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**COMMISSION RECOMMENDATION**

**of 18.12.2023**

**on the draft updated integrated national energy and climate plan of Luxembourg  
covering the period 2021-2030**

**and on the consistency of Luxembourg's measures with the Union's climate-neutrality  
objective**

**and with ensuring progress on adaptation**

{SWD(2023) 919 final}

(Only the French text is authentic)

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THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union, and in particular Article 292 thereof,

Having regard to Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action, 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, Council Directives 2009/119/EC and (EU) 2015/652 and repealing Regulation (EU) No 525/2013 of the European Parliament and of the Council<sup>1</sup>, and in particular Article 9(2), and Article 14(6) thereof,

Having regard to Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999<sup>2</sup>, and in particular Article 7(2) thereof,

Whereas:

*Recommendations on Luxembourg's draft updated integrated National Energy and Climate Plan (NECP) covering the period 2021-2030*

- (1) Luxembourg submitted its draft updated integrated national energy and climate plan on 24 July 2023.
- (2) Article 3 and Annex I to Regulation (EU) 2018/1999 ('the Governance Regulation') lay down the elements that are to be included in the updated integrated national energy and climate plans. In December 2022, the Commission adopted the Guidance to Member States on the process and scope of preparing the draft and final updated national energy and climate plans<sup>3</sup>. The Guidance identified good practices and outlined the implications of recent policy, legal and geopolitical developments in energy and climate policies.

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<sup>1</sup> OJ L 328, 21.12.2018, p. 1

<sup>2</sup> OJ L 243, 9.7.2021, p. 1

<sup>3</sup> 2022/C 495/02

- (3) In connection with the REPowerEU plan<sup>4</sup>, and as part of the 2022 and 2023 European Semester cycles, the Commission has put a strong focus on Member States' energy and climate related reform and investment needs to strengthen energy security and affordability by accelerating the green and fair transition. This is reflected in the 2022 and 2023 Country Reports for Luxembourg<sup>5</sup> and the Council Recommendations to Luxembourg<sup>6</sup>. Member States should take into account the latest country-specific recommendations in their final updated integrated national energy and climate plans.
- (4) The Commission's recommendations with regard to the delivery of national targets under the Effort Sharing Regulation<sup>7</sup> (ESR) are based on the likelihood that the Member States will respect the 2030 targets, taking into account the rules for the use of flexibilities under the ESR.
- (5) The Commission's recommendations regarding Carbon Capture, Utilisation and Storage (CCUS) aim at having an overview of the intended deployment of these technologies at national level, including information about annual volumes of CO<sub>2</sub> planned to be captured by 2030, split by source of CO<sub>2</sub> captured coming from installations covered by Directive 2003/87/EC<sup>8</sup> or from other sources, such as biogenic sources or direct air capture; about planned CO<sub>2</sub> transport infrastructure; and about potential domestic CO<sub>2</sub> storage capacity and injection volumes of CO<sub>2</sub> planned to be available in 2030.
- (6) The Commission's recommendations regarding the performance under the Land Use, Land Use Change and Forestry Regulation ('LULUCF Regulation')<sup>9</sup> address the delivery by the Member State on the 'no debit' rule for the period 2021-2025 (Period 1) and its national target for the period 2026-2030 (Period 2), taking into account the rules governing the use of flexibilities as set out in that Regulation. The Commission's recommendations also take into account that in Period 1 any excess in emissions under the LULUCF Regulation will automatically be transferred to the ESR.
- (7) The Commission's recommendations regarding renewable energy ambition are based on the formula set out in Annex II to Regulation (EU) 2018/1999, which is based on objective criteria, and on the main policies and measures missing in Luxembourg's draft updated NECP to enable a timely and cost-effective achievement of Luxembourg's national contribution to the Union's binding renewable energy target of at least 42.5% in 2030, with the collective endeavour to increase it to 45% pursuant to Directive (EU) 2018/2001 as regards the promotion of energy from renewable sources

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<sup>4</sup> COM(2022) 230 final

<sup>5</sup> SWD(2022) 618 final, SWD(2022) 616 final

<sup>6</sup> COM(2022) 618 Recommendation for a Council Recommendation; COM(2023) 616 final, Recommendation for a Council Recommendation

