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- Criteria 4 excludes the construction of new hydropower plants including on abandoned barriers or barriers used for other purposes – deemed incompatible with the EU Biodiversity Strategy commitment to free-flowing river restoration.

Criteria 5 introduces practice-based criteria defining requirements for measures aimed at restoring the natural habitat function of rivers at the river basin scale – necessary to mitigate the harmful effects of hydropower plants on habitats, in addition to mitigating the impact of plants.

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## 3.2 Electricity generation from bioenergy for protection and restoration of biodiversity and ecosystems

### *Description of the activity*

Operation of installations generating electricity and/or heat that produce exclusively from biomass, biogas or bioliquids.

The activity is classified under NACE codes D35.11 and D35.30 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

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Substantial contribution to protection and restoration of biodiversity and ecosystems

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1. The construction and/or operation of the installation complies with the following criteria:
    - a) An Environmental Impact Assessment (EIA) or screening<sup>347</sup> has been completed in accordance with Directive 2011/92/EU.<sup>348</sup>
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<sup>347</sup> The procedure through which the competent authority determines whether projects listed in Annex II to Directive 2011/92/EU is to be made subject to an environmental impact assessment (as referred to in Article 4(2) of that Directive).

<sup>348</sup> For activities in third countries, in accordance with equivalent applicable national law or international standards requiring the completion of an EIA or screening, for example, IFC Performance Standard 1: Assessment and Management of Environmental and Social Risks.

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- b) Where an EIA has been carried out, the mitigation hierarchy is observed by avoiding negative biodiversity impact to the extent possible, and the required mitigation and compensation measures for protecting the environment are implemented.
  - c) For sites/operations located in or near 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<sup>349</sup>, where applicable, has been conducted and based on its conclusions the necessary mitigation measures<sup>350</sup> are implemented.

2. The biomass sourced for the installation meets the following criteria:

- a) Biomass is not sourced from whole trees unless one of the following exceptions applies:
  - a. Whole tree harvesting is required in order to increase the conservation values of a site, as detailed in subparagraph (e)ii; or
  - b. Whole trees are damaged or killed by natural causes (e.g. wind damage, disease or beetle infestation) and must be removed from the site for specific management reasons relating to health and safety, fire prevention or the enhancement of conservation values, and are not fit for non-energy industrial applications.
- b) Biomass is not sourced from food or feed crops as defined by Directive 2018/2001 (the recast Renewable Energy Directive) or from other crops grown primarily for the purpose of supplying biomass for energy use.
- c) If biomass is sourced from a site or sites engaged in crop production as defined by NACE codes A1.1 and A1.2:

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<sup>349</sup> In accordance with Directives 2009/147/EC and 92/43/EEC. For activities located in third countries, in accordance with equivalent applicable national law or international standards, that aim at the conservation of natural habitats, wild fauna and wild flora, and that require to carry out (1) a screening procedure to determine whether, for a given activity, an appropriate assessment of the possible impacts on protected habitats and species is needed; (2) such an appropriate assessment where the screening determines that it is needed, for example IFC Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources.

<sup>350</sup> Those measures have been identified to ensure that the project, plan or activity will not have any significant effects on the conservation objectives of the protected area.

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- a. Those sites meet the relevant Technical Screening Criteria for a substantial contribution to biodiversity under [reference to Technical Screening Criteria for contribution to biodiversity within NACE codes A1.1 and A1.2] of this regulation.
  - b. Locally appropriate thresholds are set for maximum removals of agricultural residues from the field. Thresholds may be expressed either in absolute terms (maximum mass of material to be removed or minimum amount of material to be left in place) or relative terms (maximum percentage of material to be removed). These thresholds should be set at a level that ensures that as compared to a baseline in which there is no supply of crop residues for offsite use:
    - i. removals will not result in a decrease in the diversity or abundance of species and habitats of conservation importance or concern and removals are in line with the conservation objectives of Natura 2000 and other protected sites;
    - ii. removals will not lead to a reduction of soil organic matter or soil organic carbon to levels that are critical for soil fertility;
    - iii. removals will not lead to increased soil erosion.

The removal thresholds set must be approved or verified by a competent national authority. The basis for the chosen threshold and the systems in place for ensuring those thresholds are observed must be documented by the biomass supplier.

