IMPACT OF A BAN OF FOSSIL HEATING TECHNOLOGIES ON NECPS AND NATIONAL ENERGY DEPENDENCY

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The report has been developed in collaboration with a research-based learning project in the course “Energy Transitions and Policy” at Freiburg University with contributions from:

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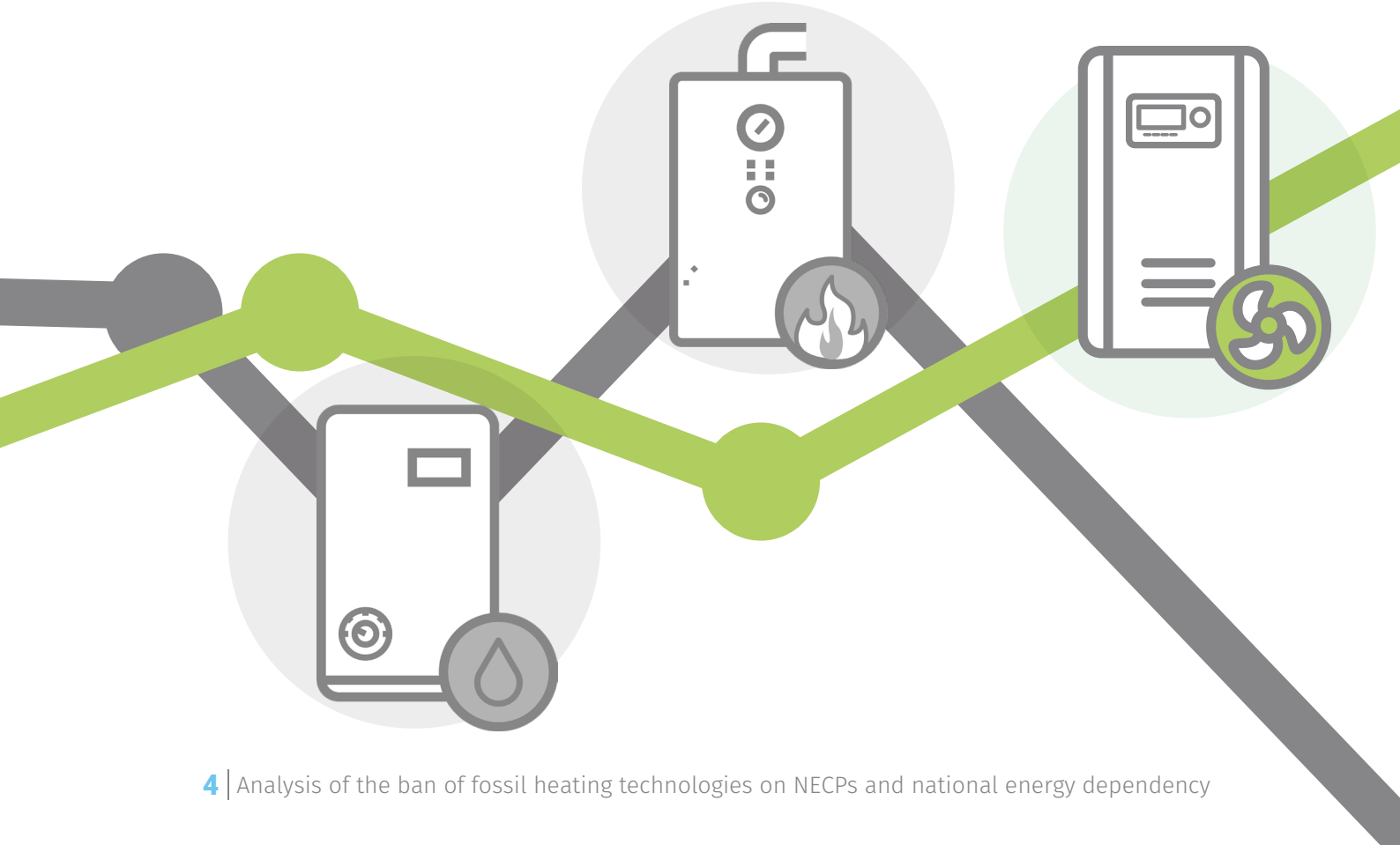
Background and objectives

The decarbonisation of the EU heating and cooling sector is a key element for meeting the EU's energy and climate target and for fulfilling the EU's commitments under the Paris Agreement. In addition, in view of Russia's invasion of Ukraine, the EU and its Member States are increasing their efforts to reduce their dependency on fossil fuel imports.

A rapid phase-out of the use of fossil fuels for heating buildings is a key requirement for meeting the EU´s energy and climate targets[1] and can support the reduction of import dependency. Several EU Member States have introduced phase-out regulations, however with differing ambition and scope. For example, some regulations address only selected building segments (e.g. only new buildings) or selected fuels (e.g. only oil)[2].

The EU policy framework addressing the buildings sector does not currently include provisions to introduce a rapid phase-out of fossil fuels for heating. Key elements of the framework include the provisions in the Energy Performance of Buildings Directive (EPBD), the Renewable Energy Directive (RED), the Energy Efficiency Directive (EED) and the Ecodesign regulations for space and water heaters. It is essential to develop a roadmap for rapidly phasing out fossil fuels for heating and to consistently adopt the provisions in the relevant directives accordingly.

The EU Member States report the climate objectives and targets in the National Energy and Climate Plans (NECPs). This includes targets to reduce greenhouse gas emissions under the Effort Sharing Regulation, national targets to increase the share of renewable energies to support the achievement of the EU target, a target to increase the share of renewable energies in heating and cooling by 1.1 percent per year, as well as targets to increase energy efficiency.



This report investigates the potential impact of an EU ban on sales of fossil boilers on achievement of existing targets for heating decarbonisation and energy dependency of the individual Member States.

To achieve this objective, the following research questions are addressed:

What effect would a ban on fossil heating in buildings have on import dependency in the EU Member States?

What effect would a ban on fossil heating in buildings have on the achievement of the energy and climate targets in the EU Member States?

Which measures to support the transition of the heating sector have been implemented in the EU Member States so far?

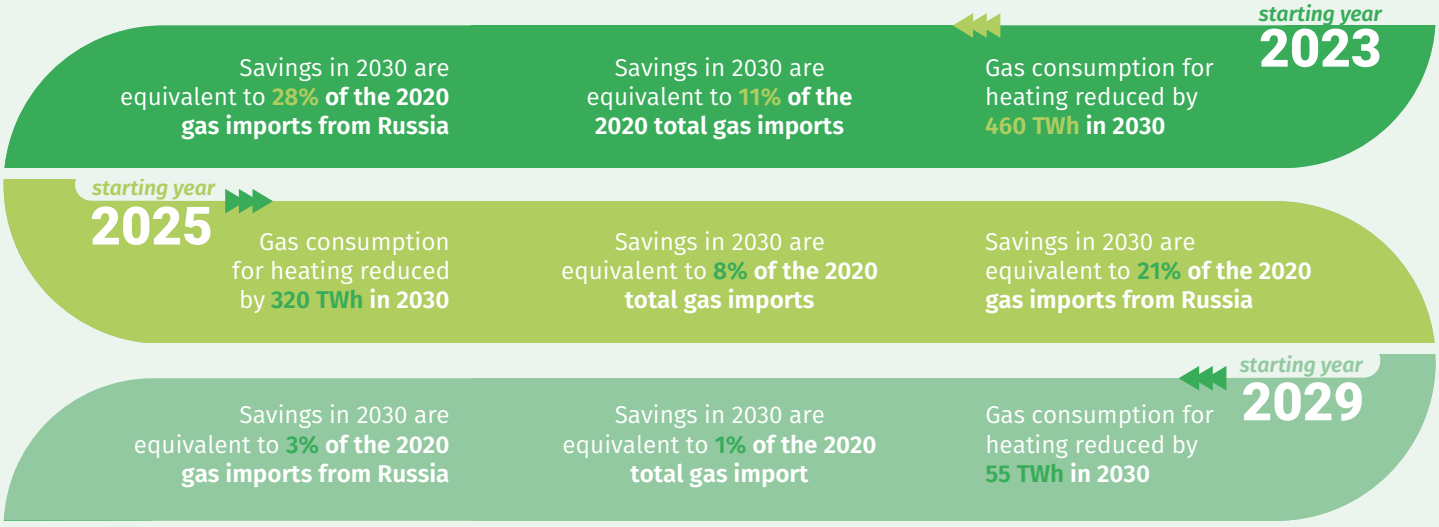
Impact of ban of fossil boilers on import dependency

The impact of a ban on fossil boilers on import dependency is analysed by estimating the impact of the boiler ban on the consumption of gas and oil for heating and comparing the resulting energy savings in the year 2030 to current import levels. The considered ban on fossil boilers encompasses gas, oil and coal boilers and assumes that all newly installed heating systems are fully renewable.

Figure 1 compares the impact of a fossil boiler ban on gas consumption in the EU-27 in 2030 to the gas imports in the year 2020. With a boiler ban introduced in 2023, the total gas savings in 2030 amount to 460 TWh, corresponding to 11% of the total gas imports in 2020 (28% of imports from Russia). With an introduction in 2025, savings amount to 320 TWh in 2030, corresponding to 8% of the total gas imports in 2020 (21% of imports from Russia). With an introduction of the boiler ban in 2029, savings in 2030 are reduced to 55 TWh, corresponding to 1% of total imports (3% of imports from Russia). For oil, the impact is lower by a factor of about ten as oil has a lower share in the energy mix for heating compared to gas.

Figure 1

Savings of gas consumption in 2030 and comparison to gas imports in 2020.



The impact of a boiler ban on gas imports differs largely between the Member States, ranging from 0% of 2020 import levels to almost 70% of 2020 import levels for a ban introduced in 2023. The differences are driven by two elements, the total import levels and the share of fossil fuels used in individual heating.

Figure 2 shows the total natural gas imports from Russia and other countries for the EU Member States as well as the gas consumption for heating. The figure shows the total imports for each country and does not consider exports. For countries with relevant energy exports, the exports are compared to imports in Figure 3.

figure 2
Natural Gas
imports and gas consumption for heating
in the EU-Member States.

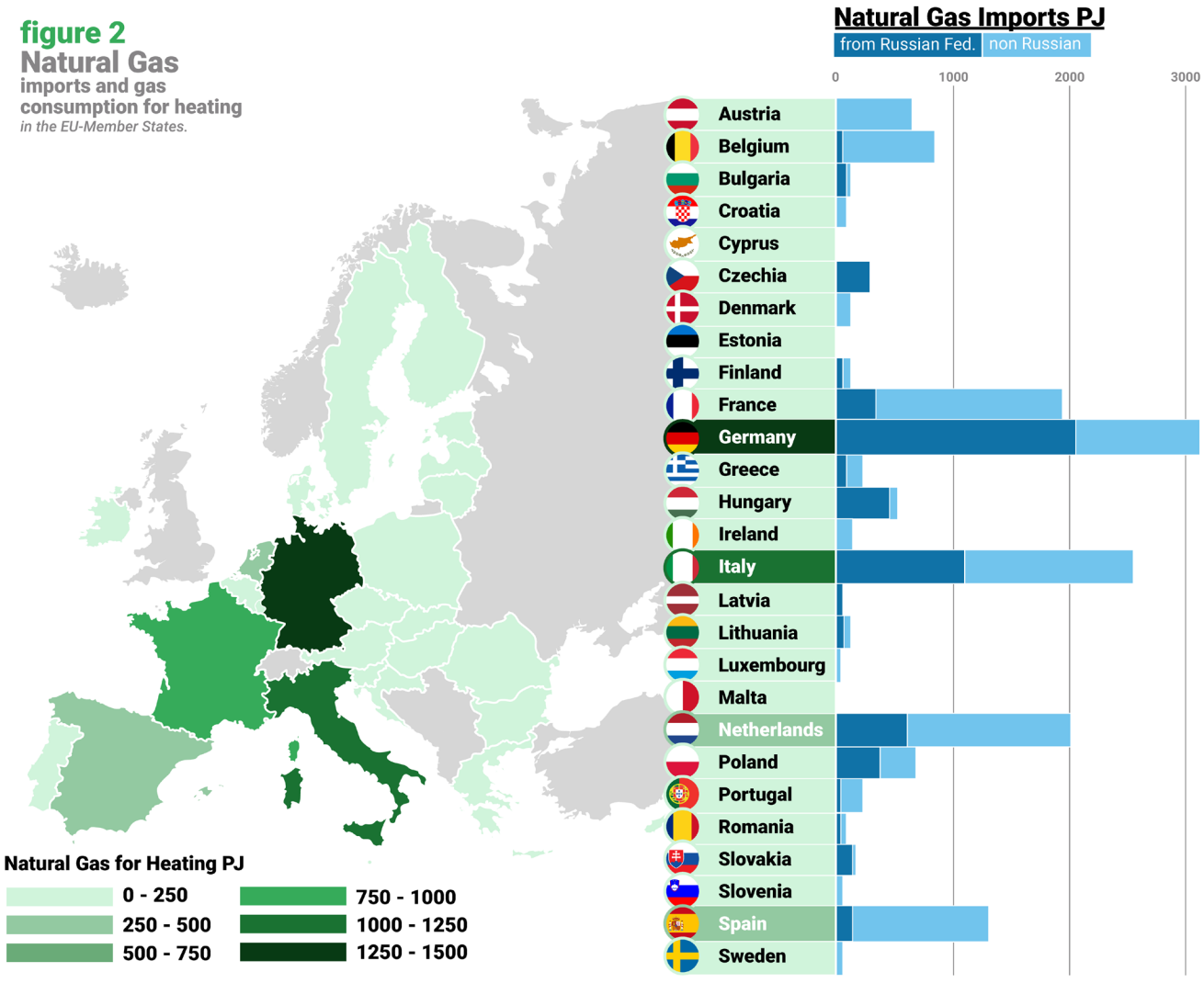


figure 3
Natural Gas
imports/exports (TWh)
for selected EU Member States.

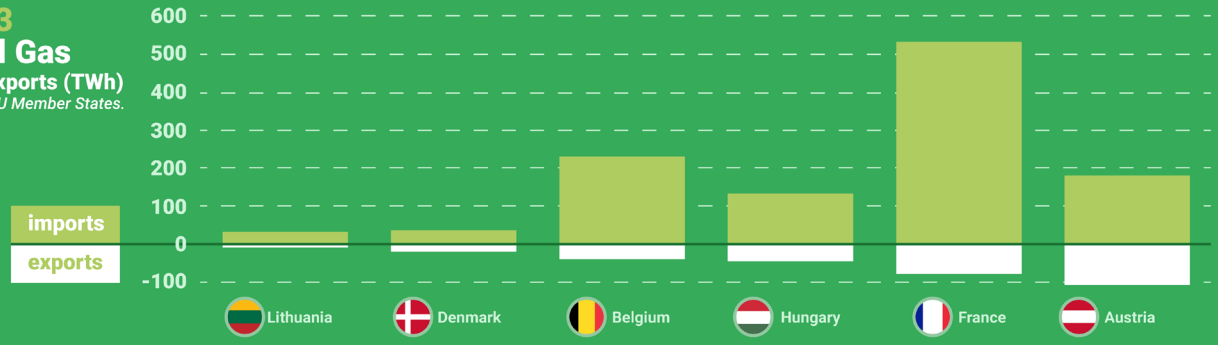
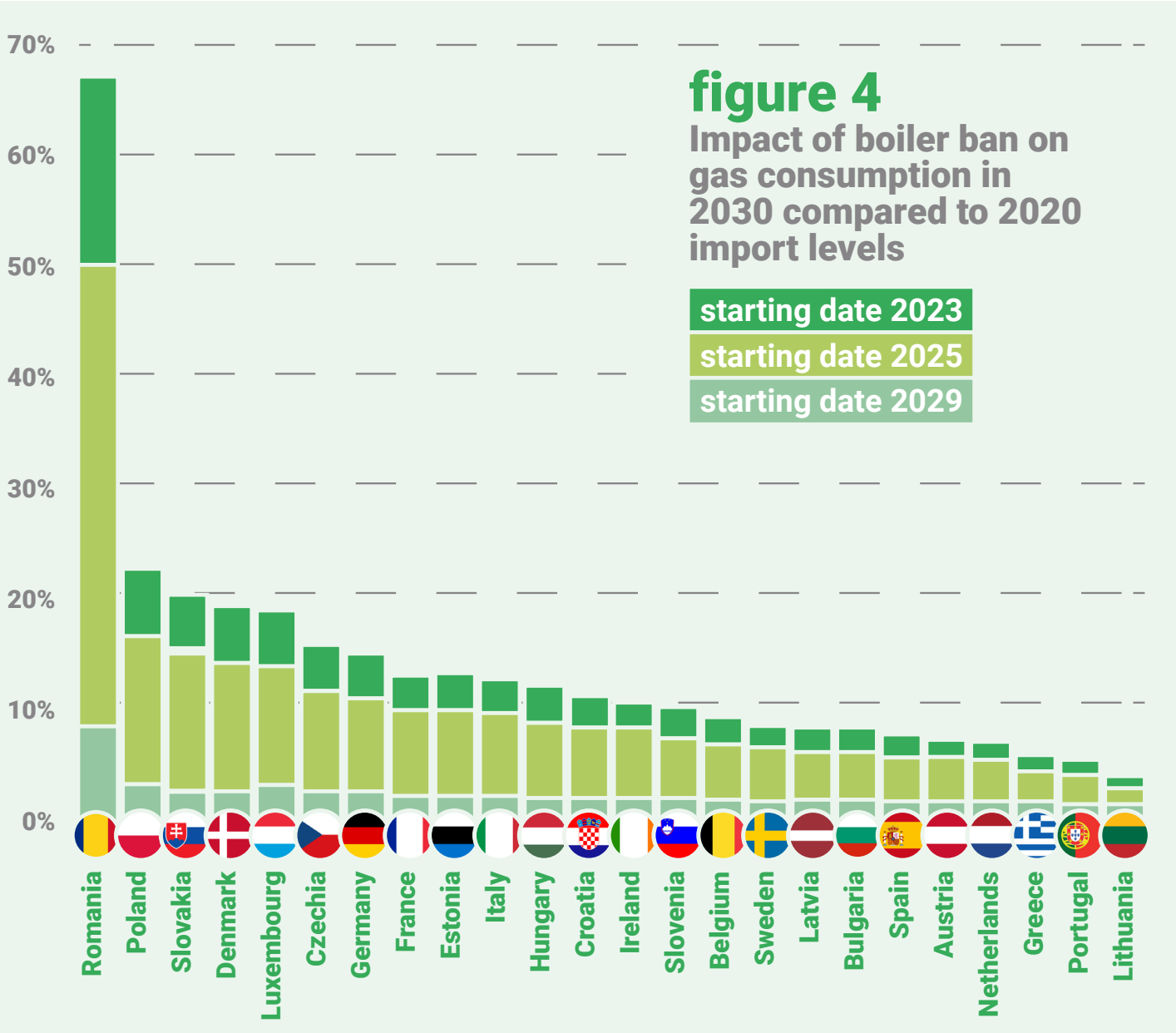


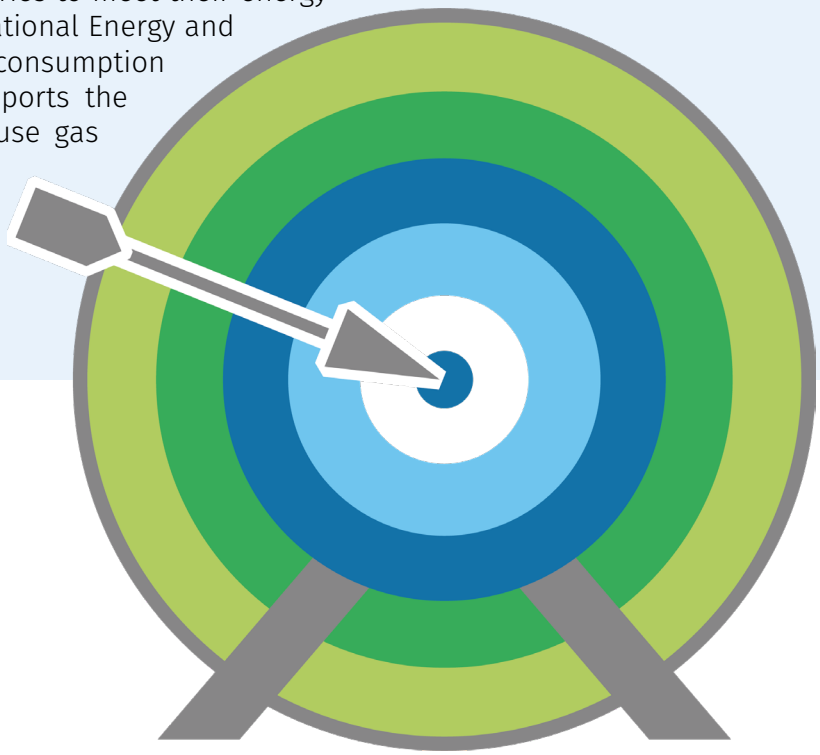
Figure 4 shows the gas savings in 2030 through a boiler ban introduced in 2025 compared to total gas import levels of the Member States in 2020. Countries that do not use gas for heating are not included in the graph.

