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COVER NOTE

From:	Secretary-General of the European Commission, signed by Ms Martine DEPREZ, Director
date of receipt:	10 March 2022
To:	Mr Jeppe TRANHOLM-MIKKELSEN, Secretary-General of the Council of the European Union
No. Cion doc.:	C(2022) 631 final
Subject:	ANNEX 1 to the COMMISSION DELEGATED REGULATION (EU) .../... amending Delegated Regulation (EU) 2021/2139 as regards economic activities in certain energy sectors and Delegated Regulation (EU) 2021/2178 as regards specific public disclosures for those economic activities

Delegations will find attached Annex 1 of document C(2022) 631 final.

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Brussels, 9.3.2022
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ANNEX 1

ANNEX

to the

COMMISSION DELEGATED REGULATION (EU) .../...

amending Delegated Regulation (EU) 2021/2139 as regards economic activities in certain energy sectors and Delegated Regulation (EU) 2021/2178 as regards specific public disclosures for those economic activities

ANNEX I

In Annex I to Delegated Regulation (EU) 2021/2139, the following Sections 4.26, 4.27, 4.28, 4.29, 4.30 and 4.31 are inserted:

'4.26. PRE-COMMERCIAL STAGES OF ADVANCED TECHNOLOGIES TO PRODUCE ENERGY FROM NUCLEAR PROCESSES WITH MINIMAL WASTE FROM THE FUEL CYCLE

Description of the activity

Research, development, demonstration and deployment of innovative electricity generation facilities, licenced by Member States' competent authorities in accordance with applicable national law, that produce energy from nuclear processes with minimal waste from the fuel cycle.

The activity is classified under NACE code M72 and M72.1 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is an activity as referred to in Article 10(2) of Regulation (EU) 2020/852 where it complies with all the technical screening criteria set out in this Section.

Technical screening criteria

General criteria pertaining to substantial contribution to climate change mitigation and Do no significant harm ('DNSH')

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1. The project related to the economic activity ('the project') is located in a Member State which complies with all of the following:

   (a) the Member State has fully transposed Council Directive 2009/71/Euratom[*1] and Council Directive 2011/70/Euratom[*2];

   (b) the Member State complies with the Treaty establishing the European Atomic Energy Community ('Euratom Treaty') and with legislation adopted on its basis, in particular, Directive 2009/71/Euratom, Directive 2011/70/Euratom and Council Directive 2013/59/Euratom[*3], as well as applicable Union environmental law adopted under Article 192 TFEU, in particular Directive 2011/92/EU of the European Parliament and of the Council[*4] and Directive 2000/60/EC of the European Parliament and of the Council[*5];

   (c) the Member State has in place, as of the approval date of the project, a radioactive waste management fund and a nuclear decommissioning fund which can be combined;

   (d) the Member State has demonstrated that it will have resources available at the end of the estimated useful life of the nuclear power plant corresponding to the estimated cost of radioactive waste management and decommissioning in compliance with Commission Recommendation 2006/851/Euratom[*6];

(e) the Member State has operational final disposal facilities for all very low-, low- and intermediate-level radioactive waste, notified to the Commission under Article 41 Euratom Treaty or Article 1(4) of Council Regulation (Euratom) No 2587/1999, and included in the national programme updated under Directive 2011/70/Euratom;

(f) the Member State has a documented plan with detailed steps to have in operation, by 2050, a disposal facility for high-level radioactive waste describing all of the following:

(i) concepts or plans and technical solutions for spent fuel and radioactive waste management from generation to disposal;

(ii) concepts or plans for the post-closure period of a disposal facility's lifetime, including the period during which appropriate controls are retained and the means to be employed to preserve knowledge of that facility in the longer term;

(iii) the responsibilities for the plan implementation and the key performance indicators to monitor its progress;

(iv) cost assessments and financing schemes.

For the purposes of point (f), Member States may use plans drawn up as part of the national programme required by Articles 11 and 12 of Directive 2011/70/Euratom.

2. The project is part of a Union financed research programme or the project has been notified to the Commission in accordance with Article 41 of the Euratom Treaty or with Article 1(4) of Council Regulation (Euratom) No 2587/1999, where either of these provisions is applicable, the Commission has given its opinion on it in accordance with Article 43 of the Euratom Treaty, and all the issues raised in the opinion, with relevance for the application of Article 10(2) and Article 17 of Regulation (EU) 2020/852, and of the technical screening criteria laid down in this Section have been satisfactorily addressed.

3. The Member State concerned has committed to report to the Commission every five years for each project on all of the following:

(a) the adequacy of the accumulated resources referred to in point 1(c);

(b) actual progress in the implementation of the plan referred to in point 1(f).

On the basis of the reports, the Commission shall review the adequacy of the accumulated resources of the radioactive waste management fund and the nuclear decommissioning fund referred to in point 1(c) and the progress in the implementation of the documented plan referred to in point 1(f) and it may address an opinion to the Member State concerned.

4. The activity complies with national legislation that transposes the legislation referred to in point 1(a) and (b), including as regards the evaluation, in particular through stress tests, of the resilience of the nuclear power plants located on the territory of the Union against extreme natural hazards, including earthquakes. Accordingly, the

activity takes place on the territory of a Member State where the operator of a nuclear installation:

(a) has submitted a demonstration of nuclear safety, whose scope and level of detail is commensurate with the potential magnitude and nature of the hazard relevant for the nuclear installation and its site (Article 6, point (b), of Directive 2009/71/Euratom);

(b) has taken defence-in-depth measures to ensure, *inter alia,* that the impact of extreme external natural and unintended man-made hazards is minimised (Article 8b(1), point (a) of Directive 2009/71/Euratom);

(c) has performed an appropriate site and installation-specific assessment when the operator concerned applies for a licence to construct or operate a nuclear power plant (Article 8c(a) of Directive 2009/71/Euratom).

