

# Climate action in Cyprus

## Latest state of play

The EU's binding [climate and energy legislation](#) for 2030 requires Member States to adopt [national energy and climate plans](#) (NECPs) covering the 2021 to 2030 period. In October 2020, the European Commission published an [assessment](#) for each NECP. Cyprus submitted its [NECP](#) in January 2020. A high proportion of Cypriots ([70 %](#)) expect national governments to tackle climate.

Cyprus accounts for 0.26 % of total EU greenhouse gas (GHG) emissions and has reduced its emissions at a slower pace than the EU average since 2005. The carbon intensity of the Cypriot economy decreased by close to 25 % between 2005 and 2019, at a rate slower than the EU average. Energy industry emissions fell by 3.7 % in the 2005 to 2019 period in Cyprus. Further emissions reductions are expected as the country shifts its electricity production from heavy fuel oil to natural gas by the end of 2021. Transport and industrial processes and product use were the sectors with the smallest reductions. Under the Effort-sharing Decision for the 2013–2020 period, Cyprus needed to reduce its emissions in sectors not included in the EU's emission trading system by 5 %, compared with 2005 levels. For the Effort-sharing Regulation period (2021–2030) the target is set at -21 % compared with 2005 levels.

The share of renewable energy in Cyprus reached 13.8 % in 2019. The country's 2030 target of a 22.9 % share is focused on changes in the heating and cooling, and electricity sectors.

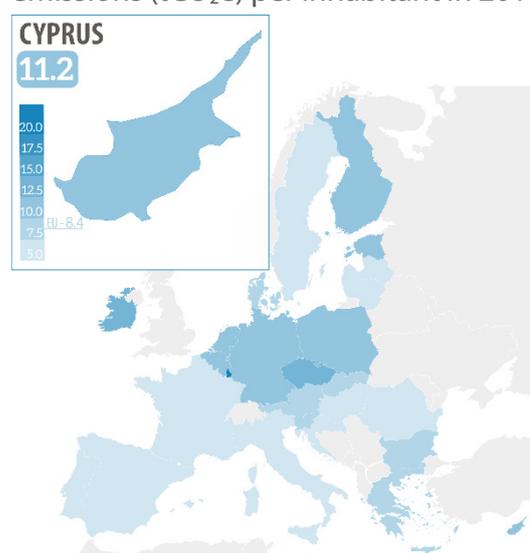
## Emissions and demographics

In 2019, Cyprus had close to 882 000 inhabitants, accounting for 0.2 % of total EU-27 [population](#).

The country's 2019 per capita emissions were above the EU average, having risen between 2005 and 2007, dipped to close to EU-27 average levels in 2013, and then risen once again until 2017. Since 2017 the country has followed a downward trend similar to the European average. In 2005, Cyprus's per capita emissions levels were 3.3 tCO<sub>2</sub>e above the EU average. Between 2005 and 2019 the country was able to reduce the difference by 0.5 tCO<sub>2</sub>e, but remained above the EU average.

The Cypriot population is growing and, according to [projections](#), will remain on that path, against a decreasing EU trend starting from 2025.

Figure 1 – Total greenhouse gas emissions (tCO<sub>2</sub>e) per inhabitant in 2019



Data source: Eurostat demo\_pjan and EEA ([GHG trends](#), [GHG estimates](#), [UNFCCC reporting](#)).

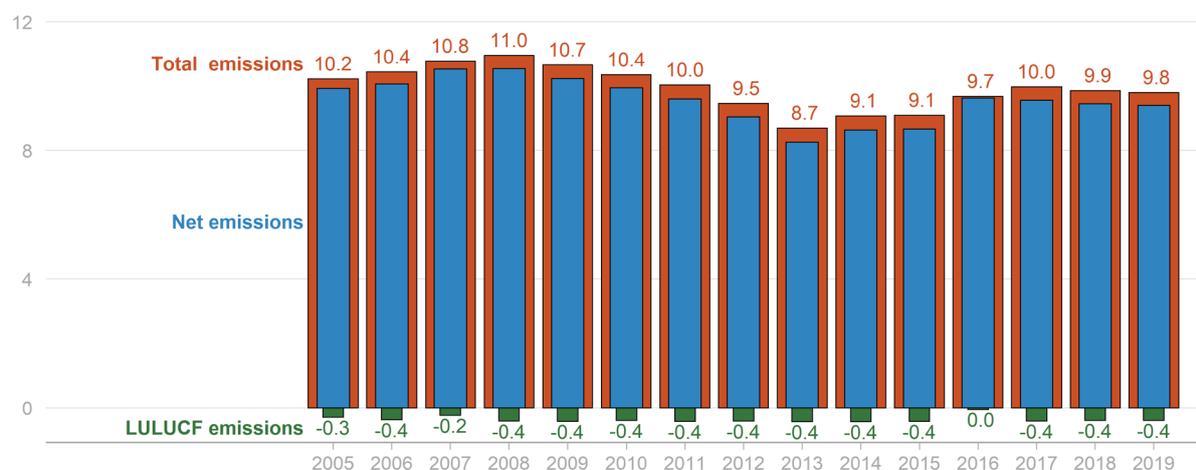
*This briefing is one in a series covering all EU Member States.*

