



## EUROPEAN COMMISSION

Brussels, 10.3.2025  
C(2025) 1533 final

<p>In the published version of this decision, some information has been omitted, pursuant to articles 30 and 31 of Council Regulation (EU) 2015/1589 of 13 July 2015 laying down detailed rules for the application of Article 108 of the Treaty on the Functioning of the European Union, concerning non-disclosure of information covered by professional secrecy. The omissions are shown thus [...]</p>	<p><b>PUBLIC VERSION</b></p> <p>This document is made available for information purposes only.</p>
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**Subject: State Aid SA.116745 (2025/N) – Lithuania**  
**European Hydrogen Bank Auctions-as-a-Service 2024**

Excellency,

### 1. PROCEDURE

- (1) Following pre-notification contacts, on 10 February 2025, Lithuania notified a support scheme (the “scheme” or the “measure”) for the promotion of the production of renewable hydrogen through electrolysis for the purpose of reducing greenhouse gas (“GHG”) emissions, pursuant to Article 108(3) of the Treaty on the Functioning of the European Union (“TFEU”).
- (2) On 21 February 2025, the Commission sent a request for information to Lithuania. Lithuania provided responses to these questions on 26 February 2025. The Commission sent a further request for information to Lithuania on 3 March 2025, which Lithuania provided responses to on the same day.
- (3) By letter dated 10 February 2025, Lithuania agreed to exceptionally waive its rights deriving from Article 342 TFEU in conjunction with Article 3 of

Mr. Kęstutis Budrys  
Užsienio Reikalų Ministerija  
J. Tumo-Vaižganto g. 2  
LT-01511 Vilnius  
LIETUVA

Regulation 1/1958 <sup>(1)</sup> and to have the present decision adopted and notified in English.

## **2. DETAILED DESCRIPTION OF THE SCHEME**

### **2.1. Background and objectives of the notified scheme**

- (4) The European Union (“EU”) has set a climate target of reducing GHG emissions by at least 55% by 2030, with a view to becoming climate neutral by 2050 <sup>(2)</sup>. To achieve this target, far-reaching changes are required in all sectors of the economy.
- (5) As explained by the Commission in its Hydrogen Strategy for a Climate-Neutral Europe Communication <sup>(3)</sup> (the “EU Hydrogen Strategy”), hydrogen can be used as a feedstock, a fuel or an energy carrier and storage medium, and has many possible applications across the industry, transport, power, and buildings sectors. Most importantly, using it does not emit CO<sub>2</sub> and emits almost no air pollution. Renewable and low-carbon hydrogen offers a solution to decarbonise industrial processes and economic sectors, where reducing GHG emissions is both urgent and hard to achieve. It can replace fossil fuels as a zero-carbon feedstock in chemicals and fuels production and can help decarbonise transport and store surplus renewable power. To contribute to climate neutrality, hydrogen production needs to achieve a far larger scale and its production must become fully decarbonised.
- (6) In the EU Hydrogen Strategy, the Commission stressed that the priority for the EU is to develop renewable hydrogen, produced using mainly wind and solar energy, as it is the most compatible option with the EU’s climate neutrality and zero pollution goal in the long term and the most coherent with an integrated energy system.
- (7) In line with this, 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 (recast) (the “Renewable Energy Directive”) requires Member States to ensure that renewable fuels of non-biological origin (“RFNBOs”) make up at least 42% of the hydrogen used in industry by 2030, and 60% by 2035 <sup>(4)</sup>.
- (8) Furthermore, the Commission’s REPowerEU Communication <sup>(5)</sup>, which *inter alia* sets out the goal of phasing out the Union’s dependence on fossil fuels from

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<sup>(1)</sup> Regulation No 1 determining the languages to be used by the European Economic Community (OJ 17, 6.10.1958, p. 385).

<sup>(2)</sup> 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 (‘European Climate Law’), OJ L 243, 9.7.2021, p. 1.

<sup>(3)</sup> Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions – A hydrogen strategy for a climate-neutral Europe, COM(2020) 301 final.

<sup>(4)</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 (recast), OJ L 328 21.12.2018, p. 82.

<sup>(5)</sup> Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions – REPowerEU: Joint European Action for more affordable, secure and sustainable energy, COM(2022) 108 final.

Russia before 2030, outlines the important role that hydrogen could play in reducing EU gas demand and proposes to boost renewable hydrogen production and imports to an aspirational goal of 20 million tonnes by 2030, while acknowledging that other forms of fossil-free hydrogen, notably nuclear-based hydrogen, may also play a role in substituting natural gas.

- (9) With the view to stimulate and support investment in sustainable hydrogen production through a European Hydrogen Bank, the Commission's Communication<sup>(6)</sup> announced key design elements of auctions for hydrogen production, notably that the produced hydrogen shall meet the criteria for RFNBOs developed under the EU regulatory framework ("RFNBO hydrogen"). The European Hydrogen Bank Communication observed that EU-domestic production of RFNBO hydrogen still faces a considerable funding gap and should be supported financially through competitive bidding (auctions) under the EU Innovation Fund<sup>(7)</sup>.
- (10) The Innovation Fund awards grants through calls for proposals and auctions (competitive bidding). It runs auctions to provide cost-efficient support to RFNBO hydrogen producers within the EU and the European Economic Area ("EEA").
- (11) On 3 December 2024, the Commission opened the 2024 Innovation Fund auction, which is the second auction under the Innovation Fund and which is thus aimed at supporting investment in sustainable hydrogen production through a European Hydrogen Bank, targets the production of RFNBO hydrogen on the territory of the EU and EEA, in line with the rules set out in the revised ETS Directive<sup>(8)</sup>. The 2024 Innovation Fund auction includes two topics, subject to separate competitive bidding procedures, namely:
  - (a) a general topic to support the production of RFNBO hydrogen regardless of the sector in which it will be consumed, with a budget of EUR one billion;
  - (b) a specific topic for the production of RFNBO hydrogen to be used in the maritime sector<sup>(9)</sup>, with a budget of EUR 200 million.
- (12) The Commission published the final Terms and Conditions of the 2024 Innovation Fund auction in September 2024<sup>(10)</sup> and the auction Call Text in December 2024<sup>(11)</sup>.

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<sup>(6)</sup> Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions on the European Hydrogen Bank, COM/2023/156 final.

<sup>(7)</sup> The Innovation Fund is the EU fund for climate policy, with a focus on energy and industry. It aims to bring to the market solutions to decarbonise European industry and support its transition to climate neutrality while fostering its competitiveness. [https://climate.ec.europa.eu/eu-action/eu-funding-climate-action/innovation-fund\\_en](https://climate.ec.europa.eu/eu-action/eu-funding-climate-action/innovation-fund_en)

<sup>(8)</sup> Directive (EU) 2023/959 of the European Parliament and of the Council of 10 May 2023 amending Directive 2003/87/EC establishing a system for greenhouse gas emission allowance trading within the Union and Decision (EU) 2015/1814 concerning the establishment and operation of a market stability reserve for the Union greenhouse gas emission trading system, OJ L 130, 16.5.2023, p. 134.

<sup>(9)</sup> Projects under this topic must supply at least 60% of their expected total volume of production as stated in the bid to off-takers belonging to the maritime sector.

- (13) Under the concept of Auctions-as-a-Service, which is a feature of the 2024 Innovation Fund auction, Member States may choose to use the 2024 Innovation Fund auction mechanism to also allocate a pre-defined amount of national funding to RFNBO hydrogen production projects on their territory under one or more of the topics described in recital (11). These projects will be assessed and ranked in the competitive auction procedure under the 2024 Innovation Fund auction and can become eligible for national funding if the Innovation Fund budget is insufficient to cover those projects. The scheme is intended to finance RFNBO hydrogen production projects under the same conditions as those applicable to projects financed directly by the Innovation Fund (see Section 2.7 for further details).
- (14) Auctions-as-a-Service are aimed at harmonising, and tying together national and European support schemes, increasing the comparability of price points from subsidy schemes, and saving on the administrative costs to Member States and project developers of developing and understanding various and different hydrogen support schemes.
- (15) The RFNBO hydrogen targets set by Lithuania, those set in the EU Hydrogen Strategy, and those set in the Renewable Energy Directive require a swift scale-up of electrolysis capacity. Increasing the scale of electrolysis projects will also reduce the capital expenditure (“CAPEX”) of such projects – a crucial step for using hydrogen to reduce GHG emissions. These EU and Member State targets also require a huge scale up of renewable electricity production.
- (16) Currently, RFNBO hydrogen is significantly more expensive to produce than fossil-based hydrogen/derivatives <sup>(12)</sup>. Nevertheless, it is generally accepted that ramping up electrolysis capacity would allow for learning effects and cost declines. Electrolyser costs have already been reduced by 60% in the last ten years and are, according to some estimates, expected to halve by 2030 compared to the present time with economies of scale <sup>(13)</sup>.
- (17) Lithuania maintains that, although the EU Emissions Trading System (“EU ETS”) partially addresses the existing market failure regarding RFNBO hydrogen, the EU ETS price alone is insufficient to incentivise investments in electrolysis projects <sup>(14)</sup>. Lithuania states that in the absence of stronger sufficient price signals from the EU ETS or other regulatory interventions such as Union

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<sup>(10)</sup> See [https://climate.ec.europa.eu/document/download/b996825e-cd36-44c1-895d-a780062f626d\\_en?filename=policy\\_funding\\_innovation\\_fund\\_if24\\_auction\\_tc\\_en.pdf](https://climate.ec.europa.eu/document/download/b996825e-cd36-44c1-895d-a780062f626d_en?filename=policy_funding_innovation_fund_if24_auction_tc_en.pdf) (last accessed on 9 January 2025).

<sup>(11)</sup> See [https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/innovfund/wp-call/2024/call-fiche\\_innovfund-2024-auc-rfnbo-hydrogen\\_en.pdf](https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/innovfund/wp-call/2024/call-fiche_innovfund-2024-auc-rfnbo-hydrogen_en.pdf) (last accessed on 9 January 2025).

<sup>(12)</sup> Estimated costs in the present time for fossil-based hydrogen are around 1.5 EUR/kg for the EU, highly dependent on natural gas prices, and disregarding the cost of CO<sub>2</sub>. Estimated costs in the present time for renewable hydrogen are 2.5-5.5 EUR/kg based on International Energy Agency (IEA) assumed electricity prices between 35-87 EUR/MWh, and capacity costs of 600 EUR/kW. Source: COM(2020) 301 final.

<sup>(13)</sup> Based on cost assessments of the IEA, the International Renewable Energy Agency (IRENA) and Bloomberg New Energy Finance (BNEF). Electrolyser costs to decline from 900 EUR/kW to 450 EUR/kW or less in the period after 2030, and 180 EUR/kW after 2040.

<sup>(14)</sup> Carbon prices in the range of EUR 55-90 per tonne of CO<sub>2</sub> would be needed to make fossil-based hydrogen with carbon capture competitive with fossil-based hydrogen in the present time. Source: COM(2020) 301 final.

standards, potential European consumers of RFNBO hydrogen have so far not been willing to pay a price that covers the production costs of such hydrogen.

