



# Our climate target

**Shell's target is to become a net-zero emissions energy business by 2050, in step with society's progress in achieving the goal of the UN Paris Agreement on climate change.**

## Tackling climate change

With this target, we will contribute to a net-zero world, where society stops adding to the total amount of greenhouse gases (GHGs) in the atmosphere.

This supports the more ambitious goal to tackle climate change laid out in the Paris Agreement: to limit the rise in average global temperature to 1.5°Celsius.

Becoming a net-zero emissions energy business means that we are reducing emissions from our operations, and from the fuels and other energy products we sell to our customers. It also means capturing and storing any remaining emissions using technology or balancing them with offsets.

We are transforming our business to meet our target, providing more low-carbon energy such as charging for electric vehicles, hydrogen and electricity generated by solar and wind power.

We are also working with our customers as they make changes too, including in sectors that are difficult to decarbonise such as aviation, shipping, road freight and industry.

To help step up the pace of change, in October 2021, we set a target to reduce absolute emissions by 50% by 2030, compared to 2016 levels.<sup>1</sup> This covers all emissions in Scope 1, which come directly from our operations, and in Scope 2, from the energy we buy to run our operations.<sup>2</sup>

<sup>1</sup> Calculated on a net basis, which allows for the use of carbon capture and storage as well as nature-based solutions.

<sup>2</sup> Under our operational control

[Watch how Shell is accelerating to net zero](#)

## Our approach

We believe our emissions peaked in 2018 and we will continue working to bring them down.

We will reduce emissions from our own operations, including the production of oil and gas, for example by increasing energy efficiency, as well as capturing or offsetting any remaining emissions.

Emissions from our own operations make up less than 10% of our total emissions.

Customers' emissions from the use of the energy we sell generates most emissions, so we must also help our customers cut their emissions when they use that energy. Importantly, our target includes emissions not only from the energy we produce and process ourselves, but also from all the energy products that others produce and we sell to our customers.<sup>3</sup>

<sup>3</sup> Sales from retail stations that use the Shell brand but are not operated or supplied by Shell are excluded from our target.

## We play three roles

### 1) We are an energy provider

Becoming a net-zero emissions business means offering customers more low-carbon products, from renewable electricity, to charging for electric vehicles and hydrogen. We aim to reduce the carbon intensity of the energy products we sell by 100% by 2050,<sup>4</sup> in step with society.

Carbon intensity is the total amount of greenhouse gas emissions associated with each unit of energy we sell, and which is used by our customers. This includes the emissions associated with the production, processing, transport and end-use of our energy products.

<sup>4</sup> Compared to 2016 including customers' own offsets.

### Our targets

We have a target to reduce absolute emissions by 50% by 2030, compared to 2016 levels.<sup>5</sup> This covers all emissions in Scope 1, which come directly from our operations, and in Scope 2, from the energy we buy to run our operations.<sup>6</sup>

As another way to measure our progress, we also set short-, medium- and long-term targets to reduce the carbon intensity of the energy products we sell, in step with society.

These targets are measured using the [Net Carbon Footprint metric and methodology](#).

<sup>5</sup> Calculated on a net basis, which allows for the use of carbon capture and storage as well as nature-based solutions.

<sup>6</sup> Under our operational control

We have set short-term carbon intensity targets each year for the following three-year periods:

- by 2-3% by 2021
- by 3-4% by 2022
- by 6-8% by 2023

We also have medium- and long-term carbon intensity targets, in step with society:

- by 20% by 2030
- by 45% by 2035\*
- by 100% by 2050\*

\* Our 2035 and 2050 targets also take account of any action taken by customers

See more in our [Climate Target FAQ](#)

### 2) We are an energy user

Our target is to achieve net-zero emissions from all our operations, as well as from the energy we need to power them. That means that any greenhouse gas emissions from making our products that cannot be avoided will be captured or offset using technology and nature.

#### Business milestones

We are taking steps to cut emissions from our existing oil and gas operations, and to avoid generating more in the future:

- We believe our annual oil production peaked in 2019, and we expect our total oil production to decline by 1-2% a year until 2030;
- The percentage of total gas production in our portfolio is expected to gradually rise to 55% or more by 2030. Natural gas emits 45-55% fewer greenhouse gas emissions than coal when used to generate electricity, according to IEA data.
- By 2025, we will end routine flaring of gas, which generates carbon emissions, from the Upstream assets we operate;
- By 2025, we expect to have kept the methane emissions intensity of Shell-operated assets to below 0.2%;
- We seek to have access to an additional 25 million tonnes a year of carbon capture and storage (CCS) capacity by 2035 – equal to 25 CCS facilities the size of the [Quest site in Canada](#).