For the case of Romania, the impact is particularly high due to the low total import levels. For the remaining countries, the impact in 2030 ranges from around 16% of current imports to 2% of current imports.



Impact on achievement of climate targets

A fossil boiler ban can help the EU countries to meet their energy and climate targets as specified in the National Energy and Climate Plans. By decreasing fossil fuel consumption in the heating sector, a boiler ban supports the achievement of the targets for greenhouse gas emissions set under the Effort Sharing Regulation[3] as well as the national contributions to the renewable energy target specified in the Renewable Energy Directive[4].



Effort sharing targets

In order to estimate the efficiency of a fossil boiler ban on achieving the targets in the Effort Sharing Regulation, the estimated emission reductions due to a boiler ban are compared to the total emission reductions required to meet the target. Note that besides the buildings sector, the target for greenhouse gas emissions includes emissions from all sectors not covered under the EU ETS.

The Effort Sharing Regulation specifies a binding national target for the reduction of greenhouse gas emissions for the year 2030. The national targets differ between the Member States, depending on the economic situation and the current emission levels in the countries **(Figure 5).**

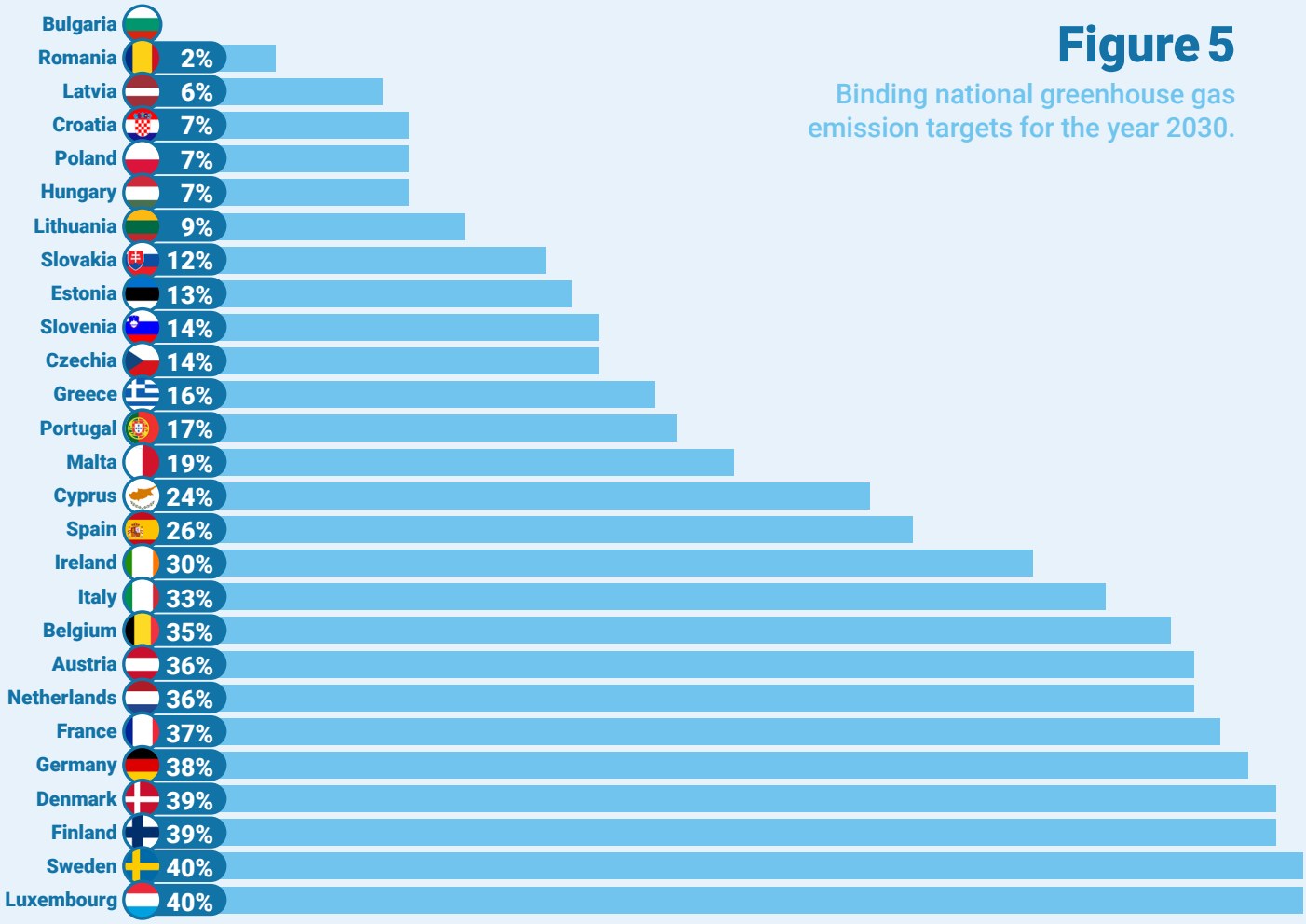
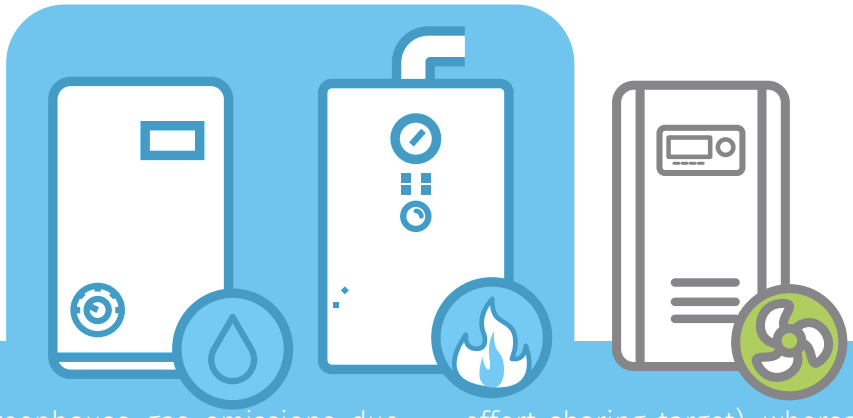


Figure 5

Binding national greenhouse gas emission targets for the year 2030.



The reduction of greenhouse gas emissions due to a boiler ban in the EU-27 is shown in **Figure 6** and is compared to the greenhouse gas emission reductions that are required at EU level under the Effort Sharing Regulation.

With the introduction of the boiler ban in 2023, savings of 104 Mt CO2-eq are reached in 2030, corresponding to 18% of the effort sharing target. With the introduction of the boiler ban in 2025, the savings amount to 75 Mt CO2-eq in 2030 (13% of the effort sharing target), whereas only 11 Mt CO2-eq of savings (2% of target) are reached if the ban is introduced in 2029.

Note that the additional emissions caused by heat pumps being installed to replace boilers are accounted for when calculating the total savings, whereas the share of target achievement does not include the additional emissions as they do not fall under the Effort Sharing Regulation.

Figure 6

Impact of boiler ban on greenhouse gas emissions and comparison to Effort Sharing target

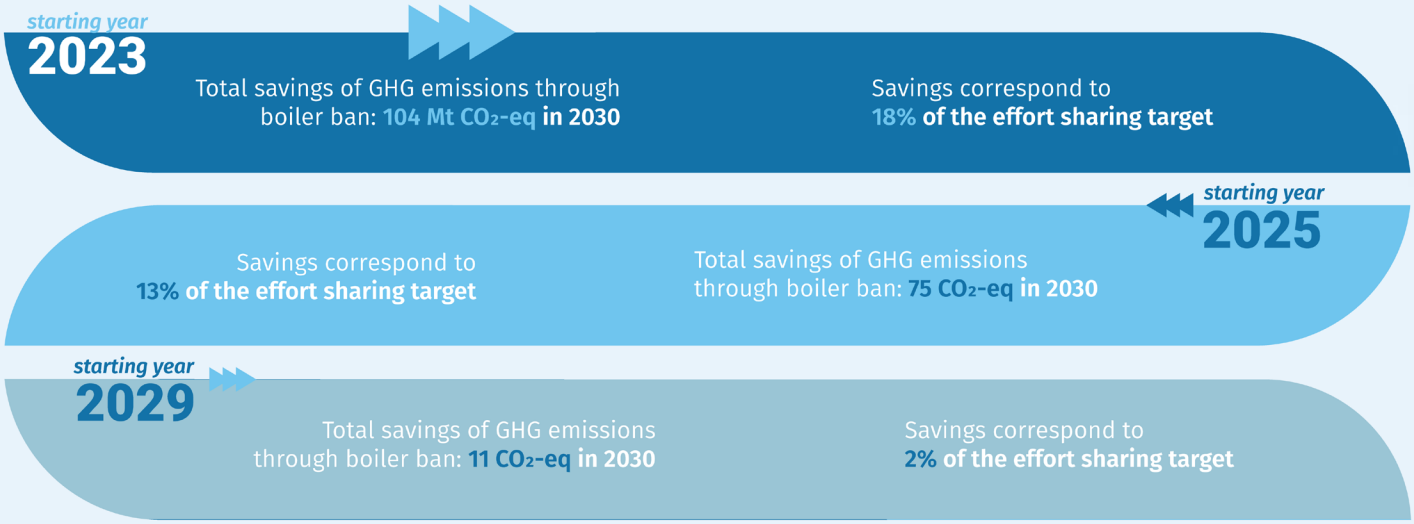


Figure 7 shows the share of the required emission reduction for meeting the effort sharing targets that would be met by a fossil boiler ban. Countries where the savings exceed the total emission target (Bulgaria and Romania) are not shown in the graph. For the remaining countries, the shares range from more than 65% in Hungary (for a boiler ban introduced in 2025) to less than 5 % in Sweden and Finland. The share depends on two main factors: On the one hand, the shares are higher in countries with high shares of fossil boilers in their national energy mix for heating. On the other hand, the shares are higher in countries with low overall targets under the Effort Sharing Regulation.

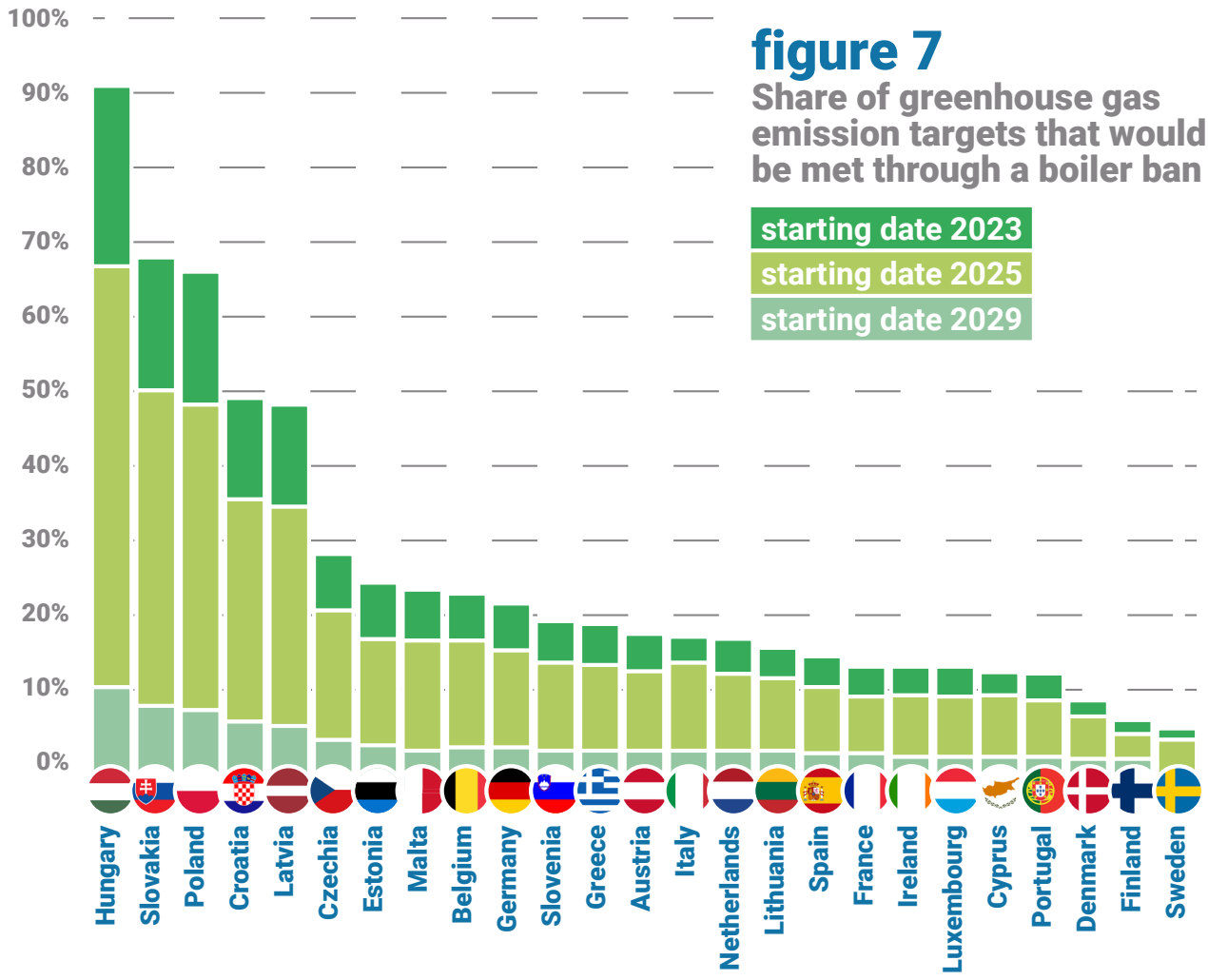


figure 7

Share of greenhouse gas emission targets that would be met through a boiler ban

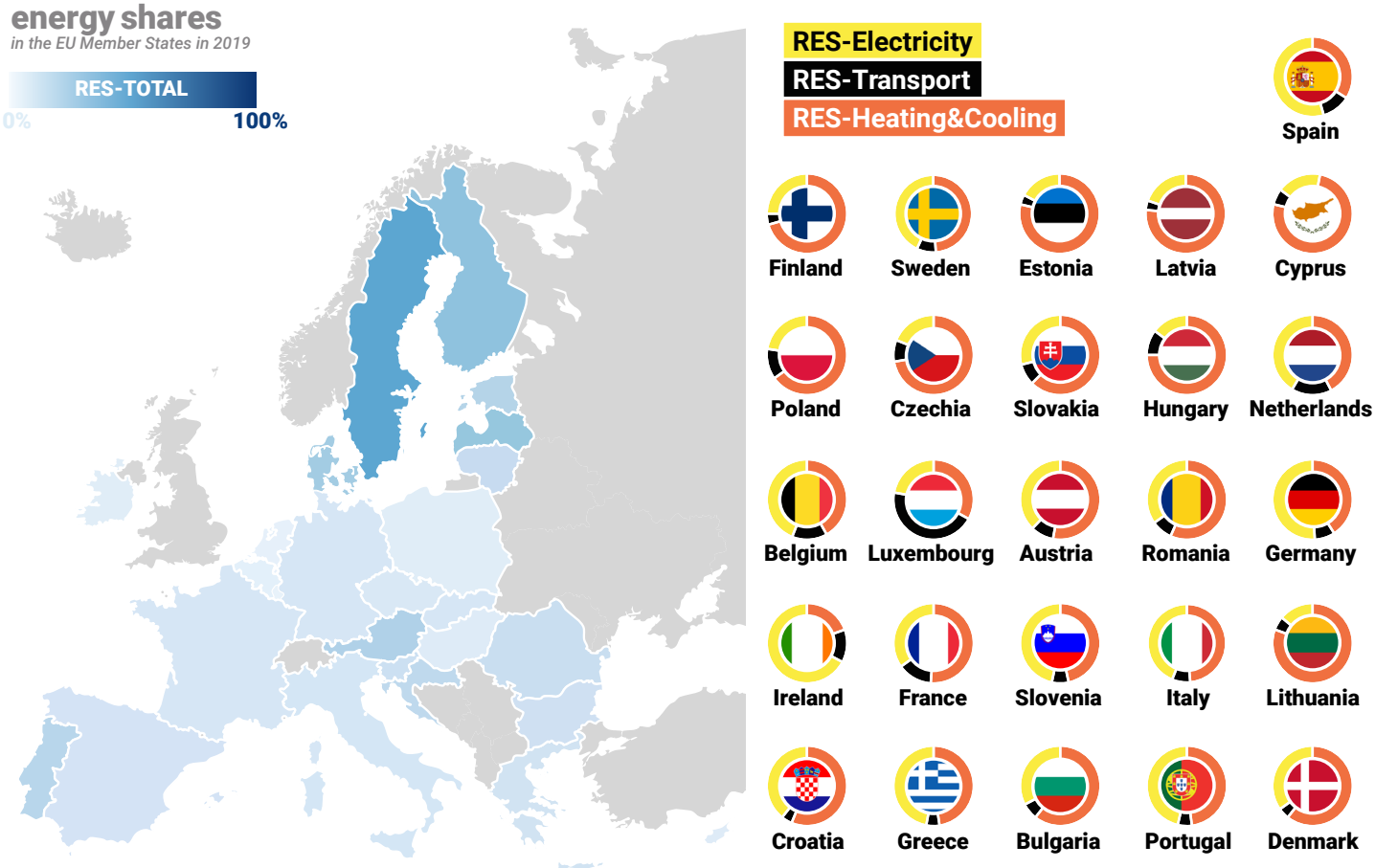
Renewable energy targets

The Renewable Energy Directive sets an overall target for the share of renewable energies in the EU in the year 2030 and requires Member States to define national contributions to this target. The renewable energy target is defined across three sectors: 1) Electricity, 2) Heating and cooling and 3) Transport.

Figure 8 shows the contribution of each of the three sectors to the current renewable shares in the EU Member States.

The graph shows that the heating sector contributes significantly to the renewable energy shares in most countries.

