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Assessment Agency

CLIMATE AND ENERGY OUTLOOK OF THE NETHERLANDS 2026

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Colophon

Climate and Energy Outlook of the Netherlands 2026

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The KEV consortium

The Climate and Energy Outlook 2026 (KEV) is the result of cooperation between PBL Netherlands Environmental Assessment Agency, TNO, Statistics Netherlands (CBS), the Netherlands Enterprise Agency (RVO), and the National Institute for Public Health and Environment (RIVM). Wageningen University & Research (WUR) has, at the request of PBL, made the projections for livestock farming, arable farming, and land use. PBL also consulted various consultants. In this publication, the integrated results have been incorporated and, therefore, it is not individually traceable which contribution belongs to which institute. Regardless, each institute bears its own responsibility, which we elaborate on below.

PBL has, as project coordinator, final responsibility for the KEV. PBL contributes to practically every aspect of the KEV and manages an important part of the KEV computational toolkit. PBL also contributes the more comprehensive analyses, including those about developments abroad or about the progress of the Climate Agreement. Finally, PBL has sole responsibility for the evaluative statements about policy that are included in this KEV.

CBS delivers and describes the data related to energy that CBS itself also composes. These include data about energy statistics, pricing statistics, and economic statistics.

TNO supports PBL with determining and interpreting the projections. TNO also contributes knowledge about the various themes in the KEV, including the built environment, transport, industry, gas- and oil refinery, greenhouse horticulture, energy savings, and renewable energy.

RIVM delivers all monitoring data from the emissions registration and also contributes to the projections for non-CO₂ greenhouse gas emissions such as methane, nitrous oxide, and F-gases from industry.

RVO has monitored and delivered data from various policy instruments concerning CO₂ emissions reduction, energy efficiency, and renewable energy (e.g. SDE++ and ISDE). This concerns information about the trends over the past few years, and, where possible, about proposed activities.

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Summary

There is a large gap between ambition and policy towards 2040; emission reductions for 2030 stagnate

The Netherlands has a large bridge to gap to approach the European ambition of 90% fewer European greenhouse gas emissions in 2040 compared to 1990. As of January 1, 2026, with current implemented policy ('the baseline projection'), we are heading towards a 57-68% emission reduction in 2040; if we also include measurable plans ('scheduled policy'), this figure reaches 61-72%. Accordingly, the Netherlands is not on track to reach the legal goal of climate neutrality in 2050. In fact, the projected emission reductions for 2030 have been stagnating for three years now, as political deadlocks have slowed down the energy transition. It remains extremely unlikely (with less than 5% chance) that the Netherlands will reach the climate goal of 2030, according to the Climate and Energy Outlook of 2026.

In the 35 years between 1990 and 2025, the Netherlands has reduced its greenhouse gas emissions by approximately one-third. The remaining two-thirds in emission reductions must be realised in the 25 years left through 2050, which is a significant challenge. To get the energy transition on track soon, strong additional policy is needed, both on a national and European level. However, it is also important that such policy is not only aimed at 2030, but leads to structural emission reductions in the long term.

Dependence on fossil imports will remain high towards 2040

Last year, the Netherlands imported 77% of its energy use, which is slightly lower than the historically high level of energy dependence of 79% in 2023. Before natural gas extraction in the province of Groningen was scaled down beginning in 2015, the country was at only 70%. Because of increased use of renewable energy, energy dependence will decrease again to 65-70% in 2030, and 49-63% in 2040. This will make the Netherlands more resilient to shocks on the world market, which have occurred regularly in recent years, but the dependence on the import of fossil energy still remains high.

The coalition agreement particularly promotes offshore wind and CO₂ capture and storage

By the year 2040 in our baseline scenario, offshore wind farms will have a combined capacity of 21 GW; until only a few years ago, this amount was the stated objective for 2030. That brings the share of renewable energy in total energy use to 42-55% by 2040. Since the reference date for the baseline scenario, the Dutch Cabinet has announced two-way contracts with a guaranteed price (also known as Contracts for Difference) and extended the SDE++ operating subsidy scheme. These two policy measures will have limited effect by 2030, but they will go a long way towards making a difference after that. The SDE++ scheme mainly promotes CO₂ capture and storage. The capacity of offshore wind farms will grow from 30 to 36 GW in our projection with additional policy, meaning the share of renewable energy will amount to 52-67% in 2040. However, in this scenario, the share in renewable energy in 2030 will remain around 32-38%, which is not high enough to reach the Dutch goal of 39% by that year.

Further delays in building infrastructure are a serious risk for the energy transition

The demand for transport capacity on the electricity grid is increasing faster than network operators can handle. Constructing energy infrastructure is critical in shaping the transition. Sufficient capacity on the electricity grid, further roll-out of district heating networks, infrastructure for CO₂ capture and storage, and the construction of a hydrogen network are all needed for the energy transition. However, the construction and expansion of such infrastructure has been delayed, including on account of a shortage of technical personnel, lengthy licensing procedures, and scarcity in both materials and space.

Significant differences between sectors

In the transport sector, emissions will keep declining significantly after 2030 as a result of phasing out the internal combustion engine. The current CO₂ price of the EU ETS (European Emissions Trading System) is too low to make investments for a fully sustainable industry profitable. For that, extra policy is needed, such as additional European and national norms and subsidies. In agriculture, greenhouse gas emissions have barely decreased over the past 20 years. Livestock farming is one of the few aspects of the economy for which there is scarcely any specific climate policy as of yet. The new rules on methane inhibitors for livestock, announced in the coalition agreement, are a first step towards such policy.

Main findings

The Netherlands is in the middle of an energy transition and is working on reducing its greenhouse gas emissions. To stimulate this, the Netherlands and the European Union are formulating additional policy and have established climate and energy goals. In this annual update of the Climate and Energy Outlook, we show how the greenhouse gas emissions and the energy system of the Netherlands are developing.

In this Outlook, we draw three conclusions, which we will elaborate on below:

1. The Netherlands is not on track in meeting the climate goals;
2. The dependence on fossil energy imports remains high;
3. The speed of the (energy) transition differs per sector.

Box 1: The projections in the Climate and Energy Outlook

In this Outlook, we present two projections: a baseline scenario with the effects of existing and scheduled policy which was known as of January 1, 2026, and a projection with the effects of scheduled policy, with a reference date of May 1, 2026. We look ahead towards the years 2030 and 2040 in this Outlook.

Many uncertainties play a significant role when developing projections. These involve developments in the economy, demographics, fuel and CO₂ prices, technology, human behaviour, as well as weather and climate, among other things. We quantify the most important uncertainties and process them within the bandwidths.

