

ANALYSIS OF EXISTING INCENTIVES IN EUROPE FOR HEATING POWERED BY FOSSIL FUELS AND RENEWABLE SOURCES

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Analysis by Fabio Tognetti, energy consultant

On behalf of



This work is dedicated to the memory of

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who helped in the data research

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ABSTRACT

The purpose of the report is to list and summarize the economic promotion schemes for fossil fuel and for renewable energy domestic heating systems in force in the EU-28 states as of 30 November 2020.

In some cases, where federal incentives exist in addition to central incentives (e.g.: Spain, Austria, ect.), the analysis was also carried out at the local level.

The incentives have been assessed both by their on the basis of their type (soft loans, grants or tax reduction schemes), and the incentivized technologies. The following table summarizes the result of the analysis.

Tab. 1: summary table of incentives (L= loans; T: tax reduction; S=subsidy; *only at local level)

Number	Country	Condensation heaters (natural gas, LPG, oil)	Microgeneration	Hybrid Heat Pumps	Air/Air Heat Pumps	Air/Water or Water/Water Heat Pumps	Geothermal Heat Pumps	Biomass	Solar Thermal
1	Austria	S* L*			S	S	S	S	S
2	Belgium	ST	ST	ST	ST	ST	ST	ST	ST
3	Bulgaria	LS*	LS		LS	LS	LS	LST	LST
4	Croatia	S*		S	S	S	S	S	S
5	Cyprus	S	S		S	S	S	S	S
6	Czech Republic	S			S	S	S	S	S
7	Danmark					S	S		
8	Estonia	S			S	S	S	S	S
9	Finland								
10	France	LST		LST	LST	LST	LST	LST	LST
11	Germany	LS		LS	LS	LS	LS	LS	LS
12	Greece	LS	LS	LS	LS	LS	LS	LS	LST
13	Hungary				L	L	L		L
14	Ireland				S	S	S		S
15	Italy	ST	T	ST	ST	ST	ST	ST	ST
16	Latvia	L	L		L	L	L	L	L
17	Lithuania				S	S	S	S	
18	Luxemburg				LS	LS	LS	LS	LS
19	Malta				S	S	S		S
20	Netherland					S	S		S
21	Norway				S (by 31th dec)		S	S	S
21	Poland	ST			ST	ST	ST	ST	ST
22	Portugal	L			LS	LS	LS	LS	LS
23	Romania	S	S			S	S		S
24	Slovakia	S			S	S	S	S	S
25	Slovenia	LS	L		LS	LS	LS	LS	LS
26	Spain	S*			S	S	S	S	S
27	Sweden	T			T	T	T	T	T
28	United Kingdom	S		S	S	S	S	S	S

LIST OF INCENTIVES BY COUNTRY

Note: the titles of the paragraphs dedicated to the Countries is coloured green if in that Country there are **only** incentives for renewable sources. Instead, they are coloured red if there are incentives for fossil fuels. Similarly, the titles of the paragraphs dedicated to the single schemes are coloured green if the scheme promotes **only** RES and in red if it promotes fossil fuels.

AUSTRIA

Campaign Out of Oil (Raus aus Öl)

Type. Central government grant scheme for RES.

Description. *Raus aus Öl* campaign promotes the replacement of fossil fuel-fired heating systems with sustainable heating systems through a one-off grant (which also covers planning costs with 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** is financed.

Amount: 5.000 euros for single-family buildings, 1.000 euros for multi-storey buildings (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 30% of the eligible costs

Sources: <https://www.umweltfoerderung.at/privatpersonen/raus-aus-oel-2020-ein-und-zweifamilienhaus.html>
<https://www.umweltfoerderung.at/privatpersonen/raus-aus-oel-2020-ein-und-zweifamilienhaus.html>;

Promotion of Wood Heating (Förderung von Holzheizungen)

Type. Central government grant scheme for RES.

Description. The campaign finances newly installed **pellet and wood chip central heating systems** that replace an existing wood heating system, as well as pellet stoves. The financing is exclusively for private individuals.

Amount: the contribution is paid in the form of a non-repayable lump sum: 800 euros for a pellet or wood chip central heating system that replaces an old wood heating system built before 2006, 500 euros for a pellet stove.

Source: https://www.klimafonds.gv.at/wp-content/uploads/sites/6/Leitfaden_Holzheizungen_2020.pdf

Promotion of Solar Thermal (Förderung von Solaranlagen)

Type. Central government grant scheme for RES.

Description. The campaign finances newly Solar thermal. The financing is exclusively for private individuals.

Amount: The contribution is paid in the form of a non-refundable lump sum and amounts to 700 euros

Source: https://www.klimafonds.gv.at/wp-content/uploads/sites/6/Leitfaden_Solaranlagen_2020-1.pdf

Local incentives in Austria

In Austria, due to the fact that there are a huge number of local incentives at regional or municipality level, providing a detailed list is very complex. The incentives are generally grants, but in some cases also soft loans. Some incentives promote **gas boilers** and even **oil boilers**. A private website provides a handy updated calculator that takes into account the various local incentives in Austria. Moreover, the Austrian Global 2000 Association published periodical report about this topic.