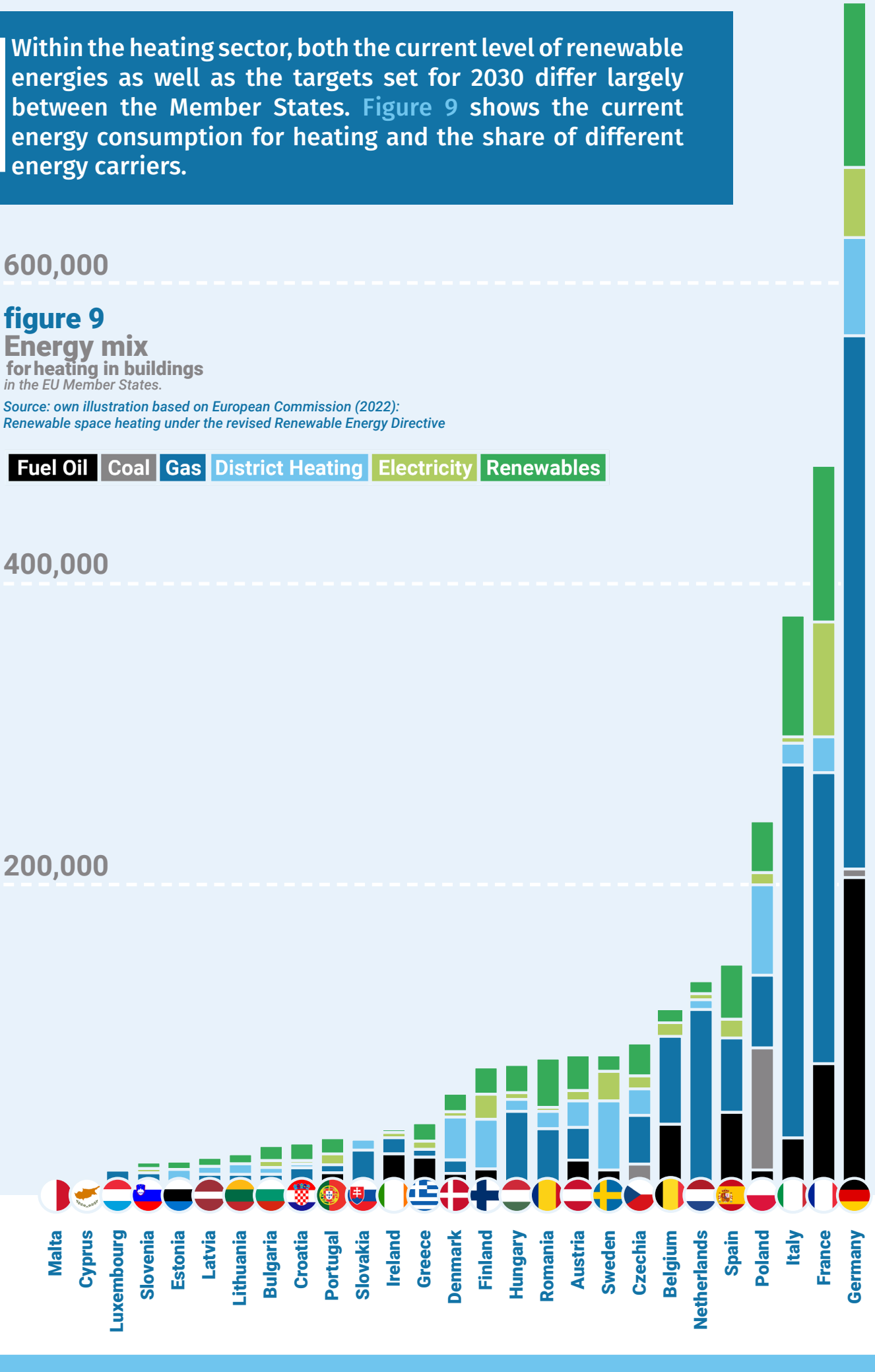
figure 8
Renewable energy shares
in the EU Member States in 2019



Within the heating sector, both the current level of renewable energies as well as the targets set for 2030 differ largely between the Member States. Figure 9 shows the current energy consumption for heating and the share of different energy carriers.

figure 9
Energy mix
for heating in buildings
in the EU Member States.

Source: own illustration based on European Commission (2022): Renewable space heating under the revised Renewable Energy Directive



A boiler ban would significantly contribute to achieving the RES-H&C targets for the year 2030 in many EU Member States (see Figure 10). The impact of the boiler ban on the achievement of the RES-H&C targets depends on two elements:

Firstly, in countries that currently have high shares of fossil boilers in their heating mix (e.g. Belgium, Netherlands, Ireland) the boiler ban has a strong impact.

Secondly, the impact on target achievement is higher for countries with less ambitious RES-H&C targets.

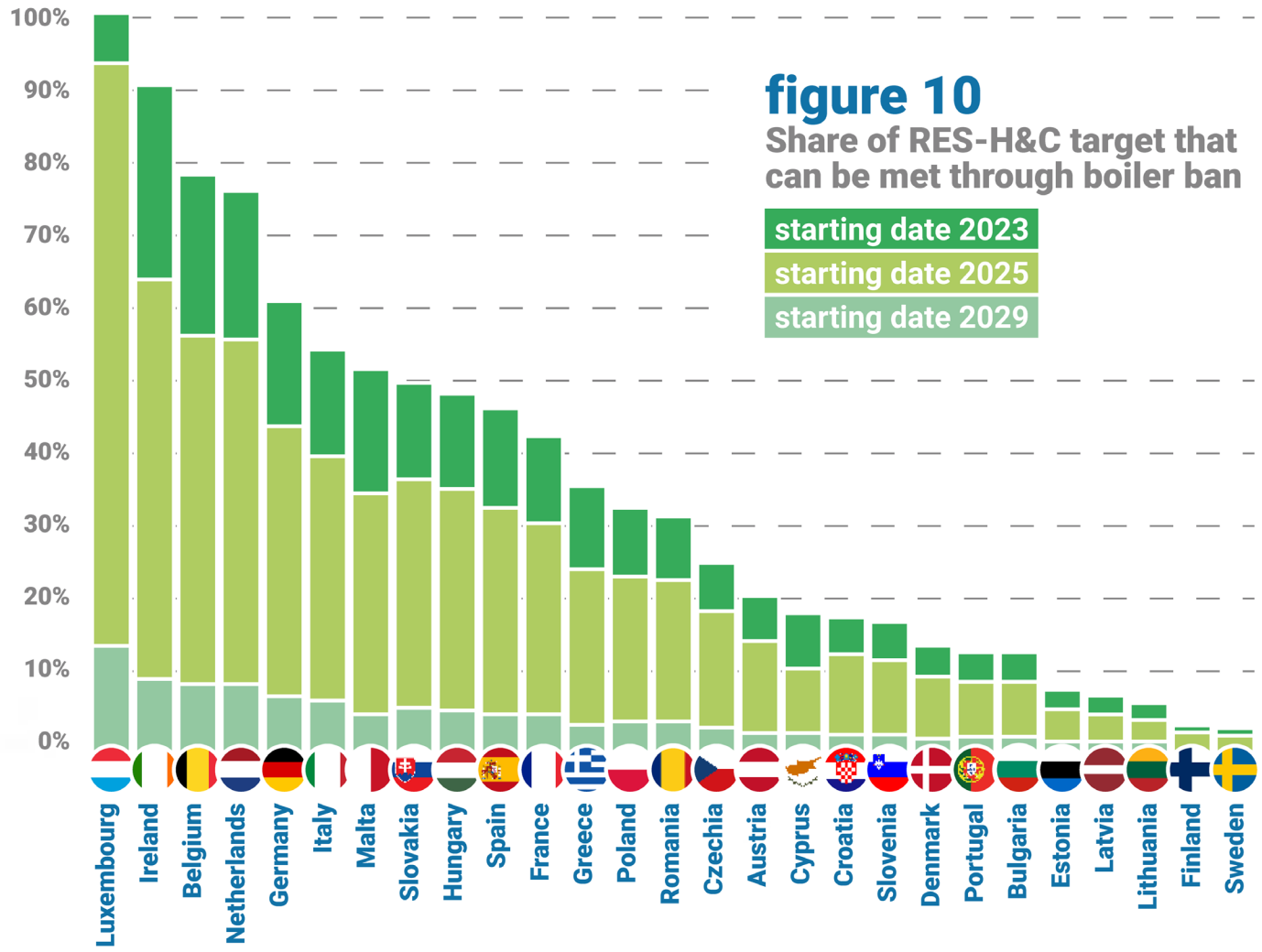


figure 10
Share of RES-H&C target that can be met through boiler ban

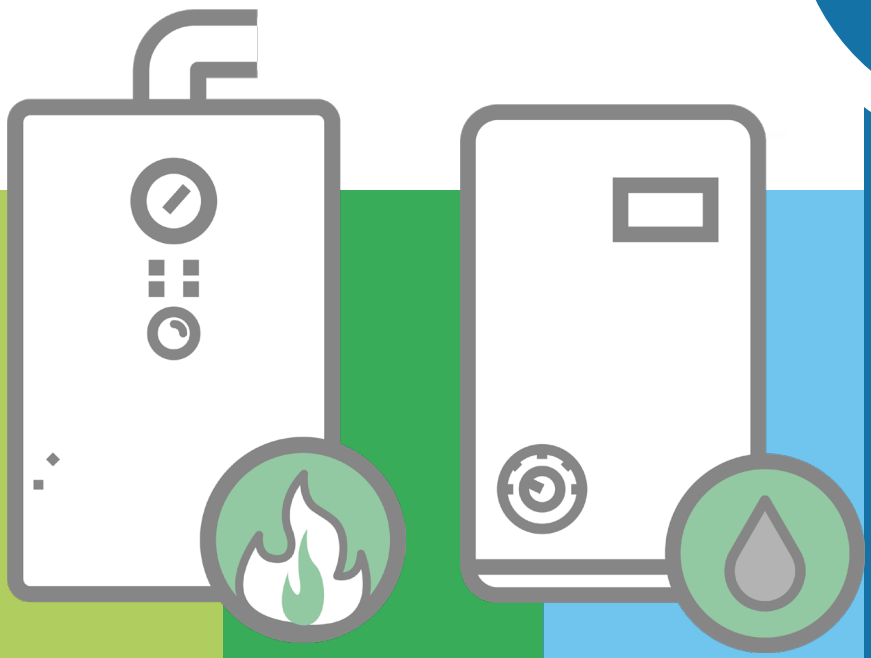
Conclusions and outlook

The study shows that banning fossil boilers can significantly contribute to meeting the EU energy and climate targets, and that fossil fuel import dependency can be reduced.

For a boiler ban to provide a significant impact for the 2030 targets, an implementation before the proposed date in 2029 is required. An early introduction can also help reduce import dependency on the shorter term.

With implementation starting from January 2025, the reduced gas consumption by 2030 is equivalent to 8% of total gas imports (21% of imports from Russia) and the measure alone would make up for 10% of the greenhouse gas emission reduction target at EU level. An implementation before 2025 would lead to even higher savings, however, as the heating market is largely based on fossil fuels in many EU Member States, introducing a full ban before this date does not seem feasible.

The estimated impacts presented in the study are based on a potential full ban of fossil boilers, meaning that all newly installed heating systems are fully renewable[5]. A boiler ban that allows hybrid systems and/or that provides exemptions for buildings or market segments would show a lower impact.

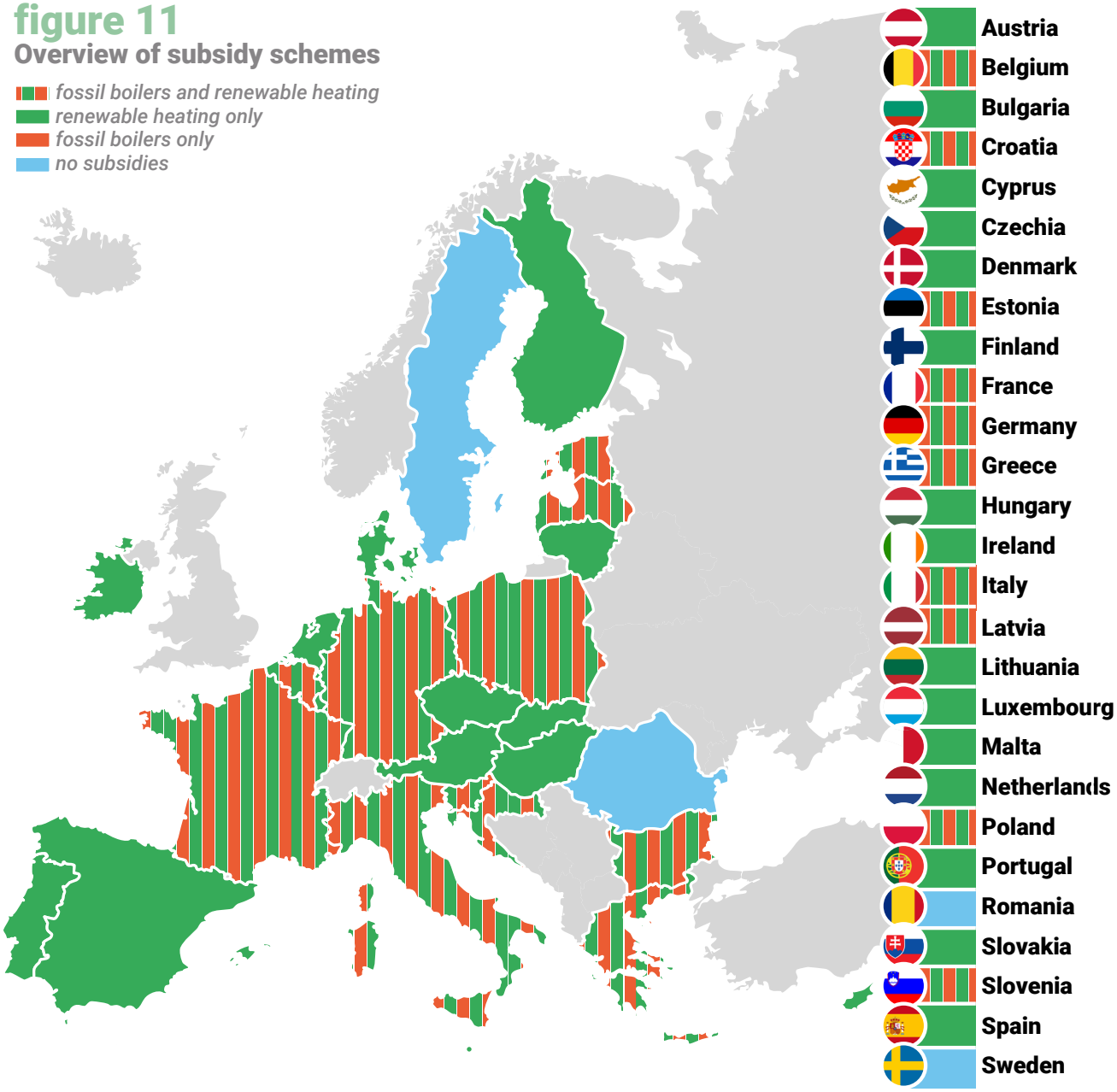


Mapping of Incentive Schemes in EU Member States

The following graphs provide an overview of existing funding schemes for fossil boilers (red) and renewable heating (green). The analysis shows that most countries have subsidy schemes for renewable heating.

However, there is also a significant number of countries that still provide funding for fossil heating systems. Providing financial support to fossil boilers is, of course, in complete contradiction with a boiler ban.

figure 11
Overview of subsidy schemes



Annex 1
Methodological approach for estimating the impact of a boiler ban

The impact of the boiler ban on fossil energy imports and the achievement of climate targets has been calculated using the following data and assumptions:

Energy efficiency: It is assumed that energy demand is reduced by 10 percent with respect of current levels until 2030.

For the energy consumption in the base year, data from the recently published study Renewable space heating under the revised *Renewable Energy Directive*[6] is used.

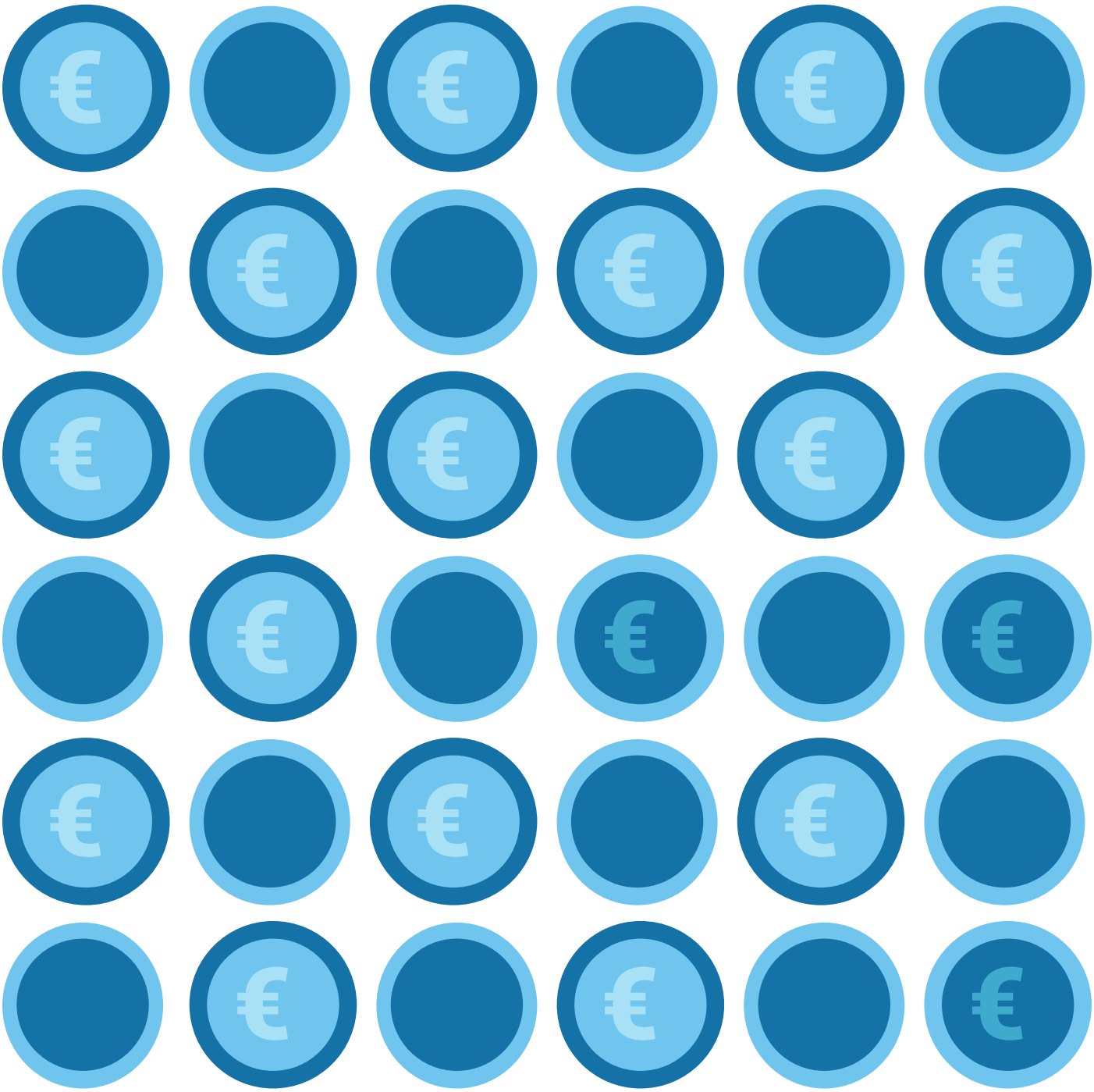
For the market shares of heating systems in the baseline until 2030, the BAU-scenario of the review studies for the Ecodesign regulations for space and space and combination heaters[7] and water heaters[8] have been used.

An annual replacement rate for heating systems of 4% has been assumed (corresponding to an average lifetime of 25 years).

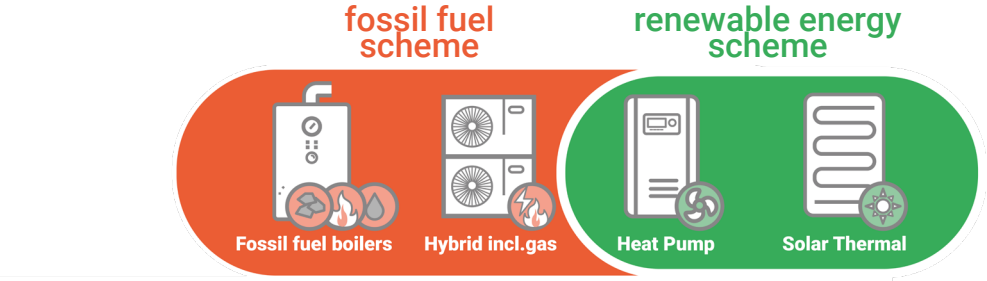
It has been assumed that 80% of the boilers affected by the boiler ban are replaced by heat pumps. Heat pumps are assumed to run on an average seasonal performance factor of 3,0. For the emission factor of electricity production, EEA data has been used for the base year. The emission factor is assumed to linearly decrease to zero until 2050.

Data for the energy imports is based on the Eurostat energy trade visualisation tool[9].

Annex 2
Overview of subsidy schemes in the EU Member States



click on the country's name to access its datasheet



	Fossil fuel boilers	Hybrid incl.gas	Heat Pump	Solar Thermal
Austria			X	X
Belgium	X	X	X	X
Bulgaria	X	X	X	X
Croatia	X	X	X	X
Cyprus			X	X
Czechia			X	X
Denmark			X	X
Estonia	X	X	X	X
Finland			X	X
France	X	X	X	X
Germany		X	X	X
Greece	X	X	X	X
Hungary			X	X
Ireland			X	X
Italy	X	X	X	X
Latvia	X	X	X	X
Lithuania			X	X
Luxembourg			X	X
Malta			X	X
Netherlands			X	X
Poland	X	X	X	X
Portugal			X	X
Romania				
Slovakia			X	X
Slovenia	X	X	X	X
Spain			X	X
Sweden				

AUSTRIA

There are two main national financial support programmes for renewable heating in Austria, named the "Campaign Out of Oil and Gas" (Raus aus Öl und Gas) and "Clean Heating" (Sauber Heizen für Alle), both of which are set to end December 31st, 2022. The same deadline applies to the majority of the local-level subsidy programmes which can often be combined with, and thus support, the national schemes.

