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CLIMATE AND ENERGY OUTLOOK OF THE NETHERLANDS 2025

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PBL Netherlands Environmental Assessment Agency is the national institute for strategic policy analysis in the fields of the environment, nature and spatial planning. We contribute to improving the quality of political and administrative decision-making by conducting outlook studies, analyses and evaluations in which an integrated approach is considered paramount. Policy relevance is the prime concern in all of our studies. We conduct solicited and unsolicited research that is both independent and scientifically sound.

The KEV consortium

The Climate and Energy Outlook 2025 (KEV) is the result of collaboration between PBL Netherlands Environmental Assessment Agency, TNO, Statistics Netherlands (CBS), the Netherlands Enterprise Agency (RV), 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 indicating the projections. TNO also contributes knowledge about the various themes in the KEV, including the built environment, mobility, industry, gas- and oil refinery and greenhouse horticulture, energy savings, and renewable energy.

RIVM delivers all monitoring data from the emissions registration and also contributes to the projections for non-CO_2 greenhouse gas emissions such as methane, nitrous oxide, and F-gases from industry.

RVO has monitored and delivers data from various policy instruments concerning CO_2 emissions reduction, energy efficiency, and renewable energy (e.g. SDE++ and ISDE). This concerns information about the trends over the past few years, realised projections, and, where possible, about proposed activities.

Wageningen University & Research (WUR) sets up the projections, at the request of PBL, for livestock farming, arable farming, and land use.

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Summary

The probability of reaching the climate goal of 2030 are very small
Standing at less than 5%, the probability that the Netherlands will reach the target of 55% reduction in emissions by 2030 is extremely small. With current implemented policy per January 1st, 2025 ('baseline projection'), we are on track towards 45-53% fewer greenhouse gas emissions in 2030 compared to 1990. Other calculable plans ('scheduled policy measures') add just 2 percentage points to this figure, amounting to 47% ranging to just below 55% reduction. As such, the goal lies outside of the bandwidth and the chance of reaching it is less than 5%.

Strong, structural policy is increasingly urgent
The goal for 2030 was originally formulated in the Dutch Climate Act as a long-term climate target. However, in policy terms, this objective is no longer that distant. For investment agendas, many decisions for 2030 have already been taken. To reach the goal of a 55% reduction compared to 1990 with 50% or 95% certainty, 13 or 22 megatonnes CO_2 equivalents additional greenhouse gas reductions, respectively, are necessary compared to the baseline projection. There are fewer and fewer policy options that would realise this 55% emission reduction by 2030 without generating serious economic damages or garnering societal resistance, nor are there many concrete plans to realise further emission reductions after this date. It is therefore very important to take more serious measures, which would support a structural transition towards a climate-neutral Netherlands in the long term.

Delay will make future challenges greater and more expensive
It is also important to realise that the goal of 55% reduction in emissions by 2030 is in line with climate neutrality in 2050. If the goal of 2030 is not met, the challenge towards neutrality will only be greater.

Energy dependence is decreasing due to increased sustainability efforts
Due to delays in realising offshore wind farms, renewable sources will contribute less to the energy supply in 2030 than previously projected in the Climate and Energy Outlook (KEV) of 2024: 29-36%. The goal of 39% is therefore not reached. Still, this share is still significantly higher than the current 20%. As such, renewable energy significantly contributes to Dutch energy independence, which is included in this KEV 2025 for the first time. Energy independence is now at a record high: nearly 80% of Dutch energy use comes from abroad. Because of the roll-out of renewable sources, this figure will decline to under 70% in 2030, a level that was more common before the cutback of natural gas extraction in the province of Groningen. Simultaneously, stagnation in sustainability efforts after 2030 will hinder further decreases in energy dependence.

Specific policy is needed for energy savings
It would be useful to develop more policy specifically aimed at energy savings. This not only contributes to a reduction in emissions and import dependencies, but can also lower energy bills for households and businesses. Policy is more often aimed at emission reductions rather than energy savings in particular. After years of decline, energy use by end users rose slightly again in 2024. It is expected that this will be at roughly the same level in 2030. As such, the probability of reaching the European goal for decreasing final energy use, as established in the baseline projection, is very small: circa 10%.

FINDINGS

Findings: Climate and Energy Outlook of the Netherlands 2025

The Dutch Climate Act prescribes that PBL Netherlands Environmental Assessment Agency publishes an annual Climate and Energy Outlook (KEV) (EZK 2023). In the KEV, PBL reflects on how greenhouse gas emissions and the energy system in the Netherlands are developing.

In this KEV 2025, we present two projections: a baseline projection with existing and additional policy measures as known on January 1st, 2025, and a projection with scheduled policy measures, taking as reference date May 1st, 2025.

The KEV 2025 is a general outlook, which means that we make projections for the year 2030 by updating the preceding KEV (2024) along general lines. Here, we focus on policy changes up to and including May 1st, 2025, and other developments that have a substantial effect on our projections. Additionally, we only discuss the most important climate and energy goals. These include the national climate goals for 2030, the indicative sectoral residual emissions goals for 2030, and several European climate and energy goals which the Netherlands contributes to. We calculate the projected emissions in so-called CO_2 equivalents, for which we include both CO_2 as well as other greenhouse gas emissions (e.g. methane and laughing gas).

Chapter 1 in the full-length Dutch KEV provides more information about the categorisation of policy in our projections, an overview of the most important policy changes, as well as an overview of the goals we discuss and the methodology we use. The most important data are included in this English KEV, in Tables 1, 2, and 3 at the end of the Findings below. There you will also find Diagram 1, which shows the probabilities of the Netherlands reaching the most important climate and energy goals. In this section ('Findings'), we provide the most important findings of the Dutch KEV 2025, as translated from Dutch.

