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**Subject: State Aid SA. 104685 (2022/N) – Czechia
Support for heat from renewable energy sources with an output
above 500 kW**

Excellency,

1. PROCEDURE

- (1) Following pre-notification exchanges with the Commission, on 10 February 2023, the Czech authorities notified a support scheme for the promotion of the production of renewable heat linked to district heating system through operating aid (the ‘measure’), pursuant to Article 108(3) of the Treaty on the Functioning of the European Union (TFEU). On 10, 16 and 27 February 2023, the Commission requested additional information, which Czechia submitted on 13 and 17 February and on 24 March 2023.
- (2) On 15 February 2023, the Czech authorities exceptionally agreed to waive their rights deriving from Article 342 TFEU, in conjunction with Article 3 of Regulation 1/1958 ⁽¹⁾ and to have this Decision adopted and notified in English.

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

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2. DETAILED DESCRIPTION OF THE MEASURE

2.1. Background and objectives of the measure

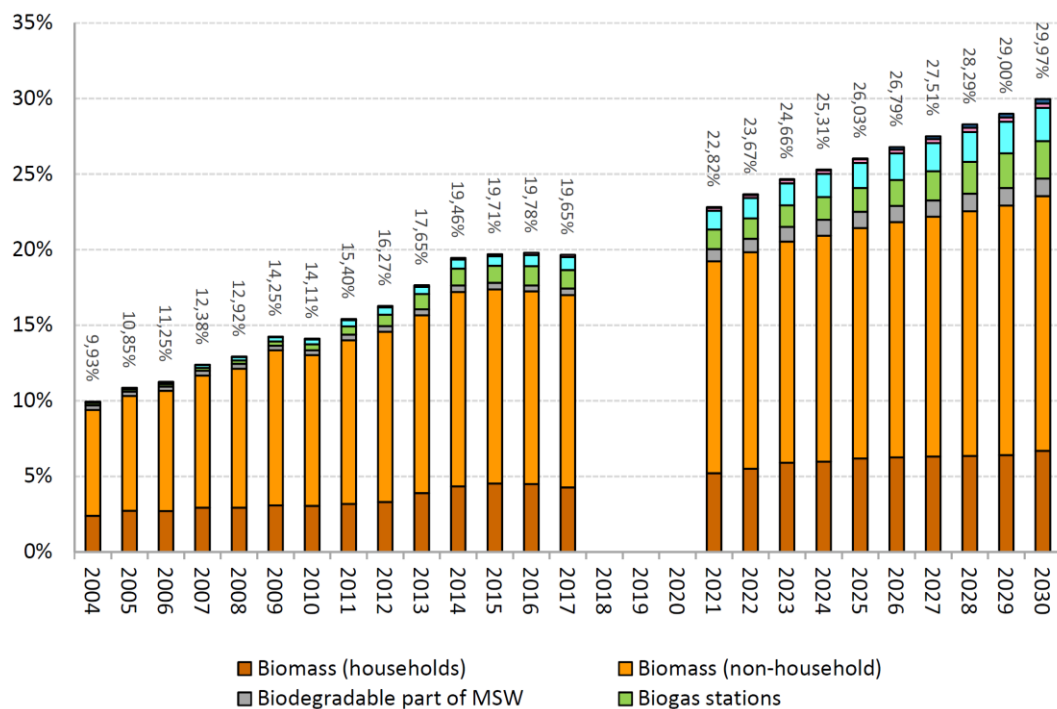
- (3) The EU has set an ambitious climate protection target of reducing greenhouse gas emissions by at least 55 % by 2030, with a view to becoming climate neutral by 2050 ⁽²⁾.
- (4) Article 3(1) of Directive (EU) 2018/2001 ⁽³⁾ (the ‘Renewable Energy Directive’) established an overall goal for the EU that the share of energy from renewable energy sources (‘RES’) in the Union’s gross final energy consumption reaches at least 32 % in 2030 (proposed to increase to 45 % by the Commission’s 2022 REPowerEU Communication ⁽⁴⁾).
- (5) Furthermore, Article 23(1) of the Renewable Energy Directive includes a specific sectoral RES goal in heating and cooling for each Member State to aim to increase the share of energy from RES in this sector by an indicative 1.1 percentage points (for Member States where waste heat and cold is not used) as the annual average calculated for the period 2021 to 2025 and 2026 to 2030, starting with the share of energy from renewable sources in the heating and cooling sector achieved in 2020.
- (6) To reach these goals, Czechia’s National Energy and Climate Plan includes interim targets to increase the share of renewable heat in the heating and cooling networks to 26 % by 2025 (from actual 24% in 2021) and to further increase this share to approximately 30 % by the end of 2030, as shown in the figure below.

⁽²⁾ 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).

⁽³⁾ Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources (OJ L 328, 21.12.2018, p. 82).

⁽⁴⁾ 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.

Figure 1 Contribution of individual sources to the share of RES in the heating and cooling sector (in %)



Source: Czech authorities

- (7) In this context, Czechia notified a nation-wide scheme to support district heating based on renewable energy. The measure aims at the construction of generation units producing heat energy from renewable sources through providing operating aid.
- (8) Czechia explained that it identified no other suitable and effective tool than the State aid intervention. It assessed regulatory restriction on fossil fuel energy; however, given that the use of renewable fuel in heat generation entails higher heating costs compared to fossil fuel use, it concluded that regulatory restriction on fossil fuel use in district heating would undermine the economic viability of district heating and thus threaten its continued existence. On that basis, Czechia considers State support the most appropriate policy instrument to effectively encourage district heating producers to invest in and install the required renewable heat production facilities.
- (9) The measure is expected to support the installation of approximately 345 megawatts thermal (‘MWT’) of renewable heat generation capacity over the period of three years. Therefore, the measure is expected to have a positive contribution on the implementation of Czechia’s National Energy and Climate Plan and on the target to increase the share of renewable energy in heating and cooling established in Article 3(1) of the Renewable Energy Directive.