However, these climate programmes are traditionally continued and/or substituted by new incentive schemes. In the case of "Campaign Out of Oil and Gas" (Raus aus Öl und Gas), the renewal of the programme for 2022 was accompanied by an increase in subsidies of approximately 50% compared to October 2021. Furthermore, the EAG investment grant programme can be expected to exist for an extended period of time as it aims at the achievement of national and global climate goals for the years 2030, 2040, and 2050.

Campaign Out of Oil and Gas (Raus aus Öl und Gas)

Type: Central government grant scheme for RES.

Description: Raus aus Öl und Gas campaign promotes the replacement of fossil fuel-fired heating systems with sustainable heating systems through a one-off grant (which also covers planning costs up to a maximum of 10% of all eligible costs). The interventions promoted are the connection to a district heating system or, where not possible, the transition to centralized wood heating or to a heat pump. The scheme ends December 21, 2022.

Amount: 7.500 euros for single-family buildings, 7.500-15.000 € for multi-storey buildings + 2.300 € pr. living unit (for heat pumps with a refrigerant with a GWP between 1.500 and 2.000, the calculated financing is reduced by 20%.). The maximum amount cannot exceed 50% of the eligible costs.

Source: https://www.umweltfoerderung.at/privatpersonen/raus-aus-oel-efh-f-private-20212022.html

'Clean' Heating (Sauber Heizen für Alle 2022)

Type: Central government grant scheme for RES.

Description: The campaign supports low-income households transition from fossil to renewable heating options. Indigent persons can receive funding for newly installed renewable heating systems that replace an existing fossil system (oil-/gas-/coal-boilers and electricity-powered storage heaters). The financing scheme is restricted to private households and ends December 31, 2022.

Amount: Financing covers the costs for materials, assembly, and planning. Funding is also available for the disassembly and disposal of old fossil boilers and tank systems.

Source: https://www.umweltfoerderung.at/privatpersonen/sauber-heizen-fuer-alle-2022/navigator/waerme-3/sauber-heizen-fuer-alle-2022-ein-und-zweifamilienhaus.html

EAG-investment grants for photovoltaics and electricity storage (EAG-Investitionszuschuss Photovoltaik und Stromspeicher 2022)

Type: Central government grant scheme for RES under the "Erneuerbaren-Ausbau-Gesetz (EAG)"

Description: The EAG regulates the achievement of climate-related goals as stipulated in the Paris Agreement and the 2030 EU target as well as their national goal of achieving climate neutrality by 2040. In order to encourage the generation of electricity from renewable sources, this law establishes a scheme for the provision of investment grants for private households for photovoltaics and electricity storage. Funding is available to new photovoltaic plants and extensions (for the first 1000 kWp) as well as newly built electricity storage (minimum 0,5kWh/kWp). One – and two – family houses (including terrace housing) are eligible for the programme.

Amount: There are different categories depending on the module peak performance in kWp: category A (0,01-10 kWp) 285 €/kWp, category B (> 10-20 kWp) up to 250 euros/kWp, category c (> 20-100 kWp) up to 180 €/kWp, category d(> 100-1.000 kWp) up to 170 €/kWp, storage: 200 euros/kWp (maximum of 50 kWp net capacity is eligible for grants). An addition of up to 30% on the eligible grants is possible for "innovative photovoltaics", and a reduction of 25% for photovoltaics which are constructed on agricultural terrain or 'green' areas.

Source: https://pvaustria.at/eag-investzuschuss/

Local incentives in Austria

In Austria there are a large number of local incentives at regional or municipal level. The incentives are generally grants. The Austrian heat pump association has made a list of all national and local subsidies for heat pumps (and other RES systems). A private website provides a handy updated calculator that takes into account the various local incentives in Austria. Below is a list of many of the local programmes.

Source:
https://www.waermepumpe-austria.at/foerderungen
https://www.hoval.at/de_AT/Foerder-Rechner

Burgenland: Alternative Energy Systems (Alternativenergieanlagen)

Type: Local government grant scheme for RES heating systems.

Description: The local government subsidizes heat pumps, solar thermal systems, biomass heating and connection to district heating. There is no support for gas heating, but support for hybrid heat pumps. The programme cannot be combined with other local or federal programmes. One – and two – family houses (including terrace housing) are eligible for the programme.

Amount: The support is generally 30% with a minimum/maximum amount for the following systems: Solar thermal for hot water 700-1.100 €; combined solar thermal systems 1.200-1.800 €; air, ground and water source heat pumps 1.800-2.500 €; biomass heating 1.400-2.200 €; hot water heat pumps 300-600 €; hybrid heat pumps 700-1.600 €.

Source:
https://www.burgenland.at/themen/energie/foerderungen/alternativenergieanlagen/allgemeine-informationen/

Kärnten: Out of Fossil Fuels (Impulsprogramm „Raus aus Fossilen Brennstoffen“ 2022)

Type: Local government grant scheme for RES heating systems.

Description: The local government subsidizes substitution of fossil fuel heating systems with connection to district heating with minimum 80% renewable energy; biomass boilers; heat pumps for central heating. One – and two – family are eligible for the programme. Can be combined with federal grants (specifically with the ‘clean heating’ scheme for low-income households). The scheme ends December 21, 2022.

Amount: The support is 35% with a maximum of 6.000 € per house.

Source:
https://grosskirchheim.gv.at/fileadmin/user_upload/Grosskirchheim/02-Amtstafel/Formulare/FoerderungsantragImpulsprogramm_Raus_aus_fossilen_Brennstoffen_2022.pdf

Kärnten: Alternative Energy Systems (Alternativenergieförderung Kärnten 2021/22)

Type: Local government grant scheme for RES heating systems.

Description: The local government subsidizes solar heating systems, wood heating systems, district heating, energy storage, and photovoltaics. One – and two – family houses are eligible for the programme. Can be combined with federal grants. The scheme ends December 3, 2022.

Amount: Thermal heating: 50% of eligible costs with a maximum of 150 euros /m2 for solar collectors; Wood heating: 150 €/m2 (0-50 kW) and 50 €/m2 (for every additional kW) with an additional 1.500 € when transitioning from an oil/gas central heating; District heating: 40% if eligible costs (50% when transitioning from oil/gas central heating). Electricity storage: 50% of eligible costs with a maximum of 350 €/kWh (maximum of 10 kWh per location); Photovoltaics: 50% of eligible costs with a maximum of 200 €//kWp.

Source:
https://www.propellets.at/assets/upload/Foerderungen/Alternativenergiefoerderung-Kaernten-2021-22.pdf

Niederösterreich: NÖ Out of Oil - bonus (NÖ Raus aus Öl - Bonus)

Type: Local government grant scheme for RES heating systems.

Description: The local government subsidizes substitution of fossil fuel heating systems and inefficient biomass heating with connection to district heating with minimum 80% renewable energy; biomass boilers; and heat pumps for central heating (air-water heat pump, liquid-water heat pump). Single-family and terraced houses are eligible for the programme. Can be combined with federal grants. The scheme was extended until December 31, 2022.

Amount: The support is maximum 20%. Maximum 3.000 € when substituting a fossil heating and 1.000 € when substituting biomass heating.

Source:
https://www.noe.gv.at/heizkesseltausch

Oberösterreich: Support for first-time installation of RES heating systems

Type: Local government grant scheme for RES heating systems.

Description: The local government subsidizes substitution of fossil fuel heating systems with connection to district heating with minimum 80% renewable energy and heat pumps for central heating. Installation of solar thermal systems and the disposal of fossil heating systems are also supported. Houses with a maximum of 3 living units are eligible for the programme. Can be combined with federal grants. The scheme ends December 31st, 2022.

Amount: Max. 50% of eligible costs. Air-water heat pump: 100 €/kW, max. 1.700 €; geothermal and water-water heat pump 170 €/kW, max. 2.800 € (for less efficient systems 100 €/kW, max. 1.700 €); an additional 1.000 € bonus is available, when a stationary fossil fuel tank is disposed of. Solar thermal: 4-10 m2 1.750 €; 11-19 m2 175€/m2; more than 20 m2 3.500 €.

Source:
https://www.land-oberoesterreich.gv.at/190718.htm#Wer210871

Linz: Heat Pumps (Thermische Solaranlagen)

Type: Local town grant scheme for RES heating systems.

Description: Linz town subsidizes efficient heat pumps for heating and/or hot water production.

Amount: For heating systems, the basis grant is 1.300 € for a heat pump with SCOP = 3,8. For higher SCOP +75 € for each 0,1; for lower SCOP -100 € for each 0,1. Maximum grant 2.050 €. No support when SCOP < 3,0. For heat pumps only for hot water supply the grant is 360 €.

Source:
https://www.linz.at/serviceguide/viewchapter.php?chapter_id=122019#foerderungsrichtlinien

Salzburg: Funding for deep boreholes, geothermal collectors or well systems for heat pumps (Förderung Tiefenbohrung, Erdkollektor oder Brunnenanlage für Wärmepumpen)

Type: Local grant scheme for RES heating systems.

Description: The Local government subsidizes costs for newly built deep boreholes, geothermal collectors or well systems for heat pumps. Can be combined with federal grants.

Amount: 3.000 €, maximum. 35% of eligible costs.

Source:
https://www.salzburg.gv.at/energie_/Documents/RL_Heizung_thermSolar_2022-02-01.pdf
https://www.salzburg.gv.at/energie_/Seiten/tiefenbohrung-erdkollektor.aspx

Styria: Heating exchange and solar thermal systems (Heizungstausch und solarthermische Anlagen)

Type: Local grant scheme for RES heating systems.

Description: The Local government subsidizes substitution of fossil fuel heating systems and direct electricity heating with biomass heating or heat pumps. Solar thermal systems are also supported. Can be combined with federal grants. The scheme ends December 31, 2022.

Amount: Geothermal and groundwater heat pump 2.400 €. Air-water heat pump 1.000 €. Solar thermal heating systems 150 €/m2 up to 10 m2 collector area, further collectors 100 €/m2; wood-heating systems 2.000 € -2.400 € (depending on the type); for one – and two – family houses max. 2.000 € without heating integration and max. 3.000 € with heating integration. Max. 30% of eligible costs.

Source:
https://www.wohnbau.steiermark.at/cms/dokumente/12856314_167097041/9f68540e/Land%20Steiermark%20-%20ABT15EW%20-%20Förderungsrichtlinie%20Heizungstausch%20und%20Solarthermie%202022.pdf

Tyrol: Funding for highly efficient heat pumps (Förderung von hocheffizienten Wärmepumpen)

Type: Local grant scheme for RES heating systems.

Description: The Local government subsidizes efficient heat pumps in new houses and existing houses with low heating demand (max. 47,6 kWh/m2/year, max. flow temperature of 40°C). The scheme ends December 21, 2022.

Amount: Geothermal and groundwater heat pump 3.000 €. Air-water heat pump 700 €.

Source:
https://www.tirol.gv.at/fileadmin/buergerservice/kundmachungen/wasserrecht/2021/WP_Richtlinie_Foerderung_Waermepumpe_Stufe_III.pdf

Wien: Heat Pump Funding (Förderung Wärmepumpen)

Type: Local grant scheme for RES heating systems.

Description: The Local government subsidizes the transition from fossil heating systems to heat pumps (only in existing buildings). One – and two – family houses (including terrace housing) are eligible for the programme.

Amount: Maximum of 35% of eligible costs; max. 12.250 € (total cost: 35.000,00 €)

Source:
https://www.wien.gv.at/wohnen/wohnbautechnik/pdf/foerderrichtlinie-waermepumpen.pdf

Vorarlberg: Energy Funding 2021/22 (Energieförderung 2021/2022)

Type: Local grant scheme for RES heating systems.

Description: The Local government subsidizes heat pumps, biomass, and solar thermal systems (minimum covering 60% of energy demand for hot water or minimum covering 30% of total heat demand). Installation of geothermal and groundwater heat pumps as well as air-water heat pumps with heat recovery from ventilation systems are subsidized.

Amount: Heat pumps: one – and two – family houses 2.000 € (+ bonus 2.000 € when substituting fossil heating or direct electricity heating); buildings with more than 2 living units: 1.000 € per building + 400 € per living unit (+ bonus 4.000 € when substituting fossil heating or direct electricity heating); max. 30% of eligible costs. Solar thermal systems for hot water: one- and two-family houses 1.500 €; buildings with more than 2 living units: 750 € per building + 400 € per living unit; max. 30% of eligible costs. Solar thermal systems for heating: one- and two-family houses 2.500 € (30% of total heating demand) / 3.500 € (50% of total heating demand); buildings with more than 2 living units: 1.250 € per building + 600 € per living unit (30% of total heating demand) / 1.750 € per building + 800 € per living unit (50% of total heating demand); max. 30% of eligible costs.

Source:
https://vorarlberg.at/-/energiefoerderungsrichtlinie-2018-2019?article_id=134303
https://www.energieinstitut.at/buerger/foerderungen/energiefoerderung/foerderung-waermepumpen/

There are also subsidies available from some of the municipalities in Vorarlberg.

BELGIUM

In Belgium, there have been several changes to the schemes originally listed. First, in the Energy Positive scheme, the old boiler does not need to have been installed before 2000 but should have been installed at least 20 years prior to its replacement. Second, the VAT-reduction for PV, thermal solar panels, solar boilers, and heat pumps appears to be only temporary between 01/04/2022-31/12/2022. Third, the 'Bonus Energiepremies' has been replaced by the 'Renolution' scheme, although the subsidies are similar (the exception being the addition of subsidies for replacing the central heating boiler).

A few additional schemes exist in Belgium as of 2022. First, in Brussels, the ECORENO scheme provides low-interest loans for renovating and improving the energy efficiency of houses. Second, in Wallonia, the government financially compensates the prosumer tariffs for self-producing residential customers (of renewable energy). Third, also in Wallonia, the government provides a temporary bonus for replacing heating and domestic hot water appliances for which the final invoice dates between 01/02/2022 and 30/06/2023. Fourth, in Flanders, there network distributor Fluvius provides subsidies for various energy-saving and renewable energy appliances (including solar panels, heat pumps, heat pump boilers, solar boilers, and condensing gas boilers). These subsidies run until 30/06/2022, after which solar panels, heat pumps, heat-pump boilers, and solar boilers are then moved under the "Mijn VerbouwPremie", which starts running from 01/10/2022. Fourth, Fluvius also provides the 'EPC labelpremie' for increasing the energy-label of houses and apartments. Fifth, the Flemish Government offers a discount on the property tax for (newly constructed and rebuild) houses with a reduced E-level (however, from 2023 onwards it only applies to (partially) rebuilt houses). Sixth and finally, the Flemish government also provides a reduction of registration tax following a major energetic innovation.

Belgium: Energie Positive

Type: Gas.be (Belgian gas industry federation) grant scheme for fossil heating systems

Description: Gas.be grants a premium for the replacement of a natural gas boilers (installed at least 20 years before the new gas appliance), with a new gas appliance (condensing boiler, gas heat pump, condensing hot air generator, hybrid gas heat pump, gas micro cogeneration).

Amount: 500 euros for a new natural gas boiler with a maximum nominal power of 70 kW (condensing boiler, gas heat pump, condensing hot air generator, hybrid gas heat pump, gas micro cogeneration), 5 euros extra per kW are granted with a ceiling of 2.500 euros per appliance (corresponding to 470 kW); 200 euros for a new natural gas hot water appliance for the immediate production of hot water or for its storage; 150 euros for a new appliance for individual space heating (stove, convector or built-in fire) with natural gas.

Source: https://prime.gas.be/nl/algemene-voorwaarden

Belgium: V.A.T. reduction

Type: Central government tax reduction scheme for fossils and RES heating systems.

Description: The reduced V.A.T. at 6% can be obtained in the case of installing solar boilers, photovoltaic solar panels, heat pumps and replacement of the central heating boilers including the installation of stoves, radiators, individual convectors on wood, coal, oil, gas or electricity. The 6% reduction for PV, thermal solar panels, solar boilers, and heat pumps is only temporarily between 01/04/2022-31/12/2022.

Amount: VAT reduced at 6%. Standard VAT rate is 21%.

Source: https://financien.belgium.be/nl/particulieren/woning/verbouwen

Brussels: Renolution

Type: Local grant scheme for fossils and RES heating systems.

Description: Renolution promotes the installation of an efficient boiler up to 40 kW, hot air generator or gas air heater; thermal regulation; heat pump for heating; water heater heat pump; collective chimney lining; solar water heater.

Amount: The minimum amount for any subsidy is 250,-, the maximum amount 90% of costs (or €200.000 for a whole building or 50.000 for an individual house/part of building). For replacing a central heatingboiler (</100 kW): €700/800/1200 until 40 kW, then + €5/kW. For replacing a central heat boiler (>100 kW): 25%/27.5%/30% of invoice. For condensation gas boilers €500/550/600; for heat pumps for heating €4.250/4500/4.750 (or 25% of invoice for non-residential building); for heat pump for hot water €1.400/1500/1.600; for solar thermal from €2.500/3000/3.500. Collective chimney lining 30%/35%/40% of invoice. The amount is dependent on income group I/II/III. Higher grants for low-income groups. In 2022 there is a bonus of 300/350/500 EUR when replacing old oil boilers and 600/700/1000 EUR when replacing old oil or coal stoves. There is also a 'bonus multiple works' in which the subsidy increases by 10% (Cat.I-II) or 20% (Cat.III) if the subsidy for a heat pump is requested in combination with at least two other subsidies.

Source: https://renolution.brussels/nl

Wallonia: Renopack

Type: Local soft loan scheme for fossils and RES heating systems.

Description: Renopack is a 0% interest rate loan to carry out renovations. Houseowners with an annual income up to 97,700 EUR are eligible. It also covers energy efficiency measures, such as Installation of a condensing boiler, biomass boiler, biomass stove, heat pump, solar thermal.

Amount: 1,000 – 60,000 EUR.

Source: https://www.wallonie.be/fr/demarches/beneficier-du-renopack

Wallonia: Primes Habitation

Type: Local grant scheme for RES heating systems.

Description: Primes Habitacion is a subsidy for home energy improvement, which also covers various types of interventions on the heating system (see below).

Amount: The basic amount of the premium is dependent on income and household (5 income groups), with a maximum of 70% of invoices: heat pump for domestic hot water 500-3.000 €; heat pump for heating or combined 1.000-6.000 €; biomass boilers 1.000-6.000 €; solar water heaters 750-4.500 €; biomass stoves 250-1.500 €; combined biomass boilers or stoves with solar water heaters in one operation 150% of the respective base premiums.

Source: https://energie.wallonie.be/fr/primes-habitation-a-partir-du-1er-juin-2019.html?IDC=9792

Brussels: ECORENO

Type: Low-interest loan for renovating and improving the energy efficiency of houses [replaces the ''Brusselse Groene Lening'']

Description: Provides a loan for a broad number of renovations or energy-improvements, including photovoltaic systems, heat pumps, and solar boilers.

Amount: Interest of 0-1% depending on income level. Differentiates between a mortgage credit loan and a consumer credit loan. The mortgage-based loan cannot exceed 120% of the value of the property. The consumer-based loan falls in between 1.500-25.000 EUR depending on the financial capacity of the borrower.

Source: https://fonds.brussels/nl/ecoreno-krediet

Flanders: discount on property tax for new-build homes with reduced E-level

Type: Flemish government property tax reduction for more energy-efficient homes.

Description: Lowers the property tax for homes with a reduced E-level, depending on the planning application year and E-level. From 2023 onwards only for rebuilding or partial rebuilding, not for new constructions.

Amount: Discount depends on the planning application year and E-level. For planning application year 2022 it gives a 100% discount (5 years) up to max. E10 and a 50% discount (5 years) between E11-E20. The same discounts apply for 2023, except that they then only apply to the (partial) rebuilding of a house, not the construction of a new house.

Source: https://www.energiesparen.be/korting-op-onroerende-voorheffing-voor-nieuwbouwwoningen-met-verlaagd-e-peil

Flanders: reduction 'verkooprecht' by IER

Type: Reduction of registration tax following a major energetic innovation (IER) by Flemish government.

Description: Reduction of registration tax following a major energetic innovation (IER) by Flemish government

Amount: 1% registration tax instead of 3%

Source: https://www.vlaanderen.be/uw-overheid/werking-en-structuur/hoe-werkt-de-vlaamse-overheid/belastingen-en-begroting/vlaamse-belastingen/registratiebelasting/wijzigingen-verkooprecht-vanaf-1-januari-2022

Flanders: EPC Labelpremie

Type: Subsidy provided by the net distributor Fluvius for making a house or apartment more energy efficient.