## Cyprus's progress so far

In 2019, Cyprus recorded net emissions of 9.4 MtCO<sub>2</sub>e. Cyprus's total emissions make up 0.26 % of the EU total and have decreased by 4.1 % since 2005. This is below the EU-wide emissions reduction of 19 % in the same period.

Cyprus's [LULUCF](#) (land use, land-use change and forestry) carbon sink functions remained stable between 2005 and 2019, with the exceptions of 2005, 2007 and 2016 which coincided with large scale [forest fires](#). [Currently](#) the country's forestry department is implementing an afforestation programme, favouring non-invasive indigenous species that are already adapted to the country's climatic conditions. The aim under this programme is to plant up to 300 000 trees a year up until 2030. These measures are expected to play an important role in the [expected](#) 86 % increase in carbon sink functions by 2040 compared with 2019 levels.

Figure 2 – Total, LULUCF and net greenhouse gas (GHG) emissions (MtCO<sub>2</sub>e)



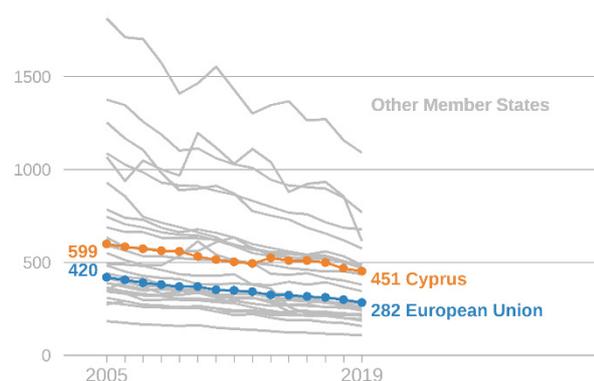
Data source: EEA ([GHG trends](#), [GHG estimates](#), [UNFCCC reporting](#)).

## Carbon intensity

In 2019, Cyprus was the 11th most carbon-intensive economy in the Union, above the EU average by 169 gCO<sub>2</sub>e per euro.

Over the 14-year period, Cyprus reduced its emissions intensity per unit of GDP by just under 25 %, against the EU average reduction of 33 %. The [impact](#) of the 2012-2013 financial crisis led to an increase in the carbon intensity of the Cypriot economy, peaking in 2014. From there onwards the country was able to resume the reduction trend observable from 2005 to 2013. The fluctuations in GDP between 2005 and 2019, were mirrored by the fluctuations in GHG emissions, evidencing a great deal of interconnection between the two.

Figure 3 – Carbon intensity of the economy: GHG emissions (gCO<sub>2</sub>e) per unit of GDP (euros in 2015 prices)



Data source: Eurostat Nama\_10\_gdp [CLV15MEUR] and EEA ([GHG trends](#), [GHG estimates](#), [UNFCCC reporting](#)).

## Emissions across the economy

Energy industries accounted for the largest share of Cyprus's GHG emissions in 2019, with a 34.2 % share of the total. Emissions from energy industries fell by 3.7 % in the 2005-2019 period, representing a slight (0.4 %) increase in their share of total emissions. The country relies mainly on imports of fuel for electricity generation, most commonly heavy fuel oil and gasoil. The NECP [mentions](#) that by the end of 2021 these fuels will be switched to 'less carbon-intensive natural gas' alternatives.