Source: https://www.hoval.at/de_AT/Foerder-Rechner
<https://www.global2000.at/publikationen/wohnbaueck-2018>

BELGIUM

Belgium: Energie Positive

Type. Central government grant scheme for fossils and RES heating systems.

Description. Gas.be grants a premium for the replacement of a natural gas boiler installed in Belgium before 1 January 2000 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 renovation of a house for insulation, installation of solar boilers, photovoltaic solar panels, replacement of the central heating boilers.

Amount. VAT reduced at 6%.

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

Brussel: Primes énergie

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

Description. *Primes énergie* promotes the installation of 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: for the condensation gas boilers from 700 € to 1.200 euros (5 € for each additional kW); for heat pumps for heating from € 4.250 to € 4.750 (the amount of the premium is capped at 50% of the eligible costs of the invoice); for heat pump for hot water from 1.400 to 1.600 €; for solar thermal up to 4 m² from 2.500 to 3.500 € (bonus of 200 € / m² of surface beyond 4 m²).

Source: <https://environnement.brussels/thematiques/batiment-et-energie/primes-et-incitants/les-primes-energie-en-2020-du-changement-partir>

Flanders: Property tax discount for major energetic renovations (Korting onroerende voorheffing voor ingrijpende energetische renovaties)

Type. Local tax reduction scheme for fossils and RES heating systems.

Description. A tax rebate can be obtained in case of energy renovation of buildings, with the total replacement of the heating and the insulation (of at least 75% of the building surfaces).

Amount: 100% discount on property tax for 5 years.

Source: <https://www.energiesparen.be/korting-onroerende-voorheffing-voor-ingrijpende-energetische-renovaties?language=en>

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. It also covers energy efficiency measures, such as Installation of a **condensing** boiler, biomass boiler, biomass stove.

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

Wallonia: Primes Habitation

Type. Local grant scheme for RES heating systems.

Description. Primes Habitation 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 depends on the income and the composition of the household, 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 €; local 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>

BULGARIA

Energy 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 financial resources of the Energy Efficiency and Renewable Sources Fund are being used to finance with loans the rehabilitation and the 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) ect.

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 exempted 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 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 municipalities of Sofia, Burgas, Ruse, Stara Zagora, Veliko Tarnovo and Montana. The core instrument to achieve the objective is design and implementation of a scheme for transition to alternative forms of the household heating in the six municipalities. The scheme envisages transition from heating with wood and coal to heating with pellets, gas or use of the central heating network.

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

DESIREE Gas (Demand Side Residential Energy Efficiency Through Gas Distribution Companies In Bulgaria)

Type. Central government grant scheme for fossil heating systems (currently closed due to budget exhaustion)

Description. The Ministry of Energy of Bulgaria (ME), in the framework of the National Programme for Accelerated Gasification (“National Programme for Gasification”), will use grant support provided by the

KIDSF (Kozloduy International Decommissioning Support Fund, managed by the European Bank for Reconstruction and Development), for the provision of incentives to households to connect to gas distribution networks. This assistance for the residential sector will be delivered through the establishment of a Demand Side Residential Energy Efficiency (DESIREE) Financing Facility, operating via the Gas Distribution Companies in Bulgaria.

Amount. 30% of the costs up to € 1.200.

Source: <https://desireegas.bg/en/>

Program for Energy Renovation of Family Houses – TEMPORARILY CLOSED

Type. Central government grant scheme for RES heating systems.

Description. The Program for Energy Renovation of Family Houses, implemented by the Fund for Environmental Protection and Energy Efficiency was **temporarily closed** on September 1, after the total amount of requested grants was exceeded in relation to the total available amount of planned financial resources.

Amount. The program co-financed up to 60% the increasing of the thermal protection of the houses including the installations of RES (solar heat converter systems, wood chip / pellet systems, air-water, water-water or ground heat pumps) and even water and photovoltaic systems for electricity generation for own consumption.

Source: https://www.fzoeu.hr/hr/energetska_ucinkovitost/enu_u_zgradarstvu/energetska_obnova_obiteljskih_kuca/

Public Call for co-financing the use of renewable energy sources for the production of heat or heat and cooling energy in households, for own consumption (Javni poziv za sufinanciranje korištenja obnovljivih izvora energije za proizvodnju toplinske ili toplinske i rashladne energije u kućanstvima, za vlastitu potrošnju)

Type. Central government grant scheme for RES heating systems.

Description. On September, 7th 2020, the Fund for Environmental Protection and Energy Efficiency announced a public tender for the co-financing of the use of renewable energy sources for the production of heat or thermal and cooling energy of households, for self-consumption. The available funds amount to HRK 30.000.000. The call assigns funds to individuals for the installation of one or more new systems for the use of renewable energy sources for the production of thermal or thermal and cooling energy: biomass plants; heat pumps; thermal solar panels. The interventions concern houses of energy class A, B and C in continental Croatia and A and B in coastal Croatia.

Amount. The Fund will allocate funds for donations to users up to HRK 75.000 per application, for justified costs of procurement and installation of one or more systems (including VAT): up to 80%, but not more than HRK 75.000 in the area of special state interest and in the first group of islands; up to 60%, but not more than HRK 56.250 in a hilly and mountainous area and on another group of islands; up to 40%, but not more than HRK 37.500 in other areas of the Republic of Croatia.