- We have linked the pay of more than 16,500 staff to our target to reduce the carbon intensity of our energy products by 6-8% by 2023, compared to 2016.

### The scale of the change

Achieving our target could mean that, by 2030, we are: selling twice as much electricity as today; providing enough renewable electricity for 50 million households; operating more than 2.5 million charging posts for electric vehicles; increasing the amount of biofuels and hydrogen in the transport fuels we sell to more than 10%, from around 3% today.

This is an illustration of the scale of the change to come, how we change our business will depend on our customers' needs.

### 3) We are a partner for change

Working with our customers, we are help them to address the GHG emissions they produce when they use products bought from us. We are also helping our customers to find ways to reduce their overall carbon footprints. Partnering with others includes supporting government policies to reduce carbon emissions, sector by sector. For more, visit [shell.com/advocacy](https://www.shell.com/advocacy).

### Avoid, reduce, compensate

While each industry will need its own solutions, there are some common steps to reducing GHG emissions:

- first **avoid** emissions, for example by adopting solutions that are emissions-free when used;
- then **reduce** emissions, for example by making use of lower-carbon fuels and technologies; and
- finally **compensate** remaining emissions through carbon credits.

Climate scientists are clear that using nature to absorb and store carbon plays an important role as the energy system transitions. We support the responsible use of high-quality nature-based offsets. And we aim to offset around 120 million tonnes of emissions from the use of our products by 2030.

## What are we already doing?

### As an energy provider

#### At home

**EXAMPLE** In Great Britain, we provide hundreds of thousands of homes with 100% certified renewable electricity.\*

#### [Shell Energy](#)

\* Our renewable electricity is certified by Renewable Energy Guarantees of Origin (REGOs), which means that all the electricity customers buy from us is matched with the equivalent number of units from 100% renewable sources in the UK.

#### On the move

**EXAMPLE** We are meeting the growing needs of electric vehicle drivers – at home, at work or on the road. In total, we offer drivers access to more than 80,000 public electric vehicle charging facilities in more than 35 countries.

#### [Electric-vehicle charging](#)

**EXAMPLE** We have agreed to buy ubitricity, a European provider of on-street charging for electric vehicles.

#### [Shell agrees to buy ubitricity](#)

**EXAMPLE** Through Raízen in Brazil, a joint venture with biofuels company Cosan, Shell is one of the world's largest sugar-cane ethanol producers.

#### [Biofuels](#)

#### For business

**EXAMPLE** We started up the largest green hydrogen electrolyser of its kind in Europe at our Energy and Chemicals Park Rheinland.

#### [Shell starts up Europe's largest PEM electrolyser](#)

**EXAMPLE** We are exploring ways to produce hydrogen using offshore wind power. In 2020, with our joint venture partner Eneco, we were awarded a tender to build the Hollandse Kust (Noord) offshore wind farm.

#### [Plan for wind power to drive Rotterdam hydrogen plant](#)

**EXAMPLE** Shell and Amazon have signed a deal to supply renewable electricity to the European grid from an offshore wind farm being built off the coast of the Netherlands.

[Shell agrees deal to supply Amazon with renewable power](#)

**EXAMPLE** We have formed a strategic alliance with Microsoft which includes us working together on digital technologies which help Shell and our customers manage and reduce our carbon footprints. Shell is also supplying Microsoft with low-carbon energy products and services, including renewable energy.

[Shell and Microsoft's Strategic Alliance](#)

**EXAMPLE** MP2 Energy, part of Shell, is using advanced technologies to meet the lower-carbon energy needs of businesses and organisations.

[MP2](#)

**EXAMPLE** We have been supplying liquefied natural gas with offsets<sup>7</sup> to business customers in Asia and Europe since 2019.

<sup>7</sup> The terms "carbon offset" or "carbon offset compensation" indicate that Shell has engaged in a transaction to ensure that an amount of carbon dioxide equivalent to that associated with the production, delivery and usage of the fuel has been removed from the atmosphere through a nature-based process or emissions saved through avoided deforestation.

[Delivering LNG with offsets](#)

## Generating renewable power

**EXAMPLE** NoordzeeWind, a Shell joint venture, is a supplier of renewable energy into the European market through its 36 offshore wind turbines.

