

Izazovi ekološke i energetske tranzicije

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Svijet se mijenja

Nakon relativno mirnog razdoblja na području Europe, 2020 donosi promjene:

- 2020 – Covid-19
- 2021 – Recesija
- 2022 – Rat, inflacija, energetska kriza
- Usporavanje napretka, rast cijena energenata, globalni rat, klimatske promjene...

Što dalje?



Covid-19

Recesija

Rat

Energetska kriza
Inflacija

Klimatske promjene

EU Green Deal

Pariški sporazum – smanjenje emisije stakleničkih plinova za 40% razine iz 1990-te godine

2021 revizija :

- Povećanje na 55% do 2030
- **Klimatska neutralnost do 2050!**

The European Green Deal goals for 2050⁵ :



Create a more circular energy system



Accelerate use of electricity from renewable sources

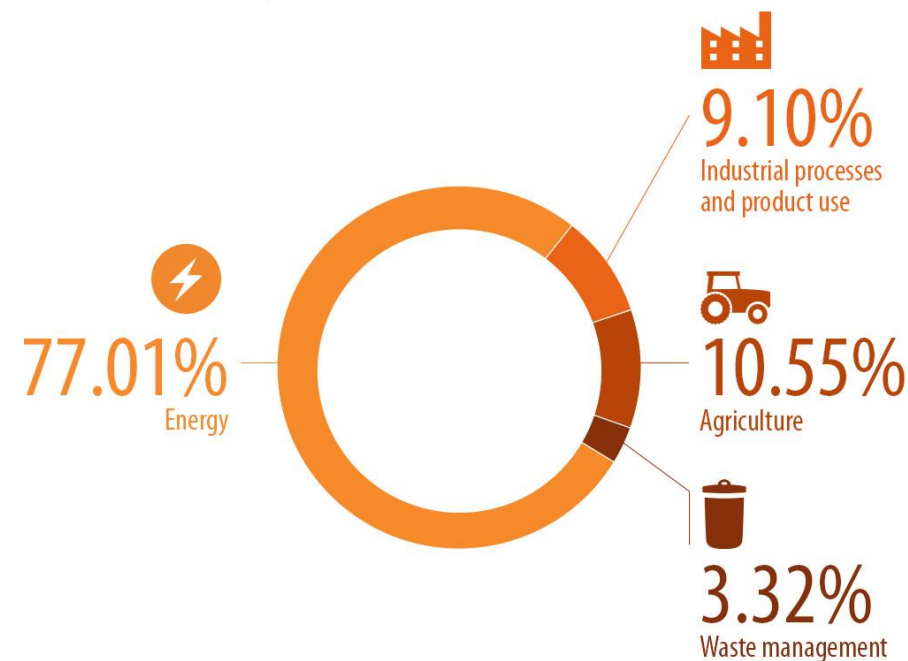


Promote renewable and low carbon fuels for sectors that are hard to decarbonise



Create an integrated energy system supporting digital energy services

Greenhouse gas emissions in the EU by sector* in 2019



* All sectors excluding land use, land-use change and forestry (LULUCF)
The percentages do not add up to 100% due to rounded figures being used

Source: European Environment Agency (EEA)