1. The Netherlands is not on track to meet the climate goals

Climate change as a consequence of greenhouse gas emissions carries on unabated. Global warming stood at 1.4 °C above pre-industrial levels in 2025, even at 2.5 °C in the Netherlands, and the consequences are increasingly evident. The target to limit global warming to a maximum of 1.5 °C, as formulated in the Paris Agreement, is in danger of slipping out of reach. That temperature of 1.5 °C was exceeded for the first time in 2024, though it has not happened since. The goal to stay below 2 °C is still feasible, but we do have to significantly reduce emissions on a global scale.

The urgency to implement effective policies is therefore greater than ever, also in the Netherlands. The Climate and Energy Outlook 2026 shows that it is extremely unlikely that the goals the Netherlands has set itself, as enshrined in the Dutch Climate Act, will be reached with existing policy.

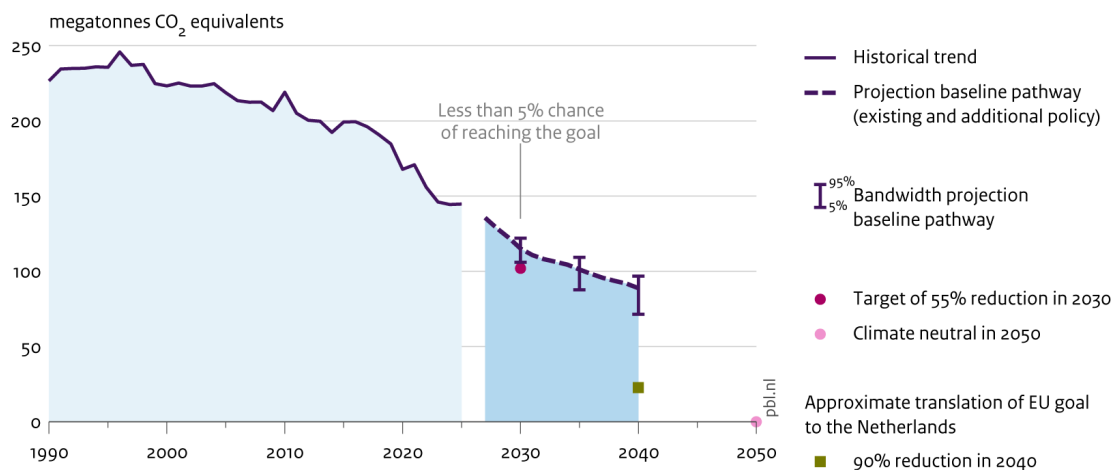
1.1 There is a significant gap between policy and ambition towards 2040; climate neutrality in 2050 will be a huge challenge

Both the European and the Dutch Climate Act stipulate that Europe and the Netherlands must be climate neutral by 2050. In other words, Europe and the Netherlands must achieve net-zero greenhouse gas emissions. To reach this point, the EU has agreed on an interim target: emissions must reduce by net 90% by 2040 relative to 1990.¹

The Netherlands has not yet established a national target for emission reductions by 2040. The previous Dutch Cabinet has, however, established that net reduction of 90% in 2040 is a logical intermediary step for the Netherlands on the way towards climate neutrality in 2050, as formulated in the Dutch Climate Plan 2025-2035. A reduction in emissions of 90% relative to 1990 corresponds to emissions of approximately 23 megatonnes CO₂ equivalents in 2040. In 2025, emissions stood at 145 megatonnes.

The projection in this Outlook demonstrates that emissions in the Netherlands after 2025 are projected to keep declining, but this decline will slow down after 2030. In 2040, total national greenhouse gas emissions are projected at 71-97 megatonnes CO₂ equivalents per the baseline scenario (see Box 1). That is a reduction of 57-68% relative to 1990. The projected emissions in 2040 are 63-88 megatonnes CO₂ equivalents when we also include scheduled policy, which corresponds to a reduction of 61-72% relative to 1990. The bandwidth is wide, given the many uncertainties in the economy, such as the scope of industrial production in the Netherlands, as well as uncertainties in policy effects in the period through 2040. For the first time, this Outlook also includes a projection of the national greenhouse gas emissions in 2040.

Figure 1
Greenhouse gas emissions



Source: Pollutant Release and Transfer Register (historical trend); Climate and Energy Outlook projection 2026

¹ At least 85% of reductions have to occur within the EU, while a maximum of 5% may be offset using international carbon credits, as determined in Article 6 of the Paris Agreement.

The projection for 2040 shows that the Netherlands is still a long way off course for delivering emission reductions fitting with the EU goals. The chance of reaching 90% reduction in 2040 is therefore less than 5%. To increase the probability to e.g. 50% or 95%, greenhouse gas emissions would have to decrease by another ca. 62 and 74 megatonnes CO₂ equivalents, respectively; in other words, by 27-33 percentage points in comparison to the projected reduction of greenhouse gas emissions in the baseline projection.

To reach climate neutrality in 2050, as a goal enshrined in the Climate Act, the Netherlands has to find a way to reduce a lot more emissions. In the 35 years between 1990 and 2025, the country has reduced 36% of its greenhouse gas emissions. In the remaining 25 years running up to 2050, an additional 64% has to therefore be reduced. These are substantial reductions that are not easy to achieve on our way towards net-zero emissions in 2050.

1.2 It is extremely unlikely that the Netherlands will reach the climate goal of 55% reductions in greenhouse gas emissions in 2030

Alongside the goal for 2050, the Climate Act also contains a target for 2030: by that year, greenhouse gas emissions must be reduced by 55% relative to 1990. With the measures and developments contained in the baseline scenario, emissions between 1990 and 2030 decline by 46-52% (see Figure 1). The chance that the Netherlands will reach this goal of 2030 is therefore less than 5%. In other words, it is extremely unlikely that this goal will be reached.² When we also include scheduled policy (when sufficiently specific to make a projection for in this Outlook), the emission reductions are projected at 47-54%. As such, the chances of reaching the climate goal remain less than 5%. There remains scheduled policy that was not sufficiently specific to estimate its effects in this Outlook. This policy could lead to additional emission reductions in 2030, provided it is further developed on time and is subsequently actually implemented.

The projections are subject to uncertainties. For example, the European electricity market, especially the import and export of electricity, has significant effects on greenhouse gas emissions, and it remains highly uncertain how this will develop in the future. Moreover, the development of the energy-intensive industry is uncertain: the scope of production volumes is dependent on developments on a global level as well as the CO₂ and energy prices, among other things. Additionally, numerous uncertainties play a role concerning energy demand and investments of businesses and citizens. We assess and determine the most important uncertainties and process them into bandwidths (see also Box 1). Some of these uncertainties can be mitigated (controlled) to a limited degree if the national government further develops and implements policy. As time goes by, however, this degree of control also decreases.

