Contribution ID: 3a79f8bb-74e8-4324-b5de-812f50eb5c38
Date: 30/08/2023 16:26:24

Heat pumps – action plan to accelerate roll-out across the EU

Fields marked with * are mandatory.

Introduction

Rolling out heat pumps is central to the clean-energy transition and to achieving carbon neutrality in line with the goals set in the European Green Deal. All policy scenarios underpinning the 'Fit for 55' legislative proposals show a significant uptake of heat pumps in all sectors, and notably in buildings. To meet the 2030 targets and deliver the needed fast decarbonisation of heat, installing boilers in new buildings and replacing fossil-fuel boilers by newer ones should be discontinued as soon as possible.

The REPowerEU plan calls for prioritising investments in renewables and energy efficiency to reduce fossil-fuel imports and for doubling current roll-out rates of heat pumps in buildings. It also calls for a faster roll-out of large heat pumps for district heating and cooling networks.

There is an urgent need to shift to renewable and efficient heating and cooling technologies in buildings, industry and networks. The European Commission report on the competitiveness of clean energy technologies indicates that the roll-out of all types of heat pumps needs to accelerate further: from heat pumps for single-family houses, large multi-apartment buildings, tertiary buildings and heat networks, to high-temperature heat pumps for industrial applications. The Green Deal Industrial Plan points to heat pumps as one of the key technologies to meet EU climate-neutrality goals in the Net-Zero Industry Act to underpin industrial manufacturing.

Achieving these objectives builds on the framework set by:

- the Renovation Wave;
- the ongoing reviews of heating and cooling product-specific regulations under the Ecodesign and Energy Labelling framework; and
- the ongoing legislative revision of the Energy Performance of Buildings Directive (EPBD), the Renewable Energy Directive (RED) and the Energy Efficiency Directive (EED), which are part of the 'Fit for 55' package.

Purpose of the communication

This initiative will focus on accelerating the roll-out of heat pumps. It will take the form of a strategic communication, with an integrated approach across policy areas. It will seek to draw up an action plan with specific measures to address the main barriers and to strengthen the pull factors for a faster roll-out of heat pumps. The action plan will consider: (i) regulatory and non-regulatory instruments and enabling tools; (ii)

financing, communication and skills-use aspects; and (iii) multiple levels of action (EU, national and local or regional).

The below aspects will underpin the action plan to accelerate the roll-out of heat pumps across the EU.

1. A **platform/accelerator/partnership** of the Commission, Member States, the sector itself, financial institutions and training providers across the whole heat-pump value chain, including on research and innovation, scaling up manufacturing, creating the right national conditions including a favourable electricity /gas price ratio, and cross-cutting standardisation and interoperability aspects to ensure that heat pumps can be widely rolled out without undermining power-grid stability.
2. Focus on **communication** and a dedicated heat-pump skills partnership. There is a need to raise awareness about heat pumps to support their uptake. Consumers, businesses and small industries should have easy access to information on existing heat-pump solutions and on the heat-pump readiness of their buildings, industrial plants and networks, etc.

3. Updated **legislative rules** will aim to ensure a sufficiently strong policy signal for the heat-pump market, including by phasing out stand-alone boilers by 2029. These rules include the recast EPBD and EED, the Article 122 emergency measure on permitting for renewables, the revised RED, the revision of electricity market design legislation, the Net-Zero Industry Act and the Critical Materials Act, and the Commission's proposals for the recast of the Energy Taxation Directive and for a regulation on fluorinated greenhouse gases.

4. More accessible **financing**. To facilitate access to all relevant EU funding programmes, the action plan will map financing possibilities for the roll-out of heat pumps at individual level, and for heating networks supplied by large heat pumps as part of heating and cooling strategies at local and regional level, especially for the less wealthy, like people affected by energy poverty. In this respect, the action plan will also specifically consider the need to boost whole-energy-system approaches in building renovation to prioritise investment in integrated energy-upgrade projects in buildings.

How can I participate

Please complete this questionnaire on the Commission's website. A synopsis report of this public consultation and a summary of the results of all consultations will be published on this page together with the Communication itself. Please note that to ensure a fair and transparent consultation process, only responses received through our online questionnaire will be considered and included in the report summarising the responses.

Questions marked with * are mandatory.

NB: There is a session timeout for the submission of your contribution after 60 minutes; this is an automatic security feature. In order to avoid any loss of data, do not forget to use the "Save as Draft" option on the top right side of your screen before the 60 minutes expire. You can subsequently resume work on your contribution, and submit once completed.

About you

* Language of my contribution

- ○ Bulgarian
- ○ Croatian
- ○ Czech
- ○ Danish
- ○ Dutch
- ○ English
- ○ Estonian
- ○ Finnish
- ○ French
- ○ German
- ○ Greek
- ○ Hungarian
- ○ Irish
- ○ Italian
- ○ Latvian
- ○ Lithuanian
- ○ Maltese
- ○ Polish
- ○ Portuguese
- ○ Romanian
- ○ Slovak
- ○ Slovenian
- ◉ Spanish
- ○ Swedish

* I am giving my contribution as

- ○ Academic/research institution
- ○ Business association
- ○ Company/business
- ○ Consumer organisation
- ○ EU citizen
- ○ Environmental organisation
- ○ Non-EU citizen
- ◉ Non-governmental organisation (NGO)
- ○ Public authority

- Trade union
- Other

* First name

Mónica

* Surname

Vidal

* Email (this won't be published)

monica.vidal@caneurope.org

* Organisation name

255 character(s) maximum

Climate Action Network EUrope (CAN Europe)

* Organisation size

- Micro (1 to 9 employees)
- Small (10 to 49 employees)
- Medium (50 to 249 employees)
- Large (250 or more)

Transparency register number

255 character(s) maximum

Check if your organisation is on the transparency register. It's a voluntary database for organisations seeking to influence EU decision-making.

