in 2021 – of reducing the European Union's net GHG emissions by 55 percent compared with 1990. This target is set out in Regulation 2021/1119 establishing the framework for achieving climate neutrality.

## 2.1. THE RENEWABLE ENERGY DIRECTIVE

**For renewable energy sources, the EU's targets are outlined in the Renewable Energy Directive (RED), which specifies the renewable share of the final energy mix. This mix includes all forms of energy consumed, such as fuels, gas, electricity, and solid fuels for heating, rather than focusing solely on the electricity mix. In 2022, the electricity mix accounted for only 27 percent of total final energy consumption across the EU.** Clearly, the decarbonization effort must encompass the entire final energy consumption. Electrification is certainly part of the solution, particularly in Member States that already have a low-carbon electricity mix, such as France, Sweden, and Finland. However, with almost two-thirds of final energy in these countries (i.e., fuels, heating of buildings, etc.) still of fossil origin, a major decarbonization effort is still needed across all energy carriers (nonfossil gases, nonfossil liquid fuels, combustible biomass, renewable or low-carbon electricity, renewable and low-carbon networked heating and cooling).

**In terms of renewable energy, the first text adopted by the EU was Directive (EU) 2009/28 – known as “RED 1” –** which is organized around nationally binding targets for the renewable share of final energy by 2020, broken down to correspond to a 20 percent share at the European level by 2020.

The RED 1 framework has since been extensively revised in Directive 2018/2001 (known as “RED 2”), followed by the latest version, 2023/2413 (known as “RED 3”), which was adopted as part of the “**Fit for 55” package** and is currently in force. **The latter two frameworks are organized not around targets assigned to each Member State but around a common European target for the renewable share of final energy by 2030, which is set at 42.5 percent.** This target is broken down into numerous sub-targets for the main sectors (transport, industry, construction) and mandates for certain emerging energy vectors

(share of renewable fuels of nonbiological origin, etc.). As we have seen, under the Governance Regulation, **Member States are no longer bound by national renewable energy targets defined at the European level. They set their own contributions to the European target in an integrated plan**, and the Commission assesses the adequacy of these contributions and may issue recommendations. **In assessing sufficiency, the Commission uses an indicative allocation mechanism**,<sup>33</sup> while taking account of any relevant circumstances influencing the deployment of renewable energy that Member States report.

Case Study:  
France

Under RED I, France set itself a target of 23 percent for final renewable energy. The allocation of the European target was influenced by the negotiations surrounding this directive. During its presidency of the Council, France agreed to take on a larger share of the target than would typically have been assigned based on the allocation mechanism. This was done in order to ensure a 20 percent target for the EU as a whole.

Regardless of the circumstances in which it was adopted, **France failed to meet this target in 2020 (when it had only reached 19.1 percent) and had still not met it in 2023**. France's failure to meet this target prompted an initial procedure between France and the European Commission. Unlike other Member States facing similar gaps, such as Belgium, the Netherlands, Slovenia, Luxembourg, and Malta, **France declined to utilize a statistical transfer from surplus Member States** such as Sweden and Italy. Such a transfer could have helped close its gap in accordance with the legal provisions established by the Governance Regulation adopted by the French authorities in 2018.

<sup>33</sup> *Regulation 2018/1999, Annex II.*

**For the past three years, the French authorities have invoked political arguments**, recalling France's "major contribution to the decarbonization of the Union's electricity mix" through its nuclear power plants.<sup>34</sup> They also asserted that recourse to statistical transfer would prevent the "implementation of solutions most favorable to the development of renewable energies"<sup>35</sup> (sic), but this is beyond the scope of the current discussion. If the Commission were to make an exception for France, it would be difficult to maintain the credibility of the rules for which it is responsible and the fairness of treatment between Member States at the heart of its mandate, when these rules have been rigorously applied to other Member States that also have low-carbon electricity mixes. **The electoral context of 2024 and the beginning of a new Commission mandate open a window in which the procedure can only be completed at the end of this year or in 2025.** Nonetheless, it would be difficult to imagine that France's failure to comply with European law could be resolved by anything other than a contribution, however symbolic, to the European financing mechanism for renewable energy, **thus bringing the country into compliance with commonly established rules.**

**Applying the RED 2 rules to France would lead to a target of 44 percent renewable energy in final energy by 2030.**

In the second half of 2023, the French authorities chose to submit a draft of an integrated national energy–climate plan to the Commission. The draft did not specify a final renewable energy target level for 2030, as required by the Governance Regulation.<sup>36</sup> **The draft NECP declared targets for the decarbonized share of the energy mix of 58 percent in 2030 and 71 percent in 2035.** In practice, these targets were based on the addition of a minimum nuclear production base of 270 TWh (final

<sup>34</sup> *It should be remembered that this is not the purpose of the Renewable Energy Directive, which deals with the final energy mix, not just the electricity mix.*

<sup>35</sup> *Letter from Agnès Pannier-Runacher, Minister for Energy Transition, to Kadri Simson, European Commissioner for Energy, dated October 20, 2023 (ref. MTE/2023-10-42343), obtained by Contexte.*

<sup>36</sup> *National Energy-Climate Plan for France – Draft Update – October 2023, p. 7.*

energy), cautiously calculated on the basis of the historical low point of France's nuclear power plants' the park's production in 2022, which corresponds to 22.3 percent of final energy, plus a renewable share of 35.7 percent. A plan closely aligned with this was formally presented to the Commission in the summer of 2024.

**Clearly, a higher renewable share of 9 percent, which would be consistent with the European target, would in no way encroach on nuclear power's place in the French energy mix.** Admittedly, integrating a growing share of renewable energy into the grid ultimately raises questions about the balance of the system and maintaining the right balance between supply and demand (see below). Nonetheless, it would be feasible to integrate the development of renewable energy sources with efforts to electrify consumption to reach this goal. Indeed, in most cases, electrification is accompanied by intrinsic energy savings (e.g., heat pumps and electric vehicles are around three times as efficient as their thermal counterparts); therefore, it brings us closer to the target by reducing the denominator<sup>37</sup> as much as by improving the numerator. It would also be technically possible to increase the renewable share of other vectors (heat networks, liquid and gaseous fuels, solid fuels) without going any further in terms of the electricity mix. Finally, it would be possible to influence the denominator by stepping up energy sufficiency efforts.<sup>38</sup> **The French NECP is, therefore, not only different in form but also significantly different in degree from the common European target of 42.5 percent, as well as from the national contribution expected by the Commission of 44 percent.**

**However, France's NECP is based on a desire for operational realism by setting targets that are as ambitious as they are achievable and are informed by in-depth technical and economic analysis.** The French NECP is also intended as a political signal to European institutions,

<sup>37</sup> Total final energy consumed in France.

<sup>38</sup> In the sense of the European Union, i.e. integrating both energy efficiency and sufficiency.

aimed at defending a technology-neutral approach to decarbonization, by treating all low-carbon energy sources (including nuclear power, which has been penalized at the Community level for several years by an unfavorable political context) equally.

The French NECP's technical and economic analysis is methodologically robust and is based on political validation and co-construction with stakeholders, making its conclusions difficult to call into question. The work was based on analyses begun in 2019 and subsequently subject to a public debate initiated in 2021. **The analysis made it possible to define the expected contributions of each of the vectors and modes of renewable and low-carbon energy production, as well as the expected contributions of changes in demand (energy efficiency and conservation, flexibilization of the power system).** The work also included an analysis of looping, that is, the need to maintain, throughout the energy transition trajectory, supply–demand adequacy in terms of the annual balance for each of the vectors, the immediate coverage of needs for grid-connected energy, and the production–consumption balance for biomass. **Based on this analysis and the constraints it identified, the French authorities determined that setting a target of 36 percent renewable energy by 2030 represents an ambitious yet potentially achievable effort, assuming the highest possible rates of deployment of renewables.**

**Following the submission of the draft NECP in November 2023, the Commission asked France to complete its plan by adding an explicit renewable energy target and to strengthen its ambition.** As Commissioner Simson put it, “France needs to significantly raise its ambition for renewable energy sources to at least 44 percent.”<sup>39</sup> The French authorities, for their part, seemed not to respect European targets in their national planning, stating on March 4, 2024 that these targets represented “the Europe we no longer want, which sets targets that are too

<sup>39</sup> K. Simson, *Speech to the ITRE Committee, February 15, 2024.*

restrictive and are not satisfactory climate targets<sup>40</sup> and publicly declaring in the NECP their refusal to give a percentage figure for renewable energy as a proportion of the French energy mix by 2030. This refusal was not just intended as a provocation but was also meant to provoke debate, simply because they thought the idea of setting such a target was silly.<sup>41</sup> A final NECP based on virtually identical trajectories was sent to the Commission in July 2024, leading Energy Commissioner K. Simon to formally call on France to catch up.