- (18) Lithuania maintains that additional barriers to the deployment of RFNBO hydrogen include the unwillingness of off-takers to pay a sufficiently high green premium for RFNBO hydrogen (products), and the high-risk perception of financial markets and unfamiliarity with this new technology. According to Lithuania, another factor is time-inconsistency of investments on the off-taker side, for example in the steel or chemicals sectors, where asset lifetimes are very long (up to 60 years), whereas carbon and RFNBO hydrogen prices are uncertain over this period. Under these conditions, Lithuania argues that investments may not take place without a certain supply of affordable green fuels, increasing an already difficult “chicken-and-egg” problem.
- (19) Lithuania maintains that without compensating mechanisms, the current cost gap therefore limits the ability and interest of investors to finance RFNBO hydrogen projects. At the same time, Lithuania highlights that climate models show the need to develop and deploy renewable hydrogen solutions now, especially for hard-to-abate sectors, in order to achieve the EU climate goals.
- (20) Lithuania has chosen to use the 2024 Innovation Fund auction to allocate up to EUR 36 million of national funding to RFNBO hydrogen production projects on its territory under Auctions-as-a-Service. Lithuania will allocate the national funding only under the general topic to support RFNBO hydrogen production in all sectors, described in recital (11)(a).
- (21) Lithuania commits to adhering to the Terms and Conditions of the 2024 Innovation Fund auction set out in Section 2.7.
- (22) In this context, Lithuania explains that the main purpose of the scheme is to cost-efficiently support the production of RFNBO hydrogen.
- (23) RFNBO hydrogen can be used to decarbonise industrial processes and economic sectors where reducing carbon emissions is both urgent and hard to achieve. Lithuania estimates that the scheme will incentivise the production of up to 13 000 tonnes of RFNBO hydrogen. The scheme will thus contribute to meeting Lithuania’s obligations to support the achievement of GHG emissions reduction targets according to Regulation (EU) 2021/1119 <sup>(15)</sup>, the targets for energy and climate according to Regulation (EU) 2018/1999 <sup>(16)</sup>, and the targets for the share of RFNBO hydrogen consumption in industry according to the Renewable Energy Directive.

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<sup>(15)</sup> Regulation (EU) 2021/1119 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 (‘European Climate Law’). OJ L 243, 9.7.2021, p. 1–17.

<sup>(16)</sup> 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. OJ L 328, 21.12.2018, p. 1–77.

- (24) According to Lithuania, the scheme will contribute to meeting the expected demand for RFNBO hydrogen, as well as ambitions to achieve its national objectives described in recital (27) below. In addition, the scheme will provide valuable insights into the amount of subsidies that RFNBO hydrogen projects in Lithuania need to bridge the financing gap between the production costs and the revenues from the sale of RFNBO hydrogen, as the (winning) bids of RFNBO projects will reflect this information.
- (25) Against this background, Lithuania explains that the scheme will further contribute to:
- (a) connecting EU domestic RFNBO hydrogen supply and demand;
  - (b) bridging the cost-gap between RFNBO and fossil hydrogen as effectively as possible;
  - (c) allowing for RFNBO hydrogen market formation in the EU;
  - (d) de-risking European RFNBO hydrogen projects, bringing costs of capital down and leveraging private capital; and
  - (e) contributing to faster deployment and simpler implementation of projects, while reducing administrative burden and costs.
- (26) In line with the EU target described in recital (4), Lithuania's 2024 NECP sets the goal of reducing GHG emissions by no less than 70% by 2030 compared to 1990 levels. The 2030 goal of GHG reductions for sectors participating in the EU ETS is no less than 50% compared to 2005 levels, and 21% for the sectors that do not participate in ETS <sup>(17)</sup>.
- (27) Lithuania envisions an important role for renewable hydrogen in the future energy system and the decarbonisation of multiple end users. Lithuania's 2024 National Roadmap for Hydrogen Development <sup>(18)</sup> sets clear targets for RFNBO hydrogen production, aiming for 1.3 GW of installed electrolyser capacity and 129 000 tonnes of annual RFNBO production in 2030, and 8.5 GW of installed electrolyser capacity and 732 000 tonnes of annual RFNBO production in 2050.
- (28) To achieve these milestones, Lithuania is in the process of putting in place a comprehensive framework of both regulatory and State aid measures.
- (29) With regards to regulatory measures, Lithuania is implementing the EU hydrogen and gas decarbonisation package, consisting of Directive (EU) 2024/1788 <sup>(19)</sup> and Regulation (EU) 2024/1789 <sup>(20)</sup>.

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<sup>(17)</sup> [https://commission.europa.eu/publications/lithuania-draft-updated-necp-2021-2030\\_en](https://commission.europa.eu/publications/lithuania-draft-updated-necp-2021-2030_en) (last accessed on 9 January 2025).

<sup>(18)</sup> <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/10783411040711ef8e4be9fad87afa59?jfwid=jrf97qh9r> (last accessed on 9 January 2025).

<sup>(19)</sup> Directive (EU) 2024/1788 of the European Parliament and of the Council of 13 June 2024 on common rules for the internal markets for renewable gas, natural gas and hydrogen, amending Directive (EU) 2023/1791 and repealing Directive 2009/73/EC (recast) (Text with EEA relevance), OJ L, 2024/1788, 15.7.2024.

- (30) With regards to State aid measures, so far Lithuania has put in place two State aid measures to support renewable hydrogen production in 2022. The first, a EUR 20 million measure financed under the Recovery and Resilience Facility (“RRF”), aimed to support investments to develop the production and storage of RFNBO hydrogen to be used in transport sector<sup>(21)</sup>. The second, a EUR 50 million measure financed under the Modernisation Fund<sup>(22)</sup>, aimed to support investments to develop the production and storage of RFNBO hydrogen to be used in all sectors<sup>(23)</sup>.
- (31) Lithuania does not dispute that the scheme constitutes State aid within the meaning of Article 107(1) TFEU. In addition, Lithuania confirms that the scheme does not by itself, or by the conditions attached to it or by its financing method, constitute a non-severable violation of Union law.

## 2.2. National legal basis

- (32) Lithuania states that the national legal basis of the scheme will be:
- (a) Resolution of the Government of the Republic of Lithuania No. 1059 of 30 September 2020, “On the Establishment of the Modernization Fund Project Selection Commission and Approval of the Description of the Procedures for the Selection and Financing of Modernization Fund Projects”<sup>(24)</sup>; and
  - (b) Order No. D1-49/1-24 of the Minister of Environment and the Minister of Energy of the Republic of Lithuania, dated February 9, 2024, “On approving the national financing directions of the Modernization fund for 2024–2025”<sup>(25)</sup>.
- (33) Lithuania explains that the resolution referred to in recital (32)(a) above features a stand-still clause, meaning Lithuania may only grant the aid after the Commission has notified to Lithuania a decision authorising the scheme.

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<sup>(20)</sup> Regulation (EU) 2024/1789 of the European Parliament and of the Council of 13 June 2024 on the internal markets for renewable gas, natural gas and hydrogen, amending Regulations (EU) No 1227/2011, (EU) 2017/1938, (EU) 2019/942 and (EU) 2022/869 and Decision (EU) 2017/684 and repealing Regulation (EC) No 715/2009 (recast) (Text with EEA relevance), OJ L, 2024/1789, 15.7.2024.

<sup>(21)</sup> State Aid SA.104147 (block exempted).

<sup>(22)</sup> The Modernisation Fund supports the modernisation of energy systems and the improvement of energy efficiency in 13 lower-income EU Member States. Commission Implementing Regulation (EU) 2020/1001 of 9 July 2020 laying down detailed rules for the application of Directive 2003/87/EC of the European Parliament and of the Council as regards the operation of the Modernisation Fund supporting investments to modernise the energy systems and to improve energy efficiency of certain Member States (OJ L 221, 10.7.2020, p. 107) lays down detailed rules on the operation of the Modernisation Fund as regards the submission of proposals for financing of investments; the assessment of priority investments and non-priority investments; management, disbursement and payment of the resources from the Modernisation Fund; the composition and operation of the Investment Committee for the Modernisation Fund; monitoring, reporting, evaluation, and auditing; information and transparency.

<sup>(23)</sup> State Aid SA.110036 (block exempted).

<sup>(24)</sup> <https://www.e-tar.lt/portal/legalAct/lt/legalAct/bedc4ca006e811ebb74de75171d26d52/asr> (last accessed on 9 January 2025).

<sup>(25)</sup> <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/f43b9b42c78c11ee9269b566387cfeeb> (last accessed on 9 January 2025).

### **2.3. Administration of the scheme**

- (34) The authorities administering the scheme are the European Climate, Infrastructure, and Environment Executive Agency (“CINEA”) and the Lithuanian Environmental Projects Management Agency.
- (35) CINEA will receive, manage the evaluation of, and rank the bids from applicants, as well as transfer the information of relevant projects to the national authorities of Lithuania. Furthermore, it will coordinate a ‘lessons learned’ exercise for the entire 2024 Innovation Fund auction, as well as the scheme.
- (36) The Lithuanian Environmental Projects Management Agency will:
  - (a) disburse funds to successful beneficiaries according to the ranking provided by CINEA and payment and monitoring provisions outlined in the auction’s Call Text;
  - (b) take all steps necessary to ensure the hydrogen produced by beneficiaries meets the requirements of the scheme (see recitals (43) to (46)), including managing terminations where applicable in line with the Call Text; and
  - (c) take all steps necessary to ensure overcompensation is avoided, where support under the scheme is cumulated with other State aid (see Section 2.12).

### **2.4. Beneficiaries**

- (37) The scheme is open to firms of all sizes established in Lithuania wishing to build and operate a new hydrogen production unit<sup>(26)</sup> in the national territory of Lithuania or within the exclusive economic zones of Lithuania, for the purpose of producing RFNBO hydrogen.
- (38) To be eligible, applicants must comply with legal entity checks, as described in the 2024 Innovation Fund auction’s call. Applicants must not be subject to an EU exclusion decision.
- (39) Beneficiaries must immediately inform the granting authority of an application to the court for a declaration of bankruptcy. Lithuania will not award aid under the scheme to undertakings in difficulty as defined in point 20 in the Commission Communication on Guidelines on State aid for rescuing and restructuring non-financial undertakings in difficulty<sup>(27)</sup>.
- (40) Lithuania will not grant payments under the scheme to applicants that have not complied with any requirement for repayment of aid which the European Commission, in a previous decision, has declared illegal and incompatible with the internal market.

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<sup>(26)</sup> The start of works for supported projects must not yet have taken place prior to the written aid application, namely the submission of the bid.

<sup>(27)</sup> Communication from the Commission — Guidelines on State aid for rescuing and restructuring non-financial undertakings in difficulty, OJ C 249, 31.7.2014, p. 1–28.



- (41) Lithuania expects the scheme to benefit 1 to 2 projects, and lead to the installation of up to 11 MW of electrolyser capacity.

## **2.5. The eligible technology**

- (42) The eligible technology under the scheme is the production of RFNBO hydrogen. All electrolysis technologies will be able to participate.
- (43) Lithuania commits to ensuring that projects that benefit from aid under the scheme will produce hydrogen that meets the criteria for RFNBOs developed under the EU regulatory framework.
- (a) In accordance with Article 29a(1) of the Renewable Energy Directive, the GHG emissions savings from the use of the RFNBO along its lifecycle must be at least 70% compared to a fossil fuel comparator;
  - (b) The ‘additional’ nature of the renewable electricity supplying electrolyzers shall be determined pursuant to Article 27(6) of the Renewable Energy Directive; and
  - (c) In accordance with Article 31 of the Renewable Energy Directive, the supplier must provide buyers with all necessary information and proof of the characteristics of hydrogen produced.
- (44) In order to implement the requirements set out in recital (43), beneficiaries have to provide, with each semi-annual payment request, verification and certification for the volume of RFNBO hydrogen produced, and therefore for the subsidy amount.
- (45) If beneficiaries also produce non-RFNBO hydrogen, the production costs of this non-RFNBO hydrogen will not be covered under the scheme. In addition, the GHG emissions savings of the total volume of the hydrogen produced by the subsidised capacity (including any non-RFNBOs produced) must achieve at least 70% savings, on average over the subsidy period, compared to the emissions from making hydrogen via steam methane reforming (“SMR”) <sup>(28)</sup>. This will ensure that any non-RFNBOs produced by beneficiaries do not undermine the environmental benefits of the support provided under the scheme, in line with the ‘do no significant harm’ principle <sup>(29)</sup>, and to ensure all supported projects achieve overall emissions reductions.
- (46) In order to implement the requirements set out in recital (45), beneficiaries will need to provide certification to Lithuania at the end of the subsidy period that the total volume of hydrogen produced by the supported capacity achieves at least 70% GHG savings on average over the entire subsidy period.