55888811123-49

* Country of origin

Please add your country of origin, or that of your organisation.

This list does not represent the official position of the European institutions with regard to the legal status or policy of the entities mentioned. It is a harmonisation of often divergent lists and practices.

- Afghanistan
- Åland Islands
- Djibouti
- Dominica
- Libya
- Liechtenstein
- Saint Martin
- Saint Pierre and Miquelon

- Albania
- Algeria
- American Samoa
- Andorra
- Angola
- Anguilla
- Antarctica
- Antigua and Barbuda
- Argentina
- Armenia
- Aruba
- Australia
- Austria
- Azerbaijan
- Bahamas
- Bahrain
- Bangladesh
- Barbados
- Belarus
- Belgium
- Belize
- Benin
- Bermuda
- Bhutan
- Bolivia
- Dominican Republic
- Ecuador
- Egypt
- El Salvador
- Equatorial Guinea
- Eritrea
- Estonia
- Eswatini
- Ethiopia
- Falkland Islands
- Faroe Islands
- Fiji
- Finland
- France
- French Guiana
- French Polynesia
- French Southern and Antarctic Lands
- Gabon
- Georgia
- Germany
- Ghana
- Gibraltar
- Greece
- Greenland
- Grenada
- Lithuania
- Luxembourg
- Macau
- Madagascar
- Malawi
- Malaysia
- Maldives
- Mali
- Malta
- Marshall Islands
- Martinique
- Mauritania
- Mauritius
- Mayotte
- Mexico
- Micronesia
- Moldova
- Monaco
- Mongolia
- Montenegro
- Montserrat
- Morocco
- Mozambique
- Myanmar/Burma
- Namibia
- Saint Vincent and the Grenadines
- Samoa
- San Marino
- São Tomé and Príncipe
- Saudi Arabia
- Senegal
- Serbia
- Seychelles
- Sierra Leone
- Singapore
- Sint Maarten
- Slovakia
- Slovenia
- Solomon Islands
- Somalia
- South Africa
- South Georgia and the South Sandwich Islands
- South Korea
- South Sudan
- Spain
- Sri Lanka
- Sudan
- Suriname
- Svalbard and Jan Mayen
- Sweden

- Bonaire Saint Eustatius and Saba
- Bosnia and Herzegovina
- Botswana
- Bouvet Island
- Brazil
- British Indian Ocean Territory
- British Virgin Islands
- Brunei
- Bulgaria
- Burkina Faso
- Burundi
- Cambodia
- Cameroon
- Canada
- Cape Verde
- Cayman Islands
- Central African Republic
- Chad
- Chile
- China
- Christmas Island
- Clipperton
- Guadeloupe
- Guam
- Guatemala
- Guernsey
- Guinea
- Guinea-Bissau
- Guyana
- Haiti
- Heard Island and McDonald Islands
- Honduras
- Hong Kong
- Hungary
- Iceland
- India
- Indonesia
- Iran
- Iraq
- Ireland
- Isle of Man
- Israel
- Italy
- Jamaica
- Nauru
- Nepal
- Netherlands
- New Caledonia
- New Zealand
- Nicaragua
- Niger
- Nigeria
- Niue
- Norfolk Island
- Northern Mariana Islands
- North Korea
- North Macedonia
- Norway
- Oman
- Pakistan
- Palau
- Palestine
- Panama
- Papua New Guinea
- Paraguay
- Peru
- Switzerland
- Syria
- Taiwan
- Tajikistan
- Tanzania
- Thailand
- The Gambia
- Timor-Leste
- Togo
- Tokelau
- Tonga
- Trinidad and Tobago
- Tunisia
- Türkiye
- Turkmenistan
- Turks and Caicos Islands
- Tuvalu
- Uganda
- Ukraine
- United Arab Emirates
- United Kingdom
- United States

- Cocos (Keeling) Islands
- Colombia
- Comoros
- Congo
- Cook Islands
- Costa Rica
- Côte d'Ivoire
- Croatia
- Cuba
- Curaçao
- Cyprus
- Czechia
- Democratic Republic of the Congo
- Denmark
- Japan
- Jersey
- Jordan
- Kazakhstan
- Kenya
- Kiribati
- Kosovo
- Kuwait
- Kyrgyzstan
- Laos
- Latvia
- Lebanon
- Lesotho
- Liberia
- Philippines
- Pitcairn Islands
- Poland
- Portugal
- Puerto Rico
- Qatar
- Réunion
- Romania
- Russia
- Rwanda
- Saint Barthélemy
- Saint Helena Ascension and Tristan da Cunha
- Saint Kitts and Nevis
- Saint Lucia
- United States Minor Outlying Islands
- Uruguay
- US Virgin Islands
- Uzbekistan
- Vanuatu
- Vatican City
- Venezuela
- Vietnam
- Wallis and Futuna
- Western Sahara
- Yemen
- Zambia
- Zimbabwe

The Commission will publish all contributions to this public consultation. You can choose whether you would prefer to have your details published or to remain anonymous when your contribution is published. **Fo r the purpose of transparency, the type of respondent (for example, 'business association, 'consumer association', 'EU citizen') country of origin, organisation name and size, and its transparency register number, are always published. Your e-mail address will never be published.** Opt in to select the privacy option that best suits you. Privacy options default based on the type of respondent selected

* Contribution publication privacy settings

The Commission will publish the responses to this public consultation. You can choose whether you would like your details to be made public or to remain anonymous.