**Even though political posturing is part of the European game, the French position seems indefensible in legal terms. It should, therefore, be understood as part of a strategy for raising tensions in order to force a fundamental debate on the long-term structure of the objectives and their governance rather than a fixed position.** Furthermore, the RED3 objectives were drawn up under the French presidency, adopted by the Council with a favorable vote from the French authorities, and presented to Parliament by a French rapporteur. When France mobilized after the adoption of a compromise in trilogue to reopen points in RED3, it did not act in accordance with the rules of conduct surrounding the European co-legislation process. However, this mobilization was not aimed at discussing the level of the renewables target, despite the budgetary implications of this level of ambition and the fact that the question had been repeatedly addressed by the relevant ministries. France's demands centered on a specific issue regarding the eligibility of hydrogen produced from nuclear energy when calculating sub-targets for industry, particularly in relation to the inclusion of renewable fuels of nonbiological origin.

Similarly, the framework of the Governance Regulation was adopted with a favorable vote from the French authorities under the same political majority as the current French government. **Therefore, it is difficult**

<sup>40</sup> B. Le Maire, *Energy Council press conference, March 4, 2024.*

<sup>41</sup> A. Pannier-Runacher, *EdEn conference, March 26, 2024.*

**to imagine France evading it or the rule changing without jeopardizing either its own credibility or that of the common framework for energy and climate action.**

## **2.2. INCREASINGLY DIFFICULT TO REACH TARGETS...**

The difficulties encountered by some Member States, including France, in reaching the 2030 renewables target are, in fact, a reflection of the extreme ambition of the target set at the EU level.<sup>42</sup>

In its assessment of the draft NECPs, published on December 18, 2023, the European Commission notes that “the level of ambition proposed by the Member States represents a share of renewable energy sources **of between 38.6 percent and 39.3 percent in 2030 at Union level [...]; [T]his figure is, however, lower than the binding share of 42.5 percent set in the revised RED II directive.** The efforts of some Member States, which exceed what is required of them, are not sufficient to compensate for the contributions of those who have not submitted plans or those who do not achieve the required level of ambition. [...] Only seven Member States (Denmark, Spain, Estonia, Greece, Italy, Lithuania, and Luxembourg) have submitted a contribution that meets or exceeds their expected national contribution.”<sup>43, 44</sup>

**The combined contributions of each Member State will lead to an EU-wide emissions reduction of 51 percent by 2030 compared to 1990 levels. This is 4 percentage points below the 55 percent**

<sup>42</sup> In contrast, Germany's NECP is calibrated at 40 percent renewable share of final energy, against an expected effort of 41 percent.

<sup>43</sup> European Commission, “EU wide assessment of the draft updated National Energy and Climate Plans – An Important step towards the more ambitious 2030 Energy and Climate objectives under the European Green Deal and RePowerEU”, December 18, 2023.

<sup>44</sup> It is interesting to note that these member states are essentially those with abundant competitive renewable resources (offshore wind, ground-based photovoltaics, bioenergy).

**target set by the common framework. The Governance Regulation was designed to manage the development of integrated national energy and climate plans. It also includes mechanisms for monitoring, controlling, and applying corrective measures when individual Member States deviate from their targets. However, the challenge leading up to 2030 will be addressing a collective shortfall that will impact nearly the entire EU.**

These challenges are particularly relevant to the various sub-targets outlined in European legislation. For these sub-targets, the Governance Regulation does not offer a detailed effort-sharing framework or a European mechanism to ensure their achievement. Additionally, the RED 3 directive does not provide for statistical transfers between Member States – where a state that exceeds its transport or industry targets could exchange surplus with a state falling behind – or between sectors, such as compensating for delays in industry targets with progress in transport. **Similarly, the framework for jointly securing the achievement of incorporation targets for certain energy vectors has not been clarified.** The Commission also highlighted the limitations of the national plans in addressing the detailed breakdown of sub-objectives in RED3. For example, it notes that “Most Member States include trajectories for the share of renewable energy in transport, while only a few (e.g., Czechia, France) provide information on the trajectory for the GHG intensity reduction in transport.”<sup>45</sup>

**This confrontation between the EU’s common ambitions and the Member States’ individual preferences will resurface during the process of defining the EU’s 2040 objectives.**

**Up to now, the renewable targets for 2020 and then 2030 have been low enough not to imply the need for Member States that use other low-carbon, nonfossil energy sources such as nuclear power to give**

<sup>45</sup> “EU wide assessment of the draft updated National Energy and Climate Plans – An important step towards the more ambitious 2030 energy and climate objectives”, page 9.

**them up.** However, the targets envisaged by the Commission,<sup>46</sup> which call for a 90 percent reduction in emissions compared with 1990 levels, present a new challenge. With significant electrification expected by this date, this implies that “the majority of renewable energies, supplemented by nuclear power, will generate more than 90 percent of the electricity consumed in the EU by 2040.”<sup>47</sup>

**Depending on the scenario, the Commission’s impact study proposes a renewable share of between 65 and 75 percent of final energy by 2040.**<sup>48</sup> Assuming the targets continue to be allocated without considering the existing nuclear capacity, and in the absence of additional energy efficiency efforts compared to 2030, nuclear production in France by this time horizon would be limited to between 300 and 420 TWh. **If we assume energy efficiency of 30 percent between 2030 and 2040, this implies nuclear production of no more than 210 or 295 TWh.**

The impact study<sup>49</sup> raises the question of the regulatory coherence, admitting that the French trajectories, and in particular the EPR2 program, imply an installed nuclear base of 88 GW in the EU in 2040, compared to 71 GW in the model. **As we can see, the Commission has not yet addressed the issue directly: setting renewable targets for 2040 requires either acknowledging nuclear power’s contribution to the EU’s climate objectives – and factoring it into effort-sharing among Member States – or assuming that the continued expansion of renewable energy will, in some cases, necessitate reducing part of the nuclear power capacity that is already installed or planned.** It is clear that this difficult choice is highly politically sensitive and will have significant economic implications for the European authorities in the upcoming mandate.

<sup>46</sup> European Commission, “Europe’s 2040 Climate Target and Path to Climate Neutrality by 2050 Building a Sustainable, Just and Prosperous Society,” Communication 63, 2024, February 6, 2024.

<sup>47</sup> “Europe’s 2040 Climate Target and Path to Climate Neutrality by 2050,” p. 13.

<sup>48</sup> “Europe’s 2040 Climate Target and Path to Climate Neutrality by 2050.”

<sup>49</sup> “Europe’s 2040 Climate Target and Path to Climate Neutrality by 2050,” p. 44.

### 2.3. THE RENEWABLE ENERGY DIRECTIVE ON THE BRINK OF A LIKELY STALEMATE

Until 2030, translating climate targets into renewable energy goals poses no issues regarding “the right of a Member State to determine the conditions for exploiting its energy resources, its choice between different energy sources, and the general structure of its energy supply.”<sup>50</sup> **For the reasons outlined in the previous section, setting the 2040 targets will be a far more delicate matter.**

If ambitious renewable energy targets are set for 2040 under the same framework as RED 3 – specifically targeting the renewable share of final energy consumption – Member States that have opted to retain nuclear power in their energy mix, including France and its partners in the Nuclear Alliance, **may need to consider whether RED 4 should require unanimous approval rather than a qualified majority vote.**

**The question arises again when considering that the Treaty on the Functioning of the EU is just one of the European treaties** and is co-equal with the Euratom Treaty, as the Court’s case law has consistently pointed out. Article 2(c) of the Euratom Treaty stipulates that the EU must facilitate investment and, in particular, promote business initiatives to support the construction of essential installations necessary for the development of nuclear energy. This mandate could conflict with renewable energy targets if their scale requires reducing or abandoning existing or planned nuclear power generation installations. **The preservation of the existing nuclear base or of the projects undertaken by Member States in this field in their NECPs thus appears to be specially protected in the organization of the treaties. While it has not been called into question by the structure of renewable targets for 2030 to date, it could potentially be in the discussion of some very important targets for 2040.**

<sup>50</sup> *Treaty on the Functioning of the EU, Article 194(2).*

**These two factors – the legal challenge of adopting a RED 4 with an unchanged target structure without unanimity and the conflict between RED and the Euratom Treaty – suggest a likely impasse for RED. However, the urgency of climate change, which the EU has addressed with determination and ambition thus far, demands sustained and continuous action, making such an impasse incompatible with achieving the climate goals.**

## **2.4. TECHNOLOGICAL NEUTRALITY AS A WAY FORWARD: TOWARD A “LOW-CARBON ENERGY DIRECTIVE”?**

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### **Proposal 1**

Shift from setting targets based on the share of renewable energy in final energy consumption to targets focused on reducing the carbon intensity of final energy consumption. This framework would require introducing a definition of low-carbon energy, which is currently absent from European law, and adopting a uniform methodology for calculating the carbon intensity of final energy across its entire life cycle. The carbon intensity threshold for classifying energy as “low carbon” could be gradually lowered over time, reflecting advancements in technology and the reduced carbon footprint of production equipment.