² In the Climate and Energy Outlook, we indicate how likely or unlikely it is that the energy or climate goal will be reached. Alongside determining these probabilities, we also provide a qualitative assessment of probability where helpful, as shown in Table 1.5 in section 1.4 of the main report (in Dutch).

1.3 Projected emissions for 2030 have not been decreasing any further for the past three years, partially due to fluctuating political choices

Over the past three years, there has been no evident progress in the projections for 2030: emissions are not decreasing. In 2023, we projected a reduction of 46-57% for the projection including scheduled policy. The climate goal of 55% fewer emissions fell within the bandwidth for the first time; the chance of reaching that goal was established at ca. 15%.

In that same year, the Fourth Rutte Cabinet fell, following which a number of major climate measures were declared controversial, including measures with potentially significant effects on emission reductions, such as Pay-as-you-Drive (road pricing). Subsequently, several new policy proposals by the cabinet that then took office, the Schoof Cabinet, also led to fewer emission reductions. Partly because of this, in 2024 we projected a smaller emission reduction of 45-52% in 2030. Therefore, the target for 2030 fell outside the bandwidth once more.

In 2025, we projected a reduction of 47% to just under 55% relative to 1990. A significant share of this additional reduction was not the consequence of policy, however, but of adjustments in method, changing external factors, and lower expected production volumes.

In June 2025, the Schoof Cabinet fell. It was succeeded by the Jetten Cabinet in February 2026. In the Coalition Agreement drawn up by the latter, it is stated that the Cabinet will be sticking to the climate goals, but that the 2030 goal will be difficult to achieve. In the Outlook 2026, we project a reduction of 47-54% in 2030, which means the probability of reaching the 2030 target is less than 5%. Scheduled policy from 2026 by the Jetten Cabinet has hardly any effect on the projection for 2030.

Part of the developments that are influencing the emissions cannot be controlled, or can only be controlled to a limited extent, because these developments depend on external factors like energy prices or the weather. A large part, however, can be controlled by implementing policy. There were more possibilities in 2023 than now to structurally reduce emissions for 2030, for example by investing more in renewable energy generation and electrification. By now, there is very little time remaining until 2030, meaning investments made now will not have sufficient effect in time. However, policy could, for example, give an extra boost to behavioural changes, including by adjusting energy taxes and excise duties, since these, generally speaking, have faster effects than measures aimed at (large) investments. Additionally, strengthening existing measures usually has faster effects than introducing new measures.

If efforts are made to achieve the target for 2030 after all, the measures – as we stated in the Outlook 2025 – will be drastic and likely cause economic and social hardship. This was not inevitable, but it is largely due to political choices made over the last few years.

1.4 Further delays in constructing infrastructure can hinder the progress of the energy transition

Further reducing greenhouse gas emissions depends on the progress of the energy transition. If the pace of the transition is not fast enough, the climate goal of 2050 is not feasible. The construction or expansion of the necessary energy infrastructure has experienced delays in many areas so far. This includes expansion of the electricity grid, the continued construction of collective district heating networks, infrastructure for the capture and storage of CO₂, and the construction of a

hydrogen network. To reach the climate goal of 2050, it is necessary that the needed energy infrastructure is available.

Expanding the electricity grid is taking longer than planned and longer than needed. As a result, network congestion will continue to be a bottleneck for the energy transition in the upcoming years. There are the necessary programmes, initiatives, and investments to make the electricity grid more future-proof, but they cannot all be realised, since there is a shortage of technical personnel, there are lengthy permit processes, and a shortage in both materials and space, among other things.

For many different sectors, net congestion means a significant curb on electrification. In the electricity sector itself, net congestion limits the development of electricity generation from solar and wind energy. Alongside net congestion, other bottlenecks play a significant role, such as financial viability and spatial integration. For the domestic transport sector, net congestion is particularly an obstacle for the electrification of heavier road traffic because of net congestion at loading depots, and, to a lesser extent, the electrification of lighter road traffic. In the industrial sector, net congestion limits the continued electrification of production processes.

Furthermore, the construction of collective heating infrastructure is proving to be difficult, particularly in existing buildings. Various large heating projects by private heating companies have been halted because of steep construction costs and fears of high costs for residents. Additionally, private heating companies find it less appealing to be dependent on public sector organisations who, because of the Dutch Collective Heat Act, will acquire a majority stake, so local authorities can take the lead in making the built environment more sustainable. Various local governments want to start their own heating companies, but it will take some time before these companies can realise heating networks.

A large infrastructure for CO₂ storage under the seafloor (Aramis) has also encountered significant delays. The investment decision was originally planned for 2025, but this has been delayed due to various reasons, including the fact that the licensing process is taking longer than expected because of a submitted objection to the permit. The Aramis infrastructure will only be able to contribute substantially to emission reductions after 2030.

Finally, the development of the hydrogen network in the Netherlands is developing slower than originally planned, and the projected costs have more than doubled. In the long run, this will be reflected in the usage rates. While the original completion date of the network was planned for 2030, current plans show it will only be fully finished after 2033. The reasons include, among other things, that the licensing processes are taking longer than anticipated and there is a shortage of sufficiently qualified personnel.

For the progress of the energy transition, it is important that investments and developments in energy demand and supply are accompanied by the construction and expansion of suitable energy infrastructure.

2. Dependence on fossil energy imports remains high

The Netherlands has been trying to become less dependent on fossil energy for years, not only to reduce greenhouse gas emissions, but also to become less dependent on other countries. In the case of fossil energy, the Netherlands is largely dependent on import, especially since the phasing out and subsequent discontinuation of natural gas extraction in Groningen. The geopolitical developments of the past few years highlight this vulnerability. Therefore, the Dutch national government intends to reduce dependence on import in order to expand the resilience of the Dutch economy. Reducing energy use and expanding the share of renewable energy generated within the Netherlands both play an important role here. Because of the expected growth in the share of renewable energy, dependence on imports of fossil energy decreases. Regardless, the share of fossil energy in 2040 remains large.

2.1 In 2040, Dutch dependence on imported energy, mostly fossil fuels, is still 49-63%

The Netherlands is largely dependent on foreign countries for its energy use. Since reducing natural gas extraction in Groningen in 2015, the import of natural gas and import dependence increased to a record high of 79% in 2023. In 2025, this percentage has declined somewhat to 77%.