5. The activity fulfils the requirements of Directive 2009/71/Euratom, supported by the latest international guidance from the International Atomic Energy Agency ('IAEA') and the Western European Nuclear Regulator's Association ('WENRA'), contributing to increasing the resilience and the ability of new and existing nuclear power plants to cope with extreme natural hazards, including floods and extreme weather conditions.

6. Radioactive waste as referred to in point 1(e) and (f), is disposed of in the Member State in which it was generated, unless there is an agreement between the Member State concerned and the Member State of destination, as established in Directive 2011/70/Euratom. In that case, the Member State of destination has radioactive waste management and disposal programmes and a suitable disposal facility in operation in compliance with the requirements of Directive 2011/70/Euratom.

Additional criteria pertaining to substantial contribution to climate change mitigation

The activity aims at generating or generates electricity using nuclear energy. Life-cycle greenhouse gas (GHG) emissions from the generation of electricity from nuclear energy are below the threshold of 100 g CO2e/kWh.

Life-cycle GHG emission savings are calculated using Commission Recommendation 2013/179/EU or, alternatively, using ISO 14067:2018 or ISO 14064-1:2018.

Quantified life-cycle GHG emissions are verified by an independent third party.

Additional criteria pertaining to Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex. The activity complies with the requirements laid down in Article 6(b),

	8b(1), point (a), and Article 8c(a) of Directive 2009/71/Euratom. The activity fulfils the requirements of Directive 2009/71/Euratom implemented in accordance with the international guidance of the IAEA and WENRA relating to extreme natural hazards, including floods and extreme weather conditions.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex. Environmental degradation risks related to preserving water quality and avoiding water stress are identified and addressed, in accordance with a water use and protection management plan, developed in consultation with stakeholders concerned. In order to limit thermal anomalies associated with the discharge of waste heat, operators of inland nuclear power plants utilising once-through wet cooling by taking water from a river or a lake control: (a) the maximum temperature of the recipient freshwater body after mixing, and (b) the maximum temperature difference between the discharged cooling water and the recipient freshwater body. The temperature control is implemented in accordance with the individual licence conditions for the specific operations, where applicable, or threshold values in line with Union law. The activity complies with the Industry Foundation Classes (IFC) standards. Nuclear activities are operated in compliance with requirements on water intended for human consumption of Directive 2000/60/EC and of Directive 2013/51/Euratom laying down requirements for the protection of the health of the general public with regard to radioactive substances in water intended for human consumption.
(4) Transition to a circular economy	A plan for the management of both non-radioactive and radioactive waste is in place and ensures maximal reuse or recycling of such waste at end of life in accordance with the waste hierarchy, including through contractual agreements with waste management partners, the reflection in financial projections or the official project documentation. During operation and decommissioning, the amount of radioactive waste is minimised and the amount of free-release materials is maximised in accordance with Directive 2011/70/Euratom, and in compliance with the radiation protection requirements laid down in Directive 2013/59/Euratom.

	A financing scheme is in place to ensure adequate funding for all decommissioning activities and for the management of spent fuel and radioactive waste, in compliance with Directive 2011/70/Euratom and Recommendation 2006/851/Euratom. An Environmental Impact Assessment is completed prior to the construction of a nuclear power plant, in accordance with Directive 2011/92/EU. The required mitigation and compensatory measures are implemented. The relevant elements in this Section are covered by Member States' reports to the Commission in accordance with Article 14(1) of Directive 2011/70/Euratom.
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Non-radioactive emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the best available techniques (BAT) conclusions for large combustion plants. No significant cross-media effects occur. For nuclear power plants greater than 1 MW thermal input but below the thresholds for the BAT conclusions for large combustion plants to apply, emissions are below the emission limit values set out in Annex II, part 2, to Directive (EU) 2015/2193. Radioactive discharges to air, water bodies and ground (soil) comply with individual licence conditions for the specific operations, where applicable, or national threshold values in line with Directive 2013/51/Euratom[*7] and Directive 2013/59/Euratom. Spent fuel and radioactive waste is safely and responsibly managed in accordance with Directive 2011/70/Euratom and Directive 2013/59/Euratom. An adequate capacity of interim storage is available for the project, while national plans for disposal are in place to minimise the duration of interim storage, in compliance with the provision of Directive 2011/70/Euratom that considers radioactive waste storage, including long-term storage, as an interim solution, but not an alternative to disposal.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex. An Environmental Impact Assessment is completed prior to the construction of a nuclear power plant, in accordance with Directive 2011/92/EU. The required mitigation and compensatory measures are

	implemented. For sites/operations located in or near biodiversity sensitive areas likely to have a significant effect on biodiversity sensitive areas (including the Natura 2000 network of protected areas, UNESCO World Heritage sites and Key Biodiversity Areas, as well as other protected areas), an appropriate assessment, where applicable, has been conducted and based on its conclusions the necessary mitigation measures are implemented. The sites/operations shall not be detrimental to the conservation status of any of the habitats or species present in protected areas.

4.27. CONSTRUCTION AND SAFE OPERATION OF NEW NUCLEAR POWER PLANTS, FOR THE GENERATION OF ELECTRICITY OR HEAT, INCLUDING FOR HYDROGEN PRODUCTION, USING BEST-AVAILABLE TECHNOLOGIES

For the purposes of this Section, best-available technologies mean technologies that fully comply with the requirements of Directive 2009/71/Euratom and fully respect the most recent technical parameters of the IAEA standards and the WENRA Safety objectives and Reference Levels.

