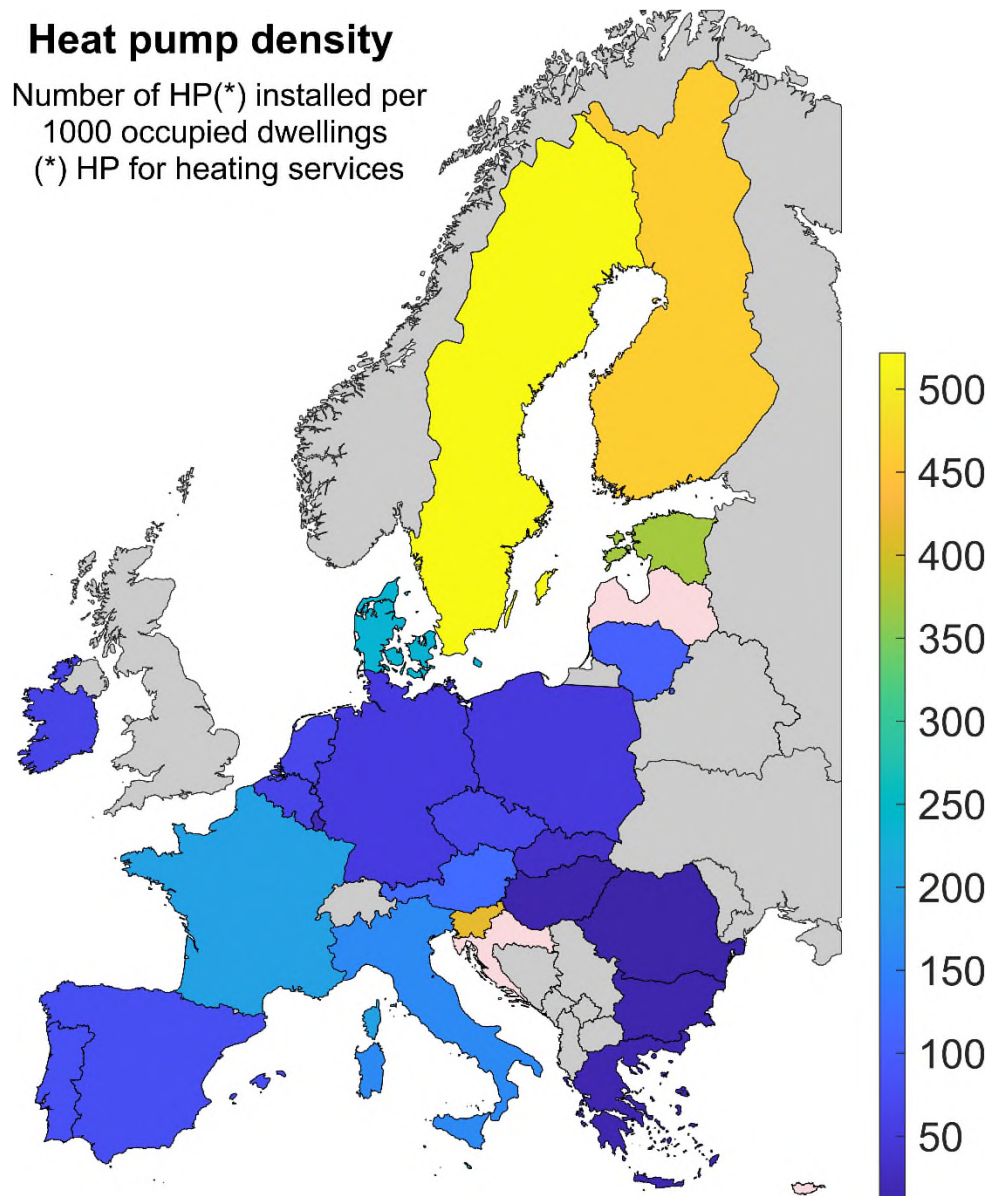


## Heat pump density in EU27 countries

Clean energy in action

The map below shows heat pump density across EU27 countries, measured as the number of heat pumps per 1,000 permanently occupied dwellings. Significant disparities between countries are clearly visible



*Number of heat pumps installed per 1,000 permanently occupied dwellings. Only heat pumps used for heating are considered (no AC units). Countries in pink indicate no data available; those in grey are not part of the EU27*

Northern and Nordic countries, such as Sweden (521.9 per 1,000 dwellings), Finland (464.6), and Estonia (372.8), exhibit the highest densities, reflecting their strong adoption of heat pumps for heating despite their harsh climate. This trend aligns with well-established policies promoting renewable energy and electrification of heating. In

contrast, countries in Southern and Eastern Europe, such as Romania (10.0), Bulgaria (11.4), and Hungary (12.0) show much lower heat pump penetration, indicating reliance on traditional heating systems such as gas or biomass.

Western and Central European countries display more moderate heat pump densities, with France (200.1), Italy (161.4), and Austria (119.2) ranking relatively high compared to Germany (51.2) and the Netherlands (68.5). This variation may be attributed to differences in building stock, heating infrastructure, and government incentives. Notably, Germany, despite its large population and strong renewable energy policies, lags behind in heat pump adoption, possibly due to its extensive gas heating network.

