CPB Netherlands Bureau for
Economic Policy Analysis

Evaluation of the Climate Agreement

This report contains an analysis of the climate measures taken by the Rutte III Cabinet, as requested by the Minister of Economic Affairs and Climate Policy.

The package of measures, with additions and adjustments, builds on the draft Climate Agreement of late 2018.

The report presents the effects of the Climate Agreement measures on the budget, financial burden and income.

CPB Communication

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1 Introduction

This report contains an analysis of the climate measures taken by the Rutte III Cabinet, as requested by the Minister of Economic Affairs and Climate Policy. The package of measures, with additions and adjustments, builds on the draft Climate Agreement of late 2018. These measures were evaluated in the same way as those of the draft Climate Agreement.[1] A full description of all measures is provided in Appendix C. The report presents the effects of the measures on the budget, financial burden and income.[2] The effects, generally speaking, are based on the same package of measures as those used by PBL Netherlands Environmental Assessment Agency for its analysis.[3] Appendix B provides an overview of the differences arising from the fact that, according to CPB, some of the measures would not be unilaterally enforceable by the government and/or have not been worked out in sufficient detail. As a result, the reduction potential as calculated by PBL, and for which CPB in this report does not provide any indication of the budgetary, financial burden and income effects, may be a few megatonnes lower in total. The reported effects are projections and, therefore, inherently uncertain. Technically, it is not possible to apply a confidence interval, but this does not remove the uncertainty.

The effects of the climate measures are considered in conjunction with current climate and energy policy as implemented by the current Cabinet and its predecessors. Even without the current package of measures, there will be budgetary, cost and income effects at some point in the future. Furthermore, overall climate and energy policy is in line with household, business and economic perceptions, as the total change will be felt from one year to the next; the source of the impact — whether previously anticipated policy changes or climate measures taken by Cabinet — is less important. Appendix A contains a description of the current policy in the baseline scenario, which is similar to the one used in the evaluation of the draft Climate Agreement. The baseline scenario, however, has now been cleared for measures from the Climate Agreement, as incorporated in CPB's most recent Macro Economic Outlook (MEV 2020).[4] PBL used the Climate and Energy Outlook 2019 as a reference scenario; for their analysis of the draft Climate Agreement, this concerned the National Energy Outlook 2017.[5, 6]

This evaluation presents the effects of three types of government instruments: expenditure, measures that concern the financial burden, and regulation. It shows the impact for three reference years (2021, 2025 and 2030), to illustrate developments over time. Expenditures and the financial burden are presented per sector (Electricity, Built Environment, Industry, Agriculture and Land use, and Mobility and Transport). The financial burden is further divided into that on households, businesses and other countries. The evaluation shows both EMU-related costs (those with a relationship to the government balance) and non-EMU-related costs. The latter consist of the costs for households and businesses to comply with new standards and regulations. The income effects are presented up to 2021 and 2030; on this point, the year 2025 was left out, as this would have provided hardly any additional information.

[1] A description of the assessment framework used by the CPB can be found in Appendix A of CPB (2019), Evaluation of the draft Climate Agreement, CPB Communication, 13 March 2019 (link).
[2] The effects of the measures on GDP, employment and the relocation of industrial activities are briefly explained in Chapter 3.
[3] PBL (2019), Het Klimaatakkoord: effecten en aandachtspunten [the Climate Agreement; effects and points of attention], PBL Policy Brief, 1 November 2019
[4] CPB (2019), Macro Economic Outlook 2020, CPB Communication, 17 September 2019 (link).
[5] PBL (2019), Klimaat- en Energieverkenning 2019 [Climate and energy outlook], PBL Report, 1 November 2019
[6] ECN, PBL, CBS and RvO (2017), Nationale Energieverkenning 2017 [National Energy Oulook 2017], ECN Report (ECN-O--17-018), 19 October 2017 (link).

Reader. Chapter 2 contains the main data of the evaluation of the Cabinet's climate measures. Chapter 3 gives a further elaboration of these main data, broken down into overall expenditures and financial burden. Chapter 4 discusses the effects on income, including a description of the background and approach used in their evaluation (e.g. the use of the more up-to-date database on housing in the Netherlands in 2018 (*Woononderzoek Nederland 2018*). Appendices A, B and C, respectively, describe CPB's baseline scenario, the differences with PBL's analysis on measure level, and the measures that CPB included in the evaluation. Appendix D provides an overview of the relationship to the draft Climate Agreement, broken down in measures, and explains how the income effects relate to those in the draft Climate Agreement.

2 Main data Climate Agreement evaluation

What would be the most important consequences of current climate and energy policy and the Climate Agreement for public finances and household incomes? Table 2.1 provides a general overview, which is elaborated in the remainder of this chapter.

The evaluation provides insight into the ex-ante effects (without macroeconomic delayed impact) on public expenditure, policy-related costs and income effects in the target year 2030. It should be noted that the evaluation relates only to the policy fields of climate and energy and can therefore not be regarded as a complete forecast of expenditures, financial burden and overall purchasing power up to 2030.

Overall climate and energy policy shows an improvement in public finances in 2030. The budgetary scope in current climate and energy policy under the Renewable Energy Storage (ODE) tax and the proceeds from air travel tax will partly be used in the Climate Agreement. In addition, the Climate Agreement will increase expenditures by 1.9 billion euros and the financial burden by 0.3 billion euros. On balance, overall climate and energy policy — including the Climate Agreement — will lead to an ex-ante balance improvement of 0.7 billion euros in 2030.

The package of measures in the Climate Agreement will lead to an ex-ante balance deterioration of 1.6 billion euros in 2030. Expenditures under the Climate Agreement will increase by 1.9 billion euros in 2030. The largest increase is due to additional expenditure on the Stimulation of Sustainable Energy Production (SDE+) scheme. Expenditure on the expanded SDE+ scheme will increase from 1 billion euros in 2021 to 1.3 billion euros in 2030.[7] In addition, a spending increase of 0.4 billion euros will be invested in the sustainable energy investment subsidy (ISDE) and in refunding the net revenues from the heavy goods vehicle tax. Other spending increases are distributed across various measures. The additional expenditure related to the Climate Agreement is offset by an increase of 0.3 billion euros in the EMU-related financial burden, causing the overall budget to deteriorate. The Climate Agreement increases non-EMU-related costs by 1.2 billion euros through obligations, restrictions and standardisations, mainly due to higher grid tariffs as a result of additional onshore and offshore grids.

[7] The SDE+ focuses on businesses and non-profit institutions. The last year in which the SDE+ existed in this form was 2019. From 2020, the SDE+ will be expanded under the name Stimulation of Sustainable Energy Transition (SDE++).

The consequences of the carbon tax for the financial burden on the Industrial sector (policy-related and non-EMU-related) are only known for 2030. For the 2021–2029 period, the budgetary consequences cannot be outlined, but may be considerable.[8] In the respective tables in Chapter 3, this unknown effect is indicated as 'NA' (not available).