Description of the activity

Construction and safe operation of new nuclear installations for which the construction permit has been issued by 2045 by Member States' competent authorities, in accordance with applicable national law, to produce electricity or process heat, including for the purposes of district heating or industrial processes such as hydrogen production (new nuclear installations), as well as their safety upgrades.

The activity is classified under NACE codes D35.11 and F42.22 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is an activity as referred to in Article 10(2) of Regulation (EU) 2020/852 where it complies with all the technical screening criteria set out in this Section.

Technical screening criteria

General criteria pertaining to substantial contribution to climate change mitigation and Do no significant harm ('DNSH')

1. The project related to the economic activity ('the project') is located in a Member State which complies with all of the following:

   (a) the Member State has fully transposed Council Directive 2009/71/Euratom and Council Directive 2011/70/Euratom;

   (b) the Member State complies with the Euratom Treaty and with legislation adopted on its basis, in particular, Directive 2009/71/Euratom, Directive

2011/70/Euratom and Directive 2013/59/Euratom, as well as applicable Union environmental law adopted under Article 192 TFEU, in particular Directive 2011/92/EU and Directive 2000/60/EC;

(c) the Member State has in place, as of the approval date of the project, a radioactive waste management fund and a nuclear decommissioning fund which can be combined;

(d) the Member State has demonstrated that it will have resources available at the end of the estimated useful life of the nuclear power plant corresponding to the estimated cost of radioactive waste management and decommissioning in compliance with Recommendation 2006/851/Euratom;

(e) the Member State has operational final disposal facilities for all very low-, low- and intermediate-level radioactive waste, notified to the Commission under Article 41 of the Euratom Treaty or under Article 1(4) of Council Regulation 2587/1999 and included in the national programme updated under Council Directive 2011/70/Euratom;

(f) the Member State has a documented plan with detailed steps to have in operation, by 2050, a disposal facility for high-level radioactive waste describing all of the following:

(i) concepts or plans and technical solutions for spent fuel and radioactive waste management from generation to disposal;

(ii) concepts or plans for the post-closure period of a disposal facility's lifetime, including the period during which appropriate controls are retained and the means to be employed to preserve knowledge of that facility in the longer term;

(iii) the responsibilities for the plan implementation and the key performance indicators to monitor its progress;

(iv) cost assessments and financing schemes.

For the purposes of point (f), Member States may use the plans drawn up as part of the national programme required by Articles 11 and 12 of Directive 2011/70/Euratom.

2. The project fully applies the best-available technology and from 2025 accident-tolerant fuel. The technology is certified and approved by the national safety regulator.

3. The project has been notified to the Commission in accordance with Article 41 of the Euratom Treaty or with Article 1(4) of Council Regulation 2587/1999, where either of these provisions is applicable, the Commission has given its opinion on it in accordance with Article 43 of the Euratom Treaty, and all the issues raised in the opinion, with relevance for the application of Article 10(2) and Article 17 of Regulation (EU) 2020/852, and of the technical screening criteria laid down in this Section, have been satisfactorily addressed.

4. The Member State concerned has committed to report to the Commission every five years for each project on all of the following:

(a) the adequacy of the accumulated resources referred to in point 1(c);

(b) actual progress in the implementation of the plan referred to in point 1(f).

On the basis of the reports, the Commission shall review the adequacy of the accumulated resources of the radioactive waste management fund and the nuclear decommissioning fund referred to in point 1(c) and the progress in the implementation of the documented plan referred to in point 1(f) and it may address an opinion to the Member State concerned.

5. The Commission shall review, as of 2025 and at least every 10 years, the technical parameters corresponding to the best-available technology on the basis of the assessment by the European Nuclear Safety Regulators' Group ('ENSREG').

6. The activity complies with national legislation that transposes the legislation referred to in point 1(a) and (b), including as regards the evaluation, in particular through stress-tests, of the resilience of the nuclear power plants located on the territory of the Union against extreme natural hazards, including earthquakes. Accordingly, the activity takes place on the territory of a Member State where the operator of a nuclear installation:

(a) has submitted a demonstration of nuclear safety, whose scope and level of detail is commensurate with the potential magnitude and nature of the hazard relevant for the nuclear installation and its site (Article 6, point (b), of Directive 2009/71/Euratom);

(b) has taken defence-in-depth measures to ensure, *inter alia*, that the impact of extreme external natural and unintended man-made hazards is minimised (Article 8b(1), point (a), of Directive 2009/71/Euratom);

(c) has performed an appropriate site and installation-specific assessment when the operator concerned applies for a licence to construct or operate a nuclear power plant (Article 8c(a) of Directive 2009/71/Euratom).

7. The activity fulfils the requirements of Directive 2009/71/Euratom, supported by the latest international guidance from the IAEA and WENRA, contributing to increasing the resilience and the ability of new and existing nuclear power plants to cope with extreme natural hazards, including floods and extreme weather conditions.

8. Radioactive waste as referred to in point 1 (e) and (f) is disposed of in the Member State in which it was generated, unless there is an agreement between the Member State concerned and the Member State of destination, as established in Directive 2011/70/Euratom. In that case, the Member State of destination has radioactive waste management and disposal programmes and a suitable disposal facility in operation in compliance with the requirements of Directive 2011/70/Euratom.

Additional criteria pertaining to substantial contribution to climate change mitigation

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The activity generates electricity using nuclear energy. Life-cycle greenhouse gas (GHG) emissions from the generation of electricity from nuclear energy are below the threshold of 100 g CO2e/kWh.