<sup>7</sup> Regulation (EU) 2018/842 of the European Parliament and of the Council of 30 May 2018, OJ L 156, 19.6.2018, p. 26. as amended by Regulation (EU) 2023/857 of 19 April 2023, OJ L 111, 26.4.2023, p. 1

<sup>8</sup> Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC (OJ 275, 25.10.2003, p. 32)

<sup>9</sup> Regulation (EU) 2018/841 of the European Parliament and of the Council of 30 May 2018 on the inclusion of greenhouse gas emissions and removals from land use, land use change and forestry in the 2030 climate and energy framework- and amending Regulation (EU) No 525/2013 and Decision No 529/2013/EU, OJ L 156, 19.6.2018, p. 1, as amended by Regulation (EU) 2023/839 of the European Parliament and of the Council of 19 April 2023 OJ, L328/1, 21.4.2023, p. 1

as amended by Directive (EU) 2023/2413<sup>10</sup>. The Commission's recommendations are also based on Luxembourg's contribution to the specific targets of Articles 15a, 22a, 23, 24 and 25 of that Directive and the related policies and measures to rapidly transpose it and implement it. The recommendations reflect the importance to develop comprehensive long-term planning for the deployment of renewable energy, and in particular wind, to increase visibility for the European manufacturing industry and grid operators in line with the European Wind Power Package<sup>11</sup>.

- (8) The Commission's recommendations regarding the national contribution to energy efficiency are based on Article 4 of the Directive (EU) 2023/1791 on energy efficiency<sup>12</sup>; and the formula in Annex I tot that Directive, and the related policies and measures to implement it.
- (9) The Commission's recommendations pay particular attention to the targets, objectives and contributions and related policies and measures to deliver on the REPowerEU plan in order to rapidly phase out dependence from Russian fossil fuels. They take into account lessons learnt from the implementation of the Save gas for a Safe winter Package<sup>13</sup>. The recommendations reflect the imperative to make the energy system more resilient in light of the obligations stemming from Regulation (EU) 2019/941 on risk preparedness in the electricity sector<sup>14</sup> and Regulation (EU) 2017/1938 on the security of gas supply<sup>15</sup>, and in line with the Commission Recommendation on energy storage<sup>16</sup>.
- (10) The Commission's recommendations take into account the need to accelerate the integration of the internal energy market to strengthen the role of flexibility and empower and protect consumers. The Commission's recommendations also consider the importance of assessing the number of households in energy poverty in line with the requirements of Article 3 of Regulation (EU) 2018/1999, and the Commission Recommendation (EU) 2023/2407<sup>17</sup>.
- (11) The Commission's recommendations reflect the importance of ensuring sufficient investments in clean energy research and innovation to boost their development and manufacturing capacities, including appropriate policies and measures for energy intensive industries and other businesses; and the need to upskill workforce for a net-

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<sup>10</sup> Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources (OJ L 328, 21.12.2018, p. 82), as amended by Directive (EU) 2023/2413 of the European Parliament and of the Council of 18 October 2023, OJ L, 2023/2413, 31.10.2023

<sup>11</sup> Communication on European Wind Power Action Plan COM (2023) 669 final, 24.10.2023 and Communication on delivering EU offshore renewable energy ambition, COM (2023) 668 final

<sup>12</sup> Directive (EU) 2023/1791 of the European Parliament and of the Council of 13 September 2023 on energy efficiency and amending Regulation (EU) 2023/955 (recast), OJ L 231, 20.9.2023, p. 1

<sup>13</sup> Communication from the Commission to the European Parliament, the Council, the European economic and social committee, "Save gas for a safe winter", COM/2022/360 final

<sup>14</sup> Regulation (EU) 2019/941 of the European Parliament and of the Council of 5 June 2019 on risk preparedness in the electricity sector and repealing Directive 2005/89/EC OJ L158/1

<sup>15</sup> Regulation (EU) 2017/1938 of the European Parliament and of the Council of 25 October 2017 concerning measures to safeguard the security of gas supply and repealing Regulation (EU) n°994/2010, OJ L 280

<sup>16</sup> Commission Recommendation of 14 March 2023 on Energy Storage – Underpinning a decarbonised and secure EU Energy system, OJ C 103, 20.3.2023, p. 1.

<sup>17</sup> Commission Recommendation (EU) 2023/2407 of 20 October 2023 on energy poverty, C:2023/4080, OJL 2023/2407, 23.10.2023

zero industry in order to consolidate a strong, competitive and clean economy within the Union.