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<sup>(28)</sup> The methodology for calculating this target of at least 70% saving shall be the methodology set out in the Commission Delegated Regulation (EU) 2023/1185 of 10 February 2023 supplementing Directive (EU) 2018/2001 of the European Parliament and of the Council by establishing a minimum threshold for greenhouse gas emissions savings of recycled carbon fuels and by specifying a methodology for assessing greenhouse gas emissions savings from renewable liquid and gaseous transport fuels of non-biological origin and from recycled carbon fuels (C/2023/1086) (OJ L 157, 20.6.2023, p. 20–33).

<sup>(29)</sup> Commission Notice: Technical guidance on the application of ‘do no significant harm’ under the Recovery and Resilience, Facility Regulation, (2021/C 58/01).

- (47) Beneficiaries are obliged to comply with the requirements for mass balance systems and for the implementation of mass balance systems set out in the Renewable Energy Directive. Lithuania commits to take into account the information on support already received from the mass balance system documentation.
- (48) Only electrolysis projects of at least 5 MW rated electrical input capacity may receive support under the scheme. This requirement aims to strike a balance between allowing SMEs and new market entrants with smaller projects to participate, whilst reducing the administrative efforts related to processing a large number of small projects, and moving from small pilot projects to commercial scale installations.
- (49) Lithuania has justified the limited eligibility under the scheme on the basis of the following three reasons, corresponding to those laid down in points 96(a), 96(d) and 96(f) of the Guidelines on State aid for climate, environmental protection and energy 2022 (the “CEEAG”) <sup>(30)</sup>:
- (a) The scheme targets a specific technology-based target established in Union law, in line with point 96(a).
  - (b) The scheme targets electrolysis projects that have the potential to contribute to a cost-efficient and deep decarbonisation in the longer term, in line with point 96(d).
  - (c) The restricted eligibility of the measure is essential to bring down the costs of producing renewable hydrogen, in line with point 96(f).
- (50) Furthermore, bids requesting more than EUR 250 million of support are not eligible for funding under either the 2024 Innovation Fund auction general topic or the scheme. This limitation aims to ensure that a greater number of projects are carried out so that lessons learned are as diverse and widely dispersed as possible, in turn enabling faster and cheaper decarbonisation in the long term.

## **2.6. Public consultation**

- (51) An in-depth stakeholder consultation of the 2024 Innovation Fund auction design has been performed by the Commission, leading to the final economic Terms and Conditions of the 2024 Innovation Fund auction <sup>(31)</sup>. The 2024 stakeholder consultation focused on improvements to the pilot auction design, which was itself thoroughly consulted. In 2022, the Commission organised two initial auction workshops, one with academia, think-tanks and Member States on 28 October, and one with industrial stakeholders on 21 November <sup>(32)</sup> on several possible high-level auction design options.

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<sup>(30)</sup> OJ C 80, 18.2.2022, p.1.

<sup>(31)</sup> [https://climate.ec.europa.eu/document/download/cedaacd0-6be5-49e6-81a9-adcafdb25e4c\\_en?filename=innovationfund\\_pilotauction\\_termsandconditions\\_en.pdf](https://climate.ec.europa.eu/document/download/cedaacd0-6be5-49e6-81a9-adcafdb25e4c_en?filename=innovationfund_pilotauction_termsandconditions_en.pdf)

<sup>(32)</sup> [https://climate.ec.europa.eu/news-your-voice/events/workshop-think-tanks-academia-and-member-states-competitive-bidding-mechanisms-2022-10-28\\_en](https://climate.ec.europa.eu/news-your-voice/events/workshop-think-tanks-academia-and-member-states-competitive-bidding-mechanisms-2022-10-28_en)

- (52) Based on input received at those workshops, the Commission launched the European Hydrogen Bank pilot auction in November 2023, awarding 6 projects by September 2024.
- (53) After the success of the 2023 European Hydrogen Bank pilot auction, the Commission decided to launch a second auction in 2024. Based on learnings from the pilot round, the Commission published Draft Terms and Conditions <sup>(33)</sup> for the auction on 30 April 2024. Stakeholders were then given six weeks to provide written feedback to the Commission. A final stakeholder workshop was held on 12 June 2024 to discuss the provided written feedback and verbal feedback. 145 written stakeholder submissions were received and analysed, including 1 584 individual feedback points made by those stakeholders across 53 auction design elements.
- (54) The Commission subsequently made changes to the draft Terms and Conditions based on stakeholder feedback, resulting in the publication of the final Terms and Conditions on 4 October 2024 <sup>(34)</sup>, and the Final Call Text made public on the 3 December 2024 <sup>(35)</sup>.

## 2.7. Aid allocation process

- (55) The aid will be allocated in line with the Terms and Conditions and Call Text of the 2024 Innovation Fund auction.
- (56) In accordance with the Terms and Conditions and Call Text of the 2024 Innovation Fund auction, aid will exclusively be allocated through a competitive bidding process that is open to all parties with eligible projects. This process aims to ensure that projects compete for the available aid on the basis of objective, transparent, and non-discriminatory criteria.
- (57) As per the Terms and Conditions and Call Text of the 2024 Innovation Fund auction, a single call for proposals is organised by the Commission, which is planned to be open from 3 December 2024 to 20 February 2025, and whereby the total budget of the scheme will be awarded.
- (58) In line with the Terms and Conditions and Call Text of the 2024 Innovation Fund auction, aid under the scheme will be awarded solely based on the offers submitted by the bidder according to the pay-as-bid principle, such that the awarded aid will be equal to the bidder's bid. No *ex post* adjustments of the bid, or negotiations after the submission of the bid, are possible.
- (59) Lithuania explains that the documents that describe the conditions for the competitive bidding process, including the selection criteria, were published well before the deadline for submission of bids. More specifically:

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<sup>(33)</sup> [https://climate.ec.europa.eu/system/files/2023-03/policy\\_funding\\_innovation\\_draft\\_term\\_conditions\\_pilot\\_auction\\_en.pdf](https://climate.ec.europa.eu/system/files/2023-03/policy_funding_innovation_draft_term_conditions_pilot_auction_en.pdf)

<sup>(34)</sup> [https://climate.ec.europa.eu/document/download/b996825e-cd36-44c1-895d-a780062f626d\\_en?filename=policy\\_funding\\_innovation\\_fund\\_if24\\_auction\\_tc\\_en.pdf](https://climate.ec.europa.eu/document/download/b996825e-cd36-44c1-895d-a780062f626d_en?filename=policy_funding_innovation_fund_if24_auction_tc_en.pdf) (last accessed on 9 January 2025).

<sup>(35)</sup> [https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/innovfund/wp-call/2024/call-fiche\\_innovfund-2024-auc-rfnbo-hydrogen\\_en.pdf](https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/innovfund/wp-call/2024/call-fiche_innovfund-2024-auc-rfnbo-hydrogen_en.pdf) (last accessed on 9 January 2025).

- (a) The final Call Text for the 2024 Innovation Fund auction were published on 3 December 2024 <sup>(36)</sup>, over 2.5 months before the planned deadline for the submission of bids, and an explanatory webinar was held to further clarify questions on the auction call on 10 December 2024.
  - (b) On 18 November 2024, over 12 weeks before the planned deadline for submission of bids, Lithuania announced to stakeholders its intention to complement the 2024 Innovation Fund auction by participating in the Auctions-as-a-Service, including the budget it would contribute <sup>(37)</sup>.
- (60) Lithuania explains that it analysed the potential of electrolysis projects under development in Lithuania, and that it set a limit on the total electrolyser capacity that can be awarded aid under the national budget contribution in order to guarantee that not all eligible applicants will receive aid under the scheme. 3 Lithuanian projects with a cumulative electrolysis capacity of 156 MW participated in the European Hydrogen Bank Pilot auction in 2023 without successfully being awarded support. Support may therefore only be awarded to Lithuanian projects representing a maximum of 109 MW of capacity under the 2024 Innovation Fund auction and the scheme, representing 70% of the pipeline of projects identified in this manner. Lithuania believes this will ensure competition for the available funds.
- (61) CINEA has ensured that the project proposals for the 2024 Innovation Fund auction comply with the minimum requirements necessary for them to constitute an aid application, namely that any application must at least include the applicant's name, a description of the project or activity, including its location, and the amount of aid needed to carry it out.
- (62) In their bids, bidders must state, *inter alia*:
- (a) a fixed premium bid price of subsidies, in EUR, per kg of verified and certified RFNBO hydrogen produced; and
  - (b) the expected average yearly volume of RFNBO hydrogen production in kg per year over a subsidy period of 10 years at maximum.
- (63) The figures in recitals (62)(a) and (62)(b) determine the upper limit for how much aid each project can receive in the subsidy period.
- (64) Lithuania submits that bidders will be selected on the basis of objective criteria, directly aiming at supporting the production of renewable hydrogen (see recital (68)).
- (65) Furthermore, all bidders will be subject to a general bid cap of EUR 4 per kg of RFNBO hydrogen produced, meaning that no bid above the cap will be accepted. Simulations based on available project data performed by external consultants of the Commission indicate that a bid cap set at this level mitigates the risk of

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<sup>(36)</sup> [https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/innovfund/wp-call/2024/call-fiche\\_innovfund-2024-auc-rfnbo-hydrogen\\_en.pdf](https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/innovfund/wp-call/2024/call-fiche_innovfund-2024-auc-rfnbo-hydrogen_en.pdf) (last accessed on 9 January 2025).

<sup>(37)</sup> See [https://ec.europa.eu/commission/presscorner/detail/en/ip\\_24\\_5862](https://ec.europa.eu/commission/presscorner/detail/en/ip_24_5862) (last accessed on 9 January 2025).

windfall profits and is sufficiently high so as not to discourage participation in the auction.