**The reflections presented above lead to a twofold argument advocating for a fundamental shift in the approach and framework of common objectives.** First, achieving the 2040 targets will be exceptionally challenging for many European countries. Second, this difficulty

becomes even more problematic considering that the targets may contradict the role some European nations wish to retain for nuclear energy in their energy mix – a right guaranteed by the TFEU and supported by the Euratom Treaty.

Given the balance of power likely to emerge during the debate on unanimity ahead of RED 4, some Member States may advocate for a change in the structure of the directive's targets. This would replace targets focused solely on renewable energy with targets based on reducing carbon intensity. This would enable progress on common legislation without the need for unanimity. **Thus, RED 3 should be replaced not by a RED 4 with the same target structure but instead by a directive expressing the EU's renewable targets as targets for reducing the carbon intensity of energy used within the EU** – in other words, a “*Low Carbon Energy Directive*” (LCED).

**Such a structure for renewable targets would align with the principles of proportionality and subsidiarity, preserving the rights of Member States to define their own energy supply.** Rather than penalizing renewable energy, this approach would help overcome a foreseeable impasse in RED, allowing for the continued strengthening of policies that support renewable energy while introducing greater flexibility into the system. In legal terms, this extension is justified in the following ways:

- **The Euratom Treaty**, which is coequal with the TFEU, enshrines support for nuclear energy.
- **Article 194 of the TFEU** provides for an ordinary procedure for policies to promote “*new and renewable energies*.” The use of certain low-carbon energy sources and technologies (nuclear, CCS, etc.) is recent in the history of energy. In particular, they are much more recent than fossil fuels without carbon capture and storage, or even hydroelectricity. Therefore, it seems legitimate to consider

that certain low-carbon energy sources can be counted among the “new energies” mentioned in the TFEU.

- A target expressed as a reduction in the carbon intensity of energy remains a target for the development of renewable energy within the meaning of Article 194, simply with an additional degree of freedom to avoid the political and legal impasse explained above. Therefore, Member States wishing to **meet the new low-carbon energy targets with renewable energy alone would be able to do so** (in other words, the text would remain largely unchanged for states not wishing to extend it to nonrenewable low-carbon energy sources).

**This is the essence of the proposal put forward by France and approved by the Nuclear Alliance at the December 2023 Energy Council**, which the EU will have to build on in the next term.

**The amendments to the Governance II regulation proposed later in this note also suggest a potential evolution in the structure of renewable targets.** In this context, the distribution of efforts among Member States would be structured to account for the carbon intensity of GDP, allowing for a more effective allocation of responsibilities where the substitution of fossil fuels is most significant.

**To achieve this, a prerequisite will be to provide the EU with a uniform definition of the notion of low-carbon energy**, which could evolve to become stricter over time, to take into account the decarbonization of production methods. While successive iterations of RED have clearly defined the notion of renewable energy, there is no definition of low-carbon energy in sectoral law. An implicit notion does exist, however, in the form of the carbon content thresholds mentioned at various points throughout the delegated acts of the taxonomy regulation.<sup>51</sup>

<sup>51</sup> *Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088.*

These thresholds are set at 100 gCO<sub>2</sub>/kWh for indirect emissions (a threshold that is arbitrarily applied only to certain energy sources), and at 3 t. CO<sub>2</sub>-eq. per ton of H<sub>2</sub> for hydrogen (which is relatively homogeneous). However, this does not constitute a legal definition but simply a commonly accepted standard within a delegated framework for defining sustainable investment. Currently, establishing a consistent definition of low-carbon energy in European sectoral energy law is essential. This definition would benefit from alignment with the taxonomy's definition, ensuring that low-carbon energy sources are fully recognized as 'sustainable' according to the taxonomy criteria.

**The definition of low-carbon energy should cover the entire life cycle and, once adopted, should be applied to all energy sources, including renewable energy sources. As one of the major challenges of the energy transition is achieving carbon neutrality, the main criterion for discriminating between energy sources should be their life-cycle carbon intensity.**

**The shift from setting targets based on the share of renewable energy in final energy consumption to setting targets focused on reducing the carbon intensity of final energy consumption should be paired with a revision of these targets. This is necessary to prevent any slowdown in decarbonization efforts, particularly in countries that rely on substantial amounts of low-carbon, nonrenewable energy sources.** Some countries, including France, are already lagging behind the targets to which they have committed. The change in the structure of decarbonization targets must lead not to a reduction in ambition but rather to a strengthening of it.

**At the same time, particular care must be taken to ensure that the transition to low-carbon energy sources does not come at the expense of the EU's energy security.** Specifically, including low-carbon energy sources such as electricity, gas, and liquids produced from fossil inputs with captured and stored carbon emissions must be accompanied by

criteria that ensure security of supply in terms of volume and price. This can be achieved through strategies such as diversifying purchase sources and implementing a framework for procurement aimed at stabilizing prices.

In addition, for fossil fuels whose use is associated with carbon capture and storage devices, it will be necessary to impose the following measures:

- **Rigorous monitoring of the effectiveness of capture and storage** (and therefore of the real carbon intensity of the energy sources in question).
- **Rigorous consideration of emissions over the entire life cycle** – as for all energy sources under the proposed approach – the processing, extraction, and transport of fossil fuels can lead to CO<sub>2</sub> emissions and methane leaks.
- **A match between the expected role of these energy sources and the volume and accessibility of reservoirs capable of storing carbon.**
- In cases in which carbon storage is used for enhanced oil recovery in mature reservoirs, **the carbon footprint of the hydrocarbon increment thus recovered is integrated with the hydrocarbons whose carbon has been stored.**

## Proposal 2

To accompany the targets for reducing the carbon intensity of final energy, the phasing out of final energy sources that emit the most GHGs over their life cycle should be considered (understanding that the introduction of such dates would have to be adopted unanimously by the Council). Such a framework, covering all energy sources and carriers (electricity, heat, gaseous, liquid, and solid fuels), would unify the disparate provisions<sup>52</sup> that already exist in this area, while sending a clear signal to the market.

Finally, to accompany these targets for reducing the carbon intensity of final energy consumption, we could consider phasing out the most carbon-intensive energy sources over their life cycles. A general objective of reducing the carbon intensity of final energy used in the EU, *on average* reduces the climatic impact of European energy systems. In addition, emissions ceiling thresholds would make it possible to gradually exclude the distribution tail of the most GHG-emitting installations and provide a clear signal to investors in favor of replacing them.

Such a framework, covering all energy sources (electricity, hydrogen, gas, liquids, coal), would unify the disparate provisions that already exist in this area. To this end, Regulation 2019/943 already provides for the exclusion of the generation facilities with the highest GHG emissions from certain remuneration mechanisms (capacity mechanisms) according to a staggered timetable. The methane regulation (2024/1787) also includes provisions aimed at excluding fossil energy

<sup>52</sup> For example, the methane regulation on emissions from upstream oil and gas in Regulation (EU) 2024/1787 (“On the Reduction of Methane Emissions in the Energy Sector” and the emissions criteria for power plants in the capacity mechanisms in Regulation 2019/943 (“On the Internal Market for Electricity”).

sources with the highest life-cycle emissions. Some Member States have also envisaged measures prohibiting the commissioning of new fossil-fired power generation facilities from a certain date (a measure already implemented in France) or banning the commissioning of new steam reformers producing hydrogen from fossil gas.

