What does the Fit for 55 climate package bring for the district heating sector?

On 14 July 2021, the European Commission adopted a set of proposals to revise and update the European Union's legislation on energy and climate as part of its Fit for 55 climate package. This initiative is to ensure that higher energy and climate ambitions are fulfilled: the reduction of GHG emissions by 55% and increase of renewable energy in final energy consumption to 40% by 2030.

The heating and cooling sector and especially the district heating sector are essential to achieve these goals. New provisions that address these sectors are introduced in the proposals for recast Directive 2012/27/EU on Energy Efficiency and revision Directive (EU) 2018/2001 on Renewable Energy. The text below outlines the major changes.


1. Heating and cooling assessment and planning

The Proposal requires that a comprehensive assessment for heating and cooling potentials additionally includes a cost-benefit analysis, which needs to identify the most resource and cost-efficient solutions to meeting heating and cooling needs. This analysis should be carried out based on climate conditions, economic feasibility and technical suitability. To carry it out, national authorities need to designate the competent authorities, provide the detailed methodologies and assumptions in accordance with Annex X and establish and make public the procedures for the economic analysis.

Based on the assessment, national authorities need to adopt policies and measures for addressing the identified potential, which should be part of integrated National Energy and Climate Plans (NECPs).

Moreover, regional and local authorities and wider public are addressed as actors that need to contribute to heating and cooling planning. Namely, municipalities having a total population higher than 50,000 should be encouraged to prepare local heating and cooling plans. The Proposal emphasizes that national authorities shall provide support to regional and local authorities, including financial support and technical support schemes.

2. A revised definition of efficient district heating and cooling

The definition of efficient district heating and cooling is changed in terms that minimum requirements for the efficient district heating are gradually increased to achieve district heating or cooling systems that are fully based on renewable energy sources by 2050. To be categorised as efficient district heating, progressive integration of renewable energy and waste heat or cold will have to be satisfied:

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1 Article 24 of the Energy Efficiency Directive
by 31 December 2025, a system should use at least 50% renewable energy, 50% waste heat, 75% cogenerated heat or 50% of a combination of such energy and heat;
from 1 January 2026, a system should use at least 50% renewable energy, 50% waste heat, 80% of high-efficiency cogenerated heat or at least a combination of such thermal energy going into the network where the share of renewable energy is at least 5% and the total share of renewable energy, waste heat or high-efficiency cogenerated heat is at least 50%;
from 1 January 2035, a system should use at least 50% renewable energy and waste heat, where the share of renewable energy is at least 20%;
from 1 January 2045, a system should use at least 75% renewable energy and waste heat, where the share of renewable energy is at least 40%;
from 1 January 2050, a system should use only renewable energy and waste heat, where the share of renewable energy is at least 60%.

Operators with a total energy output exceeding 5 MW that do not meet the criteria set for 2025 will have to prepare a plan for increasing primary energy efficiency and renewable energy. The plan should contain measures to meet the criteria for 2026, 2035 and so on and shall be approved by the competent authority.

Any new or substantially refurbished district heating system will have to meet the above set criteria. These systems should not increase the use of fossil fuels, other than natural gas.

Fulfilment of these criteria will need to be verified in the permit or authorisation process.

3. Cost-benefit analysis for increase of energy efficiency of heat and cold supply

Individual installations will be obliged to conduct a cost-benefit analysis to assess the increase of energy efficiency of heat and cold supply and utilisation of waste heat on-site and off-site. This obligation applies to:

- a thermal electricity generation installation of more than 5 MW;
- an industrial installation of more than 5 MW;
- a service facility of more than 5 MW, such as wastewater treatment facilities and LNG facilities;
- a data centre of more than 1 MW.

Certain exemptions to this obligation are provided.

4. Contractual rights of consumers

The protection of consumers is strengthened by introducing basic contractual rights for heating, cooling and domestic hot water. The Proposal specifies the elements that the contract needs to have, such as service quality, maintenance offers, duration of contract, renewal and termination rights, right to complain, different payment methods, etc. The contractual terms and conditions should be fair and known in advance.

1. A comprehensive heating and cooling assessment

Each country needs to conduct the assessment of the potential of energy from renewable sources and of the use of waste heat and cold in the heating and cooling sector. The Proposal specifies additional requirements on the content of the assessment. It needs to set out milestones and measures to increase renewables in heating and cooling and, where appropriate, the use of waste heat and cold through district heating and cooling, with an aim to establish a long-term national strategy to decarbonise the heating and cooling sector.

The assessment shall be part of the integrated NECPs, and shall accompany the comprehensive heating and cooling assessment required by Article 14(1) of Directive 2012/27/EU.

2. Target for renewable energy sources and waste heat in H&C and district heating

The increase in the share of renewable sources and waste heat and cold in the heating and cooling sector shall be at least 1.1 ppt, and 1.5 ppt if waste heat and cold is used, each year, starting from the share of energy from renewable sources and from waste heat and cold in district heating and cooling in 2020. The target for district heating and cooling is 2.1 ppt. The Proposal clearly recognises the great potential of the heating and cooling and the district heating sectors in terms of contributing to the deployment of renewable energy.

3. Third party access

Unlike in the existing situation where the inclusion of provisions on third party access in national legislation is not mandatory, the Proposal makes the provisions on connection of third party suppliers to the district heating or cooling systems obligatory. This obligation applies only to the systems above 25 MWth capacity. The access should be based on non-discriminatory criteria set by the competent authority. The operator may still refuse the connection under certain conditions. The Proposal requires that, in case of unjustified refusal, a mechanism to address is established.

4. Coordination between district heating operators and waste heat sources

The Proposal introduces a new provision requiring the establishment of a framework for facilitating coordination among district heating operators and the potential sources of waste heat and cold in the industrial and tertiary sectors. The framework should facilitate the use of waste heat and cold in district heating. Local authorities for planning and approving energy infrastructures should play a major role in establishing this framework and in coordinating the actors.

5. District heating as a provider of balancing services
District heating and district cooling system operators need to have access to electricity markets for providing balancing, storage and other flexibility services. Distribution system operators have to make an assessment every 4 years of the potential for district heating or cooling systems for providing balancing and other system services, including demand response and thermal storage of excess electricity from renewable sources. This is the requirement under existing Directive EU 2018/2001 on renewable energy. The assessment now may be extended to gas transmission and distribution system operators, including hydrogen networks and other energy networks. The Proposal requires additionally that results of the assessment are to be taken into due account by electricity transmission and distribution system operators when performing grid planning, grid investment and infrastructure development in their respective territories.

6. Consumer rights

Rights of consumers concerning information of the renewable energy share in district heating and cooling systems are enhanced in terms that detailed information needs to be provided. There is an additional requirement that the rules on consumer rights as well as rules for operating district heating and cooling systems are publicly available, along with existing requirements that these are clearly defined and enforced by the competent authority.