Life-cycle GHG emission savings are calculated using Recommendation 2013/179/EU or, alternatively, using ISO 14067:2018 or ISO 14064-1:2018.

Quantified life-cycle GHG emissions are verified by an independent third party.

Additional criteria pertaining to Do no significant harm ('DNSH')	
(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex. The activity complies with the requirements laid down in Article 6(b), Article 8b(1), point (a), and Article 8c(a) of Directive 2009/71/Euratom. The activity fulfils the requirements of Directive 2009/71/Euratom, implemented in accordance with the international guidance of the IAEA and WENRA relating to extreme natural hazards, including floods and extreme weather conditions.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex. Environmental degradation risks related to preserving water quality and avoiding water stress are identified and addressed, in accordance with a water use and protection management plan, developed in consultation with stakeholders concerned. In order to limit thermal anomalies associated with the discharge of waste heat, operators of inland nuclear power plants utilising once-through wet cooling by taking water from a river or a lake control: (a) the maximum temperature of the recipient freshwater body after mixing, and (b) the maximum temperature difference between the discharged cooling water and the recipient freshwater body. The temperature control is implemented in accordance with the individual licence conditions for the specific operations, where applicable, or threshold values in line with the Union law. The activity complies with the Industry Foundation Classes (IFC)

	standards. Nuclear activities are operated in compliance with requirements on water intended for human consumption of Directive 2000/60/EC and of Directive 2013/51/Euratom laying down requirements for the protection of the health of the general public with regard to radioactive substances in water intended for human consumption.
(4) Transition to a circular economy	A plan for the management of both non-radioactive and radioactive waste is in place and ensures maximal reuse or recycling of such waste at end of life in accordance with the waste hierarchy, including through contractual agreements with waste management partners, the reflection in financial projections or the official project documentation. During operation and decommissioning, the amount of radioactive waste is minimised and the amount of free-release materials is maximised in accordance with Directive 2011/70/Euratom, and in compliance with the radiation protection requirements laid down in Directive 2013/59/Euratom. A financing scheme is in place to ensure adequate funding for all decommissioning activities and for the management of spent fuel and radioactive waste, in compliance with Directive 2011/70/Euratom and Recommendation 2006/851/Euratom. An Environmental Impact Assessment is completed prior to the construction of a nuclear power plant, in accordance with Directive 2011/92/EU. The required mitigation and compensatory measures are implemented. The relevant elements in this Section are covered by Member States' reports to the Commission in accordance with Article 14(1) of Directive 2011/70/Euratom.
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Non-radioactive emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the best available techniques (BAT) conclusions for large combustion plants. No significant cross-media effects occur. For nuclear power plants greater than 1 MW thermal input but below the thresholds for the BAT conclusions for large combustion plants to apply, emissions are below the emission limit values set out in Annex II, part 2, to Directive (EU) 2015/2193. Radioactive discharges to air, water bodies and ground (soil) comply with individual licence conditions for the specific operations, where

	applicable, or national threshold values in line with Directive 2013/51/Euratom and Directive 2013/59/Euratom. Spent fuel and radioactive waste is safely and responsibly managed in accordance with Directive 2011/70/Euratom and Directive 2013/59/Euratom. An adequate capacity of interim storage is available for the project, while national plans for disposal are in place to minimise the duration of interim storage, in compliance with Directive 2011/70/Euratom that considers radioactive waste storage, including long-term storage, as an interim solution, but not an alternative to disposal.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex. An Environmental Impact Assessment is completed prior to the construction of a nuclear power plant, in accordance with Directive 2011/92/EU. The required mitigation and compensatory measures are implemented. For sites/operations located in or near biodiversity sensitive areas likely to have a significant effect on biodiversity sensitive areas (including the Natura 2000 network of protected areas, UNESCO World Heritage sites and Key Biodiversity Areas, as well as other protected areas), an appropriate assessment, where applicable, has been conducted and based on its conclusions the necessary mitigation measures are implemented. The sites/operations shall not be detrimental to the conservation status of any of the habitats or species present in protected areas.

4.28. Electricity generation from nuclear energy in existing installations

Description of the activity

Modification of existing nuclear installations for the purposes of extension, authorised by Member States' competent authorities by 2040 in accordance with applicable national law, of the service time of safe operation of nuclear installations that produce electricity or heat from nuclear energy ('nuclear power plants').

The activity is classified under NACE codes D35.11 and F42.22 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is an activity as referred to in Article 10(2) of Regulation (EU) 2020/852 where it complies with all the technical screening criteria set out in this Section.

Technical screening criteria

General criteria pertaining to substantial contribution to climate change mitigation and Do no significant harm ('DNSH')

1. The project related to the economic activity ('the project') is located in a Member State which complies with all of the following:

(a) the Member State has fully transposed Council Directive 2009/71/Euratom and Council Directive 2011/70/Euratom;

(b) the Member State complies with the Euratom Treaty and with legislation adopted on its basis, in particular, Directive 2009/71/Euratom, Directive 2011/70/Euratom and Directive 2013/59/Euratom, and with applicable Union environmental law adopted under Article 192 TFEU, in particular Directive 2011/92/EU and Directive 2000/60/EC;

(c) the Member State has in place, as of the approval date of the project, a radioactive waste management fund and a nuclear decommissioning fund which can be combined;

(d) the Member State has demonstrated that it will have resources available at the end of the estimated useful life of the nuclear power plant corresponding to the estimated cost of radioactive waste management and decommissioning in compliance with Recommendation 2006/851/Euratom;

(e) the Member State has operational final disposal facilities for all very low-, low- and intermediate-level radioactive waste, notified to the Commission under Article 41 of the Euratom Treaty or under Article 1(4) of Council Regulation 2587/1999 and included in the national programme updated under Council Directive 2011/70/Euratom;

(f) for projects authorised after 2025, the Member State has a documented plan with detailed steps to have in operation, by 2050, a disposal facility for high-level radioactive waste describing all of the following:

(i) concepts or plans and technical solutions for spent fuel and radioactive waste management from generation to disposal;

(ii) concepts or plans for the post-closure period of a disposal facility's lifetime, including the period during which appropriate controls are retained and the means to be employed to preserve knowledge of that facility in the longer term;

(iii) the responsibilities for the plan implementation and the key performance indicators to monitor its progress;

(iv) cost assessments and financing schemes.