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## 3 Technological Neutrality for Carbon Neutrality

### 3.1. TECHNOLOGICAL NEUTRALITY MUST BE THE CORNERSTONE OF THE EU'S ENERGY AND CLIMATE POLICY

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#### Proposal 3

Technological neutrality must be a principle for all European energy–climate legislation, including the revision of existing legislation.

This principle is a direct consequence of the principles of subsidiarity and proportionality, according to which European law must define a framework for action that minimizes infringement on each Member State's own powers to achieve common objectives – in this case, the shared commitment to carbon neutrality.

**As illustrated in the previous section, extending the scope of RED to all low-carbon energy sources seems necessary** to avoid a foreseeable institutional deadlock that could cost the EU several years in terms of decarbonization.

More generally, the enlargement in question involves a conceptual shift in the EU's support for certain forms of energy, away from a lowest-common-denominator approach to all Member States and toward **a technology-neutral approach designed to leave each Member State as many options as possible to achieve the common goal of decarbonization**. This conceptual shift is at the heart of the analysis and proposals put forward by Mario Draghi in the report submitted to the European Commission in September and is explicitly formulated with regard to energy: "Second, decarbonisation must be accelerated. To achieve this, all available technologies and solutions (e.g. renewables, nuclear, hydrogen, batteries, demand response, infrastructure roll-out and energy efficiency and CCUS technologies) must be leveraged by adopting a technology-neutral approach and by developing an overall cost-efficient system."<sup>53</sup>

**Although it has often been claimed that European policy tries to take a technology-neutral approach toward legislating, this has, in fact, often not been the case.** Yet, faced with a challenge requiring such profound changes to our production and consumption patterns as the European commitment to achieving carbon neutrality by 2050, the principle of subsidiarity takes on its full meaning. **Each country must be able to choose, from among all the solutions available to achieve carbon neutrality, those that best correspond to its needs, resources, territorial constraints, and geostrategic priorities.**

**The EU must, therefore, establish a clear hierarchy between the various energy and climate objectives it sets itself, with the goal of**

<sup>53</sup> Mario Draghi, "The Future of European Competitiveness," Part B, September 2024.

### **decarbonization taking precedence over the means of achieving it.**

For example, the “energy efficiency first” principle should only apply when it leads to a reduction in GHG emissions, or at least when it does not increase them.<sup>54</sup> In practice, as electrification almost always generates intrinsic energy efficiency, such conflicts between energy efficiency and climate objectives appear to be very rare, but there is no reason to rule out their occurrence, and the solution found must always be one conducive to addressing the climate challenge. The central criterion for assessing a Member State’s climate policy, and the climate aspects of its energy policy, must therefore be based on its GHG emissions, and not on the composition of its energy mix.

**Promoting technological neutrality in the EU’s energy–climate legislative edifice requires a constant effort on the part of the various institutions – the Council or the Parliament, as well as the College of Commissioners.** History shows that it is very tempting for a state, Commissioner, or political group to favor certain levers according to national preferences, political power struggles, or personal convictions. However, European law must work for everyone, and this presupposes the establishment of an appropriate framework that transcends particular positions.

## **3.2. APPLICATION TO THE EUROPEAN TAXONOMY OF SUSTAINABLE INVESTMENTS**

**In 2020, the EU adopted a taxonomy designed to encourage “sustainable” investments under six environmental objectives:<sup>55</sup>**

<sup>54</sup> *Substituting gas heating for electric heating represents an improvement in energy efficiency, which can be disadvantageous from a climate point of view in countries where electricity is low in carbon. Similarly, the efficiency of a nuclear reactor is lower than that of a combined-cycle gas power plant, even though its carbon footprint is also much smaller.*

<sup>55</sup> *Article 9 of Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on the Establishment of a Framework to Facilitate Sustainable Investment and Amending Regulation (EU)2019/2088.*

- climate change mitigation;
- adapting to climate change;
- sustainable use and protection of aquatic and marine resources;
- the transition to a circular economy;
- pollution prevention and reduction;
- protecting and restoring biodiversity and ecosystems.

To qualify as “sustainable,” an investment must **“contribute substantially to one or more of the environmental objectives”** without causing **“significant harm to any of the environmental objectives.”**<sup>56</sup>

While the principle of this regulation goes some way toward improving the way in which environmental objectives – including climate objectives – are taken into account in investments, **its implementation falls short of the mark, with a lack of rigor and a sometimes arbitrary definition of the criteria supposed to justify the contribution to environmental objectives.**

**For example, Article 10 of the regulation, on the substantial contribution to climate change mitigation, places the emphasis primarily on the renewable aspect of energy sources, rather than on their carbon content.** This shift is not only an arbitrary reduction in the range of technologies that can meet this objective but also a misuse of this objective. The carbon intensity of an energy source over its life cycle is not correlated with whether it is renewable: some energy sources can be low carbon without being renewable, while others can be renewable without being low carbon. **This choice of wording prioritizes a political approach over a technologically neutral criterion** – one that would have assessed a technology’s contribution to climate change mitigation based on its GHG emissions – **ultimately reducing the effectiveness of the taxonomic tool in serving climate goals.**

<sup>56</sup> Regulation (EU) 2020/852 (“On the Establishment of a Framework to Facilitate Sustainable Investment”), Article 3.

This criticism can be extended to the delegated acts published by the Commission. **For example, the main delegated act<sup>57</sup> of the taxonomy defines a GHG emissions criterion of 100 gCO<sub>2</sub>/kWh for certain energy sources:** electricity used in the production of chlorine or aluminum, electricity production from hydroelectric installations, geothermal energy, or gaseous and liquid fuels of nonfossil origin. However, other sources of electricity – wind and photovoltaic installations – are exempt from the criterion. This exclusion is all the more surprising given their low carbon intensity: It seems unlikely that the application of this criterion would have led to these energy sources being excluded from the scope of the taxonomy. **If the European Commission considered that the limit for qualifying an energy source as “low carbon” should be set at 100 gCO<sub>2</sub>/kWh, a rigorous, technology-neutral approach should have led to this criterion being applied to all energy sources.**

**The taxonomy contains other examples of technical criteria being treated more politically than scientifically, particularly in relation to nuclear energy:**

- **The inclusion clauses for nuclear energy in the supplementary delegated act:**<sup>58</sup> Limiting the granting of planning permission for new installations to 2045 and limiting the authorization to modify existing nuclear installations in order to extend their operation to 2040 cannot be justified in terms of any of the environmental objectives served by the taxonomy.

<sup>57</sup> *Commission Delegated Regulation (EU) 2021/2139 of 4 June 2021 supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by establishing the technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially to climate change mitigation or climate change adaptation and for determining whether that economic activity causes no significant harm to any of the other environmental objectives.*

<sup>58</sup> *Commission Delegated Regulation (EU) 2022/1214 of 9 March 2022 amending Delegated Regulation (EU) 2021/2139 as regards economic activities in certain energy sectors and Delegated Regulation (EU) 2021/2178 as regards specific public disclosures for those economic activities.*

- The delegated act addressing the non-climate objectives of the taxonomy<sup>59</sup> excludes from Part 2.4 of Annex II (which covers hazardous waste treatment under the objective of transitioning to a circular economy) activities related to “the treatment and recovery of nuclear waste.” This exclusion exists despite the fact that such activities do contribute to the circular economy by reducing the volume of final waste, improving its conditioning and safety, and minimizing the need for uranium mining through the recovery of reprocessed uranium and plutonium from spent fuel. Similarly, in Part 2.4 of Annex III (covering the cleaning-up of contaminated sites and areas as part of the pollution prevention and reduction objective), “*decontamination or clean-up of nuclear power plants and sites*” is also expressly excluded, again for no apparent reason.

Similarly, the Commission could have assumed that the criteria outlined in the taxonomy were sufficient on their own to assess the sustainability – and thus the contribution to climate objectives – of a given technology. This would have allowed the energy–climate objectives to be expressed based on the share of “taxonomy” energy sources. However, this approach was clearly not feasible due to the unduly restrictive choices made in the taxonomy regarding certain technologies.

