

Note on heat pumps in the EU Taxonomy

1. The Taxonomy Regulation and delegated acts

The [Taxonomy Regulation](#) entered into force on 12 July 2020. It sets out the conditions that an economic activity has to meet in order to qualify as environmentally sustainable. The Taxonomy Regulation establishes six environmental objectives. A [first delegated act on sustainable activities for climate change adaptation and mitigation objectives](#) was published by the EC on 21 April 2021. It establishes the list of environmentally sustainable activities by defining technical screening criteria. It should enter into force on 1 January 2022.

The Taxonomy Regulation is meant to give guidance to the financial sector to invest in “sustainable” activities. As the criteria chosen to qualify an activity as “sustainable” are perceived to be the result of objective and scientific work, **EU Member States are likely to use the criteria in their national financing policies (green procurement and subsidies).**

2. Heat pumps in the taxonomy delegated act

Section 3.5.: Manufacture of energy efficiency equipment for buildings

“Heat pumps” are mentioned in this sustainable activity, if **one or more** of the following products and their key components are manufactured:

...

(h) space heating and domestic hot water systems rated in the highest two populated classes of energy efficiency in accordance with Regulation (EU) 2017/1369 and delegated acts adopted under that Regulation;

(i) cooling and ventilation systems rated in the highest two populated classes of energy efficiency in accordance with Regulation (EU) 2017/1369 and delegated acts adopted under that Regulation;

...

(k) heat pumps compliant with the technical screening criteria set out in Section 4.16 of this Annex;

- ⇒ **Manufacturing of heat-pumps is considered “sustainable” for heat pumps:**
- **rated in the highest two populated classes of energy efficiency (Ecodesign) OR**
 - **compliant with the technical screening criteria set out in Section 4.16 (see below).**

Section 7.6.: Installation, maintenance and repair of renewable energy technologies

“Heat pumps” are mentioned in this sustainable activity, if the activity consists **in one** of the following individual measures installed on-site as technical building systems:

...

(h) installation, maintenance, repair and upgrade of heat pumps contributing to the targets for renewable energy in heat and cool in accordance with Directive (EU) 2018/2001 and the ancillary technical equipment;

- ⇒ **The installation, maintenance and repair of heat-pumps is considered “sustainable”**
- **When their installation counts towards the renewable heating and cooling targets (RED art. 23) (i.e. when they are considered as “renewable”)**
OR (if this is not the case)
 - **When they meet all the criteria mentioned in Section 4.16 (see below)**

Section 4.16.: Installation and operation of electric heat pumps

“Heat pumps” are specifically mentioned in this activity as substantially contributing to climate change mitigation provided **all** the following conditions are met:

- they are electric;
- their installation and operation of electric complies with both of the following criteria:
 - (a) *refrigerant threshold: Global Warming Potential does not exceed 675;*
 - (b) *energy efficiency requirements laid down in the implementing regulations under Directive 2009/125/EC are met.*
- they meet the following “do not significant harm” requirements:
 - *The activity assesses availability of and, where feasible, uses equipment and components of high durability and recyclability and that are easy to dismantle and refurbish.*
A waste management plan is in place and ensures maximal reuse, remanufacturing or recycling at end of life, including through contractual agreements with waste management partners, reflection in financial projections or official project documentation.
 - *For air to air heat pumps with rated capacity of 12kW or below, indoor and outdoor sound power levels are below the threshold set out in Commission Regulation (EU) No 206/2012*

This provision in the introductory part of this section is very important:

Where an economic activity is an integral element of ‘Installation, maintenance and repair of renewable energy technologies’ as referred to in Section 7.6 of this Annex, the technical screening criteria specified in Section 7.6 apply.

- ⇒ **The detailed criteria in section 4.16 only apply to heat pumps that are NOT installed on-site and contribute to the renewable heating and cooling targets under the Renewable Energy Directive (art.23).** This is logic since the RED already sets the conditions for heat-pumps to be considered as “renewable” and encourages the promotion of all the technologies that meet the requirements set by that directive.