Table 2.1 Summary overview Climate Agreement, in 2030 (2018 price level)

	Overall climate and energy policy including Climate Agreement	Effect Climate Agreement
Expenditure (billion euros)		
Total EMU-related expenditure	3.9	1.9
Financial burden (billion euros)		
Total policy-related financial burden	4.6	0.3
- Households	1.8	-0.9
- Businesses	2.6	1.1
- Other countries	0.2	0.1
Non-EMU-related financial burden (billion euros)	1.6	1.2
- Households	0.3	0.3
- Businesses	1.3	0.9
Income effects (static, per income group, compared to 2018)		
1%–20% (<115% NMW)	-0.5%	0.7%
20%–40% (115–184% NMW)	-0.5%	0.5%
41%–60% (184–268% NMW)	-0.4%	0.4%
61%–80% (268–390% NMW)	-0.4%	0.3%
81%–100% (> 390% NMW)	-0.3%	0.2%
Total all households	-0.4%	0.3%
Income effects (delayed impact, total, compared to 2018)		
Total all households	-1.0%	

Expenditure

Public expenditure on overall climate and energy policy will increase by 3.9 billion euros in 2030. Current policy, for example, includes planned spending increases on the SDE(+), the Infrastructure Fund and the Delta Fund, and the Cabinet's reserved financial resources for climate and energy purposes will increase expenditures on current policy to 2 billion euros. Financial resources that have been reserved for climate and energy policy are utilised under the Climate Agreement which, together with additional expenditures, represent to a total of 1.9 billion euros.

[8] PBL was not able to estimate the tax base for the intervening years. Therefore, no revenues could be calculate for those years.

The increase in public expenditure related to the Climate Agreement will be 1.9 billion euros in 2030. On balance, the Built Environment sector will increase spending by 0.3 billion euros in 2030. Most of this will involve an expansion of the SDE+ for renewable heat projects. The spending increases in the Industrial sector largely concern an expansion of the SDE+ for the roll-out of CO_2-reducing technologies (0.6 billion euros). For the Agriculture and Land-use sector, spending increases and spending cuts will balance out by 2030. The spending increases in the Mobility and Transport sector amount to 0.4 billion euros, which mainly concern the feed back of net revenues from the heavy goods vehicle tax to the Mobility and Transport sector, from 2023 onwards. On balance, the Electricity sector will increase spending by 0.2 billion euros in 2030. Most of this is due to an expansion of the SDE+ scheme for renewable electricity.

Financial burden

Overall climate and energy policy will increase the public burden by 4.6 billion euros, 1.8 billion of which for households, 2.6 billion for businesses and 0.2 billion for other countries. The increase in the financial burden on households and businesses will mainly be driven by the increase in ODE tax to fund the SDE+ scheme. The increase in the financial burden on other countries is due to air travel tax.

The increase in the public financial burden related to the Climate Agreement will be 0.3 billion euros in 2030. The public financial burden, under the Climate Agreement, will increase by 1.1 billion euros for businesses and by 0.1 billion euros for other countries. For households, the Climate Agreement means a net reduction of 0.9 billion euros in the financial burden. For both households and businesses, the measures taken in the Mobility and Transport sector and the Built Environment sector determine the development of the public financial burden, which will fluctuate over time. For households, the Climate Agreement will reduce the public financial burden, particularly until 2025, thus decreasing the reduction in the financial burden. For businesses, in addition to the carbon tax, the policy-related burden will increase to 1.0 billion euros between 2021 and 2025. In subsequent years, the financial burden on businesses will increase to 1.1 billion euros in 2030.

Non-EMU-related financial burden

The non-EMU-related burden (via obligations, restrictions or standardisations) regarding overall climate and energy policy will affect businesses (1.3 billion euros) and households (0.3 billion euros) for a total of 1.6 billion euros in 2030. For business, 0.9 billion euros will be due to the Climate Agreement and 0.4 billion euros to current policies. The last relates to the planned closure of coal-fired power plants and the European CO_2 standards for heavy goods vehicles and delivery vans. The non-EMU-related burden of 0.3 billion euros on households stems entirely from the Climate Agreement.

The Climate Agreement will lead to an increase of 1.2 billion euros in the non-EMU-related financial burden by 2030. For example, the costs of new additional power grids will be transferred on to households and businesses through grid tariffs. The carbon tax for industry is expected to trigger business investments in emission reduction. The Climate Agreement also imposes additional standards on commercial and social real estate and imposes an obligation to use renewable fuels.

Income effects

Overall climate and energy policy up to 2030 will lead to a cumulative negative income effect of -0.4% compared to 2018 and an overall imbalance of income. Lower incomes will experience a greater financial setback than higher incomes, up to 2030. The decline for the lowest income group will be -0.5%, while for the highest income group this will be 0.3%, as a result of overall climate and energy policy between 2018 and 2030. Almost two-thirds of this due to current climate and energy policy.

The package of measures contained in the Climate Agreement will lead to a positive income effect of 0.3% in 2030 (compared to 2018) and is least to the benefit of higher incomes. On average, higher incomes will increase by 0.2%, while for lower incomes the increase will be 0.7%. The shift in energy tax between electricity and natural gas will have an unbalancing effect, while the increase in the reduction in energy tax will have a levelling-off effect. The decrease in financial burden outweighs the increase, which causes the overall effect of the Climate Agreement to have a levelling-off effect. However, there will be more positive and negative outliers among the low-income group, partly depending on car ownership and type of car and differences in energy consumption.

On balance, delayed-impact effects will lead to an additional income effect of -0.6%, causing the income effect from energy and climate policy, on average, to increase to -1.0%. The estimated transfer effect amounts to -0.7%; the underlying assumption being that businesses will pass approximately 80% of the increase in costs on to citizens through higher tariffs.[9] The estimated behavioural effect of households is equal to 0.1%.

3 Expenditure and financial burden

3.1 Expenditure

In overall climate and energy policy, public expenditure will increase by 3.9 billion euros in 2030 (see Table 3.1). Roughly half of this consists of expenditures under the Climate Agreement, the other half of spending increases under current climate and energy policy. In both cases, expenditure on the SDE+/++ scheme accounts for the largest share of total net spending increases. Appendix A provides a more detailed picture of these expenditures.

On balance, current climate and energy policy contains a net increase in spending. Towards 2030, structural spending increases are planned under the SDE(+) scheme and the Infrastructure Fund (together, 1.7 billion euros in 2030), as incidental increases in spending for, among other things, the Urgenda judgment and the Delta Fund. In addition, Cabinet has reserved financial resources for energy and climate purposes (0.3 billion euros in 2030). The net spending increase under current climate and energy policy will increase further towards 2025 and then decrease again, roughly in line with the expected expenditure on SDE(+). Appendix A contains an explanation of current climate and energy policy and the changes compared against the earlier evaluation of the draft Climate Agreement.