- d) If biomass is sourced from a site or sites engaged in silviculture, other forestry activities or logging as defined by NACE codes 2.1 and 2.2:
    - a. Those sites meet the Technical Screening Criteria for a substantial contribution to biodiversity under [reference to Technical Screening Criteria for contribution to biodiversity within NACE codes A2.1 and A2.2] of this regulation.
    - b. Coarse woody debris is not gathered for bioenergy use unless it must be removed from the site for specific management reasons relating to health and safety, fire prevention or the enhancement of conservation values, and is not fit for non-energy industrial applications
    - c. Locally appropriate thresholds are set at each site for maximum removals of slash. Thresholds may be expressed either in absolute terms (maximum mass of material
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to be removed or minimum amount of material to be left in place) or relative terms (maximum percentage of material to be removed). These thresholds should be set at a level that ensures that as compared to a baseline in which there are no removals of slash:

- i. removals will not result in a decrease in the diversity or abundance of species and habitats of conservation importance or concern;
- ii. removals will not lead to a reduction of soil organic matter or soil organic carbon to levels that are critical for soil fertility;
- iii. removals will not lead to increased soil erosion.

The removal thresholds set must be approved or verified by a competent national authority. The basis for the chosen threshold and the systems in place for ensuring those thresholds are observed must be documented by the biomass supplier.

- d. Saw logs and veneer logs are not used for bioenergy production.
  - e. Tree stumps and roots are not harvested.
  - f. Foliage and needles are only removed if consistent with requirements for nutrient cycling and maintenance of soil carbon at the site.
- e) If biomass is sourced from a site engaged in activities falling outside NACE codes A1.1, A1.2, A2.1 and A2.2, then either:
- a. The biomass meets the definition of a waste or residue from an industrial process other than agriculture or forestry, as defined by Directive 2018/2001 (the recast Renewable Energy Directive).
  - b. The biomass is cleared from a site in order to enhance the ecological condition of a site or its conservation values, including:
    - i. Replacing managed tree plantations with limited species diversity with more diverse native vegetation at a site as part of rewilding.
    - ii. Management of vegetation such as grasslands and reedbeds where such management is required for the conservation of rare or threatened species.

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- iii. Clearing vegetation in order to allow wetland or peatland restoration.
  - c. Ongoing biomass harvesting at the site is in full compliance with the conservation objectives and measures, and is consistent with a management plan to restore or maintain the good ecological condition of the site.<sup>351</sup>
  - f) The biomass meets the minimum sustainability requirements for the relevant biomass type as specified in Directive 2018/2001 (the recast Renewable Energy Directive).
3. A biomass sourcing plan is established which details the installation operator's commitment to make a substantial contribution to the protection and restoration of biodiversity and ecosystems by sourcing biomass only from sites that are managed in a way that contributes to the protection and/or restoration of biodiversity and ecosystems.

The biomass sourcing plan:

- a) Describes the biomass requirements of the facility.
- b) For all biomass required either:
  - a. Commits to sourcing only biomass certified to an appropriate voluntary standard that demonstrates that the sourced biomass complies with all the requirements set under paragraph 2; or
  - b. Commits to sourcing only from suppliers able to demonstrate compliance for the supplied biomass with all the requirements set under paragraph 2; or
  - c. Identifies the sites from which biomass will be sourced at which compliance with the requirements set under paragraph 2 may be verified.
- c) Where the biomass sourcing plan commits to sourcing biomass certified to a specified voluntary standard or standards, it must demonstrate that the standard(s) used are able to fully demonstrate compliance with the requirements set under paragraph 2. This may be done by reference to an appropriate independent benchmark of the standard against the paragraph 2 requirements.

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<sup>351</sup> This could include for example: harvesting of invasive plants; material removed as part of habitat management or restoration plans.

