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Delegations will find attached document SWD(2024) 197 final/2.

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CORRIGENDUM
This document corrects document SWD(2024) 197 final of 23.07.2024.
On point 3.4, in the last two paragraphs, Directive 2008/50/EU should read Directive 2008/50/EC.

The text shall read as follows:

COMMISSION STAFF WORKING DOCUMENT

Analysis of the recovery and resilience plan of Luxembourg

Accompanying the document

Proposal for a COUNCIL IMPLEMENTING DECISION

amending Implementing Decision (EU) (ST 10155/21 INIT; ST 10155/21 ADD 1) of 13 July 2021 on the approval of the assessment of the recovery and resilience plan for Luxembourg

{COM(2024) 347 final}

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Table of contents

1. EXECUTIVE SUMMARY

In 2022, Russia's invasion of Ukraine led to a surge in energy and commodity prices in Luxembourg. Economic growth slowed due to supply chain bottlenecks, rising prices, and supply shortages. Despite low direct exposure to the disruption of energy supply from Russia, Luxembourg's large external energy dependence resulted in high energy prices, which were moderated by a range of state support measures, limiting inflation to 2.9% in 2023.

In this context, effective policies to promote green transition are even more necessary, notably to improve energy efficiency and decarbonisation, deploy renewable energy capacities, and ensure clean and sustainable mobility.

Luxembourg submitted to the Commission, on 16 May 2024, a modified national Recovery and Resilience Plan (RRP), including a REPowerEU chapter, with the aim of taking into account the effects of those challenges in the implementation of its original RRP. For the modification of its RRP, Luxembourg has relied on Article 21 to amend the RRP due to objective circumstances. To support measures of its REPowerEU chapter, Luxembourg relied on both: (i) Article 21c of the RRF Regulation, requesting the allocation of the amount available from the Emissions Trading System (ETS) revenues; and, (ii) Article 21b(2), in order to use the resources transferred from the Brexit Adjustment Reserve (BAR) under Article 4a of Regulation (EU) 2021/1755.

The modification submitted by Luxembourg affects four measures already in the RRP on the basis of Article 21 of the RRF Regulation: removing one measure and modifying three others.

The REPowerEU chapter submitted by Luxembourg includes one reform on biogas production and three investments in energy renovation of houses, zero-emission mobility and small scale renewable energy installations, which contribute to the resilience, security and sustainability of the Union's energy system.

Based on the assessment of the submitted modification and the REPowerEU chapter, Luxembourg's modified RRP receives an A-rating on all criteria (including the two additional criteria for the REPowerEU chapter), except for costing, where the plan receives a B-rating (unchanged from the assessment of the initial RRP).

(1) Balanced Response	(2) CSRs	(3) Growth, jobs…	(4) DNSH	(5) Green target	(6) Digital target	(7) Lasting impact	(8) M & T	(9) Costing	(10) Control Systems	(11) Coherence	(12) REPowerEU	(13) Cross-border
A	A	A	A	A	A	A	A	B	A	A	A	A

2. OBJECTIVES OF THE MODIFICATION OF THE PLAN

2.1. Main newly emerged challenges

In 2022, Russia's invasion of Ukraine led to a surge in energy and commodity prices in Luxembourg and the EU as a whole. The Luxembourg government's measures helped cushion the impact of the energy crisis on both households and businesses. However, economic growth slowed down. The 2024 Country Report[1] for Luxembourg identified challenges related to the deployment of renewable energies, energy efficiency of residential buildings, transport decarbonisation and biodiversity among others.

In the context of Luxembourg's current challenges, the proposed revision of its RRP is twofold: (i) adding a new REPowerEU chapter to the original plan; (ii) modifying existing measures in line with the provisions of the RRF Regulation.

Luxembourg's modified RRP adds a new REPowerEU chapter pursuant to Article 21c of the RRF Regulation. It includes a reform and three new investments to deliver on the REPowerEU objectives. This chapter will help advance Luxembourg's green transition and address the current challenges, in particular those identified in the 'energy' recommendations addressed to Luxembourg since 2022, in the framework of the European Semester. Pursuant to Article 21(1) of the RRF Regulation, Luxembourg requested to remove one and modify three other existing measures of the RRP, since they are no longer achievable based on objective circumstances.

2.2. Main elements of the modified RRP and REPowerEU chapter

The main elements of the modified RRP and REPowerEU chapter are listed below and summarised in Table 1.