Anonymous

Only organisation details are published: The type of respondent that you responded to this consultation as, the name of the organisation on whose behalf you reply as well as its transparency number, its size, its country of origin and your contribution will be published as received. Your name will not be published. Please do not include any personal data in the contribution itself if you want to remain anonymous.

Public

Organisation details and respondent details are published: The type of respondent that you responded to this consultation as, the name of the organisation on whose behalf you reply as well as its transparency number, its size, its country of origin and your contribution will be published. Your name will also be published.

☑ I agree with the personal data protection provisions

Barriers to the roll-out of heat pumps in buildings, networks and industry

1. What are the key barriers that delay or prevent the roll-out of heat pumps in buildings in the EU?
(Please clarify in the comments if you are answering for a particular country)

Please rate the barriers, according to their importance:

	Very important	Important	Neutral	Slightly important	Not important at all	No opinion
* Demand side – High upfront costs (heat pump including additional installations such as water tanks, radiators, pipework, electrical system upgrades, drilling)	◉	○	○	○	○	○
* Demand side – High operating costs (including electricity bill, maintenance, repairs)	○	◉	○	○	○	○
* Demand side – Renovation hassle (e.g. building is not insulated, radiator system not ready for low flow temperature, obsolete piping and cabling, insufficient electrical capacity)	○	◉	○	○	○	○
* Demand side – Space/noise considerations (e.g. in multifamily buildings or in densely populated areas)	○	○	○	◉	○	○
* Supply side – Competition from cheaper, conventional fossil-fuel systems (e.g. gas boilers)	◉	○	○	○	○	○
* Supply side – Manufacturing constraints and supply-chain vulnerabilities (e.g. unavailable products for specific use cases, delivery delays)	○	◉	○	○	○	○
* Supply side – Shortage of skilled/certified installers	○	◉	○	○	○	○
* Supply side – Capacity limitations of distribution grid and cumbersome connection process	○	○	◉	○	○	○
* Energy market and pricing – Unfavourable network tariffs and taxation	○	◉	○	○	○	○
* Financing – Insufficient public support (e.g. grants, incentives)	◉	○	○	○	○	○
* Financing – Lack of simple, attractive and accessible private financing tools (e.g. loans)	◉	○	○	○	○	○

* Awareness – Lack of understanding of and trust in the technology (e.g. through one-stop shops, energy advisers)	○	◉	○	○	○	○
* Awareness – Insufficient awareness of heat pumps' potential for demand-side flexibility	○	◉	○	○	○	○
* Awareness – Unfavourable coverage in the press/media, contradictory information about technology options	○	○	◉	○	○	○
* Regulatory environment – Lack of rules on training and certification	○	◉	○	○	○	○
* Regulatory environment – Restrictive codes and standards	○	◉	○	○	○	○

Comments:

300 character(s) maximum

Financial support can help overcome the upfront cost problem.Subsidies,rebates, in particular for low-income. Financial measures need to be carefully designed and articulated aligned with deep renovation plans, and with a social justice lens to ensure that low income households are prioritised.

2. What are the key barriers that delay or prevent the roll-out of heat pumps in district heating/cooling networks in the EU? (Please clarify in the comments if you are answering for a particular country)

Please rate the barriers, according to their importance:

	Very important	Important	Neutral	Slightly important	Not important at all	No opinion
* Demand side – High upfront costs (capital expenditure)	◉	○	○	○	○	○
* Demand side – High operating costs (operating expenditure, e.g. for electricity, maintenance, repairs)	○	◉	○	○	○	○
* Demand side – Competition from cheaper, conventional fossil-fuel installations (e. g. gas boilers)	◉	○	○	○	○	○
* Demand side – District networks not ready for heat pumps (e.g. non-insulated networks, obsolete piping, networks only compatible with high temperature)	◉	○	○	○	○	○
* Supply side – Manufacturing constraints and supply-chain vulnerabilities (e.g. unavailable products for specific use cases, delivery delays)	○	◉	○	○	○	○
* Supply side – Shortage of skilled/certified installers	○	◉	○	○	○	○
* Energy infrastructure – Limited capacity of the electricity distribution grid	○	◉	○	○	○	○
* Energy infrastructure – Geographical constraints (e.g. lack of space in densely populated urban areas)	○	○	○	◉	○	○
* Energy market and pricing – Unfavourable network tariffs and taxation	○	○	○	○	○	◉
* Financing – Insufficient public support (e.g. grants, incentives)	◉	○	○	○	○	○
* Financing – Lack of simple, attractive and accessible private financing tools (e.g. loans)	◉	○	○	○	○	○
* Regulatory environment – Lengthy permitting and administrative procedure	○	◉	○	○	○	○

* Awareness – Insufficient awareness of heat pumps' potential for demand-side flexibility	○	◉	○	○	○	○
* Awareness – Lack of awareness of successful business cases	○	◉	○	○	○	○

Comments:

300 character(s) maximum

Currently, most DH systems are based on fossil fuel or biomass,using very high temperatures.To incorporate more heat pumps in DH, temperatures will need to be lowered through EE measures.DH, requires more planning and infrastructure investment than individual solutions such as heat pumps.