- (66) More specifically, Lithuania explains that bid letters must also include, *inter alia*:
- (a) the MW rated electrical input capacity of the new electrolyser that will be installed;
  - (b) a financial information file including a simplified financial model;
  - (c) a timetable/Gantt chart for the project;
  - (d) a renewable electricity sourcing strategy;
  - (e) a hydrogen off-take and price hedging strategy;
  - (f) an electrolyser procurement strategy;
  - (g) evidence of initiated process with relevant national or regional authority to receive an environmental permit within the maximum time to entry into operation;
  - (h) evidence of the strategy to receive a grid connection within the maximum time to entry into operation, if applicable;
  - (i) a letter of intent from a bank or financial institution to issue a completion guarantee against the achievement of entry into operation within the maximum realisation period;
  - (j) self-declarations regarding compliance with State aid cumulation rules (see Section 2.12) and status of works at the moment of application (see footnote 26); and
  - (k) A feasibility study.
- (67) Bids will be received by CINEA. Once the deadline for the submission of the bids had expired, CINEA will assess the bids against the 2024 Innovation Fund auction's qualification requirements, discarding, *inter alia*:
- (a) bids higher than the bid cap (see recital (65));
  - (b) bids requesting more than the maximum bid volume (see recital (50));
  - (c) projects with electrolysers that have a rated electrical input capacity lower than 5 MW (see recital (47));
  - (d) projects that aim to reach of financial close later than 2.5 years from signing the grant agreement or the award decision (see recital (71));
  - (e) projects that aim to enter into operation later than five years from signing the grant agreement or the award decision (see recital (71));
  - (f) works on the project have started before the date of submission of the application (see footnote 26); and

- (g) projects that fail the qualification requirements for relevance, resilience, and technical, financial and operational maturity, that are set out in the Call Text of the 2024 Innovation Fund auction.
- (68) Eligible and admissible projects will then be ranked by CINEA. The ranking of eligible and admissible bids will be based on price only. Projects will thus be ranked from lowest to highest based on the bid price of subsidies (in EUR) per kg of RFNBO hydrogen produced for a maximum of ten years of operating the electrolysis plant. The projects with the lowest aid per kg of RFNBO hydrogen produced are therefore ranked highest <sup>(38)</sup> and will be selected until the budget of the scheme is exhausted, incentivising companies to apply for lower subsidy amounts.
- (69) Projects that are rejected for EU funding from the 2024 Innovation Fund auction due to budget limitations, and which are located in Lithuania, will be awarded State aid under the scheme following the established price ranking, if:
- (a) the project has consented to participate in the scheme;
  - (b) the cumulative electrolysis capacity of the project and all other better ranked projects from the participating Member State <sup>(39)</sup> falls within the capacity limit for the participating Member State set out in recital (60) <sup>(40)</sup>; and
  - (c) the project's funding needs over the subsidy period falls within the national budget of Lithuania (see Section 2.11).

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<sup>(38)</sup> For proposals with the same bid price, a priority order will be determined according to the following approach. Successively for every group of *ex-aequo* proposals, starting with the lowest bid price group and continuing in descending order:

(1) Proposals with the overall smaller maximum grant requirement will be considered to have higher priority.

(2) If this does not allow to determine the priority, proposals located in a country with fewer funds awarded previously under the Innovation Fund will be considered to have higher priority.

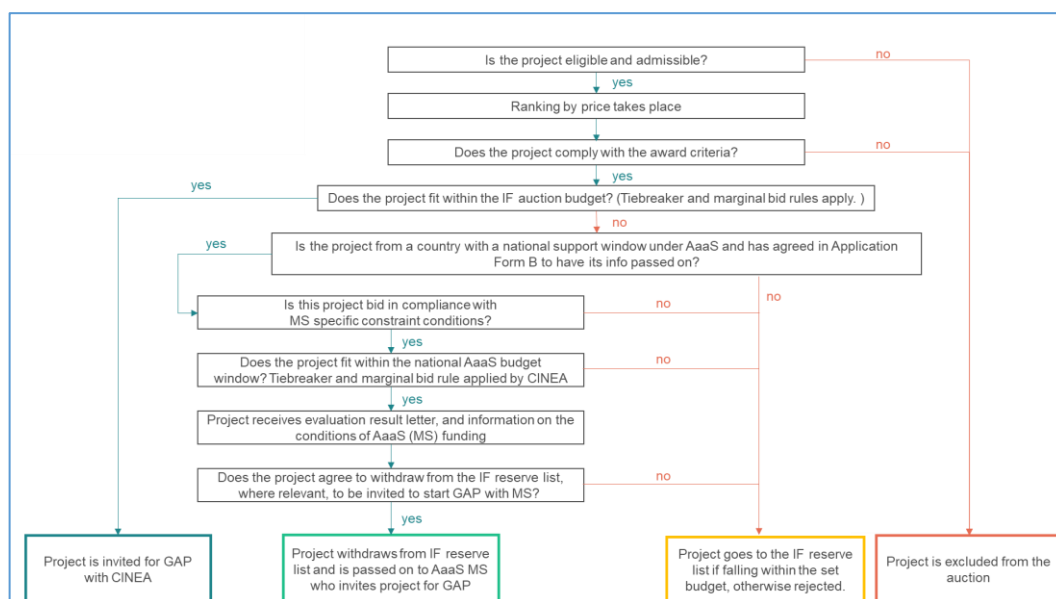
(3) If this does not allow to determine the priority, then proposals with a shorter time until entry into operation will be considered to have higher priority.

<sup>(39)</sup> Including those that have been awarded EU funding from the 2024 Innovation Fund auction.

<sup>(40)</sup> In order to make the best use of the available funding, the marginal bidder in Lithuania may be offered the opportunity to produce a reduced volume of RFNBO hydrogen at the fixed price of subsidies, in EUR per kg, indicated in its bid (see recital (62)(a)).

- (70) The allocation process is summarised in Figure 1 below, which shows how processes in the 2024 Innovation Fund auction and Auctions-as-a-Service relate to each other.

Figure 1: Aid allocation flow chart



Source: European Commission

- (71) To deter speculative bids, bidders will need to provide a completion guarantee to the national authorities of Lithuania covering 8% of the requested maximum grant amount before the award decision (see recital (66)(i)). The completion guarantee must be provided within two months of receiving the invitation to grant preparation. If projects do not reach financial close within 2.5 years, or do not enter into operation within the maximum realisation period of five years, the completion guarantee will be called by Lithuania, and the award decision will be terminated.
- (72) *Ex-post* adjustments of auction rules are not allowed, apart from the automatic cancellation of the entire 2024 Innovation Fund auction in the case of severe undersubscription, specifically if only two bids or less are received. In this case, CINEA reserves the right to cancel the call.
- (73) Within 6 months of the deadline for submission of bids, CINEA will coordinate a “lessons learned” exercise for the 2024 Innovation Fund auction and the scheme.
- (74) For future Innovation Fund auction rounds, the Terms and Conditions of the Innovation Fund pilot auction and Auctions-as-a-Service may be adapted by the European Commission, if necessary and appropriate. In particular, undersubscription will be corrected to restore effective competition using the Auctions-as-a-Service framework. This may include adjustments to the budget, the general bid cap, and the State aid cumulation rules, as well as the introduction of additional design elements.

## 2.8. Reference projects

- (75) The following two reference projects, prepared by a consultant to the Commission for the 2024 Innovation Fund auction, are deemed to be representative of

applicants to the 2024 Innovation Fund auction based on the market survey described in recital (60):

- (a) A grid-connected alkaline electrolysis plant of 50 MW, flexibly producing hydrogen for a maximum of 3 258 full load hours when following the production profile of a renewable energy source power purchase agreement.
  - (b) A stand-alone, off-grid alkaline electrolysis plant of 50 MW physically connected to a nearby renewable electricity generation unit <sup>(41)</sup>, producing hydrogen for a maximum number of full load hours (FLH) per year representative of national conditions <sup>(42)</sup>.
- (76) There is currently significant uncertainty surrounding the relevant costs and revenues of RFNBO hydrogen projects in Europe. Nevertheless, a quantification of the estimated costs and revenues of the reference projects in Lithuania is summarised in the tables below. The tables also include figures for a reference SMR project. All assumptions for energy prices and investment costs are based on data from Fraunhofer ISI.

*Table 1: Quantification of the costs and revenues of reference projects, Lithuania*

Reference project	Unit	Grid connected	Off-grid wind	SMR
Project Start	Year	2028	2028	2028
Size	MW energy input	50	50	15
Production capacity	t_H2/a	3 203	3 299	2 736
Lifetime	Years	20	20	20
Subsidy period	Years	10	10	-
WACC	%	8.8%	8.8%	8.8%
Investment expenditures (input)	€2023/kW	[...]	[...]	[...]
Operation and maintenance	% of investment per year	[...]%	[...]%	[...]%
Efficiency	%	65.7%	65.7%	76.0%
Taxes, Levies and Fees (input)	€2023/MWh	26.5	-	-
Annual operating hours	Full load hours	[...]	[...]	[...]
Avg. energy-price incl. CO2 (input)	€2023/MWh	[...]	[...]	[...]
CAPEX	€2023/kg	[...]	[...]	[...]
OPEX	€2023/kg	[...]	[...]	[...]
LCOH	€2023/MWh_H2	[...]	[...]	[...]
LCOH	€2023/kg	[...]	[...]	[...]
Revenues from sale of H2	€2023/kg	[...]	[...]	[...]
Required subsidies	€2023/kg	[2-4]	[3-5]	-

*Source: Fraunhofer ISI*

<sup>(41)</sup> Onshore wind in the case of Lithuania.

<sup>(42)</sup> 3 347 FLH for Lithuania



Table 2: Assumed CO<sub>2</sub> and energy prices, Lithuania

Reference project		2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
CO <sub>2</sub> price EUR/tCO <sub>2</sub>		111	165.5	122	127	132	137	141	146	150	155
Gas price EUR/MWh		25.65	24.22	24.22	24.22	24.22	24.22	24.22	24.22	24.22	24.22
Electricity cost EUR/MWh	Grid	136.7	124.2	111.1	111.1	111.0	110.9	110.7	110.4	112.7	114.9
	Off-grid	132.2	120.1	107.4	107.4	107.3	107.2	107.0	106.8	108.9	111.1

Source: Fraunhofer ISI

- (77) Lithuania explains that it is assumed that increased hydrogen production by SMR is the counterfactual scenario for each of the reference projects. SMR is currently the most used method to produce hydrogen and uses natural gas to produce hydrogen leading to CO<sub>2</sub> emissions<sup>(43)</sup>. The cost of SMR hydrogen is estimated at EUR [...] /kg for Lithuania. This does not include possible EU ETS costs, as it is assumed that producers of SMR hydrogen receive free ETS allocations, which is the case currently.
- (78) Lithuania also explains that it is assumed that the revenues for the sale of RFNBO hydrogen are higher than the revenues from the same of SMR hydrogen as consumers are willing to pay a “green premium” of around 2.50 EUR/kg H<sub>2</sub> for hydrogen produced with renewable energy sources.
- (79) Apart from the sale of hydrogen, other possible revenues for the reference projects include revenues from ancillary services, revenues from the sale of oxygen and waste heat, or the sale of the hydrogen guarantees of origin that beneficiaries could claim. Nevertheless, the value of these revenue streams is deemed to be too uncertain to quantify at present.
- (80) Considering the information presented in recitals (75) to (79), the funding gap for potential beneficiaries is expected to be [2 – 5] EUR/kg H<sub>2</sub> for Lithuania.
- (81) As for the estimation of subsidy per tonne of CO<sub>2</sub> equivalent emissions avoided, these are estimated to be [800 – 1 200] EUR/tonne CO<sub>2</sub> for the grid-connected reference project and [300 – 600] EUR/tonne CO<sub>2</sub> for the off-grid reference project, based on the EU ETS SMR Benchmark, and the required subsidies set out in the final row of Table 1<sup>(44)</sup>.
- (82) There are already EU policy measures in place to reduce GHG emissions and drive renewable energy deployment, most notably the EU ETS<sup>(45)</sup>. Nevertheless, even if EU ETS prices were, hypothetically, to double until 2035 assuming a current price of 74 EUR/tonne, the difference between RFNBO and SMR hydrogen production costs would be reduced only by about 0.51 EUR/kg, indicating a sustained need for the subsidisation of RFNBO hydrogen projects entering operation in 2026.