The taxonomy example illustrates the scale of the work to be carried out by the European institutions during the current term of office and, probably, in future terms. **Achieving carbon neutrality requires structured, methodical, holistic, and technology-neutral climate action. This paradigm shift will have to be embodied both in future legislation and in the revision of all past legislation.**

<sup>59</sup> *Commission Delegated Regulation (EU) 2023/2486 of 27 June 2023 supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by establishing the technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially to the sustainable use and protection of water and marine resources, to the transition to a circular economy, to pollution prevention and control, or to the protection and restoration of biodiversity and ecosystems and for determining whether that economic activity causes no significant harm to any of the other environmental objectives and amending Commission Delegated Regulation (EU) 2021/2178 as regards specific public disclosures for those economic activities.*

## 4 Overcoming the Obstacle: Rebuilding the Governance Framework and Rethinking the Structure of Objectives

### 4.1. A NEW GOVERNANCE FRAMEWORK FOR EUROPEAN ENERGY: JOINT EFFORT AND FINANCING

The energy union's current governance framework provides a common method for Member States' energy planning and a shared effort approach to achieving key common objectives. However, it will be put to the test over the coming months.

**Restructuring this framework by giving it the means to meet the heightened ambition of "Fit for 55" must, therefore, be a priority at the start of the new Commission's term of office.** The level of ambition set by the co-legislators during the negotiation process now appears, in light of contributions from various Member States, very difficult to achieve. This is due to the practical challenges of implementing projects, issues with local acceptability, and the constraints of national budgetary capacities. As a result, a large majority of Member States have set their ambitions below those that would be required under the current Governance Regulation.

**The reopening of the Governance Regulation, leading to a Governance II regulation by the end of 2025, must aim to secure the achievement of common objectives. It must also recognize the constraints of Member States, take on board the question of the fairness of distribution mechanisms, and accept the need for flexibility.** On the other hand, the approach based on indicative national planning on a five-year basis should be preserved or even deepened, since this approach is based on international law. More pragmatically, this also allows for the

comparison of the national ambitions and policy choices of each of the Member States in the achievement of common objectives.

## — Proposal 4

Re-examine the effort-sharing rule in the Governance Regulation by adding a carbon intensity component to GDP.

The first question that the co-legislators will need to answer very quickly is **how to share the effort**. It was already clear when the finalized national plans were communicated in the summer of 2024 that the distribution of effort would be the subject of difficult discussions. **The distribution key currently set out in the Governance Regulation is based on the following five calculation elements:**

- **The 2020 target set out in the RED 1 directive** – which means that France needs to deal from the outset with the gap between the 2020 target and the 2030 target.
- **An identical flat-rate contribution for all Member States, weighted at 30 percent.**
- **A contribution based on Member States' geophysical potential** (an assessment of each Member State's renewable resources, as derived from the PRIMES model), **weighted at 30 percent.**
- **A contribution based on GDP per capita, weighted at 30 percent.**
- **A contribution dependent on the level of interconnection in the Member State, weighted at 10 percent.**

This leads to politically complex situations, making it difficult to accept the overall effort required to achieve the "Fit for 55" objectives.

On the one hand, certain Member States such as France, Belgium, and Sweden are already making a significant contribution to the decarbonization of the EU's economy via other decarbonized energy sources.

However, this historic effort is not being taken into account. **This point is regularly raised politically.**

**On the other hand, the PRIMES model does not take into account local acceptability constraints or constraints linked to other uses of areas that could accommodate renewable energy.**<sup>60</sup> This is not unimportant insofar as these needs can have a very substantial impact on the renewable resources available at a competitive cost. Only biomass, alternative fuels, and storage resources are analyzed in depth via dedicated modules in the PRIMES model.

Unless we agree with the other Member States, who are already having the same difficulty contributing to the common target, to open a debate on the keys for sharing the effort by preparing a Governance II regulation, the governance framework risks being blocked. Of course, **this debate within the Council is bound to be difficult, as it is a zero-sum game, and finding an improvement to the rule without facing a blocking minority will be very difficult.**

Several paths may be considered in parallel:

- **Supplementing the GDP per capita factor with a GDP carbon intensity component** to better focus efforts on Member States with particularly carbon-intensive economies. In practice, this means reducing the burden on France and Sweden, which have significant gaps between the ambition of their draft NECPs and the theoretical objective derived from the European ambition. The effort expected from Member States such as Bulgaria, Poland, or Estonia would be increased, while that of Germany would not be significantly shifted.

<sup>60</sup> For example, the needs of national defense or air navigation, which may prohibit or lead to additional costs for siting in certain areas; the agronomic value or natural space or carbon sink value of certain soils, which implies additional costs for preserving this value in conjunction with renewable development; and so on.

- **Completing the assessment of renewable energy sources** by taking into account the issues faced by Member States in terms of the constraints of maritime facade planning, or even land-use constraints for land-based renewable energies, in order to better reflect the reality of these sources in the allocation key.
- **Rebasing the starting point for renewable targets** from the 2020 renewable targets set out in the RED 1 directive to targets that take into account the level of deployment of renewable energies in 2020.

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## Proposal 5

Provide a clear framework for statistical transfer between RED sub-targets and between RED targets and other sectors not included in the Emissions Trading Scheme.

Second, the question of **RED 3's numerous sub-targets needs to be addressed, both in terms of sectoral sub-targets** (renewable share in industry, transport, building) and **sub-targets specific to certain new energy vectors** (renewable fuels of nonbiological origin, etc.). The targets set out in RED are combined with targets in other sectors, notably in terms of carbon sink protection (LULUCF) and the Effort Sharing Regulation (ESR).

**In practice, these sub-targets are not dealt with directly by the Governance Regulation.** The latter focuses on the macro-objectives of renewable share in final energy and energy savings as defined in the dedicated directive but does not include an instrument enabling Member States to settle deviations from these sub-objectives. As a result, such deviations fall solely within the scope of the infringement procedure, which is cumbersome to implement and difficult to bear

politically for Member States that may have made commendable efforts in other areas.

It is important to **establish a clear framework for the statistical transfer of these targets** instead of creating a system of feedback and quasi-sanctions for deviations from the targets. This approach would also avoid the need to define a distribution rule for each Member State's contribution toward meeting the targets. **This would enable a Member State to incorporate more renewable energy (in TWh) in a sector through one of the following ways:**

- **Compensating for the non-achievement of another sectoral objective, or**
- **Exchange with another Member State in another sector.**

Generally speaking, these statistical transfer rules within the RED sub-objectives and between the RED objectives and objectives in other sectors (carbon sinks, ESR) should be designed to give primacy to securing the climate objective. Therefore, they should be based on an identical exchange of results in terms of net emissions reductions. They could benefit from the introduction of an annual platform for exchange between Member States rather than the current over-the-counter approach, which would allow for greater peer evaluation of successes in the entire field of climate policies.

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## **Proposal 6**

Enable Member States to offset deviations from sectoral targets by allocating funds to the joint renewable platform, as far as sectoral sub-targets are concerned. Make the platform “vector-neutral” by creating a pan-European tendering mechanism within the platform for the production of liquids, advanced low-carbon gases, and low-carbon electricity.

In the same spirit of flexibility and support for Member States' actions, rather than coercion, we could consider **allowing them to offset deviations from targets by allocating funds to the common renewable platform<sup>61</sup> in the case of sectoral sub-targets.**

**It would also be possible to create a pan-European tendering mechanism within the platform for the production of advanced renewable liquids and gases.** These technologies, designated by RED 3 as inherently free from food competition risks, would enable Member States to close the gaps in incorporation mandates for the various advanced or non-biobased energy carriers. This single mechanism would be easier for investors to understand and more likely to support the achievement of the common target at the best possible cost.

**Finally, the question whether the flexibility that was hard-fought for in RED 3 to incorporate renewable fuels of nonbiological origin in industry under the renewable energy sub-target<sup>62</sup> should be extended in Governance II should be raised.** This is a step toward greater equality of treatment between renewable and other low-carbon energies. This approach is also in line with the logic of pragmatism and flexibility for Member States.

**To achieve this, one option is to specify in Governance II that the targets of RED 3's sectoral and energy vector sub-objectives can be met by low-carbon energy sources, as defined above.** This replaces the previous approach, which only considered renewable energy sources regardless of their life-cycle carbon intensity. Additionally, it allows for a reduced renewable contribution for Member States with highly decarbonized energy mixes, similar to the flexibility mentioned for industry above.

<sup>61</sup> *In the carbon-neutral approach developed in the first sections, this should logically be extended to all low-carbon energy sources.*

<sup>62</sup> *This flexibility would allow Member States whose energy mix is sufficiently decarbonized to make a lesser effort on renewables, specifically, to meet the sub-target.*

## Proposal 7

Provide the platform with a guaranteed minimum contribution from the EU as a whole, reducing by the same amount the overall renewable target still to be achieved by the Member States.