1) ***It is extremely unlikely that the Netherlands will reach the national climate goal of 55% greenhouse gas emission reductions in 2030***

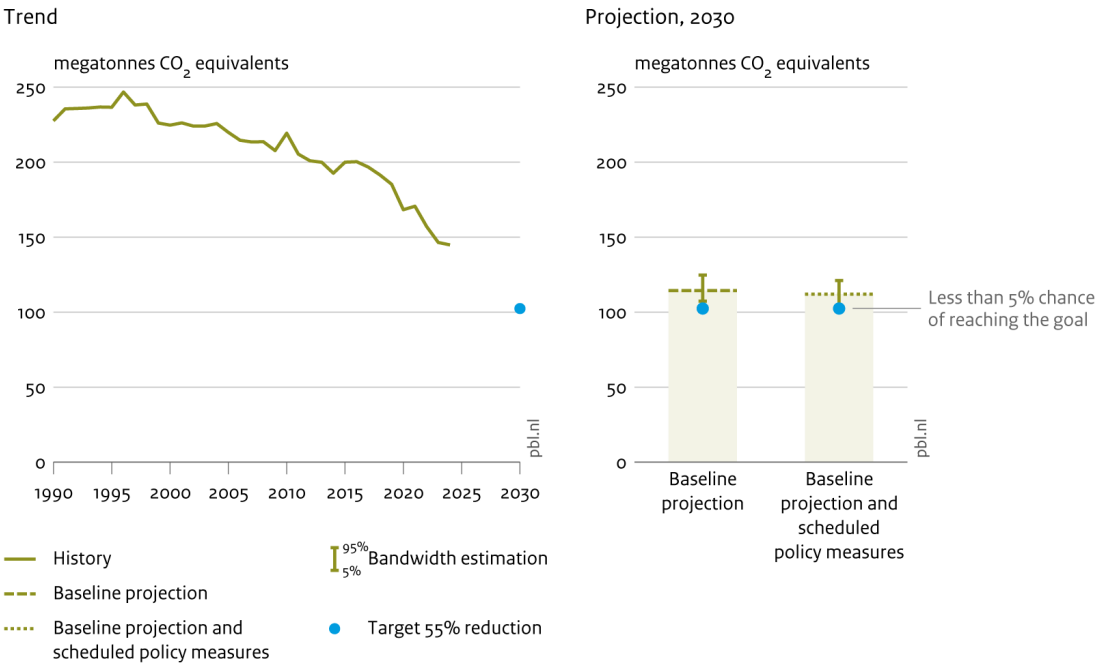
The Dutch Climate Act contains the goal that greenhouse gas emissions must decrease by 55% in 2030 relative to 1990. In our baseline projection, the emissions between 1990 and 2030 decline by 45-53%. The probability of the Netherlands reaching this national climate goal is therefore less than 5%; in other words, it is extremely unlikely that this goal will be reached. Expressed in absolute emissions, the projection of greenhouse gas emissions in 2030 is 107-125 megatonnes CO_2 equivalents. To reach the climate goal of 2030, these emissions need to be 102 megatonnes CO_2 equivalents or fewer. To have a 50% or 95% probability of reaching the climate goal of 2030, greenhouse gas emissions would need to decline by circa 13 and 22 megatonnes CO_2 equivalents, respectively, compared to the projected emissions in the baseline projection.

Projections do bring certain uncertainties with them. One significant uncertainty for the projections of greenhouse gas emissions is the structural uncertainty about how the European electricity market will develop. When considering the year 2030, other uncertainties include the timely realisation and scope of CO_2 storage project Aramis, the sustainability efforts of Tata Steel, the production level of energy-intensive industry, the spatial development of greenhouse horticulture,

household heating behaviour, the development of energy prices, economic growth, household investment behaviour, application of combined heat and power in greenhouse horticulture, and the weather. Several of these uncertainties can only be reduced (are manageable) to a limited extent by government policy.

Figure 1

Greenhouse gas emissions



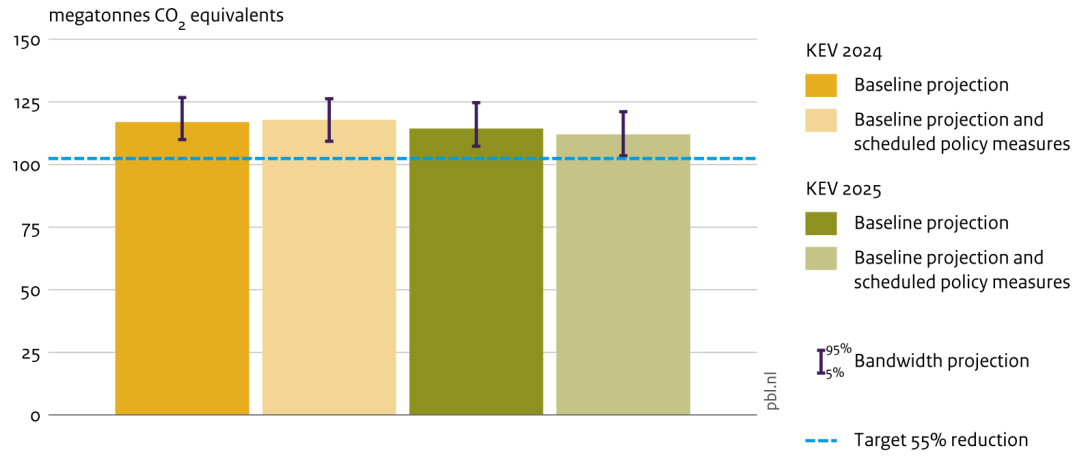
Source: Emission registration (history); KEV projection 2025

Emission reductions in the baseline projection compared to the KEV 2024 are not the result of new policy of the past year

If we compare the emission projections in the baseline projection of the KEV 2025 with the KEV 2024, then the projected greenhouse gas emissions in 2030 are circa 2-3 megatonnes lower (see Figure 2). This is largely due to lower emissions in the sectors industry, electricity, and land use (see Figure 3). We do not, however, see this decline as a direct consequence of new policy. This decline in calculated emissions is the consequence of shifting and changing external factors, among other things. We also assume lower expected production volumes in industry. This way, the projections for related greenhouse gas emissions in the sectors industry and electricity for 2030 are lower. Production has decreased over the past few years in the Netherlands, especially in the chemical sector. Several businesses have announced closures or have already closed numerous large factories. Additionally, there was a methodological change in the projection of the land use emissions, meaning the greenhouse gas emissions by land use in 2030 in this KEV are circa 1 megatonne CO_2 equivalents lower than in the KEV of last year. This is caused by several methodological adjustments that were established by a task group of the Emission Registration (governmental body that collects data about annual Dutch emissions).