For the purposes of point (f), Member States may use the plans drawn up as part of the national programme required by Articles 11 and 12 of Directive 2011/70/Euratom.

2. The upgraded project implements any reasonably practicable safety improvement and from 2025 makes use of accident-tolerant fuel. The technology is certified and approved by the national safety regulator.

3. The project has been notified to the Commission in accordance with Article 41 of the Euratom Treaty or with Article 1(4) of Council Regulation 2587/1999, where either of these provisions is applicable, the Commission has given its opinion on it in accordance with Article 43 of the Euratom Treaty, and all the issues raised in the opinion, with relevance for the application of Article 10(2) and Article 17 of Regulation (EU) 2020/852, and of the technical screening criteria laid down in this Section, have been satisfactorily addressed.

4. The Member State concerned has committed to report to the Commission every five years for each project on all of the following:

   (a) the adequacy of the accumulated resources referred to in point 1(c);

   (b) actual progress in the implementation of the plan referred to in point 1(f).

   On the basis of the reports, the Commission shall review the adequacy of the accumulated resources of the radioactive waste management fund and the nuclear decommissioning fund referred to in point 1(c) and the progress in the implementation of the documented plan referred to in point 1(f) and it may address an opinion to the Member State concerned.

5. The activity complies with national legislation that transposes the legislation referred to in point 1 (a) and (b), including as regards the evaluation, in particular through stress-tests, of the resilience of the Union nuclear power plants against extreme natural hazards, including earthquakes. Accordingly, the activity takes place on the territory of a Member State where the operator of a nuclear installation:

   (a) has submitted a demonstration of nuclear safety, whose scope and level of detail is commensurate with the potential magnitude and nature of the hazard relevant for the nuclear installation and its site (Article 6, point (b), of Directive 2009/71/Euratom);

   (b) has taken defence-in-depth measures to ensure, *inter alia*, that the impact of extreme external natural and unintended man-made hazards is minimised (Article 8b(1), point (a), of Directive 2009/71/Euratom);

   (c) has performed an appropriate site and installation-specific assessment when the operator concerned applies for a licence to construct or operate a nuclear power plant (Article 8c(a) of Directive 2009/71/Euratom).

6. The activity fulfils the requirements of Directive 2009/71/Euratom, supported by the latest international guidance from the IAEA and WENRA, contributing to increasing the resilience and the ability of new and existing nuclear power plants to cope with extreme natural hazards, including floods and extreme weather conditions.

7. Radioactive waste referred to in point 1 (e) and (f) is disposed of in the Member State in which it was generated, unless there is an agreement between the Member State concerned and the Member State of destination, as established in Directive

2011/70/Euratom. In that case, the Member State of destination has radioactive waste management and disposal programmes and a suitable disposal facility in operation in compliance with the requirements of Directive 2011/70/Euratom.

Additional criteria pertaining to substantial contribution to climate change mitigation

The activity generates electricity using nuclear energy. Life-cycle greenhouse gas (GHG) emissions from the generation of electricity from nuclear energy are below the threshold of 100 g CO2e/kWh.

Life-cycle GHG emission savings are calculated using Recommendation 2013/179/EU or, alternatively, using ISO 14067:2018 or ISO 14064-1:2018.

Quantified life-cycle GHG emissions are verified by an independent third party.

Additional criteria pertaining to Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex. The activity complies with the requirements laid down in Article 6(b), Article 8b(1), point (a), and Article 8c(a) of Directive 2009/71/Euratom. The activity fulfils the requirements of Directive 2009/71/Euratom implemented in accordance with international guidance of the IAEA and WENRA relating to extreme natural hazards, including floods and extreme weather conditions.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex. Environmental degradation risks related to preserving water quality and avoiding water stress are identified and addressed, in accordance with a water use and protection management plan, developed in consultation with stakeholders concerned. In order to limit thermal anomalies associated with the discharge of waste heat, operators of inland nuclear power plants utilising once-through wet cooling by taking water from a river or a lake control: (a) the maximum temperature of the recipient freshwater body after mixing, and (b) the maximum temperature difference between the discharged cooling water and the recipient freshwater body. The temperature control is implemented in accordance with the