**The current approach of the Governance Regulation is based on the assumption that most Member States will contribute satisfactorily or almost satisfactorily to the common targets, and in particular to the renewable targets.** It provides for ad hoc mechanisms such as statistical transfers or contributions to the common platform for those who significantly and persistently fall short.

The importance of the platform should not be underestimated. **For the first time, the EU has a common support instrument, administered directly by the European Commission, to finance renewable energy production facilities within the EU.** Through a somewhat indirect approach and atypical financing (voluntary contributions from Member States to address their shortfalls), this mechanism gives the EU's energy policy its own tool that does not depend solely on coordinating Member States' actions. However, this new mechanism is still in its early stages; it can only be activated if Member States are in breach and voluntarily decide to contribute. **Thus, through governance, the Commission has succeeded in giving itself a blueprint for an EU energy policy and its own calls for tenders but remains dependent on national choices to contribute.**

As we have seen, given the resources available among Member States, the European renewable energy target seems difficult to achieve. **Today, twenty of the twenty-seven Member States are proposing a contribution that falls short of what is needed to achieve the overall**

**target**, putting the achievement of the objective of reducing GHG emissions by 2030 to 55 percent compared with 1990 in jeopardy.

**The current approach, where the only tool the EU has in governance to secure the achievement of objectives is a mechanism perceived politically as coercion, seems to carry a very substantial implementation risk when confronted with political reality.** Indeed, the Commission would have to compel a large majority of Member States, and not just a few recalcitrant ones, to participate in joint calls for tender.

**A tempting solution, in line with greater European integration while reducing the burden on national public finances, would be to endow the platform with a guaranteed minimum contribution from the EU as a whole. This would make it possible to reduce by as much the overall renewable target (or rather, low-carbon target in a technology-neutral approach) still to be achieved by the efforts of the Member States.** By way of example, low-carbon production of 2.5 percent of the EU's final energy by 2030 could be financed by the platform via a contribution financed directly at the EU level. This would bring the effort borne by Member States down from 42.5 percent to 40 percent by 2030, as envisaged in the Commission's initial proposal and in the Council's general approach approved under the French presidency of the EU. Governance II would thus represent a new step forward in the construction of a common energy policy tool. This would enable the EU to act collectively in those areas where its action is provided for by the treaties, while respecting the sovereignty of Member States over their energy mix.

## 4.2. A NEW METHOD FOR PLANNING: COSTS, PHYSICAL CONSTRAINTS, AND INVESTMENT RATHER THAN POLITICAL DIRECTIVES

### Proposal 8

Review the policy planning approach by requiring Member States to document a study on the “Future of Energy” at least two years before the submission of the integrated national plan. This study should present various energy scenarios up to 2050 and compare their major physical and economic characteristics. It would be based on long-term system-wide energy modeling and clearly articulated, accessible, and justifiable scenarios (based on various forecasts: cost of capital for low-carbon energy sources, cost of production technologies, trends in energy consumption, etc.). ACER,<sup>63</sup> supported by ENTSO-E/G<sup>64</sup> and ENNOH,<sup>65</sup> could be tasked with overseeing this exercise.

**The revision of the governance framework under a Governance II regulation offers an opportunity to reassess the target-based policy planning approach currently reflected in NECPs.** The aim of this exercise is twofold: first, to provide greater transparency on the choices made by Member States, their technical justifications, and their impact on the EU's citizens and businesses; **second, to make the signals and support frameworks for investors in the transition more accessible.**

<sup>63</sup> EU Agency for the Cooperation of Energy Regulators (ACER).

<sup>64</sup> European Network of Transmission System Operators (ENTSO-E) and European Network of Transmission System Operators for Gas (ENTSO-G).

<sup>65</sup> European Network of Network Operators of Hydrogen (ENNOH).

**Currently, planning is seen as a top-down process.** This applies both in the logic of the national plans provided for in the Governance Regulation and in practice by national authorities. It starts from macroscopic aggregates, such as emissions and energy consumption by sector of the economy and by energy vector in each Member State, to determine which energy vectors to develop and which consumption levels to reduce. **This approach focuses on setting targets for the consumption and production of various low-carbon energy sources based on this analysis. It then addresses the system's physical balance as a looping problem.** The goal is to ensure, at each planning horizon, that the volumes of energy produced or imported for each energy vector match the volumes consumed or exported, with particular attention to balancing electricity supply and demand and the special treatment of biomass.

**It is this essential macro-economic work that lies at the heart of the work carried out by the Ministry of Energy Transition in the French Energy-Climate Strategy (SFEC),** put out to consultation on November 22, and further refined by the work of the General Secretariat for Ecological Planning (SGPE).

For each time horizon (five, ten, and thirty years ahead), the planning process displays a set of coherent, mutually reinforcing objectives, framed as political objectives and used by the authorities as the central scenario for designing public policies.

## The French Planning Model

**In France, this planning work is based on the physical and economic modeling of the energy system.** The goal is to compare various energy scenarios – that is, different possible scenarios for

achieving a carbon-neutral energy supply by 2050. This approach allows for an assessment of each scenario's characteristics in terms of overall system cost, environmental impact, consumption of scarce resources, flexibility requirements, and implications for both residential and business consumers.

This work requires an ongoing dialogue with all stakeholders to build consensus on the methodological framework, modeling approach, input data, and the variants and sensitivities to be analyzed. In France, this unprecedented effort was carried out by RTE (*"Réseau de Transport d'Électricité"*), France's Transmission System Operator, and published in a report at the end of 2021.<sup>66</sup> This report documented all the economic, physical, and environmental characteristics of six electricity mix scenarios through 2050, based on a highly rigorous technical foundation. These scenarios range from 100 percent renewables to options that maintain a share of nuclear power over the long term. They are also compared with different consumption scenarios for France, ranging from a particularly frugal societal model involving significant changes in daily habits to scenarios reflecting various levels of reindustrialization.

**The lessons learned from this work provided the technical foundation for the decisions announced in President Macron's Belfort speech on February 10, 2022.** They have also played a major role in shaping France's energy–climate strategy, particularly in the draft Integrated National Plan submitted to the Commission at the end of 2023 and updated in July 2024, as well as in the SGPE's reflections on the 2050 horizon.

<sup>66</sup> RTE, "Energy Pathways 2050," October 25, 2021, updated June 24, 2022.

**However, conducting such an impact analysis – comparing multiple energy scenarios in terms of their physical, economic, and social implications – is not a formal requirement of the planning framework set out in the Governance Regulation.** Instead, Annex I of the regulation stipulates that national plans must present the current state of the main economic and physical parameters and a projection of their evolution in the chosen scenario. It also includes an economic analysis summarizing the quantification of investment and public support requirements. Finally, it calls for an analysis “as far as possible” of the impact on the energy system in neighboring Member States and other states in the region, as well as on energy price formation.

**France is an exception in Europe for having conducted a comprehensive study of energy scenarios.** This work has had a transformative impact in France: It has allowed the country to move beyond a debate that remained sterile as long as it was confined to political and ideological discussions that were primarily focused on the future role of nuclear power. By establishing different scenarios and evaluating their comparative merits on an analytical and technical basis – supported by transparent assumptions and robust modeling – this work achieved a level of objectivity that has not been challenged since. In contrast, over the past two years, public debates in other Member States that have not undertaken similar analyses, such as Belgium and Germany, have highlighted the lack of transparency in the assumptions and technical foundations underlying the impact assessments of their national energy mix choices.

**As part of a revision of the Governance Regulation, Member States should be required to produce a study of energy scenarios at least two years before submitting their NECPs. This study would present different possible energy scenarios up to 2050, comparing their major physical and economic characteristics based on in-depth modeling of the energy system and transparent assumptions (such as the cost of capital for decarbonized energy sources, production technology costs, and energy consumption trends). The assumptions would be**

**provided by the Member States and submitted to ACER for comment and harmonization, with ACER playing a coordinating oversight role.**

The modeled scenarios and their assumptions should be made publicly available before implementation. This early-stage modeling would inform the public debate, bringing the implications of various energy policy choices – such as costs, investment needs, and environmental and social impacts – into the discussion.