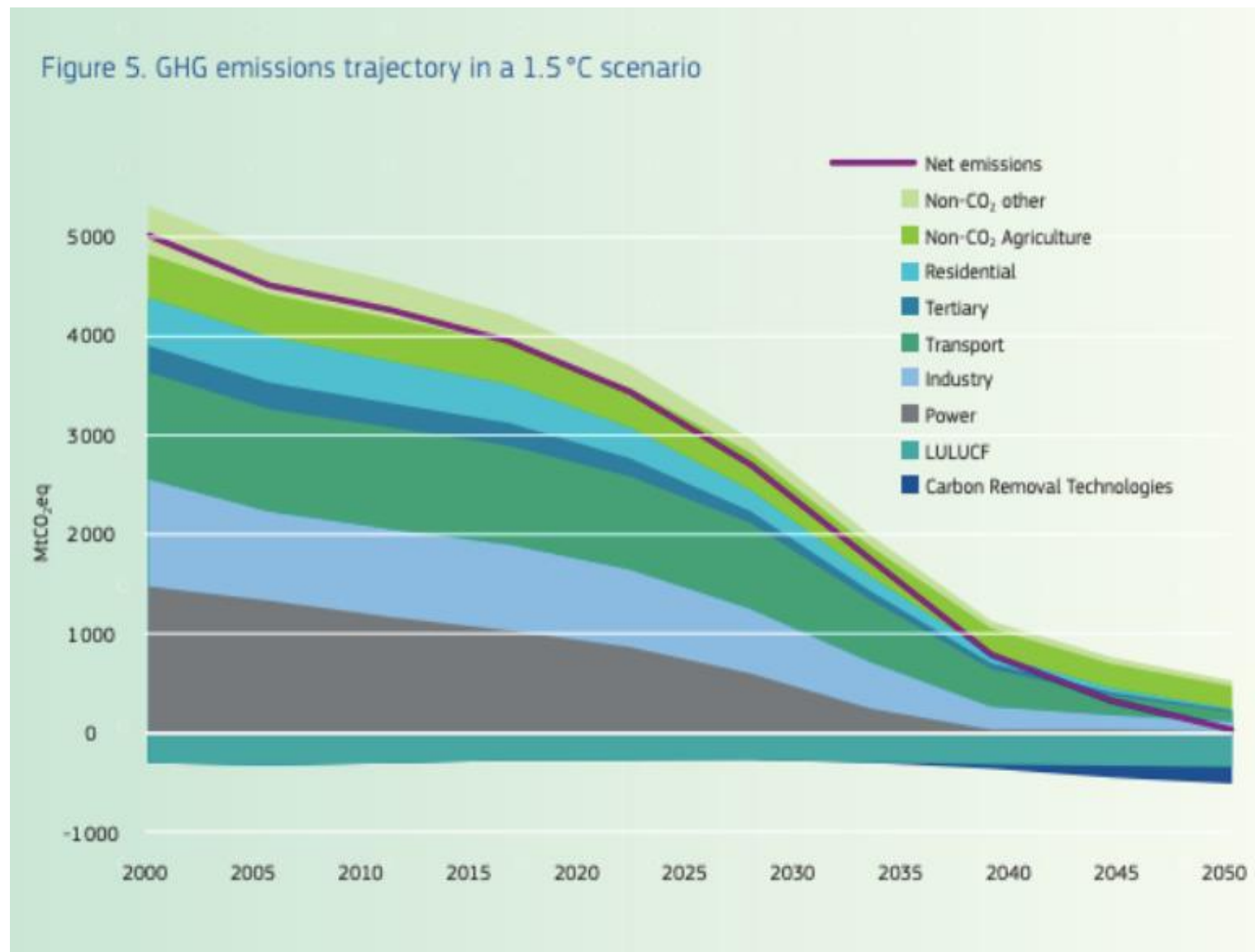


EU Green Deal

Smanjenjem emisija CO₂ u rezidencijalnom sektoru za **50%** između 2020 i 2030 kako bi se dostigao cilj ograničenja rasta prosječne temperature za 1.5°C do 2050.

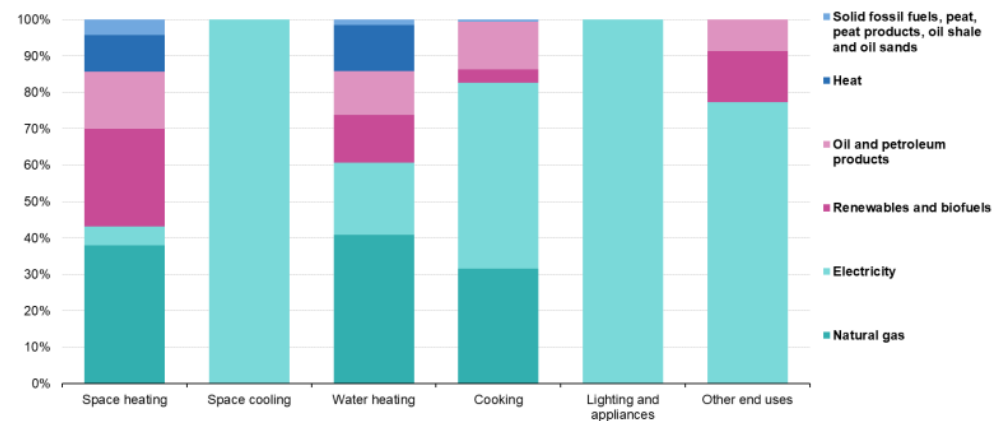
Većinski ljudski doprinos globalnom zagrijavanju i povećanju emisija stakleničkih plinova:

- Upotreba fosilnih goriva (energija, industrija, transport...)
- Prekomjerno krčenje šuma
- Uzgoj stoke
- Sanacija otpada



EU Green Deal

Part of the main energy products in the final energy consumption in the residential sector for each type of end-use, EU, 2020



Source: Eurostat (online data code: nrg_d_hhq)

eurostat

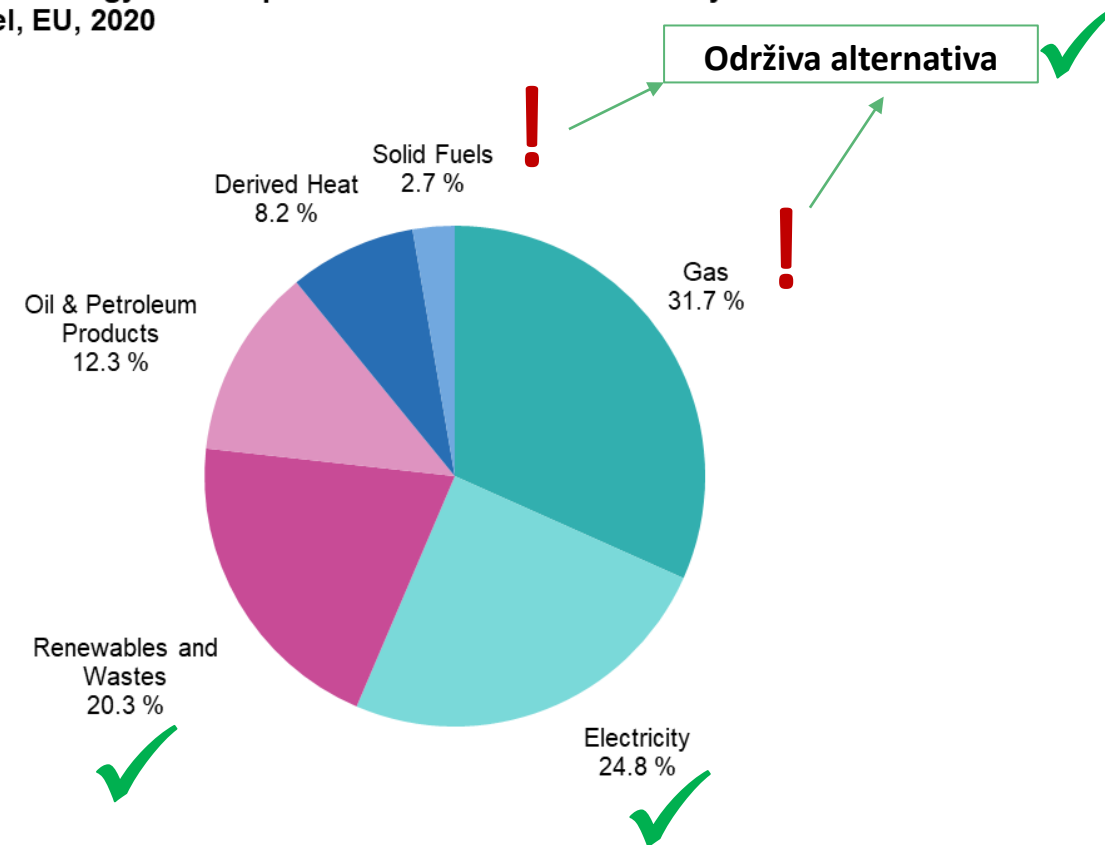
Share of fuels in the final energy consumption in the residential sector by type of end-use, EU, 2020 (%)

	energy use	space heating	space cooling	water heating	cooking	lighting and electrical appliances	other end use
Solid fossil fuels, peat, peat products, oil shale and oil sands	2.9	91.0	0.0	7.8	1.1		0.0
Natural gas	32.0	74.6	0.0	19.3	6.1		0.0
Oil and petroleum products	12.5	78.2	0.0	14.6	6.5		0.7
Renewables and biofuels	19.2	87.9	0.0	10.3	1.2		0.7
Electricity	25.1	13.1	1.5	12.0	12.5	57.9	3.0
Heat	8.3	77.0	0.0	23.0	0.0		0.0
Total	100.0	62.8	0.4	15.1	6.1	14.5	1.0