2.2. National legal basis

- (10) The legal basis for the measure is the Act No 382/2021 Coll. of 18 October 2021, amending Act No 165/2012 on supported energy sources and on amendment to certain laws, as amended, and other related laws (the ‘national legal basis’).

- (11) The national legal basis for the measure also encompasses the price decisions of the Energy Regulatory Office (*Energetický regulační úřad* or the 'ERO'), which establish the support levels for beneficiaries of RES heat support in any given year. These price decisions are issued and published annually in the Energy Regulation Gazette ⁽⁵⁾.
- (12) Aid under the measure will only be granted after the Commission has notified the decision authorising the measure, as specified in Article 1 paragraph 3 of the national legal basis.

2.3. Administration of the measure

- (13) The aid is granted by the Czech Electricity and Gas Market Operator - OTE a.s ('OTE'). OTE is a State owned joint-stock company performing the obligations and duties of the market operator, as stipulated by Act No 458/2000 Coll. on business conditions and the performance of the State administration in the energy sectors and on amendments to certain laws (the 'Energy Act') ⁽⁶⁾. OTE acts as a clearing centre, which operates the entire system of state support for electricity and heat including the measure.
- (14) OTE administers the registration data system for the purpose of the measure including, for instance, information about the identification of beneficiaries, sources of energy production and form of the support. The Czech authorities have explained that OTE does not enter into bilateral contractual relationships with heat producers and that this means that claims for support originate from the Act No 165/2012 Coll. as amended (see recital (10), on promoted energy sources and amending certain laws.
- (15) It is the ERO, however, which determines the level of support for heat via its annual price decisions, as described in recital (18).

2.4. Form of aid and level of support

- (16) The measure provides operating aid in the form of a subsidy claimed for each gigajoule ('GJ') of heat supplied to the heat distribution system – the so called "green heat bonus".
- (17) The bonus is set administratively by the ERO in CZK/GJ on an annual basis and limited to the funding gap calculated for the reference project on the basis of the methodology described in Section 2.8.2.
- (18) Once calculated by the ERO, the green bonus is published as a Price Decision in the Energy Regulation Gazette. Then, the bonus remains valid for one year until the ERO publishes the next annual price decision.

⁽⁵⁾ The texts of annual price decisions can be accessed at the following web address: <https://www.eru.cz/cs/elektrina/cenova-rozhodnuti>.

⁽⁶⁾ Act No. 458/2000 Coll. implements Directive 2010/75/EU and Directive (EU) 2015/2193 and regulates the conditions of business and the exercise of state administration.

2.5. Beneficiaries

- (19) The beneficiaries of the measure are owners of heat generation installations who hold a heat energy production licence and produce heat from RES in the territory of the Czech Republic. The requirements for granting such a licence are set out in the provisions of Sections 4 to 8 of the Energy Act.

2.6. Duration of the measure

- (20) The measure applies from the notification of the State aid decision to the Member State and covers installations commissioned over the period 1 January 2023 to 31 December 2025. No installations have been commissioned to date.

2.7. Budget and financing of the measure

- (21) The total estimated budget of the measure amounts to CZK 9.5 billion (approx. EUR 401 million ⁽⁷⁾).
- (22) The measure is financed by the Czech general State budget.

2.8. Basic elements of the measure

2.8.1. Eligibility

- (23) The support under the measure will be granted only for installations producing renewable heat using biomass (as defined in Article 2, point (24), of the Renewable Energy Directive) with installed capacity (output) above 500 kW ⁽⁸⁾ connected to the district heating systems (thermal energy supply systems).
- (24) The measure covers support for the construction of new generation units to support the switch from polluting fuels to the use of RES (biomass) heat.
- (25) Support for heat generation based on biomass shall be granted for projects that comply with the sustainability criteria set out in Article 29 of the Renewable Energy Directive ⁽⁹⁾ implemented into Czech legislation by Decree No. 110/2022 Coll. on determining the types and parameters of supported renewable resources and sustainability and greenhouse gas emissions savings criteria for bioliquids and biomass fuels.
- (26) Installations burning waste as fuel are also eligible to apply for support under the measure. The support is limited only to waste that meets the definition of renewable energy sources in the Renewable Energy Directive. The Czech

⁽⁷⁾ In the decision, CZK is converted into EUR at the average exchange rate of the Czech National Bank of 10 February 2023 of EUR 1 = CZK 23.69, available at: <https://www.cnb.cz/en/financial-markets/foreign-exchange-market/central-bank-exchange-rate-fixing/central-bank-exchange-rate-fixing/>.

⁽⁸⁾ Support for renewable heat installations (including other renewable sources) with capacity up to 500 kW falls under a GBER (General Block Exemption Regulation) scheme registered under number SA.102036.