On balance, the Climate Agreement will lead to a spending increase of 1.9 billion euros in 2030.[10] Table 3.1 provides a picture of the Climate Agreement's overall expenditure. On balance, the Electricity sector will increase spending by 0.2 billion euros in 2030. The net increase in spending in the Built Environment sector will amount to 0.3 billion euros in 2030. The Industrial sector will increase spending by 0.6 billion euros in 2030. For the Agriculture and Land-use sector, the spending increases and spending cuts will be in equilibrium by 2030. The spending increase in the Mobility and Transport sector will amount to 0.4 billion euros.

[9] CPB, 2019, Methodological basis of the evaluation of income effects from the draft Climate Agreement , CPB Background Document, 13 March 2019 (link).
[10] The Climate Agreement does not include the delayed-impact effect of net spending increases on the municipal and provincial funds. This deviates from the current budget rules.

Table 3.1 Expenditures Climate Agreement (billion euros, 2018 price level)

	2021	2025	2030
Electricity	0.0	0.1	0.2
Built Environment[11]	0.2	0.4	0.3
Industry	0.0	0.3	0.6
Agriculture and Land use	0.2	0.0	0.0
Mobility and Transport	0.2	0.6	0.4
Other SDE(+) means[12]	0.8	0.1	0.3
Total EMU-related expenditure Climate Agreement	1.5	1.5	1.9
Overall climate and energy policy including Climate Agreement	4.1	4.4	3.9

Public expenditure in the Electricity sector will amount to 0.2 billion euros in 2030. Of this, 0.2 billion euros relates to the expansion of the SDE+ scheme for renewable electricity. Funds will also be earmarked for setting up pilot projects and public-private project plans in the fields of hydrogen and spatial integration.

In the Built Environment sector, the Cabinet is increasing spending by 0.3 billion euros in 2030. More than half will be spent on expanding the SDE+ scheme for renewable heat projects and on the investment subsidy for renewable energy (ISDE). The Cabinet will also contribute 0.1 billion euros to a financing fund for owner-occupiers and homeowners' associations to implement sustainability measures. By setting up this financing fund, Cabinet increases the size of the guarantees granted by 4.5 billion euros, which is equal to the size of this fund. In addition, Cabinet increases spending by 0.1 billion euro on various measures within the framework of the neighbourhood-oriented approach.

Public spending increases in the Industrial sector will be around 0.6 billion euros in 2030. Rounded off, 0.6 billion euros will be spent on expanding the SDE+ scheme for the roll-out of CO_2-reducing technologies in industry. In addition, around 0.1 billion euros will be spent on pilot projects to promote the sustainability of industry. This relates in particular to the circularity, electrification and the underground storage of CO_2 (CCS).

For the Agriculture and Land-use sector, public spending increases and spending cuts will be more or less balanced by 2030. The spending increases mainly consist of a large number of measures with a budget impact of around 0.01 billion euros or less. These measures include stimulating investments in precision agriculture and greenhouse horticulture by means of pilot projects and subsidies, a more efficient use of industrial residual heat for greenhouse horticulture, and making a variety of financial resources available for the peat meadow problem.

The net increase in public spending in the Mobility and Transport sector will amount to 0.4 billion euros in 2030. This mainly concerns the feed back of net revenues from the heavy goods vehicle tax to the Mobility and Transport sector, from 2023 onwards. The other spending increases in this sector concern a diverse number of subjects, including sharing knowledge and experience in the use of zero-emission mobile equipment and addressing railway peak rush hours.

[11] These measures include the creation of a finance fund, which will increase the volume of guarantees granted by public authorities by 4.5 billion euros.
[12] These general resources contribute to emission reduction, but are not allocated to a particular sector.

Finally, for each sector, a provisional estimate is provided for measures involving costs, but for which it is not yet possible to calculate the exact budgetary impact (see Appendix C). Together, these provisional estimates amount to 0.1 billion euros in 2030.

3.2 Financial burden

Table 3.2 Financial burden Climate Agreement (billion euros, 2018 price level)

	Overall climate and energy policy including Climate Agreement			Effect Climate Agreement		
	2021	2025	2030	2021	2025	2030
Total policy-related financial burden	2.5+NA	3.4+NA	4.6	-0.9+NA	-0.5+NA	0.3
- Households	0.7	0.8	1.8	-1.3	-1.6	-0.9
- Businesses	1.7+NA	2.5+NA	2.6	0.4+NA	1.0+NA	1.1
- Other countries	0.1	0.2	0.2	0.0	0.1	0.1
Non-EMU-related	0.2+NA	1.1+NA	1.6	0.1+NA	0.5+NA	1.2
- Households	0.0	0.1	0.3	0.0	0.1	0.3
- Businesses	0.2+NA	1.0+NA	1.3	0.1+NA	0.3+NA	0.9

Overall climate and energy policy increases the financial burden on households, businesses and other countries (Table 3.2). Current climate and energy policy accounts for most of the increase in the financial burden. For the 2021–2029 period, the financial burden (policy-related and non-EMU-related) on businesses as a result of the carbon tax cannot be outlined, but may be considerable (NA in Table 3.2).[13] Abstracting from the carbon tax, the Climate Agreement will reduce the public financial burden by 0.9 billion euros in 2021, and including current climate and energy policy means that the financial burden will increase on balance by 2.5 billion euros. In 2030, the financial burden related to overall climate and energy policy will increase to 4.6 billion euros, of which 0.3 billion due to the Climate Agreement. The increase in the financial burden on households and businesses from current energy policy is driven by the increase in the ODE tax to finance the SDE+, the increase in the financial burden related to energy tax, and the abolition of the net metering scheme.

Abstracting the carbon tax, the Climate Agreement will alleviate the public financial burden in the early years and, subsequently lead to an increasing public financial burden towards 2030. The financial burden reduction in the first years applies to households. The increase in the financial burden is mainly on businesses; after an increase of 0.4 billion euros in 2021, the policy-related burden on businesses will increase to 1.0 billion euros in 2025 and 1.1 billion euros in 2030, which is the result of the increases in ODE tax, heavy goods vehicle tax and energy tax on natural gas, among other things. For households, the Climate Agreement will reduce the policy-related financial burden by 1.3 billion euros in 2021 and 1.6 billion euros in 2025. This is mainly due to the energy tax measures, in which the tax refund is increased, the rate on electricity decreases and the rate on natural gas consumption increases. Thereafter, the reduction in the financial burden will become smaller, mainly due to the phasing out of the tax incentive for zero-emission vehicles. After 2021, the financial burden on other countries will increase by 0.1 billion euros through the introduction of a heavy goods vehicle tax.

[13] PBL has not been able to estimate the tax base for the intervening years. Therefore, no revenues could be calculate for those years.