Since the aim is to take better account of the constraints and specific features of each Member State, ACER's role should be limited to ensuring the transparency of the assumptions adopted at the national level, rather than imposing these assumptions from the European level. At the same time, ACER must fully assert its independence and technical capacity by demonstrating its autonomy from the Commission, both politically and operationally, to truly embody a European regulator.

By providing trajectories of key parameters for different scenarios, this approach would further enhance the intercomparability of energy scenarios between Member States. **The modeling would also help identify a common set of assumptions across Member States, or at the very least, prompt those with divergent assumptions (such as the cost of technologies, consumption trajectories, or access to capital) to explain and justify their choices.**

**This work would also enable Member States, when drafting their national plans, to incorporate a robust assessment of the choices made by their neighbors and to ensure the overall consistency of energy modeling.** Indeed, as the planning framework currently stands, a Member State is free to choose to rely on its neighbors for its security of supply or for key elements of its energy mix.

**Nothing prevents all Member States from assuming that their neighbors will have a surplus or, in any case, ensure collective security of supply.** It would appear difficult to impose a specific level of

energy (or electricity) self-sufficiency on a Member State – the Treaty does not allow this (unless it is adopted unanimously), and certain specific situations (e.g., small, well-connected Member States) would not justify it. On the other hand, it is possible, and democratically important, for the citizens of the EU to be clearly informed of this choice when their authorities make it.

**The preparatory work for energy scenarios could also require inter-connected Member States to complete a mandatory diagnosis of security of supply – in terms of both volume and price – on the main energy vectors. This would include, in particular, an outlook for the electricity supply–demand balance, with a requirement to present a quantification of flexibility needs and their estimated cost. This would follow the pattern of adequacy studies already envisaged under certain circumstances in European law.<sup>67</sup> In addition, it could include a quantification of trends in the gap between peak and off-peak hours on the market according to a standardized metric.** There is no reason this work – already partly provided for since the “Electricity Market Design” regulation (2024/1747) as a self-supporting exercise separate from the assessment of flexibility needs (Article 19 *sexies* of regulation 2019/943), the setting of a national flexibility target (Article 19 *septies*), and the sizing of flexibility support instruments (Article 19 *octies*) – should not be integrated in full coherence with the work of designing energy trajectories in the NECPs. **This would ensure the overall coherence of national planning work and confirm that it will not lead to a deadlock in terms of security of supply or flexibility needs.**

Naturally, this complex task may prove challenging for smaller Member States, those with power systems that are difficult to model due to multiple price zones, or those whose energy landscape lacks or no longer includes a centralized player with analysis and modeling resources comparable to those of RTE in France.

<sup>67</sup> Regulation 2019/943 (see below).

**Flexibility and support must be provided in any of the following ways:**

- Allowing Member States to ask the Commission (and *ultimately* the expert reports provided by ACER and ENTSO-E) to carry out this scenario work on their behalf;
- Enabling groups of neighboring Member States to carry out this analysis jointly;
- Helping Member States carry out this national foresight work using modeling tools and assistance that could be made available by ACER, with the support of ENTSO-E and ENTSO-G.

**Particular attention will need to be paid to ensuring the interoperability of models and data formats, for example by providing a free license and *open data* for modeling carried out at the European level.**

**To this end, ACER, with the support of ENTSO-E/G, could be mandated to provide a set of rules enabling a degree of standardization of the studies** carried out by the Member States (timeframes to be modeled, requests for clarification of certain assumptions, etc.). These organizations would also be tasked with assessing the robustness of the modeling work (compliance with the defined standardization rules, consistency of assumptions, etc.) undertaken at the Member State level. **Finally, they would be tasked with ensuring that this national work converges at the Community level.**

Furthermore, in the French case, despite its high quality and level of detail, RTE's system modeling remains an analysis of the energy scenarios of the power system rather than of the energy system as a whole (even if sectoral coupling has forced it to integrate certain elements of the evolution of the gas system, and even if the transition to carbon neutrality will involve large-scale electrification, making the power system ever more central to the evolution of the energy system). The question of the scope of this analysis, at the limits of the power system or on the scale of the entire energy system, will have to be asked. **Even for a**

**Member State such as France, which is already well advanced in this field, this would require the creation of an entity capable of providing a converged modeling framework for the entire energy system.**

Given the diversity of skills, data, and modeling tools to be deployed, this entity could in practice be an association of entities (network operators, research organizations, etc.) mandated by the Member States to carry out the analysis.

**Another criticism of planning as set out in the Governance Regulation is that it focuses more on a political and technical presentation of a program plan, a quantitative scenario for the energy mix, than on a clear commitment to the investment framework and the public measures implemented over the planning period to ensure its success.**

The Member State sets out its vision of a future it deems desirable and certainly spells out an inventory of the measures – such as renewable tenders and feed-in tariffs – it intends to implement – but the document need not be exhaustive in this respect. Nor does it have to ensure that the objectives are realistically achievable by the instruments listed or secure the budgetary or extra-budgetary resources to ensure the operation of these instruments. Finally, it does not have to guarantee that these instruments will be set up in such a way as to ensure that the objectives are achieved. The planning document is written primarily as a political and technical report for use by the Commission and national and European institutions, rather than as a guide for economic players wishing to invest in the transition.

**And yet, if the EU is to give itself the means to make a success of the transition, it is vital that it provides both public and private investors with a clear framework of incentives for achieving all the objectives it has set itself.**

Following a considerable joint effort, 2030 targets have been set in all fields; the time has now come for economic players to invest in the transition and deploy their projects. Any regulatory uncertainty, any risk that the public authorities might call into question a support or regulatory framework for one of the transition infrastructures

along the way, would result in a higher cost of capital and, therefore, a greater social cost of achieving carbon neutrality.

**Planning is important, but it is only the first step: Much more than setting political targets, the stability, clarity, and regularity of the incentive and support schemes implemented by Member States are essential to achieving shared success.** Rather than producing a document every five years explaining what target the Member State has set itself for photovoltaic or onshore wind production, it is the trajectory of feed-in tariffs for small-scale installations and the pace and key features of calls for tender, as well as the stability of these mechanisms, that are the key issue for investors.

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## Proposal 9

Within the integrated national plans, provide a comprehensive overview of all notified aid and incentive schemes designed to ensure the achievement of the outlined objectives. Additionally, specify overall electrification rates, as well as sector-specific targets.

Ensure that aid schemes designed to meet the targets of integrated national plans explicitly mention this in their state aid notification.

As electricity is a key energy vector for achieving the EU's climate objectives, Governance II could require Member States to spell out in their NEPCs their expected electrification rates, both in terms of total final energy and by sector. This information would allow for better monitoring of the role each Member State intends to allocate to electricity in both general and sector-specific decarbonization efforts, providing greater visibility for all stakeholders. Including this data in the NEPC

aligns with the mandate given to the future Commissioner for Energy and Housing by the President of the Commission in her mission statement: “You will also propose an Electrification Action Plan to ensure that Europe’s industrial transition toward net zero is powered by an energy system with homegrown, clean electricity.”<sup>68</sup>

**Integrated national plans should also provide a comprehensive overview of all notified aid and incentive schemes aimed at achieving the targets outlined in the plans. Additionally, aid schemes intended to meet these targets must explicitly reference the integrated national plans in their state aid notifications.** The Commission would then be responsible for providing investors with an up-to-date and exhaustive table of all existing incentive frameworks in the EU covering all areas of transition (renewable energy sources, other decarbonized energy sources, flexibility and storage, energy efficiency, electrification and decarbonization of uses, etc.).

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## Proposal 10

Introduce an irreversibility clause in European sectoral law. For any sufficiently large project, this clause would prevent the incentive framework from being called into question once the final investment decision has been made. If a Member State were to challenge the framework ex post, the EU would guarantee the operator’s reasonably expected economic outcomes and seek reimbursement from the Member State.