Source:

https://www.fzoeu.hr/hr/obavijesti/obavijest_o_objavi_javnog_poziva_za_sufinanciranje_koristenja_obnovljivih_izvora_energije_za_proizvodnju_toplinske_ili_toplinske_i_rashladne_energije_u_kucanstvima_za_vlastitu_potrosnju/

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

Type. Local grant scheme for fossil heating systems.

Description. The program 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.

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/energetska_ucinkovitost/enu_u_zgradarstvu/sufinanciranje_kondenzacijskih_bojlera/

RES and Energy Conservation Fund, Sponsorship plan for the installation/replacement of solar systems for the production of hot water for residential use (ΣΧΕΔΙΟ ΧΟΡΗΓΙΩΝ ΓΙΑ ΕΓΚΑΤΑΣΤΑΣΗ / ΑΝΤΙΚΑΤΑΣΤΑΣΗ ΗΛΙΑΚΩΝ ΣΥΣΤΗΜΑΤΩΝ ΠΑΡΑΓΩΓΗΣ ΖΕΣΤΟΥ ΝΕΡΟΥ ΧΡΗΣΗΣ ΣΕ ΚΑΤΟΙΚΙΕΣ

Type. Central government grant scheme for RES heating systems.

Description. The program finances solar thermal with a subsidy. The program is currently closed as it ran out of funds.

Amount: € 350 for complete water heating systems (boiler + panels) whose solar panels have the keymark solar certification; € 325 for complete water heating systems (boiler + panels) whose solar panels do not have the keymark solar certification; € 175 for only solar panels with keymark solar certification; € 150 for only solar panels that do not have the keymark solar certification.

Source: <https://www.resecfund.org.cy/sxedio1>

Save-Upgrade Houses (ΕΞΟΙΚΟΝΟΜΩ –ΑΝΑΒΑΘΜΙΖΩΣΤΙΣ ΚΑΤΟΙΚΙΕΣ)

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

Description. The scheme aims at large-scale energy requalification of existing buildings or real estate units used as residences, which belong to natural persons living permanently in areas under the control of the Republic of Cyprus. The scheme encourages: insulation of roofs, floors, walls; installation of efficient windows, efficient boilers (for either liquid or gaseous fuel); heat pumps, solar thermal (also solar cooling); biomass boilers; efficient lamps; micro-cogenerators; etc. The overall budget of the scheme amounts to € 16.5 million.

Amount: The amount of the subsidies is equal to 50% of the expenses (75% in the case of low-income families). The maximum amount cannot exceed € 25,000 for each building or € 20,000 for each apartment.

Source: <http://www.mcit.gov.cy/mcit/sit/sit.nsf/b94bf510bdae533dc225816700240cd0/ceb345ece6c854afc22581670038aefb?OpenDocument>

The New Green Savings Programme (Nová zelená úsporám)

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

Description. The New Green Savings Programme of the Ministry of the Environment 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 incentivises 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). Also **condensing** boilers are incentivized. The subsidies are increased in case of building insulation.

Amount. 50% of the eligible costs. The maximum amount is: solar thermal systems for hot water CZK 35.000, for hot water and heating 50.000; biomass boiler with manual fuel supply 40.000 (50.000 in case of insulation), with automatic fuel supply 80.000 (100.000); biomass stoves with hot water exchanger with manual fuel supply and closed fireplace inserts with hot water exchanger and fireplace stove or biomass insert with hot water exchanger with automatic fuel supply 40.000 (50.000); water-to-water and ground-source heat pump 80.000 (100.000); air-to-water heat pump 60.000 (75.000); **gas condensing boiler** 25.000 (35.000); connection to the heat supply system 30.000 (40.000); installation of controlled ventilation systems with heat recovery 75.000 (100.000); etc. An additional bonus is provided in the case of combining the replacement of the boiler with thermal insulation (CZK 20.000) or with solar thermal (CZK 10.000)

Sources: <https://www.sfzp.cz/en/administered-programmes/new-green-savings-programme/>
<https://www.novazelenausporam.cz/nabidka-dotaci/roдинne-domy-zdroje-energie/>

DENMARK

Subsidies for energy savings and energy efficiency improvements in buildings for year-round housing (Bekendtgørelse om tilskud til energibesparelser og energieffektiviseringer i bygninger til helårsbeboelse)

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

Description. The Danish Energy Agency administers this scheme, that is aimed to provide with subsidies for energy renovations (the subsidy is tax-exempt for private homeowners) the year-round homeowners, including private homeowners, owner associations, cooperative housing associations, public housing associations (on some conditions), dormitories, partnerships, landlords, etc. The subsidies concern various types of intervention: *Klimaskærm* i.e. thermal insulation of walls and roofs; efficient windows, ect.; *Konvertering*, i.e. conversion of the primary heat source (from oil boiler, gas boiler, biomass boiler or electric heat not from heat pump) to heat pump (only air/water or ground water class A⁺⁺ or A⁺⁺⁺ heat pump, and only if the home isn't located in a district heating area); *Drift* i.e. balanced mechanical ventilation, exhaust air heat pump (on some conditions), waterborne heating. All subsidies are calculated on the basis of fixed subsidy rates, set by the Danish Energy Agency, using estimated average market prices. The subsidy does not exceed 30% of the market price for the energy improvement measure itself, and is only available as long as the budget last. In addition, a weighting is made in order to give larger subsidy to better energy solution. The grant also depends on the size of the house.