Figure 2

Projection for 2030 of greenhouse gas emissions in KEV 2024 and KEV 2025

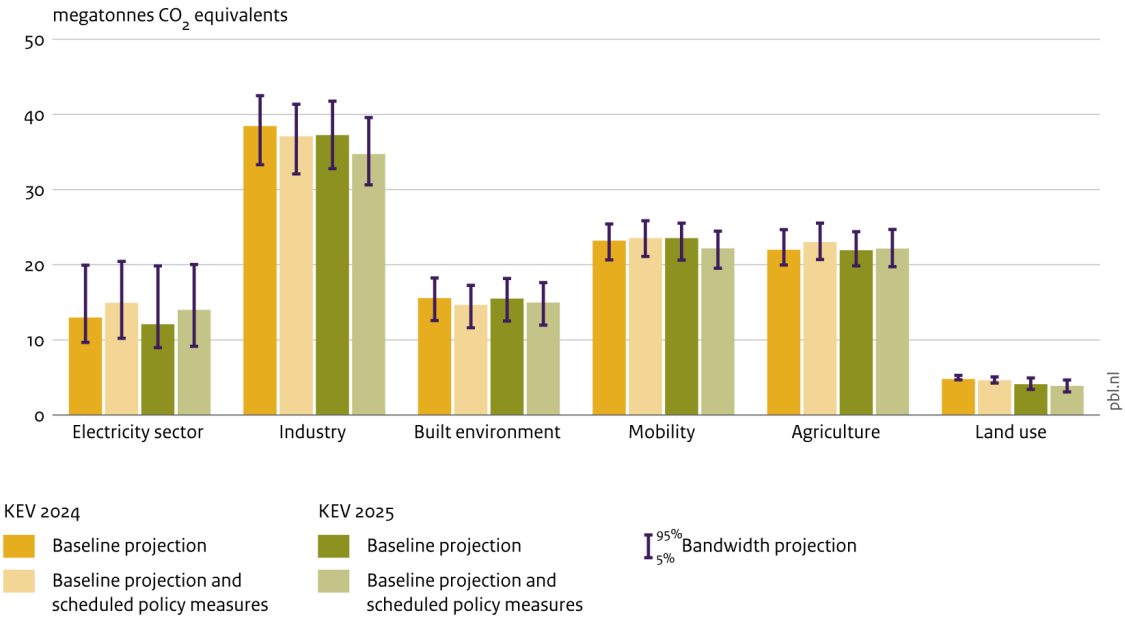


For the baseline projection in the KEV 2024, we worked with existing and additional policy measures.
For the baseline projection and scheduled policy measures in the KEV 2024, we worked with existing, additional, and scheduled policy measures.

Source: KEV projection 2024, KEV projection 2025

Figure 3

Projection for 2030 of greenhouse gas emissions per sector in the KEV 2024 and KEV 2025



For the baseline projection in the KEV 2024, we worked with existing and additional policy measures.
For the baseline projection and scheduled policy measures in the KEV 2024, we worked with existing, additional, and scheduled policy measures.

Source: KEV projection 2024, KEV projection 2025

Even with additional policy that can be included in the calculations, there is an extremely low probability that the Netherlands will reach the national climate goal of 2030

Scheduled policy measures that have been worked out concretely enough to allow a projection of their effects, deliver circa 4 megatonnes CO_2 equivalents extra reduction in 2030 relative to the baseline projection. With these scheduled measures, the reduction comes to 47% to just under 55% relative to 1990.[1] The intended emission reduction of 55% lies just outside of the bandwidth. As such, the probability of a 55% reduction in 2030 compared to 1990 is less than 5%.

The most significant reduction caused by scheduled policy measures in the baseline projection takes place in the sectors industry, mobility, and greenhouse horticulture. Additional emission reductions in industry are caused by the increased CO_2 levy on waste incineration plants and by the budget in the Dutch Climate Fund available for tailor-made agreements with large industrial businesses, among other things. In relation to the baseline projection, emissions decline in mobility. This is mainly caused by the current (demissionary) Cabinet wanting to accelerate the electrification of corporate cars and raise the fuel transition obligation. The latter mandates fuel suppliers to deliver a determined amount of renewable energy to transport. Additionally, there are increased discounts on road taxes for electric passenger cars. This all contributes to lower emissions in the sector mobility compared to the baseline projection. The emission reductions in greenhouse horticulture are due to the sub-sector being brought under the second European Emissions Trading System (ETS2) through an opt-in with compensation. Because of this, horticulturalists pay a maximum of 42.50 Euros per emitted tonne of CO_2 from 2027 onwards.

These scheduled policy measures lead to a reduction in emissions. However, circa 1 megatonne of this reduction is cancelled out by an increase in emissions in the sub-sectors of livestock and arable farming, as well as in the sector electricity. As in the KEV 2024, concerning scheduled policy measures for livestock and arable farming, we included a potential new derogation of the European Nitrates Directive, as well as the measure to allow processed animal fertiliser as a fertiliser substitute (RENURE, REcovered Nitrogen from manURE). As such, the amount of dairy cattle does not have to decline as significantly as expected in the baseline projection, which means greenhouse gases reduce less towards 2030 (see also paragraph 2.3.6 in the full-length Dutch report). Additionally, emissions decline less in the electricity sector when scheduled policy measures are included, because of a small increase in electricity demand by other sectors.

There are also scheduled policy measures which are not yet sufficiently developed to make a projection of, and which were thus excluded from this KEV. These measures could lead to additional reductions in emissions by 2030. To make sure this happens, however, it is necessary to develop and implement these measures on time. We also included an overview of such scheduled policy measures in Table 1.4, in Chapter 1 of the full-length Dutch version.