Description: Subsidy provided for houses with energy label of E or F (assigned in 2019 or later) or apartments with energy label D, E, or F (assigned in 2019 or later). Subsidies are conditional on achieving at least energy level C (for houses) or B (for apartments) in five years. This subsidy can be combined with other Fluvius subsidies, such as those for individual appliances.

Amount: To energy level A: 5000 (houses) and 3750 (apartments) (or 6000 and 4500 for protected customers). To energy level B: 3750 (houses) and 2500 (apartments) (or 4500 and 3000 for protected customers). To energy level C: 2500 (for houses) (or 3000 for protected customers).

Source: https://www.energiesparen.be/epc-labelpremie.

Wallonia: offsetting prosumer rate

Type: Governmental financial compensation for the prosumer tariffs for self-producing residential customers.

Description: Provides a premium of 54.27% of the prosumer tariff. Aimed at self-producing residential customers who have a renewable electricity production facility with a net developable power of less than or equal to 10kW, regardless of the production technology used, providing that they do not does not benefit from the social tariff. The subsidy ends from 2024 onwards.

Amount: 54.27% of the prosumer tariff.

Source: https://energie.wallonie.be/fr/compensation-du-tarif-prosumer.html?IDC=9979

Wallonia: temporary bonus - heating and domestic hot water appliances

Type: Temporary governmental financial aid for replacing heating and domestic hot water appliances.

Description: Governmental aid for replacing heating and domestic hot water appliances for which the final invoice dates between 01/02/2022 and 30/06/2023. Amount of subsidy depends on the income level, household composition, type of appliance, and its contribution to improving the energy efficiency of the household. Work must be carried out by a contractor from the Banque-Carrefour des Entreprises.

Amount: Total premium cannot exceed 70% of all invoices. Heat pumps domestic hot water: 500-3.000 EUR; heat pumps for heating or combined: 1.000-6.000 EUR; biomass boiler: 1.000-6.000 EUR. Solar water heater: 750-4.500 EUR. Local biomass stove: 250-1.500 EUR.

Source: https://energie.wallonie.be/fr/prime-appareil-de-chauffage-et-d-eau-chaude-sanitaire-pour-tous-prime-temporaire.html?IDC=10306

Flanders: Fluvius schemes

Type: Subsidy schemes for specific appliances by the Flemish network distributor Fluvius.

Description: Contains subsidy schemes for energy-saving and renewable energy appliances, including solar panels, heat pumps, heat pump boilers, solar boilers, and condensing gas boilers (the latter only for protected customers, i.e. customers who are eligible for maximum social prices on gas and electricity). All schemes run until 30/06/2022. The subsidies for solar panels, heat pumps, heat-pump boilers, and solar boilers are then moved under the ''Mijn VerbouwPremie'', which starts running from 01/10/2022.

Amount: Condensing gas- or propane/butane boilers: 1.800 EUR (max 40% invoice) replacement of natural gas instalment for condensing boiler gas. 2.500 EUR (max 50% invoice) replacement of fuel oil installation for condensing boiler gas. 1800 EUR (max 40% invoice) replacement of propane/butane installation for condensing boiler propane/butane (in a non-natural-gas area). 2.500 EUR (max 40% invoice) replacement oil fuel boiler by condensing boiler propane/butane (in a non-natural-gas area). Heat-pumps: geothermal 4.000 EUR (4.800 protected customer), air-water heat-pump 3.000 EUR (3.600 protected customer), hybrid air-water heat-pump: 2.000 EUR (2.400 protected customer), air-air heat-pump 300 EUR (360 protected customer). Heat-pump boiler: 300 EUR (360 protected customer). Solar boiler: 550 EUR/m^2 (max 40% of invoice of max 2.750 EUR/residential unit) (protected customer: 660 EUR/m^2 max 48% of invoice of max 3.300 EUR/residential unit). Photovoltaic: max. 1.500 EUR (max. 1.800 EUR protected customer) with 300 EUR per kWp from 0 to 4 kWp, 150 EUR per kWp from 4 to 6 kWp (max 40% of invoice).

Source:

https://www.fluvius.be/nl/thema/premies/premies-voor-huishoudelijke-klanten

https://apps.energiesparen.be/subsidies/subsidiemodule resultaat?query%5Bpostcode%5D=3790&query%5Bcategorie%5D%5B0%5D=Isolatie%20vloer&query%5Bcategorie%5D%5B1%5D=Verwarming&query%5Bcategorie%5D%5B2%5-D=Warmtepomp%20-%20

BULGARIA

For the fossil-supporting programmes, there have been some minor changes since the previous report. Bulgaria's Energy Efficiency and Renewable Sources Fund has expanded their criteria for funded heat source and distribution improvements. Moreover, a new grant schemes for fossils and RES heating systems was introduced (in 2018) which goes until 2024, supporting heating with pellets or gas. However, the RES tax reduction scheme has not changed from the information above.

Efficiency and Renewable Sources Fund (фонд Енергийна ефективност и възобновяеми източници)

Type: Central government soft loan scheme for fossils and RES heating systems.

Description: The Energy Efficiency and Renewable Sources Fund finances loans for rehabilitation and energy improvement of buildings in all sectors. Improvements to the heat source and distribution systems are included: new high-efficiency boilers and burners; automatic boiler control systems; separate domestic hot water heaters for summer usage; substantial efficiency-driven modernization of existing boilers; boiler heat recovery devices; small cogeneration systems; high efficiency fossil fuel or electric-powered heat pumps; projects with utilization of renewable energy sources (RES) etc.

The EERSF does not only finance loans but also acts as a credit guarantee facility and a consulting company. The EERSF had a peak in 2019 with seven projects but seems to have become more unpopular, counting one corporate project in 2021 and no projects so far in 2022. Municipalities - Energy Efficiency and Renewable Sources Fund (bgeef.com). Furthermore, there have been additions to the "improvements to the heat source and distribution system", now also including new heat exchangers or substantial renovation of existing ones; new main valves and steam taps or substantial renovation of existing ones; new distribution piping or radiators; new metering equipment; thermostatic radiator valves; pipe insulation in networks. However, it is unclear when they were added.

Source: https://www.bgeef.com/en/energy-efficiency-measures/

Property tax reduction

Type: Central government tax reduction scheme for RES heating systems.

Description: The improvement of renewable energy in buildings is promoted through a tax rebate for building owners. This incentive scheme provides that a building that has been granted a class A or B energy performance certificate can be made exempt from property tax for a longer period of time (between 3 and 10 years) if renewable energy technologies are used in the building.

Source: http://www.res-legal.eu/search-by-country/bulgaria/single/s/res-hc/t/promotion/aid/tax-regulation-mechanism-3/lastp/111/

Project Bulgarian Municipalities Working Together to Improve Air Quality (LIFE-IP Clean Air)

Type: Local level grant scheme for fossils and RES heating systems.

Description: LIFE-IP Clean Air supports the implementation of the Air Quality Programs of the Sofia Municipality, Burgas Municipality, Ruse Municipality, Stara Zagora Municipality, Veliko Tarnovo Municipality and Montana Municipality. The main objective of the project is the improvement of air quality in the participating municipalities. The core instrument to achieve the objective is the design and implementation of a scheme for transition to alternative forms of household heating. The scheme supports the transition from heating with wood and coal to heating with pellets or gas. The new heating system is covered 100% by the grant, but the house owner has to cover the costs of necessary internal installations in order to be compatible with the chosen equipment. Project budget 16.7 mill EUR, 2018-2024.

Source: http://lifeipcleanair.eu/en/index.html

CROATIA

Program for Energy Renovation of Family Houses

Type: Central government grant scheme for RES heating systems.

Description: Installation of a heat pump system for heating domestic water and/or space or for heating and cooling of energy class A (according to Eurovent Energy Efficiency Classification): air-water, water-water and land-water.

Source: https://www.fzoeu.hr/hr/energetska-obnova-obiteljskih-kuca/5963

Program for Energy Renovation of Family Houses

Type: Central government grant scheme for energy efficiency.

Description: Installation of a new system with a gas condensing boiler to increase energy efficiency of the heating system.

Source: https://www.fzoeu.hr/hr/energetska-obnova-obiteljskih-kuca/5963

Programme for co-financing the purchase of condensing boilers for houses and apartments affected by the earthquake (Programme sufinanciranja kupnje kondenzacijskih bojlera za kuće i stanove pogođene potresom)

Type: Local grant scheme for fossil heating systems.

Description: The programme finances the installation of condensing boilers following the earthquake that hit the Zagreb area on 22 March 2020, partially or totally destroying numerous buildings in Zagreb and Krapina-Zagorje. The programme was reopened on July 21, 2021. It covers buildings damaged in earthquakes in Zagreb area, Krapina-Zagorje, Sisak-Moslavina and Karlovac region. Amount. A single family can receive a grant of up to 80%, with a ceiling of HRK 8.000.

Source: https://www.fzoeu.hr/hr/sufinanciranje-kondenzacijskih-bojlera/7691

CYPRUS

Sponsorship plan for installation/ replacement of solar systems for the production of hot water in houses (2022)

Type: Central government grant scheme for RES heating systems.

Description: The programme finances solar thermal with a subsidy. October 1, 2022 is the application deadline.

Amount: €450 for integrated hot water heating systems (cylinder + solar panels) whose solar panels have the keymark solar certification. For mountainous areas the subsidy amount is double.

Source: https://www.resecfund.org.cy/iliaka_2022

CZECH REPUBLIC

There have been no new incentive programmes since October 2021. The terms of the current programme were updated once again on June 1st, 2022. There are different incentive numbers for family houses (Rodinné domy) vs apartment buildings (Bytové domy). Incentive values for apartment buildings are lower than for family houses. Support for gas boilers was terminated on April 30, 2022 and incentives for air-to-air heat pumps were increased from CZK 50.000 to CZK 60.000. Current incentives exist for solar thermal systems, biomass boilers, biomass stoves, heat pumps, photovoltaic systems for heating. Incentives can be up to 50% of the eligible costs, or up to 60% if combined with boiler subsidies for lower income households.

The New Green Savings Programme (Nová zelená úsporám)

Type: Central government grant scheme for fossil and RES heating systems.

Description: The Ministry of the Environment's New Green Savings Programme supports the reduction of the energy intensity of residential buildings (complex or partial thermal insulation), construction of houses with very low energy intensity, environmentally friendly and efficient use of energy sources and renewable sources of energy (RES). Eligible applicants are owners or builders of family houses and apartment buildings, both individuals and legal entities. The programme incentivizes solar thermal and photovoltaic systems, controlled ventilation system with heat recovery from the exhaust air (recovery), use of heat from wastewater, replacement of electric heating with a heat pump system, replacement of local stoves (e.g. stoves used as the main source of heat for heating).

Amount: 50% of the eligible costs (in some cases higher support for low-income families). The maximum amount is: solar thermal systems for hot water CZK 45.000, for hot water and heating CZK 60.000; biomass boiler with automatic fuel supply CZK 80.000; biomass stoves with automatic fuel supply CZK 30.000; biomass stoves with hot water heat exchanger and automatic fuel supply CZK 45.000; air-water, water-water and ground-source heat pump CZK 80.000 (incl. preparation for water system CZK 100.000); air-air heat pump CZK 60.000; heat pump for hot water CZK 45.000; photovoltaics for hot water CZK 45.000; connection to the heat supply system CZK 40.000. There is a bonus for some combinations with insulation.

Sources:

https://www.sfzp.cz/en/administered-programmes/new-green-savings-programme/

https://2030.novazelenausporam.cz/

DENMARK

Year-round homeowners can apply for the Building Pool Grant for: a change of heat source, a renovation of the building envelope, and an optimization of the home's operation. The programme is highly demanded, having resulted in over 26.000 grant commitments. It is currently closed for applications and will reopen in fall 2022. There are ambiguities about the exact grant amount. The amount might have decreased for A+++ heat pumps from DKK 23.000 to 19.000. Furthermore, an additional scheme for fossil boiler scrapping and heat pump deployment has been introduced in 2020. The energy provider runs the heat pumps and seeks the subsidy, so that the consumers avoid a large investment and instead pay the providers a subscription fee and the heating price. In addition, the fossil heating system tax reduction scheme "Home-job-scheme/ Craftsperson's deduction scheme" ran out in May 2022.

The Building Pool - Grants for energy savings and energy efficiency improvements in buildings for year-round housing (Bygningspuljen)

Type: Central government grant scheme for RES heating systems.

Description: The Danish Energy Agency administers this scheme that provides subsidies for energy savings and energy efficiency improvements for year-round homeowners, including private homeowners, owner associations, cooperative housing associations, public housing associations (on some conditions), dormitories, landlords, etc. The subsidies concern various types of interventions including thermal insulation, windows and conversion of the primary heat source (from oil boiler, gas boiler, biomass boiler or direct electric heat) to heat pump (only air/water or ground source class A++ or A+++ heat pump, and only if the home is not located in a district heating area). All subsidies are calculated on a fixed sbsidy rate basis set by the Danish Energy Agency, using estimated average market prices. The subsidy does not exceed 20% of the market price for the energy improvement measure itself and is only available as long as the budget lasts. In addition, a weighting is made to give larger subsidies to better energy solutions. The grant also depends on the size of the house. The scheme is running for 2020 to 2026 with several calls every year. The scheme has changed so only buildings with energy label E, F and G can receive support, except for change to heat pump and the maximum support has been lowered, so more house owners can be supported. The scheme is heavily oversubscribed, so in spring 2021 only around ¼ of applicants were granted support. The building pool is currently closed but will reopen in fall 2022.

Amount: For heat pumps the grant is 15% of the market price for an A++ heat pump and 20% of the market price for an A+++ heat pump installed in a 140 m2 building. Ground/water heat pump DKK 14.000 for an A++ heat pump and DKK 23.000 for an A+++ heat pump installed in a 140 m2 building. For example: for an A+++ air/water HP installed in a 140 m2 house the subsidy is DKK 19.000 (approx. € 2.500); and for an A++ air/water heat pump DKK 14.000 (approx. € 1.900).

Sources:

https://ens.dk/service/tilskuds-stoetteordninger/bygningspuljen

https://sparenergi.dk/forbruger/boligen/tilskud

The Scrapping Scheme - Subscription scheme for scrapping oil and gas boilers and the deployment of heat pumps (Skrotningsordningen)

Type: Central government fossil boiler scrapping scheme and RES heat pump subscription scheme

Description: The scrapping scheme is implemented as heat pumps on subscription, where the energy service provider assumes ownership of the heat pump and takes responsibility for the installation, operation and maintenance of the heat pump. The customer typically pays a one-time payment, a subscription fee and a price for heat delivered to the building. With subscription hot pumps, the consumer avoids a large investment and at the same time achieves a number of service benefits. It is the provider of heat pumps on subscription that seeks the subsidy. The scheme originates from the Energy Agreement 2018, brought forward as a result of the Climate Agreement for Energy and Industry of 22 June 2020. It is possible for energy service providers to apply for prequalification from 15 September 2020.

Sources:

https://ens.dk/service/tilskuds-stoetteordninger/skrotningsordningen

https://ens.dk/sites/ens.dk/files/Varme/ansoegningsvejledning_skrotningsordningen.pdf

https://hjemsted.dk/skrotningsord

Home-job-scheme (Bolig-job-ordningen) / Craftsperson's deduction scheme (Håndværkerfradraget) -CLOSED

Type: Central government tax reduction scheme for fossils and RES heating systems.

Description: A tax deduction can be obtained for certain work on the home (craftsperson deduction), as well as for some services (service deduction), e.g. cleaning. The tax deduction includes work on energy efficiency measures, e.g. thermal insulation, windows, PV-systems, installation of heat pumps and solar thermal systems. Repair or replacement of gas boilers is also supported. Oil and biomass boilers are not supported. Only salary costs are supported (not equipment). The tax deduction scheme cannot be combined with The Building Pool grants.

Amount: Maximum DKK 25.000 can be deducted per person annually for work on the house (in 2021. The maximum was increased due to corona). The saving is 26% of the deducted value.

Source:

https://skat.dk/skat.aspx?oid=2234759

Welcome to the Housing Job Scheme (bolig-job-ordning.dk)

Addition: The craftsman's deduction for energy improvements has been abolished as of 1 April 2022. This means that a craftsman deduction is given for craftsman services performed no later than March 31, 2022 and paid no later than May 31, 2022.

ESTONIA

"Rekonstrueerimistoetus (Renovation grant)" is still closed, however a new application round of "Väikeelamute rekonstrueerimistoetus (Reconstruction grants for small residences)" grants opened in April 2022, (https://kredex.ee/et/teenused/elamistingimuste-parandamiseks/vaikeelamute-rekonstrueerimistoetus-2022). Heating systems are mentioned as part of the reconstruction works covered by the programme. Heat pumps and gas boilers are included, however, the new heat pumps and boilers to be installed must have an efficiency class of A++ and A respectively.

The proportion of the grant size has changed compared to 2020 version for the different types of works e.g.:

- For individual works, the grant rate is 20% of eligible expenses (vs 30% previously) and the maximum grant amount is EUR 20,000 per small residential building.
- With thorough reconstruction, the proportion of the grant of eligible expenses and the maximum grant amount per small residence is:
    - 30% and EUR 20,000 in Tallinn and Tartu as a settlement unit (vs 30 per cent and EUR 30,000 previously)
    - 40% and EUR 30,000 in Harku rural municipality (vs 40 per cent and EUR 40,000 previously)
    - 50% and EUR 40,000 in rest of Estonia (vs 50 per cent and EUR 50,000 previously)

Reconstruction grant for small residences 2022 (Väikeelamute rekonstrueerimistoetus)

Type: Central government grant scheme for fossil and RES heating systems. New application round for this program opened in April 2022.

Description: The programme promotes various energy efficiency interventions, including: replacement or refurbishment of the heating system and related works; construction, replacement or reconstruction of a ventilation system and related works; the acquisition and installation of renewable energy production equipment together with the necessary equipment for energy conversion and storage of energy production and related works (for renewable energy production installation the Regulation means an installation that generates heat or electricity by means of the sun); purchase and installation of equipment for the use of waste heat from waste water and related works. Among the incentivised heating systems there are also gas boilers.

Heating systems are mentioned as part of the reconstruction works covered by the program. Heat pumps and gas boilers are mentioned (but there is no mention of solar thermal or biomass). The new heat pumps and boilers to be installed must have efficiency class of A++ and A respectively. The proportion of the grant size has changed compared to 2020 version for the different types of works, see summary text above.

Source: https://kredex.ee/en/services/elamistingimuste-parandamiseks/reconstruction-grant-small-residences-2022

Renovation grant 2020 (Rekonstrueerimistoetus 2020) - CLOSED

Type: Central government grant scheme for RES heating systems.

Description: Programme aimed at promoting comprehensive reconstructions of apartment buildings. The grant is round-based and applications are approved within the volume of the funds allocated to the region.

Source: https://kredex.ee/en/services/elamistingimuste-parandamiseks/renovation-grant-2020

FINLAND

The programmes named in the previous report are still in place. The first scheme supports the replacement of oil-based heating systems with a €4000 grant if air-water heat pumps or ground source heat pumps are installed and €2500 for other non- fossil systems. One noteworthy difference between the earlier summary and the current scheme is the exclusion of district heating as an eligible alternative to oil. Although applications for this switch will still be accepted, the decision of allocating funding depends on Parliament's decision to expand the EU Recovery Facility to include a supplementary budget for district heating. The scheme providing a tax credit for household heating system renovations appears to be operating as previously defined.

Avustus pientalon öljylämmityksestä luopumiseksi (Grant for giving up oil heating in a detached house)

Type: Central government grant scheme for RES heating systems.

Description: The grant is for owners of detached single or double residential houses used all year. The grant supports cost of removing oil heating systems and replacing them with a new non-fossil heating systems. The grant scheme runs until resources are exhausted.

Amount: The subsidy is €4,000 for conversion to air-water heat pumps and ground source heat pumps. For other non-fossil heating systems it is €2,500. Funding for switching to district heating cannot be guaranteed until Parliament approves an expansion on the EU Recovery Facility funding to include a supplementary budget for district heating.

Source: https://www.ely-keskus.fi/oljylammityksen-vaihtajalle

Tax credit for household expenses

Type: Central government tax reduction scheme the maintenance of heating systems and RES.

Description: Tax credit for household work and renovation, e.g. upgrading, improvement and repair of heating systems; as well as installation of heat pumps and solar thermal. The deduction only covers cost for work (salaries) and not equipment.