Amount. Air/water heat pump from DKK 22.000 (for a A⁺⁺ heat pump installed in a <75 m² house) to 37.000 (for a A⁺⁺⁺ heat pump installed in a >300 m² building). Ground/water heat pump from DKK 28.000 (for a A⁺⁺ heat pump installed in a <75 m² house) to 45.000 (for a A⁺⁺⁺ heat pump installed in a >300 m² building). For example: for an A⁺⁺⁺ ground/water HP installed in a 75-100 m² house the subsidy is DKK 33.000 (i.e. more or less € 4.300)

Sources: <https://ens.dk/service/tilskuds-stoetteordninger/bygningspuljen>
<https://www.retsinformation.dk/eli/lta/2020/1467>

ESTONIA

Reconstruction grant for small residences (Väikeelamute rekonstrueerimistoetus)

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

Description. The program 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.

Amount: between 30% and 50% and up to 20.000-50.000 euros depending on the Estonian regions and the type of the house

Source: <https://www.riigiteataja.ee/akt/103062020014>

Renovation grant 2020 (Rekonstrueerimistoetus 2020)

Type. Central government grant scheme for RES heating systems.

Description. Programme aimed to promote 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>

FRANCE

Éco-prêt à taux 15egu (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 the production of domestic hot water using a renewable energy source. Also **condensing** gas boilers are included.

Amount: The maximum amount is between € 7,000 and € 30,000 depending on the works

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

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.

Amount. Subsidies up to 50% (maximum amount of subsidized work excluding taxes 20,000) in the case of energy improvement.

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

Prime "Coup de pouce économies énergie": chauffage et isolation

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

Description. This energy bonus allows to pay the costs of replacing the heating or carrying out insulation work. This award can be claimed until December 31, 2021.

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 650; installation of a high-performance wood-burning appliance 800 € or 500.

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

Prime "Coup de pouce thermostat avec régulation performante"

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

Description. The Prime promotes the installation of thermostats.

Amount: 150 €.

Source: <https://www.service-public.fr/particuliers/vosdroits/F35338>

Prime de transition énergétique “Ma Prime Rénov”

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

Description. This energy bonus 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 his main residence. The programme promotes various interventions related to heating: condensation boilers (except the one using fuel oil); 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. **The government announced in a press release dated September 3, 2020 that the *Ma Prime Rénov* scheme will evolve and will be extended to all households from January 1, 2021.**

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. Boiler with very high energy performance, with the exception of the one using fuel oil as an energy source € 800-1.200; automatically fed boiler running on wood or other biomass € 8.000-10.000; manual feed boiler operating on wood or other biomass € 6.500-8.000; independent heating or domestic hot water supply equipment running on wood or other biomass € 1.200-3.000; solar thermal € 6.500-8.000; domestic hot water supply equipment powered by solar thermal energy € 3.000-4.000; heating or domestic hot water supply equipment operating with hybrid thermal and electric solar collectors with liquid circulation € 2.000-2.500; geothermal or solarothermal heat pump € 8.000-10.000; air / water heat pump € 3.000-4.000; water heater heat pump € 800-1.200; connection equipment, or connection fees and costs, to a heating or cooling network € 800-1.200; removal of an oil tank € 800-1.200.

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

Tax credit for energy transition *Crédit d'impôt pour la transition énergétique (CITE)*

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

Description: The Energy Transition Tax Credit (*Crédit d'impôt pour la transition énergétique CITE*) applies to expenditure on the insulation of homes or equipment that reduces their energy consumption. In regard to heating, the programme promotes Equipment for heating or the production of domestic hot water powered by wood, solar energy or other biomass; heat pumps other than air / air.

Amount: The tax credit depends on the work done and cannot exceed 75% of the value paid by the owner. The tax credit is however limited to: € 2.400 for one person and 4.800 for a couple subject to joint taxation. The ceiling is increased by 120 € per dependent person (60 € per child in alternate residence).

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

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*).

GERMANY

Refurbishment KfW Efficiency House

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

Description: KfW promotes the refurbishment of houses if after refurbishment they do not exceed a specific energy requirement for a comparable new house. KfW has defined six levels of support for a “KfW Efficiency House”. In order to meet the high energy standard of a *KfW Efficiency House*, extensive investments such as the renewal of heating systems, thermal insulation and replacement of windows, are usually required. If the costs and effort of a complete refurbishment would be too high it is also possible to implement single measures only (for example for thermal insulation of walls, roof and floor space; renewal of windows and exterior doors; installation/renewal of a ventilation system; optimisation of heat distribution for existing heating systems).

Amount: The kind of the promotion is either a grant or a loan. In case of a grant, the amount is between 20% (not more than 10.000 €) and 40.0 % (not more than 48.000).

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

Heating with renewable energies

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

Description: As part of the Market Incentive Program (MAP), the Federal Office for Economic Affairs and Export Control (BAFA) promotes efficient technologies that provide buildings with renewable energy-based heating or cooling. The grants are awarded as partial funding based on the eligible investment costs. It supports: **gas condensing boilers** (“Renewable Ready”. This applies only to hybrid installations where gas is coupled with a renewable technology) , **hybrid gas heating**, Solar thermal systems, Biomass systems, Heat pump systems.