3. What are the key barriers that delay or prevent the roll-out of heat pumps in EU industry?
(Please clarify in the comments if you are answering for a particular country)

Please rate the barriers, according to their importance:

	Very important	Important	Neutral	Slightly important	Not important at all	No opinion
* Demand side – High upfront costs (capital expenditure)	○	○	○	○	○	◉
* Demand side – High operating costs (operating expenditure, e.g. for electricity, maintenance, repairs)	○	○	○	○	○	◉
* Demand side – Competition from cheaper, conventional fossil-fuel installations (e. g. gas boilers)	○	◉	○	○	○	○
* Demand side – Technical limitations (e.g. shortage of space, lack of primary heat source, too high process temperature)	○	○	○	○	○	◉
* Supply side – Manufacturing constraints and supply-chain vulnerabilities (e.g. unavailable products for specific use cases, delivery delays)	○	◉	○	○	○	○
* Supply side – Shortage of skilled/certified installers	○	◉	○	○	○	○
* Financing – Insufficient public support (e.g. grants, incentives)	○	◉	○	○	○	○
* Financing – Lack of simple, attractive and accessible private financing tools (e.g. loans)	◉	○	○	○	○	○
* Regulatory environment – Lengthy permitting and administrative procedure	○	○	○	○	○	◉
* Awareness – Insufficient awareness of heat pumps' potential for demand-side flexibility	○	○	◉	○	○	○
* Awareness – Insufficient internal technical knowledge (e.g. on the minimum heat demand requirements and the applicability of industrial heat pumps in existing processes)	○	○	◉	○	○	○

* Awareness – Lack of critical mass of successful projects in similar industrial processes (lighthouse projects)	○	○	○	◉	○	○

Comments:

300 character(s) maximum

Public finance for the roll-out of heat pumps in EU industry should be differentiated based on the size of companies. Whilst public finance (whether grant or loan based), including ETS revenues, may be necessary for rolling out heat pumps in SMEs , such is not the case for large entities.

Facilitating policies and measures to accelerate the roll-out of heat pumps

4. Which policies and measures do you think are most relevant to accelerate the roll-out of heat pumps in buildings in the EU?

Please rate them according to their relevance:

	Very relevant	Relevant	Neutral	Slightly relevant	Not relevant at all	No opinion
* Requirements on the energy performance of buildings (e.g. mandatory minimum energy-performance standards, zero-emission standards)	◉	○	○	○	○	○
* Requirements on the performance of technical building systems (e.g. minimum requirements on greenhouse-gas emissions of technical building systems, minimum requirements for use of renewable energy in heating and cooling of buildings)	◉	○	○	○	○	○
* Limitations on installations of new stand-alone fossil-fuel heating systems (e.g. via ecodesign minimum requirements)	◉	○	○	○	○	○
* Legal mandates / minimum targets for heat-pump installations in public buildings	◉	○	○	○	○	○
* Ambitious ecodesign regulations for heat pumps (e.g. by introducing a minimum seasonal heating efficiency)	◉	○	○	○	○	○
* Introduction of a unified EU energy label to make it possible to compare different technologies	◉	○	○	○	○	○
* Requirements for energy-efficiency obligation schemes to promote the uptake of heat pumps to comply with the energy-saving obligation	○	◉	○	○	○	○
* Requirements for the roll-out of separate sub-metering for heat pumps	○	◉	○	○	○	○
* Regulatory measures to strengthen compatibility, interoperability and communication of heat pumps with other building management systems or with the grid	○	◉	○	○	○	○
* Mandatory training and certification on the use of climate-friendly refrigerants	○	◉	○	○	○	○
* Incentivisation of heat pumps through green public procurement	◉	○	○	○	○	○

* National targets and roadmaps for rolling out heat pumps	◉	○	○	○	○	○
* Incentives for replacing existing stand-alone fossil-fuel heating systems (e.g. gas boilers) with heat pumps	◉	○	○	○	○	○
* Incentives for developing demand-side flexibility, including heat pumps and storage	○	◉	○	○	○	○
* Strengthening carbon pricing to reflect external costs of fossil fuels, including through the new emissions trading system covering fuels used for combustion in the buildings, road transport and additional sectors	◉	○	○	○	○	○
* Strengthening consumer information on / awareness of the importance of low-temperature radiators through an EU energy label	○	◉	○	○	○	○
* Increased market transparency for heat pumps via the EPREL energy-labelling database	◉	○	○	○	○	○
* Introduction of information/advice on low-temperature heating in energy performance certificates	○	◉	○	○	○	○

Comments:

300 character(s) maximum

We must incentivise RES heating solutions like heat-pumps coupled with energy savings measures, improving performance and comfort for occupants. Measures that induce cost increases on households should be accompanied by targeted support, in particular yielded towards low income households.

5. Which policies and measures do you think are most relevant to accelerate the roll-out of heat pumps in district heating/cooling networks in the EU?

Please rate them according to their relevance:

	Very relevant	Relevant	Neutral	Slightly relevant	Not relevant at all	No opinion
* Simplification and acceleration of permitting procedures for connection to distribution grids	◉	○	○	○	○	○
* Minimum targets for district network operators on use of renewable energy	○	◉	○	○	○	○
* Increasing the capacity of the electricity grid and putting in place communication standards between heat pumps and the electricity grid to facilitate demand-side flexibility	○	◉	○	○	○	○
* Promotion of large-scale heat pumps through green public procurement	◉	○	○	○	○	○
* Financial support and incentives for the installation of heat pumps in district heating networks	◉	○	○	○	○	○
* Strengthening carbon pricing to reflect external costs of fossil fuels, including through the new emissions trading system covering fuels used for combustion in the buildings, road transport and additional sectors	◉	○	○	○	○	○
* National targets and roadmaps for rolling out heat pumps	◉	○	○	○	○	○

Comments:

300 character(s) maximum

A ban on fossil fuel boilers will help the roll-out of heat pumps in district heating networks.Furthermore,H&C plans as mandated by Article 23 revised EED should ensure a fully sustainable renewables based district heating and cooling networks by 2040,which accelerates the roll out of heat pumps.