- (12) The Commission's recommendations build on the commitments taken under the Paris Agreement to phase down the use of fossil fuels, as well as on the importance of phasing out fossil fuel subsidies.
- (13) The Commission's recommendation on investment needs follows its assessment of whether Luxembourg's draft updated plan provides a general overview of investment needs to achieve the objectives, targets and contributions for all dimensions of the Energy Union; indicates the sources of financing, distinguishing private and public sources; outlines investments consistent with Luxembourg's Recovery and Resilience Plan, Luxembourg's Territorial Just Transition Plan and the 2022-2023 country-specific recommendations issued under the European Semester; and includes a robust macro-economic assessment of planned policies and measures. The NECP should ensure the transparency and predictability of national policies and measures, to support investment certainty.
- (14) The Commission's recommendations reflect the crucial importance of a wide regional consultation, and of ensuring early and inclusive consultation on the plan, including effective public participation with sufficient information and timeframe, in line with the Aarhus Convention<sup>18</sup>.
- (15) The Commission's recommendations on just transition reflect the assessment of whether the Luxembourg's plan identifies in sufficient depth the relevant social, employment and skills impacts of the climate and energy transition and outlines adequate accompanying policies and measures to promote a just transition, while contributing to the promotion of both human rights and gender equality.
- (16) The Commission's recommendations to Luxembourg are underpinned by the assessment of its draft updated NECP<sup>19</sup>, which is published alongside this Recommendation.
- (17) Luxembourg should take due account of the present recommendations when developing its final updated integrated NECP to be submitted by 30 June 2024.

*Recommendations on the consistency with the Union's climate-neutrality objective and with ensuring progress on adaptation*

- (18) Pursuant to Regulation (EU) 2021/1119 (the European Climate Law), the Commission is required to assess the consistency of national measures with the climate-neutrality objective and with ensuring progress on adaptation. The Commission assessed the consistency of Luxembourg's measures with these objectives<sup>20</sup>. The below recommendations are based on that assessment. Luxembourg should take due account of the present recommendations and follow up on them in accordance with the European Climate Law.
- (19) The most vulnerable communities are those with elevated likelihood of being impacted by climate change. Unequal exposure and vulnerability to climate impacts of

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<sup>18</sup> Convention on access to information, Public Participation in Decision-making and Access to Justice in Environmental Matters of 25 June 1998 (the 'Aarhus convention')

<sup>19</sup> SWD(2023) 919

<sup>20</sup> EU Climate Action Progress Report 2023, COM(2023) 653 final, and Commission Staff Working Document Assessment of progress on climate adaptation in the individual Member States according to the European Climate Law, SWD(2023) 932

different regions and socio-economic groups worsens pre-existing inequalities and vulnerabilities. Just resilience should reduce the unequal burden of climate risk and ensure equity in the distribution of the benefits of adaptation. The systemic ability to adjust to climate change is a key feature to avoid or moderate potential damage, to take advantage of opportunities, and to cope with the consequences. Physical impacts of climate change are evolving at a faster pace than expected. Progress in adaptive capacity is needed at all levels of the government, and in the public and private sectors, and requires increased awareness on vulnerabilities and risks. The local level has competences which can impact climate resilience more broadly. The preparation and implementation of sub-national adaptation policies is of significant importance.

HEREBY RECOMMENDS THAT LUXEMBOURG TAKES ACTION TO:

**CONCERNING THE DRAFT UPDATED NATIONAL ENERGY AND CLIMATE PLAN UNDER REGULATION (EU) 2018/1999**

1. Complement the information on the existing and planned policies and measures, which are expected to contribute to meeting the national greenhouse gas target under the ESR. Clearly spell out their scope, timeline and, where possible, expected greenhouse gas reduction impact, including for measures in Union funding programmes such as the common agricultural policy.
2. Identify the amount of CO<sub>2</sub> emissions that could be captured annually by 2030, including the source. Provide details on how the captured CO<sub>2</sub> will be transported.
3. Provide information on the status and progress to be made in ensuring the enhancements to higher tier levels/geographically explicit datasets for monitoring, reporting and verification, in line with Part 3 of Annex V to Regulation (EU) 2018/1999.
4. Provide estimated trajectories and a long-term plan for the deployment of renewable energy technologies over the next 10 years, with an outlook to 2040. Include an indicative target for innovative renewable energy technologies by 2030 in line with Directive (EU) 2018/2001 as amended. Include specific targets to contribute to the indicative sub-target in buildings and industry for 2030, and the binding sub-target for renewable fuels of non-biological origins (RFNBOs) in industry for 2030, in line with Directive (EU) 2018/2001 as amended. Include an indicative target in heating and cooling to achieve the top-ups of Annex IA to Directive (EU) 2018/2001 as amended. Include an indicative target in district heating and cooling for 2021--2030. Specify which target Luxembourg intends to achieve in the transport sector through the obligation on fuel suppliers, including by means of a sub-target for advanced biofuels and renewable fuels of non-biological origin (RFNBOs), making sure the minimum level of RFNBO in 2030 is observed.
5. Further develop detailed and quantified policies and measures in a way that enables a timely and cost-effective achievement of Luxembourg's national contribution to the Union's binding renewable energy target of 42.5% in 2030, with the collective endeavour to increase it to 45%. Describe in particular how it plans to accelerate permitting and provide details on the renewable energy technologies for which it plans to designate 'renewables acceleration areas' with faster and simpler procedures. Describe how it aims to accelerate the deployment of renewables via the uptake of renewable power purchase agreements, guarantees of origin and an enabling framework to promote self-consumption and energy communities. Describe

how it aims to cover the design of the obligation on fuel suppliers in the transport sector and include comparable measures for promoting hydrogen in industry.

6. Include projections on bioenergy demand and supply per sector and provide data for imports and the source of forest biomass used for energy. Include an assessment of the domestic supply of forest biomass for energy purposes in 2021-2030 in accordance with the strengthened sustainability criteria of Article 29 of Directive (EU) 2018/2001 as amended, and an assessment of the compatibility of the projected use of forest biomass for energy production with Luxembourg's obligations under the revised LULUCF Regulation, particularly for 2026-2030, together with national measures and policies to ensure such compatibility. Include further measures to promote the sustainable production of biomethane, given Luxembourg's sustainable biogas/biomethane potential and production profile of natural gas consumption and existing infrastructure, digestate use and biogenic CO<sub>2</sub> applications.
7. Provide to the extent possible an expected timeline of the steps leading to the adoption of legislative and non-legislative policies and measures aimed at transposing and implementing the provisions of Directive (EU) 2018/2001 as amended, in particular for the measures mentioned in the previous points.
8. Include a national energy efficiency contribution on final energy consumption in the Union's binding final energy consumption target for 2030 in line with Article 4 and Annex I of Directive (EU) 2023/1791, or equal to the corrected indicative national contribution that the Commission will submit to each Member State by 1 March 2024 under Article 4(5) of that Directive. Include a national energy efficiency contribution in primary energy consumption to the Union's indicative primary energy consumption target in line with Article 4 and Annex I of Directive (EU) 2023/1791. Include the amount of energy consumption reduction to be achieved by all public bodies disaggregated by sector and the total floor area of heated and/or cooled buildings owned by public bodies to be renovated yearly or corresponding yearly energy savings to be achieved.
9. Set out complete policies and measures to achieve the national contributions on energy efficiency measures to promote energy audits and energy management systems. Specify robust energy efficiency financing programmes and support schemes, able to mobilise private investments and additional co-financing.
10. Include updated milestones for 2030 and 2050 to ensure a highly energy-efficient and decarbonised national building stock and transform existing buildings into zero-emission buildings by 2050. Ensure that the milestones for the renovation of buildings also include non-residential buildings, in addition to residential buildings.
11. Further explain how Luxembourg will significantly strengthen the energy security dimension, in particular by defining clear objectives for diversifying energy sources and for further encouraging gas demand reduction. Include detailed policies and measures to reach these objectives towards 2030. Strengthen the resilience of the energy system, in particular by setting an objective for energy storage deployment and putting forward policies and measures to integrate the imperative of climate adaptation in the energy system. Assess the adequacy of the oil infrastructure (oil stocks) with the expected oil demand decline and the move towards lower-carbon alternatives.
12. Put forward clear objectives and targets for demand response and storage to improve the flexibility of the energy system, in light of an assessment of the flexibility needs.

Describe specific measures to facilitate energy system integration in the context of Article 20a of Directive (EU) 2018/2001 as amended.