Amount: Solar thermal system 30%, biomass system or heat pump system 35% (45% in case of oil boiler replacement), renewable energies hybrid heating (EE hybrids) 35% (45% in case of oil boiler replacement), retrofitting of a secondary component for the biomass system for particle separation or use of calorific value 35%, gas hybrid heating with renewable heat generation 30% (40% in case of oil boiler replacement), gas hybrid heating with subsequent integration of renewable heat generation (Renewable Ready).

Source:

https://www.bafa.de/DE/Energie/Heizen_mit_Erneuerbaren_Energien/Foerderprogramm_im_Ueberblick/foerderprogramm_im_ueberblick_node.html

GREECE

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

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

Description: The national Programme *Energy Saving at Home II (Εξοικονόμηση κατ' οίκον II)*. The program aims to improve the energy performance of residential buildings through the provision of interest-free loans and subsidies (60%, 65% or 70%, depending on the family income, the number of children, etc.). The program remains open until the funds run out, the deadline for programme “round B” is 31 12 2021. The programme grants the upgrading of the heating/cooling systems, including both the replacement with heating systems powered by **fossil fuel** (oil/natural gas/liquefied petroleum gas) and by renewable sources (biomass and heat pumps).

Amount: The subsidy covers up to 70% of the costs, depending on the family income, the number of children, etc. The maximum amount is 25.000 € per apartment. The maximum amounts, by category of intervention, are: oil condensing boilers (up to 34 kW) € 6.400, methane and LPG € 3.500; for geothermal heat pumps up to 12 kW € 6.100; for cogenerators up to 20 kW € 6.900; for biomass € 2.000; for air / air heat pumps € 2.000; for solar thermal € 10.000. There are higher amounts for more powerful heating systems.

Source: <https://exoikonomisi.ypen.gr/to-programma>

<https://exoikonomisi.ypen.gr/documents/10182/146747/%CE%9F%CE%94%CE%97%CE%93%CE%9F%CE%A3+%CE%95%CE%9E%CE%9F%CE%99%CE%9A%CE%9B+%CE%A4%CE%A1%CE%9F%CE%A0+final.pdf/03e26765-2b06-4033-a1a9-454c6da3d429>

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 deducted 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

HUNGARY

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, also 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.

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

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 Air to Water, Ground Source to Water, Exhaust Air to Water and Water to Water Heat Pumps € 3.500; for Air to Air Heat Pumps € 600. For the Solar Water Heating the amount 1.200 €. 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: Description: 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 promotes also heat pump technology, solar PV and solar water heating. This grant is not open to individual homeowners.

Amount: 35% for privates. Maximum grant amount available is €2 million. Applicants must consider grant for at least €100,000.

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

ITALY

“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 1 July 2020 to 31 December 2021, 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. with 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, also other specific interventions in the field of energy efficiency are subsidised: installation of photovoltaic systems, infrastructure for charging electric vehicles in buildings, efficient windows, shadowing systems, building automation, etc.

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.agenziaentrate.gov.it/portale/documents/20143/233439/Guida_Superbonus110_.pdf/49b34dd3-429e-6891-4af4-c0f0b9f2be69

“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.

Amount: heat pumps 65% of the expenses, with a maximum ceiling of 30.000 €; condensing heat generators 50% or 65%, maximum 30.000 €; micro-cogeneration 50%, 30.000 €; solar thermal 50%, 60.000 €; biomass boilers 50%, 30.000 €.

Source:

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

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: VAT at 10%

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

Loans (available soon)

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

Description. The Council of Ministers approved a new family support program, which provides for the provision of portfolio guarantees for commercial bank loans for the implementation of energy efficiency improvement measures for private homes. This program is expected to be available from the fourth quarter of 2020. The guarantee rate will be up to 30% of the loan amount, not exceeding EUR 40.000, and the guarantee period will not exceed 10 years. The program will also promote: the purchase and installation of a new boiler and the purchase and installation of technological equipment for the production of heat or electricity from microgeneration in order to guarantee the production of heat or electricity from renewable energy sources and the supply of heat or electricity only for the needs of the specific household. ***It is expected that the program will also incentivize condensing boilers and micro-cogenerators (see the infographics produced by the government).*** Due to the scarce resources available, the program is expected to provide an average of 250 loans per year for the implementation of energy efficiency measures in the private housing sector.

Source: <https://em.gov.lv/lv/jaunumi/28561-pirno-reizi-bus-pieejams-atbalsts-privatmaju-energoefektivitates-uzlabosana>

LITHUANIA

Boiler replacement in households “Katilų keitimas namų ūkiuose”

Type. Central government grant scheme for RES heating systems.

Description. The *Katilų keitimas namų ūkiuose* incentive is dedicated to the households to replace old inefficient biomass boilers with efficient biomass (biofuel) boilers or with heat pumps (geothermal, aerothermal or hydrothermal). The subsidy covers 50% of the expenses incurred. The program budget is around 4.8 million euros. The call for applications is open until 21 October 2021. The Call, which is part of Measure 04.3.2-LVPA-V-111 Priority 4 “Promotion of energy efficiency and production of energy from renewable sources” of the Operational Programme for EU Structural Funds Investments for 2014-2020, is managed by the Environmental Project Management Agency under the Ministry of Environment of the Republic of Lithuania (Aplinkos projektų valdymo agentūra)

Amount: 50% of the expenses incurred.