Table 3.3 Financial burden Climate Agreement per sector (billion euros, 2018 price level)

	Total policy-related financial burden			Non-EMU-related financial burden		
	2021	2025	2030	2021	2025	2030
Overall climate and energy policy, including Climate Agreement	2.5+NA	3.4+NA	4.6	0.2+NA	1.1+NA	1.6
Effect Climate Agreement	-0.9+NA	-0.5+NA	0.3	0.1+NA	0.5+NA	1.2
of which: - Electricity	0.0	0.0	0.0	0.1	0.3	0.8
- Built Environment	-0.7	-0.5	-0.4	0.0	0.0	0.0
- Industry	0.0+NA	0.0+NA	0.0	0.0+NA	0.0+NA	0.2
- Agriculture and Land use	0.0	0.0	0.0	0.0	0.0	0.0
- Mobility and Transport	-0.3	-0.1	0.7	0.0	0.1	0.3

Abstracting from the carbon tax, the largest part of the policy-related increase in the financial burden arises from measures in the Mobility and Transport sector. The increased financial burden in the Mobility and Transport sector, for households, will be driven by the phase-out of the stimulation of zero-emission vehicles around 2025 and, for businesses, by the introduction of a heavy goods vehicle tax in 2023, which will be accompanied by a reduction in MRB for heavy goods vehicles and the abolition of the Eurovignette. In 2021, there will be a net reduction in the financial burden of 0.3 billion euros, as a result of the cost-reduction measures in BPM and MRB for zero-emission vehicles.[14] In 2025, the reduction in the financial burden, on balance, will increase by 0.1 billion euros, partly as a result of the burden-reducing delayed impact of the mobility and transport measures on tax revenues. The stimulation measure for zero-emission vehicles will cease around that year, after which there will be an increase in the financial burden of 0.7 billion euros towards 2030.

On balance, the shift in energy tax and ODE in the Built Environment sector (households and businesses combined) will reduce the financial burden. The shift consists of increases in the financial burden due to a higher taxation of natural gas and higher ODE tariffs for businesses, and of decreases in the financial burden due to an increase in tax reduction and lower electricity tariffs. Throughout the entire evaluation period, this shift will decrease the financial burden on households, while causing an increase in the financial burden on businesses.

The Climate Agreement will increase the non-EMU-related financial burden in the Electricity, Industry, and Mobility and Transport sectors through obligations, restrictions and standardisations. The costs of additional power grids (onshore and offshore) will be included in the grid tariffs and, thus, passed on to households and businesses, as well as the costs of removing natural gas connections. The introduction of a carbon tax for industry will trigger additional investments in emission-reducing technologies by companies to avoid having to pay the tax. The extent of the resulting increase in the non-EMU-related financial burden is unknown for the 2021–2029 period. Furthermore, businesses will be required to set energy performance standards for commercial and social real estate, and face an obligation to use 27 PJ in additional renewable fuels in road transport, compared to the 2030 scenario in the NEV2017.

[14] The delayed impact in provincial surtaxes was not included.

The GDP loss of overall climate and energy policy will be more than half a per cent, while the relocation of energy-intensive industries is expected to remain limited.

Overall climate and energy policy will reduce GDP by more than 0.5%.[1] The total of current policy and the Climate Agreement includes an increase in the financial burden that tempers growth, but also includes higher levels of expenditure that partly offset this effect again (see Appendix C for an overview of all expenditures and the financial burden). The financial burden will increase by a total of 5.0 billion euros, while expenditure will increase by 3.9 billion euros. As a result of this adjustment of consumption and production decisions (with the aim of reducing CO_2 emissions), businesses will adjust their production process, and ultimately labour productivity will be structurally reduced.

Overall climate and energy policy involves transition effects, but, in the longer term, the employment effects will be marginal. Overall climate and energy policy has a very limited effect on labour supply and demand. The stimulus of cleaner production processes will not create additional labour demand, because this is also partly at the expense of other, alternative technological developments. Despite the fact that there will be little or no decline in employment in the longer term, there will be some friction on the labour market, as some employment will shift towards cleaner-producing companies (see also CPB and PBL, 2018).[3] Employment will move from coal-fired power plants, agriculture, the metal industry, and manufacturers of consumer and food products to wind turbines and the services sector.

The impact on the relocation of industrial activities to other countries is expected to be limited. Measures that increase the financial burden on businesses affect sectors that produce mainly for the domestic consumer market (the tax on heavy industry is considerably less). The measures that may lead to relocation concern those on the industrial sector. These will however be designed in such a way to facilitate CO_2 emission reduction, in the longer term, for businesses to be able to avoid having to pay the carbon tax. It is therefore not expected to lead to a significant increase in the financial burden on industry or to relocation of their activities.

1 For the projections of the macroeconomic effects, we used the Worldscan[2] model.
2 CPB, 2006, *WorldScan: A Model for International Economic Policy Analysis, CPB Document 111 (*link*)*. En: Bollen, J. and Brink, C., *Air pollution policy in Europe: quantifying the interaction with greenhouse gases and climate change policies*, Energy Economics, 46 (2014), pp. 202–215.
3 CPB and PBL (2018), De werkgelegenheidseffecten van fiscale vergroening [employment effects of green fiscal reform], 21 March 2018 (link).

4 Income effects

4.1 Background and approach

In standard purchasing power analyses, measures, such as those in the Climate Agreement, are processed via price inflation (Consumer Price Index (CPI)). Such a broad approach is less suitable for major reforms that do not have a uniform impact on society. This evaluation presents a more focused analysis in which the different ways of energy consumption as well as mobility and transport differences between groups are taken into account, as much as possible. The composition of the groups themselves does match the standard classification used by CPB in its purchasing power analyses. The analysis assumes that all policy is implemented at the same time and that no behavioural response will occur. The income effects, therefore, have a static character. In addition to this standard static analysis of the income effects per group, this report also presents a general analysis of the possible delayed-impact effects. Businesses will try to pass the increase in their financial burden on to their customers through higher prices, which in turn will cause households to adjust their consumption behaviour. This general analysis cannot focus on individual groups, but does provide certain contrasts for all groups.

It must be emphasised that the evaluation only relates to the policy on climate and energy. The evaluation cannot be regarded as an overview of overall purchasing power up to 2030, and CPB's regular purchasing power projections only provide an outlook for the short and medium term.

The income effect refers to the direct effect of the proposed policy on the purchasing power of households if policy were to be fully implemented all at the same time. Compared to CPB's regular purchasing power projections, the income effect differs on the following two points:

- CPB's regular purchasing power projections focus on income mutations, year-on-year, while the total effect of a measure or package of measures on income is outlined using the income effect, regardless of the year or period in which such measures are introduced.
- The regular purchasing power projections present the overall picture of all measures and economic developments, while, for the income effect, we usually zoom in on a specific measure or set of measures in a certain policy area (in this case climate and energy) and on abstract economic developments (e.g. wages and prices).