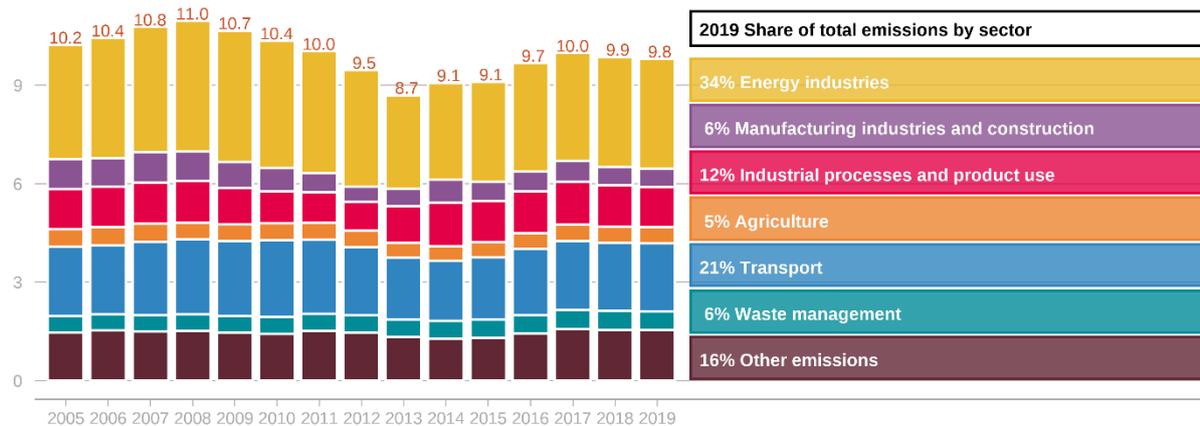


The [Dhekelia power station](#) (460 MW) produces 34.5 % of Cyprus's total electricity supply, with heavy fuel oil as the primary fuel.

The biggest emissions reduction was in the manufacturing industries and construction sector, which reduced its share of total emissions over the period from 8.9 % to 5.7 %. This translates into a 39.1 % reduction in emissions since 2005 or 0.4 MtCO<sub>2</sub>e.

The sectors to show the smallest emissions reductions between 2005 and 2019 were industrial processes and product use, and transport (0.6 % and 2.3 % respectively). Emissions linked to both the waste management sector and the 'other emissions' sector (buildings and tertiary sector) increased by 16.2 % and 4.7 % respectively.

Figure 4 – Total GHG emissions by sector (MtCO<sub>2</sub>e) (rounded data)



Data source: EEA ([GHG trends](#), [GHG estimates](#), [UNFCCC reporting](#)).

The EU-wide [emissions trading system](#) (ETS) covers emissions from electricity generation and industry. Total GHG emissions in Cyprus are [expected](#) to decrease from 9.8 MtCO<sub>2</sub>e to just over 8 MtCO<sub>2</sub>e with existing measures, and to 7.2 MtCO<sub>2</sub>e with planned policies and measures in 2030. Cyprus's ETS-related emissions are [forecast](#) to fall by 17 % in 2030 as compared with 2005. In 2030, ETS sectors will continue to account for the majority of emission reductions. A sharp decrease in ETS-related emissions is expected on account of the planned substitution of heavy fuel oil with natural gas by the end of 2021.

The measures mentioned in the country's NECP for the agriculture sector include improving water management, reducing natural resources intensity, optimising agricultural land use, reducing fertiliser use and improving animal waste management. The NECP focuses on further development of anaerobic digestion in the treatment of animal waste, with specific [targets](#) for 2030.

## Effort-sharing sectors

EU effort-sharing legislation covers emissions from sectors not included in the ETS, such as transport, buildings, agriculture and waste. The Effort-sharing Decision (ESD) for the 2013-2020 period requires Cyprus to decrease its non-ETS GHG emissions by 5 % compared with 2005. Cyprus stayed below its allocations until 2016 but exceeded them in the years following. For the 2021-2030 [Effort-sharing Regulation](#) (ESR) period, Cyprus must reduce its emissions by 24 % compared with 2005 levels. The NECP [sets](#) an emission reduction target of 21 % against 2005 levels, which the Commission [assesses](#) to be in line with the 24 % target, considering the flexibilities available. The Commission expects a gap of 14 percentage points under existing measures, but the country [plans](#) to make use of the flexibility mechanisms of the ESR (banking of surpluses over time and use of credits from LULUCF) to achieve the target.