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- d) Where the biomass sourcing plan commits to sourcing from suppliers able to demonstrate compliance with the requirements set under paragraph 2, it must:
- a. Identify in outline the management practices that are used by suppliers to conserve, protect and/or restore biodiversity and to achieve the good condition of the site ecosystem or to protect the site ecosystem if already in good condition.
  - b. Detail monitoring practices in place to identify whether appropriate management practices are being properly implemented by those suppliers.
  - c. Detail contractual terms governing the relationship with suppliers from whom biomass is sourced requiring that good management practices are followed.
  - d. Define measures to be taken to return to compliance with the criteria on the source of biomass in the event that it is determined that a supplier is not properly implementing stated management practices.
- e) Where the biomass sourcing plan explicitly identified source sites, it must:
- a. Identify whether these sites: are engaged in crop production as defined by NACE codes A1.1 and A1.2; are engaged in silviculture, other forestry activities or logging as defined by NACE codes 2.1 and 2.2; are engaged in activities falling outside those categorisations, and:
  - b. Identify in outline the management practices that are in place at each source site to conserve, protect and/or restore biodiversity and to achieve the good condition of the site ecosystem or to protect the site ecosystem if already in good condition.
  - c. Detail monitoring practices in place to identify whether these management practices are being properly implemented by site operators.
  - d. Detail contractual terms governing the relationship with operators of sites from which biomass is sourced requiring that good management practices are followed.
  - e. Define measures to be taken to return to compliance with the criteria on the source of biomass in the event that it is determined that a site operator is not properly implementing stated management practices.

The implementation of the biomass sourcing plan is verified by an independent third party.

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4. Within two years after the beginning of the activity and every 10 years thereafter, the compliance of the activity with the substantial contribution to climate change mitigation criteria and the DNSH criteria are verified by either of the following:

- a) the relevant national competent authorities;
- b) an independent third-party certifier, at the request of national authorities or the operator of the activity.

In order to reduce costs, audits may be performed together with any forest certification, agricultural certification, climate certification or other audit.

The independent third-party certifier may not have any conflict of interest with the owner or the funder, and may not be involved in the development or operation of the activity.

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Do no significant harm ('DNSH')

(1) Climate change mitigation	The activity meets the requirements relating to sustainability, greenhouse gas emission savings and efficiency laid down in Article 29 of Directive 2018/2001.
(2) Climate change adaptation	DNSH as set out in <a href="#">Appendix A of Annex 1 to the Commission Delegated Regulation (EU) .../... supplementing Regulation (EU) 2020/852</a> .
(3) Sustainable use and protection of water and marine resources	DNSH as set out in <a href="#">Appendix B of Annex 1 to the Commission Delegated Regulation (EU) .../... supplementing Regulation (EU) 2020/852</a> .
(4) Transition to circular economy	The activity is not likely to result in a significant reduction of sustainable supply of primary biomass suitable for the manufacturing of long-lived bio-based products with long-term circularity potential.

<p>(5) Pollution prevention and control</p>	<p>For installations falling within the scope of Directive 2010/75/EU of the European Parliament and of the Council<sup>352</sup>, 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<sup>353</sup>. No significant cross-media effects occur.</p> <p>For combustion 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.</p> <p>For plants in zones or parts of zones not complying with the air quality limit values laid down in Directive 2008/50/EC of the European Parliament and of the Council<sup>354</sup>, results of the information exchange<sup>278</sup> which are published by the Commission in accordance with Article 6, paragraphs 9 and 10, of Directive (EU) 2015/2193 are taken into account.</p> <p>For anaerobic digestion of organic material, the produced digestate is used as fertiliser or soil improver, either directly or after composting or any other treatment, and meets the requirements for fertilising materials set out in Component Material Categories (CMC) 4 and 5 in Annex II to</p>
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<sup>352</sup> Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control) (OJ L 334, 17.12.2010, p. 17).

<sup>353</sup> Implementing Decision (EU) 2017/1442.

<sup>354</sup> The final technology report resulting from the exchange of information with Member States, the industries concerned and non-governmental organisations contains technical information on best available technologies used in medium combustion plants to reduce their environmental impacts, and on the emission levels achievable with best available and emerging technologies and the related costs (version of [adoption date]: <https://circabc.europa.eu/ui/group/06f33a94-9829-4eee-b187-21bb783a0fbf/library/9a99a632-9ba8-4cc0-9679-08d929afda59/details>).