Source: Eurostat (online data code: nrg_d_hhq)

eurostat

Final energy consumption in the residential sector by fuel, EU, 2020



Source: Eurostat (online data code: nrg_bal_c)

eurostat

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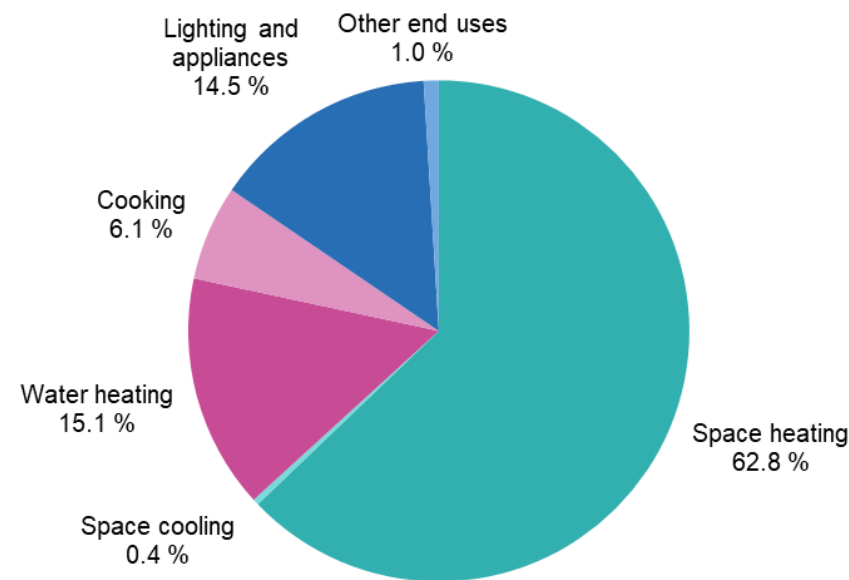
- **77.9% energije** se utroši na **grijanje prostora i pripremu tople vode**
- **1/3** te energije se dobiva iz **plina i fosilnih goriva**



Toplotne pumpe

- + Fotonaponske ćelije
- + Solarni kolektori

Final energy consumption in the residential sector by use, EU, 2020



Source: Eurostat (online data code: nrg_d_hhq)

eurostat 

*0.4% energije za hlađenje, zvuči iznenađujuće, ali velik broj država EU nema veliku potrebu za hlađenjem poput južnih zemalja i period hlađenja traje kratko ~3 mjeseca

Izvori energije:

54% Obnovljivi izvori energije

- Energija vode (46%)
- Energija vjetra (10%)
- Energija sunca (0,08%)