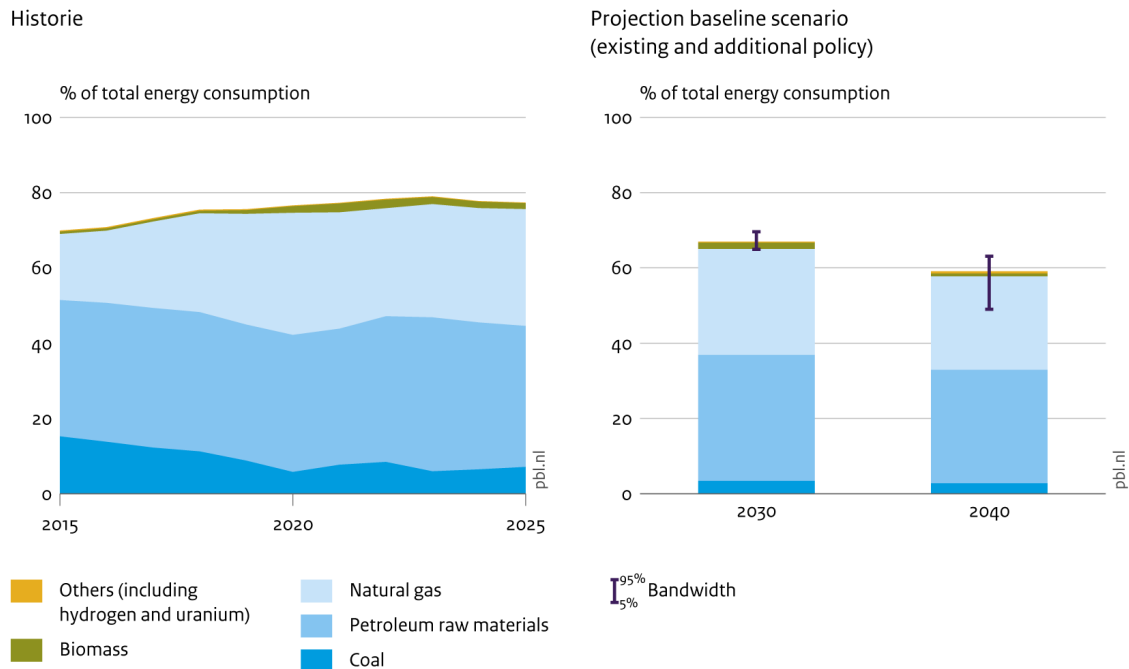
In 2025, the United States and Norway were the most important sources for the import of oil and gas. In total, nearly half of all imported energy came from outside of Europe.³

In 2030, dependence on energy imports is projected to decline to 67 [65-70]% (see Figure 2); this is a decrease of ca. 10 percentage points relative to 2025. The level has not been this low since before 2015. The decrease can primarily be attributed to the increased production of electricity from solar and wind energy in the Netherlands, as well as to the growth in the extraction of ambient heat using heating pumps.

In 2040, we project a further decline in dependence on energy imports of 63% to 49%, because the share of electricity and ambient heat in the energy supply will keep increasing. The dependence on imports of both crude oil and natural gas shows a slight decline between 2030 and 2040. The vast majority of these fossil fuels are imported. In absolute terms, the consumption of fossil fuels does significantly decline, but because total energy consumption is also declining, the share in the energy supply is declining at a slower rate. When we include scheduled policy, dependence on energy imports declines to 45-60%. This is mostly the result of additional electricity production from offshore wind farms.

³ Here, we regard Russia as outside of Europe.

Figure 2
Energy dependence per energy carrier



Source: CBS (historical trend); Climate and Energy Outlook projection 2026

2.2 Final energy consumption declines only slightly towards 2040, with significant differences between sectors

Final energy consumption in the Netherlands was 1.673 petajoules in 2025. In the projection of the baseline scenario, we project a final energy consumption of 1.646 [1.527-1.728] petajoules in 2030. The goal of the European Energy Efficiency Directive (EED) amounts to a final energy consumption of 1.609 petajoules in 2030. The chance that the Netherlands reaches this goal is ca. 35%. Scheduled policy that has been sufficiently specific to use in this Outlook for a projection, has almost no effect on final energy consumption.

Significant uncertainties when projecting final energy consumption include the development of production volume in industry and the development of emission reduction projects, for example by making custom agreements between energy-intensive businesses and/or clusters and the government.

Final energy consumption declines in the period between 2030 and 2040 from 1.338 to 1.668 petajoules in 2040. In this decline, there are significant differences in trends in energy consumption between sectors. For domestic transport and industry, final energy consumption declines significantly towards 2040. In the built environment, on the other hand, it remains virtually the same, while final energy consumption in international aviation increases towards 2040.

We project a significant decline in final energy consumption within the domestic transport sector towards 2040, since European source policy actually leads to an accelerated transition towards electric driving. An electric car consumes approximately two-thirds less energy than a similar petrol car. The decline in final energy consumption in industry is particularly due to the projected decline of production volumes in energy-intensive industry in 2040. In the built environment, energy is

saved because of insulation and the replacement of central heating boilers with heating pumps. However, these savings are negated by an increasing electricity consumption by data centres. In the projection, data centres fall within the service sector, and hence within the built environment. Energy consumption in international aviation will also increase after 2030, because of the use of larger aeroplanes to transport more passengers. The number of flights stays the same because of capacity restrictions at airports.

The limited decline in final energy consumption is therefore mostly the result of efficiency improvements in domestic transport, among others, and lower production volumes in industry. Climate policy is aimed at replacing fossil fuels with renewable energy; electrification leads to efficiency improvements. For a larger decline in final energy consumption, more targeted policy is needed to consciously consume less energy, for example by heating economically, driving less, and using fewer things.

2.3 Share of renewable energy rises, especially because of more offshore wind farms

The share of renewable energy within total energy consumption is increasing towards 2040, mostly due to the increase in offshore wind farms, with a rise in the share of renewable energy in the baseline scenario to 42% to 55%. The installed capacity of offshore wind farms doubles in this projection from ca. 9.5 GW in 2030 to ca. 21 GW in 2040. Important and decisive factors for this growth are the increasing demand for electricity and the rising production costs for electricity from fossil energy.

Two-way contracts are an important inclusion in scheduled policy, since with these two-way contracts for difference, the share of renewable energy increases significantly. A two-way contract is an agreement between the government and the producer of renewable energy. If the market price for electricity is low, the government pays the difference with an agreed-upon price to the producer. If the market price is high, the producer has to pay the difference with the agreed-upon price to the government. This way, investments in projects for large-scale renewable energy generation and emission reductions are stimulated. Due to long lead times of such large projects, effects will only be noticeable in the period after 2030.