⁽⁹⁾ To the extent applicable i.e. according to the Renewable Energy Directive, the sustainability criteria apply in the case of solid biomass to equipment with a heat input of over 20 MW.

authorities also confirmed that in that case the waste hierarchy principle (Article 4(1) of Directive 2008/98/EU) will be respected.

- (27) The measure will enter into force following the notification of this decision to the Member State but the national legal basis is effective as from 1 January 2022. Only installations commissioned between 1 January 2023 and 31 December 2025 are eligible to receive support.
- (28) The Czech authorities confirmed that aid will be granted under the measure only if works on the project have not started prior to submission of a written application by the beneficiary to the national authorities and that activities that started before submission of a written application are not eligible for aid.
- (29) Applications for the measure take place via an application form which complies with the requirements of point 30 of the Guidelines on State aid for climate, environmental protection and energy 2022 (the ‘CEEAG’) ⁽¹⁰⁾.
- (30) The Czech authorities confirmed that no aid can be granted to undertakings in difficulty or to undertakings subject to an outstanding recovery order following previous Commission decision declaring aid illegal and incompatible with the internal market.
- (31) The Czech authorities clarified that the district heating and cooling systems in Czechia is generally open to third party access. In addition, holders of heat energy distribution licence are obliged to purchase heat produced from RES and enable its connection as long as it does not threaten the reliable and safe operation of the district heating system, and does not limit other RES heat present in the system.

2.8.2. *Reference project and funding gap*

- (32) Operating aid under this measure is available for the production of renewable heat from biomass. Czechia explained that even if an installation received investment aid a funding gap would still exist, therefore the measure at hand covers also operating costs to prevent the move from biomass to other cheaper and less environmentally friendly fuels.
- (33) In addition, Czechia explained that in absence of the support the costs of thermal energy from RES would be (in the long run) higher than the costs of thermal energy produced with fossil fuels and would have to be passed on to heat consumers. However, district heating in Czechia is in competition with individual domestic heat boilers and this option would not be good for the green transition as consumers would switch to more polluting individual gas-based heat generation. In the event that even only part of the heat consumers would move to individual heat boilers, the price of heat for other heat consumers would increase, which would result in a possible further disconnection and possibly the disintegration of district heating in the given place. On this basis, Czechia explained the need for operating support to close the funding gap for RES heat installations and to incentivise their efficient operation and integration in the district heating system.

⁽¹⁰⁾ Communication from the Commission – Guidelines on State aid for climate, environmental protection and energy 2022 (OJ C 80, 18.2.2022, p. 1).

- (34) To elaborate the green bonus, Czechia has identified a reference project of a new biomass installation of 20 MW generating heat for 3 000 full load hours per year, with a heat efficiency ⁽¹¹⁾ of 87% (the “factual scenario”). The project lifetime of the generation facility was assumed to be 20 years. Czechia submitted that this selection of the reference project and its technical parameters were determined with regard to the typical and expected implementation on the market, based on data collection and the outcome of consultations with the sector. Therefore, the Czech authorities consider the reference project as representative for the measure.
- (35) Czechia has submitted a quantification of all the costs and revenues of the reference project which are summarised in the table below.

Table 1 Quantification of the costs and revenues of the reference project and of the counterfactual project

| | Biomass (Reference project) | Natural gas (Counterfactual) |
|---|--|---|
| Installed capacity (in MW) | 20 MW | 20 MW ⁽¹²⁾ |
| No of full load hours / year | 3 000 | 3 000 |
| Heat efficiency | 87% | 92% |
| Investment costs (CZK ⁽¹³⁾ /kW) | 16 500 | 5 000 |
| Operating costs (CZK/kWt) | 0.25 | 0.05 |
| Lifetime of the project (years) | 20 | 20 |
| Technology reference price (CZK/GJ) (NPV=0 at WACC) | 565 | 547 |
| Market price proxy/Natural gas heat reference price (CZK/GJ) | 547 | 547 |
| Net Present Value (NPV) of Cash Flows without aid (CZK/kW) | -1 707 | 0 |
| Funding gap (CZK/kW) | -1 707 | |
| Funding gap after operating support (CZK/kW) | 0 | |

Source: Czech authorities

- (36) Czechia explained that the input parameters, including investment, operating and fuel costs, are the result of several rounds of a public consultation process with the renewable energy sector and the public. The process started in January 2021 and completed in May 2022 with parameters set by the ERO Decree on Technical and Economic Parameters (No 79/2022 Coll.) ⁽¹⁴⁾. To set parameters and update them, the ERO mainly uses data from: the licensing procedure (provided by energy producers at application for a license incl. performance, investment costs, etc.), market operator (OTE)’s system, regulatory reports sent to the ERO by the market operator and heat generators, statistical reports (e.g. price of selected biomass input fuels), etc.

⁽¹¹⁾ Useful heat output per hour divided by energy input (in the form of fuel) per hour.

⁽¹²⁾ Czechia explains that a natural-gas based facility would in practice likely be slightly under 20 MW to save on emissions costs, as explained in more detail in recital (40).

⁽¹³⁾ For CZK / EUR exchange rate see footnote 7.

⁽¹⁴⁾ Decree No. 79/2022 Coll. on technical-economic parameters for determining reference purchase prices and green bonuses and on the implementation of certain other provisions of the Act on Supported Energy Sources (Decree on Technical-Economic Parameters).