Amount: The deduction is 40% of the costs minus 100 EUR, with an annual maximum of € 2,250/person. No reduction if a subsidy is granted for part of the costs.

Source: https://www.vero.fi/en/individuals/tax-cards-and-tax-returns/income-and-deductions/Tax-credit-for-household-expenses/

FRANCE

In France, no new programs have been implemented since the report form October 2021. The éco-PTZ (the zero-interest eco-loan) which was supposed to end at the beginning of 2022 is still running and the maximum amount of the award has been augmented from 30 000€ to 50 000€. The subsidies "Aide de l'Anah: travaux d'amélioration de l'habitat", the VAT reduction and the award "Coup de pouce économies énergie" did noange except that the last one has been extended to the insulation. The subsidy program "Coup de pouce thermostat avec régulation performante" expiredon December 31, 2021 and has not been replaced by an equivalent. The subvention "Ma prime rénov" is still running and the modalities are the same except that as of January 1, 2023, the subvention for the installation of a very high energy efficiency gas boiler will be eliminated.

For an overview of programmes see: https://france-renov.gouv.fr/aides

Aide de l'Anah: travaux d'amélioration de l'habitat

Type: Central government grant scheme for fossil and RES heating systems.

Description: Various types of efficiency measures for old buildings. The programme supports low-income households. The building has to be at least 15 years old and the amount of work at least 1500€.
Amount. Subsidies up to 50% for lowest income families. Maximum subsidy EUR 15,000.

Amount: Subsidies up to 50% for lowest income families. Maximum subsidy EUR 15,000.

Source:

https://www.service-public.fr/particuliers/vosdroits/F1328

https://www.faire.gouv.fr/aides-de-financement/programme-anah

Éco-prêt à taux zéro (éco-PTZ)

Type: Central government soft loan scheme for fossil and RES heating systems.

Description: The zero-interest eco-loan (eco-PTZ) allows to finance the energy renovation of the houses. Promoted interventions: thermal insulation; installation, adjustment or replacement of heating systems or production of domestic hot water; installation of heating systems using a renewable energy source; installation of equipment for production of domestic hot water using a renewable energy source. Also condensing gas boilers are included. The programme is still running.

Amount: The maximum amount is between € 7 000 and € 50 000 depending on the works

Source: https://www.service-public.fr/particuliers/vosdroits/F19905

Prime “Coup de pouce économies énergie”: chauffage et ou isolation

Type: Central government grant scheme for fossil and RES heating systems.

Description: This energy bonus allows payment of the cost of replacing the heating system. This award can be claimed until December 31, 2025. After June 30, 2021, the subsidy for gas is only available when efficient RES heating systems is not possible. Can be combined with Eco-PTZ and Ma Prime Rénov. Insulation works are also allowed.

Amount: Installation of an efficient biomass boiler € 4,000 for low-income families and 2,500 for non-low-income families; Installation of an air/water or water/water or hybrid heat pump € 4,000 or 2,500; Installation of a combined solar system € 4,000 or 2,500; connection to a heating network supplied by renewable energies (ENR & R) 700 € or 450; installation of a very high energy performance gas boiler € 1,200 or 600; installation of a high-performance wood-burning appliance 800 € or 500. For the insulation of attics and roofs and low floors, 12€/m2 for low-income families and 10€/m2 for other.

Source:

https://www.service-public.fr/particuliers/vosdroits/F34421

https://www.ecologie.gouv.fr/sites/default/files/Evolutions%20li%C3%A9es%20aux%20Coups%20de%20Pouce%20-%20mai%202021.pdf

Prime de transition énergétique “Ma Prime Rénov”

Type: Central government grant scheme for fossil and RES heating systems.

Description: The energy transition bonus called Ma Prime Rénov can be granted to any owner to finance the works and/or the energy renovation costs of their main residence. The programme promotes various interventions related to heating: gas condensation boilers (to be removed in January 2023); biomass boilers; solar thermal; geothermal or solar thermal heat pumps; air/water heat pumps; water heater heat pumps; connection equipment, or connection fees and costs, to a heating or cooling network; removing an oil tank. From January 2021 it was extended to all houseowners and from July 1, 2021, it also supports flat owners

Amount: The overall amount of the premium is capped at € 20.000 per home, over a period of 5 years. The amount depends on the family income, the following is for individual houses. Gas boiler with very high energy performance € 800-1.200; automatically fed wood boiler €8.000-10.000; manual feed wood boiler € 6.500-8.000; combined solar thermal systems €8.000-10.000; solar thermal for hot water € 3.000-4.000; geothermal or solar thermal heat pump € 8.000-10.000; air/water heat pump €3.000-4.000; water heater heat pump € 800-1.200. Households are divided into four income groups. For the highest income (over €60.336 for a 4-person family), there is only a reward for deep renovation projects (min. 55% energy savings). Lower subsidy than above mentioned for incomes between €39,192 and €60,336). Can be combined with Energy saving certificates provided by companies.

Source:

https://www.service-public.fr/particuliers/vosdroits/F35083

https://api.faire.gouv.fr/sites/default/files/2021-07/AidesFinancieres_Juillet2021.pdf

VAT reduction

Type: Central government tax reduction scheme for fossil and RES heating systems.

Description: In France, the purchase of commodities is subject to a reduced VAT rate if they are related to investments in the improvement, the transformation, the fittings, the conservation or certain equipment of buildings constructed more than two years prior (Code Général des Impôts, art. 278-0 bis, 1). Thus, the purchase of such commodities by private individuals is indirectly promoted. The reduced VAT includes boilers, heat pumps, fireplace inserts, wood-burning stoves, solar water heaters. **Also, gas boilers are included.**

Amount: the reduced VAT rate is 5.5% (Art. 278-0 bis, Code Général des Impôts). Standard VAT rate is 20%

Source: https://agirpourlatransition.ademe.fr/particuliers/finances/aides-a-renovation/tva-a-55

GERMANY

Subsidies for heating systems in Germany are primarily distributed through the federal support for energy efficient buildings in the form of grants and through the KfW in the form of loans with favourable interest rates. Both schemes have the same conditions as to which technologies can and cannot be subsidized. Importantly, renewable ready gas condensing boilers as well as hybrid heating systems (including gas boiler+solar thermal) are still subsidized. Germany is marked red as gas boilers are fully subsidised as long as a solar thermal system is installed alongside. However, solar thermal installations typically only provide hot water, such that space heating is typically entirely provided by gas boilers in these buildings. .

Bundesförderung für effiziente Gebäude (Federal support for energy efficient buildings)

Type: Central government grant scheme for fossil and RES heating systems.

Description: The grants are awarded as partial funding based on the eligible investment costs. It supports gas condensing boilers ("Renewable Ready"), hybrid gas heating, solar thermal systems, biomass systems and heat pump systems.

Amount: For RE ready condensing gas boilers, 20% of the total cost is funded as a grant, for hybrid gas heating and solar thermal systems 30% and for biomass or heat pump systems 35%. Annually, up to €60.000 of total expenses on energy efficiency refurbishment can be subsidized per living unit under this scheme.

Source:

https://www.bafa.de/DE/Energie/Effiziente_Gebaeude/Sanierung_Wohngebaeude/Anlagen_zur_Waermeerzeugung/anlagen_zur_waermeerzeugung_node.html

https://www.kfw.de/inlandsfoerderung/Privatpersonen/Bestandsimmobilie/

Refurbishment KfW Efficiency House

Type: Central government grant or soft loan scheme for refurbishment.

Description: Complementary to the federal support scheme for energy efficient buildings, the KfW has implemented a loan scheme for those costs of energy efficient refurbishment that are not covered by the grants described above. The same heating systems are eligible as described in the federal support for energy efficient buildings above.

Amount: The maximum annual loan for individual measures is € 60,000 per living unit per year. The grant is financed by the federal support for energy efficient buildings, but it can be applied for through KfW.

Source: https://www.kfw.de/inlandsfoerderung/Privatpersonen/Bestandsimmobilie/

Local incentives in Germany

In Germany there are a number of local incentives at state level. The incentives are generally grants. In the Funding Data Bank (Förderdatenbank) it is possible to find information about and links to state, federal and EU funding. A private company has made a website with a funding data for energy renovations.

Source:

https://www.foerderdatenbank.de/.

https://www.foerderdata.de/index.php

Tax deduction for energy efficient renovations

Type: Central government tax reduction scheme for fossil and RES heating systems.

Description: The deduction was introduced in January 2020 and runs till 2029. The tax deduction can be used in owner-occupied housing for installations that are eligible under the federal support scheme for energy efficient buildings. However, the tax deduction can neither be combined with this or the KfW scheme.

Amount: 20% of the costs. Maximum deduction is 40.000 € per house.

Source:

https://www.energie-experten.org/bauen-und-sanieren/altbausanierung/energetische-sanierung/steuerlich-absetzen#c34569

https://www.bundesfinanzministerium.de/Content/DE/Standardartikel/Themen/Schlaglichter/Klimaschutz/2020-02-07-steuerliche-foerderung-energetischer-gebaeudesanierungen.html

Berlin: Efficient Buildings PLUS (Effiziente Gebäude PLUS)

Type: Local government grant scheme for fossil and RES heating systems.

Description: The local government subsidizes gas condensing boilers ("Renewable Ready"), hybrid gas heating, solar thermal systems, biomass systems and heat pump systems. The programme can be combined with other funding schemes, but total funding cannot exceed 100%.

Amount: Gas condensing boilers ("Renewable Ready") are subsidized with 10%, hybrid gas heating with 15%, solar thermal systems with 20%, biomass systems and heat pump systems with 25%.

Source: https://www.ibb.de/de/foerderprogramme/effiziente-gebaeudeplus.html

GREECE

Tax regulation mechanism

Type: Central government tax reduction scheme for RES heating systems.

Description: According to the Tax regulation mechanism (Law No. 2238/1994) it is possible to benefit from 10% of the project costs, that may be deduced from taxable income (up to a maximum of € 3.000) for interventions to install renewable heating technologies. This mechanism is mainly used for solar thermal.

Amount: 10% of the costs up to a maximum of € 3.000

Source: http://www.res-legal.eu/en/search-by-country/greece/single/s/res-hc/t/promotion/aid/tax-regulation-mechanism-i-law-no-22381994/lastp/139/

Energy Saving at Home II (Εξοικονόμηση κατ' οίκον II)

Type: Local government grant scheme for fossil and RES heating systems.

Description: The Program provides incentives for energy saving interventions in the residential building sector. It concerns buildings that have a building permit or other legal document, are used as the main residence and whose owners meet specific income criteria. The Program is financed by ERDF resources and national resources and provides incentives in the form of a grant (direct aid) and a loan ("Save II Fund") with an interest rate subsidy.

Amount: Programme "Exoikonomo kat'oikon" offers interest- free loans and subsidies for the installation of RES-H plants. The percentage funded by a subsidy or an interest-free loan depends on the personal or family income of the applicant. Here is the table for the detailed explanation.

Source:

http://www.res-legal.eu/en/search-by-country/greece/single/s/res-hc/t/promotion/aid/subsidy-ii-combined-with-loan-energy-saving-at-home-ii/lastp/139/

https://exoikonomisi.ypen.gr/to-programma

Category	Personal Income (P.I)	Family Income (F.I.)	Subsidy (in %)	Subsidy increase per child (in %)	Maximum subsidy (in %)
1	P.I. ≤ € 10,000	F.I. ≤ € 20,000	60%	5%	70%
2	€ 10,000 < P.I. ≤ € 15,000	€ 20,000 < F.I. ≤ € 25,000	50%	5%	70%
3	€ 15,000 < P.I. ≤ € 20,000	€ 25,000 < F.I. ≤ € 30,000	40%	5%	70%
4	€ 20,000 < P.I. ≤ € 25,000	€ 30,000 < F.I. ≤ € 35,000	35%	5%	70%
5	€ 25,000 < P.I. ≤ € 30,000	€ 35,000 < F.I. ≤ € 40,000	30%	5%	50%
6	€ 30,000 < P.I. ≤ € 35,000	€ 40,000 < F.I. ≤ € 45,000	25%	5%	50%
7	€ 35,000 < P.I. ≤ € 40,000	€ 45,000 < F.I. ≤ € 50,000	0%	0%	0%

HUNGARY

Home Renovation Aid (OTTHONFELÚJÍTÁSI TÁMOGATÁS)

Type: Central government grant scheme for RES heating systems.

Description: The program provides renovation aid for families with at least one child (or a planned one), Government Decree No 518/2020 (XI. 25.). The program is effective from January 1, 2021, to December 31, 2022. It supports a wide range of renovations, not only energy-efficiency-related ones. Installation, modernization, or replacement of heating systems are supported, this includes fossil fuels. Installation of solar hot water systems are also supported.

Amount: 50% of the invoiced renovation costs, up to a maximum of HUF 3 000 000.

Source:

http://www.allamkincstar.gov.hu/hu/lakossagi-ugyfelek/otthonfelujitasi_tamogatas_altalanos_tajekoztato_

http://www.allamkincstar.gov.hu/files/Lakoss%C3%A1gi%20%C3%BCgyfelek/Otthonfel%C3%BAj%C3%ADt%C3%A1si%20t%C3%A1mogat%C3%A1s/518_2020_korm_rendelet_20210421.pdf

Housing Green Capital Requirement Discount (Zöld Tőkekövetelmény-kedvezmény Program)

Type: Central government soft loan scheme for RES heating systems.

Description: The program promotes with subsidized financing various interventions in the field of efficiency, including change of heating systems (includes gas boilers), installation of solar panel or solar collector; installation of geothermal, air-water, air-to-air heat pump; installation of wind turbine; installation of heat and electricity storage units; thermal insulation of building envelopes. The program runs till 2024.

Amount: the amount of the discount is 5% for the energy quality classification "BB", 7% for the energy quality classification "AA" or higher, 5% for modernization interventions. Minimum level of green interest subsidy is 0.3%.

Source:

https://www.mnb.hu/sajtoszoba/sajtokozlemenyek/2020-evi-sajtokozlemenyek/konnyites-hatarido-hosszabbitas-a-lakascelu-zold-tokekovetelmeny-kedvezmeny-programnal

https://www.mnb.hu/letoltes/tajekoztato-zold-kedvezmeny-2020-julius.pdf

IRELAND

A new grant scheme was announced in February 2022 as part of the National Retrofit Plan, called the National Home Energy Upgrade Scheme. It offers increased grant levels of up to 50% of the cost of a typical B2 home energy upgrade, up from 35% previously. The maximum grant amount of €2 million is no longer mentioned, neither is the minimum amount of €100.000 for the applicant. The following document shows individual grant amounts for each individual installation measure:

https://www.seai.ie/register-with-seai/one-stop-shop/National_Home_Energy_Upgrade_Scheme_-_Homeowner_Guide[1].pdf

Individual home energy grants for heat pumps and solar thermal hot water can also be applied for, and have increased as part of the new scheme:

- For all Heat Pumps except Air-to-Air: € 4500 for any Apartment and € 6500 for homes with Semi-Detached/End Terrace/Detached/Mid Terrace (instead of € 3500 for all home types previously)
- For Air-to-Air Heat Pumps: € 3500 (instead of € 600 previously)
- For the Solar Water Heating: € 1200 (no change from before)

There are no fossil fuel boiler grants.

Home energy grants: Heat pumps grant and Solar Water Heating grant

Type: Central government grant scheme for RES heating systems.

Description: Sustainable Energy Authority of Ireland (SEAI) provides a wide range of grants to upgrade homes, in order to make them warmer and more energy efficient.

Amount: For all Heat Pumps except Air-to-Air €4500 for (any) Apartment and 6500 for Semi-Detached/End of Terrace/Detached/Mid Terrace; for Air to Air Heat Pumps €3500. For the Solar Water Heating €1200. If three different upgrades are completed the grant value will be increased by €300. If four the value will be increased by an additional €100.

Source:

https://www.seai.ie/grants/home-energy-grants/

https://www.seai.ie/grants/home-energy-grants/heat-pump-systems/

https://www.seai.ie/grants/home-energy-grants/solar-water-heating-grant/

National Home Retrofit Scheme

Type: Central government grant scheme for RES heating systems.

Description: A new grant scheme was announced in February 2022 as part of the National Retrofit Plan. This scheme is aimed at engaging groups of private households, registered Housing Associations and Local Authorities and Energy Utilities or other organisations who wish to participate in delivering a "One Stop Shop" type service for energy efficiency works. The programme also promotes heat pump technology, solar PV and solar water heating. This new scheme also includes increased heat pump and wall insulation grants compared to before.

Amount: The new National Home Energy Upgrade Scheme offers increased grant levels of up to 50% of the cost of a typical B2 home energy upgrade.

Source:

https://www.seai.ie/grants/national-home-retrofit/

https://www.gov.ie/en/press-release/government-launches-the-national-retrofitting-scheme/

https://www.seai.ie/register-with-seai/one-stop-shop/National_Home_Energy_Upgrade_Scheme_-_Homeowner_Guide[1].pdf

ITALY

In Italy, no substantial changes have been introduced since October 2021. The Superbonus has been extended due to the huge number of applications. A delay in the delivery of materials due to the war in Ukraine has caused the initial date of June 30, 2022 to be pushed to September 30, 2022. The Ecobonus, the Renovation Bonus, the TVA reduction and the Conto Termico are still running.

"Superbonus"

Type: Central government tax reduction scheme for fossil and RES heating systems.

Description: The so-called law Decreto Rilancio (Relaunch Decree), in the context of urgent measures regarding health, support for work and the economy, as well as social policies related to the epidemiological emergency from Covid-19, increased the deduction rate for expenses incurred to 110% from July 1, 2020 to September 30 2022, for the "driving" interventions: 1) insulation of over 25% of the external walls surface; 2) replacement of the heating system with a more efficient one, i.e. heat pumps, condensing boilers, hybrid appliances (integrated heat pump with condensing boiler), micro-cogeneration, solar thermal, biomass boilers (but only in specific cases); 3) seismic risk reduction. If combined with these interventions, other specific interventions in the field of energy efficiency are also subsidised: installation of photovoltaic systems, infrastructure for charging electric vehicles in buildings, efficient windows, shadowing systems, building automation, etc. The energy class must be improved by minimum two (e.g. D to B) – so Ecobonus is the interesting scheme, when it is only the heating plant that is changed. The tax rebate can also become a discount at the point of sale, but several conditions apply.

Amount: tax deduction of 110% of the expenses incurred. Maximum amount: heat pumps € 15.000, 20.000 or 30.000, depending on the kind of the house; condensing heat generators 30.000 €; micro-cogeneration 30.000 €; solar thermal 60.000 €; biomass boilers 30.000 €.

Source:
https://www.informazionefiscale.it/ecobonus-2021-detrazione-fiscale-110-65-50-spese-ammesse-limiti-requisiti

https://www.agenziaentrate.gov.it/portale/documents/20143/233439/Guida_Superbonus110__.pdf/49b34dd3-429e-6891-4af4-c0f0b9f2be69

https://www.agenziaentrate.gov.it/portale/superbonus-110%25_

VAT reduction (IVA agevolata)

Type: Central government tax reduction (VAT) scheme for fossil and RES heating systems.

Description: Discounted VAT at 10% instead of 22% on RES. The reduced VAT is also for condensing boilers (but only for part of the costs).

Amount: the reduced VAT rate is 10%. Standard VAT rate is 22%.

“Ecobonus”

Type: Central government tax reduction scheme for fossil and RES heating systems.

Description: Tax deduction program with a value ranging from 50% to 75% (or to 85% in case of interventions combined with anti-seismic intervention) of the incurred costs for various efficiency measures, including condensing boilers, heat pumps, micro-cogeneration, biomass, solar thermal. The tax rebate can also become a discount at the point of sale, but several conditions apply.

Amount: heat pumps 65% of the expenses, with a maximum ceiling of 30.000 €; condensing heat generators 50% (for individual houses) or 65%, maximum 30.000 €; solar thermal 65%, 100.000 €; biomass boilers 50%, 30.000 €.

Source:
https://www.informazionefiscale.it/ecobonus-2021-detrazione-fiscale-110-65-50-spese-ammesse-limiti-requisiti

https://www.agenziaentrate.gov.it/portale/documents/20143/233439/Agevolazioni+fiscali+per+risparmio+energetico+it_Guida_Agevolazioni_Risparmio_Energetico.pdf/364ab72b-b873-c28e-1e75-0ebbf0cdd7a5

Renovation Bonus “Bonus Ristrutturazioni”

Type: Central government tax reduction scheme for fossil and RES heating systems.