Component 1B: Reinforcement of resilience of health system

Luxembourg proposes to modify Investment 2: Telemedicine solution for remote medical follow-up of patients on the basis of Article 21 of the RRF Regulation, due to the change of owner of the company offering the solution mentioned in the RRP, and the subsequent withdrawal of the product, the specific proprietary solution for a remote medical monitoring application is no longer available, and an in-house development is used instead. This caused delays, and the proposed modification changes the timeline from the first quarter of 2022 to the second quarter of 2023. Moreover, with the end of COVID-10 pandemics and surge in the number of asylum seekers and people under international protection, the demand for remote medical monitoring has changed, and, while the solution is ready to be deployed for general remote monitoring in case of a future health crisis, its current use is the creation and management of health files of asylum seekers and people under international protection to support their transition to the national health insurance system. The cost of the modified component is reduced accordingly, from EUR 0.83 million to EUR 0.26 million. Luxembourg proposes to transfer the amount not used for this measure and funded by the RRF (EUR 0.57 million) to the REPowerEU measures.

Component 1C: Increase of supply of affordable and sustainable public housing

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[1] SWD(2024) 616 final.

Luxembourg proposes to remove the investment of this component: Project “Neischmelz” in Dudelange – renewable energy on the basis of Article 21 of the RRF Regulation. This renewable energy project, consisting in supplying a new housing district (Neischmelz) with renewable electricity and heat is facing unexpected delays – a rare habitat of birds and lizards is found on site, blocking construction works. There is a high risk of not being able to complete the project within the RRF timeline. Luxembourg proposes to transfer the related amount funded by the RRF (EUR 18.32 million) to the REPowerEU measures.

Component 3B: Modernisation of public administration

Luxembourg explained that two measures should be modified to implement better alternatives in order to achieve the original ambition of the measure. This concerns milestones 3B-5 and 3B-6 of “Investment 2: Development of MyGuichet – Project 1/3 – Virtual appointment” and 3B-11 and 3B-12 of “Investment 3: eADEM” under component “3B: Modernisation of public administration”. The modifications remove unnecessary details of the measure descriptions, which do not contribute to reaching their objectives, in order to reduce unjustified administrative burden.

Component 4A: REPowerEU chapter

Under the REPowerEU chapter and based on Article 21c of the RRF Regulation, Luxembourg has proposed measures amounting to EUR 176.75 million in total estimated costs for three new investments and a new reform. Reform “National biogas strategy” revises Luxembourg’s support scheme for electricity and biogas production and contributes to the objective of increasing the production and uptake of sustainable biomethane.

Investment 1 is a financial support scheme for energy renovation and construction projects for housing. It contributes to the objectives of boosting energy efficiency in buildings, as well as increasing the share and accelerating the deployment of renewable energy.

Investment 2 is a financial support scheme for the purchase of zero emission vehicles and bicycles, contributing to the objective of supporting zero-emission transport.

Investment 3 is a financial support scheme for enterprises installing photovoltaic power plants for self-consumption, contributing to the objective of the deployment of renewable energy.

Table 1 – New and modified components and associated costs

Component	Status	Costs (EUR million)
1B: Reinforcement of resilience of health system	Modified	0.26[2]
1C: Increase of supply of affordable and	Modified	0

[2] Initial RRP: EUR 0.83 million

sustainable public housing	(removed)	
3B: Modernisation of public administration	Modified	12.73
4A: REPowerEU Chapter	New	177.32

Other elements not covered by assessment criteria

The description of aspects related to administrative organisation, gender equality and equal opportunities for all and the planned communication strategy as reflected in the previous Staff Working Document (2021) 159 final remains valid.

With respect to the consultation process, Luxembourg carried out additional consultations of stakeholders in the context of the amendment of the RRP and for the preparation of the REPowerEU chapter, in line with the Commission's guidance in the context of REPowerEU (the "REPowerEU Guidance")[3] (See Section 3.12).

State aid and competition rules fully apply to the measures funded by the Recovery and Resilience Facility. Union funds channelled through the authorities of Member States, like the RRF funds, become State resources and can constitute State aid. When this is the case and State aid is present, these measures must be notified and approved by the Commission before Member States can grant the aid, unless those measures are covered by an existing aid scheme or comply with the applicable conditions of a block exemption regulation, in particular the General Block Exemption Regulation (GBER) declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 TFEU[4]. When State aid is present and it requires notification, it is the duty of the Member State to notify State aid measures to the Commission before granting them, in compliance with Article 108(3) TFEU. In this respect, the State aid analysis carried out by Luxembourg in the recovery and resilience plan cannot be deemed a State aid notification. In as far as Luxembourg considers that a specific measure contained in the recovery and resilience plan entails de minimis aid or aid exempted from the notification requirement, it is the responsibility of Luxembourg to ensure full compliance with the applicable rules.

[3] Commission Notice, 'Guidance on Recovery and Resilience Plans in the context of REPowerEU', 2023/C 80/01.
[4] Commission Regulation (EU) 2023/1315 of 23 June 2023 amending Regulation (EU) No 651/2014 declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty and Regulation (EU) 2022/2473 declaring certain categories of aid to undertakings active in the production, processing and marketing of fishery and aquaculture products compatible with the internal market in application of Articles 107 and 108 of the Treaty, OJ L 167, 30.6.2023, p. 1–90, available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32023R1315.