13. Further develop the approach to addressing energy poverty by including a specific measurable reduction target as required by Regulation (EU) 2018/1999 and taking account of Commission Recommendation (EU) 2023/2407. Detail existing and potential policies and measures to address energy poverty, including details the financial resources dedicated to implementation from the perspective of social policy (affordability) and structural energy measures. Explain how the use of energy efficiency measures under the Energy Efficiency Obligations Scheme to alleviate energy poverty is foreseen to be deployed as required by the Regulation (EU) 2018/1999.
14. Further clarify national objectives in research, innovation and competitiveness to deploy clean technologies, establishing a pathway for 2030 and 2050 with a view to support the decarbonisation of industry and the transition of businesses towards a net zero and circular economy. Put forward policies and measures to promote the development of net-zero projects including those relevant for the energy intensive industries. Describe a predictable and simplified regulatory framework for permitting procedures and how access to national funding will be simplified where needed. Provide detailed policies and measures for the digitalisation of the energy system, the development of clean energy-related skills, and to facilitate open trade for resilient and sustainable supply chains of key net-zero components and equipment.
15. Specify the reforms and measures to mobilise the private investments needed to achieve the energy and climate targets. Improve and expand the analysis of investment needs to include a comprehensive and consistent overview of public and private investment needs in aggregate and by sector. Complement a bottom-up economy wide approach with a top-down assessment along the five dimensions of the Energy Union. Include a breakdown of total investment needs with additional information on the national, regional and Union funding sources, as well as private financial sources to be mobilised. Add a short description of the type of financial support schemes chosen to implement the policies and measures, which are financed through the public budget, and the use of blended financial instruments making use of grants, loans, technical assistance and public guarantees, including the role of national promotional banks in the respective schemes and/or how private financing is mobilised. Consider the cost-effective generation of transfers to other Member States under the ESR as a funding source. Provide a robust assessment of the macroeconomic impact of the planned policies and measures.
16. Outline how the policies and measures included in the updated plan are consistent Luxembourg's national recovery and resilience plan and its REPowerEU chapter to be submitted.
17. Explain in detail how and by when Luxembourg intends to phase out fossil fuel subsidies.
18. Provide more detailed information on the social, employment and skills consequences, or any other distributional impacts, of the climate and energy transition, and on the planned objectives, policies and measures to support a just transition. Specify the form of support, the impact of the initiatives, the target groups and the resources dedicated, taking into account the Council Recommendation on



ensuring a fair transition towards climate neutrality<sup>21</sup>. Include, to the extent possible, more elements to provide an adequate analytical basis for the preparation of a future Social Climate Plan, in accordance with Regulation (EU) 2023/955<sup>22</sup>, including indications on how to assess the challenges and social impacts on the most vulnerable of the emissions trading system for fuel combustion in buildings, road transport and additional sectors, and to identify potential beneficiaries and a relevant policy framework. Explain how the policy framework identified in the NECP will contribute to the preparation of the Luxembourg's Social Climate Plan and how the consistency between the two plans will be ensured.

19. Include a summary of how the plan integrates the views expressed during the public participation.
20. Expand the already good regional cooperation by pursuing efforts to sign the two required bilateral solidarity arrangements for the security of gas supply with its neighbours (Belgium and Germany).

#### **CONCERNING THE CONSISTENCY OF NATIONAL MEASURES WITH THE CLIMATE-NEUTRALITY OBJECTIVE AND WITH ENSURING PROGRESS ON ADAPTATION UNDER REGULATION (EU) 2021/1119**

1. Engage stakeholder groups that are particularly vulnerable to the impacts of climate change in Luxembourg's adaptation policy design and implementation. Document the processes and outcomes of relevant consultations. Improve coordination between different levels of governance (national/regional/local) to align planning tools and help coordinated interventions aimed at 'systemic' transformation. Establish mechanisms to ensure that sub-national policies are prepared and that they are regularly reviewed and updated.

Done at Brussels, 18.12.2023

*For the Commission*  
*Kadri Simson*  
*Members of the Commission*

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<sup>21</sup> Council Recommendation of 16 June 2022 on ensuring a fair transition towards climate neutrality, OJ C243, 27.6.2022 p.35-51

<sup>22</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 (OJ L 130, 16.5.2023, p. 1)