In addition to the direct effects of measures, we also show the effects on income, including any delayed-impact effects of policy. As is customary, the income effect was initially defined using the static purchasing power definition.[15] This, for example, assumes that policy does not change anything in terms of energy consumption or car ownership. Subsequently, a tentative calculation was then made of the delayed impact of the policy. Businesses will try to pass some of the increase in costs on to their customers, and households will adjust their purchasing behaviour accordingly. Because it is difficult to estimate the impact on the various income groups, we made a general calculation to provide a tentative picture of the total across all groups.

[15] CPB (2016), MIMOSI: Micro-simulation model for taxation, social security, wage costs and purchasing power. CPB Background document (link).

In calculating the income effects, where possible, we also took into account any differences in energy consumption, car ownership and car use between groups of households.[16] CPB's regular purchasing power projections reflect the effects of climate and energy policy through inflation.[17] An increase in energy tax will lead to higher inflation and results in the same decrease in purchasing power for all income groups. Therefore, in this report, we deviated from this method and present the effects as specifically as possible.

The total level of energy consumption, however, does not play a role in the evaluation of income effects. Various measures are being taken to adjust energy taxes (such as a shift between electricity and natural gas taxation and higher tariffs for Sustainable Energy Storage (ODE) tax). In our calculations, we assumed that the envisaged size of the budget of the associated increases and reductions in the financial burden is leading. These increases and reductions have been translated directly into household energy costs.

A more up-to-date data set was used in the evaluation of the Climate Agreement. For the evaluation of the draft Climate Agreement, we used the so-called WoON 2015 data set (for more information, see the background document). For the evaluation of the Climate Agreement, as presented in this report, we used the recently published WoON 2018 data set. The advantage of using this newer data set was that the distribution of energy costs between income groups was more in line with current events than in the previous evaluation. The ratio between these groups in the new WoON data set, however, does compare to that in WoON 2015.

In addition to the effects of the Climate Agreement, the effects of current climate and energy policy after 2018 were also taken into account. Even without the impact of the Climate Agreement, the current climate and energy policy up to and including 2030 will have certain consequences for household income, such as an increase in Sustainable Energy Storage (ODE) tax and decrease in energy tax reductions. We considered the Climate Agreement in conjunction with these consequences, as this provides a complete picture of how energy costs are likely to develop up to and including 2021 and 2030, as a result of policy changes.

The effects of current climate and energy policy up to and including 2021 have been incorporated into the purchasing power assessment of the Coalition Agreement. This evaluation provides insight into the income effects over the current Cabinet term (up to 2021) and the intended end year (2030). In both cases, the effects are compared against a reference year, in this case 2018 — the first year of the Rutte III Cabinet. The effects of current climate and energy policy up to and including 2021 are incorporated in CPB's regular purchasing power projections via inflation (and result in the same effect for each household), whereas in this report, these effects are presented as specifically as possible.

4.2 Direct effects

Income effects of the Climate Agreement, up to and including 2021 (excluding delayed impact)

Overall climate and energy policy up to and including 2021 will lead to a cumulative income effect of 0.0%, on average, compared to 2018. Current policy includes measures that increase the financial burden, such as the one that lowered the reduction in energy tax in 2019, an increase in the Sustainable Energy Storage (ODE) tax up to and including 2021, and, to a lesser extent, a shift between electricity and natural gas taxation in 2019, increase in air travel tax and waste collection and processing rates. The new policy set out in the Climate Agreement contains measures that will either increase or reduce the financial burden. For example,

[16] CPB (2019), Methodological basis of the evaluation of income effects from the draft Climate Agreement, CPB Background document, 13 March 2019 (link).
[17] CPB (2018), Toelichting energiebelasting in koopkrachtramingen CPB [explanation energy tax in purchasing power projections], CPB Communication, 4 October 2018 (link).

the shift between electricity and natural gas, and, to a lesser extent, the increase in grid tariffs are unfavourable for households, whereas the reduction in energy tax of 194 euros (excluding VAT) will have a favourable effect. The increases and decreases in the financial burden as a result over the total package of measures will cancel each other out, thus, having an average income effect of 0.0%.

The impact of overall climate and energy policy up to and including 2021 will be limited for all income groups. For example, the lowest income group will benefit by 0.2%, while the income effect for the highest income group will be -0.1%. The other income groups are also at or around zero. Although the median effect is the same for most groups, there are somewhat more negative and positive outliers for lower incomes than for higher incomes, partly depending on whether or not they own a car and what type of car and on differences in energy consumption. The lower the income the greater the impact of such differences will be.

The unbalancing effects of current policy are offset by the levelling-off effects of the new policy from the Climate Agreement. Current policy has an unbalancing effect that is mainly caused by the lowing of tax reductions and increase in ODE tax, up to and including 2021. Overall, the measures from the Climate Agreement will have a levelling-off effect; the higher tax reduction means that lower-income households will benefit more than higher-income households.

As a result of the package of measures under the Climate Agreement, up to and including 2021, lower incomes will benefit more than higher incomes. This, too, is the result of the levelling-off effect of the Climate Agreement. The lowest incomes will improve by 1.2% and highest incomes by 0.3%. The fact that effects are strongly related to income level is also visible in the other disaggregations in the boxplot. On average, social benefit recipients and pensioners, for example, will benefit more than people in employment, and single-person households and single-earner households benefit more than double-income households. The average household will improve by 0.6%.

Measures with a negative impact on income (compared to 2018):