6. Which policies and measures do you think are most relevant to accelerate the roll-out of heat pumps in EU industry?

Please rate them according to their relevance:

	Very relevant	Relevant	Neutral	Slightly relevant	Not relevant at all	No opinion
* Simplification and acceleration of permitting procedures for connection to distribution grids	○	○	○	○	○	◉
* Minimum targets for industries on use of renewable energy	○	○	○	○	○	◉
* Increasing the capacity of the electricity grid and putting in place communication standards between heat pumps and the electricity grid to facilitate demand-side flexibility	○	◉	○	○	○	○
* Financial support and incentives for the installation of heat pumps in industrial facilities	○	○	○	○	◉	○
* Strengthening carbon pricing to reflect external costs of fossil fuels, including through the new emissions trading system covering fuels used for combustion in the buildings, road transport and additional sectors	○	◉	○	○	○	○
* National targets and roadmaps for rolling out heat pumps	◉	○	○	○	○	○

Comments:

300 character(s) maximum

Now small businesses are also covered by "additional sectors " in the ETS ii

Economic and financing tools to accelerate the roll-out of heat pumps

7. Which economic and financing tools do you think are most relevant to accelerate the roll-out of heat pumps in buildings in the EU?

Please rate them according to their relevance:

	Very relevant	Relevant	Neutral	Slightly relevant	Not relevant at all	No opinion
* EU public funding – Steer funding from existing instruments towards rolling out heat pumps (e.g. incentives for replacing existing stand-alone fossil-fuel heating systems)	◉	○	○	○	○	○
* Private funding – Attractive and easily accessible private financing tools (e.g. low-interest loans, revolving funds, green leasing, energy service agreements, energy performance contracts)	◉	○	○	○	○	○
* Private funding – Incentivise and de-risk private-sector investment (e.g. leveraging revolving funds, guarantees)	◉	○	○	○	○	○
* Innovative financing – Explore innovative financing tools (e.g. including heat service contracts, on-bill schemes, crowdfunding, performance guarantees)	◉	○	○	○	○	○
* Taxation – Favourable pricing policies for purchasing heat pumps (e.g. tax reductions and deductions, etc.)	◉	○	○	○	○	○
* Taxation – Favourable tax rates for electricity compared to gas	◉	○	○	○	○	○
* Taxation – Increased carbon pricing of fossil fuels through the Emissions Trading System, including through the new system covering fuels used for combustion in the buildings, road transport and additional sectors	○	◉	○	○	○	○

* Taxation – Provisions in the Energy Taxation Directive (e.g. introduction of new minimum rates that enable a direct comparison between more and less polluting fuels)	○	○	○	○	○	◉

Comments:

300 character(s) maximum

Financial instruments should be adapted for different categories of households, depending on ownership structure and financial capabilities.Grant-based public finance should prioritise the roll-out of heat pumps for low income.Taxation and pricing need to be designed in a socially progressive way.

8. Which financing tools do you think are most relevant to accelerate the roll-out of heat pumps in district heating/cooling networks in the EU?

Please rate them according to their relevance:

	Very relevant	Relevant	Neutral	Slightly relevant	Not relevant at all	No opinion
* EU public funding – Steer funding from existing instruments towards rolling out heat pumps (e.g. incentives for replacing existing fossil-fuel systems)	◉	○	○	○	○	○
* Steer revenues from the Emissions Trading System towards rolling out heat pumps	◉	○	○	○	○	○
* Incentivise and de-risk private-sector investment (e.g. leveraging revolving funds, guarantees)	◉	○	○	○	○	○
* Attractive and easily accessible private financing tools (heat-pump loans, revolving funds, green leasing, energy service agreements, energy performance contracting, etc.)	◉	○	○	○	○	○
* Innovative financing schemes for network operators and public authorities to invest in heat pumps (e.g. municipal bonds, heat service contracts, etc.)	○	◉	○	○	○	○

* Indirect financial incentives, e.g. lower insurance premiums	◉	○	○	○	○	○

Comments:

300 character(s) maximum

EU Cohesion & Modernisation Fund still allows funding gas boilers, gas based DH, (unsustainable) biomass CHPs, and support heat pumps in a limited way . Operational programmes should be revised by MS to prioritise support for heat pumps, gas-based CHPs funding should be kept in check under Mod Fund.

9. Which financing tools do you think are most relevant to accelerate the roll-out of heat pumps in EU industry?

Please rate them according to their relevance:

	Very relevant	Relevant	Neutral	Slightly relevant	Not relevant at all	No opinion
* EU public funding – Steer funding from existing instruments towards rolling out heat pumps (e.g. incentives for replacing existing fossil-fuel systems)	○	◉	○	○	○	○
* Steer revenues from the Emissions Trading System towards rolling out heat pumps	○	○	○	◉	○	○
* Incentivise and de-risk private-sector investment (e.g. leveraging revolving funds, guarantees)	○	◉	○	○	○	○
* Attractive and easily accessible private financing tools (heat-pump loans, green leasing, energy service agreements, energy performance contracting, etc.)	◉	○	○	○	○	○
* Innovative financing schemes for industries to invest in heat pumps, including heat service contracts	◉	○	○	○	○	○
* Indirect financial incentives, e.g. lower insurance premiums	◉	○	○	○	○	○

Comments:

300 character(s) maximum

Public finance for the roll-out of heat pumps in EU industry should be differentiated based on the size of companies. Whilst public finance (whether grant or loan based), including ETS revenues, may be necessary for rolling out heat pumps in SMEs , such is not the case for large entities.

