Climate Bonds INITIATIVE

Webinar Series

EU Taxonomy Explored: Talks with TEG Experts

Waste & Water

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Main channels of climate mitigation in “water, sewerage, waste”

Introduction

- Low share of wsw in direct EU GHG emissions (approx. 5%), but substantial indirect effects
- For most activities the climate mitigation effect is an inherent result of key characteristics of the corresponding business model
- **Three underlying principles**:

→ **Save energy and GHG emissions !**

- **1. Water collection, treatment and supply**: low energy consumption or substantial improvement.
- **2. Centralized wastewater treatment:** save energy by centralized more efficient structures.

→ **Gain renewable energy from waste !**

- **Anaerobic digestion of 3. sewage sludge, 5. bio-waste, 8. landfill material:** capture and utilization of biogas (substituting fossil fuels and avoiding methane-rich emissions under uncontrolled circumstances)

→ **Prepare waste for reuse or recycling in order to substitute fossil based material !**

- **6. Composting of bio-waste:** substitute synthetic fertilizers (also long-term carbon capture in soils)
- **4. Separate collection & transport of non-haz. waste:** collect and transport waste in separate fractions
- **7. Material recovery from non-hazardous waste:** sort and process separately collected waste into secondary raw materials

Water, wastewater, sludge

1. Water collection, treatment and supply, provided that it's consumption per cubic meter of final water supply is low or substantially improved.

2. Centralized wastewater treatment, provided that new wastewater treatment substitutes more GHG emission intensive wastewater treatment systems (such as pit latrines, septic tanks, anaerobic lagoons etc.).

No threshold applies.

3. Anaerobic digestion of sewage sludge, provided that:

- methane leakage from relevant facilities is controlled by a monitoring plan;
- Biogas is used for generation of electricity and/or heat, or as bio-methane in the gas grid, or as vehicle fuel, or as feedstock in the chemical industry.

No threshold applies.

4. Separate collection & transport of non-hazardous waste in source segregated fractions, if source segregated waste is separately collected with the aim of preparing for reuse and/or recycling.

No threshold applies.

Bio-waste

5. Anaerobic digestion of bio-waste, if

- The bio-waste is source segregated and collected separately;
- Methane leakage is controlled by a monitoring plan;
- Biogas is used for generation of electricity and/or heat, or as bio-methane in the gas grid, or as vehicle fuel, or as feedstock in the chemical industry;
- The digestate produced is used as fertiliser/soil improver;
- In dedicated bio-waste treatment plants, bio-waste makes up at least 70% of feedstock. Co-digestion with advanced bioenergy feedstock is eligible only when a maximum 30% of the input is from that feedstock.

6. Composting of bio-waste, if

- The bio-waste is source segregated and collected separately;
- Anaerobic digestion is not a technically and economically viable alternative;
- The compost produced is used as fertiliser/soil improver.

No threshold applies.

Hazardous materials recovery & landfill gas

7. Material recovery from non-hazardous waste, if

- It produces secondary raw materials suitable for substitution of virgin materials in production processes;
- At least 50% (by weight) of the collected non-hazardous waste is converted into secondary raw materials.

8. Landfill gas capture and utilization

Collection and utilization of landfill gas is eligible provided that:

- The landfill has not been opened after [Dec 2020];
- The landfill is permanently closed & is not taking further waste;
- The gas is used for generation of electricity and/or heat, or as bio-methane in the gas grid, or as vehicle fuel, or as feedstock in the chemical industry;
- Methane emissions from the landfill and leakages from the landfill gas collection and utilization facilities are controlled by a monitoring plan.

No threshold applies.

Carbon capture

9. Direct Air Capture of CO2

10. Capture of Anthropogenic Emissions, provided it:

- Enables the economic activity to operate under its respective threshold and
- Shows that the CO2 will be offloaded to an eligible CO2 transportation operation & sequestration facility

11. Transport of CO2, if the asset operates below the leakage/tonne of CO2 threshold:

- Leakage/tonne of CO2 is <0.5%, and the CO2 is delivered to an eligible sequestration site.
- CCU is excluded, along with infrastructure for CCU
- Assets which increase the flexibility & management of an existing network, without expanding the network to include CCU is eligible.

12. Permanent Sequestration of Captured CO2

- Operation of a permanent CO2 storage facility eligible, if it complies with ISO 27914:2017 for geo-storage of CO2.

Examples of Do No Significant Harm (DNSH) requirements

You need an Environmental Impact Assessment for ecosystems protection.
Emissions to air after combustion of biogas (captured landfill gas or from anaerobic digestion of sewage sludge and bio-waste) have to be controlled, abated & within limits set by EU & national laws.
Sewers: you need to implement measures to avoid & mitigate combined sewer overflow in case of heavy rainfall. E.g. nature-based solutions, separate rainwater collection systems, retention tanks.
The permanent closure and remediation as well as the after-care of old landfills, where the landfill gas capture system is installed, are carried out as per the relevant EU Directives.
Emissions to air and water have to be within the Best Available Techniques — Associated Emission Levels (BAT-AELs) ranges set for anaerobic treatment of waste (incl. sewage sludge) in the BREF for waste treatment.
If waste collection is carried out by trucks, vehicles must at least meet Euro V standard.
You have to select solvents based on environmental impact criteria and conducting full chemical risk assessments.
Adaptation: You need to reduce material physical climate risk.

Download the report

https://ec.europa.eu/info/publications/sustainable-finance-teg-taxonomy_en

Summary Report

- Guidance for investors and companies

Technical Annex

- Detailed criteria with detailed rationale

Taxonomy spreadsheet

- Tables for economic classification systems

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