	<p>Regulation (EU) 2019/1009 and relevant national law on fertilising products.</p> <p>For anaerobic digestion plants treating over 100 tonnes per day, emissions to air and water are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set for anaerobic treatment of waste in the best available techniques (BAT) conclusions for waste treatment<sup>355</sup>. No significant cross-media effects occur.</p>
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## Rationale

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### Explanation of the choices made (Technical Screening Criteria):

- Facility siting:
    - The proposed requirements for facility siting draw from the existing DNSH criteria for biodiversity for electricity generation installations in the climate mitigation/adaptation Technical Screening Criteria. The potential biodiversity impact from the generation facility itself is much lower than for biomass sourcing (as biomass sourcing could affect much larger areas of land) and therefore it is not considered necessary to go beyond the existing DNSH criteria in this regard.
  - Biomass sourcing:
    - The exclusion of the use of whole trees for bioenergy is based on the aspiration to reduce or eliminate the use of whole trees for bioenergy that is detailed in the 2030 Biodiversity Strategy. An exception is suggested for the case that removal of whole trees would be part of a process of enhancing the conservation values
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<sup>355</sup> Commission Implementing Decision (EU) 2018/1147 of 10 August 2018 establishing best available techniques (BAT) conclusions for waste treatment, under Directive 2010/75/EU of the European Parliament and of the Council (OJ L 208, 17.8.2018, p. 38).

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of a site, for instance in the case that low biodiversity monocultures of trees were to be replaced with more diverse tree plantation or to be rewilded.

- The exclusion of the use of food or feed crops for bioenergy is based on the aspiration to reduce or eliminate the use of food or feed crops for bioenergy that is detailed in the 2030 Biodiversity Strategy. The exclusion of other purpose grown crops recognises that biodiversity can be better supported by rewilding and reducing land management intensity than by expanding managed biomass production systems.
- Where biomass is to be sourced from a site engaged in crop production, the biomass should meet the Technical Screening Criteria for biodiversity set for the relevant NACE codes to the crop production activity by ST1. Additional criteria are included in relation to removal rates for agricultural residues, recognising that biomass for bioenergy may be sourced by increased residue removals whereas the ST1 criteria for crop production are focused on the primary crop products. Residues left in the field can support biodiversity along with other ecosystem services, and thus setting locally appropriate limits on removals will be important if increasing overall residue mobilisation. Requirements for setting removal thresholds for residues are developed from proposals in [IEEP \(2016\)](#)<sup>356</sup>.
- Where biomass is to be sourced from a site engaged in forestry, the biomass should meet the Technical Screening Criteria for biodiversity set for relevant NACE codes by ST1. Additional criteria are suggested in relation to removal of coarse woody debris and needles/foilage and to overall removal rates for forestry residues, recognising that biomass for bioenergy may be sourced by increased residue removals whereas the ST1 criteria for forestry are focused on the primary forest products. Residues left in the forest can support biodiversity along with other ecosystem services, and thus setting locally appropriate limits on removals will be important if increasing overall residue mobilisation. The JRC report “The use of woody biomass for energy production in the EU” identifies coarse woody debris removal as a lose-lose practice for

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<sup>356</sup> [https://ieep.eu/uploads/articles/attachments/cc72ca6f-7361-4e9b-b208-3c90e8308c98/ieep\\_2016\\_sustainability\\_criteria\\_for\\_biofuels\\_post\\_2020.pdf](https://ieep.eu/uploads/articles/attachments/cc72ca6f-7361-4e9b-b208-3c90e8308c98/ieep_2016_sustainability_criteria_for_biofuels_post_2020.pdf)

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climate and biodiversity. A requirement for management of habitat features is included based on the FSC standard. Requirements for setting removal thresholds for fine woody debris are drawn from [IEEP \(2016\)](#).

- For cases in which the ST1 criteria would not apply, three further cases for a substantial contribution to biodiversity are identified. Firstly, the use of wastes or residues from industrial processes other than agriculture and forestry is considered to make a contribution to biodiversity by its nature by avoiding supply chains that are likely to have a negative biodiversity impact. Secondly, the use of biomass cleared from a site in the process of enhancing the biodiversity value of the site, recognising that in some cases rewilding and other conservation activities may require clearance of some existing vegetation. Thirdly, harvesting of material from a site as part of a management plan to restore or maintain good ecological condition.
- Biomass sourcing plan:
  - To complement these criteria on the sourcing of the biomass, a requirement is proposed that the electricity generation facility should have a biomass sourcing plan detailing how it will be ensured that the biomass used by the facility consistently meets the biomass sourcing requirements.

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### 3.3 Electricity generation using solar photovoltaic technology

#### *Description of the activity*

Construction or operation of electricity generation facilities that produce electricity using solar photovoltaic (PV) technology.

The economic activities in this category could be associated with several NACE codes, in particular D35.11 [Production of electricity] and F42.22 [Construction of utility projects for electricity and telecommunications] in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

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Substantial contribution to pollution prevention and control

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