As a result of the two-way contracts included in scheduled policy, installed capacity of offshore wind farms will significantly increase to 30 to 36 GW in 2040. The share of renewable energy in national Dutch electricity production will therefore increase to 52% to 67%. Alongside offshore wind farms, it is projected that the amount of solar power will also increase. This growth will, however, be restricted by oversupply, which leads to shutdown of the systems at times when large amounts of renewable electricity are being produced. Despite the two-way contracts, the development of onshore wind energy stagnates. The installation of new turbines is restricted by uncertainties regarding legislation (including the distancing standards) and requirements for the environmental permits, as well as net congestion.

Another measure in scheduled policy, on top of the two-way contracts, are the new calls for proposals for the SDE++ operating subsidy scheme. Large-scale wind and solar power will no longer be part of the SDE++ after 2026 due to European legislation, but will be stimulated afterwards by two-way contracts. The effect of the SDE++ subsidy on the share of renewable energy is therefore limited. As a result of the new subsidy rounds, energy production from other renewable sources is increasing, such as geothermal energy and green gas. This production growth is a lot smaller than the growth of offshore wind farms, however. A large part of the SDE++ budget

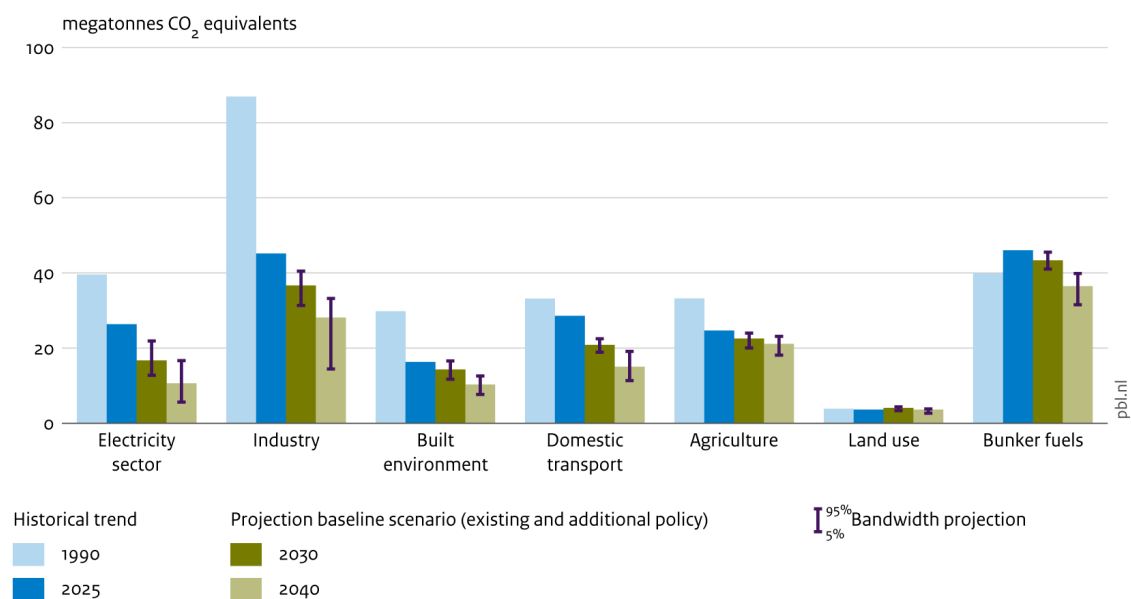
goes to carbon capture and storage (CCS). CCS does lead to emission reductions, but does not contribute to the share of renewable energy.

Additionally, obligations and standardisations contribute to the growth in the share of renewable energy. In the transport sector, the Fuel Transition Obligation in road transport is met by renewable electricity, the blending of (advanced) biofuels and other sustainable energy carriers, and, in aviation and maritime transport, there is an increasing use of renewable fuels because of European legislation for this sector (RefuelEU Aviation, FuelEUMaritime). The blending obligation for green gas leads to more green gas production, and the standardisation of hybrid heating pumps results in a faster increase of the number of heating pumps and, hence, increased use of ambient heat. Because of the CO₂ standards for sustainable heating networks, more renewable sources are used in district heating networks.

3. The pace of the (energy) transition differs per sector

The pace with which various sectors reduce greenhouse gas emissions, decrease energy demand, and use renewable energy, differs significantly between sectors (see Figure 3). This is because the causes of greenhouse gas emissions differ per sector. Additionally, the possibilities to become profitably sustainable and alter behaviours differ. What is possible per sector is influenced by European and national policy and the degree to which said policy is effective.

Figure 3
Greenhouse gas emissions per sector



Source: Pollutant Release and Transfer Register (historical trend); Climate and Energy Outlook projection 2026

3.1 Making the electricity sector fully sustainable in 2040 is not possible because of the demand for flexible capacity

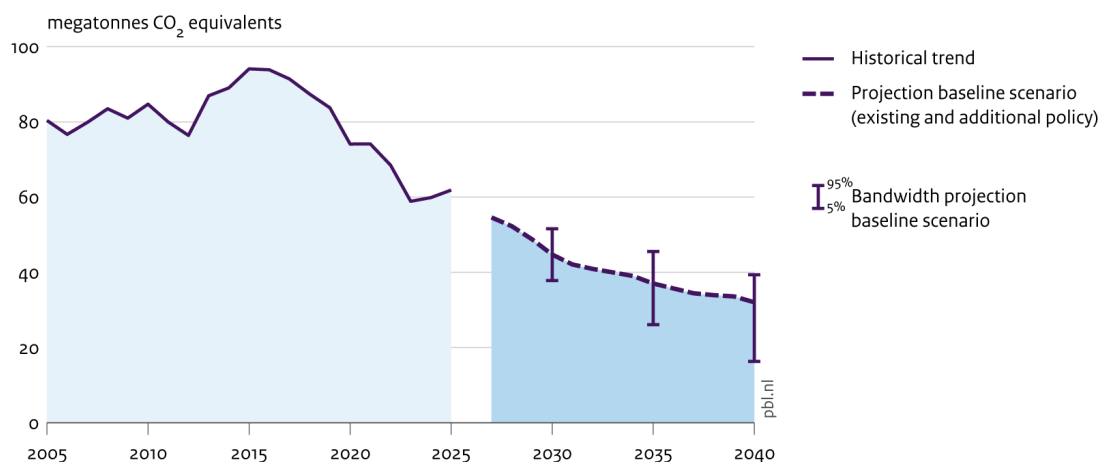
In the baseline scenario, electricity emissions decline towards 2030, and keep declining towards 2040, mainly as a result of the growth of installed capacity from offshore wind farms. In the projection with scheduled policy, offshore wind farm capacity grows even more because of the two-way contracts policy instrument (see also section 2.3). Despite this enormous increase in renewable energy, the electricity sector will still emit greenhouse gases in 2040, because electricity demand and supply during the year are not always aligned. Because we anticipate there will still be insufficient CO₂-free flexible capacity in 2040 – such as hydrogen power stations, storage (batteries), and demand response (the alignment of supply and demand) – gas-fired power stations will still be used to comply with electricity demand and to ensure security of supply. As a result, there are still emissions remaining in the electricity sector.