Description: Tax deductions for simple houses renovations, which however includes energy saving interventions, including photovoltaics and RES or fossil heating systems.

Amount: tax deduction of 50% of the expenses incurred. Maximum amount: 96.000 €.

Source:
https://www.informazionefiscale.it/bonus-ristrutturazioni-2021-novita-come-funziona-lavori-ammessi-beneficiari

https://www.agenziaentrate.gov.it/portale/documents/20143/233439/Guida_Ristrutturazioni_edilizie08092019.pdf/3a3c355b-249d-358a-ae69-a22cff87838b

Conto Termico

Type: Central government grant scheme for fossil and RES heating systems.

Description: Conto Termico is a subsidy dedicated to interventions for increasing the energy efficiency and the production of thermal energy from renewable sources. The beneficiaries are mainly public administrations, but also companies and individuals. The scheme is funded with 900 million euros per year, of which 200 are destined to public administrations. Thanks to the programme it is possible to refurbish buildings to improve their energy performance, thus reducing consumption costs and quickly recovering part of the costs incurred. The programme promotes heat pumps (also hybrid and water heater heat pumps), biomass boilers, biomass stoves and Solar Thermal.

Amount: the grant depends on many factors and can reach 40% of the costs incurred.

Source: https://www.gse.it/servizi-per-te/efficienza-energetica/conto-termico

LATVIA

Support for energy renovation of houses

Type: Central government soft loans and grants scheme for fossil and RES heating systems.

Description: The Council of Ministers approved a family support programme by December 2020. It ensures the provision of portfolio guarantees for commercial bank loans for the implementation of energy efficiency improvement measures for private homes. The programme will also promote the purchase and installation of a new boiler. Due to the scarce resources available, the programme is expected to provide an average of only 500 loans per year for the implementation of energy efficiency measures in the private housing sector. There is also a grant scheme available for families with minimum 3 kids or residing outside Riga/Jurmala regions; if there is minimum 20% reduction in energy consumption, and minimum energy class C is reached after the renovation. The grant will be available for only 240 houses per year.

Amount: The guarantee rate will be up to 30% of the loan amount, not exceeding € 20.000. The grant will be € 5,000.

Source: https://www.em.gov.lv/lv/pirmo-reizi-privatmaju-ipasniekiem-bus-pieejams-atbalsts-maju-atjaunosanai-un-energoefektivitates-uzlabosanai

Support program for increasing the energy efficiency of private homes

Type: Support program for increasing the energy efficiency of private homes and installing solar panels via ALTUM.

Description: Homeowners will be able to receive support not only for energy efficiency measures (construction works in residential buildings; purchase, renovation, reconstruction or construction of engineering systems (eg. heating and ventilation equipment) and the transition to renewable energy sources (purchase and installation of technological equipment for the production of heat and microgeneration electricity), ensuring the increase of the energy efficiency class of the building, as it was before.

Source: https://www.em.gov.lv/lv/jaunums/apstiprinata-atbalsta-programma-privatmaju-energoefektivitates-paaugstinasanai-un-saules-panelu-uzstadisanai

LITHUANIA

Lithuania is not subsidizing fossil fuel heating. On a regular basis, the government is issuing new funding schemes for renewable energy heating systems that are summarized on this website: https://apvis.apva.lt/

Programme of modernisation of multifamily houses Daugiabučių namų atnaujinimo (modernizavimo) programa

Type: Central government grant scheme for RES Heating Systems

Description: The grant provides financing for the installation of renewable energy heating systems when they replace fossil fuel heating. The call is open until the funds of 2 million Euro are expired but not beyond 1 June 2023.

Amount: 30% rebate of total renovation costs.

Source: https://apvis.apva.lt/paskelbti_kvietimai/atsinaujinanciu-energijos-istekliu-saules-panaudojimas-nepasiturinciu-fiziniu-asmenu-elektros-energijos-reikmems-ir-ar-iskastini-kura-naudojanciu-silumos-irenginiu-pakeitimui-2022-06

Programme of modernisation of multifamily houses Daugiabučių namų atnaujinimo (modernizavimo) programa

Type: Central government tax scheme for refurbishing.

Description: Flat owners, who participate in the programme and modernise their buildings, are eligible for 30% rebate of total renovation costs, concrete percentages depending on a set of implemented improvements. Recently new legislation in this area have broadened scope of renovation – from the so called engineering or small renovation, which includes heat substation, hot water piping, sewage system, thermostatic valves on radiators, heat cost allocators on radiators to a full package of measures including thermal insulation of the building envelope, windows replacement and others. The programme is leaded by the Housing energy efficiency agency (BETA Būsto energijos taupymo agentūra).

Amount: 30% rebate of total renovation costs.

Source: http://www.betalt.lt/veiklos-sritys/programos/daugiabuciu-namu-atnaujinimo-modernizavimo-programa/102/?c-45/t-105

LUXEMBURG

The Prime House 2017 has extended the application period until 2023. Under this grant, financial support for the technical installation of solar thermal, solar photovoltaic, heat pumps, wood fuelled boilers, and heat network systems is allocated. Furthermore, the zero interest and low interest climate loans will be maintained to promote sustainable dwelling renovations. Luxembourg previously subsidized investments by artisanal and commercial companies in heat production via CHP plants, covering up to 40% of the eligible investment costs. This support measure appears to have been initiated in 2004 and is no longer running.

PRIMe House 2017

Type: Central government grant scheme for RES heating systems.

Description: The Ministry of the Environment (Ministère de l'Environnement) grants subsidies for investment projects undertaken to improve the long-term sustainability of a residential building and implement technical installations making use of renewable energy sources (solar thermal systems, solar photovoltaic systems, heat pumps, wood-fuelled boilers, implementation of a heat network and/or connection to a heat network). The PRIMe House 2017 scheme also applies to the construction of new sustainable dwellings, and for which the building permit was submitted between 1 January 2017 and 31 December 2023.

Amount: Solar thermal system for production of domestic hot water 50% of actual costs (maximum € 2.500); solar thermal systems with auxiliary heating 50% of actual costs (max € 4.000); Geothermal heat pump (geothermal probes, geothermal collector or latent heat accumulator systems with solar thermal collector) 50% of actual costs (max € 8.000 for an individual house and 6.000 per housing unit for a multi-unit building); Air-water heat pump 25% of actual costs (max € 2.500, only for near zero single family houses); compact device including controlled mechanical ventilation and recycled air/water heat pump (only for near-zero energy single-family houses) 25% of actual costs (max € 2.500); Wood pellet or wood chip boiler 40% of actual costs (max € 5.000 for an individual house and 4.000 per housing unit for a multi-unit building); wood pellet stove (connected to the heating network) 30% of actual costs (max € 2.500); log boiler or combination log/pellet boiler 25% of actual costs (max € 2.500 for a detached or a semi-detached house). Installation of a buffer tank with a capacity of 30 l/kW (wood pellet or wood chip boiler).

Source:
https://guichet.public.lu/en/citoyens/logement/renovation-transformation/performances-energie/aide-installations-techniques-regime-2017.html

Zero-interest “KlimaPrêt” climate loan and Low-interest “KlimaPrêt” climate loan

Type: Central government soft loans scheme for refurbishing.

Description: KlimaPrêt climate loans aim to promote sustainable renovation of dwellings that are over 10 years old by prefinancing the renovation work. These climate loans contribute not only to responsible energy consumption and environmental protection, but also to lowering energy costs, and increasing the comfort and value of the dwelling.

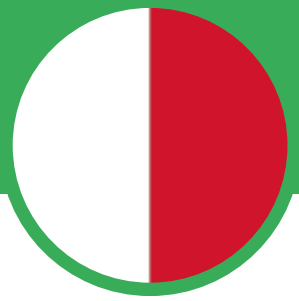
Amount for the Zero-interest: The beneficiary of the zero-interest climate loan must pay back only the capital of the loan, in the amount of no more than EUR 50,000, over 15 years maximum. The Ministry of Housing also offers a one-time capital grant, equal to 10% of the main loan (capped at EUR 5,000), so as to reduce the overall amount that is to be paid back.

Amount for the Low-interest: Low-interest climate loans are limited to a main amount of EUR 100,000 per building over a duration of 15 years. The Government awards an interest subsidy of up to 1.5% and equal to no more than 10% of the main amount (i.e. maximum EUR 10,000). The interest rate of the subsidy can by no means be higher than the actual interest rate of the loan.

Sources:

https://guichet.public.lu/en/citoyens/logement/renovation-transformation/prets-climatiques/pret-climatique-taux-zero.html

https://guichet.public.lu/en/citoyens/logement/renovation-transformation/prets-climatiques/pret-climatique-taux-reduit.html



MALTA

Solar Water Heater Scheme

Type: Central government grant scheme for RES heating systems.

Description: The Solar Water Heaters scheme is administered by the Regulator for Energy and Water Services to encourage the use of energy efficient equipment in the domestic sector. This scheme is funded through national funds and applies to private individuals (natural persons) for use in their residential properties, and for organisations that are not carrying out an economic activity. This scheme was launched by means of Government Notice GN539 of 2021 as amended by GN776 of 2021 and is valid until December 31, 2021.

Amount: This scheme provides a grant of 50% of the eligible costs up to €700 for a basic solar heating system and up to €1,400 for a premium type, exceeding 100-litre capacity (max. 75% of costs). Another supplementary fund of up to €500 is allocated for general maintenance of the solar heater over its lifetime. Eligible expenditure includes the purchase of a Solar Water Heater or Collector including VAT and its maintenance over the years.

Source:
https://rews.org.mt/#/en/sdgr/465-2021-solar-water-heater-scheme

https://www.energywateragency.gov.mt/news/new-solar-water-heaters-and-heat-pumps-schemes-launched/

NETHERLANDS

In the Netherlands, the main support scheme for renewable energies remains the ISDE scheme. However, several changes have been made to this scheme for 2020. For example, the subsidies for heat-pumps and solar boilers installed from 2022 onwards have been increased. The authorities also released a list of solar boiler and heat pump appliances containing the specific subsidies per appliance. In addition, solar boilers that produce spatial heating in addition to warm water now also receive a higher subsidy if the energy efficiency is A+ (+225) or A++ (+450). In addition to the solar boilers and heat pumps mentioned in the original text, the ISDE also provides subsidies for district heating, while legal entities can also receive a subsidy for solar panels or small-scaled wind turbines.

In addition to the ISDE, there are also 4 other schemes in the Netherlands as of 2022. First, the 'Energiebesparingslening' provides low-interest loans for homeowners and owners associations that can be used for various types of insulation, energy-efficient central heating, heat pumps, solar boilers, or solar panels. These loans are granted by the Nationaal Warmefonds, which operates in service of the Dutch government to facilitate and finance the energy transition. Second, there also exists a VAT-refund for solar panels. This scheme makes it more attractive to buy solar panels, since there exists no general subsidy for solar panels in the Netherlands. Third, the' Subsidieregeling Coöperatieve Energieopwekking' (SCE) provides a subsidy for energy-cooperatives or owners associations for renewable energy projects (wind, solar PV, hydropower). Fourth, the 'Stimulering Duurzame Energieproductie en Klimaattransitie' (SDE++) provides subsidies to enterprises on five themes: renewable energy, renewable heat, renewable gas, CO2-restricted

Energiebespaarlening

Type: Attractive loans provided by the Nationale Warmtefonds (which operates in service of the Dutch government to facilitate the energy transition) specifically for energy-saving measures.

Description: Loans available for homeowners and owners associations. The loans contain low interest rates that are usually tax-deductible. The loan can be used for various measures, including various types of insulation, energy-efficient central heating, heat pumps, solar boilers, or solar panels. From fall 2022 there are plans to provide special loans against 0% interest for low-income homeowners. The loans can be used in combination with the subsidies of the ISDE.

Amount: Homeowners: loan between €1.000-25.000 (or max. €65.000 if one wants to make their house almost or fully CO2-neutral). Owners associations: loans between €25.000-1.000.000 (max €25.000 per apartment; or €50.000 for the 'Very Energy-Efficient package' or 65.000 for the 'Nul on the Metre' package).

Source:

https://www.warmtefonds.nl/

https://www.milieucentraal.nl/energie-besparen/energiesubsidies-en-leningen/energiebespaarlening/

Sustainable energy investment subsidy scheme (Subsidie duurzame energie voor particulieren ISDE)

Type: Central government grant scheme for RES heating systems.

Description: The Sustainable energy investment subsidy (ISDE) is dedicated to heat pumps, solar boilers, connection to district heating and thermal insulation. This will reimburse part of the costs after purchasing the device. Heat pumps up to 70 kW are promoted. The heater has to be equipped with an air-to-water heat pump, a groundwater heat pump or a water-to-water heat pump. Solar water heaters, with a total opening area of up to 200 m2, are also promoted. The solar boiler is intended for the production of domestic hot water or for heating a room in combination with the production of domestic hot water.

Amount: For the heat pumps the subsidy is €500 for heat pumps smaller than 1 KW. For an air-water heat pump larger than 1kW the subsidy is € 1,100 +100 €/kW; for water-water and ground source heat pumps the subsidy is € 2.500 for heat pumps between 1 and 10 kW (+100 €/kW for larger heat pumps). For water-water and ground source heat pumps installed from 01/01/2022 onwards, these subsidies increase to €3,750 and (+150 €/kW for larger heat pumps) respectively. Heat pumps installed from 01/01/2022 onwards generally receive a higher subsidy amount depending on the specific appliance, which can be found in the ISDE heat-pump appliance list. There is a premium of €150 for A+ heat pumps, and €300 for A++ or higher. For the solar thermal installed before 01/01/2022, up to 10 m2, the subsidy amount is 0.68 € per kWh of annual production and 0.30 € per kWh of annual production for a surface area of >10m2. For solar thermal installed from 01/01/2022 onwards these subsidies increase to €1,02 and €0,45 respectively. Solar thermal installed from 01/01/2022 onwards generally receive a higher subsidy amount depending on the specific appliance, which can be found in the ISDE solar thermal appliance list. If the solar boiler also produces spatial heating next to warm water the subsidy increases with €225 for A+ and €450 for A++. The subsidy for an individual connection to district heating is €3,325. For a central connection to district heating the subsidies are respectively €2.925 (until 100 kW), €12.334 (100-400 kW), and €21.906 (>400 kW). Legal entities can also acquire subsidies for solar panels (€125 per kW combined peak power) or small-scaled wind turbines (max. €66,- per m2 rotor surface).

Source:

https://www.rvo.nl/subsidie-en-financieringswijzer/isde/woningeigenaren

https://zoek.officielebekendmakingen.nl/stcrt-2020-65131.html

https://zoek.officielebekendmakingen.nl/stcrt-2021-48521.html

https://zoek.officielebekendmakingen.nl/stcrt-2022-1718.html

https://www.rvo.nl/subsidies-financiering/isde/wijzigingen-2022

https://www.rvo.nl/subsidies-financiering/isde/zakelijke-gebruikers#maatregelen-en-voorwaarden

Subsidieregeling Coöperatieve Energieopwekking (SCE)

Type: Government subsidy for energy-cooperatives or owners associations for stimulating renewable energy

Description: Exploitation-subsidy (meaning subsidies are prescribed per kWh produced. Applies for solar, wind, and hydropower. Subsidy is the difference between the basic rate (a fixed €/kW per type of installation) and the correction amount (market price for energy). Subsidies drop if energy prices rise and vice versa. Subsidies run for 15 years. Every year there is a new appliance round, until April 2026.

Amount: Basic rates are as follows. Solar PV: ≥ 15 kWp en ≤ 100 kWp small-scale users 0.124 €/kW and large-scale users 0.096 €/kW. Wind power: small-scale users 0,113 €/kW, large-scale users between 0,068 and 0,1 €/kW depending on the wind speed category (higher speed = higher basic rate). Hydropower ≥ 15 kWp en ≤ 100 kWp 0,34 €/kW.

Source: https://www.rvo.nl/subsidies-financiering/sce

VAT-refund for solar panels

Type: VAT-refund for solar panels by the Dutch tax authority

Description: Homeowners or entrepreneurs who buy solar panels can get a VAT refund by the Dutch tax authority. When acquiring solar panels for use, you are considered as an entrepreneur according to Dutch law (if you are delivering solar energy to energy-companies). To acquire the VAT-refund one must first register as an entrepreneur by the Dutch tax authorities via the 'declaration solar panel holders' form and submit the VAT-return.

Amount: Depends on the VAT rate paid for purchase and installation and the flat rate (you do not get the entire VAT refunded but the difference between the VAT and the flat rate)

Source:

https://www.belastingdienst.nl/wps/wcm/connect/nl/btw/content/btw-terugvragen-voor-zonnepanelen-ik-ben-particulier

https://www.milieucentraal.nl/energie-besparen/zonnepanelen/btw-op-zonnepanelen-terugvragen/#stap-3-dien-je-btw-aangifte-in

Stimulering Duurzame Energieproductie en Klimaattransitie (SDE++)

Type: Government subsidy for investments in large scale renewable energy projects aimed at enterprises and non-profits.

Description: Subsidies on five themes: renewable energy (e.g. osmosis, hydropower, solar, wind), renewable heat (e.g. biomass, solar thermal, geothermal), renewable gas, CO2-restricted heat (e.g. aquathermal, residual heat, solar PV + heatpump, industrial heatpump, electric boiler), and CO2-restricted production (e.g. hydrogen through electrolysis, carbon-capture, carbon-storage). Programme runs in five phases throughout 2022 with each a maximum amount of subsidy per ton CO2 (which increases per phase).

Amount: Subsidies are calculated based on base- and correction rates (in €/kW). Basic rates are fixed per type of installation (e.g. solar or wind) and are the maximum amount for which a subsidy can be requested (it is possible to request a lower subsidy than the basic rate, which improves the chance of getting the subsidy). The correction rate represents the expected revenue from the renewable energy/captured CO2 and depends on the average market value of the renewable energy/captured CO2. The correction rate has a floor-price (the 'basic energy price', i.e. ⅔ of the expected revenue from the renewable energy captured CO2). The basic rates for each technology can be found in the SDE++ 2022 leaflet. General formula for calculation subsidy: All categories (except carbon capture/storage): (requested subsidy (€/kW) - expected long-term market-price)/(emission-factor (kg CO2 kWh)/1000)

Source:

https://www.rvo.nl/subsidies-financiering/sde#category%C3%ABn

https://www.rvo.nl/sites/default/files/2022-05/Brochure_SDE_plus-plus-2022.pdf

POLAND

For Poland, the three Clean Air Priority programmes originally listed are still running. However, an additional income-level was added to the 'Clean Air Priority Programme Subsidies'. In addition to the basic and increased grant levels, there now also exists a 'highest grant level' for the lowest income households. A household classifies for the lowest income level if they are eligible to receive an allowance or if their monthly income does not exceed PLN 900 (multi-person household) or PLN 1,260 (single-person household). The maximum subsidy granted to this lowest income class is PLN 69,000.

In addition to the Clean Air Priority programmes, three other energy schemes exist in Poland. First, under the 'My Electricity' scheme, the Polish government provides grants for the support of prosumer rooftop PV. While the programme was originally meant to run until 2025, the government allegedly plans to update and expand the programme beyond 2025. Second, the 'Energy Plus' scheme by the National Fund for Environmental Protection and Water Management provides grants and loans to enterprises for supporting energy efficient measures and lowering emission sources. Third, the 'Agroenergy' scheme by the National Fund for Environmental Protection and Water Management (NFEPWM) provides grants to farmers for heat pumps, solar PV, wind generation, and hybrid installations. However, it is difficult to find direct or detailed information about these three schemes on either the website of the government or NFEPWM.

Type: Central government grant scheme for fossil and RES heating systems.

Description: The programme finances the replacement or liquidation of heat sources and thermal modernization in single-family residential buildings of energy poor people in heavily polluted areas. The programme is intended for energy poor people who own or co-own single-family residential buildings. Scope of the programme is the replacement or elimination of high-emission heat sources with low-emission ones; the thermomodernization of single-family residential buildings; the connection to the heating or gas network. The support is through municipalities, municipalities apply to the programme.

Amount: up to 80% of funding for investment costs from the state budget.

Source: https://czystepowietrze.gov.pl/stop-smog-2/

Clean Air Priority Program Thermomodernization relief

Clean Air Priority Program Subsidies (Program Czyste Powietrze - dofinansowania)

Type: Central government grant scheme for fossil and RES heating systems.