- (37) A post-tax weighted average cost of capital (WACC) of 6.12 % was used to discount future cash-flows. The Czech authorities explained that the WACC was set through the same public consultation process mentioned above and defined in the said ERO's Decree on Technical and Economic Parameters. Proportion of debt and equity financing was based on the median of RES companies for the period 2014-2020. The cost of equity was calculated at 9.26 % and the cost of debt at 4.04 %.
- (38) Czechia explained that it considers that in the absence of aid the projects for generation of renewable heat would not be undertaken and the counterfactual scenario would be a new investment in heat generation from a natural gas boiler. Such a boiler is characterised by low acquisition costs and affordable implementation, and represents the main competition for other methods of heating. Therefore, as a counterfactual scenario Czechia chose a natural gas boiler with the same heat output as considered in the factual scenario. The choice resulted from the consultation with the expert community (see recital (36)).
- (39) Czechia submitted that fossil fuels have cost advantage over renewable generation technologies. While the current conditions of the energy market have seen an exceptional increase in the cost of fossil fuel-based technologies, in a medium term perspective, it is likely that the cost advantage of fossil fuels over more environmentally friendly technologies will remain.
- (40) With regard to the forecasts of natural gas prices in the counterfactual scenario, the Czech authorities used the average prices of BL CAL products from the EEX (European Energy Exchange) ⁽¹⁵⁾ for the first three years and followed the European Commission recommendations for GHG projections ⁽¹⁶⁾ for the remaining years. Although the counterfactual installation is of the capacity just falling under the EU ETS system ⁽¹⁷⁾, Czechia does not include the EU emission allowance costs in the calculations. According to the Czech authorities, the chosen reference project installation should be understood as 19.99 MW with negligible influence on the result. At the same time, Czechia assumes that the counterfactual is an investment in a new gas boiler the size of which would be adjusted below the EU ETS limit. If a higher output is required, the investor in the given location would rather choose more of smaller decentralised devices below the 20 MW threshold, than one bigger one. The Czech authorities confirmed that in the case where new ETS (EU ETS 2) is phased in in the future which would cover also smaller installations, Czechia will take the costs of the EU ETS into account when calculating the current annual price of heat from a gas boiler, which serves as a counterfactual scenario.
- (41) The Czech authorities explained that in Czechia in district heating there is no market price of heat but the price is set through so called "cost plus pricing"

⁽¹⁵⁾ Average value over period January to June 2022 of base load natural gas prices for calendar years 2023, 2024 and 2025.

⁽¹⁶⁾ *Recommended parameters for reporting on GHG projections in 2023*, the European Commission, Directorate General for Climate Action (<https://www.eionet.europa.eu/reportnet/docs/govreg/projections>).

⁽¹⁷⁾ The European Union Emissions Trading System (EU ETS) covers installations with thermal rated input equal or higher than 20MW, i.e. the capacity level of the counterfactual scenario.

method. According to that method, a heat producer reflects in the heat price justified costs of heat generation and a reasonable profit, based on procedures specified in recital (36). For the purposes of determining the amount of operating support, the reference heat price of the given technology is determined so that the producer selling the heat achieves an NPV equal to zero (i.e. the IRR is equal to the WACC of 6.12%) with the input assumptions used. The same method is used for both factual and counterfactual scenarios. The calculation of the reference price from a natural gas boiler in the counterfactual scenario should be understood as representing/simulating the "market price" of heat on the Czech market in a given year. The reference price of the counterfactual scenario in the amount of CZK 547/GJ corresponds to the average market price of heat for the lifetime of the project (the period under consideration) while respecting the forecasts of natural gas prices according to recital (40).

- (42) Applying this "market price" of heat (market price proxy in Table 1) to calculate revenues for the biomass generation technology supported under the measure results in the NPV of all cash flows of the reference project in factual scenario amounting to CZK -34.1 million or CZK -1.7 million per MW. The funding gap of the reference projects is thus the negative NPV.
- (43) The green bonus is then actually calculated as the difference between the reference price (the net present value of the project's cash flows is equal to zero) of the actual scenario (heat from biomass) and the counterfactual scenario (heat from a natural gas boiler). In the case of model biomass prices and forecast natural gas prices, the financing gap would amount to CZK 18/GJ (CZK 565/GJ – CZK 547/GJ) for the entire life of the project. The actual amount of the green bonus, i.e. the amount of operating support for the given calendar year, is then determined on the basis of current inputs according to recital (46). In 2023, the green bonus is zero due to higher forecast cost of natural gas as compared to biomass in that year.
- (44) In order to ensure that operating aid is limited to what is needed to incentivise efficient operation of the RES heat generation installations, Czechia confirmed that undertakings exercising economic activities that will benefit from operating aid under the measure will be explicitly required to pay the full share of their own heating costs, at least equivalent to their cheapest alternative heating source which was identified as the costs to generate heat through a natural gas boiler.
- (45) Czechia confirmed that heat coming from zero air pollution RES should not be curtailed in favour of biomass. In principle, there are only two groups of zero air pollution RES in the area of heat generation. First one comprises heat sources which consume no fuel (e.g. solar or geothermal energy), which district heating operators will always prefer over biomass due to their zero variable cost. Second group includes various types of heat pumps which primarily generate heat at times when power prices are low thanks to abundant electricity power generation from RES (mainly solar and wind). At these times operating costs of heat pumps are very low and therefore operators of district heating systems would prefer them over heat from biomass. On the other hand, at times when there is low electricity power generation from wind and solar power plants and power is generated from natural gas or coal-fired plants, which results in high electricity prices, operating costs of heat pumps are high and operators of district heating systems might prefer heat from biomass. This Czechia considers desirable since additional

power consumption from heat pumps would lead to higher power generation from coal and natural gas-fired power plants and therefore to higher CO₂ emissions. In any case, according to the Czech authorities, the issue is quite theoretical in the context of the Czech Republic as the authorities are not aware of any case where solar thermal energy and/or heat pump would be combined with biomass in one district heating system. Uptake of solar thermal energy and heat pumps in district heating systems is in most cases currently not feasible because temperature of the water in the heat distribution network is too high to allow efficient utilisation of these typically low temperature heat sources. According to the Czech authorities, reaching the standard level of energy performance of buildings that would allow this cannot be realistically expected in Czechia before 2035.