Figure 5 – Cyprus's emissions under the Effort-sharing Decision/Regulation (MtCO<sub>2</sub>e)



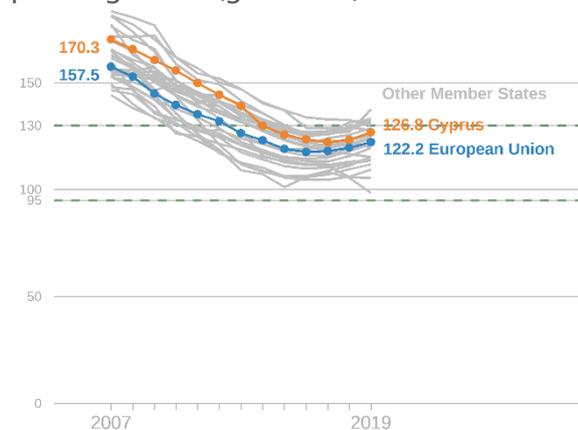
Data source: Commission [ESD allocation](#), [EUR-Lex](#) and [EEA](#), figures display rounded data.

Cyprus presented its [Long-term strategy for building renovation](#) in April 2020. The country [intends](#) to renovate close to 33 000 residential and 10 000 non-residential buildings by 2030. The proposed action will require an investment over the 2020-2030 period of up to €800 million and will comprise measures tackling regulation, finance, awareness raising, user behaviour, training and development of supporting schemes.

Emission [reductions](#) in the transport sector are to be achieved by means of vehicle taxation, an old vehicle substitution scheme, sustainable urban mobility plans, electromobility and a charging infrastructure. The Commission [points](#) out the need to further develop measures for non-road transport, and for transport accessibility for the disabled. Also, it points out the lack of detail in the measures for increasing the use of biofuels and the absence of a discussion on the contribution of biofuels to emission reductions.

The average [emissions of new passenger cars](#) in Cyprus have been below the EU target ceiling of 130 g CO<sub>2</sub>/km since 2014, but are above the EU average. With rising numbers, Cyprus nevertheless remains a considerable way off the new EU27 target ceiling of 95 g CO<sub>2</sub>/km that applies from 2021.

Figure 6 – Average emissions: new passenger cars (g CO<sub>2</sub>/km)



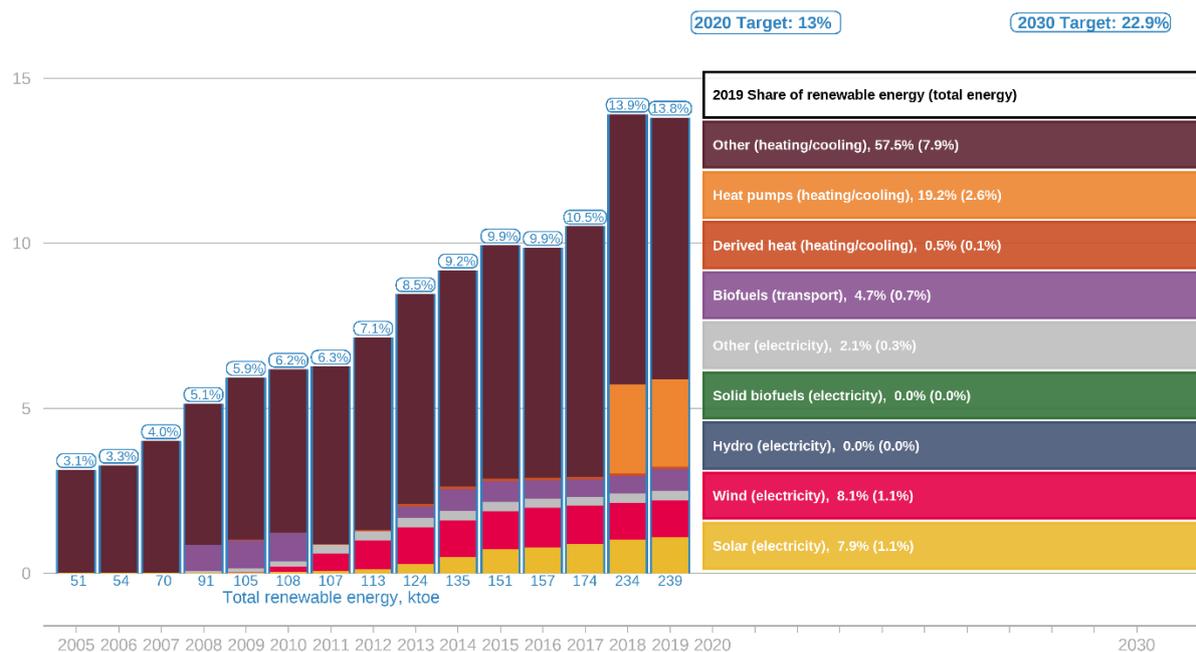
Data source: [EEA](#) and Eurostat sdg\_12\_30.