Source: Source: https://apvis.apva.lt/paskelbti_kvietimai/katilu-keitimas-namu-ukiuose-2020-09

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

Type. Central government tax grant 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 led by the Housing energy efficiency agency (BETA Būsto energijos taupymo agentūra)

Amount: 30% rebate of total renovation costs.

Source: Source: https://apvis.apva.lt/paskelbti_kvietimai/katilu-keitimas-namu-ukiuose-2020-09

LUXEMBURG

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; 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 applies to the construction of new sustainable dwellings, and for which the building permit is applied for between 1 January 2017 and 31 December 2020.

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 or compact device (only for near-zero energy single-family houses) 25% of actual costs (max € 2.500); 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): bonus in the amount of 15% of the allocated financial aid. Replacement of an existing fossil fuel boiler or electrical heating system by a wood-fuelled boiler: bonus in the amount of 30% of the allocated financial aid.

Source: <https://guichet.public.lu/en/citoyens/logement/construction/performances-energie/aide-financiere-logement-durable-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/pre-climatique-taux-zero.html>
<https://guichet.public.lu/en/citoyens/logement/renovation-transformation/prets-climatiques/pre-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 529 of 2018 has been further extended to 31st December 2019 by Government Notice 1510 of 2018. This scheme was further extended to 31st December 2020 or until funds are established by Government Notice 1644 of 2019.

Amount: This scheme provides a grant of 50% of the eligible costs up to €700. Eligible expenditure includes the purchase of a Solar Water Heater or Collector including VAT.

Source: <https://www.rews.org.mt/#/en/sdgr/268-2018-solar-water-heater-scheme>

Heat Pump Scheme

Type. Central government grant scheme for RES heating systems.

Description. The Heat Pump Water Heater 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 on their residential properties, and for organisations that are not carrying out an economic activity. This scheme launched by means of Government Notice 527 of 2018 has been further extended to 31st December 2019 as per Government Notice 1508. Once again, this scheme has been further extended to 31st December 2020 or until funds are exhausted as per Government Notice 1643 of 2019

Amount: This scheme provides a grant of 50% of the eligible costs up to €700. Eligible expenditure includes the purchase of a Solar Water Heater or Collector including VAT.

Source: <https://www.rews.org.mt/#/en/sdgr/269-2018-heat-pump-water-heater-scheme>

NETHERLAND

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 and solar boilers. This will reimburse part of the costs after purchasing the device. The ISDE scheme runs from 1 January 2016 to 31 December 2020. This grant is intended for: individuals with a citizen service number (BSN); foreign individuals with a (holiday home in the Netherlands). 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.

Air-to-air heat pumps are excluded.

Solar water heaters, with a total opening area of up to 200 m², are 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 current indicative amount is between € 500 and € 2.500, depending on the device. As of January 1, 2020, the subsidy amounts have been changed for small heat pumps intended for heating tap water, such as heat pump boilers. For the solar thermal up to 10 m², the subsidy amount is indicatively about 0,70 € per kWh of annual production. This amount starts from about € 500 per device. Example: a 4 m² gets around 1.200-1.300 €.

Source: <https://www.rvo.nl/subsidie-en-financieringswijzer/isde/particulieren>

NORWAY

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

Type. Central government grant scheme for RES heating systems.

Description. Enova, the Norwegian government enterprise responsible for promotion of environmentally friendly production and consumption of energy, grants energy efficient and climate friendly technologies to owners of residential buildings. The program provides incentives for many technologies: thermal insulation, control of the heating system, mechanical ventilation, photovoltaics as well as renewable energy plants for the production of heat. The incentive for air-to-air heat pumps will be cancelled starting January 1st, 2020

Amount: Solar thermal NOK 10.000 more NOK 200 every m², up to NOK 15.000 (starting 1th January 2021, NOK 5.000 more NOK 200 every m², up to NOK 10.000); air-air heat pumps NOK 5.000 (but this grant will no longer be available starting 1th January 2021); geothermal heat pumps, biomass stoves (but only with water jacket) and biomass boilers NOK 10.000.

Source: <https://www.enova.no/privat/alle-energitiltak/>

POLAND

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

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

Description. Purpose of the Program is to improve air quality and reduce greenhouse gas emissions by replacing heat sources and improving the energy efficiency of single-family residential buildings. Beneficiaries are natural persons who are owners or co-owners of single-family residential buildings, with an annual income not exceeding PLN 100.000. The programme co-finance the replacement of old and ineffective solid fuel heat sources with efficient ones and other interventions.

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; 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; air/air heat pump: 30% of the cost, max PLN 3.000, or 60% and max 6.000 for low-income families; ground source heat pump: 45% of the cost, max PLN 20.250, or 60% and max 27.000 for low-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; wood gasification boiler: 30% of the cost, max PLN 6.000, or 60% and max 12.000 for low-income families; wood pellet boiler: 30% of the cost, max PLN 6.000, or 60% and max 12.000 for low-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; electric heating: 30% of the cost, max PLN 3.000, or 60% and max 6.000 for low-income families; mechanical ventilation with heat recovery 30% of the cost, max PLN 5.000, or 60% and max 10.000 for low-income families; photovoltaic 50% of the cost, max PLN 5.000, or 50% and max 5.000 for low-income families.