2) ***Strong additional policy is needed to get the energy transition on track***

The Dutch National Climate Agreement was struck in 2019 with as main goal a 49% reduction in emissions in 2030 compared to 1990. The probability that the Netherlands reaches this goal, based on the baseline projection, is approximately 50%. When including scheduled policy measures, this probability increases to circa 75%.

[1] To be precise: 46.8 – 54.5%.

In 2021, the European goal for 2030, as formulated in the European Climate Law, was tightened to 55%. Following this, in 2023 then-Cabinet Rutte-IV also adjusted the National Climate Agreement towards 55%. These adjustments were paired with insufficiently robust measures to realise this higher ambition for 2030 in such a short period of time.

In the Outline Agreement of Cabinet-Schoof, it was decided that the climate and energy goals would remain unchanged. However, several measures have been abolished, weakened, or reversed since. For example, the available budget for the SDE++ subsidiary scheme was lowered, which leads us to expect that this subsidy will no longer be open to new applications from 2027 onwards. Additionally, the Rural Development Programme of the Netherlands was halted and the national CO_2 levy for industry was suspended. Furthermore, tailor-made agreements with big businesses are only slowly taking shape; several of these discussions about such agreements have been halted entirely.

There have been significant economic and geopolitical changes over the last few years and there are concerns among businesses about licensing and infrastructure. It is because of this, among other things, that electrification in industry is stagnating. This means that future demand for renewable electricity is decreasing and the roll-out of renewable energy projects is being delayed. The roll-out of offshore wind energy is taking longer than originally planned. It is also uncertain whether the upcoming tenders for offshore wind farms will be successful. In agriculture, emission reductions are largely dependent on nitrogen policy, which is insufficiently clear.

The combination of these factors is worsening the investment climate for emission reductions, leading to stagnation in the energy transition. Right now, the remaining time to make any changes up to 2030 is becoming very limited. As such, opportunities are rapidly declining to bring the intended emission reduction of 55% any closer. To have a probability of circa 50% or circa 95% of reaching the goal, 13-22 additional megatonnes CO_2 equivalents need to be reduced compared to the baseline projection. Measures to achieve this will be drastic and will most likely generate damages, both economic as well as social. To continue as we are, however, does not only mean that it will become more difficult to realise the energy transition in the long run, but costs will also be passed on to future generations and it will be more difficult to reduce Dutch energy dependence.

This is why strong additional policy measures are needed to get the energy transition back on track soon, both at a European as well as a national level. Here, it is important that such policy is not only aimed at 2030, but that it also leads to structural reductions in emissions. This way, we can effectively support the energy transition in both the short and long term.

Policy is needed for a long-term, structural reduction in emissions

The Netherlands has no national climate goal for 2040, but if we assume a 90% reduction in greenhouse gas emissions in 2040 relative to 1990, as the European Commission has advised (EC 2025) – and as is incorporated in the Climate Plan 2025-2035 (KGG 2025a) – then extra effort will be needed over the next 15 years to structurally lower emissions.[2] This pathway is also necessary to become climate-neutral by 2050. In most sectors, however, there is a lack of climate and energy

[2] Since the collapse of Cabinet-Schoof, the Climate Plan 2025-2035 has been deemed controversial.

policy measures for the period after 2030, or there remain significant uncertainties about the implementation of scheduled European and national policy measures in the long run. Current policy is insufficient for structural reductions in emissions in the long term.

In the sector electricity, offshore wind energy is important for sustainability efforts. Currently, however, it is unclear whether offshore wind energy is an attractive investment option, since the uncertainties surroundings costs and profits are significant. In July, the demissionary Cabinet announced that the ambitions for offshore wind energy in 2040 will be adjusted downwards from 50 gigawatt to 30-40 gigawatt (KGG 2025b).

Given the uncertainties surrounding the ongoing development of electricity demand, and therefore the revenues of offshore wind energy, it is uncertain whether the upcoming tenders (bidding rounds) for new offshore wind farms will be successful. If they are not, this will lead to a delay in the roll-out of further offshore wind energy. Because offshore wind energy will be the most important source of renewable energy in the future, this delay will have a significant effect on the sustainability efforts of the electricity sector. Additionally, it will have a lot of impact on the security of supply and the availability of renewable electricity to electrify other sectors.

A large part of emission reductions in the sectors electricity and industry that have already been realised, can be attributed to the SDE++ subsidy scheme. With this scheme, the government provides exploitation subsidies to projects that will reduce CO_2. Subsidy applicants are usually businesses in industry or electricity. They can be granted a subsidy for the production of sustainable energy or for a reduction in CO_2 emissions. In the government programme by Cabinet-Schoof, the available resources for the SDE++ scheme have been reduced to 2.2 billion Euros per year (PVV, VVD, NSC & BBB 2024). This means that, after 2026, the SDE++ will no longer be open to new applications, unless an upcoming Cabinet allocates extra money. In this case, businesses, from 2027 onwards, will have to finance emission reduction measures for new projects themselves. This can lead to further stagnation in the energy transition, since this will likely hinder emission reductions after 2030, especially in the sectors industry and electricity.

The emissions by the sector built environment are expected to decline after 2030, but will do so less rapidly than before. Any further reductions after this year are mostly attributable to an increase in the number of heating pumps, replacement of buildings by natural gas-free new buildings, post-insulation in existing housing and buildings, and warmer winters as a consequence of climate change. The implementation of the natural gas-free neighbourhood approach is delayed, though, just like the expansion of the heating networks and the standardisation for sustainability efforts in utility buildings. Additionally, there are still significant uncertainties about the implementation of European and national policy following 2030. This means that, as of yet, there is insufficient policy to accelerate emission reductions in the long term.

For the sector mobility, it is expected that the estimated decline in greenhouse gas emissions will continue after 2030. This is mainly due to a substantial increase in the number of zero-emission vehicles as a result of the European CO_2 standards for road vehicles. European policy prescribes that, for all new passenger cars and vans from 2035 onwards, exhaust emissions will no longer be allowed. The CO_2 emissions of new trucks have to be reduced by 65% in 2035 relative to 2019, a percentage that increases to 90% by 2040.