46% Ugalj

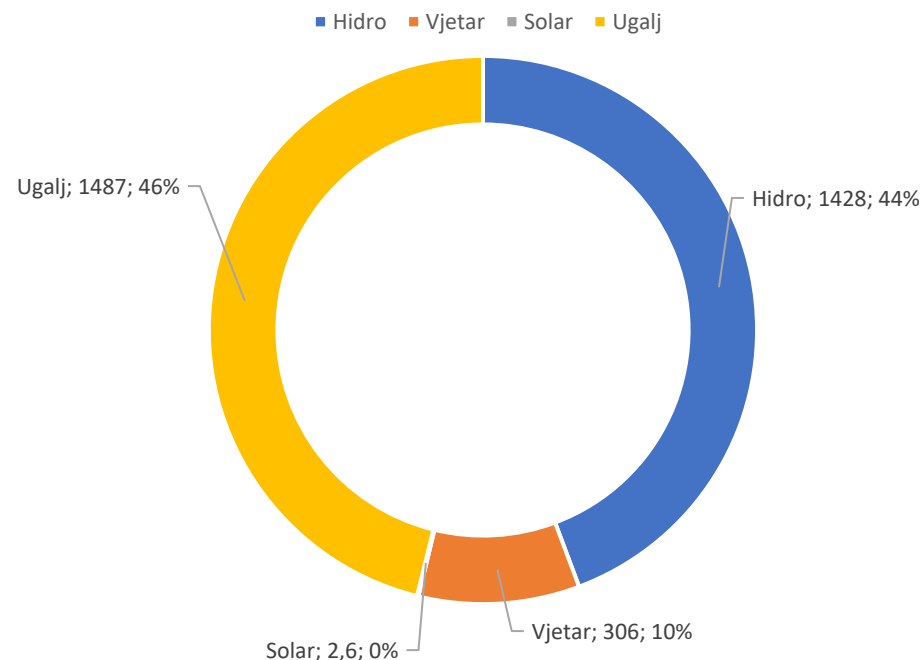
Izvori energije za grijanje:

- Biomasa
- Električna energija
- Ugalj



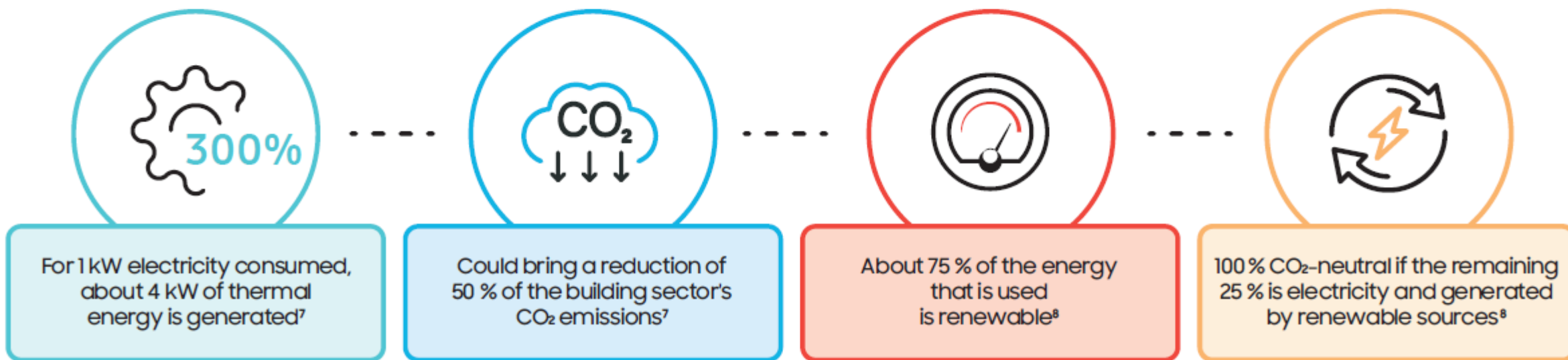
Poticaži

Ukupna proizvodnja električne energije [GW]