2.9. Monitoring and cumulation

- (46) The amount of operating support under the measure is subject to annual monitoring to ensure that the level of support does not exceed the funding gap between the reference project funded, which represents all sizes of installations eligible under the measure (including small ones starting with installed output above 500 kW), and the counterfactual investment. As for this type of installations fuel costs constitute the majority of production costs and are variable (as opposed to other operating costs), the ERO will adjust the amount of the green bonus granted on the basis of the annual monitoring of biomass and natural gas fuel prices, to ensure proportionality and avoid overcompensation. For the purposes of year-to-year monitoring of inputs, the ERO uses the documents and procedures as specified in recitals (36) and (40).
- (47) Czechia confirmed that the operating aid under the measure cannot be cumulated with other operating aid in relation to the same eligible costs. In case of cumulation of operating aid and investment aid, the provided investment aid will be deducted from the amount of the operating aid granted under the measure. Czechia also confirmed that was the measure to be combined in the future with centrally managed Union funding (which is currently not the case), the same cumulation rules would apply to ensure no overcompensation.

2.10. Transparency

- (48) Czechia confirmed that it will ensure compliance with the transparency requirements laid down in points 58 to 61 CEEAG. The relevant data of the notified measure will be published on a national website that will link to the Commission's transparency register.

3. ASSESSMENT OF THE MEASURE

3.1. Presence of State aid

- (49) Article 107(1) TFEU states 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'*.

- (50) Therefore, in order for a measure to constitute State aid within the meaning of Article 107(1) TFEU it has to fulfil four cumulative conditions. First, the aid must be imputable to the State and financed through State resources. Second, the measure must confer a selective advantage to certain undertakings or the production of certain goods. Third, the measure must be liable to affect trade between Member States. Fourth, the measure must distort or threaten to distort competition in the internal market.
- (51) As mentioned in recital (22), the measure is financed from the general State budget. The scheme will therefore be financed from State resources.
- (52) The scheme is established in national law (see Section 2.2) and the Czech authorities determine all elements of the scheme, including the conditions of eligibility, and the scheme's budget. In addition, the granting authority is OTE which is a State owned joint-stock company (see recital (13)). The measure is therefore imputable to the State.
- (53) The scheme confers an advantage to the beneficiaries by compensating for costs they would have borne under normal market conditions. The scheme is only open to undertakings that comply with the eligibility criteria detailed under Section 2.8.1. It is therefore not open to all undertakings or all district heating projects and alternative heat sources. The measure therefore provides a selective advantage to the beneficiaries.
- (54) The heat production is characterised by the presence of a variety of possible heat sources that consumers could choose from, including various types of individual domestic boilers. Since the measure would provide support only to district heating systems with certain features, it has the potential to distort competition and affect trade between Member States.
- (55) Therefore, the Commission considers that the measure constitutes State aid in the meaning of Article 107(1) TFEU.

3.2. Lawfulness of the aid

- (56) The national legal basis includes a standstill clause, which provides that no aid will be granted until after the Commission's decision authorising the measure has been notified to Czechia (see recital (12)). Thus, Czechia has complied with the stand-still obligation set out in Article 108(3) TFEU.

3.3. Compatibility of the aid

- (57) The Commission has assessed the compatibility of the measure on the basis of Article 107(3)(c) TFEU. The notified measure aims at promoting economic activities in a manner that reduces greenhouse gas emissions and increases the level of environmental protection, as described in Section 2.1 CEEAG. Therefore, the supported activities fall within the scope of the CEEAG, more specifically under the category of aid for district heating and cooling (see point 16(k) CEEAG).
- (58) Therefore, the Commission has assessed the measure as support for heat generation units connected to district heating networks under the general compatibility provisions in Section 3 CEEAG, as well as the specific

compatibility criteria for district heating and cooling laid down in Section 4.10 CEEAG.

3.3.1. *Positive condition: the aid must facilitate the development of an economic activity*

3.3.1.1. Contribution to the development of an economic activity

- (59) Article 107(3)(c) TFEU provides that the Commission may declare compatible ‘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’. Therefore, compatible aid under that provision of the Treaty must contribute to the development of certain economic activity⁽¹⁸⁾. In accordance with this, point 23 CEEAG states that, when notifying aid, Member States must identify the economic activities that will be facilitated as a result of the aid and how the development of those activities is supported.
- (60) Czechia has explained that the measure aims at supporting the construction of thermal generation units for the production of heat in district heating based on renewable energy (see recital (7)), therefore contributing to the development of economic activities in this sector and other related sectors.
- (61) As described in Section 2.1, this support contributes to reaching Czechia’s environmental and climate targets to increase the sustainability of the economic activity concerned.
- (62) The Commission therefore considers that the measure facilitates the development of certain economic activities as required by Article 107(3)(c) TFEU and points 23, 24 and 25 CEEAG.