3. Summary of the assessment of the plan

3.1. Comprehensive and adequately balanced response to the economic and social situation

The modified RRP, including the REPowerEU chapter, reasonably covers the six pillars that structure the scope of application of the Facility (Article 3): (i) green transition; (ii) digital transformation; (iii) smart, sustainable and inclusive growth; (iv) social and territorial cohesion; (v) health and economic, social and institutional resilience; and, (vi) policies for the next generation. All pillars are covered by at least one component, while a component may contribute to several pillars. The coverage of the Luxembourg RRP components across the six pillars is summarised in Table 2.

The range of actions of the modified RRP, including the REPowerEU chapter, corresponds to the objectives of the Facility, with an appropriate overall balance between pillars. The allocations to the green and digital transitions (respectively, 80.1% and 37.5%) exceed the requirements of the RRF Regulation (respectively, 37% and 20%), and, therefore, the modified RRP significantly contributes to these pillars.

Green transition

Luxembourg's modified RRP, including the REPowerEU chapter, continues to focus significantly on supporting the green transition, with 80.1% of the allocation dedicated to this pillar. The REPowerEU chapter includes a reform and investments with estimated costs amounting to EUR 177.32 million that Luxembourg intends to deploy in order to reduce its reliance on fossil fuels and increase energy efficiency. The investments will increase the energy efficiency and renewable energy use in housing, use of solar panels for self-consumption in enterprises, and electrification of transport, thus achieving energy savings, diversifying energy supply and accelerating the deployment of renewables to replace the fossil fuels.

Table 2 – Coverage of the six pillars of the Facility by the new or modified components of the Luxembourg RRP

	Green transition	Digital transformation	Smart, sustainable & inclusive growth	Social and territorial cohesion	Health, and economic, social and institutional resilience	Policies for the next generation
COMPONENT 1B: Reinforcement of resilience of health system		●		○	●	
COMPONENT 1C: Increase of supply of affordable and sustainable public housing	●			●	○	●
COMPONENT 3B: Modernisation of public administration		●	●	○	●	
COMPONENT 4A: REPowerEU	●		●	●	○	

Key: "●" investments and reforms of the component significantly contribute to the pillar; "○" the component partially contributes to the pillar

The renewable energy investment in housing included in the original RRP (Component 1C) was removed due to objective circumstances not allowing to complete the project within the RRF timeline. However, the reform in this component remained, and the allocation of the removed investment was transferred to the REPowerEU chapter, which contains an investment to support housing renovation that increases energy efficiency and use of renewable energy.

In conclusion, while the proposed modification of the RRP reduces the ambition of the initial RRP measures regarding the green transition, with the inclusion of the REPowerEU chapter, Luxembourg's modified RRP bolsters its green ambition and responds to REPowerEU objectives (see also 3.5 'Green Transition').

Digital transformation

The digital transformation still represents a significant part of Luxembourg's modified RRP. One investment contributing to the digital transformation in the health sector – a telemedicine solution – is modified, with a different solution provider and current use case, but does not reduce the ambition of the measure and contribution to this pillar. The solution will be used for managing health files of asylum seekers and people under international protection, and will allow a broad remote medical monitoring in case of future health crisis.

In sum, the digital contribution of the modified RRP remains similar to the one of the initial RRP.

Smart, sustainable and inclusive growth

The RRP continues to cover this pillar, with several components of the initial plan and all components of the new REPowerEU chapter contributing to its different policy areas. The modifications of the measures do not affect the initial coverage of this pillar. The new measures are promoting sustainability by investing in renewable energy and energy efficiency, and inclusiveness by providing support to households wishing to increase energy efficiency in their housing. Support to enterprises installing solar panels will strengthen small and medium-sized enterprises among others.

Overall, investments and reforms in the areas of green transition, innovation and digitalisation are set to bring about a positive effect on GDP growth.

Social and territorial cohesion

Strengthening social cohesion continues to be one of the objectives of the RRP, in particular addressed under the skills and housing components. While the investment in affordable housing is removed by the modification, the reform aimed at increasing access to housing remains, and is complemented by the support to households investing in energy efficiency and renewable energy in the new REPowerEU component.

Territorial cohesion continues being strengthened with new ways of coordination between both levels of government in the reforms of the Housing Pact and the Nature Pact included in the initial plan and not subject to modifications.

Health, and economic, social and institutional resilience

The initial RRP includes several measures to address the vulnerability of Luxembourg's health system. While the measure of the telemedicine solution is modified, with a different solution provider and current use case, it does not reduce the ambition of the measure and contribution to this pillar.

Economic resilience is fostered by skills and digitalization measures, which remain unchanged from the initial plan.