3.2 The decline in emissions and energy use within industry are the result of increased sustainability and lower production volumes; ETS1 on its own is not enough for the energy transition

One of the largest drivers of making industry sustainable is the first European Emissions Trading System (ETS1), as domestic large-scale electricity production and energy-intensive industrial businesses fall under this system. Under ETS1, the amount of available CO₂ emission allowances decreases in time, causing the price of those allowances to rise. The rising CO₂ price makes it more appealing to invest in clean technologies. On the basis of existing legislation per May 1, 2026, there will be no new emission allowances available for ETS1 from 2040 onwards. This means that the emissions within ETS1 would be zero in 2040, apart from any saved emission allowances that are still available at that point. This applies across the EU, but that naturally applies to the Netherlands as well. On July 17, 2026, the European Commission published a proposal for revising the ETS1. Because this proposal was made later than our reference date of May 1, we did not include this in our projection.

In the Climate and Energy Outlook, we base the price projection for ETS1 on the current market prices for ETS1 allowances. This does not bring emissions for ETS1 sectors in the Netherlands to zero in 2040, however. The emissions in the baseline scenario are still 16.3-39.3 megatonnes CO₂ equivalents (see Figure 4). Up to two-thirds of these emissions come from industry.

Figure 4
Greenhouse gas emissions by ETS1 sectors



Source: Pollutant Release and Transfer Register (historical trend); Climate and Energy Outlook projection 2026

A higher CO₂ price could further reduce emissions in 2040, but such high prices are not expected by businesses that fall under ETS1. It is possible that the market assumes that ETS policy will be relaxed if the costs rise too much for ETS businesses because of high CO₂ prices.

Towards 2040, the ETS1 will become increasingly decisive for Dutch emission reductions in industry and in the electricity sector. To be effective, the ETS1 must be stable and predictable. Alongside pricing via ETS1, making the industry sustainable should be stimulated with funding and standardisation. This requires additional European and Dutch policy.

In the bandwidth in the Outlook projection, we take into account a high and low CO₂ price in 2040. In industry, a high CO₂ price can mean existing businesses invest on a large scale in sustainability, because they would otherwise be met with higher costs. On the other hand, businesses can also decide to close their installations in the European Union. Hence, we take into account this significant uncertainty about production levels for industry in our bandwidth. For other sectors, such as the built environment and transport, moving activities abroad is possible only to a much more limited extent or not at all.

If industrial businesses close their branches in the Netherlands, this could mean a reduction in emissions for the country. However, in most cases, this means that production will relocate to other countries where emissions will then increase. Relocation can even lead to a rise in global emissions if production abroad is less CO₂ efficient. Not all reductions in production in the Netherlands have these spillover effects. For example, there will be less demand for fossil fuels in the future because of the increased sustainability of the transport sector. It is therefore plausible that the decline in refinery output in the Netherlands will result in spillover effects to a lesser extent.

In the projections, we see that both increased sustainability and declining production volumes have an effect on reducing industrial emissions. In the baseline scenario, increased sustainability is responsible for approximately 60% of the lowered emissions in 2040. The remaining 40% derives from lower industrial production in the Netherlands. In the projection with scheduled policy, the contribution of increased sustainability is slightly larger, at approximately 70%.

Future industrial production volumes are very uncertain. Additionally, there is a lot of uncertainty about how many investments in emission reductions will take place. In the scenario with scheduled policy in 2040, industrial emissions will therefore stand at 10.4-29.0 megatonnes CO₂ equivalents. The relationship between the contribution of sustainability measures and those of production volumes might therefore turn out very differently.

3.3 Various target groups face a wide range of obstacles with making the built environment more sustainable

We see significant emission reductions towards 2040 in the built environment, because of energy-efficient new-build housing, retrofitting insulation in existing homes and buildings, and electrification. Yet, the projected emissions are still far from climate neutrality in 2050. Because of standardisation, new-build homes are well insulated and natural gas-free, but existing homes and buildings often still use a lot of natural gas for heating, meaning emission reductions are limited.

Many different parties are involved in making the built environment more sustainable. This is a large, diverse group. There are people who must take measures in a large number of individual homes and buildings, but there are also parties who must ensure the upscaling of collective measures, such as the construction of heating networks. This is different than in, for example, sustainability measures for industry, where the Dutch Cabinet intends to make custom agreements with the 30 largest emitters to thus significantly reduce industrial emissions.

Households, businesses, and societal organisations have to decide for themselves how they want to take measures in making existing individual homes and buildings more sustainable. In doing so, they face different challenges. For example, they do not always have the financial and practical means or skills to make investments in sustainability, or they do not have sufficient knowledge

about the technical options, supporting regulations, and effects of measures, or they are not motivated to become more sustainable.

To make the built environment more sustainable, different policy instruments are used per target audience, but policy is only partially successful in removing the current obstacles, and policy for the period after 2030 has, to a large extent, not been finalised. Interdepartmental policy research will be carried out this year, with the goal to analyse sustainability policy for the different segments of the housing market and develop specific policy options. Making buildings in the service sector more sustainable is not included in that.

3.4 Significant emission reductions projected in domestic transport because of national and European policy

We project a significant reduction in emissions in transport towards 2030. This decrease is mostly attributable to the increasingly larger use of renewable fuels and to the electrification of road traffic and construction machinery.

The development of emissions in domestic transport is primarily determined by developments in road traffic. The decline in road traffic emissions before 2030 is mainly a result of electrification and use of renewable fuels. Policy for using renewable fuels comes from the European directives for renewable energy, which has been given shape in the Netherlands with the Fuel Transition Obligation. The Netherlands has raised this obligation in previous Cabinet terms of office, relative to the European directives. The obligation is projected to result in biofuels accounting for over 20% of total energy consumption by 2030. That is roughly double the figure for 2024. The use of biofuels (instead of fossil fuels) will result in a reduction in emissions of 5-7 megatonnes CO₂ equivalents in 2030 in the domestic transport sector.