Regarding Re-Energize project partner countries, Bulgaria (11.4), Romania (10), and Luxembourg (22.1) show very low adoption ratios, offering significant opportunities to expand the heat pump market. The case of Luxembourg is particularly notable: a wealthy country where around 79% of households use gas and oil for heating. The country is rapidly working to reduce this dependency. In Romania, approximately 36% of households use gas boilers for heating, but since 80% of this gas is produced domestically, the urgency for transitioning is lower.

Lithuania has a high adoption ratio (105) due to several factors, including an active government policy to phase out dependency on foreign gas and polluting heating sources (coal, old biomass boilers, etc.), high gas costs, and growth in new construction and renovations.

Southern countries exhibit low to medium heat pump densities: Greece (14.3), Portugal (81.6), and Spain (79.5). Two important points should be noted. First, if cooling is included, heat pump markets in these countries are much larger: Greece (150), Portugal (626), and Spain (314). Second, when focusing solely on heating demand, Greece and Spain present significant opportunities for heat pump adoption. In Greece, 57% of households still rely on fossil fuels for heating, primarily oil. In Spain, 62% depend on gas boilers.

The EU average of 48.9 heat pumps per 1,000 residents and 114.2 per 1,000 dwellings suggests that while adoption is growing, significant disparities remain, and further policy support may be needed to accelerate deployment in lagging regions.

### ANNEX: Detailed numerical data (year 2023)

Country	Population	Residential buildings	Residential dwellings	Permanently occupied domestic dwellings	Heat pump stock (2023)	Num. HP/ 1000 residents	Num. HP/ 1000 dwellings
Austria	9,158,750	2,284,718	4,909,410	4,067,500	485,000	53.0	119.2
Belgium	11,832,049	3,791,179	5,741,589	5,052,413	313,000	26.5	62.0
Bulgaria	6,445,481	3,857,961	4,282,656	2,943,212	33,664	5.2	11.4
Croatia	3,861,967	1,615,724	2,391,943	1,427,338	N/A	N/A	N/A
Cyprus	933,505	316,779	492,555	385,043	N/A	N/A	N/A
Czechia	10,900,555	2,284,768	5,340,031	4,474,222	297,814	27.3	66.6
Denmark	5,961,249	2,061,500	2,996,001	2,779,623	659,000	110.5	237.1
Estonia	1,374,687	268,901	737,872	694,807	259,000	188.4	372.8
Finland	5,603,851	1,453,469	3,187,214	3,013,522	1,400,000	249.8	464.6
France	68,401,997	17,487,248	37,600,000	29,991,000	6,000,000	87.7	200.1
Germany	83,445,000	19,717,163	43,366,899	39,897,588	2,044,000	24.5	51.2
Greece	10,397,193	3,634,233	6,492,005	4,206,640	60,189	5.8	14.3
Hungary	9,584,627	2,786,279	4,580,538	4,009,000	48,089	5.0	12.0
Ireland	5,343,805	2,093,009	2,124,588	1,881,732	117,162	21.9	62.3
Italy	58,989,749	14,056,912	35,271,831	25,723,158	4,152,000	70.4	161.4
Latvia	1,871,882	1,309,018	1,063,937	814,900	N/A	N/A	N/A
Lithuania	2,885,891	507,798	1,438,003	1,438,003	151,000	52.3	105.0
Luxembourg	672,050	138,215	243,996	234,752	5,193	7.7	22.1
Malta	563,443	74,822	297,308	219,246	56,601	100.5	258.2
Netherlands	17,942,942	7,964,816	8,005,454	7,704,623	528,000	29.4	68.5
Poland	36,620,970	5,798,526	15,599,998	13,746,478	665,000	18.2	48.4
Portugal	10,639,726	2,898,332	6,002,878	4,131,547	337,000	31.7	81.6
Romania	19,064,409	4,787,981	9,586,997	7,620,746	76,207	4.0	10.0
Slovakia	5,424,687	1,212,435	2,235,588	1,762,066	55,785	10.3	31.7
Slovenia	2,123,949	589,548	864,303	791,479	330,240	155.5	417.2
Spain	48,610,458	8,817,431	26,068,236	18,916,118	1,503,000	30.9	79.5
Sweden	10,551,707	2,540,030	5,158,704	4,598,650	2,400,000	227.5	521.9
EU 27	<b>449,206,579</b>	<b>114,348,795</b>	<b>236,080,534</b>	<b>192,525,408</b>	<b>21,976,945</b>	<b>48.9</b>	<b>114.2</b>

#### Data sources:

Population: Data on 1<sup>st</sup> January 2024 (Eurostat, tps00001)

Number of residential buildings and dwellings: Mixed data 2020-2023 from

<https://building-stock-observatory.energy.ec.europa.eu/database/>

Permanently occupied domestic dwellings: 2023 data from <https://www.odyssee-mure.eu/>

Heat pump stock: 2023 data from EHPA annual report (2024); Data for the following countries was sourced

from EurObserv'ER for 2023 and adjusted to account only for heating: Bulgaria (x0.095), Greece (x0.095);

Luxembourg (x1); Malta (x0.095). For Romania, the stock was estimated as 1% of occupied households.

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