The initial measures related to skills and housing, as well as the newly added support to households investing in energy efficiency and renewable energy contribute to social resilience.

Digitalisation of public services continue fostering institutional resilience.

Policies for the next generation

The sixth pillar remains covered by the reform and investment intended to foster upskilling and reskilling in Luxembourg.

Conclusion

Overall, the measures proposed in Luxembourg's modified RRP pursue the general objective of the Facility by promoting the Union's economic, social, and territorial cohesion, structured in the six pillars of Article 3 of the RRF Regulation.

Taking into consideration all reforms and investments envisaged by Luxembourg, its modified RRP – including its REPowerEU chapter – is expected to represent a comprehensive and adequately balanced response to the economic and social situation, thereby contributing appropriately to all six pillars referred to in Article 3 of the RRF Regulation, taking the specific challenges and the financial allocation of Luxembourg into account. This would warrant a rating of A under the assessment criterion 2.1 in Annex V to the RRF Regulation.

3.2. Link with country-specific recommendations and the European Semester

The modified RRP continues to address a significant subset of the challenges identified in the relevant country-specific recommendations (CSRs).

Although the renewable energy investment in component 1C is removed, the CSR on affordable housing supply and sustainable buildings (2019.3, 2020.3) is still addressed by the reform in this component, and also by the new REPowerEU investment in energy efficiency and renewable energy in housing.

As the maximum financial contribution allocated to Luxembourg has been adjusted downwards, the 2022 and 2023 recommendations not related to energy challenges are not considered in the overall assessment.

New measures proposed by Luxembourg in the REPowerEU chapter adequately cover the different subparts of the energy CSRs of 2022 and 2023, which are broadly similar. Luxembourg's REPowerEU component contributes to these subparts: (i) reduce the reliance on fossil fuels (ii) invest in energy efficiency and (iii) promote electrification of transport. The subpart on renewable energy deployment was assessed as having achieved substantial progress at the time of submission of the modified RRP, therefore it was not considered. Given the size of the plan, the coverage is proportionate.

Taking into consideration the reforms and investments envisaged by Luxembourg, its modified RRP is expected to contribute to effectively addressing all or a significant subset of challenges identified in the country-specific recommendations, or challenges in other relevant documents officially adopted by the Commission under the European Semester, and the RRP represents an adequate response to the economic and social situation of Luxembourg. This would warrant a rating of A under the assessment criterion 2.2 in Annex V to the RRF Regulation.

3.3. Growth potential, job creation, economic, institutional and social resilience, European Pillar of Social Rights, mitigating the impact of the crisis, and social territorial cohesion and convergence

The proposed modifications to the Luxembourg RRP retain the overall ambition of the initial RRP. They do not have an impact on the previous assessment (Rating of A) of the RRP's impact on the growth potential, job creation, and economic, social and institutional resilience of the Member State. Likewise, the modified RRP continues to contribute to the implementation of the European Pillar of Social Rights, including through the promotion of policies for children and youth, and on mitigating the economic and social impact of the COVID-19 crisis, thereby enhancing the economic, social and territorial cohesion and convergence within the Union. This is reflected in the previous assessment (rating of A) of the plan and detailed in the Staff Working Document (2021) 159 under criterion 2.3 of Annex V to the RRF Regulation.

3.4. The principle of 'do no significant harm'

The modifications of the measures already included in the RRP do not have an impact on the assessment of the revised RRP against the principle of 'do no significant harm', which remains identical to the assessment of the initial RRP.

Luxembourg's REPowerEU chapter includes a systematic assessment of each measure against the principle of 'do no significant harm' (DNSH), for each of the six environmental objectives within the meaning of Article 17 of the Taxonomy Regulation (EU) 2020/852. The assessments follow the methodology set out in the Commission's technical guidance on the application of 'do no significant harm' under the Recovery and Resilience Facility Regulation (2021/C 58/01) ('DNSH Guidance'), and apply a two-step approach. The first step assesses whether there is a risk that a measure could do significant harm to one or more of the environmental objectives. In cases where the analysis identifies a risk, a more detailed assessment is performed in which the absence of significant harm is verified, or measure safeguards are provided to ensure the absence of significant harm. While Luxembourg's assessment often stresses the environmental and climate benefits of measures in this assessment, it also provides information allowing to assess that measures are expected to comply with the 'do no significant harm' principle.

The housing renovation measure of the REPowerEU chapter (Investment 1) does not include support for heating systems based on natural gas. Additionally, assurances were received from Luxembourg's authorities that the wood boilers whose installation would be supported under this measure will comply with the Renewable Energy Directive 2018/2001/EU and the air quality standards set by Directive 2008/50/EC. On the measure promoting zero-emission mobility, Luxembourg confirmed that only zero-emission vehicles will be supported, thus excluding in particular hybrid cars.