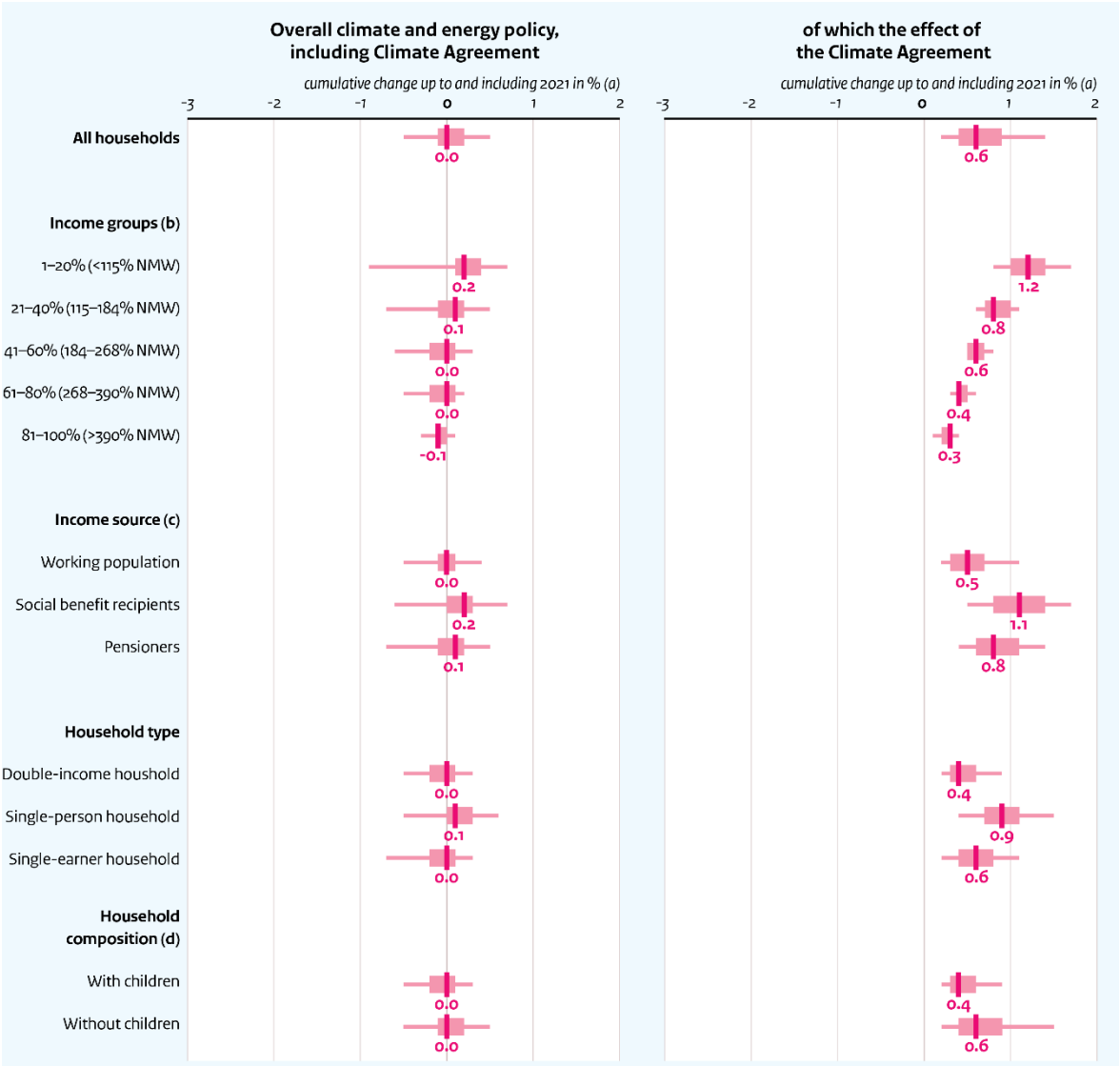
Current climate and energy policy:

- The tax on electricity will be decreased and the tax on natural gas will be increased. (0.1 billion euros).
- The decrease in energy tax will be reduced by 51 euros, excluding VAT. (0.5 billion euros).
- The reduction in energy taxes will not be indexed (0.1 billion euros).
- Sustainable Energy Storage (ODE) tax will be increased (0.9 billion euros).
- Air travel tax will be increased (0.1 billion euros).
- Waste collection and processing rates will be increased (0.1 billion euros).
- Vehicle registration tax will be increased (0.1 billion euros).

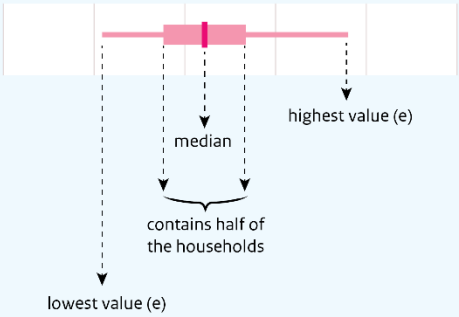
Climate Agreement:

- The tax on electricity will be further decreased and the tax on natural gas will be further increased. (0.2 billion euros).
- Excise duty on diesel will be increased (0.0 billion euros).
- Due to net onshore and offshore electricity, net tariffs will increase (0.0 billion euros).

Figure 3.1 **Income effects Climate agreement, incl. and excl. current and adopted climate and energy policy up to and incl. 2021**



How to read?



A median is the middle value of a distribution of figures, ordered from low to high. A median income effect of 1.3% for all households means that half of households have an income effect of 1.3% or lower, and for the other half this is 1.3% or higher. For half of all households, the income effects are within the margin indicated by the pink bar, with a quarter above and a quarter below the median. The other half of households experience an income effect that is outside this range. The whiskers of the boxplot show the lowest and highest income effect.

(a) Changes in static income due to energy and climate policy, between 2018 and 2021.
(b) Gross income from employment or social benefit payments, at household level; gross national minimum wage (NMW) in 2018 was approximately 20,600 euros. The income groups are divided into five groups of equal size in ascending order of income, each representing 20% of all households.
(c) The breakdown by income source is based on the highest source of income, with households whose main earner or partner has a profit-based income are categorised under the working population. Households on early retirement or student loans as their highest source of income are excluded.
(d) The breakdown by household composition is based on the presence of children up to the age of eighteen and excludes pensioner households.
(e) The lowest and highest values have been truncated at 5% and 95%, respectively, because the projected minimum and maximum are not exact.

Measures with a positive impact on income (compared to 2018):

Current climate and energy policy:

- The private motor vehicle and motorcycle tax (MRB) will be decreased (0.0 billion euros).

Climate Agreement:

- The decrease in energy tax will be increased by 194 euros, excluding VAT (1.7 billion euros).
- Electric driving will be stimulated via lower vehicle registration tax (BPM) and a lower company-car-related addition to taxable income (0.0 billion euros).

There are a number of measures that will have an effect on income, but are not included in the evaluation. For example, the net metering scheme for solar energy will be phased out from 2023 onwards. In the absence of more specific data on households who own solar panels, we assumed this change to be neutral, in terms of income. In addition, private motor vehicle and motorcycle tax (MRB) is lower for electric vehicles. This will have no effect on income, as it is part of current policy, which already assumes maintaining the reduced MRB rate after 2021.