The sector agriculture consists of livestock farming, arable farming, and greenhouse horticulture.[3] In livestock and arable farming, the emissions after 2030 will hardly decline, since there are few policy measures that extend beyond this year. The decision-making about nature and nitrogen policy partly determines livestock numbers and therefore partly determines the reduction of greenhouse gas emissions in livestock farming. It is expected that greenhouse horticulture emissions will further decrease after 2030, particularly because fewer (fossil) fuels will be used for combined heat and power systems, instead using more renewable energy. The goal to realise climate-neutral greenhouse horticulture in 2040 (LNV 2022b) remains, however, out of view.

Finally, in the period after 2030, we discern a slight decrease in the projected emissions from land use. This decrease is mainly caused by the estimation that forests will capture more carbon, partly because of their increased age, and because the effects of forest area expansion measures will continue until 2035.

These trends in the different sectors illustrate the necessity of strong additional policy, on both a European as well as a national level, to get the Netherlands back on track in the energy transition.

3) European goals for the reduction of greenhouse gas emissions in 2030 are within reach

In Europe, there are national goals for greenhouse gas emissions, which include the Effort Sharing Regulation (ESR). The ESR concerns mandated goals for nearly all emissions in mobility, built environment, and agriculture, as well as emissions from non-energy-intensive industry, including waste processing. This relates to emissions that do not fall under the first European emission trading system ETS1 nor those related to land use.

With the Effort Sharing Regulation, EU Member States are granted a specific amount of emission rights per year, for the period 2021-2030. If too little or too much is emitted in a given year, countries can compensate with emission rights of a following year. The annual emission rights amount to a so-called maximum cumulative emission. This allocation will be definitively established by the European Commission in 2025 and, for time being, is set at 829 megatonnes CO_2 equivalents for the Netherlands. This means that, from 2021 until 2030, the Netherlands is allowed to emit829 megatonnes CO_2 equivalents. This emission limit is based on the goal to achieve a 48% emission reduction in 2030 relative to 2005. For cumulative emissions, the speed with which policy is implemented is important. The sooner policy measures lead to a structural reduction in emissions in 2021-2030, the more years this reduction can contribute to reducing cumulative emissions. There is a difference here between the ESR target and other climate goals. In the cumulative ESR emissions, years with lower emissions can compensate for years with higher emissions. The national emission goal for 2030 as established in the Dutch Climate Law, on the other hand, only concerns emissions for the year 2030.

The cumulative emissions in the KEV 2025, in the baseline projection, are 800 [781-816] megatonnes CO_2 equivalents in the period 2021-2030. This is the sum of the realised annual emissions of 2021-2024 and the estimated ESR emissions between 2025-2030, based on the policy included in the baseline projection. In the first years of the ESR (2021-2023), greenhouse gas emissions were relatively low. This was mostly due to lower energy use as the result of, primarily,

[3] Livestock farming and arable farming also cover the emissions from non-greenhouse horticulture.

the COVID-19 pandemic and the high natural gas prices following Russia's invasion of Ukraine. These years compensate for the projected higher use in later years of the ESR. In the years 2026-2030, we estimate that ESR emissions will be approximately at the annual emission ceilings. From the difference between the cumulative emissions and the maximum allowed emission allowance of 829 megatonnes, there will be a surplus of 28.4 [12.4-47.7] megatonnes CO_2 equivalents. The probability that emissions between 2021 and 2030 will stay below the limit of 829 megatonnes, is higher than 95%. It is therefore extremely likely that the ESR goal will be reached.

When we also include scheduled policy measures, the cumulative ESR emissions in 2030 are projected to be 722-808 megatonnes CO_2 equivalents. As such, the difference with the maximum emission allowance is even larger and the probability of reaching the goal remains extremely high.

For the sector land use, there is a European emission target set for the Netherlands in 2030. This concerns a maximum net emission of 4.0 megatonnes CO_2 equivalents. This is derived from the European regulation for Land Use, Land-Use Change and Forestry (LULUCF). In the baseline projection, the probability is approximately 35% that the Netherlands will reach this land use-related goal. When including scheduled policy measures, emissions by land use will decrease. An important aspect here is that the (now demissionary) Cabinet aims to reverse the phasing out of the derogation of the European Nitrates Directive and gain new permission for a region-specific derogation. This would lead to more emission reduction than in the baseline projection, because a new derogation would, for example, mean fewer conversions of grassland to farmland than expected (grassland captures more carbon in soil than farmland does). Additionally, measures in peat meadow areas, forest expansion, and improving existing forests (or revitalisation) also contribute to scheduled measures. With these scheduled measures, the probability of reaching then goal rises to circa 60%.

4) ***The methane goal remains out of sight as there is hardly any progress in reducing methane emissions***

In the National Methane Strategy, Cabinet Rutte-IV established a target to reduce methane emissions in 2030 by 30% relative to 2020 (LNV 2022a). This strategy contributes to the Global Methane Pledge, which the Netherlands is a signatory of. In 2020, methane emissions constituted 19.5 megatonnes CO_2 equivalents, 74% of which was due to agriculture and 19% due to industry. The target for 2030 is to emit a maximum of 13.7 megatonnes CO_2 equivalents.

In the baseline projection, methane emissions in 2030 will be 15.7 [14.9-16.7] megatonnes CO_2 equivalents. That is a decline of 20% [15-23] relative to 2020. Approximately 63% of this decline is the result of a reduction in agricultural emissions, while another 33% is due to a reduction in industrial emissions. The probability of reaching the methane goal for 2030 as established in the National Methane Strategy is less than 5%. To have a 50% or 95% probability of reaching the goal, emissions (relative to the baseline projection) must decline with a further 2.1 and 3.0 megatonnes CO_2 equivalents, respectively. This corresponds to an additional 11-15 percentage points additional reduction in 2030 relative to 2020.