<sup>(43)</sup> The EU ETS SMR benchmark for the period 2021-2025 is 6.84 tCO<sub>2</sub>/t hydrogen, [https://climate.ec.europa.eu/system/files/2021-10/policy\\_ets\\_allowances\\_bm\\_curve\\_factsheets\\_en.pdf](https://climate.ec.europa.eu/system/files/2021-10/policy_ets_allowances_bm_curve_factsheets_en.pdf) (last accessed on 9 January 2025)

<sup>(44)</sup> This calculates the abatement cost based on abating the SMR benchmark (abatement from hydrogen production). Based on where the hydrogen is *used*, the abatement can be higher and the abatement costs lower (abatement from CO<sub>2</sub> use, function of the fuel, feedstock or reduction agent that is displaced).

<sup>(45)</sup> See recital (17).

- (83) There are also national regulatory measures and subsidy schemes in place that could drive renewable hydrogen deployment in Lithuania<sup>(46)</sup>. Nevertheless, Lithuania has assessed that these are still not sufficient to remove the market failure in relation to the production of RFNBO hydrogen (see recital (19)).

## **2.9. Form of aid and level of support**

- (84) The scheme provides a subsidy to produce RFNBO hydrogen. The aid will be provided in the form of direct grants. There are no concessions or other benefits granted as part of the aid measure.
- (85) The aid will be paid as a fixed premium per kg of RFNBO hydrogen produced. There is no prefinancing of projects (i.e. no payments during project development or construction), and support is paid out only upon production of verified and certified production volumes of RFNBO hydrogen (see recital (44)).
- (86) Lithuania explains that by choosing a fixed premium, the normal business risks arising from possible price variations will be borne by the beneficiaries, not by the State. Although Lithuania considered the use of a sliding premium, such as a contract-for-difference, it did not deem it suitable because such a sliding premium could:
- (a) introduce increased uncertainty for prospective beneficiaries<sup>(47)</sup>, which would be reflected in higher auction clearing prices;
  - (b) reduce the incentive of beneficiaries to flexibly operate electrolyzers, depending on the design of the premium<sup>(48)</sup>; and
  - (c) be more challenging to design given the lack of a deep, liquid and regionally homogenous reference price for the hydrogen produced<sup>(49)</sup>.
- (87) For the same reasons, Lithuania deemed the introduction of a clawback mechanism not suitable. In fact, it considered that the requirement for aid applicants to submit an electricity sourcing and hydrogen off-take strategy as part of their bid letters to apply to the 2024 Innovation Fund auction (see recitals (66)(d) and (66)(e)) would sufficiently address the uncertainties related to future market developments.
- (88) As the criteria for RFNBOs developed under the EU regulatory framework require electricity consumed to stem from ‘additional’ renewable electricity in order for 100% RFNBOs to be produced (see recital (43)(b)), Lithuania believes that this means beneficiaries will generally need to make long term commitments to electricity purchase (prices and volumes) that will be necessary to support the installation of additional renewable electricity generation, and will not therefore benefit or be ‘overcompensated’ if electricity prices fall during the subsidy period.

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<sup>(46)</sup> See recital (30).

<sup>(47)</sup> As it would be another changing cost or revenue stream.

<sup>(48)</sup> For example, a sliding premium on the electricity input price would insulate beneficiaries from electricity market price signals.

<sup>(49)</sup> In particular, the market for renewable hydrogen is not developed enough for the identification of any practicable reference price.

## 2.10. Duration of the scheme

- (89) The competitive bidding process is planned to take place from 3 December 2024 to 20 February 2025, and aid under the scheme may be granted within a maximum of 12 months from the auction closing.
- (90) Selected beneficiaries will have a maximum of 2.5 years after the aid has been granted to reach of financial close, and a maximum of five years after the aid has been granted to construct the full electrolyser capacity and enter the project into operation.
- (91) The following features of the process aim at incentivising swift development of the projects supported under the scheme.
- (a) Before the award decision, bidders need to provide a completion guarantee covering 8% of the requested maximum grant amount (see recital (66)(i)). The completion guarantee must be provided within two months of receiving the invitation to grant preparation. Before entry into operation, projects will have to report annually on their progress and on key milestones such as reaching financial close and entry into operation. If the maximum realisation periods are exceeded, the completion guarantee will be called, and the award decision will be terminated.
  - (b) Admissibility and eligibility criteria are chosen to ensure the seriousness of the project and the project developer.
  - (c) The projects will be assessed on a pass/fail basis on their relevance to the objectives of the auction and the quality of the information provided in the bid, including an assessment of their technical, financial and operational maturity, and contribution to resilience (see recital (67)(g)).
  - (d) There are no payments before entry into operation, and payments upon entry into operation are tied to the actual verified and certified produced volumes of RFNBO hydrogen (see recital (44)).
  - (e) The award decision may be terminated if the verified and certified RFNBO hydrogen production falls on average below 30% of the expected yearly average volume as stated in the bid for a period of 3 consecutive years. This average will be calculated over a rolling 3-year period.
- (92) The aid may be paid for a maximum of ten years after entry into operation of the RFNBO hydrogen production installation, or shorter than ten years if the maximum grant amount has been disbursed earlier, in line with the production flexibility rules outlined in the Call Text of the 2024 Innovation Fund auction <sup>(50)</sup>. The long duration of the support is intended to create stable, guaranteed revenue streams that will facilitate access to financing.

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<sup>(50)</sup> Semi-annual production can be increased up to 140% compared to half of the expected average yearly volume of RFNBO hydrogen production, as stated in the bid. Semi-annual production beyond 140% is possible but not supported by grant payments. The total grant amount is restricted to 100% of the maximum grant amount.

- (93) Payments will continue up to around 2041 at the latest if beneficiaries are selected in 2025, awarded the aid in 2026, take five years to enter operation, and produce hydrogen for 10 years.
- (94) Lithuania has confirmed that aid will only be granted under the scheme after the Commission has adopted a decision authorising the scheme (see recital (33)).

### **2.11. Budget and financing**

- (95) The total budget of the scheme for its entire duration is EUR 36 million, subject to budget availability.
- (96) This will be financed through the Modernisation Fund.

### **2.12. Cumulation**

- (97) The aid provided through the scheme may not be combined with aid from other applicable aid schemes for the same eligible costs, apart from reductions from levies on electricity consumption which finance energy and environmental policy objectives awarded under Section 4.1.1 of the CEEAG, and provided the total amount of aid cannot lead to overcompensation or exceed the maximum aid amount allowed under the CEEAG and applicable EU State aid rules (see recital (101)).
- (98) Direct consumers may not benefit from aid for operational costs. This requirement concerns only the volume of RFNBO hydrogen acquired that would receive support under this scheme, i.e. the volume of hydrogen stated in the bid of the hydrogen producer. If it cannot be differentiated which fraction of the off-taker's hydrogen consumption receives other operational aid (e.g. aid is for the entire consumption volumes of the off-taker), this would be considered a breach of cumulation rules.
- (99) To implement these cumulation rules, beneficiaries must declare that they do not, and will not, benefit from any other aid covering the same eligible costs, as specified in the Terms and Conditions of the 2024 Innovation Fund auction (see recital (66)(j)). The beneficiaries' declarations, and the terms of conditions, will be adequately reflected in the award decision by the national authorities.
- (100) Where centrally managed Union funding<sup>(51)</sup> is combined with aid under this scheme, Lithuania will ensure that the total amount of public funding granted in relation to the same eligible costs does not lead to overcompensation.
- (101) Lithuania will check during the support period whether the cumulation of aid and centrally managed Union received funding complies with the CEEAG, and the conditions in the State aid decisions for any cumulated aid. Lithuania will terminate, adjust or claw back the aid provided through the scheme accordingly.

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<sup>(51)</sup> Centrally managed union funding is Union funding centrally managed by the institutions, agencies, joint undertakings or other bodies of the European Union that is not directly or indirectly under the control of the Member State.

## 2.13. Transparency

- (102) Lithuania submitted that it will ensure compliance with the transparency requirements laid down in points 58 to 61 CEEAG. The relevant data of the scheme will be published on a national website that will link to the Commission's transparency register <sup>(52)</sup>. Those data will include:
- (a) the full text of the approved aid decision and its implementing provisions;
  - (b) the identity and type of undertaking of the individual beneficiaries;
  - (c) the form and amount of aid granted to each beneficiary;
  - (d) the date of the granting of the aid;
  - (e) the region in which each beneficiary is located;
  - (f) the principal economic sector in which each beneficiary has its activities at NACE group level.
- (103) This information will be published no later than 6 months after the decision to grant the aid has been taken, it will be kept for at least 15 years, and it will be available to the public without restrictions.

## 3. ASSESSMENT OF THE SCHEME

### 3.1. Existence of state aid

- (104) Article 107(1) TFEU provides that “*any aid granted by a Member State or through State resources in any form whatsoever which distorts or threatens to distort competition by favouring certain undertakings or the production of certain goods, shall, in so far as it affects trade between Member States, be incompatible with the common market*”. For a measure to be categorised as aid within the meaning of Article 107(1) TFEU, all the conditions set out in that provision must be fulfilled. First, the measure must be imputable to the State and financed through State resources. Second, it must confer an economic advantage on its recipients. Third, that advantage must be selective in nature. Fourth, the measure must distort or threaten to distort competition and affect trade between Member States.
- (105) While support from the Innovation Fund is not considered State aid as Member States do not finance this support from their national budgets and have no influence on how it is used, this is not true of the national funding provided under Auctions-as-a-Service.
- (106) In the present case, the scheme is entirely financed through the Modernisation Fund (see recital (96)). The Modernisation Fund constitutes State resources since

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<sup>(52)</sup> Aid granting decisions are published in the national Register of legal acts (<https://www.e-tar.lt/portal/en/index>). The information about state aid granted to legal entities is published in the Lithuanian register of state aid and *de minimis* aid granted (<https://kotis.kt.gov.lt/>). Lithuania

Member States have discretion to decide on the use of these resources. Therefore, the Commission concludes that the scheme is financed through State resources.

- (107) The scheme is established in the national law of Lithuania (see recital (32)). The scheme is therefore imputable to the State.
- (108) The scheme confers an advantage on its beneficiaries in the form of a direct grant that covers relevant investment and production costs and a reasonable profit (see recital (84)). The scheme thus relieves the beneficiaries of costs which they would have to bear under normal market conditions. The advantage granted by the scheme is selective, since it is awarded only to certain undertakings, i.e. undertakings meeting the requirements set out in Section 2.5 and selected through the aid allocation process described in Section 2.7, while other undertakings in a comparable legal and factual situation are not eligible for aid and thus will not receive the same advantage. The aid is also selective since it only favours the production of certain products.
- (109) The scheme targets hydrogen producers, which are involved in the production of products or services which are widely traded within the European Economic Area (EEA). This includes RFNBO hydrogen. The notified scheme is therefore likely to distort competition on the hydrogen market and affect trade across the EEA.
- (110) In light of the above, the scheme constitutes State aid within the meaning of Article 107(1) TFEU. The Commission notes that Lithuania does not dispute that the scheme constitutes State aid (see recital (31)).

### **3.2. Lawfulness of the aid**

- (111) By confirming that aid under the scheme will only be granted following the notification of the Commission's decision approving that scheme (see recital (33)), Lithuania has complied with the stand-still obligation set out in Article 108(3) TFEU.

### **3.3. Compatibility of the aid**

#### *3.3.1. Legal basis for assessment*

- (112) Pursuant to Article 107(3), point (c) TFEU, the Commission may declare compatible with the internal market "*aid to facilitate the development of certain economic activities or of certain economic areas, where such aid does not adversely affect trading conditions to an extent contrary to the common interest*". Thus, in order to be capable of being considered compatible with the internal market under that provision, State aid must meet two conditions, the first being that it must be intended to facilitate the development of certain economic activities or of certain economic areas and the second, expressed in negative terms, being that it must not adversely affect trading conditions to an extent contrary to the common interest <sup>(53)</sup>.