The national biogas reform of the REPowerEU chapter will comply with the criteria in the Renewable Energy Directive 2018/2001/EU, the air quality standards set by Directive 2008/50/EC and Directive 2015/2193/EU. It will also be in line with the EU Biomethane Action Plan (COM(2022) 230 final). In addition, the reform includes the upgrade of biogas to biomethane, unless for small-scale plants (less than 500 kWe) that use biogas for the stabilisation of the grid. Moreover, the measure does not target the transmission and distribution infrastructure for gas.

Taking into consideration the assessment of all the measures envisaged, no measure for the implementation of reforms and investments projects included in Luxembourg's modified RRP, including its REPowerEU chapter, is expected to do a significant harm to environmental objectives within the meaning of Article 17 of Regulation (EU) No 2020/852 (the principle of 'do no significant harm'). This would warrant a rating of A under the assessment criterion 2.4 of Annex V to the RRF Regulation.

3.5. Green transition

Although the renewable energy investment in housing is removed with the modification of the RRP, the modified RRP continues to significantly contribute to the green transition through the remaining measures and especially through the new REPowerEU chapter. With the REPowerEU chapter, Luxembourg responds to the REPowerEU objectives and increases its ambition regarding the green transition, compensating for the withdrawn measure. This also includes a contributing to biodiversity, as well as to the achievement of the Union 2030 climate targets, while complying with the objective of EU climate neutrality by 2050 (see Annex).

Specifically, the REPowerEU chapter provides an ambitious contribution to the green transition through its contribution to reducing the reliance on fossil fuels. The reform on sustainable biogas improves the framework conditions for this energy source and together with investment in housing renovations and photovoltaic installations for self-consumption in enterprises accelerates the deployment of renewable energies. The investment in housing renovation in particular increases energy efficiency.

The allocation of the removed renewable energy investment and the modified telemedicine measure with the reduced cost is transferred to the REPowerEU chapter, which significantly contributes to the climate target. The climate contribution of the revised existing part of the RRP (without REPowerEU chapter) remains much higher than the minimum required, even if reduced compared to the one of the initial RRP, standing at EUR 32.90 million or 51.6% of the revised total allocation of the RRP part without REPowerEU of EUR 63.79 million, against 60.9% of the initial RRP.

The climate contribution of the REPowerEU chapter is 90.3% (EUR 160.11 million) of the total estimated cost of the REPowerEU chapter of EUR 177.13 million, which is well above the 37% target set out in the RRF Regulation.

In total, the whole RRP (including revised measures and the REPowerEU chapter) contributes to the climate target at 80.1% (EUR 193.01 million) of Luxembourg's maximum financial contribution (including the REPowerEU allocation amount and the transfer from the Brexit Adjustment Reserve) of EUR 241.10 million, which is also well above the target of 37% required by the RRF Regulation.

Taking into consideration the assessment of all the measures envisaged, the modified RRP, including its REPowerEU chapter, is expected, to a large extent, to make a significant contribution to the green transition or to address the challenges resulting from it and ensures that at least 37% of its maximum financial contribution contribute to the climate target. At least 37% of the total estimated costs of the REPowerEU chapter contribute to the climate target. This would warrant a rating of A under criterion 2.5 of Annex V to the RRF Regulation.

3.6. Digital transition

The modification of the RRP does not materially impact its ambition towards the digital transition, although the cost of the telemedicine measure is reduced. The modified RRP continues to significantly contribute to the digital transition through several investments digitalizing public administration and healthcare, and through development of ultra-secure communication infrastructure based on quantum technology. The reforms and investments are expected to have a lasting impact.

With the revised total allocation, the contribution to the digital transition of the modified RRP (excluding the REPowerEU chapter) stands at 37.5% (EUR 23.93 million) of the total of EUR 63.79 million, which is above the required target of 20% set out in the RRF Regulation.

Taking into consideration the assessment of all the measures envisaged, the modified RRP is expected, to a large extent, to make a significant contribution to the digital transition or to address the challenges resulting from it and ensures that at least 20% of its total allocation (excluding the measures in the REPowerEU chapter) contributes to supporting digital objectives. This would warrant a rating of A under criterion 2.6 of Annex V to the RRF Regulation.

3.7. Lasting impact of the plan

In spite of removal of a measure, the modified RRP only marginally reduces the ambition of the initial RRP as a whole. The measures continue to focus on innovative and sustainable economic activities with significant exploitation potential. They strengthen the administration, in particular with digitalization measures, and support structural changes in policies, including reforms in the skills and health areas, or investments in transport decarbonization. The REPowerEU chapter, in addition to the existing measures, is also expected to have lasting positive effects on Luxembourg economy and further boost its green transition. Investments in renewable energy, energy efficiency and greening of transport are expected to have a lasting impact on the reduction of greenhouse gas emissions and reliance on fossil fuels. The reform will leave a long-lasting impact by improving the framework conditions for sustainable biogas facilities.