When we also include scheduled policy measures, methane emissions in 2030 will be 15.3-17.4 megatonnes CO_2 equivalents. This is a reduction of 11-22% relative to 2020. The probability of reaching the methane goal is therefore even smaller than in the baseline projection. The current demissionary Cabinet keeps striving for a new derogation, for which they submitted a request to

the European Commission. This potential new derogation, which we included in scheduled policy measures, is a significant contributor to the rise in emissions compared to the baseline projection.

The projected methane emissions for 2030 in the baseline projection are almost the same as the projection made in the previous KEV (2024). The projection that includes scheduled policy measures is approximately 0.3 megatonnes lower than in the previous KEV. The only new scheduled measure that we included in the KEV 2025 that has a significant effect on methane emissions, is the ETS2 opt-in by greenhouse horticulture. This reduces the methane slip from the use of gas-fired combined heat and power systems. We have not been able to include the results of the Ministerial Commission Economy and Nature Recovery, since the nitrogen policy was not sufficiently concrete by May 1st, 2025 (this KEV's reference date).

5) ***More specific policy for energy savings is needed***

The renewed European Energy Efficiency Directive (EED) of 2023 includes a goal to reduce final energy use in Europe by 11.7% relative to the reference scenario for energy use in 2030. Final energy use, as defined in the EED, is energy use by end users in the sectors industry, built environment, agriculture, and mobility (including international aviation).

The goal for reducing final energy use in the EED is binding on the EU-level. Member States contribute to this EU-wide goal with target values for maximum energy use in 2030. For the Netherlands, this constitutes a final energy use of 1.609 petajoules in 2030. To ensure that the final energy use goal is met, the European Commission can impose measures on Member States that are not on track.

Final energy use

In 2024, final energy use rose slightly compared to the year before, from 1.716 to 1.728 petajoules, mainly as the result of an increase in energy use in agriculture and international aviation.

In the baseline projection, final energy use declines to circa 1.716 [1.575-1.803] petajoules by 2030. The probability, then, that the target value of 1.609 petajoules for reducing final energy use is met, is approximately 10% (see Table 3). Energy use declines between 2024 and 2030 mostly because of electrification in industry, mobility, and the built environment. Simultaneously, we expect an increase in electricity used by data centres and an increase in use of bunker fuels by aviation. Important uncertainties here include the production in industry and the development of emission reduction projects through tailor-made agreements between energy-intensive industry and the Dutch government.

If we include those scheduled policy measures which are sufficiently developed to use for a projection, final energy use in 2030 consists of 1.556 to 1.784 petajoules. Therefore, the probability that the target value for reducing final energy use is met is circa 20% (see Table 3). The projection that includes scheduled policy measures is approximately 20 petajoules lower than the baseline projection without these measures. Of these 20 petajoules, circa 10 petajoules are the effect of scheduled measures in the built environment, and the other 10 petajoules are the effect of scheduled measures in greenhouse horticulture. In the built environment, energy use is lower because of the application of extra post-insulation in the existing building stock, which is made possible by an additional 1.3 billion Euros in the Climate Fund budget through the sustainable energy investment subsidy (ISDE) scheme. There is also 1.65 billion Euros subsidy budget for the insulation approach for buildings in the provinces of Groningen and North Drenthe, as well as

energy prestation requirements for utility buildings and private rental housing (see paragraph 2.3.3 in the full-length Dutch version). For greenhouse horticulture, scheduled policy measures include the intention to bring greenhouse horticulture into the ETS2 system via an opt-in. Because of higher natural gas prices, more and more heating pumps are used instead of combined heating and power systems for heating production in greenhouse horticulture.

To reduce energy use, specific policy aimed at energy saving will be needed
Much climate policy is aimed at the sustainability of energy carriers. To reduce energy use, specific policy is needed which is aimed at energy saving. In the built environment, there is attention in policy for heating pumps and post-insulation, but less so for economical heating, ventilating, and cooling. In the sector mobility, there is policy aimed at electrification and bio-fuels, but not anything aimed at decreased driving of cars and increased use of public transport and bicycles, car parts, and purchase or use of smaller cars. Policy for industry is more aimed at emission reduction than on energy saving. Because of the high energy demand for heat in the production process, heat recovery could play an important role in this. In greenhouse horticulture, the programme 'The New Growing' ('Het Nieuwe Telen') offers courses and knowledge exchanges about energy efficient cultivation, but there are, as of yet, no subsidies for farmers to do so in practice.

Alongside a direct contribution to the EED-goals for energy saving themselves, the reduction in energy use also contributes to an affordable, sustainable, and reliable energy supply. Energy savings lower the energy bill for both households and businesses and it also contributes to a more sustainable energy system. A lower energy demand also means that less renewable energy is needed to meet this demand. Therefore, energy savings contribute to meeting the targets for renewable energy. Additionally, a reduction in energy use also helps the climate goals, since fewer greenhouse gases are emitted during the burning of the fossil part of the used energy. This also reduces the air pollution that is the result of this burning. Energy savings also contribute to a more reliable energy supply by reducing Dutch energy dependence. If less energy is used in the Netherlands, then the country becomes less dependent on energy imports from abroad.

6) The goal for the share of renewable energy in 2030 is further out of sight
In the revised European directive for renewable energy, Member States agree to raise the share of renewable energy in total European energy use to a minimum of 42.5%, and to strive for 45% in 2030. The European Commission expects the Netherlands to contribute a minimum of 39% in renewable energy.

In 2024, the share of renewable energy in the Netherlands was 20%. That is almost 3 percentage points higher than in 2023, and more than double compared to 2019. The increase in 2024 can mostly be attributed to increased offshore wind energy and a doubling in the use of biodiesel for road transport.