	individual licence conditions for the specific operations, where applicable, or threshold values in line with Union law. The activity complies with the Industry Foundation Classes (IFC) standards. Nuclear activities are operated in compliance with requirements on water intended for human consumption of Directive 2000/60/EC and of Directive 2013/51/Euratom laying down requirements for the protection of the health of the general public with regard to radioactive substances in water intended for human consumption.
(4) Transition to a circular economy	A plan for the management of both non-radioactive and radioactive waste is in place and ensures maximal reuse or recycling of such waste at end of life in accordance with the waste hierarchy, including through contractual agreements with waste management partners, the reflection in financial projections or the official project documentation. During operation and decommissioning, the amount of radioactive waste is minimised and the amount of free-release materials is maximised in accordance with Directive 2011/70/Euratom, and in compliance with the radiation protection requirements laid down in Directive 2013/59/Euratom. A financing scheme is in place to ensure adequate funding for all decommissioning activities and for the management of spent fuel and radioactive waste, in compliance with Directive 2011/70/Euratom and Recommendation 2006/851/Euratom. An Environmental Impact Assessment is completed prior to the construction of a nuclear power plant, in accordance with Directive 2011/92/EU. The required mitigation and compensatory measures are implemented. The relevant elements in this Section are covered by Member States' reports to the Commission in accordance with Article 14(1) of Directive 2011/70/Euratom.
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Non-radioactive emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the best available techniques (BAT) conclusions for large combustion plants. No significant cross-media effects occur. For nuclear power plants greater than 1 MW thermal input but below the thresholds for the BAT conclusions for large combustion plants to apply, emissions are below the emission limit values set out in

	Annex II, part 2, to Directive (EU) 2015/2193. Radioactive discharges to air, water bodies and ground (soil) comply with individual licence conditions for the specific operations, where applicable, or national threshold values in line with Directive 2013/51/Euratom and Directive 2013/59/Euratom. Spent fuel and radioactive waste is safely and responsibly managed in accordance with Directive 2011/70/Euratom and Directive 2013/59/Euratom. An adequate capacity of interim storage is available for the project, while national plans for disposal are in place to minimise the duration of interim storage, in compliance with Directive 2011/70/Euratom that considers radioactive waste storage, including long-term storage, as an interim solution, but not an alternative to disposal.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex. An Environmental Impact Assessment is completed prior to the construction of a nuclear power plant, in accordance with Directive 2011/92/EU. The required mitigation and compensatory measures are implemented. For sites/operations located in or near biodiversity sensitive areas likely to have a significant effect on biodiversity sensitive areas (including the Natura 2000 network of protected areas, UNESCO World Heritage sites and Key Biodiversity Areas, as well as other protected areas), an appropriate assessment, where applicable, has been conducted and based on its conclusions the necessary mitigation measures are implemented. The sites/operations shall not be detrimental to the conservation status of any of the habitats or species present in protected areas.

4.29. Electricity generation from fossil gaseous fuels

Description of the activity

Construction or operation of electricity generation facilities that produce electricity using fossil gaseous fuels. This activity does not include electricity generation from the exclusive use of renewable non-fossil gaseous and liquid fuels as referred to in Section 4.7 of this Annex and biogas and bio-liquid fuels as referred to in Section 4.8 of this Annex.

The economic activities in this category may be associated with several NACE codes, notably D35.11 and F42.22 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is a transitional activity as referred to in Article 10(2) of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation

1. The activity meets either of the following criteria:

   (a) the life-cycle GHG emissions from the generation of electricity using fossil gaseous fuels are lower than 100 g CO2e/kWh.

   Life-cycle GHG emissions are calculated based on project-specific data, where available, using Recommendation 2013/179/EU or, alternatively, using ISO 14067:2018 or ISO 14064-1:2018.

   Quantified life-cycle GHG emissions are verified by an independent third party.

   Where facilities incorporate any form of abatement, including carbon capture or use of renewable or low-carbon gases, that abatement activity complies with the criteria set out in the relevant Section of this Annex, where applicable.

   Where the CO2 that would otherwise be emitted from the electricity generation process is captured for the purpose of underground storage, the CO2 is transported and stored underground, in accordance with the technical screening criteria set out in Sections 5.11 and 5.12 of this Annex.

   (b) facilities for which the construction permit is granted by 31 December 2030 comply with all of the following:

      (i) direct GHG emissions of the activity are lower than 270g CO2e/kWh of the output energy, or annual direct GHG emissions of the activity do not exceed an average of 550kgCO2e/kW of the facility's capacity over 20 years;

      (ii) the power to be replaced cannot be generated from renewable energy sources, based on a comparative assessment with the most cost-effective and technically feasible renewable alternative for the same capacity identified; the result of this comparative assessment is published and is subject to a stakeholder consultation;

      (iii) the activity replaces an existing high emitting electricity generation activity that uses solid or liquid fossil fuels;

      (iv) the newly installed production capacity does not exceed the capacity of the replaced facility by more than 15%;

      (v) the facility is designed and constructed to use renewable and/or low-carbon gaseous fuels and the switch to full use of renewable and/or low-carbon gaseous fuels takes place by 31 December 2035, with a commitment and

verifiable plan approved by the management body of the undertaking;

(vi) the replacement leads to a reduction in emissions of at least 55% GHG over the lifetime of the newly installed production capacity;

(vii) where the activity takes place on the territory of a Member State in which coal is used for energy generation, that Member State has committed to phase-out the use of energy generation from coal and has reported this in its integrated national energy and climate plan referred to in Article 3 of Regulation (EU) 2018/1999 of the European Parliament and of the Council[*8] or in another instrument.

Compliance with the criteria referred to in point 1(b) is verified by an independent third party. The independent third-party verifier has the necessary resources and expertise to perform such verification. The independent third party verifier does not have any conflict of interest with the owner or the funder, and is not involved in the development or operation of the activity. The independent third party verifier carries out diligently the verification of compliance with the technical screening criteria. In particular, every year the independent third party publishes and transmits to the Commission a report:

(a) certifying the level of direct GHG emissions referred to in point 1(b)(i);
(b) where applicable, assessing whether annual direct GHG emissions of the activity are on a credible trajectory to comply with the average threshold over 20 years referred to in point 1(b)(i);
(c) assessing whether the activity is on a credible trajectory to comply with point 1(b)(v).