The nature and extent of the proposed modifications to Luxembourg RRP do not have an impact on the previous assessment (rating of A) of the lasting impact of the RRP under criterion 2.7 of Annex V to the RRF Regulation.

3.8. Milestones, targets, monitoring and implementation

The milestones and targets of the modified Luxembourg RRP enable an adequate monitoring of its implementation. Each of the new reforms and investments introduced under the new REPowerEU chapter includes at least one target and/or milestone that contains the key elements of the measure and allows for the assessment of the achievement of its objectives. This new chapter includes a set of seven new milestones and targets. For the reform taking the form of a new legal act, the milestone is the entry into force, thereby capturing the actual implementation of the new provisions.

The performance of the investments included in the new REPowerEU chapter will be assessed on the basis of the achievement of several milestones and targets monitored by the public entity in charge of implementing the measures. The targets chosen are consistent with the objectives, cost estimates and implementation schedule of each measure, and quantified by specific indicators reflecting the result of the works undertaken (for example, the number of completed projects supported by the housing energy efficiency scheme, or the number of zero-emission vehicles purchased).

The initially assessed overall organisational arrangements for the implementation of the plan remain the same.

The arrangements proposed by Luxembourg in its modified RRP are expected to be adequate to ensure effective monitoring and implementation of the RRP, including the envisaged timetable, milestones and targets, and the related indicators. This would warrant a rating of A under the assessment criterion 2.8 of Annex V to the RRF Regulation.

3.9. Costing

Luxembourg has provided an explanation and has submitted documentation on the cost estimates for all the modified measures, the proportionality of the cost modifications was assessed based on the estimated unit costs in the original RRP.

The assessment of these cost estimates and supporting documents shows that the majority of costs associated to the new measures are well justified, reasonable, plausible, do not include costs covered by existing or planned EU financing and are commensurate to the expected economic and social impact of the envisaged measures.

Reasonable costs

Luxembourg provided actual data and evidence supporting unit cost estimates, together with adequate explanations of the calculation methodology. For modifications under Article 21, any variation in unit costs due to objective circumstances was duly justified and supporting evidence was provided.

For the REPowerEU chapter, the cost estimates for the new investments were justified using actual data. The cost-related information in the REPowerEU chapter was sufficiently exhaustive, with explanations related to the methodology used to derive cost estimates.

The cost information and evidence received is in general terms considered to be complete and understandable. Luxembourg has provided information allowing to check the eligibility of all costs. Information has been provided to assure that the costs fall within the required time frame, that VAT is excluded from the cost estimates and no unjustified recurring costs were included. The General Inspectorate of Finance (IGF) has verified, based on the explanatory documents provided by the line Ministries, all projects covered in the plan to ensure that the estimated costs are reasonable and plausible. However, no documentary evidence of this verification was submitted.

Plausible costs

The estimated costs are in line with the type of investments envisaged. For modified measures under 21 of the RRF Regulation, actual data were provided, including tender data and national statistics. Overall, the cost estimates of the new and modified measures of the RRP are assessed as plausible.

No double Union financing

Luxembourg has indicated that the modified and new measures, including those in the REPowerEU chapter, funded under the RRF, will not be financed by other Union funding.

Commensurate and cost-efficient costs

The size of the investment part of the plan for Luxembourg is too small to have a significant material quantitative economic impact. However, when including the reforms in the plan, the social and economic impact on areas such as the green and digital transition, affordable housing and skill development can be considered commensurate with the limited total costs.

Conclusion

The justification provided by Luxembourg on the amount of the estimated total costs of the recovery and resilience plan is to a reasonable extent plausible, in line with the principle of cost-efficiency and is commensurate to the expected national economic and social impact. Luxembourg provided sufficient information and evidence that the amount of the estimated cost of the reforms and investments of the recovery and resilience plan to be financed under the Facility will not be covered by other or planned Union financing. This would warrant a rating of B under the assessment criterion 2.9 of Annex V of the RRF Regulation.

3.10. Controls and audit

The original assessment on the robustness and adequacy of the control system and other arrangements included in the Luxembourg RRP had concluded that these arrangements were adequate subject to the timely fulfilment of two milestones relating to a repository system for monitoring the implementation of the RRF and the finalization of the implementation of further procedures for the protection of the EU's financial interests. This warranted a rating of A under the assessment criterion 2.10 of Annex V to the RRF Regulation.