In the baseline projection in this KEV, we project a share of renewable energy of 32% [29-36] in 2030. The goal for the Netherlands of 39% is therefore outside of the bandwidth of the projection, resulting in a probability of less than 5% of reaching the goal for renewable energy. Half of the increase in the share of renewable energy between 2024 and 2030 can be attributed to wind energy, especially offshore wind energy. Additionally, we expect a growth in the use of bio-fuels, solar energy, heating pumps, geothermal energy, and the production of biogas (through fermentation and gasification of manure and biomass). The most important uncertainty for the

projection of the share of renewable energy is due to the question of how many offshore wind projects can be realised before 2030.

If we include scheduled policy measures in these projections, we arrive at a share of renewable energy of 30-37% in 2030. Even with this small increase, the probability of reaching the goal of 2030 remains less than 5%. This small increase is mainly due to increased use of bio-fuels which is due to an increase in fuel transition obligation in mobility, as well as an increased use of heating pumps because of higher natural gas prices related to the opt-in of greenhouse horticulture in ETS2.

The current projection of the share of renewable energy in total Dutch energy use is 1 percentage point lower than the projection in the KEV 2024. This is mainly the result of delays in the roll-out of offshore wind energy.

Because 2030 is rapidly approaching, reaching this goal is getting further and further out of sight. Investments in renewable energy projects usually have a long lead time, which is why policy measures that are only implemented after 2026, will have a limited contribution to the share of renewable energy in 2030.

7) ***Energy dependence declines in 2030; the United States is expected to remain the most important non-European supplier of natural gas and oil***

Energy dependence is one the benchmarks of Statistics Netherlands (CBS). It provides the extent to which energy used in the Netherlands comes from foreign nations. Energy dependence is energy imports divided by the sum of imports and production, where energy carriers are weighted by their share in total energy consumption. If the share of an energy carrier (of which part must be imported) increases, then its dependence also increases. Since 2015, energy dependence has risen to a record high of 79% in 2023, decreasing slightly again to 78% in 2024. This is the result of the reduction in natural gas extraction in the province of Groningen, meaning more natural gas has to be imported from abroad.

In the projection in this KEV, energy dependence in the baseline projection declines from 78% in 2024 to 68% in 2030. The level has not been this low since 2015. The decline in dependence is primarily the result of an increase in electricity production from solar and wind power in the Netherlands as well as the growth in ambient heat extraction using heating pumps. Simultaneously, the share of imported fossil fuels in the Dutch energy supply is decreasing.

In terms of energy dependence on natural gas, we see little difference in the baseline projection of 2025 compared to the one of 2024. While natural gas use is declining, the extraction in the Netherlands is also declining, meaning that overall energy dependence decreases only marginally. The most important supplier of natural gas and oil in 2024 was the United States. Given the expected trends in global production of natural gas and oil, it is expected that the United States will continue to be the country from which the Netherlands imports most of its natural gas and oil in 2030.

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Table 1
Greenhouse gas emissions per sector[1,2,3,4] in megatonnes CO_2 equivalents

Sector	1990	2024*	Projection 2030	Bandwidth projection 2030	Bandwidth projection 2030 including scheduled policy measures
Reduction national greenhouse gas emissions since 1990 (percentage)	-	36	50	45 - 53	46,8 - 54,5
Total	228	145	114	107 - 125[a]	103 - 121
Electricity	39,6	23,1	12,1	9,0 - 19,8	9,1 - 20,0
Industry	87,0	47,4[b]	37,2	32,8 - 41,8	30,6 - 39,6
Built environment	29,8	17,2	15,5	12,5 - 18,2	11,9 - 17,6
Mobility	33,6	29,2	23,5	20,6 - 25,5	19,5 - 24,5
Agriculture	33,2	24,8	21,9	19,9 - 24,4	19,7 - 24,7
Land use	4,42	3,1	4,1	3,4 - 4,9	3,1 - 4,7
ESR sectors	-	81,8	68,5	63,1 - 73,1	59,7 - 69,8
Cumulative ESR sectors 2021-2030	-	-	800	781 - 816	772 - 808
Methane emissions	36,5	18,0	15,7	14,9 - 16,7	15,3 - 17,4

1) The statistics for the years 1990 and 2024 are not corrected for temperature (Emissieregistratie 2025).
2) Because of rounding, small differences can arise between totals and underlying numbers.
3) The projections for 2030 are based on the baseline projection.
4) See Appendix 1 in the full-length Dutch report for the sector classification of the KEV.
a) The sectoral bandwidths cannot be added up to the national total bandwidth, because of the applied methodology which takes into account interactions between uncertainties in sectors.
b) In the projections of the fluorocarbon emissions, we have corrected a mistake which had not been incorporated in the statistical data of 2024. This correction concerns the fluorocarbon emissions from stationary cooling; this would raise the 2024 emissions by circa 0.4 megatonnes.
* Provisional emissions (Emissieregistratie 2025).

Table 2
Energy use and share renewable energy[1]

	2019[a]	2024*	Projection 2030	Bandwidth projection 2030	Bandwidth projection 2030 including scheduled policy measures
Final energy use according to EED 2023 (petajoules)	**2.001**	**1.728**	**1.716**	**1.575 - 1.803**	**1.556 - 1.784**
Primary energy use according to EED 2023 (petajoules)	**2.668**	**2.261**	**2.211**	**2.052 - 2.308**	**2.043 - 2.297**
Share of renewable energy (percentage)	**9**	**20**	**32**	**29 - 36**	**30 - 37**

1) The projections for 2030 are based on the baseline projection.
a) In this table, 2019 is included because this was before the Russian invasion of Ukraine and the COVID-19 pandemic, which had higher energy prices and lower activities as a result.
* Provisional statistics (CBS 2025).