Income effects of the Climate Agreement up to and including 2030 (excluding delayed impact)

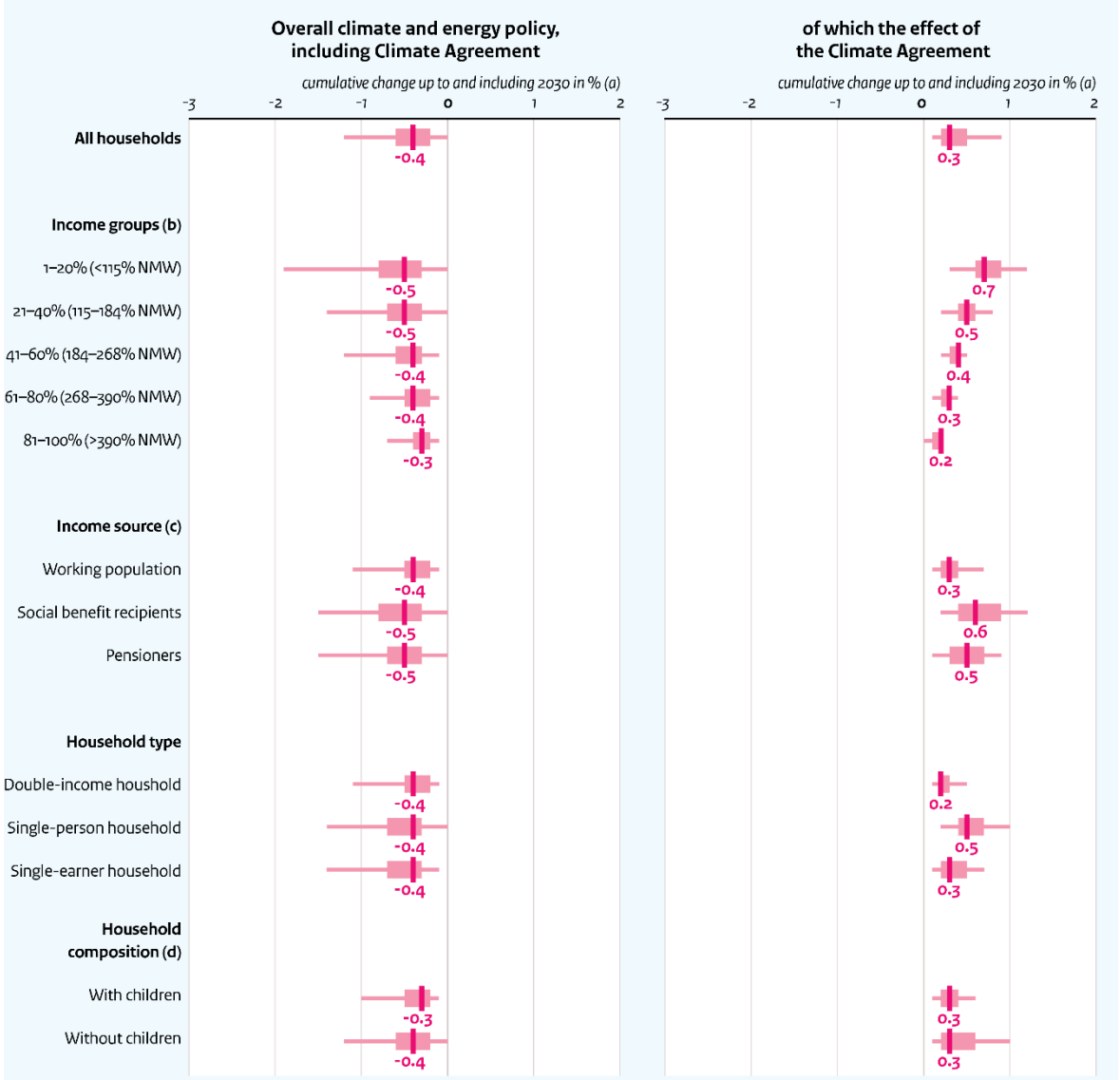
Overall climate and energy policy up to and including 2030, on average, will lead to a cumulative negative income effect of 0.4%, compared to 2018. Almost two thirds of this decrease are due to current climate and energy policy. Compared to the effect of current policy in 2021, the further increase in ODE tax up to 2030 and no indexation of the reduction in energy tax will further exacerbate the negative impact on income up to 2030.

The negative impact on lower incomes will be slightly greater than on higher incomes, up to 2030. The decline in income for the lowest income group will be -0.5% and for the highest income group 0.3%. The other income groups are somewhere between these two percentages. Although the median effect is the same for most groups, here, too, there will be some more negative and positive outliers among lower incomes than among higher incomes — this partly depends on car ownership and type of car and differences in energy consumption. Looking only at the period up to 2021, higher incomes will actually be slightly worse off than lower incomes.

The new policy set out in the Climate Agreement will lead to a positive income effect of 0.3% in 2030, compared to 2018. This positive income effect will not be sufficient to compensate for the negative impact of current policy. Compared with the effects of the Climate Agreement in the period up to 2021, the financial burden on households will increase further; grid tariffs will be higher and the shift between tax on electricity and natural gas will continue. On the other hand, energy tax will be further reduced. This reduction in the financial burden is greater than the increase due to the package of measures, resulting in an overall positive effect on income.

The new policy set out in the Climate Agreement for 2030 will benefit lower incomes more than higher incomes. As over the period up to 2021, lower incomes (0.7%) will also benefit more than higher incomes (0.2%) by 2030, as a result of the measures in the Climate Agreement. The shift in energy tax between electricity and natural gas and the increase in grid tariffs will have an unbalancing effect, while the greater reduction in energy tax will have a levelling-off effect. Since, in budgetary terms, the reduction in the financial burden is greater than the increase, the overall package of measures under the Climate Agreement will have a levelling-off effect. This, however, will not be sufficient to compensate for the unbalancing effect on income from current policy.

Figure 3.2 Climate Agreement income effects, incl. and excl. current climate and energy policy up to and including 2030



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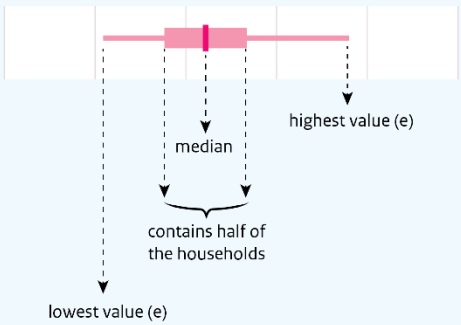


A median is the middle value of a distribution of figures, ordered from low to high. A median income effect of 1.3% for all households means that half of households have an income effect of 1.3% or lower, and for the other half this is 1.3% or higher. For half of all households, the income effects are within the margin indicated by the pink bar, with a quarter above and a quarter below the median. The other half of households experience an income effect that is outside this range. The whiskers of the boxplot show the lowest and highest income effect.

(a) Changes in static income due to energy and climate policy, between 2018 and 2021.
(b) Gross income from employment or social benefit payments, at household level; gross national minimum wage (NMW) in 2018 was approximately 20,600 euros. The income groups are divided into five groups of equal size in ascending order of income, each representing 20% of all households.
(c) The breakdown by income source is based on the highest source of income, with households whose main earner or partner has a profit-based income are categorised under the working population. Households on early retirement or student loans as their highest source of income are excluded.
(d) The breakdown by household composition is based on the presence of children up to the age of eighteen and excludes pensioner households.
(e) The lowest and highest values have been truncated at 5% and 95%, respectively, because the projected minimum and maximum are not exact.

The effects of current climate and energy policy will largely be felt during the current Cabinet term; the effects of the new policy under the Climate Agreement will be felt mainly in the subsequent period. Approximately two thirds of the effects of current policy will be felt in the period up to 2021, while three quarters of the impact of the Climate Agreement will be felt in the period following this Cabinet term.