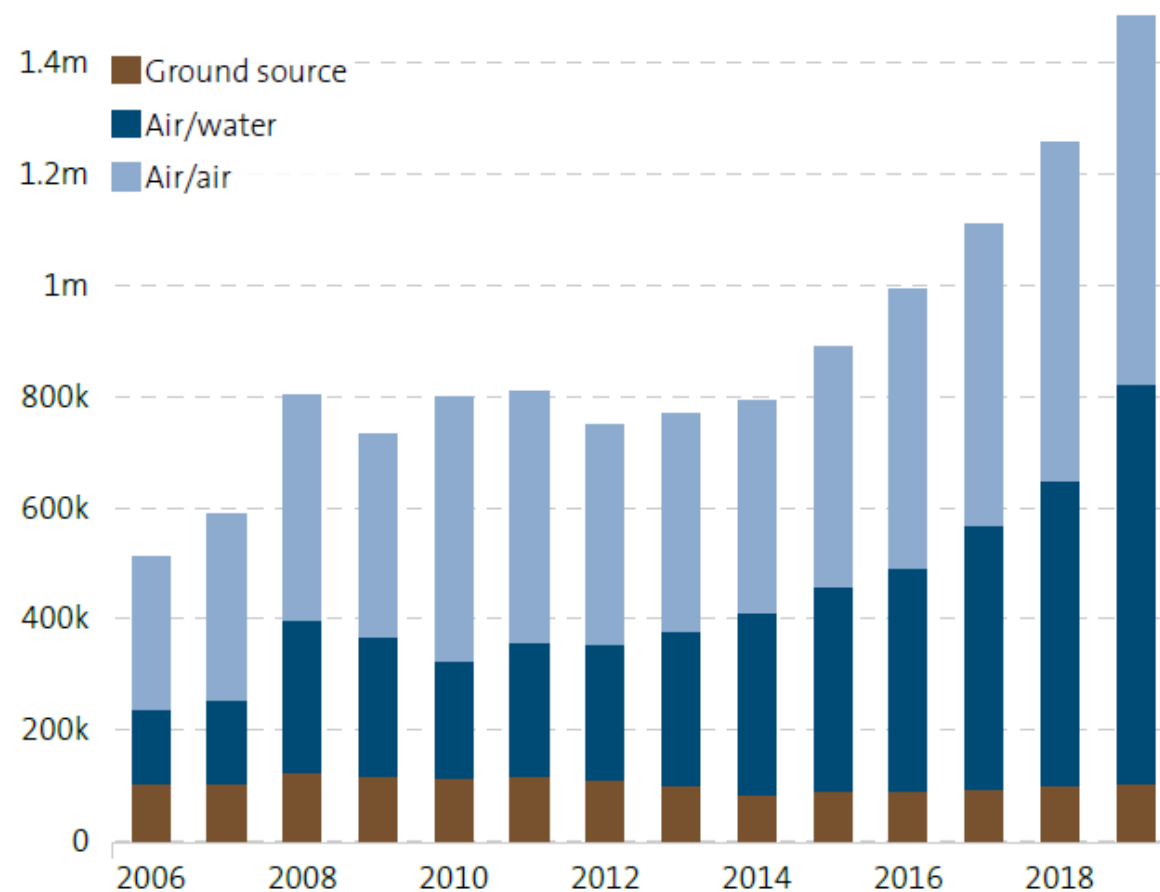
To drive the change towards a 2050 climate-neutral-economy, heating solutions in buildings will play a crucial role

A Heat Pump is one of the most sustainable heating solutions



Zašto toplotne pumpe?

- **Manji operativni troškovi** (ovisno o cijenama plina / el. energije)
- Široka primjena (pri vanjskoj temp. **-25°C**, **temperatura polaza vode 68°C**)
- Učinkovito i ekološki održivo grijanje i hlađenje
- Poticaji i regulativa
- Nema skladištenja energenata
- Sigurnost (nema visokih temp. kao kod peći)
- Bolja iskoristivost kvadrata
- Jedan izvor energije



Samsung toplotne pumpe

- 1) **MONO HT Quiet** –
visokotemperaturno (68°C na -
25°C) rješenje
- 2) **TDM+** – jedinstveno rješenje
(kombinacija multisplit sustava i
toplotne pumpe u jednom sustavu)
- 3) MONO
- 4) SPLIT

Više informacija kod ovlaštenog
Samsung partnera Ening



Još veća efikasnost? → Samsung Smart Connectivity

Pametne kuće umanjuju potrošnju energije:

- Optimizirajući energetske potrebe
- Praćenjem potrošnje
- Automatizacijom sustava grijanja/hlađenja
- Povezivošću sa ostalim uređajima