[Building a lower-carbon power business](#)

**EXAMPLE** Our first solar project in the Middle East is helping to power a smelting company in Oman and cutting its carbon emissions in the process.

[Powering industry with help from the sun](#)

## As an energy user

Using new equipment and advanced technology for greater efficiency in our oil and gas operations.

**EXAMPLE** We are installing new furnaces at our Moerdijk petrochemicals plant in the Netherlands. This could reduce the plant's annual CO<sub>2</sub> emissions by around 10%.

## Using cleaner power

**EXAMPLE** We are using solar power at a growing number of our sites, including an installation for a lubricants plant in Singapore that could avoid up to a third of the GHG emissions from its electricity use.

[Using solar at our sites](#)

## Capturing emissions

**EXAMPLE** Our Quest carbon capture and storage facility in Canada and between 2015 and 2020 had already captured and safely stored over 5 million tonnes of CO<sub>2</sub>.

[Quest CCS](#)

## As a partner for change

### Aviation sector

**EXAMPLE** We announced that Shell will build a new biofuels plant at our Energy and Chemicals Park Rotterdam in the Netherlands. Once complete, the facility could produce up to 820,000 tonnes a year of sustainable aviation fuel and renewable diesel from waste in the form of used cooking oil, waste animal fat and other industrial and agricultural residual products.

[Shell to build one of Europe's biggest biofuels plants](#)

**EXAMPLE** Amazon Air has secured up to six million gallons of sustainable aviation fuel – made partly from biomass and waste – supplied by Shell Aviation and produced by World Energy.

[Amazon](#)

**EXAMPLE** We are supplying DHL Express with sustainable aviation fuel at Schiphol Airport in the Netherlands.

[Shell to supply DHL Express with SAF](#)

**EXAMPLE** Working with Rolls-Royce, we are testing 100% sustainable aviation fuel.

[Rolls-Royce to test 100% Sustainable Aviation Fuel in next generation engine demonstrator](#)

### Shipping sector

**EXAMPLE** We have developed and deployed advanced energy-efficiency technologies, such as software that helps guide a vessel's position in the water to cut fuel consumption and lower emissions, as well as advanced engine lubricants that also boost efficiency.

[Kongsberg and Shell sign JAWS agreement](#)

**EXAMPLE** We supply marine customers with liquefied natural gas (LNG), which offers another way to cut emissions today.

[LNG for marine](#)

**EXAMPLE** We outlined the actions we are taking to help accelerate progress towards net-zero emissions in the shipping sector in our report Setting Shell's Course.

[Read Decarbonising Shipping: Setting Shell's Course](#)

**EXAMPLE** In a joint report with Deloitte, we have also captured the industry view of how to decarbonise shipping.

[Deloitte/Shell shipping report](#)

### Road freight sector

**EXAMPLE** We offer nature-based carbon credits to business customers operating heavy- and light-duty fleets in 10 countries across Europe and Asia.

[Nature-based solutions](#)

**EXAMPLE** We are working with the Port of Los Angeles, Toyota Motor Corp. and Kenworth Truck Co to enable hydrogen trucks to operate out of the Port of Los Angeles, USA.

[Shore to store](#)

**EXAMPLE** Together with Daimler Truck AG, IVECO, OMV, and the Volvo Group, we will help create the conditions for the mass-market roll-out of hydrogen trucks in Europe.

[H2Accelerate](#)

**EXAMPLE** Along with our own ambition to reduce average emissions intensity of our fleet of almost 3,000 contracted road haulage tankers, we are also working with the road freight industry to help reduce vehicle emissions. We have produced a joint report with Deloitte sharing views from more than 150 road freight leaders.

[Decarbonising road freight](#)

## Useful links

[See more examples at \[www.shell.com/res\]\(http://www.shell.com/res\)](#)

[Discover our approach to cutting carbon across different sectors](#)

[Read more about our advocacy and political activity](#)

[See our approach to a fair and just transition](#)



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Also, in this content we may refer to Shell’s “Net Carbon Footprint”, which includes Shell’s carbon emissions from the production of our energy products, our suppliers’ carbon emissions in supplying energy for that production and our customers’ carbon emissions associated with their use of the energy products we sell. Shell only controls its own emissions. The use of the term Shell’s “Net Carbon Footprint” is for convenience only and not intended to suggest these emissions are those of Shell or its subsidiaries.

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