3.3.1.2. Incentive effect

- (63) State aid can only be considered to facilitate an economic activity if it has an incentive effect. An incentive effect occurs when the aid induces the beneficiary to change its behaviour towards the development of an economic activity pursued by the aid, and if this change in behaviour would not otherwise occur without the aid⁽¹⁹⁾.
- (64) In order to demonstrate the presence of an incentive effect, point 28 CEEAG requires Member States to identify the factual scenario and the likely counterfactual scenario in the absence of aid.
- (65) Czechia indicated that in the factual scenario market operators are expected to invest in heat generation technology based on renewable energy, i.e. biomass installations (see recital (34)).
- (66) The Czech authorities also explained that in the absence of aid, new investments in heat generation would be based on fossil fuels and identified as a

⁽¹⁸⁾ See judgment in case C-594/18 P, *Austria v Commission*, EU:C:2020:742, paragraphs 20 and 24.

⁽¹⁹⁾ See in that sense Section 3.1.2 CEEAG, as well as the judgment in case C-594/18 P, *Austria v Commission*, EU:C:2020:742, paragraphs 20 and 24.

counterfactual investment a heat generation by a natural gas boiler. Czechia submitted that fossil fuels have a cost advantage over renewable heat generation technologies and a rational market player would rather choose the counterfactual scenario (see recital (38)). This would lead to less environmentally friendly energy production and would not support Czech's demand for district heating in an environmentally friendly manner.

- (67) Based on the quantification of the funding gap provided by Czechia for the reference project (see recital (42) and Table 1 (35)), the Commission considers that the operating support under the measure has the potential to incentivise beneficiaries to invest in a more environmentally friendly activity than they would in the absence of aid. The assumptions used to calculate revenues, costs as well as NPV and WACC were made available and explained to the Commission (see recitals (35) to (43)). The Commission notes that most estimates are based on public consultations, publicly available data and studies, and the Commission considers that the respective parameters and estimates are reasonable and acceptable.
- (68) The Commission considers that without support under the measure the beneficiaries lack the incentives to make the investments and operating decisions necessary to generate heat from RES. Therefore, the requirements in point 28 CEEAG are fulfilled.
- (69) 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. The Commission notes that Czechia confirmed that activities that started before the submission of a written application by the beneficiary to the national authorities are not eligible for aid (see recital (28)). Therefore, the requirements in point 29 CEEAG are fulfilled.
- (70) Finally, point 32 CEEAG stipulates that aid granted merely to cover the cost of adapting to Union standards has, in principle, no incentive effect. Since there is no Union standard applicable to the district heating sector, the requirements of point 32 CEEAG are fulfilled.
- (71) The Commission therefore concludes that the measure has an incentive effect.

3.3.1.3. No breach of any relevant provision of Union law

- (72) 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 violation of relevant Union law ⁽²⁰⁾.
- (73) Czechia confirmed that support under the measure would not entail a violation of Union law. As explained in recital (23), the Czech authorities confirm that aid is granted for the generation of heat only from renewable energy sources (biomass) in line with the definition provided in the Renewable Energy Directive. Also, as described in recital (26), under the measure support for heat generation based on waste to energy shall be granted only for projects that respect the waste hierarchy

⁽²⁰⁾ CEEAG point 33, and Judgment of 22 September 2020, *Austria v Commission*, C-594/18 P, EU:C:2020:742, paragraph 44.

principle. The Commission has not identified a breach of any relevant provision of Union law.

- (74) Therefore, the Commission considers that the measure does not infringe relevant Union law, and that the requirements of point 33 CEEAG are fulfilled.

3.3.1.4. Conclusion

- (75) The Commission therefore concludes that the measure fulfils the first (positive) condition of the compatibility assessment, i.e. that the aid facilitates the development of an economic activity pursuant to the requirements set out in Section 3.1 CEEAG.

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

3.3.2.1. The need for State intervention and appropriateness of the aid

- (76) Point 391 CEEAG explains that State aid can contribute to addressing market failures by triggering the investment needed for the creation, extension or upgrade of efficient district heating systems.
- (77) As explained in Section 3.3.1.2, the measure contributes to the uptake of investments in district heating systems based on RES. The support aims at tackling the residual market failure resulting from the application of the EU ETS which only partially contributes to the internalisation of the CO₂ emissions generated by district heating based on fossil fuel (see also recital (40)). In particular, the measure aims at triggering investment through reducing the funding gap between district heating based on renewable fuels and district heating based on fossil fuels, thus contributing to addressing the market failure.
- (78) Point 392 CEEAG states that Member States must demonstrate that operating costs cannot be passed on to heat consumers without undermining environmental protection. Where it is demonstrated that operating aid is necessary to ensure a high level of environmental protection, Member States should ensure that heat consumers which are undertakings exercising economic activities pay the full share of heating costs, at least equivalent to their cheapest alternative heating source.
- (79) Operating support of the measure is directed towards biomass. Therefore it contributes to the realisation of environmental benefits, in terms of reduction of CO₂ emissions compared to the counterfactual investment in fossil fuel based heat generation.
- (80) The funding gap quantification provided by Czechia for the reference project supported under the measure, which appears to be based on reasonable assumptions, show that the cost to generate heat with biomass installations exceeds the cost to generate heat through conventional sources, namely natural gas boilers (see Table 1). Without the operating aid, this would result in a higher heating price for consumers connected to district heating system based on the RES installations.