Table 3
Probabilities of reaching the most important national and European climate and energy goals

Description goal	Goal	Probability of reaching the goal in the baseline projection	Probability of reaching the goal in the baseline projection with scheduled policy measures
National target for reduction of greenhouse gas emissions in 2030 relative to 1990	55%	less than 5%	less than 5%
Target reduction of methane emissions in 2030 relative to 2020	30%	less than 5%	less than 5%
Emissions in ESR sectors, cumulative allowance 2021-2030 (binding)	829 megatonne CO_2 equivalents	more than 95%	more than 95%
Land use emissions, national target for 2030 (binding)	0.435 megatonnes CO_2 equivalents reduction relative to the average of 2016-2018. We can deduce a provisional residual emissions target for 2030 of 4.0 megatonnes CO_2 equivalents	circa 35%	circa 60%
Contribution to EU goal renewable energy in 2030 (binding)	39% of total gross end use	less than 5%	less than 5%
Target reduction final energy use (article 4 EED, binding goal EU)	Maximum of 1.609 petajoules final energy use in 2030	circa 10%	circa 20%
Intended contribution to reduction primary energy use (article 4 EED, indicative goal EU)	Maximum of 1.935 petajoules primary energy use in 2030	less than 5%	less than 5%
Electricity, indicative residual emission goal 2030	13.0 megatonnes CO_2 equivalents	circa 40%	circa 40%

Description goal	Goal	Probability of reaching the goal in the baseline projection	Probability of reaching the goal in the baseline projection with scheduled policy measures
Industry, indicative residual emissions goal 2030[a]	28.8 megatonnes CO_2 equivalents	less than 5%	less than 5%
Built environment, indicative residual emissions goal 2030	13.2 megatonnes CO_2 equivalents	circa 10%	circa 15%
Mobility, indicative residual emissions goal 2030[b]	21.3 megatonnes CO_2 equivalents	circa 10%	circa 30%
Agriculture, indicative residual emissions goal 2030	17.9 megatonnes CO_2 equivalents	less than 5%	less than 5%
Land use, indicative residual emissions goal 2030	1.8 megatonnes CO_2 equivalents	less than 5%	less than 5%
Greenhouse horticulture, indicative residual emissions goal 2030	4.3 megatonnes CO_2 equivalents	circa 15%	circa 30%

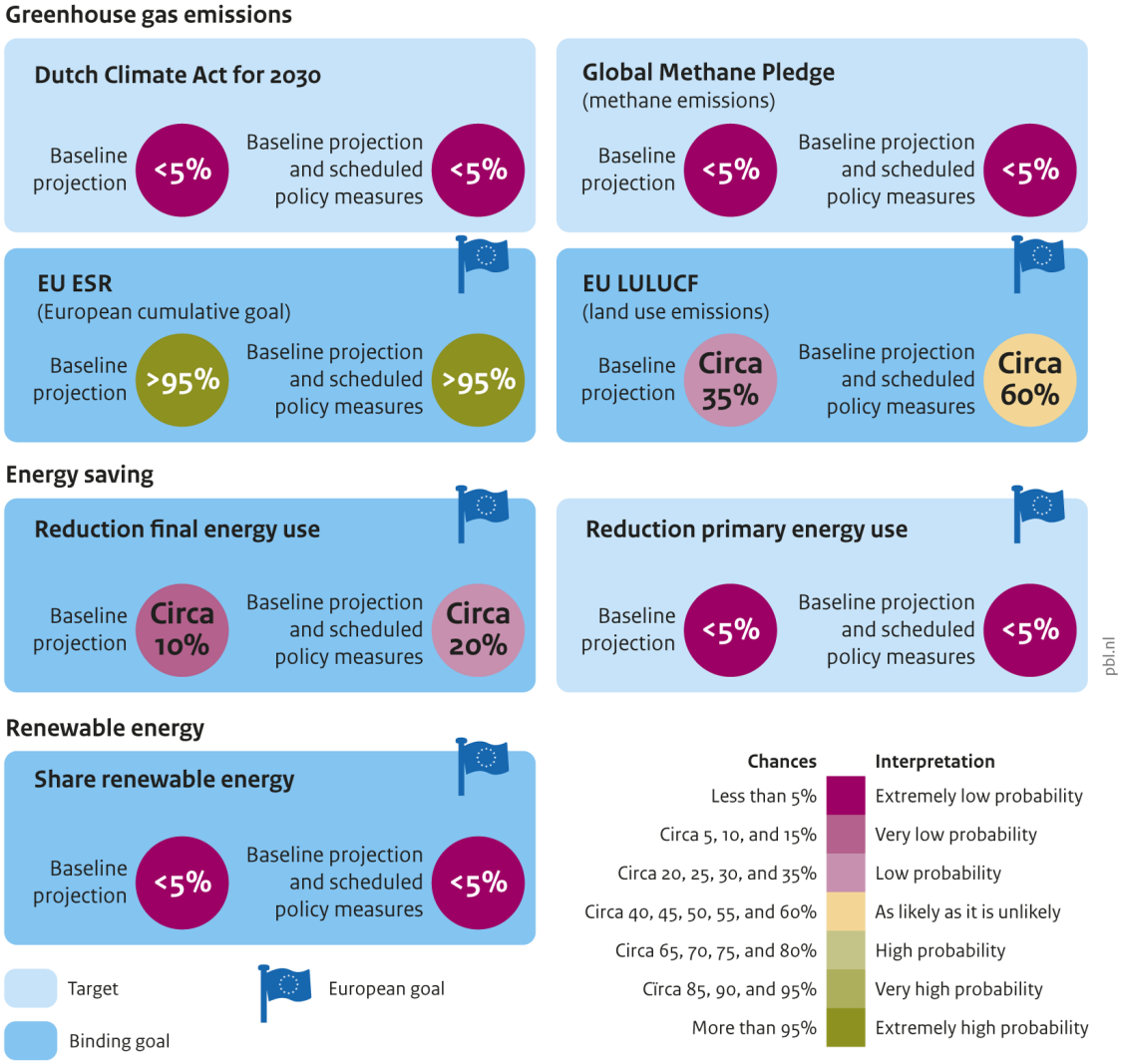
a) The indicative residual emissions goal for industry has been lowered from 29.1 to 28.8 megatonnes CO_2 equivalents (KGG 2025c).

b) The indicative residual emissions goal for mobility has been raised from 21.0 to 21.3 megatonnes CO_2 equivalents (KGG 2025c).

Diagram 1

Probability of reaching the climate and energy goals

in the Climate and Energy Outlook 2025



Source: PBL