3. Conclusion

The vast majority of heat pumps currently available on the EU markets should be considered as “sustainable” under the Taxonomy rule and are suitable candidates for green investments and support by the private sector and by Members States.

Probably old electric heat pumps that are not contributing to the renewable heating or the renewable cooling targets, and that are inefficient or not meeting the highest GWP value or sound power levels are not suitable candidates for green investments by the private sector and by Members States (e.g. certain types of stationary air conditioners).

Annex: Detailed analysis

INTRODUCTION

The [Taxonomy Regulation](#) was published in the Official Journal of the European Union on 22 June 2020 and entered into force on 12 July 2020. It establishes the framework for the EU taxonomy by setting out the conditions that an economic activity has to meet in order to qualify as environmentally sustainable.

The Taxonomy Regulation establishes six environmental objectives

1. Climate change mitigation
2. Climate change adaptation
3. The sustainable use and protection of water and marine resources
4. The transition to a circular economy
5. Pollution prevention and control
6. The protection and restoration of biodiversity and ecosystems

A [first delegated act on sustainable activities for climate change adaptation and mitigation objectives](#) was published by the Commission on 21 April 2021. It establishes the actual list of environmentally sustainable activities by defining technical screening criteria for these environmental objectives. It should enter into force on 1 January 2022. A second delegated act for the remaining objectives will be published in 2022.

The Taxonomy Regulation is meant to give guidance to the financial sector to invest in “sustainable” activities. As the criteria chosen to qualify an activity as “sustainable” are perceived to have the result of a thorough, objective and scientific work, **many EU Member States have started to use / are very likely to use the criteria in their national financing policies (green procurement and subsidies).**

WHAT DOES THE DELEGATED ACT ON SUSTAINABLE ACTIVITIES FOR CLIMATE CHANGE MITIGATION ACTUALLY SAY?

Preliminary remark

The general Taxonomy Regulation (Art. 10) distinguishes between economic activities contributing substantially to climate change mitigation and activities that enable any of these activities. Both are however equally considered as “sustainable” if the right criteria are met.

Manufacture of energy efficiency equipment for buildings (Section 3.5 of delegated act)

“Heat pumps” are referred to and mentioned in this “enabling activity”, which substantially contributes to climate change mitigation (*i.e.* is considered as “sustainable”) if it manufactures **one or more** of the following products and their key components:

...

(h) space heating and domestic hot water systems rated in the highest two populated classes of energy efficiency in accordance with Regulation (EU) 2017/1369 and delegated acts adopted under that Regulation;

(i) cooling and ventilation systems rated in the highest two populated classes of energy efficiency in accordance with Regulation (EU) 2017/1369 and delegated acts adopted under that Regulation;

...

(k) heat pumps compliant with the technical screening criteria set out in Section 4.16 of this Annex;

This suggests that manufacturing of heat-pumps is “sustainable” for heat pumps:

- rated in the highest two populated classes of energy efficiency **OR**
- compliant with the technical screening criteria set out in Section 4.16 (see below).

→ Consequently, EHPA considers that when manufacturing of heat pumps is considered, a high level of energy efficiency is enough to consider a heat pump as “sustainable” (and to receive dedicated financing) and that the criteria in Section 4.16 should only be looked at in case a heat pump does not satisfy the abovementioned efficiency criteria from Ecodesign.

Installation, maintenance and repair of renewable energy technologies

(Section 7.6 of the delegated act)

“Heat pumps” are referred to and mentioned in this “enabling activity”, which substantially contributes to climate change mitigation (*i.e.* is considered as “sustainable”) if the activity consists **in one** of the following individual measures installed on-site as technical building systems:

...

(h) installation, maintenance, repair and upgrade of heat pumps contributing to the targets for renewable energy in heat and cool in accordance with Directive (EU) 2018/2001 and the ancillary technical equipment;

This suggests that the installation, maintenance and repair of heat-pumps is “sustainable” for heat pumps installed on-site that contribute to the renewable heating and cooling targets under the Renewable Energy Directive (art.23).