Source: <http://czystepowietrze.gov.pl/wez-dofinansowanie/>

Clean Air Priority Program Stop Smog

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

Description. The program finances the replacement or liquidation of heat sources and thermal modernization in single-family residential buildings of energy poor people. The program is intended for energy poor people who own or co-own single-family residential buildings. Scope of the Program 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.

Amount: up to 70% of funding for investment costs from the state budget.

Source: <http://czystepowietrze.gov.pl/stop-smog/>

Clean Air Priority Program Thermomodernization relief (Program Czyste Powietrze - Ulga termomodernizacyjna)

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

Description. The goal of the program 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.

Source: <https://czystepowietrze.gov.pl/ulga-termomodernizacyjna/>

PORTUGAL

Program Efficient Home 2020 “Casa Eficientă Energetic”

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

Description. Casa Eficiente 2020 program provides loans at favourable conditions for interventions aimed to improve the environmental performance of private residential buildings, with particular attention to energy and water efficiency, in addition to the management of urban waste. Interventions can affect the building envelope and its systems. Thanks to the program, subsidized loans are granted, of between a minimum of 2,500 and 100,000 euros. Maximum duration of the loan 20 years. In addition to various energy efficiency interventions, the program promotes the installation of heat pumps, biomass boilers, solar thermal and even condensing boilers.

Source: <https://casaeficiente2020.pt/sobre-o-programa/>
<https://casaeficiente2020.pt/media/1148/regulamento-casa-eficiente-2018-03-01.pdf>

Fundo Ambiental 2020 - Programa de Apoio a Edifícios Mais Sustentáveis

Type. Central government grant scheme for RES heating systems.

Description. The scheme called “More Sustainable Buildings” (*Edifícios Mais Sustentáveis*) is part of the Program *Economic and Social Stabilization Program* (PEES), approved by the Resolution of the Council of Ministers no. 41/2020, of 6 June, that establishes, among others, a set of measures to boost economic employment, by launching of small works, of quick execution and spread throughout the territory, that can absorb some of the impact of the economic crisis caused by the pandemic caused by the disease COVID-19. The scheme subsidizes various interventions: building insulation, more efficient windows, heat pumps, solar thermal, biomass, photovoltaic, water saving, biomaterials, etc.

Amount. Heat pumps and solar thermal 70% of the expenses, up to a maximum of € 2.500; biomass 70% up to € 1.500.

Source: <https://www.fundoambiental.pt/avisos-2020/mitigacao-das-alteracoes-climaticas/programa-de-apoio-a-edificios-mais-sustentaveis.aspx>

ROMANIA

Program Efficient Home “Casa Eficientă Energetic”

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

Description. The program *Casa eficientă energetic* is aimed to increase the energy efficiency in the single-family dwellings. The program subsidises **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 amount of 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
[Scheme Guidelines](#)

SLOVAKIA

55th call for the replacement of obsolete domestic combustion systems with low emissions (excluding RES)

Type. Central government grant scheme for fossil heating systems.

Description. The 55th call for the replacement of obsolete domestic combustion systems with low emissions (Výzva zameraná na náhradu zastaraných spaľovacích zariadení v domácnostiach za nízkoemisné (s výnimkou OZE) OPKZP-PO1-SC141-55 promotes the installation of condensing boilers.

Amount: up to 3000 euro for boiler, installation and connection to the gas grid.

Source: <https://www.op-kzp.sk/obsah-vyzvy/55-vyzva-zamerana-na-opkzp-po1-sc141-55/>

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.

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. 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 € 1.200 per installation.

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/veterne-turbiny/>

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 subsidies and loans available for various technologies: heat pumps, solar thermal, biomass boilers, **condensing boilers** and **micro cogeneration** (in this case no subsidies are available, but only loans).

Amount for subsidies. Solar thermal: up to 30% of the investment value (100% for low-income families), maximum € 300 per m². Condensing boilers: up to 50% of the investment value (100% for low-income families, 25% for multiapartment 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, 25% for multiapartment houses), maximum from € 2.500 to € 5.000.

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

Programa PREE. Rehabilitación Energética de Edificios

Type. Central government grant scheme for RES heating systems.

Description. The regulatory bases of this Program will be governed by Royal Decree 737/2020, of August 4, 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 also the improvement of the energy efficiency of thermal installations, such as: substitution of conventional energy for solar thermal energy, substitution of conventional energy for geothermal energy, substitution of conventional energy for biomass, improvement of the energy efficiency of the generation subsystems not included previously (e.g. the heat pump), improvement of the energy efficiency of distribution, regulation, control and emission subsystems of thermal installations.

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/programa-pree-rehabilitacion-energetica-de>

Boiler renovation plan (Plan Renove de calderas)

Type. Central government (locally applied) grant scheme for fossil heating systems.