Više informacija kod ovlaštenog
Samsung partnera Ening



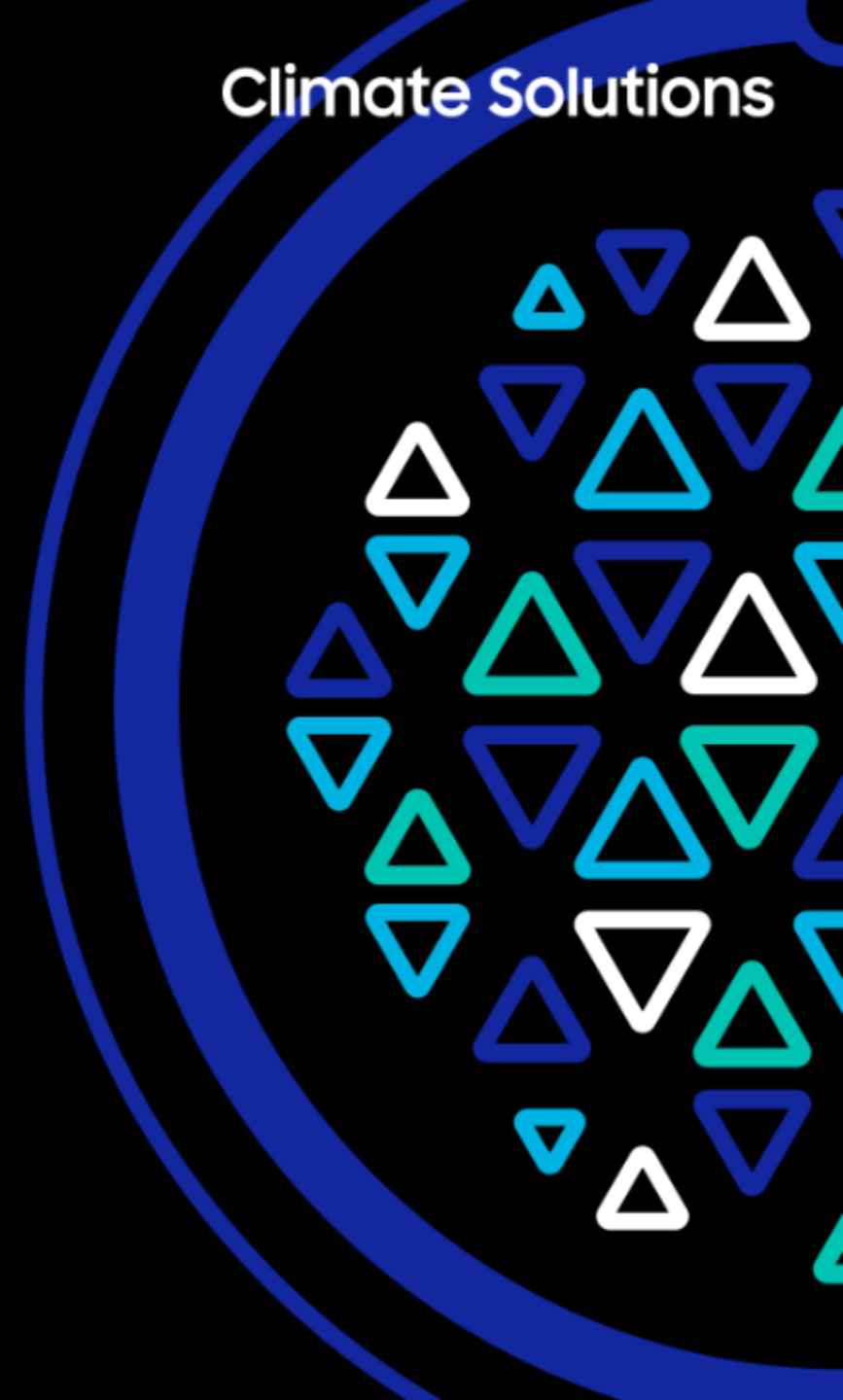
SAMSUNG

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Hvala na pažnji

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Izvori:

<https://www.europarl.europa.eu/news/en/headlines/society/20180703STO07129/eu-responses-to-climate-change>

https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Energy_consumption_in_households#Energy_consumption_in_households_by_type_of_end-use

<https://www.europarl.europa.eu/news/en/press-room/20181106IPR18315/energy-new-ambitious-targets-on-renewables-and-energy-efficiency>

<https://www.europarl.europa.eu/news/en/headlines/priorities/energy/20180109STO91387/mitigating-climate-change-with-the-eu-s-clean-energy-policy>

<https://www.ecoport.me/udio-obnovljivih-izvora-u-proizvodnji-elektricne-energije-u-crnoj-gori/>

Akcioni plan energetske efikasnosti Crne Gore