10. Which are the most important types of EU funding to support the roll-out of heat pumps in buildings, district heating /cooling networks and in industry in the EU?

Please rate the types of funding, according to their importance:

	Very important	Important	Neutral	Slightly important	Not important at all	No opinion
* Funding for research and innovation actions (e.g. via Horizon Europe programme)	○	◉	○	○	○	○
* Funding for market-uptake actions (e.g. via LIFE-Clean Energy Transition programme)	○	○	○	◉	○	○
* Funding for large-scale demonstrators and big flagship projects (e.g. via the Innovation Fund)	○	◉	○	○	○	○
* Funding from national/regional funds (e.g. cohesion policy funds: European Regional Development Fund, Cohesion Fund, Just Transition Fund, Modernisation Fund)	◉	○	○	○	○	○
* Funding using revenues from the Emissions Trading System	○	○	◉	○	○	○
* Manufacturing subsidies (e.g. via Important Projects of Common European Interest)	○	○	○	○	○	◉

Comments:

300 character(s) maximum

Revenues generated by the ETS (i and ii) should be primarily used to support heat pump deployment in households and small businesses, while larger industries should make use of already existing financial support to increase heat pump deployment (i.e. Innovation Fund)

Strengthening technical assistance and awareness to accelerate the roll-out of heat pumps

11. Which measures to strengthen technical assistance and awareness do you think are most relevant to accelerate the roll-out of heat pumps in buildings in the EU?

Please rate them according to their relevance:

	Very relevant	Relevant	Neutral	Slightly relevant	Not relevant at all	No opinion
* National/regional communication campaigns targeting consumers presenting available technical solutions for various use cases	◉	○	○	○	○	○
* Community-led information campaigns at local level, for example by fostering communication between installers, consumers and energy advisers	○	◉	○	○	○	○
* Access to tailored advice (e.g. one-stop shops) for households, especially vulnerable ones and those at risk of energy poverty	◉	○	○	○	○	○
* Operational support for project conception, design and implementation	◉	○	○	○	○	○
* EU countries to exchange best practice and to support each other in drawing up national heat-pump action plans	○	◉	○	○	○	○
* Track progress on heat-pump roll-out targets at EU level and across all EU countries	○	○	◉	○	○	○

Comments:

300 character(s) maximum

A network of one-stop-shops and other sources of free-of-charge, independent information, would help homeowners and tenants, especially most vulnerable ones, identify and access financial support, refine their project, and even check installers offers and quality.

12. Which measures to strengthen technical assistance and awareness do you think are most relevant to accelerate the roll-out of heat pumps in district heating /cooling networks in the EU?

Please rate them according to their relevance:

	Very relevant	Relevant	Neutral	Slightly relevant	Not relevant at all	No opinion
* Technical assistance for network operators in legal, planning, permitting, technical, administrative and financing matters (e.g. via ELENA grants)	◉	○	○	○	○	○
* Communication campaigns targeting network operators and public authorities on available heat-pump solutions for district heating/cooling networks	○	◉	○	○	○	○
* Facilitate large-scale projects and interregional cooperation to scale up manufacturing of the most efficient technologies for large-scale heat pumps for district heating and cooling networks	○	○	○	○	○	◉
* EU countries to exchange best practice and to support each other in drawing up national heat-pump action plans	○	○	◉	○	○	○
* Track progress on heat-pump roll-out targets at EU level and across all EU countries	○	○	◉	○	○	○
* Raise awareness through energy audits	○	○	◉	○	○	○

Comments:

300 character(s) maximum

13. Which measures to strengthen technical assistance and awareness do you think are most relevant to accelerate the roll-out of heat pumps in EU industry?

Please rate them according to their relevance:

	Very relevant	Relevant	Neutral	Slightly relevant	Not relevant at all	No opinion
* Technical assistance for industries in legal, planning, permitting, technical, administrative and financing matters (e.g. via ELENA grants)	○	○	○	○	○	◉
* Communication campaigns targeting businesses and small industries on available solutions for high-temperature heat pumps for industry	○	○	○	○	○	◉
* Bring together the heat-pump sector (manufacturers, suppliers) with industrial sectors to develop tailor-made solutions for the specific needs of the industry and standardise them to reduce cost and risks	○	○	○	○	○	◉
* Develop more energy-services companies to provide technical and/or financial support for the integration of heat pumps in existing processes	○	○	○	○	○	◉
* Facilitate large-scale projects and interregional cooperation to scale up manufacturing of the most efficient technologies for large industrial heat pumps	○	○	○	○	○	◉
* EU countries to exchange best practice and to support each other in drawing up national heat-pump action plans	○	○	○	○	○	◉
* Track progress on heat-pump roll-out targets at EU level and across all EU countries	○	○	○	○	○	◉

* Raise awareness through energy audits	○	○	○	○	○	◉

Comments:

300 character(s) maximum

Improving skills and knowledge to accelerate the roll-out of heat pumps

14. Which measures to improve skills and knowledge do you think are most relevant to accelerate the roll-out of heat pumps in buildings, district heating/cooling networks and in industry in the EU?