- (81) However, as explained in recital (33) since more polluting individual domestic heat boilers is an alternative to district heating in Czechia, increasing the heat price for consumers to pass on the additional cost related to the renewable heat generation is not a feasible option. In fact, this would likely result in household heat consumers switching to more polluting heat sources and effectively worsening the competitive position of district heating systems compared to individual heating systems.
- (82) To ensure compliance with point 392 CEEAG Czechia confirmed that undertakings exercising economic activities benefitting from operating aid under the scheme will have to pay the full share of their own heating costs, at least equivalent to their cheapest alternative heating source which was identified as the cost of heat generation through a natural gas boiler (see recital (44)).
- (83) Point 393 CEEAG requires State aid for efficient district heating and cooling systems using waste as input fuel not to circumvent the waste hierarchy principle. The Czech authorities confirmed that this principle will be respected (see recital (26)).
- (84) In relation to the appropriateness of the aid Czechia examined the possibility to address the need for decarbonisation of the district heating sector through regulatory restriction on fossil fuel energy as an alternative to aid (see recital (8)). However, it was considered that this instrument could have undermined the economic viability of district heating and jeopardise its continued existence.
- (85) The Commission therefore considers that the measure is necessary and is an appropriate instrument to support the targeted economic activity in a manner that increases environmental protection.

3.3.2.2. Eligibility

- (86) Points 388 and 389 CEEAG explain that aid for the construction, upgrade and operation of district heating and cooling generation plants is eligible under Section 4.10 CEEAG where it supports the use of renewable energy, waste heat or highly efficient cogeneration, including thermal storage solutions. Similarly, support for the construction, upgrade and operation of district heating networks is covered by Section 4.10 CEEAG where it contributes to the increase in efficiency or to the reduction of losses.
- (87) Point 390 CEEAG provides that ‘where aid is granted for the upgrade of a district heating and cooling system without meeting at that stage the standard of efficient district heating and cooling, the Member State must commit to ensure that the aid beneficiary starts the works to reach that standard within three years following the upgrade works.’ This means that within three years, the beneficiary needs to ensure that the parts of the system that it received aid for are ready for meeting the standards of efficient district heating and cooling systems, and coherent with the needs of a system meeting those standards as a whole.
- (88) The measure consists in support for covering the additional operating costs to build new thermal installations producing heat by using RES. It therefore directly

allows to reach the definition of ‘efficient district heating and cooling’ provided in Article 2, point (41) ⁽²¹⁾, of the Energy Efficiency Directive ⁽²²⁾.

- (89) As detailed in Section 2.8.1, support for the generation of heat under the measure can be granted to installations using waste as fuel but only if it meets the definition of renewable energy sources (see recital (26)).
- (90) Moreover, eligibility criteria necessary for a thermal installation to benefit from the measure described in recital (30) allow ensuring the compatibility of the measure with points 14 and 15 CEEAG. Namely, the beneficiary cannot be an undertaking in difficulty and that no aid is granted to an undertaking that is subject to an outstanding recovery order related to State aid found illegal and incompatible with the internal market.
- (91) The Commission therefore considers that the eligibility for support under the notified measure is in line with the CEEAG.

3.3.2.3. The proportionality of the aid (aid limited to the minimum necessary to attain its objective) including cumulation

- (92) According to point 394 CEEAG, proportionality will be assessed on the basis of funding gap principle as set out in points 48, 51 and 52 CEEAG. Point 48 CEEAG explains that State aid is considered to be proportionate if the aid amount per beneficiary is limited to the net extra cost necessary to meet the objective of the aid measure compared to the counterfactual scenario in the absence of aid. Point 51 CEEAG requires Member States to determine the net extra cost based on a comparison between the profitability of the factual and the counterfactual scenario, taking into account all main costs and revenues, the estimated weighted average cost of capital of the beneficiaries and the net present value of the project cash flows over its lifetime.
- (93) As explained in Section 2.8.2, Czechia provided the estimation of the funding gap for the reference project that could receive support under the scheme. Table 1 shows that taking into consideration the operating support, the net present value of the reference project supported under the measure equals the net present value of the counterfactual investment. The elements provided by Czechia on the assumptions used to calculate revenues, costs as well as net present values are sufficient to conclude that the estimates are reasonable and acceptable. Therefore, the measure does not exceed the funding gap for the heat generation technology.
- (94) In addition, Czechia committed to monitor annually costs and, in case of their change, to adjust the amount of the operating aid to ensure proportionality of the aid (recital (46)).

⁽²¹⁾ Efficient district heating and cooling means a district heating or cooling system using at least 50 % renewable energy, 50 % waste heat, 75 % cogenerated heat or 50 % of a combination of such energy and heat.

⁽²²⁾ Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC (OJ L 315, 14.11.2012, p. 1).

- (95) Point 56 CEEAG explains 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.
- (96) Czechia confirmed that the support under the scheme will not be cumulated with other operating aid in relation to the same eligible costs and investment aid will be deducted from the operating aid granted under the measure (see recital (47)). The requirements of point 56 CEEAG are thus fulfilled.
- (97) Point 57 CEEAG states that where centrally managed Union funding is combined with State aid, it has to be ensured that the total amount of public funding granted in relation to the same eligible costs does not lead to overcompensation. Czechia currently does not use such funding in combination with the measure. Nevertheless, was that to change in the future, the same cumulation rules as described in recital (47) would apply to ensure no overcompensation. Point 57 CEEAG is thus complied with.
- (98) Therefore, the Commission considers that aid granted under the measure is proportionate.