When undertaking the assessment referred to in point 1(b), the independent third party verifier takes into account in particular the planned annual direct GHG emissions for each year of the trajectory, realised annual direct GHG emissions, planned and realised operating hours, and planned and realised use of renewable or low carbon gases.

On the basis of the reports transmitted to it, the Commission may address an opinion to the relevant operators. The Commission shall take those reports into account when performing the review referred to in Article 19(5) of Regulation (EU) 2020/852.

2. The activity meets either of the following criteria:

(a) at construction, measurement equipment for monitoring of physical emissions, such as those from methane leakage, is installed or a leak detection and repair programme is introduced;

(b) at operation, physical measurement of emissions are reported and leak is eliminated.

3. Where the activity blends fossil gaseous fuels with gaseous or liquid biofuels, the agricultural biomass used for the production of the biofuels complies with the criteria laid down in Article 29, paragraphs 2 to 5, of Directive (EU) 2018/2001 while forest biomass complies with the criteria laid down in Article 29, paragraphs 6 and 7, of that Directive.

Do no significant harm (‘DNSH’)	
(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for large combustion plants. No significant cross-media effects occur. For combustion plants with thermal input greater than 1 MW but below the thresholds for the BAT conclusions for large combustion plants to apply, emissions are below the emission limit values set out in Annex II, part 2, to Directive (EU) 2015/2193.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4.30. High-efficiency co-generation of heat/cool and power from fossil gaseous fuels

Description of the activity

Construction, refurbishment, and operation of combined heat/cool and power generation facilities using fossil gaseous fuels. This activity does not include high-efficiency co-generation of heat/cool and power from the exclusive use of renewable non-fossil gaseous and liquid fuels referred to in Section 4.19 of this Annex, and biogas and bio-liquid fuels referred to in Section 4.20 of this Annex.

The economic activities in this category may be associated with NACE codes D35.11 and D35.30 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is a transitional activity as referred to in Article 10(2) of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation

1. The activity meets either of the following criteria:

   (a) the life-cycle GHG emissions from the co-generation of heat/cool and power from gaseous fuels are lower than 100 g CO2e per 1 kWh of energy output of the co-generation.

   Life-cycle GHG emissions are calculated based on project-specific data, where available, using Recommendation 2013/179/EU or, alternatively, using ISO 14067:2018 or ISO 14064-1:2018.

   Quantified life-cycle GHG emissions are verified by an independent third party.

   Where facilities incorporate any form of abatement, including carbon capture or use of renewable or low-carbon gases, that abatement activity complies with the relevant Sections of this Annex, where applicable. Where the CO2 emitted from the electricity generation is captured, the CO2 shall meet the emissions limit set out in point 1 of this Section and, the CO2 be transported and stored underground in a way that meets the technical screening criteria for transport of CO2 and storage of CO2 set out in Sections 5.11 and 5.12, respectively of this Annex.

   (b) facilities for which the construction permit is granted by 31 December 2030 comply with all of the following:

      (i) the activity achieves primary energy savings of at least 10% compared with the references to separate production of heat and electricity; the primary energy savings are calculated on the basis of formula provided in Directive 2012/27/EU;

      (ii) direct GHG emissions of the activity are lower than 270 g CO2e/kWh of the

output energy;

(iii) the power and/or heat/cool to be replaced cannot be generated from renewable energy sources, based on a comparative assessment with the most cost-effective and technically feasible renewable alternative for the same capacity identified; the result of this comparative assessment is published and is subject to a stakeholder consultation;

(iv) the activity replaces an existing high emitting combined heat/cool and power generation activity, a separate heat/cool generation activity, or a separate power generation activity that uses solid or liquid fossil fuels;

(v) the newly installed production capacity does not exceed the capacity of the replaced facility;

(vi) the facility is designed and constructed to use renewable and/or low-carbon gaseous fuels and the switch to full use of renewable and/or low-carbon gaseous fuels takes place by 31 December 2035, with a commitment and verifiable plan approved by the management body of the undertaking;

(vii) the replacement leads to a reduction in emissions of at least 55% GHG per kWh of output energy;

(viii) the refurbishment of the facility does not increase production capacity of the facility;

(ix) where the activity takes place on the territory of a Member State in which coal is used for energy generation, that Member State has committed to phase-out the use of energy generation from coal and has reported this in its integrated national energy and climate plan referred to in Article 3 of Regulation (EU) 2018/1999 or in another instrument.

Compliance with the criteria referred to in point 1(b) is verified by an independent third party. The independent third party verifier has the necessary resources and expertise to perform such verification. The independent third party verifier does not have any conflict of interest with the owner or the funder, and is not involved in the development or operation of the activity. The independent third party verifier carries out diligently the verification of compliance with the technical screening criteria. In particular, every year the independent third party publishes and transmits to the Commission a report:

(a) certifying the level of direct GHG emissions referred to in point 1(b)(ii);
(b) assessing whether the activity is on a credible trajectory to comply with point 1(b)(vi).

On the basis of the reports transmitted to it, the Commission may address an opinion to the operators concerned. The Commission shall take those reports into account when performing the review referred to in Article 19(5) of Regulation (EU) 2020/852.