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<sup>(53)</sup> Judgment of 22 September 2020, *Austria v Commission*, C-594/18P, EU:C:2020:742, paragraphs 18 and 19.

- (113) In the present case, the measure aims at the reduction and removal of GHG emissions through support for the production of RFNBO hydrogen. Point 16(a) CEEAG clarifies that “*aid for the reduction and removal of greenhouse gas emissions, including through support for renewable energy and energy efficiency*” may be compatible with the internal market under Article 107(3), point (c) TFEU. Section 4.1 CEEAG lays down the specific conditions for assessing the compatibility of such aid. In addition, point 82 CEEAG states that “*aid for the production of renewable hydrogen may be assessed under [Section 4.1 CEEAG]*”.
- (114) The Commission has therefore assessed the compatibility of the scheme under the general compatibility provisions set out in Section 3 CEEAG, as well as the specific compatibility criteria set out in Section 4.1 CEEAG.

3.3.2. *The aid must facilitate the development of an economic activity (positive condition)*

3.3.2.1. Contribution to the development of an economic activity

- (115) As mentioned above, in order to be capable of being considered compatible with the internal market under Article 107(3), point (c) TFEU, the measure must contribute to the development of certain economic activities or certain economic areas <sup>(54)</sup>. In accordance with this, point 23 CEEAG states that, when notifying aid, Member States must identify the economic activities that will be facilitated because of the aid and how the development of those activities is supported. In addition, in accordance with point 25 CEEAG, Member States must describe if and how the aid will contribute to the achievement of Union climate, environmental and energy policies and targets.
- (116) In line with point 23 CEEAG, Lithuania has explained that the scheme supports, via direct grants, the development of electrolysis projects and production of RFNBO hydrogen, therefore contributing to the development of economic activities in this sector and other related sectors (see recitals (20) to (25)).
- (117) The Commission also notes that Lithuania has determined, in accordance with point 25 CEEAG, how the aid will contribute to the implementation of the Union climate, environmental, and energy policy objectives (see recital (23)). More specifically, by supporting RFNBO hydrogen, Lithuania aims at fulfilling the targets for the share of RFNBO hydrogen consumption in industry according to the Renewable Energy Directive, and reducing national GHG emissions, therefore contributing to the achievement of the 2030 EU and Lithuanian decarbonisation targets.
- (118) The Commission therefore considers that the scheme contributes to the development of certain economic activities as required by Article 107(3), point (c) TFEU and that it fulfils points 23 and 25 CEEAG.

3.3.2.2. Incentive effect

- (119) Point 26 CEEAG explains that State aid can only be considered to facilitate an economic activity if it has an incentive effect. An incentive effect occurs when the

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<sup>(54)</sup> *Ibid.*

aid induces the beneficiary to change its behaviour, to engage in additional economic activity or in more environmentally-friendly economic activity, which it would not carry out without the aid or would carry out in a restricted or different manner <sup>(55)</sup>. In other words, and as summarised in point 27 CEEAG, the aid must not support the costs of an activity that the aid beneficiary would carry out anyhow and must not compensate for the normal business risk of an economic activity.

- (120) To demonstrate the presence of an incentive effect, point 28 CEEAG provides that proving an incentive effect entails the identification of the factual scenario and the likely counterfactual scenario in the absence of aid to be identified. Furthermore, point 28 CEEAG requires the incentive effect of the aid to be demonstrated through a quantification for the reference projects supported under the scheme following the description in Section 3.2.1.3 CEEAG.
- (121) In addition, point 52 CEEAG states that a counterfactual scenario may consist in the beneficiary not carrying out an activity or investment, or continuing its business without changes, and that where evidence supports that this is the case, the net extra cost may be approximated by the negative net present value of the project in the factual scenario without aid over the lifetime of the project.
- (122) In the present case, since the measure is a scheme, the quantification referred to in point 28 and Section 3.2.1.3 CEEAG may be provided per reference project. In addition, as for the reasons detailed in recitals (168) to (174), the aid amount is determined through a competitive bidding process, in accordance with point 49 CEEAG, hence a detailed assessment of the net extra cost is not required.
- (123) Lithuania submitted that in the absence of the aid, the RFNBO hydrogen projects eligible for support under the scheme would not be implemented. In line with point 28 CEEAG, Lithuania identified the factual scenario (namely, the production of RFNBO hydrogen) and the likely counterfactual scenario in the absence of aid (namely, increased hydrogen production by SMR) (recital (77)). Moreover, Lithuania provided an analysis showing that without the measure would not take place because the expected market revenues do not suffice to ensure viability of the projects, leading to a funding gap (see recital (80)). Lithuania indeed provided a quantification referred to in point 28 and Section 3.2.1.3 CEEAG of all the costs and revenues for two reference projects that are representative of applicants to the 2024 Innovation Fund auction. This quantification is presented in Section 2.8.
- (124) Having examined the information provided by Lithuania (see notably Section 2.8), the Commission considers that the assumptions informing the quantification referred to in point 28 and Section 3.2.1.3 CEEAG are reasonable and credible, and that RFNBO hydrogen projects eligible for support under the scheme would not be implemented in the absence of State aid in Lithuania given the significant gap between their costs of producing RFNBO hydrogen, and their much lower revenues, most notably sale of the RFNBO hydrogen on the market <sup>(56)</sup> (see recital (80)). The alternative source of hydrogen in the counterfactual scenario has

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<sup>(55)</sup> See in that sense Section 3.1.2 of the CEEAG, as well as the *Hinkley* judgment (C-594/18 P, Austria v Commission, EU:C:2020:742, paragraphs 20 and 24).

<sup>(56)</sup> See the row entitled 'Revenues from sale of H2' in Table 1.



been identified (see recital (77)) and the Commission considers that the counterfactual scenario identified is credible, genuine, and related to decision-making factors prevalent at the time of the decision by beneficiaries.

- (125) Therefore, the requirements in point 28 CEEAG are fulfilled based on the quantification referred to in Section 3.2.1.3 CEEAG.
- (126) Point 29 CEEAG stipulates that aid does not normally present an incentive effect in cases where works on the project started prior to the aid application. Point 30 CEEAG further explains that the aid application may take various forms, including for example a bid in a competitive bidding process.
- (127) The Commission notes that applicants will be required to confirm that work on the project in question has not begun prior to submitting the written bid, and that subsidy applications will be rejected if works have started on the project before the date of submission of the application (see recital (67)(f)). The Commission also notes that the Lithuanian authorities will ensure the application forms' compliance with the minimum requirements set out in point 30 CEEAG (see recital (61)). Therefore, the requirements in points 29 and 30 CEEAG are fulfilled.
- (128) Finally, point 32 CEEAG states that aid granted merely to cover the cost of adapting to Union standards has, in principle, no incentive effect. As there are no Union standards applicable to the hydrogen produced under the scheme (see recital (17)), the requirements of point 32 CEEAG are fulfilled.
- (129) The Commission therefore concludes that the aid granted under the scheme has an incentive effect.

#### 3.3.2.3. No breach of any relevant provision of Union law

- (130) State aid cannot be declared compatible with the internal market if the supported activity, the aid measure, or the conditions attached to it entail a non-severable violation of relevant Union law <sup>(57)</sup>.
- (131) Lithuania has confirmed that the proposed measure does not by itself, or by the conditions attached to it or by its financing method constitute a non-severable violation of Union law (see recital (31)).
- (132) As set out in recital (43), the Commission notes that aid under the scheme will be granted in compliance with the Renewable Energy Directive. For RFNBO hydrogen, the Commission notes that installations eligible to receive aid under the scheme must fulfil the GHG emissions savings criteria and the additionality criteria applicable to RFNBOs under the Renewable Energy Directive (see recital (44)). Furthermore, the suppliers will be required to provide buyers with all necessary information and proof of the characteristics of hydrogen, as required by the Renewable Energy Directive (see recital (44)).

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<sup>(57)</sup> CEEAG point 33, and Judgment of 22 September 2020, *Austria v Commission*, C-594/18 P, EU:C:2020:742, paragraph 44.

- (133) Therefore, the Commission considers that there are no indications that the scheme would infringe relevant provisions of Union law. The requirements of point 33 CEEAG are therefore met.

#### 3.3.2.4. Conclusion on the assessment of the positive condition

- (134) The Commission therefore concludes that the scheme fulfils the first (positive) condition of the compatibility assessment, i.e. that the aid facilitates the development of an economic activity (namely, the implementation of RFNBO hydrogen projects) pursuant to the requirements set out in Section 3.1. CEEAG.

#### 3.3.3. *Negative condition: the aid cannot unduly affect trading conditions to an extent contrary to the common interest*

- (135) Distortions of competition and trade are minimised if the aid is necessary, appropriate and proportionate, and meets the cumulation and transparency requirements.

#### 3.3.3.1. Positive effects of the aid measure

- (136) As indicated in Section 3.3.2.1, the scheme contributes to the development of certain economic activities, i.e. the production of RFNBO hydrogen. Because it supports only RFNBO hydrogen production (see recitals (43) and (44)), the scheme will contribute to achieving the EU target of at least 42.5% of renewable energy by 2030, and the EU target of reducing GHG emissions by at least 55% by 2030 (relative to 1990 level) (see recital (23)). The Commission notes that the scheme will contribute to Lithuania's goals with regards to electrolysis capacity (see recital (27)). The produced hydrogen will most likely be used in hard-to-abate industrial sectors which cannot benefit from cheaper decarbonisation solutions (see recital (23)), and therefore contribute to the development of economic activities in those sectors. Finally, in cases where the RFNBO hydrogen produced under the scheme replaces SMR hydrogen made using natural gas, the Commission notes that the scheme will positively contribute to reducing the Union's dependency on imported fossil fuels from Russia (see recital (8)).

#### 3.3.3.2. Necessity of the aid

- (137) Point 89 CEEAG provides that points 34 to 37 CEEAG do not apply to measures for the reduction of GHG emissions. Point 89 CEEAG further states that the Member State must identify the policy measures already in place to reduce GHG emissions, and that, while the EU ETS and related policies and measures internalise some of the costs of GHG emissions, they may not yet fully internalise those costs. To demonstrate the necessity of aid, points 38 and 90 CEEAG explain that the Member State must show that the reference project(s) would not be carried out without the aid, taking into account the counterfactual situation, as well as relevant costs and revenues including those linked to the EU ETS and related policies and measures identified in point 89 CEEAG.
- (138) In addition, point 90 CEEAG states that, where there is significant uncertainty concerning future market developments related to a large part of the business case (as for example may be the case for renewable energy investments where electricity revenues are not coupled to input costs), support in the form of a certain guaranteed remuneration to limit exposure to negative scenarios may be

considered necessary to ensure that the private investment takes place. In such cases, limits to profitability and/or clawbacks linked to possible positive scenarios may be required to ensure proportionality.