The chances of reaching the sectoral goal for transport in the baseline scenario, which is 21.3 megatonnes CO₂ equivalents in 2030, is ca. 70%. In the Outlook of 2025, this stood at just ca. 10%. This is mainly due to the increase in the Fuel Transition Obligation. In the projection with scheduled policy, the chances decrease to ca. 60%, particularly because of activities by workboats for the construction of offshore wind farms and to a lesser extent because of the increase in tax-free travel allowances. Regardless, there is a big increase in the pace of the transition of transport as the result of European and Dutch policy.

The transition will continue after 2030 as well. Towards 2040, there will be further electrification in transport, meaning emissions decrease to 11.3-19.1 megatonnes CO₂ equivalents. This electrification is promoted by European source-based policy that prescribes that new passenger cars, vans, and lorries should be mainly emission-free. Additionally, the share of electric cars on the second-hand market increases (throughput). The continued growth in electric vehicle use in the period after 2030 means that the Fuel Transition Obligation can increasingly be met with renewable electricity, thereby reducing the need for biofuel blending. Decision-making regarding the extension of the Obligation is still ongoing, and no concrete proposal has yet been put forward. Hence, this Outlook does not include a reinforcement of the obligation in the period after 2030.

3.5 Emissions by international aviation and shipping decrease slower than those by domestic transport

Emissions from bunker fuels sold in the Netherlands for international aviation and shipping are not included in the national emission total of the Dutch Climate Act.⁴ Bunker fuels do play a part in European objectives.

The emissions decline slower than those in domestic transport. The projected decline is mainly the result of an increased use of renewable bunker fuels because of European legislation. Fuel deliveries to inland waterway and maritime transport fall under the Dutch Fuel Transition Obligation, meaning the fuel suppliers must reduce greenhouse gas emissions from fuels they supply by an increasing percentage each year. In aviation, European legislation (*ReFuelEU Aviation*) leads to an increasing use of renewable fuels. The European obligations from *ReFuelEU Aviation* and its equivalent in the maritime sector (*FuelEU Maritime*) ensure that the bunkering of renewable fuels continues to increase after 2030.

3.6 Virtually no climate policy for the livestock sector

The largest part of greenhouse gas emissions in agriculture are due to process emissions from the livestock sector and arable farming.⁵ These emissions have decreased by 32% in 2025 relative to 1990, but the largest part of this decrease took place between 1990 and 2005. Over the past 20 years, emissions have remained nearly constant. As such, the livestock sector and arable farming differ greatly from other sectors.

In the baseline scenario, emissions by livestock and arable farming decline to a limited extent between 2025 and 2040. This decline is mainly due to a decline in livestock numbers, particularly the number of dairy cows, as a consequence of the nitrogen and fertiliser policies pursued. In contrast to the other sectors, there has hardly been any specific climate policy for livestock and arable farming that is aimed at reducing greenhouse gas emissions. One of the few climate measures for this sector is the standardisation of methane inhibitors, as announced in the Coalition Agreement, which has been included in the projection with scheduled policy in this Outlook.

On June 26, 2026, the Dutch Cabinet published a package of measures for agriculture, nature, and nitrogen. This package was available after our reference date of May 1, and is therefore not

⁴ It follows from the judgement in the Bonaire Climate Case of January 2026 that emissions by international aviation and maritime shipping must be included in binding reduction targets for the entire economy. The court's judgement instructs the State to incorporate within 18 months, at the very least, economy-wide emission reduction targets, as referred to in Article 4(1) of the Paris Agreement, into national legislation (Decision, paragraph 12.2). In legal grounds 11.13.3, the court explains that, for example, emissions from aviation and maritime shipping are also part of 'the economy as a whole'. On the basis of this mitigation order, emissions arising from aviation and maritime shipping must be included in the binding interim targets. At the time of publication, these interim targets have not yet been established. The Cabinet has lodged an appeal against the judgement. It has also requested a stay on the part of the judgement that obligates the State to implement the mitigation order immediately. If this request for a stay is granted, implementation of that order may be deferred until a decision has been made on the appeal.

⁵ Process emissions in the livestock sector and arable farming are emissions released because of biological, chemical, and physical processes when keeping animals and cultivating crops, and not because of the use of energy or fuels.

included in the projections in this Outlook. On September 4, PBL published a reflection on this policy package, which shows that it could lead to a reduction of ca. 4 megatonnes CO₂ equivalents in 2035 relative to the baseline scenario (PBL 2026e). If the policy package is further developed, its effects will be included in a future projection.

Core data Climate and Energy Outlook 2026

Core table 1

Greenhouse gas emissions per sector^{1,2,3,4} in megatonnes CO₂ equivalents

Sector	1990	2024	2025*	Projection 2030	Bandwidth projection 2030	Bandwidth projection 2030 including scheduled policy	Bandwidth projection 2040	Bandwidth projection 2040 including scheduled policy
Reduction national emissions from 1990 (percentage)	-	36	36	49	46 - 53	47 - 54	57 - 68	61 - 72
Total	227	144	145	115	106 - 122 ^a	104 - 120	71.4 - 96.9	63.5 - 87.8
Electricity	39.6	23.0	26.4	16.7	12.8 - 21.9	12.8 - 22.0	5.6 - 16.7	5.0 - 13.6
Industry	87.0	47.1	45.2	36.7	31.3 - 40.5	31.0 - 40.2	14.4 - 33.2	10.4 - 29.0
Built environment	29.8	16.4	16.3	14.3	11.7 - 16.6	11.4 - 16.3	7.7 - 12.6	6.3 - 11.6
Domestic transport	33.2	29.2	28.6	20.8	18.9 - 22.5	19.1 - 22.7	11.3 - 19.1	11.5 - 19.3
Agriculture	33.2	25.0	24.6	22.5	20.0 - 24.0	18.9 - 22.9	18.1 - 23.1	16.3 - 21.4
Land use	3.8	3.7	3.6	4.1	3.4 - 4.3	3.3 - 4.3	2.7 - 3.8	2.6 - 3.8

1) The statistics for the years 1990 and 2025 are not corrected for temperature (Emissieregistratie 2026).

2) Due to rounding, minor differences may arise between totals and the underlying figures.

3) The projection for 2030 and 2040 are based on the baseline scenario (with existing and scheduled policy measures).