3.3.2.4. The transparency of the aid

- (99) As mentioned in recital (48), Czechia will ensure compliance with the transparency requirements laid down in points 58 to 61 CEEAG. The relevant data of the measure will be published on a national website that will link to the Commission's transparency register.

3.3.2.5. Avoidance of undue negative effects of the aid on competition and trade

- (100) Point 396 CEEAG explains that the support to district heating systems which rely on the most polluting fossil fuels should not stimulate or prolong the consumption of fossil-based fuels and energy, thereby hampering the development of cleaner alternatives and significantly reducing the overall environmental benefit of the investment, save in certain situations.
- (101) Point 397 CEEAG requires Member States to explain how measures that incentivise new investments in, or operation of energy generation assets based on natural gas contribute to achieving the Union's climate targets and, in particular, how lock-in of the gas fired generation will be avoided and how cleaner alternative already available in the market will not be displaced.
- (102) In addition, point 398 CEEAG states that *'in analysing the impact of State aid for district heating and cooling systems on competition, the Commission will carry out an assessment balancing the benefits of the project in terms of energy efficiency and sustainability against the negative effects on competition and in particular the possible negative impact on alternative technologies or providers of heating and cooling services and networks'*.
- (103) Point 396 CEEAG does not apply to the measure as it concerns aid limited to thermal unit using RES, thus not using the most polluting fossil fuels such as coal,

lignite, oil and diesel. Likewise, point 397 does not apply as the measure does not incentivise energy generation based on natural gas.

- (104) Czechia submitted elements related to the promotion of energy-efficiency and sustainability of energy sources through the measure, which would exclude any relevant negative effects on competition, in line with the requirement of point 398 CEEAG. Considering so designed measure and the openness of district heating systems to third party access (see recital (31)), the Commission considers that the measure is unlikely to result in market concentration or other negative effects on competition and trade.
- (105) In the analysis of the measure, the Commission did not find obvious indications of non-compliance with the ‘do no significant harm’ principle⁽²³⁾.
- (106) Point 392 CEEAG sets out that for operating aid to district heating generation facilities points 122 and 126 CEEAG apply. With respect to such aid, where aid is required to cover variable short-term costs, point 122 CEEAG requires Member States to monitor the production costs and update the aid amount at least once per year. Point 126 CEEAG also requires incentives not to be provided for the generation of energy that would displace less polluting form of energy.
- (107) As pointed out in recital (45), Czechia confirmed that where energy from biomass is supported, the installations do not usually have incentives to generate heat with biomass at times when this would mean curtailing zero air pollution renewable energy sources. Point 126 CEEAG is thus complied with.
- (108) Therefore, the Commission considers that aid granted under the measure avoids undue negative effects on competition and trade.

3.3.3. Weighing up the positive and negative effects of the aid

- (109) Points 71 and 72 CEEAG explain that the Commission will balance the identified negative effects on competition and trading conditions of the notified measure (see Section 3.3.2) with the positive effects of the planned aid on the supported economic activities including its contribution to the achievement of European climate goals (see Section 3.3.1). As indicated in point 73 CEEAG, the Commission will consider an aid measure compatible with the internal market only where the positive effects outweigh the negative effects.
- (110) Point 74 CEEAG indicates that measures involving direct or indirect support to fossil fuels are unlikely to create positive environmental effects and, therefore, that a positive outcome of the balancing test is unlikely. The same applies to investments involving new investments in natural gas unless it is demonstrated that there is no lock-in effect.
- (111) The measure aims at supporting the construction of the heat generation from RES by addressing the residual market failure resulting from the application of the EU ETS, which only partially contributes to the internalisation of the CO₂ emissions generated by fossil fuels based district heating. Therefore, it can be concluded that

⁽²³⁾ Commission Notice – Technical guidance on the application of “do no significant harm” under the Recovery and Resilience Facility Regulation (OJ C 58, 18.2.2021, p.1).

the notified measure contributes to the achievement of national and European climate goals, in particular the share of renewable energy sources in the heating and cooling sector (see recital (9)).

- (112) As analysed in Section 3.3.2.5, the measure does not involve support for the heat generation based on fossil fuels and natural gas. The support is aimed at increasing the level of renewable heat, therefore, reducing the use of more polluting energy sources.
- (113) In addition, as explained in recital (105), the Commission did not find elements of non-compliance with the “do no significant harm” principle.
- (114) Therefore, the Commission concludes that the aid facilitates the development of an economic activity and does not adversely affect trading conditions to an extent contrary to the common interest. Therefore, the Commission considers the aid compatible with the internal market based on Article 107(3)(c) TFEU, as interpreted in the CEEAG.

3.3.4. Evaluation plan

- (115) Point 456 CEEAG requires an ex-post evaluation for aid scheme with a total duration exceeding three years from 1 January 2023 and with a State aid budget or accounted expenditures exceeding EUR 150 million in any given year or EUR 750 million over the total duration of the scheme. As the scheme’s duration is limited to three years (see recital (20)), the scheme is not subject to ex-post evaluation.

4. 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) of the Treaty on the Functioning of the European Union.

Yours faithfully,

For the Commission

Margrethe VESTAGER
Executive Vice-President