Towards efficient European heating and cooling:
Key implications of the Renewable Energy Directive (RED) revision

A step towards the European clean energy transition

Renewable energy is a cornerstone of the European Union’s climate objectives and efforts to establish a sustainable energy framework. The adoption of the revised Renewable Energy Directive 2018/2001/EU in December 2018 constituted a pivotal moment, as it outlined a collective EU ambition to achieve a 32% consumption target of renewable energy sources by 2030. The European Green Deal’s clean energy transition strategy places a significant emphasis on the role of renewable energy. In July 2021, the unveiling of the Fit for 55 Package represented a significant step towards aligning with the EU Climate Law, which envisages a robust reduction of greenhouse gas emissions by at least 55% by 2030 relative to 1990 levels. A fundamental aspect of this package is the revised Renewable Energy Directive, which incorporates provisions designed to accelerate the use and integration of renewable and waste heat sources within the European energy framework. This transformative legislative journey culminated with the enactment of the amending Directive EU/2023/2413 on 20 November 2023.

The REDI4HEAT project welcomes the new additions to the RED III as they will be key in driving the green transition of the heating and cooling sector.

New measures for further uptake of renewables

Following the 2009 and 2018 directives, the amending Directive, RED III, introduces a new headline target to double the existing share of renewable energy sources and sets up a strong policy framework that will favour the integration of renewable sources in different sectors.
The new directive is essential to achieve the objective of climate neutrality by 2050 in Europe and to secure Europe’s energy supply.

The directive is aimed at creating an energy-efficient system, based on circularity and renewable energy. It promotes the decarbonisation of heating and cooling and the uptake of renewable H&C solutions, as well as electrification based on renewable energy and the use of renewable fuels. The directive also helps the deployment of renewables on the ground, thanks to faster permitting procedures that will favour renewable energy projects and their infrastructure.

Renewable energy targets and support for waste heat use

RED III introduces a new headline target to double the existing share of renewable energy sources and sets up a strong policy framework that promotes the decarbonisation of heating and cooling and the uptake of renewable H&C solutions, as well as electrification based on renewable energy and the use of renewable fuels.

The revision sets ambitious and binding targets for EU Member States to collectively increase the use of renewable energy. It includes a mandatory target of at least **42.5% of renewable energy** in the energy mix and an additional non-binding intention to increase this by a further 2.5%. This represents an increase of at least 10.5 percentage points compared to RED II.

The Directive also introduces **sectoral renewable energy targets** for heating and cooling, transport, industry, buildings and district heating and cooling.

More specifically, it includes:
- a binding target to increase the share of renewables in heating and cooling by 0.8% per year from 2021 to 2025, and then by 1.1% per year from 2026 to 2030,
- an indicative target to increase the share of energy from renewable sources and waste heat in district heating and cooling by 2.2% per year from 2021 to 2030,
- a new indicative target for the share of renewables in industry, requiring an average annual increase of 1.6 percentage points for the periods 2021-2025 and 2026-2030.
- a new indicative target of 49% renewable energy in buildings in 2030.

It also counts renewable electricity towards the renewable energy target in heating and cooling and waste heat towards the buildings, industry and heating and cooling renewable energy target. Member States are allowed to count both waste heat and cooling and renewable electricity towards the average annual increase (up to a limit of 0.4% each). If they...
choose to include them, half of the percentage points they count for waste heat/cooling and renewable electricity can be added to their annual increase, up to a maximum of 1.0% for 2021-2025 and 1.3% for 2026-2030.

EU countries should promote renewable heating and cooling to reach 49% renewables in buildings by 2030. This energy should be produced on-site or nearby or taken from the grid. Countries should also establish appropriate measures in their national regulations, building codes and support schemes to further promote the renewables in buildings.

**Facilitating renewable energy deployment**

The revised Directive facilitates a faster **permitting process for renewable energy** projects and installations, through the identification of renewable acceleration areas and dedicated measures for specific technologies. These new provisions were included through a targeted amendment presented by the Commission in May 2022 as part of the REPowerEU package, to speed up the deployment of renewable technologies and reduce dependency on Russian fossil fuels.

**Recognising the role of district heating and waste heat integration**

RED III recognises **district heating** as a solution to streamline renewable and waste heat sources. Also waste heat is seen as a way of supporting the transition to a low-carbon energy system.

The new article on district heating and cooling outlines how Member States can improve their use of renewable energy and waste heat. Member States are encouraged to increase the share of energy from renewable sources and waste heat in district heating and cooling by 2.2 percentage points each year, from 2021 to 2030. This target has been increased from 1 to 2.2 percentage points compared to RED II.

Waste heat and cold should contribute to the renewable targets for DHC, heating and cooling, industry, and buildings.

Member States also need to encourage large DHC system operators to connect third party suppliers of renewable energy from renewable sources and waste heat.

In order to reduce the cost of financing renewable heat and cooling and waste heat and cold projects, Member States should establish coordination frameworks between the operation of the DHC system and potential sources of waste heat and cold in the industrial and tertiary sectors or risk mitigation frameworks.

Finally, as we phase out fossil fuels, bioenergy will also have a role to play. The Directive partially revised and reinforced the sustainability criteria for biomass.

The **Renewable Energy Directive** sets ambitious targets to double the share of renewable energy in the EU. However, the new measures introduced in the heating and cooling sector fall far short of the urgency of the climate challenge. It increases the overall renewable energy target to 42.5% by 2030, makes the sectoral target for heating and cooling binding, sets indicative targets for renewable energy in buildings and industry for 2030, and increases the target for renewable energy in district heating to an average annual increase of 2.2%. The integration of renewable energy in heating and cooling systems is crucial to achieve climate neutrality by 2050.