- (139) Point 91 CEEAG further explains that where the Member State demonstrated that there is a need for aid, the Commission presumes that a residual market failure remains, which can be addressed through aid for decarbonisation, unless it has evidence to the contrary.
- (140) In the present case, in line with point 89 CEEAG, Lithuania has identified the policy measures already in place to reduce GHG emissions through RFNBO hydrogen production (see recital (29)).
- (141) Furthermore, in line with point 38 CEEAG, Lithuania showed that the reference projects would not be carried out without the aid, notably on the basis of the quantification referred to in Section 3.2.1.3 CEEAG (see recital (80)). In this regard, the Commission recalls its conclusion in recital (124) that the quantification referred to in Section 3.2.1.3 CEEAG demonstrates that the reference projects would not be carried out without the aid, given the significant gap between the costs of producing renewable hydrogen and the achievable price on the market. Moreover, the Commission agrees that in the absence of further regulatory measures incentivising the use of renewable hydrogen, the market alone will not deliver a higher production of renewable hydrogen, as this would not be profitable (see recitals (19) and (124)).
- (142) Despite the significant uncertainty surrounding the relevant costs and revenues of RFNBO hydrogen projects, the aid will be paid as a fixed premium (see recital (85)). The Commission accepts the absence of a limit to profitability or clawback mechanism in the scheme in light of:
  - (a) the strong evidence for competition for support under the scheme (see recital (60));
  - (b) the fact that the aid is granted in a competitive bidding process organised and managed by the Commission featuring a general a bid cap (see recital (65));
  - (c) the fact that the auction will be cancelled in the event the expectations of strong competition are not realised, and there is severe under-subscription (see recital (72));
  - (d) the fact that future rounds of the Innovation Fund auction and Auctions-as-a-Service will, if necessary, be adapted considering the results of the pilot auction (see recital (74));
  - (e) the fact that hydrogen producers will generally need to make long term commitments to electricity purchase (prices and volumes), in which case they will not benefit or be ‘overcompensated’ if electricity prices fall during the subsidy period (see recital (87)).

- (f) the correlation between hydrogen and electricity prices <sup>(58)</sup>, which means increased revenues for beneficiaries in the form of higher hydrogen prices would tend to be offset at least somewhat by increased electricity purchase costs.

- (143) The Commission therefore concludes that the scheme fulfils points 38 and 90 CEEAG.
- (144) In line with point 91 CEEAG, given that Lithuania has demonstrated that there is a need for aid under point 90 CEEAG, the Commission presumes that a residual market failure remains, which can be addressed through aid for decarbonisation, as it has no evidence to the contrary.
- (145) To ensure that aid remains necessary for each eligible category of beneficiary, Member States must update their analysis of relevant costs and revenues at least every 3 years for schemes that run longer than that, as set out in point 92 CEEAG. However, the Commission notes that no aid may be granted under the scheme beyond 12 months from the auction closing in February 2024 (see recital (89)). The requirements in point 92 CEEAG are therefore fulfilled.
- (146) The Commission therefore considers that the scheme is necessary to support the targeted economic activity in a manner that increases environmental protection.

#### 3.3.3.3. Appropriateness of the aid

- (147) Point 93 CEEAG states that (i) Section 3.2.1.2 CEEAG does not apply to measures for the reduction of GHG emissions and that (ii) the Commission presumes the appropriateness of aid for achieving decarbonisation goals, provided all other compatibility conditions are met. It further sets out that, given the scale and urgency of the decarbonisation challenge, a variety of instruments, including direct grants, may be used.
- (148) In light of the overall compatibility assessment, the Commission considers that the scheme complies with all other relevant compatibility conditions of CEEAG (See Sections 3.3.2, 3.3.3.1, 3.3.3.2, 3.3.3.4, to 3.3.3.8 and 3.3.4) and thus fulfils point 93 CEEAG. Aid in the form of direct grants is an appropriate instrument to support the production of renewable hydrogen through electrolysis and to achieve the decarbonisation goals.
- (149) The Commission therefore considers that the scheme is an appropriate policy instrument to achieve the intended objective of the aid.

#### 3.3.3.4. Eligibility

- (150) Point 95 CEEAG explains that decarbonisation measures targeting specific activities which compete with other unsubsidised activities can be expected to lead to greater distortions of competition, compared to measures open to all competing activities. As such, the Member State should give reasons for measures which do not include all technologies and projects that are in competition. These

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<sup>(58)</sup> The price of SMR hydrogen is largely determined by the market price of natural gas. Likewise, the market price of natural gas also has a large influence on the market price of electricity.

reasons should be based on objective considerations linked, for example, to efficiency or costs or other relevant circumstances.

- (151) In this regard, point 96 CEEAG provides that the Commission considers that a more limited eligibility does not unduly distort competition where:

*“(a) a measure targets a specific sectoral or technology based target established in Union law, such as a renewable energy or energy efficiency scheme;*

*....*

*(d) a Member State identifies reasons to expect that eligible sectors or innovative technologies have the potential to make an important and cost-effective contribution to environmental protection and deep decarbonisation in the longer term;*

*....*

*(f) a more selective approach can be expected to lead to lower costs of achieving environmental protection (for example through reduced system integration costs as a result of diversification, including between renewables, which could also include demand response and/or storage), and/or result in less distortion of competition;”*

- (152) The Commission notes that, in the present case, the scheme is not open to all decarbonisation technologies and projects that are in competition contrary to the principle set out in the first sentence of point 95 CEEAG, being restricted only to support to produce RFNBO hydrogen. Accordingly, the Commission has examined whether sufficiently grounded reasons for that restriction have been provided.
- (153) Lithuania submits that the restricted eligibility of the measures is justified by the following reasons described in recital (49), namely those given in points 96(a), 96(d), and 96(f) CEEAG.
- (154) Firstly, in line with the example given in point 96(a) CEEAG, Lithuania submits that the measure targets a specific technology-based target established in Union law (recital (49)(a)), namely the target for renewable hydrogen production established in the EU Hydrogen Strategy and the REPowerEU Communication, as well as the target for RFNBOs established in the Renewable Energy Directive. Based on this, the Commission agrees that the measure, by supporting the development of RFNBO hydrogen, targets a specific technology-based target established in Union law (see recitals (23), and (43)).
- (155) Secondly, in line with the example given in point 96(d) CEEAG, Lithuania submits that RFNBOs are expected to be needed to decarbonise certain sectors and activities in the longer term and has the potential for significant cost decreases over time (see recital (49)(b)). The Commission accepts Lithuania’s argument that renewable hydrogen can help hard-to-abate sectors, especially in industry and mobility, to become climate neutral (see recital (27)).

- (156) Thirdly, in line with the example given in point 96(f) CEEAG, Lithuania submits that without a targeted support scheme, electrolysis technology would remain very expensive, and therefore that limiting the scheme to this technology would lead to lower costs of achieving environmental protection (see recital (49)(c)). The Commission accepts that given the high price of renewable hydrogen produced through electrolysis, a more selective approach supporting only this technology can be expected to lower those costs of environmental protection (see recital (16)).
- (157) Based on the above, the Commission therefore considers that Lithuania has provided sufficient reasons to justify that the restricted eligibility criteria for the measure can indeed be justified based on points 96(a), (d), and (f) CEEAG and that, as such, the more limited eligibility of the scheme does not unduly distort competition.
- (158) The Commission notes that only projects of at least 5 MW may receive support under the scheme (see recital (47)). Having assessed the results of the public consultation (see recitals (51) to (54)), the Commission deems that this restriction will not unduly undermine competition, and that it is therefore a proportionate measure to reduce administrative burden on the granting authorities.
- (159) The Commission further notes that only projects that submit bids requesting below EUR 250 million may receive support under the scheme. In this regard, the Commission accepts the argument that, at this stage of RFNBO hydrogen deployment, these restrictions will accelerate the rate of cost reductions by disseminating knowledge more widely, in turn enabling faster and cheaper decarbonisation of hard to abate sectors in the long term (see recital (50)).
- (160) The Commission therefore considers that the more limited eligibility of the scheme does not unduly distort competition.
- (161) According to point 97 CEEAG, Member States must regularly review eligibility rules, and any rules related thereto to ensure that reasons provided to justify a more limited eligibility continue to apply for the lifetime of each scheme. However, the Commission notes that just a single auction round will be held under the scheme (see recital (57)), and that no aid may be granted under the scheme later than 12 months from the auction closing (see recital (89)). The requirements in point 97 CEEAG are therefore fulfilled.

#### 3.3.3.5. Public consultation

- (162) Point 100 CEEAG explains that, no public consultation is required for measures where the estimated average annual aid to be granted is below EUR 150 million per year, competitive bidding processes are used, and the measure does not support investments in fossil-fuel based energy generation, production or other activities.
- (163) The Commission notes that the total budget of the measure is EUR 36 million (see recital (95)), the aid amounts are determined through a competitive bidding process (see recitals (165) to (174)), and the scheme only supports the production of RFNBOs (see recitals (42) to (45)). The requirements in point 100 CEEAG are therefore fulfilled.

### 3.3.3.6. Proportionality of the aid

- (164) Point 47 of the CEEAG explains that State aid is considered to be proportionate if the aid amount per beneficiary is limited to the minimum needed for carrying out the aided project or activity. Point 103 CEEAG specifies that aid for reducing GHG emissions should in general be granted through a competitive bidding process to ensure that the objectives of the scheme can be attained in a proportionate manner which minimises distortions of competition and trade.
- (165) Point 49 CEEAG states that when the aid amounts are determined through a competitive bidding process, the result of that process will provide a reliable estimate of the minimum aid required so that detailed assessments of the net extra costs necessary for carrying out the investment will not be required. It further provides the criteria that must be fulfilled so that the aid is deemed proportionate:
- (a) the bidding process is open, clear, transparent and non-discriminatory, based on objective criteria, defined *ex ante* in accordance with the objective of the scheme and minimising the risk of strategic bidding;
  - (b) the criteria are published sufficiently far in advance of the deadline for submitting applications to enable effective competition;
  - (c) the budget or volume related to the bidding process is a binding constraint in that it can be expected that not all bidders will receive aid, the expected number of bidders is sufficient to ensure effective competition, and the design of undersubscribed bidding processes during the implementation of a scheme is corrected to restore effective competition in the subsequent bidding processes or, failing that, as soon as appropriate; and
  - (d) *ex-post* adjustments to the bidding process outcome are avoided as they may undermine the efficiency of the process's outcome.
- (166) Point 104 CEEAG further sets out that the bidding process should, in principle, be open to all eligible beneficiaries to enable a cost-effective allocation of aid and reduce competition distortions.
- (167) The Commission notes that aid under the scheme will be allocated through a competitive bidding process that is open to all parties with eligible projects (see recital (56)), that there are no proposed exceptions to competitive bidding, and that projects of all electrolysis technologies on equal terms (see recital (42)). More specifically, the Commission notes that, in line with point 49(a) CEEAG, the criteria for the participation in the bidding process are defined *ex ante*, in a clear, transparent, and non-discriminatory way, in accordance with the objective of the scheme (see recitals (49), (50), and (67)). In particular, eligibility is only restricted to the extent necessary to reduce administrative burden on the granting authority, thus enabling Lithuania to more affordably decarbonise hard to abate sectors in the longer term (see recital (47)).
- (168) The Commission notes that, in line with point 49(b) CEEAG, the criteria and bidding process was published over 2.5 months before the planned deadline for submission of bids (see recital (59)(a)).