→ Consequently, EHPA considers that the legally recognised “renewable” character of a heat-pump is enough to consider a heat pump as “sustainable” (and to receive dedicated financing). The criteria in Section 4.16 (see below) should only be looked at in case a heat pump is not considered as “renewable” under the Renewable Energy Directive.

Installation and operation of electric heat pumps (Section 4.16 of delegated act)

“Heat pumps” are specifically mentioned in this activity as substantially contributing *per se* (not as an enabling activity) to climate change mitigation provided **all** the following conditions are met:

- they are electric;

- their installation and operation of electric complies with both of the following criteria: (a) refrigerant threshold: Global Warming Potential does not exceed 675;
 (b) energy efficiency requirements laid down in the implementing regulations under Directive 2009/125/EC are met.
- they meet the following “do not significant harm” requirements:
 - *The activity assesses availability of and, where feasible, uses equipment and components of high durability and recyclability and that are easy to dismantle and refurbish.
A waste management plan is in place and ensures maximal reuse, remanufacturing or recycling at end of life, including through contractual agreements with waste management partners, reflection in financial projections or official project documentation.*
 - *For air to air heat pumps with rated capacity of 12kW or below, indoor and outdoor sound power levels are below the threshold set out in Commission Regulation (EU) No 206/2012*

It is very important though to note the following provision in the introductory part of this section:

Where an economic activity is an integral element of ‘Installation, maintenance and repair of renewable energy technologies’ as referred to in Section 7.6 of this Annex, the technical screening criteria specified in Section 7.6 apply.

This sentence suggests that **the abovementioned conditions for a heat pump to be considered as “sustainable investment” only apply to heat pumps that are NOT installed on-site and contribute to the renewable heating and cooling targets under the Renewable Energy Directive (art.23)**. This seems logical since the RED already sets the conditions for heat-pumps to be considered as “renewable” and encourages the promotion of all the technologies that meet the requirements set by that directive.

→ Consequently, EHPA considers that the delegated act sets additional criteria (max. GWP value, min. energy efficiency, circularity, max. sound power levels) for the installation and operation of heat pumps to be recognised as a “sustainable” activity that need to be applied only when such activity cannot be not considered as contributing to the renewable heating and cooling targets under the Renewable Energy Directive.

CONCLUSION

When considering the financing of the installation and operation of heat pumps (probably the most relevant for implementation/inspiration at the national level)

Heat pump are considered as “sustainable”:

- When their installation counts towards the renewable heating and cooling targets (*i.e.* when they are considered as “renewable”)

OR (if this is not the case)

- When they meet all the criteria mentioned in Section 4.16 (max. GWP value of 675, min. energy efficiency levels, circularity requirements, max. sound power levels).

When considering the financing of the manufacturing of heat pumps

Heat pump are considered as “sustainable”:

- When the heat pumps manufactured are rated in the highest two populated classes of energy efficiency

OR

- When the heat pumps manufactured meet all the criteria mentioned in Section 4.16 (max. GWP value of 675, min. energy efficiency levels, circularity requirements, max. sound power levels).

Considering the consistency of the delegated act with other EU energy policies such as the Renewable Energy Directive, the Energy Efficiency Directive, the Energy Performance of Buildings Directives, the relevant Ecodesign implementing regulations and the Energy System Integration Strategy (which implies the quadrupling of installed heat pumps in Europe by 2030), it is logical to conclude that:

- the vast majority of heat pumps currently available on the EU markets and to be made available in the next decades should be considered as “sustainable” under the Taxonomy rule and suitable candidates for green investments and support by the private sector and by Members States;

- (probably old) electric heat pumps that are not contributing to the renewable heating or the renewable cooling targets, and that are inefficient or not meeting the highest GWP value or sound power levels are not suitable candidates for green investments by the private sector and by Members States (e.g. certain types of stationary air conditioners).