<sup>68</sup> Ursula von der Leyen, *Mission Letter to Dan Jørgensen, Commissioner-designate for Energy and Housing, September 17, 2024.*

Similarly, an irreversibility clause could be considered for these mechanisms. For any project of a sufficient scale, this clause would prevent retroactive modifications or cancellations of the incentive frameworks supporting it, once the final investment decision has been made. This clause would also prohibit the modification of a notified scheme without demonstrating that the framework of national schemes still ensures the achievement of common objectives. In practice, such a clause would prioritize the financing of these schemes while requiring Member States to be vigilant in their design. Specifically, it would ensure that mechanisms include safeguards against risks such as bubbles, diversion, or exposure to volatile market prices. This would provide investors with greater security, which is increasingly essential as the transition becomes more capital intensive, particularly as we move toward deep decarbonization of our economies.<sup>69</sup>

Finally, the planning process currently implemented in France – and even more so in most other Member States – **lacks a bottom-up, microeconomic feedback mechanism. It does not attempt to deduce the likely trajectories of production, transport, and distribution costs from the projected paths of each energy vector and sector of the economy.** Nor do these planning studies consider the state support policies that are being proposed. They overlook the design choices made for support instruments in order to explore cost distribution trajectories between consumers and taxpayers. For each energy vector, this work does not develop trajectories for the price per MWh as perceived by the end consumer or trajectories for the aggregate support costs for public finances under different assumptions.<sup>70</sup>

<sup>69</sup> Put another way, this clause would prevent France or Spain from going back ex post on photovoltaic feed-in tariffs in the future – as they have already attempted to do – and would impose greater vigilance on tariff design than that employed by the French authorities between 2006 and 2010.

<sup>70</sup> Yet this work is feasible, and has been – under naive sets of assumptions, as a proof of concept – carried out internally by the French authorities.

**Simply put, it may be possible, using reasonable and transparent assumptions, to derive price trajectories for electricity, gas, and liquid fuels per MWh, as well as public support costs for developing different energy sources, from the energy mix targets outlined in NECPs.** Based on this work and by modeling the rational behavior of economic agents, it would then be possible to assess whether the design of support instruments proposed by Member States and the investment choices for the transition are appropriate for them. For example, by considering income distribution and access to credit, it would be possible to ensure that different categories of households can transition to electric vehicles or upgrade their heating systems, enabling them to make the necessary investments during the transition.

**This microeconomic analysis could either be conducted as a dedicated section of the Integrated NECP or presented as an a posteriori report summarizing the impact of all support schemes and incentive mechanisms on economic players and households outlined in the national plan.** For households, this analysis would build on the framework of the Social Climate Plans developed under Regulation 2023/955<sup>71</sup> and complement it by presenting the impact of measures on economic players in a comparable format. In this way, Social Climate Plans would evolve into socioeconomic transition plans, aligned with the same timeframe as the social plans under Regulation 2023/955.

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## **Proposal 11**

Transform the governance of the energy union and its planning into a continuous, three-stage process over a five-year cycle rather than a periodic exercise updated every five years.

<sup>71</sup> Regulation (EU) 2023/955 of the European Parliament and of the Council of 10 May 2023 establishing a Social Climate Fund and amending Regulation (EU) 2021/1060, Articles 4 to 6.

**Rather than a periodic exercise updated every five years, the governance of the energy union and its planning would evolve into a continuous, cyclical process, structured in three stages over a five-year period:**

- In 2026, and every five years thereafter, **a report on energy scenarios would be prepared**, comparing various energy mix scenarios based on a common set of assumptions regarding costs and social and environmental impacts. The report would also include a section on the supply–demand balance and security of supply for different energy carriers, similar to the electricity balance studies.
- In 2028, as currently planned, and every five years thereafter, **an update of the Integrated NECP would be conducted**. This update would include new information, such as projected electrification rates, and a comprehensive inventory of support measures and public incentive mechanisms ensuring the achievement of the NECPs' objectives. The plans would be submitted to the Commission in a harmonized format, enabling the publication of a detailed summary for investors.<sup>72</sup>
- In 2029, and every five years thereafter, **a socioeconomic transition plan would be published**, building on the social climate plans and enriched by evaluating the adequacy of the incentives outlined in the Integrated NEPC to ensure the achievement of its objectives. The plan would seek to model the microeconomic behavior of agents, incorporating field consultations, and describe the expected price signal developments based on transparent modeling and clearly defined assumptions.

**This ongoing analysis would be the responsibility of Member States, who could request the Commission to develop energy scenarios and**

<sup>72</sup> Going beyond the simple long-term timetable set out in Article 6 of Directive 2018/2001.

**socioeconomic transition plans on their behalf, based on a common methodology and shared assumptions. Member States would also have the option to conduct these analyses themselves, following the common approach, while addressing specific cases or modeling assumptions they consider more relevant.**

### **4.3. NO TIME TO WAIT: 2040 TARGETS AND TECHNOLOGICAL NEUTRALITY**

#### **Proposal 12**

Defer reopening the discussion on the 2040 energy targets until 2027–2028 to allow for a comprehensive, data-driven evaluation of progress toward the 2030 targets and enable the effective implementation of the economic transition framework.

At the beginning of the new Commission's mandate, the question of setting the EU's 2040 targets will inevitably arise. However, if there is one key lesson to be learned from the 2030 targets, it is the importance of exercising caution. It is crucial to prioritize revising the governance framework for achieving common objectives rather than rushing into setting new targets. This approach will ensure that future commitments are based on a solid foundation and lessons learned from current experiences.

The 2030 targets had to be revised just three years after their initial adoption, requiring extensive analysis and debate at the European level before achieving the necessary stability. This stability is crucial for economic stakeholders, as it provides the predictability needed for long-term investments and planning in the energy transition. Ensuring a

stable regulatory and target framework, free from political and administrative uncertainties, is essential for ensuring a successful and cost-effective transition. After the substantial effort required to set the 2030 targets, the focus should now be on their practical implementation and on establishing a stable governance framework, markets, and public incentives. This will allow economic players to advance their projects for the energy transition rather than prematurely reigniting the political debate on the 2040 targets. **It is essential that the debate on the 2040 objectives, particularly their implementation in sectoral policies, be deferred until the end of the Commission's term, around 2027–2028 at the earliest. This will allow sufficient time for a measured and data-driven assessment of the 2030 objectives and the deployment of the economic action framework for the transition.**

**More fundamentally, the 2040 targets will demand addressing more challenging and fundamental questions than those posed by the 2020 or 2030 targets.** Indeed, if we are to have any chance of achieving carbon neutrality by 2050, the efforts made in the 2030s will be crucial and are likely to be far more intense and transformative of our lifestyles and production patterns than those of the 2020s. The 2030s will see an almost complete electrification of the land transport sector as well as a profound transformation of energy consumption patterns in buildings. **It will also see decarbonization become a crucial competitive lever – positively or negatively – for European industry,<sup>73</sup> once the carbon adjustment mechanism has been deployed and strengthened.**

**The 2020s will have been a decade of preparation and, in particular, of initial adaptation of our energy systems, but the 2030s will truly be the decade of transition.** As part of this transition, the question of a carbon-neutral economic and production model – essentially, the vision for Europe's post-2050 economies – must be embedded in the structure of the 2040 targets. This will be an unprecedented challenge.

<sup>73</sup> P. Jérémie, "Perspectives pour le prix du carbone en Europe," note for Terra Nova, September 17, 2024.

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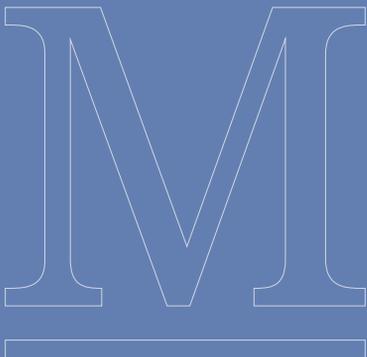
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Energy will be at the heart of the new European Commission’s mandate. Even though the previous term saw a succession of crises, it also managed to define a common ambition of achieving carbon neutrality by 2050. Intermediate targets were defined for the medium term: a 55 percent reduction in greenhouse gas emissions by 2030 compared to 1990 levels and its implementation through sector-specific policies grouped in the “Fit for 55” legislative package.

Numerous challenges currently stand in the way of achieving carbon neutrality by 2050, particularly regarding the feasibility of the intermediate targets for 2030 and 2040. Meeting these deadlines and achieving complete decarbonization of the European economy will require a structural transformation of energy systems, integrating all available tools beyond the necessary renewable energy sources and energy efficiency alone. The current approach has several drawbacks: It does not account for all levers that can be mobilized by Member States and contravenes the principle of technological neutrality. To overcome the risk of institutional gridlock during upcoming negotiations, a strategic shift toward technological neutrality is essential.

In this context, the Institut Montaigne proposes a series of three action notes to stimulate reflection. This first note focuses on the evolution of the European energy–climate governance, seeking to define the best possible articulation between the competences of the EU and those of the Member States, while ensuring pragmatism and efficiency.



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