2. The activity meets either of the following criteria:

(a) at construction, measurement equipment for monitoring of physical emissions, including those from methane leakage, is installed or a leak detection and repair program is introduced;

(b) at operation, physical measurement of emissions are reported and any leak is eliminated.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for large combustion plants. No significant cross-media effects occur. For combustion plants with thermal input greater than 1 MW but below the thresholds for the BAT conclusions for large combustion plants to apply, emissions are below the emission limit values set out in Annex II, part 2, to Directive (EU) 2015/2193.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4.31. Production of heat/cool from fossil gaseous fuels in an efficient district heating and cooling system

Description of the activity

Construction, refurbishment and operation of heat generation facilities that produce heat/cool using fossil gaseous fuels connected to efficient district heating and cooling within the meaning of Article 2, point (41) of Directive 2012/27/EU. This activity does not include production of heat/cool in an efficient district heating from the exclusive use of renewable non-fossil gaseous and liquid fuels referred to in Section 4.23 of this Annex and biogas and bio-liquid fuels referred to in Section 4.24 of this Annex.

The activity is classified under NACE code D35.30 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is a transitional activity as referred to in Article 10(2) of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation

1. The activity meets either of the following criteria:

   (a) Life-cycle GHG emissions from the generation of heat/cool from gaseous fuels are lower than 100 g CO2e/kWh. Life-cycle GHG emission savings are calculated using Recommendation 2013/179/EU or, alternatively, using ISO 14067:2018 or ISO 14064-1:2018.

   Quantified life-cycle GHG emissions are verified by an independent third party.

   Where facilities incorporate any form of abatement, including carbon capture or use of renewable or low-carbon gases, that abatement activity complies with the relevant Sections of this Annex, where applicable. Where the CO2 emitted from the electricity generation is captured, the CO2 shall meet the emissions limit set out in point 1 of this Section and shall be transported and stored underground in a way that meets the technical screening criteria for transport of CO2 and storage of CO2 set out in Sections 5.11 and 5.12, respectively of this Annex.

   (b) facilities for which the construction permit is granted by 31 December 2030 comply with all of the following:

      (i) the thermal energy generated by the activity is used in an efficient district heating and cooling system as defined in Directive 2012/27/EU;

      (ii) the direct GHG emissions of the activity are lower than 270 g CO2e/kWh of the output energy;

      (iii) the heat/cool to be replaced cannot be generated from renewable energy sources, based on a comparative assessment with the most cost-effective and

technically feasible renewable alternative for the same capacity identified; the result of this comparative assessment is published and is subject to a stakeholder consultation;

(iv) the activity replaces an existing high emitting heating/cooling activity using solid or liquid fossil fuel;

(v) the newly installed production capacity does not exceed the capacity of the replaced facility;

(vi) the facility is designed and constructed to use renewable and/or low-carbon gaseous fuels and the switch to full use of renewable and/or low-carbon gaseous fuels takes place by 31 December 2035, with a commitment and verifiable plan approved by the management body of the undertaking;

(vii) the replacement leads to a reduction in emissions of at least 55% GHG per kWh of output energy;

(viii) the refurbishment of the facility does not increase production capacity of the facility;

(ix) where the activity takes place on the territory of a Member State in which coal is used for energy generation, that Member State has committed to phase-out the use of energy generation from coal and has reported this in its integrated national energy and climate plan referred to in Article 3 of Regulation (EU) 2018/1999 or in another instrument.

Compliance with the criteria referred to in point 1(b) is verified by an independent third party. The independent third-party verifier has the necessary resources and expertise to perform such verification. The independent third party verifier does not have any conflict of interest with the owner or the funder, and is not be involved in the development or operation of the activity. The independent third party verifier carries out diligently the verification of compliance with the technical screening criteria. In particular, every year the independent third party publishes and transmits to the Commission a report:

(a) certifying the level of direct GHG emissions referred to in point 1(b)(ii);

(b) assessing whether the activity is on a credible trajectory to comply with point 1(b)(vi).

On the basis of the reports transmitted to it, the Commission may address an opinion to the operators concerned. The Commission shall take those reports into account when performing the review referred to in Article 19(5) of Regulation (EU) 2020/852.

2. The activity meets either of the following criteria:

(a) at construction, measurement equipment for monitoring of physical emissions, such as those from methane leakage, is installed or a leak detection and repair program is introduced;

(b) at operation, physical measurement of emissions are reported and any leak is

eliminated.

Do no significant harm (‘DNSH’)	
(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for large combustion plants. No significant cross-media effects occur. For combustion plants with thermal input greater than 1 MW but below the thresholds for the BAT conclusions for large combustion plants to apply, emissions are below the emission limit values set out in Annex II, part 2, to Directive (EU) 2015/2193.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

[*1] Council Directive 2009/71/Euratom of 25 June 2009 establishing a Community framework for the nuclear safety of nuclear installations (OJ L 172, 2.7.2009, p. 18).

[*2] Council Directive 2011/70/Euratom of 19 July 2011 establishing a Community framework for the responsible and safe management of spent fuel and radioactive waste (OJ L 199, 2.8.2011, p. 48).

[*3] Council Directive 2013/59/Euratom of 5 December 2013 laying down basic safety standards for protection against the dangers arising from exposure to ionising radiation, and repealing Directives 89/618/Euratom, 90/641/Euratom, 96/29/Euratom, 97/43/Euratom and 2003/122/Euratom (OJ L 13, 17.1.2014, p. 1).

[*4] Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment (OJ L 26, 28.1.2012, p. 1).

[*5] Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (OJ L 327, 22.12.2000, p. 1)

[*6] Commission Recommendation 2006/851/Euratom of 24 October 2006 on the management of financial resources for the decommissioning of nuclear installations, spent fuel and radioactive waste (OJ L 330, 28.11.2006, p. 31).

[*7] Council Directive 2013/51/Euratom of 22 October 2013 laying down requirements for the protection of the health of the general public with regard to radioactive substances in water intended for human consumption (OJ L 296, 7.11.2013, p. 12).

[*8] 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).