Description. The boiler renovation plan promote is implemented in most Autonomous Communities. It is responsible for replacing consumer boilers with more efficient ones, offering economic incentives. The Autonomous Communities are in charge of offering the boiler renovation plan to users with the aim of reducing the energy bill of homes and promoting the use of safer natural gas appliances according to the RITE. These grants are designed for all those users who wish to replace their individual boiler with another condensing boiler that uses natural gas or LPG. It is important to note that the original boiler to be replaced must be electric or make use of a fuel considered non-renewable.

Amount: The subsidy is very variable, but is usually between 100 and 400 euros, depending on the Comunidades Autonomas.

Sources:

Castilla la Mancha

https://docm.castillalamancha.es/portaldocm/descargarArchivo.do?ruta=2020/06/24/pdf/2020_3950.pdf&tipo=rutaDocm

Castilla y Leon :

<https://www.tramitacastillayleon.jcyl.es/web/jcyl/AdministracionElectronica/es/Plantilla100Detalle/1251181050732/Ayuda012/1284984151617/Propuesta>

Comunidad de Madrid <https://www.comunidad.madrid/servicios/consumo/plan-renove-calderas-calentadores-comunidad-madrid>

Extremadura <http://doe.gobex.es/pdfs/doe/2020/1820o/20050161.pdf>

Valladoid <https://www.valladolid.es/es/actualidad/noticias/convocan-ayudas-municipales-rehabilitacion-edificios-objeto>

Paiz Vasco <https://www.eve.eus/Programa-de-ayudas/2020/Eficiencia-Energetica-y-Solar-Termica-en-el?lang=es-es>

<https://www.eve.eus/Programa-de-ayudas/2020/Programa-de-ayudas-a-inversiones-en-instalaciones?lang=es-es>

<http://planrenove.ivace.es/es/plan-renove-calderas/informacion-plan-renove-calderas>

<http://planrenove.ivace.es/es/plan-renove-calderas/informacion-plan-renove-calderas>

Andalucía <https://www.agenciaandaluzadelaenergia.es/es/financiacion/incentivos-2017-2020/programa-para-el-desarrollo-energetico-sostenible-de-andalucia/construccion-sostenible/incentivos-para-aprovechamiento-de-energia-solar-en-viviendas-pymes-y-edificios-publicos>

Fuerteventura http://www.cabildofuer.es/documentos/Industria/Subvenciones/plan_estrategico_2018-2020.pdf

Aragón: <https://calderas.renovearagon.com/>

SWEDEN

Tax deduction (Rot-avgrad)

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

Description. The decision to introduce the ROT (Rot-avgrad) deduction was made in the Riksdag on May 13, 2009, but applies retroactively from December 8, 2008. Individuals who own homes, holiday homes or condominiums (internal maintenance) are entitled to deduct 30% of the cost of the installation (not of the technology). The ROT deduction is linked to the house works. The deduction may also concern interventions on the heating system, such as the installation of heat pumps, biomass boilers, gas/oil/diesel boilers, solar panels.

Amount: the maximum deduction is SEK 50.000 / year and is 30% of the cost of the work (not the technology).

Source:

<https://www.skatteverket.se/foretagochorganisationer/skatter/rotochrut/gerarbetetratttillrotavdrag.4.5c1163881590be297b5173bf.html>

UNITED KINGDOM

Domestic Renewable Heat Incentive

Type. Central government grant scheme (feed in tariff) for RES heating systems.

Description. The RHI promotes biomass boilers, solar water heating, certain heat pumps. The scheme is available in England, Scotland and Wales. Payments are made for 7 years and are based on the amount of renewable heat made by the heating system, calculated according to the *Domestic RHI scheme*. New build properties will not normally be eligible. The only exception is if the applicant is building his/her own home.

Amount. According to the document Domestic RHI tariffs table (Q3 - 2020/21), the tariff, in £/kWh are: biomass 0,0697 £/kWh; Air Source Heat Pump 0,1085 £/kWh; Ground Source Heat Pump: 0,2116 £/kWh; Solar Thermal 0,2136 £/kWh.

Source: <https://www.ofgem.gov.uk/publications-and-updates/domestic-rhi-tariff-table>

Green Home Grant

Type. Central government grant scheme for RES heating systems.

Description. The Green Home Grant promotes energy improvements in the houses. Homeowners and residential landlords can apply for a grant voucher towards the cost of installing energy efficient improvements to their homes. Insulation and installation of low-carbon heating systems are included. About the low carbon heating measures, the scheme covers: air source heat pump, ground source heat pump, solar thermal (liquid filled flat plate or evacuated tube collector), biomass boiler, **hybrid heat pump**.

Amount. Vouchers will cover two-thirds of the cost of eligible improvements, up to a maximum government contribution of £5.000. Households on low income can receive vouchers covering 100% of the cost of the improvements, up to a maximum of £10.000.

Source: <https://www.gov.uk/guidance/apply-for-the-green-homes-grant-scheme>

Free Boilers Scheme

Type. Central government grant scheme for fossil heating systems.

Description. Energy Company Obligation (ECO) is a government scheme whereby the larger energy companies have an obligation to invest in energy efficiency measures to reduce energy use and resident's energy bills therefore reducing fuel poverty. Funding is available to those on certain benefits towards replacing an old inefficient boiler with a brand-new condensing one.

Amount. Boiler grant funding can vary according the property and survey will usually be required. The amount can reach the 100% of the costs.

Source: <https://www.boilergrants.info/>