- (169) Furthermore, the Commission notes that limits on the total electrolyser capacity that can be awarded aid has been set such as to guarantee that not all eligible applicants will receive aid under the scheme (see recital (60)). The Commission therefore concludes that the scheme fulfils the condition set in point 49(c) CEEAG.
- (170) The Commission notes that, in line with point 49(d) CEEAG, the aid will be granted solely based on the offer submitted by the bidder, and that there will be no *ex-post* adjustments of the bid or negotiations of the bids after the bids are submitted (see recital (58)).
- (171) Moreover, point 50 CEEAG explains that the selection criteria used for ranking bids should put the contribution to the main objectives of the measure in relation with the aid amount requested by the applicant.
- (172) In the present case, the ranking criterion will be the subsidy price in EUR per kilo of RFNBO hydrogen produced that is submitted for the competitive bidding process (see recital (68)). The Commission considers this ranking criterion to directly reflect the environmental benefits the scheme aims to achieve, as displacing (products made using) fossil-based hydrogen with (products made using) the RFNBO hydrogen produced under the scheme will reduce GHG emissions.
- (173) The Commission notes that there are no concessions or other benefits granted as part of the aid measure (see recital (84)). Point 112 CEEAG is therefore not relevant.
- (174) Therefore, Commission considers that the requirements in points 47, 49, 50, 103, and 104 CEEAG are fulfilled.
- (175) Point 106 CEEAG explains that, where the analysis required under point 90 shows there may be a significant deviation between the bid levels of different categories of beneficiaries, the risk of the overcompensation of cheaper technologies should be considered. Furthermore, any bid caps should be justified with reference to the quantification for reference projects.
- (176) The analysis required under point 90 CEEAG, which is summarised in Table 1, does not reveal a significant deviation between the bid levels of the different RFNBO hydrogen reference projects in terms of subsidies per kg RFNBO hydrogen produced, which is the key award criterion. In addition, the maximum aid provided by the proposed measure is limited by the scheme's general bid cap, which has been set at a level at which projects that are representative of the reference projects would neither be excluded nor incentivised to bid strategically (see recital (65)). Therefore, there is no risk of overcompensation of cheaper technologies, in line with point 106 CEEAG.
- (177) Point 111 CEEAG requires Member State to take into account the information on support already received from the mass balance system documentation. As Lithuania commits to do so (see recital (47)), the Commission considers this requirement to be fulfilled.
- (178) Point 56 CEEAG explains that aid may be awarded concurrently in relation to the same eligible costs, provided that the total amount of aid for a project or an



activity does not lead to overcompensation or exceed the maximum aid amount allowed under these guidelines. It further provides that when aid under one measure is cumulated with aid under other measures, Member States must specify the method used to ensure that the total amount of aid for a project or an activity does not lead to overcompensation or exceed the maximum aid amount allowed under the CEEAG. Point 57 CEEAG explains that where centrally managed Union funding is combined with State aid, it must be ensured that the total amount of public funding granted in relation to the same eligible costs does not lead to overcompensation.

- (179) In the present case, the total amount of aid received from this scheme and other sources may not exceed the maximum aid amount and aid intensities allowed under the applicable EU State aid rules (see recital (97)). Furthermore, Lithuania will ensure that the total amount of public funding granted in relation to the same eligible costs – including centrally managed Union funds – does not lead to overcompensation (see recitals (98) to (101)).
- (180) Therefore, the requirements in points 56 and 57 of the CEEAG are fulfilled.
- (181) Based on the information above, the Commission considers that the aid granted under the scheme is proportionate.

#### 3.3.3.7. Transparency of the aid

- (182) Lithuania will ensure compliance with the transparency requirements laid down in points 58 to 61 CEEAG (see recitals (102) and (103)). Therefore, these requirements are fulfilled.

#### 3.3.3.8. Avoidance of undue negative effects of the aid on competition and trade, and balancing

- (183) Point 70 CEEAG explains that the Commission will approve measures under these guidelines for a maximum period of 10 years. As stated in Section 2.10, the aid will be awarded in the period 2025-2026 (see recital (89)), therefore the requirement in point 70 CEEAG is respected.
- (184) Point 115 CEEAG explains that the subsidy per tonne of CO<sub>2</sub> equivalent emissions avoided must be estimated for each reference project in the case of schemes, and the assumptions and methodology for that calculation provided.
- (185) In the present case, the subsidy per tonne of CO<sub>2</sub> equivalent is estimated for each reference project (see recital (81)). The Commission has assessed the calculations. The assumptions and methodology for this estimate are based on the Commission's own benchmark values (see footnote 44). While the general methodology for the EU ETS benchmark is based on actual historical data, and does not take into account short and long-term interactions with relevant policies or measures that would tend to increase the subsidy per tonne of CO<sub>2</sub> equivalent over time, the estimates set out in recital (81) also do not factor in the additional emissions avoided from the *use* of the RFNBO hydrogen produced under the scheme (see footnote 44). The Commission therefore concludes that the calculations are credible.

- (186) Therefore, the Commission considers the requirements in point 115 CEEAG to be fulfilled.
- (187) Point 116 CEEAG explains that the aid must not merely displace the emissions from one sector to another and must deliver overall GHG emissions reductions. Point 121 CEEAG explains that aid which covers costs mostly linked to operation rather than investment should only be used where the Member State demonstrates that this results in more environmentally friendly operating decisions. Furthermore, points 127 to 129 CEEAG require Member States to explain how they intend to avoid the risk of aid may stimulating or prolonging the consumption of fossil-based fuels and energy.
- (188) The Commission notes that all projects will produce hydrogen that meets the criteria for RFNBOs (see recital (43)). Under the sectoral rules for RFNBOs, the electricity used would either be from additional renewable sources, or be sourced from the grid when the emission intensity of the marginal generator is sufficiently low to avoid significantly increasing demand for fossil fuels or increasing GHG emissions. If beneficiaries also produce non-RFNBOs, operating aid will not cover the costs of this production, and the GHG emissions savings of these must be at least 70% on average over the subsidy period (see recital (45)). The projects would thus not prolong the consumption of fossil-based fuels, nor lead to a mere sectoral displacement of emissions. Although a significant share of the aid will cover OPEX (see Table 1), the aforementioned safeguards help ensure that electrolyzers are operated in a manner that minimises environmental harm. Therefore, the requirements in points 116, 121, 127 and 129 CEEAG are fulfilled.
- (189) Point 120 CEEAG explains that Member States must demonstrate that reasonable measures will be taken to ensure that projects granted aid will actually be developed.
- (190) The Commission notes that several measures have been put in place to prevent non-realisation and minimise delays, including giving beneficiaries a maximum of 2.5 years after the aid has been granted to reach of financial close, and a maximum realisation period for projects of five years (see recital (90)), the fact that there are no payments before entry into operation, the fact that bidders are required to submit a completion guarantee, and the fact that projects will be assessed on their technical, financial and operational maturity (see recital (91)).
- (191) Point 122 CEEAG states where aid is primarily required to cover short-term costs that may be variable, Member States should confirm that the production costs on which the aid amount is based will be monitored and the aid amount updated at least once per year. The aid must be designed to prevent any undue distortion to the efficient functioning of markets, and preserve efficient operating incentives and price signals, as set out in point 123 CEEAG.
- (192) As referred to in Table 1, a significant percentage of beneficiaries' costs are short term variable costs. Although premiums will not be updated after they have been awarded, the Terms and Conditions and Call Text of the scheme – including the level of the bid cap – will be updated if necessary for future auction rounds (see recital (74)). The criteria for RFNBOs developed under the EU regulatory framework require electricity consumed to stem from 'additional' renewable electricity in order for 100% RFNBOs to be produced (see recital (43)(b)).

Lithuania has explained that this means beneficiaries will generally need to make long term commitments to electricity purchase (prices and volumes) to support the installation of additional RES generation, and will not therefore benefit or be ‘overcompensated’ if electricity prices fall during the subsidy period (see recital (88)). Fixed premiums will maintain the incentive to flexibly operate electrolyzers. The possibility of negative prices for the production of RFNBO hydrogen appear vanishingly small in light of the information on costs and revenues provided (see Table 1), and the fact that the scheme’s use of a competitive bidding process (see Section 2.7) does not incentivise the beneficiaries to offer their renewable hydrogen output below marginal cost. Therefore, the requirements of points 122 and 123 CEEAG are fulfilled.

- (193) Points 124 and 125 CEEAG state that the Commission will carry out a case-by-case assessment for measures that include dedicated infrastructure projects, taking into account steps to mitigate the distortive effect of aid to such infrastructure. However, this requirement is not relevant for the scheme as no aid under this scheme covers dedicated infrastructure.
- (194) Point 131 CEEAG explains that, where risks of additional competition distortions are identified or measures are particularly novel or complex, the Commission may impose conditions, including the obligation to perform an *ex-post* evaluation, as set out in point 76. However, the Commission considers that this requirement is not relevant for the scheme, which is neither particularly complex or novel considering its size, design, and the presence of previously adopted State aid decisions for hydrogen support <sup>(59)</sup>.
- (195) Point 132 CEEAG states that Member States should demonstrate how the proposed measure will not lead to distortions of competition, for example, through increased market power, should the measure be expected to benefit a particularly limited number of beneficiaries.
- (196) Lithuania has estimated that the scheme will support 1 to 2 projects (see recital (41)). While this number is limited, the risk of distorting competition and trade is kept to a minimum by the aid being granted through a competitive bidding process. While Lithuania expects the scheme to add up to 11 MW of electrolysis capacity (see recital (41)), the EU Hydrogen Strategy calls for 40 GW of renewable hydrogen electrolyzers by 2030. The scheme will therefore support a small proportion of the total expected renewable hydrogen producers in the EU market. The Commission has therefore not identified risks of additional competition distortions. The requirements of point 132 CEEAG are therefore fulfilled.
- (197) The Commission therefore considers that aid granted under the scheme avoids undue negative effects on competition and trade.

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<sup>(59)</sup> See, in particular, Commission decision of 5 April 2024 in case State Aid SA.109550 (2023/N) – Germany, European Hydrogen Bank Auctions-as-a-Service 2023, and the Commission decision of 18 December 2024 in case State Aid SA.108511 (2024/N), SA.110056 (2024/N) - Germany and the Netherlands H2Global Scheme - 2nd Funding Window.

### 3.3.4. *Weighing up the positive and negative effects of the aid*

- (198) As indicated in recital (136), the scheme contributes to the development of certain economic activities, i.e. the production of RFNBO hydrogen, and thus the decarbonisation of hard-to-abate sectors. Furthermore, by replacing natural gas (products) with RFNBO hydrogen (products), the scheme will positively contribute to reducing the Union's dependency on imported fossil fuels from Russia in line with the REPowerEU Communication. The scheme will therefore contribute to important policy objectives at the EU and national level.
- (199) Point 134 CEEAG explains that, so long as there are no obvious indications of non-compliance with the 'do no significant harm' principle and so long as all other compatibility conditions are met, the Commission will typically find the distortions to competition of decarbonisation measures to be offset by their positive effects.
- (200) In this case, aided projects will produce hydrogen that prevents at least 70% of the GHG emissions expected in the counterfactual scenario (see recital (43)(a)), and so beneficiaries will produce hydrogen that fulfils the GHG reduction 'do no significant harm' criterion according to the requirements set out in Taxonomy Regulation for the activity "Manufacture of hydrogen" <sup>(60)</sup>. There are no obvious indications of non-compliance with the do-no-significant harm principle (see recital (45)) and all other compatibility conditions are met. The Commission thus considers that any negative effects of the aid are offset by its positive effects.
- (201) Therefore, the Commission considers the aid compatible with the internal market under Article 107(3), point (c) TFEU.

## 4. AUTHENTIC LANGUAGE

- (202) As mentioned in recital (3), Lithuania has accepted to have the decision adopted and notified in English. The authentic language will therefore be English.

## 5. CONCLUSION

The Commission has accordingly decided not to raise objections to the aid on the grounds that it is compatible with the internal market pursuant to Article 107(3), point (c) of the Treaty on the Functioning of the European Union.

Yours faithfully,

For the Commission

Teresa RIBERA  
Executive Vice-President

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<sup>(60)</sup> Regulation (EU) 2020/852 and the relevant Commission implementing legislation therein.