## Energy transition

### Renewable energy

Cyprus increased its [renewable energy](#) share of gross final energy consumption by 10.7 percentage points between 2005 and 2019. To meet the 2030 target, the renewable energy share of gross energy consumption has to rise from 13.8 % to 22.9 % in just over a decade. In its assessment of Cyprus's NECP, the Commission finds the indicative target of 22.9 % renewable energy (RE) in the energy mix to be adequate even if it is just below the 23 % calculation indicated in the Governance Regulation.

Figure 7 – Renewable energy share of gross final energy consumption



Data source: Eurostat ([shares tool](#)), [NECP 2030 targets](#) and [EEA](#).

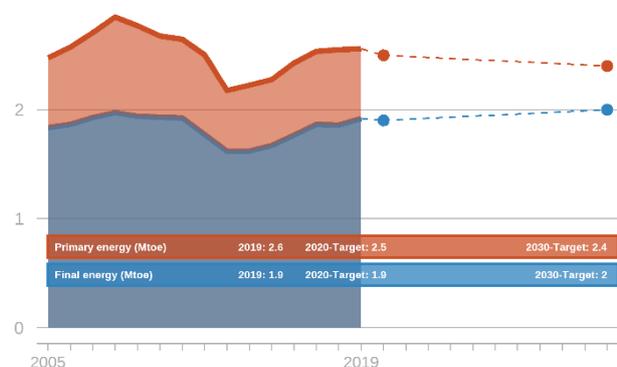
In order to reach the 2030 target, Cyprus has set [objectives](#) for the minimum renewable energy share in different sectors: 30 % of gross final electricity consumption, 39 % in heating and cooling and 14.1 % in transport. Solar power and heat pumps are among the technologies set to grow.

### Energy efficiency

The European Commission has assessed Cyprus' 2030 primary and final energy consumption targets as low and very low in ambition, respectively, compared with the EU-27 average level of effort.

The final NECP focuses on a set of [measures](#) to address the issue in the buildings, businesses, street lighting, water, and transport sectors. These measures focus on combining energy-efficiency obligation schemes with alternative measures in the areas of financing, taxation and information.

Figure 8 – Energy efficiency: Primary and final energy consumption (Mtoe)



Data source: Eurostat nrg\_bal\_s, [NECP 2020 + 2030 targets](#) and [EEA](#).

## Outlook: Plans and policies

[CYnergy](#) is a Cypriot project aimed at developing a natural gas system in the country. It counts on multiple partners and includes the country's transport and energy departments. The total budget for the project is close to €290 million, with close to 35 % from the European Union through its [Connecting Europe Facility](#). A fundamental part of the project is the repurposing of a 137 000 m<sup>3</sup> ship into a floating storage and regasification unit (FSRU). This FSRU will be moored at a location developed for the project, from where the gas will be piped to on-shore LNG infrastructure connected to the country's grid. The purpose of this FSRU is to cut the country's electricity costs, reduce carbon emissions, improve air quality and guarantee future energy security on Cyprus.

Working alongside the International Renewable Energy Agency, the Cypriot government developed the [Renewable energy roadmap for the Republic of Cyprus](#). According to this document, Cyprus will be able to generate between 25 % and 40 % of its electricity from solar power by 2030. The roadmap presents several possible scenarios for policy makers, pointing to an installed solar photovoltaic power capacity of between 500 MW to 1000 MW by 2030, depending on the scenario. Furthermore, the Cyprus Energy Regulatory Authority has been working on the full liberalisation of the country's energy market, which is to be completed by the end of 2021.

In its [Long-term strategy for building renovation](#), Cyprus assumes a realistic scenario where 1 % of the country's building stock is renovated per year, taking in to account both economic and technical limitations. However, it mentions that the renovation rate would have to be three times as high to achieve the country's ambitious targets. Consequently, the strategy considers that the renovation rate can indeed be increased through the revision of policies and actions.

### MAIN REFERENCES

Republic of Cyprus, [Cyprus' integrated national energy and climate plan](#), January 2020.

Republic of Cyprus – Energy Service, Ministry of Energy, Commerce and Industry, [Long-term strategy for building renovation](#), April 2020.

European Commission, Assessment of the final national energy and climate plan of Cyprus, [SWD\(2020\) 912 final](#).

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