Please rate them according to their relevance:

	Very relevant	Relevant	Neutral	Slightly relevant	Not relevant at all	No opinion
* Mapping of skills shortages in relevant sectors, including traditional and new skills (e.g. digitalisation, hybridisation, system optimisation, use of natural refrigerants)	◉	○	○	○	○	○
* Mutual recognition of skills and qualifications across EU countries in the context of free movement of workers	○	◉	○	○	○	○
* EU-wide recognition mechanisms of relevant professions, tasks or skills (e.g. certification, qualification, accreditation)	○	◉	○	○	○	○
* National/regional dedicated training programmes for engineers and installers organised by educational institutions and/or training providers	◉	○	○	○	○	○
* Identifying common core training aspects of relevance for rolling out heat pumps in national training curricula with relevance to building renovation and modernisation	◉	○	○	○	○	○

* Incorporating training and degree courses into formal higher education curricula to provide the relevant skills set	◉	○	○	○	○	○
* Developing key modules of training materials that could fit into standardised core training with focus on the technologies in question that could be easily adjusted to national contexts	◉	○	○	○	○	○

Comments:

300 character(s) maximum

Governments and the private sector should jointly ensure good working conditions (e.g. better safety conditions and wages), improve qualification requirements, and roll-out large-scale educational initiatives to ensure that there is a sufficient (direct) supply of qualified and certified workers.

15. Which specific activities are most relevant to improve skills and knowledge for the roll-out of heat pumps in buildings, district heating/cooling networks and in industry in the EU?

Please rate them according to their relevance:

	Very relevant	Relevant	Neutral	Slightly relevant	Not relevant at all	No opinion
* National/regional certification programmes for e.g. engineers and installers	◉	○	○	○	○	○
* Training programmes organised by installers associations, funded by national/regional funds	◉	○	○	○	○	○
* Obligation on heat-pump manufacturers and suppliers to train and certify engineers, installers and retailers	○	◉	○	○	○	○
* National/regional train-the-trainers programmes for energy advisers, who act as recognised and trusted trainers for engineers and installers	◉	○	○	○	○	○
* One-stop shops at national /regional level that provide trusted advice to engineers and installers	◉	○	○	○	○	○

* National/regional registers (databases) of trained/certified engineers and installers	◉	○	○	○	○	○
* Free online courses in all EU languages collected on a common platform (e.g. BUILD Up Skills)	◉	○	○	○	○	○
* Fostering cooperation between players of the heat-pump value chain: engineers; installers; retailers; manufacturers; component, material and technology suppliers, etc.)	◉	○	○	○	○	○
* Development of practical training material providing information on best installation practice and common mistakes to avoid	○	◉	○	○	○	○
* Development of practical training material providing information on training and certification programmes for heat-pump engineers and installers	○	◉	○	○	○	○

Comments:

300 character(s) maximum

Both Governments and manufacturers must step up their efforts in communications towards, & training of, installers of RE-heating systems. They need to make installers aware of their importance, benefits, and applications, so they will be more prone to recommending such technologies.

Facilitating system integration of heat pumps

16. Integration with local renewables: If you have a heat pump for your domestic or business needs, is it coupled to local renewable generation?

- ○ Yes, solar photovoltaic generation
- ○ Yes, solar thermal generation
- ○ Yes, both solar photovoltaic and solar thermal generation
- ○ No

Comments:

500 character(s) maximum

17. Integration with local storage: If you have a heat pump for your domestic or business needs, is it coupled to a local storage system?

- ○ Yes, electric storage (battery)
- ○ Yes, thermal storage (e.g. water tank)
- ○ Yes, both thermal and electric storage
- ○ No

Comments:

500 character(s) maximum

18. How would you assess the below factors that may deter you from installing a local renewable or storage system?

Please rate the factors, according to their importance:

	Very important	Important	Neutral	Slightly important	Not important at all	No opinion
Funding for research and innovation actions (e.g. via Horizon Europe programme)	◉	○	○	○	○	○
Lack of standardised solutions	◉	○	○	○	○	○
Lack of trustworthy/experienced installers	◉	○	○	○	○	○
Environmental issues with end-of-life disposal/recycling	○	◉	○	○	○	○
Grid connection issues (e.g. permitting, smart metering)	◉	○	○	○	○	○
Safety-related issues (e.g. fire safety)	○	○	○	○	○	◉
Space availability issues (e.g. roof space)	○	○	○	◉	○	○
Maintenance hassle	○	○	○	◉	○	○

Comments:

500 character(s) maximum

Overall, the combination of solar rooftops and heat pumps support grid flexibility, resilience, and stability. Reducing grid's peak load through shifting demand to align with electricity generation is an important win-win. Demand response capability of heat pumps helps to balance the supply and demand of electricity on the grid, by ramping up in times of surplus wind and solar power production, advancing RES penetration.

19. Integration with the grid: If you have a heat pump for your domestic or business needs, do you provide flexibility services (e.g. through demand response) to the local electricity grid?

- Yes
- No

Comments (if applicable, please describe the setting in which these services are provided):

500 character(s) maximum

Increasing sustainability, resilience, competitiveness, innovation and transparency along the heat-pump value chain

20. How would you rate the below factors that may hamper the EU's capacity for innovation in relation to the heat-pump value chain?

Please rate the factors, according to their importance

	Very important	Important	Neutral	Slightly important	Not important at all	No opinion
Lack of support to academic and research institutions for research and innovation	○	◉	○	○	○	○
Limited large-scale manufacturing in the EU at present	○	◉	○	○	○	○
Lack of financing for start-ups	○	○	○	○	○	◉
Process for EU-wide patents is too long and costly	○	○	○	○	○	◉
No possibility to apply for a provisional patent at EU level, with minimal cost, securing short-term (e.g. 1-year) patent protection	○	○	○	○	○	◉
Lack of technical and financial capacity to enter into future intellectual property disputes	○	○	○	○	○	◉
Lack of standardisation (e.g. of data interface)	○	○	○	○	○	◉
Lack of updated safety standards	○	○	○	○	○	◉

Comments:

500 character(s) maximum

Heat pumps are at the start of an important innovation journey, research can play an important role in overcoming some obstacles, such the use of natural refrigerants and space and noise constraints. Large-scale manufacturing can help bring down the upfront costs for heat pumps.