Description: The purpose of the programme is to improve air quality and reduce greenhouse gas emissions by replacing heat sources and improving the energy efficiency of single-family residential buildings. It is the main scheme for this type of buildings. There are three grant-levels: basic grant level (for natural persons who are owners or co-owners of single-family residential buildings, with an annual income not exceeding PLN 100.000), increased grant level (for natural persons who are owners or co-owners of single-family residential buildings, with an monthly income per one member not exceeding PLN 1,564 (multi-person household) or PLN 2,189 (single-person household), and highest grant level (for natural persons who are owners or co-owners of single-family residential buildings, with an monthly income per one member not exceeding PLN 900 (multi-person household) or PLN 1,260 (single-person household), or have an eligible right to receive an allowance. The programme co-finances the replacement of old and ineffective solid fuel heat sources with efficient ones and other interventions. The programme runs till 2027.

Amount: The amount depends on the technologies: air/water heat pump: 30% of the cost, max PLN 9.000, or 60% and max 18.000 for low-income families, or 90% and max 27.000 for lowest-income families; air/water heat pump (higher efficiency class): 45% of the cost, max PLN 13.500, or 60% and max 18.000 for low-income families, or 90% and max 27.000 for lowest-income families; air/air heat pump: 30% of the cost, max PLN 3.000, or 60% and max 6.000 for low-income families, or 90% and max 9.0000 for lowest-income families; ground source heat pump: 45% of the cost, max PLN 20.250, or 60% and max 27.000 for low-income families, or 90% and max 40.5.000 for lowest-income families; gas and oil condensation boiler: 30% of the cost, max PLN 4.500, or 60% and max 9.000 for low-income families, or 90% and max 13.500 for lowest-income families; coal boilers (only until December 31, 2021): 30% of the cost, max PLN 3.000, or 60% and max 6.000 for low-income families, or 90% and max 9.000 for lowest-income families; wood gasification and wood pellet boiler: 30% of the cost, max PLN 6.000, or 60% and max 12.000 for low-income families, or 90% and max 18.000 for lowest-income families; wood pellet boiler (best standard): 45% of the cost, max PLN 9.000, or 60% and max 12.000 for low-income families, or 90% and max 18.000 for lowest-income families; electric heating: 30% of the cost, max PLN 3.000, or 60% and max 6.000 for low-income families, or 90% and max 9.000 for lowest-income families; solar thermal: 30% of the cost, max PLN 4.500, or 60% and max 9.000 for low-income families, or 90% and max 13.500 for lowest-income families. Max 30.000 PLN (37,000 low-income families; 69,000 lowest-income families) in total for projects.

Source: https://czystepowietrze.gov.pl/czyste-powietrze/

Clean Air Priority Program Stop Smog

(Program Czyste Powietrze - Ulga termomodernizacyjna)

Type: Central government tax reduction scheme for fossil and RES heating systems.

Description: Tax-reduction for (co)owners of single-family houses. Discount can be combined with subsidies from the Clean Air Programme. The goal of the programme is to improve energy efficiency and to reduce dust and other pollutant emissions to the atmosphere from existing single-family residential buildings or to avoid air pollution emissions from newly built single-family residential buildings. High subsidies are dedicated to furnace replacement and thermomodernization of single-family homes. Financial support covers: preparation of design documentation (modernization of the internal installation and replacement of the heat source, reconstruction of the roof for insulation), purchasing of equipment, installations (substation with temperature programmers, heat pumps, condensing gas boilers, solar collectors, photovoltaic cells), purchasing of building materials as a part of building thermomodernization.

Amount: The amount of the deduction cannot exceed PLN 53,000. Higher amounts for combination of thermomodernization and RES installation

Source: https://czystepowietrze.gov.pl/ulga-termomodernizacyjna-2/

My Electricity

Type: Governmental grants programme for the support of prosumer rooftop PV

Description: Governmental grants programme that aims to increase the production of energy from PV micro-sources in Poland. Co-finances grants for residential PV systems of 2-10 kW. The third round closed in October 2021, a fourth round is being prepared as of May 2022. Original budget of 1 bln. PLN. The government plans to update and expand the programme beyond 2025 (the original duration was until 2025).

Amount: Subsidy covers 50% of building costs (up to 5000 PLN)

Source:

https://www.iea.org/policies/14320-my-electricity-programme?q=my+electricity+poland&s=1

https://iea.blob.core.windows.net/assets/b9ea5a7d-3e41-4318-a69e-f7d456ebb118/Poland2022.pdf (p.74)

Energy Plus

Type: National Fund for Environmental Protection and Water Management grant/loan programme

Description: Programme providing financial support for energy efficient measures and lowering emission sources, dedicated to enterprises. Created in 2019 with a budget of EUR 885 and projected to operate through 2025. Next call for proposals allegedly scheduled for the second quarter of 2022.

Amount: Grant up to 85% of eligible costs; loan up to 50% of eligible costs for projects using ORC technology for electricity production (loan amount: from PLN 1 mln. to PLN 300 mln.)

Source:

https://www.iea.org/policies/12233-energy-plus

https://iea.blob.core.windows.net/assets/b9ea5a7d-3e41-4318-a69e-f7d456ebb118/Poland2022.pdf (p.56)

Agroenergy Programme

Type: National Fund for Environmental Protection and Water Management grant

Description: Grant for farmers to (partially) cover the costs of heat pumps (10-50kW), solar PV (10-50 kW), wind generation (10-50 kW), or hybrid installations. Allegedly extended in October 2021, still running according to the IEA website.

Amount: up to EUR 5500

Source:

https://www.iea.org/policies/14324-agroenergy-programme?q=agroenergy&s=1

https://iea.blob.core.windows.net/assets/b9ea5a7d-3e41-4318-a69e-f7d456ebb118/Poland2022.pdf (p.74)

PORTUGAL

More sustainable buildings

Type: Central government subsidy scheme for energy efficiency and RES heating systems.

Description: The Portuguese "Programme for more sustainable buildings" (Programa de Apoio Edifícios mais Sustentáveis) has been opened until May 2, 2022 and funds energy efficiency and renewable energy measures in buildings in Portugal.

Source:

https://www.fundoambiental.pt/ficheiros/5-republicacao-paes-ii-pdf.aspx

https://www.fundoambiental.pt/apoios-prr/c13-eficiencia-energetica-em-edificios/01c13-i01-paes-ii.aspx

ROMANIA

currently no applications

Casa Eficientă Energetic – CURRENTLY NO APPLICATIONS

Type: Central government grant scheme for fossil and RES heating systems.

Description: The program Casa eficientă energetic is aimed at increasing the energy efficiency in the single-family dwellings. The programme subsidies condensation boilers, heat pumps (except air/air heat pumps) solar thermal panels, micro cogenerators (natural gas, biogas, gasification of household waste and non-household waste, as wood waste, wood pellets, agricultural pellets), and other interventions (mechanical ventilation with heat recovery, insulation, LED, etc.)

Amount: The financing is granted differently depending on the energy efficiency indicators reached. The maximum amount is RON 70.000, including VAT for each project, without exceeding 60% of the total value of the eligible investment expenses (40, 50 or 60%).

Source:

https://www.afm.ro/casa_eficienta_energetic.php

https://www.afm.ro/casa_eficienta_energetic_ghid_finantare.php

SLOVAKIA

The Slovakian Ministry of the Environment proposed an amendment to the Operational Program Environmental Quality aimed at reducing emissions, such that replacing gas boilers with new gas boilers will not be supported anymore. Furthermore, changing the fuel base from solid fuel to renewable heating will not be funded.

Additionally, in Slovakia, the Innovation and Energy Agency Green Households provides vouchers to support the installation of renewable energy sources. With respect to heating this includes heat pumps, biomass boilers, and solar collectors. In order to receive the voucher, the installed system must meet certain technical requirements and must replace a boiler burning solid fossil fuels.

Program Green for households II (Zelená domácnostiam II)

Type: Central government grant scheme for RES heating systems.

Description: Under the Zelená domácnostiam II program of the Slovak Innovation and Energy Agency (Slovenská inovačná a energetická agentúra SIEA), the following technologies are promoted: heat pumps, biomass boilers, solar thermal as well as wind turbines and photovoltaic. The application period for the programme opened on June 6, 2022 and will remain open until October 2023.

Amount: The base rate for solar collectors for a family house is € 400/kW of installed capacity of the solar collectors, the maximum amount of support is 1.400 € per installation; outside district heating areas the amount is € 440/kW and maximum € 1.540 per installation. The basic rate for a heat pump for a family house is € 272/kW of installed heat pump power, the maximum amount of support is € 2.720 per installation. The basic rate for biomass boilers for a family house is 80 €/kW of installed boiler power, the maximum amount of support is € 1.500 per installation. Maximum 50% of the costs.

Source:

https://zelenadomacnostiam.sk/sk/domacnosti/podporovane-zariadenia/tepelne-cerpadla/

https://zelenadomacnostiam.sk/sk/domacnosti/podporovane-zariadenia/kotly-na-biomasu/

https://zelenadomacnostiam.sk/sk/domacnosti/podporovane-zariadenia/slnecne-kolektory/

https://zelenadomacnostiam.sk/sk/domacnosti/podporovane-zariadenia/

SLOVENIA

In Slovenia, incentive offerings for various technologies, including renewable energy as well as fossil heating systems, are all combined under the "Eko Fund". This fund is managed by the central government and offers different options for financial support, such as subsidies and soft loans. Whereas the amount for subsidies depends on the specific system installed and the income-level of applicants, loans are always granted at the same condition of 3-month Euribor plus 1,3% with a minimum loan amount € 1.500. Both conditions have not seen any changes since October 2021. There are no additional local-level support schemes.

Eco Fund Subsidies and loans (Eko Sklad)

Type: Central government grant and soft loans scheme for fossil and RES heating systems.

Description: The Eko Fund makes subsides and loans available for various technologies: heat pumps, solar thermal, biomass boilers, condensing gas boilers and micro cogeneration (only loans). It also funds connection to district heating systems and ventilation with heat recovery.

Amount for subsidies: Solar thermal: up to 30% of the investment value (100% for low-income families), maximum € 300 per m2. Condensing gas boilers: up to 25% for multi apartment houses), maximum € 2.000. Biomass boilers from 20 to 60% (100% for low-income families) of the investment value, maximum from € 2.000 to € 5.000. Heat pumps: from 20 to 50% of the investment value (100% for low-income families), maximum from € 2.500 to € 5.000. When replacing an old heating device, the subsidy is 40% (50% in municipalities with air quality plan). The maximum for an air-air heat pump is € 2,500 (€ 3,200 in municipalities with air quality plan) and for water-water and ground source heat pump € 4,000 (€ 5,000 in municipalities with air quality plan).

Amount for loans: 3-month Euribor plus 1,3%, minimum loan amount € 1.500.

Source:

https://www.ekosklad.si/prebivalstvo/pridobite-spodbudo/seznam-spodbud/solarni-ogrevalni-sistem

https://www.ekosklad.si/prebivalstvo/pridobite-spodbudo/seznam-spodbud/plinski-kondenzacijski-kotli-3

https://www.ekosklad.si/prebivalstvo/pridobite-spodbudo/seznam-spodbud/mikro-soproizvodnja-toplote-in-elektrine-energije

https://www.ekosklad.si/prebivalstvo/pridobite-spodbudo/seznam-spodbud/kurilne-naprave-na-lesno-biomaso

https://www.ekosklad.si/prebivalstvo/pridobite-spodbudo/seznam-spodbud/toplotne-crpalke

SPAIN

All grants are still running. An additional budget expansion took place on July 15, 2021 resulting in a new total budget of 402.500.000€. The grant "Realización de instalaciones de energías renovables térmicas en el sector residencial" expanded its criteria for funding for a variety of aspects, from individuals and budget expansions, over material to technological development. Spain has a remarkable decentralization of funding schemes as the country is distributed in Autonomous Communities and other regions that obtain great decision-making power from the central government. Interestingly, most regions have RE heating funding schemes but the capital, Madrid. Many regions have or have had a so called "Aid for self-consumption and storage with renewable energy sources and the implementation of renewable thermal systems in the residential sector".

PREE 5000. Rehabilitación energética de edificios en municipios de reto demográfico

Type: Central government grant scheme for RES heating systems.

Description: PREE 5000 replaces PREE. Municipalities with less than 20,000 inhabitants and no towns bigger than 5,000 inhabitants are eligible. The Program is governed by Royal Decree 691/2021, of August 3, 2021 which regulates the aid program for energy renovation actions in existing buildings and regulates the direct granting of aid from this program to the autonomous communities and cities of Ceuta and Melilla. The programme promotes the improvement of the energy efficiency of thermal installations and substitution of conventional energy for solar thermal energy, geothermal energy, heat pumps and biomass.

Amount: 40% of the eligible cost.

Source: https://www.idae.es/ayudas-y-financiacion/para-la-rehabilitacion-de-edificios/programa-pree-5000-rehabilitacion

The program still exists and there have not been any changes since October 2021.

Programa PREE. Rehabilitación Energética de Edificios

Type: Central government grant scheme for RES heating systems.

Description: The Programme was governed by Royal Decree 737/2020, of August 4, 2020 which regulates the aid programme for energy renovation actions in existing buildings and regulates the direct granting of aid from this programme to the autonomous communities and cities of Ceuta and Melilla. The programme promotes also the improvement of the energy efficiency of thermal installations, such as substitution of conventional energy for solar thermal energy, geothermal energy or biomass, improvement of the energy efficiency of the generation subsystems not included previously (e.g. heat pump), improvement of the energy efficiency of distribution, regulation, control and emission subsystems of thermal installations. The programme closes for applications July 31, 2021. The budget was expanded March 3, 2021.

Amount: 35% of the eligible cost. In case of renovation of individual homes or premises within buildings, this percentage will be 25% and 15%, respectively. The value can be increased by, up to 15% if it meets the social criteria, up to 15% if the action reaches energy class A and up to 20% if the action criterion is met integrated.

Source: https://www.idae.es/ayudas-y-financiacion/para-la-rehabilitacion-de-edificios/convocatorias-cerradas/programa-pree

Addition: In contrast to the title, the program PREE is not closed. An additional budget expansion took place on July 15, 2021, resulting in a new total budget of 402.500.000€.

Realización de instalaciones de energías renovables térmicas en el sector residencial

Type: Central government grant scheme for RES heating systems.

Description: The Program is governed by Royal Decree 477/2021, of 29 June 2021, which approves the direct granting to the autonomous communities and the cities of Ceuta and Melilla of aid for the implementation of various incentive programmes linked to self-consumption and storage, with renewable energy sources, as well as the implementation of renewable thermal systems in the residential sector (incentive program 6), within the framework of the Recovery, Transformation and Resilience Plan. The programme runs until 31 December 2023.

Amount: Air-water heat pumps 500 €/kW (max. 3.000 €/dwelling); solar thermal 450-900 €/kW (max. 550-1.800 €/dwelling), a family can expect a subsidy of 1.800 € for a 4 m2 solar themal system; biomass 250 €/kW (max. 2.500-3.000 €/dwelling); geothermal or hydrothermal heatpump 1.600-2.250 €/kW (max. 9.000-13.500 €/dwelling).

Source: https://www.idae.es/ayudas-y-financiacion/para-energias-renovables-en-autoconsumo-almacenamiento-y-termicas-sector

A major modification of Royal Decree 477/2021, of June 29 2021 was published on 18 May 2022 in Royal Decree 377/2022. It includes the following eight aspects:

- *Include natural persons who carry out some economic activity (self-employed) in incentive programs 1, 2 and 3.*
- *Allow budget extensions that may be carried out, to provide for a reserve for certain final recipients in certain programmes.*
- *Facilitate the business model of energy service companies and clarify the definition of programs in relation to actions carried out for a third party and collective self-consumption.*
- *Allow that in incentive programs 1, 2 and 3 it can be a company that performs installations for individuals or other companies in any location.*
- *Make the storage capacity that is allowed to be installed more flexible. The ratio of installed storage capacity to generation power is increased from 2 kWh/kW to 5 kWh/kW.*
- *Inclusion of firewood as a fuel that can be used in biomass installations. It was limited only to pellets, leaving out an important part of rural Spain. Ecodesign and DNSH (do no significant harm) requirements are maintained.*
- *Simplification in monitoring requirements, especially for actions of program 6 of implementation of renewable thermal systems in the residential sector.*
- *Technical drafting improvements in some sections, including Annex III. Maximum eligible costs, reference costs and amount of aid.*

Local Support for RES heating systems

Different local grants exist in the Spanish regions.

- **A compendium on different subsidy schemes in the regions,** not only for heating systems but for building rehab et. al., can be found here:

  https://instalacionesyeficienciaenergetica.com/ayudas-y-subvenciones-eficiencia-comunidades-autonomas/

- **Open schemes for RES domestic heating** (in addition to above mentioned national schemes) September 1, 2021:

  Andalusia: Biomass heating.
  Galicia: Biomass, solar thermal, heat pumps.

- **Support schemes in the Comunidad Autónoma of Aragón:**

  https://www.aragon.es/-/subvenciones-y-ayudas

- **Support for geothermal heat pumps in Galicia**

  Comunidad Autónoma de Galicia gives grants to geothermal heat pumps. Maximum subsidy is 30%.

  http://tramites.administracion.gob.es/comunidad/tramites/recurso/ayudas-para-el-ahorro-y-eficiencia-energetica/7410df3a-bb3d-4c74-8fce-f796b4fa1403

- **Open schemes for RES domestic heating**

  Andalusia: Incentives for sustainable construction and renovation, incentives for photovoltaic in residential buildings

  Aragón: Aid linked to self-consumption, storage and thermal systems with renewable energy sources

  Asturias: Subsidy for the incorporation of storage in self-consumption facilities, with renewable energy sources, already existing (until December 2023).

  Canary Islands: Subsidies for renewable energy self-consumption installations in the residential sector (Canarian government, until December 2022); Subsidy for the promotion of photovoltaic solar energy installations in the residential sector (Consejo Insular de la Energía de Gran Canaria (CIEGC)); Subsidy for the promotion of photovoltaic solar energy installations in companies and non-profit entities (CIEGC); Subsidy for the production of photovoltaic and wind energy (Lanzarote, until December 2023)

  Cantabria: Incentive program linked to self-consumption and storage, with renewable energy sources, as well as the implementation of renewable thermal systems in the residential sector (Until December 2023)

  Castilla y León: Public subsidies included in the so-called Aid Program for energy rehabilitation actions in existing buildings (PREE)

  Castilla La Mancha: Aid for energy rehabilitation actions in existing housings in municipalities of demographic challenge

  Catalonia: "Next Generation" housing grants; Aid for self-consumption and storage, with renewable energy sources and the implementation of renewable thermal systems in the residential sector (Catalan Energy Institute ICAEN)

  Valencia: Subsidies for the improvement of the conditions of the interior of housings within the framework of the interior reform plan Renhata plan; grants to geothermal heat pumps still open (BCX); Aid for energy saving and efficiency in air-to-air/water-water heat pumps (BCA)

  La Rioja: Realization of self-consumption facilities with renewable energy sources in the residential sector, public administrations and the third sector, with or without storage (until December 2023)

  Madrid and Murcia: No grants now but have had many grants closed in 2019

  Basque country: Incentive program linked to self-consumption and storage, with renewable energy sources, as well as the implementation of renewable thermal systems in the residential sector (until December 2023)

Source: https://instalacionesyeficienciaenergetica.com/ayudas-y-subvenciones-eficiencia-comunidades-autonomas/

SWEDEN

While Sweden offers tax reductions for the installation work, including heating systems (including gas boilers), it offers no schemes to subsidize the purchase of heating systems.

Notes and References

1 See e.g. JRC (2021): EU challenges of reducing fossil fuel use in buildings.

2 For an overview of phase-out regulations in different Member States see e.g. Oeko-Insitut (2021): Phase-out regulations for fossil fuel boilers at EU and national level

3 Regulation (EU) 2018/842 of the European Parliament and of the Council of 30 May 2018 on binding annual greenhouse gas emission reductions by Member States from 2021 to 2030 contributing to climate action to meet commitments under the Paris Agreement and amending Regulation (EU) No 525/2013

4 Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources

5 For heat pumps national emission factors for the electricity mix have been used

6 European Commission, Directorate-General for Energy, Kranzl, L., Fallahnejad, M., Büchele, R., et al., Renewable space heating under the revised Renewable Energy Directive : ENER/C1/2018-494 : final report, 2022

7 Available online at: https://www.ecoboiler-review.eu/Boilers2017-2019/documents-boilers-2017-2019.html

8 Available online at: www.ecohotwater-review.eu/documents.html

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