Luxembourg authorities have confirmed that the internal control system, as well as the arrangements to prevent, detect and correct corruption, fraud, conflicts of interest and to avoid double funding from the Facility and other Union programmes as previously assessed remain in place. In addition, as provided by the first relevant milestone included in the Annex to the original Council Implementing Decision, a repository system for monitoring the implementation of the RRP has been set up, including for the collection and storage of data required by Article 22(2)(d), points (i) to (iii) and for the monitoring of achievements of milestones and targets. In compliance with the second milestone, the implementation of further procedures for the protection of EU financial interests has been confirmed. The adequacy of these measures has been assessed positively by the Commission in the context of the first payment request, including through a commitment to be fulfilled by the second payment request.

The modification in four measures of the original plan and the introduction of the REPowerEU chapter as such do not affect the original assessment. However, in the context of the modification of the Luxembourg RRP, its audit and control system needs to be reassessed on the basis of criteria 2.10 of Annex V of the RRF Regulation. Since the original assessment, the Commission has had access to information on its actual implementation. This includes the findings of the audit on the protection of the financial interests of the Union and the audit on milestones and targets performed by the Commission in Luxembourg.

In light of this information, the Commission considers that the internal control system of Luxembourg’s RRP is overall adequate.

Robustness of internal control system and distribution of roles and responsibilities

The arrangements previously assessed regarding the roles and responsibilities of control and audit actors, the separation of functions and the independence of audit actors remain adequate.

Adequacy of control systems and other relevant arrangements

The control system and other arrangements to prevent, detect and correct fraud, corruption and conflicts of interest when using funds provided by the Recovery and Resilience Facility continue to appear overall adequate. The implementation of an IT system for the monitoring and control of the measures, as well as for the collection of data in line with the requirements set out in Article 22(2)(d), points (i) to (iii) of the RRF Regulation is confirmed. The control procedures have been updated to extend the use of the ARACHNE data mining and risk scoring tool, particularly for the ex-ante detection of potential fraud and conflicts of interest.

Adequacy of arrangements to avoid double EU funding

The arrangements for the prevention, detection, and correction of double funding, as initially assessed by the Commission, remain in place and have been improved by the integration of the use of ARACHNE as risk scoring tool, which facilitates access to data on other Union programmes and helps to identify potential cases of serious irregularities.

Legal empowerment and administrative capacity of control function

The previously assessed arrangements regarding the Ministry of Finance mandate (and therefore for the managing department within the Ministry) and the legal mandate of the audit authority remain in place as first assessed by the Commission.

Conclusion

The nature and extent of the proposed modifications to Luxembourg's recovery and resilience plan do not have a material impact on the previous assessment (rating of A) of the adequacy of the control and audit arrangements proposed by Luxembourg, as reflected in the previous SWD(2021)159 final.

3.11. Coherence

The RRP of Luxembourg displays a mostly coherent set of reforms and investments. The modified RRP presented by Luxembourg is structured in nine coherent components, which support the common objectives of stimulating the recovery of Luxembourg economy, contributing to the twin transition and increasing Luxembourg's resilience to face the challenges of the twenty-first century on the path to a sustainable and inclusive growth. The modification of the RRP amends three out of eight existing components, and brings an additional (ninth) component, the REPowerEU chapter. The RRP does not present inconsistencies or contradictions between the content of the different components. Measures are mutually reinforcing, with components generally including a set of mostly balanced reforms and investments.

Mutually reinforcing measures

The modifications to the RRP do not materially alter the components' coherence, nor the coherence of the plan as a whole. They do not alter the way in which they reinforce each other. The plan maintains an adequate balance between investments and reforms. The additional REPowerEU chapter is broadly consistent with the measures deployed under the initial RRP to support the green transition and further reinforces the ambition of some of them, in particular the investments in housing energy renovation projects and transport electrification. The REPowerEU chapter is built around a consistent combination of mutually reinforcing investments and a reform to support energy renovation of buildings, solar panels, sustainable biogas facilities and electrification of private road transport in Luxembourg.

Complementarity of measures

The modifications made to the existing components of the RRP do not negatively alter the way in which these components complement each other. The additional component related to the REPowerEU's objectives, in turn, brings a new layer of complementarity, as it builds on the measures of the initial RRP regarding sustainable housing and transport.

At the level of the modified RRP, all components pursue complementary aims, with no contradictory goals.

Taking into consideration the qualitative assessment of all components of Luxembourg's modified recovery and resilience plan, their individual weight (importance, relevance, financial allocation) and their interactions, the plan contains measures for the implementation of reforms and public investments which, to a high extent, represent coherent actions. This would warrant a rating of A under the assessment criterion 2.11 of Annex V to the RRF Regulation.