21. How would you rate the potential of the individual sectors of the heat-pump value chain to increase the competitiveness and reduce the dependency of the EU industry?

Please rate the factors, according to their importance

	Very important	Important	Neutral	Slightly important	Not important at all	No opinion
Motors, compressors, accumulators, fans	○	○	○	○	○	◉
Heat exchangers	○	○	○	○	○	◉
Electronics, chips, controllers, semiconductors	○	○	○	○	○	◉
Raw materials (e.g. copper, steel)	○	○	○	○	○	◉
Piping, valves	○	○	○	○	○	◉
Natural refrigerants	◉	○	○	○	○	○
Module production	○	○	○	○	○	◉
Project engineering, procurement and construction	○	○	○	○	○	◉
Project operation and maintenance	○	○	○	○	○	◉
System dismantling and recycling	○	◉	○	○	○	○

Comments:

500 character(s) maximum

The EU is 100% self-sufficient in natural refrigerant production (propane,..). Boosting the application of natural refrigerants would reduce F-gas imports from extra-EU countries, providing an opportunity for the EU to help achieve Green Deal goals and increase energy independence. A better dismantling of HPs at their end of life could increase the 1:1 reuse rate of materials and therefore keep their value instead of downcycling them, thus subsequently lowering the demand for new raw materials.

22. Would you consider it useful to introduce any of the below sustainability measures related to the production and/or lifecycle of heat-pump products/systems sold in the EU?

- (●) Yes
- ( ) No
- ( ) No opinion

If Yes, which ones? [more than one answer possible]

- [x] Requiring transparency about environmental sustainability (e.g. through labelling)
- [x] Requiring transparency about carbon footprint (e.g. through labelling)
- [x] Requiring transparency about employment conditions (e.g. through labelling)
- [x] Laying down quantitative requirements (e.g. thresholds) for environmental sustainability, carbon footprint, or other production aspects

Comments:

500 character(s) maximum

Climate impact- in GHG emissions' terms - needs to be present on the energy label, next to energy efficiency. Transparency with appropriate market surveillance and clear thresholds of energy and material efficiency, via Ecodesign and energy labelling, are key to ensuring the quality and sustainability of the products. Heat pumps should be long-lasting with as much recyclable and recycled content as possible.

23. Do you consider that supply-chain challenges could have a substantial impact on the availability of heat-pump solutions in the EU market from now until 2030?

- (●) Certainly yes
- ( ) Likely
- ( ) Maybe
- ( ) Unlikely
- ( ) Certainly no
- ( ) No Opinion

Comments:

500 character(s) maximum

With bottlenecks in shipping and air freight, there are delays in the time it takes for components and final products to reach their destination, resulting in shortages of important materials needed to build renewable heating equipment (e.g. copper, steel, aluminium and plastic). In the mid- and long-term, the effects of supply chain disruptions are not yet clear. If they continue for a long enough period, we might see partial or total relocalisation of the renewable heating industry.

24. Do you consider that supply-chain challenges could have a substantial impact on the affordability of heat-pump solutions in the EU market from now until 2030?

- ○ Certainly yes
- ◉ Likely
- ○ Maybe
- ○ Unlikely
- ○ Certainly no
- ○ No Opinion

Comments:

500 character(s) maximum

Low supply results in higher prices for the end-user, and adds to already high inflation. In a context of high prices, it is of little surprise that customers turn to low-cost, low-quality equipment.

25. What measures do you think the EU heat-pump industry should take to ensure that businesses across the supply chain can meet demand?

500 character(s) maximum

To solve these issues in the short-term, installers of renewable heating equipment may need to diversify suppliers, and pre-order some equipment to make sure there is a stock to offer to clients. In the mid- long term, the Just Transition Fund, among other Funds, could finance the relocalisation/creation of local, sustainable and future-proof manufacturing capacity, especially in coal regions.

26. What measures do you think EU countries, regions and local authorities should take to support the manufacturing and roll-out of heat pumps?

500 character(s) maximum

Support the relocalisation/ creation of local, sustainable and future-proof manufacturing capacity in coal regions.Also local authorities should create one stop shops to support the roll-out of heat pumps integrated in an holistic approach, including building renovations and solar rooftops using PV and solar thermal panels.

27. Do you consider that the EU's reliance on imported products/materials in the heat-pump sector may jeopardise a speedy roll-out of heat pumps?

- (●) Yes
- ( ) No

Comments:

500 character(s) maximum

28. For which raw materials or specific intermediate components do the below situations apply – if any?
a. EU suppliers depend on a single supplier / non-EU country for a critical percentage (e.g. 65% of the total trade volume)
b. EU suppliers encounter trade barriers / non-tariff measures imposed by non-EU countries
c. Specific measures of cooperation with non-EU countries (e.g. partnerships) should be taken (also for final products)

500 character(s) maximum

29. Please upload your file(s), if you have any further comments or specific contributions that are relevant for heat pump roll-out and are not covered by the questionnaire.

Only files of the type pdf,txt,doc,docx,odt,rtf are allowed

Contact

ENER-B3-SECRETARIAT@ec.europa.eu