4) See Appendix 1 (in the full-length Dutch report) for the sector classification of the Climate and Energy Outlook.

a) The sectoral bandwidths cannot be added together to give the total national bandwidth due to the methodology used, which takes accounts of interactions between uncertainties across sectors.

* Provisional emissions (Emissieregistratie 2026).

Core table 2

Energy consumption and share renewable energy¹

	2019 ^a	2025 [*]	Bandwidth 2030	Bandwidth projection 2030	Bandwidth projection 2030 including scheduled policy	Bandwidth projection 2040	Bandwidth projection 2040 including scheduled policy
Final energy consumption according to the EED 2023 (petajoules)	2.001	1.673	1.646	1.527 - 1.728	1.520 - 1.720	1.338 - 1.668	1.304 - 1.632
Primary energy consumption according to the EED 2023 (petajoules)	2.668	2.273	2.090	1.952 - 2.184	1.950 - 2.181	1.662 - 2.093	1.655 - 2.080
Share of renewable energy² (percentage)	9	23	34	31 - 37	32 - 38	42 - 55	52 - 67
Energy dependence (percentage)	76	77	67	65 - 70	65 - 69	49 - 63	45 - 59

1) The projections for 2030 and 2040 are based on the baseline scenario (with existing and scheduled policy measures).

2) Calculated according to the REDI for 2019, and from 2025 onwards according to the REDIII. In the latter, renewable marine bunkers are also included

a) This table shows 2019, which was before the COVID-19 pandemic led to less activity, and before the Russian invasion of Ukraine led to higher energy costs.

* Provisional data.

Core table 3

Probability of reaching the most important national and European climate and energy goals

Description of the goal	Goal	Probability of reaching the goal in the baseline scenario	Probability of reaching the goal in the baseline scenario with scheduled policy
Reduction of greenhouse gas emissions in 2030 (target)	55% relative to 1990	less than 5%	less than%
Reduction of methane emissions in 2030 (target)	30% relative to 2020	less than 5%	less than 5%
Cumulative emissions in the ESR sectors (binding)	829 megatonnes CO ₂ equivalents, cumulative over the period 2021-2030	more than 95%	more than 95%
Land use emissions, national target for 2030 (binding)	Reduction of 0.435 megatonnes CO ₂ equivalents relative to the average of 2016-2018	less than 5%	less than 5%
Sectoral goal electricity (target)	A maximum of 13.0 megatonnes CO ₂ equivalents in 2030	ca. 5%	ca. 5%
Sectoral goal industry (target)	A maximum of 28.8 megatonnes CO ₂ equivalents in 2030	less than 5%	less than 5%
Sectoral goal built environment (target)	A maximum of 13.2 megatonnes CO ₂ equivalents	ca. 25%	ca. 30%
Sectoral goal transport (target)	A maximum of 21.3 megatonnes CO ₂ equivalents	Ca.70%	ca. 60%
Sectoral goal agriculture (target)	A maximum of 17.9 megatonnes CO ₂ equivalents	less than 5%	less than 5%
Sectoral goal land use (target)	A maximum of 1.8 megatonnes CO ₂ equivalents	less than 5%	less than 5%
Sectoral goal greenhouse horticulture (target)	A maximum of 4.3 megatonnes CO ₂ equivalents	ca. 20%	ca. 35%

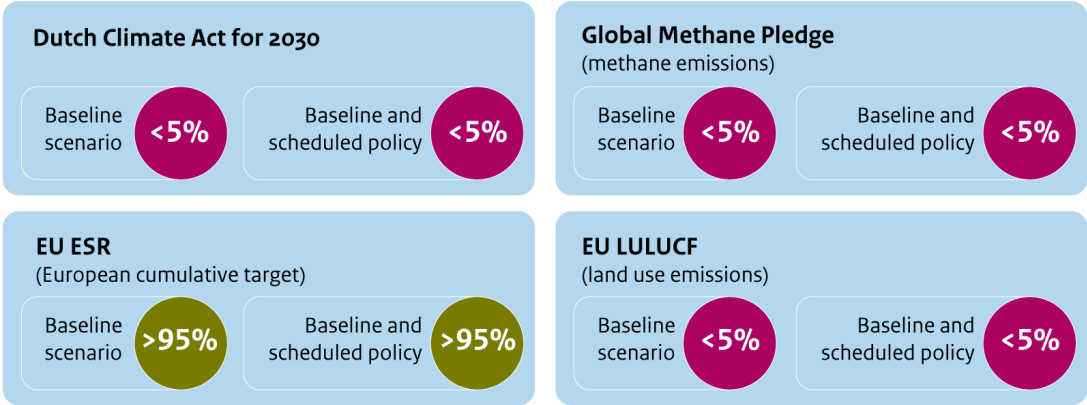
Description of the goal	Goal	Probability of reaching the goal in the baseline scenario	Probability of reaching the goal in the baseline scenario with scheduled policy
Contribution to EU goal renewable energy (binding)	39% of gross final energy consumption in 2020	less than 5%	less than 5%
Reduction final energy consumption (indicative contribution to binding EU goal)	A maximum of 1.609 petajoules final energy consumption in 2030	ca. 35%	ca. 40%
Reduction primary energy consumption (target)	A maximum of 1.935 petajoules primary energy consumption in 2030	less than 5%	less than 5%

Core diagram

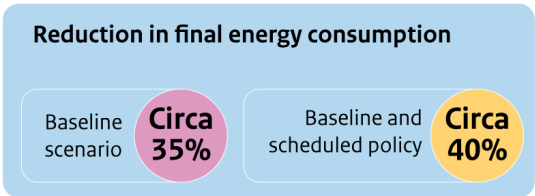
Probability of reaching the climate and energy goals

in the Climate and Energy Outlook 2026

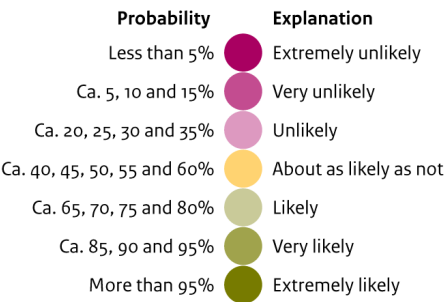
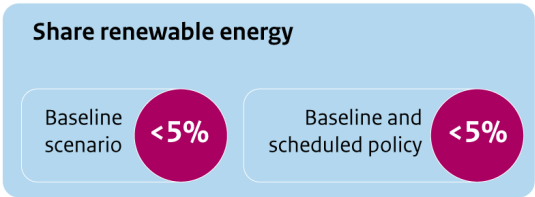
Greenhouse gas emissions



Energy savings



Renewable energy



Source: PBL