3.12. REPowerEU

The measures included in the REPowerEU chapter (see Section 2.2) contribute to the objectives pursued by the RRF Regulation. The implementation of the envisaged measures is expected to effectively contribute to energy efficiency, renewable energy and zero-emission transport. The reform on sustainable biogas strategy addresses the objective of increasing the production and uptake of sustainable biomethane (Article 21c(3), point (b) of the RRF Regulation). Investment in housing energy renovation aims to boost energy efficiency in buildings (Article 21c(3), point (b) of the RRF Regulation) and increase the share and accelerate the deployment of renewable energy (Article 21c(3), point (b) of the RRF Regulation). Deployment of renewable energy is also the objective of the investment in solar panels in enterprises for self-consumption (Article 21c(3), point (b) of the RRF Regulation). Investment providing subsidies to people buying zero-emission vehicles aims to support zero-emission transport (Article 21c(3), point (e) of the RRF Regulation).

Moreover, the measures in the REPowerEU chapter are part of Luxembourg's broader efforts to reach greater energy sovereignty and reduce its greenhouse gas emissions, in view of the EU's 2030 climate reduction target of 55%. The measures are coherent with the National Energy and Climate Plan and its draft update of 2023.

Finally, it must be noted that consultations with social partners were held in the preparation of this chapter. Luxembourg provided a summary of the stakeholder consultation process carried out in the context of the amendment of the RRP and for the preparation of the REPowerEU chapter.

Taking into consideration the assessment of all the measures envisaged in the REPowerEU chapter, the chapter is expected, to a large extent, to contribute effectively to energy security, the diversification of the Union's energy supply, an increase in the uptake of renewables, energy efficiency, an increase of energy storage capacities, and the reduction of dependence on fossil fuels before 2030. This would warrant a rating of A under criterion 2.12 of Annex V to the RRF Regulation.

3.13. Cross-border or multi-country dimension or effect

Two of the measures included in Luxembourg's REPowerEU chapter have a multi-country or cross-border dimension (Table 3). The REPowerEU chapter contributes to reducing dependency on fossil fuels and to reducing energy demand by improving the energy efficiency of buildings and developing the production of renewable energy. The total estimated costs of these measures account for a total of EUR 93.95 million, representing 53.0% of the estimated costs of the REPowerEU chapter, above the indicative target of 30%.

Taking into consideration the assessment of all the measures envisaged in the REPowerEU chapter, the measures in the chapter are expected, to a large extent, to have a cross-border of multi-country dimension or effect. This would warrant a rating of A under criterion 2.13 of Annex V to the RRF Regulation.

Table 3 - Cross-border or multi-country dimension or effect of REPowerEU measure

REPowerEU measure with cross-border or multi-country dimension or effect	**Costs (EUR million)**	**Contribution to the target in % of the REPowerEU chapter estimated costs**
Investment 1: Energy efficiency and renewable energy in housing	43.79	24.7%
Investment 3: Construction and operation of photovoltaic power plants	50.17	28.3%
Total	**93.95**	**53.0 %**

ANNEX I: Climate tracking and digital tagging

Measure/ Sub-Measure ID	Measure/Sub-Measure Name	Budget (EUR m)	Climate		Digital	
			Int. Field	Coeff. %	Int. Field	Coeff. %
1A.I1	"Futureskills"	1.5			016	40%
1B.I1	Single digital register of health professions	0.34			095	100%
1B.I2	Telemedicine solution for remote medical follow-up of patients	0.26			095	100%
2A.I1	Support scheme for charging points	30.5	077	100%		
2B.I1	'Naturpakt'	6	050	40%		
3A.I1	Development and deployment of testing infrastructure and ultra-secure connectivity solutions	10			021	100%
3B.I1	Electronic Document Management and Case Management	5.04			011	100%
3B.I2	Development of MyGuichet — Project 1/3: Virtual appointment	0.17			011	100%
3B.I3	Development of MyGuichet — Project 2/3: Various C2G and B2G approaches	0.36			011	100%
3B.I4	Development of MyGuichet — Project 3/3: APP Mobile MyGuichet.lu	0.33			011	100%
3B.I5	'eADEM'	6.41			011	100%
3B.I6	National platform for the management of public surveys	0.41			011	100%
4A.I1a	Promotion of energy efficiency and renewable energy in housing: solar	15.1	029	100%		
4A.I1b	Promotion of energy efficiency and renewable energy in housing: other	28.7	025	40%		
4A.I2	Promotion of zero emission and active mobility	83.4	n.a.*	100%		
4A.I3	Construction of photovoltaic power generation units in business premises	50.2	029	100%		

*The 'Methodology for climate tracking' annexed to the Recovery and Resilience Facility Regulation does not set out intervention fields that would allow for climate or environmental tracking of electric vehicles, except for vehicles for urban transport falling under intervention field 074. According to Article 18(4)(e) of the Regulation, the methodology should however 'be used accordingly for measures that cannot be directly assigned to an intervention field listed in Annex VI'. In this context, the Commission has applied a 100% climate contribution coefficient for zero-emission vehicles of all categories (this includes battery electric and fuel cell/hydrogen-powered vehicles).