Measures with a negative impact on income (compared to 2018):

Current climate and energy policy:

- The tax on electricity will be decreased and the tax on natural gas will be increased (0.1 billion euros).
- The decrease in energy tax will be reduced by 51 euros, excluding VAT. (0.5 billion euros).
- The reduction in energy taxes will not be indexed (0.4 billion euros).
- The Sustainable Energy Storage (ODE) tax will be increased (1.1 billion euros).
- Air travel tax will be increased (0.1 billion euros).
- Waste collection rates will be increased (0.1 billion euros).
- Vehicle registration tax (BPM) will be increased (0.1 billion euros).

Climate Agreement:

- The tax on electricity will be further decreased and the tax on natural gas will be further increased (0.5 billion euros).
- Excise duty on diesel will be increased (0.0 billion euros).
- Due to net onshore and offshore electricity, net tariffs will increase (0.3 billion euros).

Measures with a positive impact on income (compared to 2018):

Current climate and energy policy:

- Private motor vehicle and motorcycle tax (MRB) will be decreased (0.0 billion euros).

Climate Agreement:

- The decrease in energy tax will be increased by 176 euros, excluding VAT (1.6 billion euros).
- Electric driving will be stimulated via lower vehicle registration tax (BPM) and a lower company-car-related addition to taxable income (0.0 billion euros[18]).

There are a number of measures that will have an effect on income, but are not included in the evaluation. For example, the net metering scheme for solar energy will be phased out from 2023 onwards. In the absence of more specific data on households who own solar panels, we assumed this change to be neutral, in terms of income. In addition, private motor vehicle and motorcycle tax (MRB) is lower for electric vehicles. This will have no effect on income, as it is part of current policy, which already assumes maintaining the reduced MRB rate after 2021.

[18] This concerns the static effect, assuming unchanging level of use. Also see the text box on income effects of electric driving in CPB (2019), Evaluation of the draft Climate Agreement, CPB Communication, 13 March 2019 (link).

4.3 Effects with a delayed impact

In addition to the direct income effects of energy and climate policy, delayed-impact effects also play a role in this evaluation.[19] The direct income effects of climate and energy policy in 2030 (Figure 3.2) are based on current household energy consumption, car ownership and use, and we looked at the share of the increase in financial burden that affects households. This section presents two additional elements:

- An estimate of the transfer effects of the increase in the financial burden on businesses, resulting in higher prices for end users.
- An estimate of household behavioural effects due to climate and energy policy.

The delayed-impact effects are far more uncertain than the direct effects, which is why we calculated the behavioural, price and transfer effects only on macro level and applied them to the median income effect for all household types, as described in Figure 3.2. These calculations are too uncertain to be specified further into effects for various income groups.

Businesses will transfer the increase in their financial burden on to consumers, thus creating a negative income effect of 0.7%. This additional decrease in income comes on top of the direct income effect of -0.4% caused by overall climate and energy policy, between 2018 and 2030. This can be explained by the additional costs for businesses caused by the measures of the Climate Agreement, such as the increase in tax reduction for households, which will be financed from the ODE revenues. The underlying assumption being that business will pass approximately 80% of the increase in financial burden on to citizens via higher prices.[20]

Behavioural effects will mitigate the negative impact of transfer effects by 0.1%. There are a few alleviating behavioural effects as a result of the decline in energy consumption and an expected increase in electric car use, as calculated by PBL; however, these will be only small. It should furthermore be noted that any investment costs incurred by households were not taken into account in this evaluation.[21]

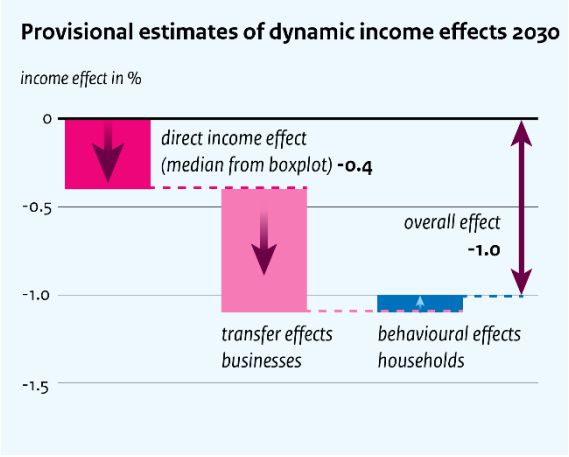
On balance, the delayed-impact effects lead to an additional income effect of -0.6%, increasing the income effect of energy and climate policy to -1.0% (see Figure 3.3). However, this calculation is subject to considerable uncertainty. In CPB's regular purchasing power projections, a static approach is used and behavioural changes are not taken into account, as these are difficult to estimate in advance.

[19] The provisional estimate of the delayed-impact effects is only available for overall climate and energy policy, including the Climate Agreement. After all, this is the effect that citizens will experience up to and including 2030. An estimate of the impact of the Climate Agreement is not available, because it is not known how the behavioural response would be without the Climate Agreement. Such an analysis is beyond the scope of this evaluation.

[20] CPB (2019), Methodological basis of the evaluation of income effects from the draft Climate Agreement, CPB Background document, 13 March 2019, (link).

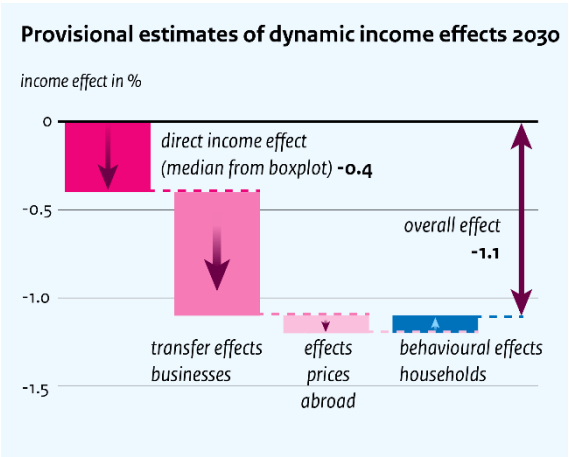
[21] Also, see the text box on household investment costs in CPB (2019), Evaluation of the draft Climate Agreement, CPB Memorandum, 13 March 2019. (link)

Figure 3.3 Income effects current policy + Climate Agreement up to and including 2030, including provisional estimates of the delayed impact



If climate policy abroad would also be taken into account, the total income effect of energy and climate policy equals -1.1% (see Figure 3.4). Policies have an impact on both prices and household behaviour. Price effects of policies abroad lead to an additional income effect of -0.1%. To do some justice to current policy developments in Europe, in the tentative part of the income effects we looked at the impact of assumptions in the WLO-HIGH scenario.[22] On the one hand, in Europe, coal-fired power plants are being phased out and the EU ETS price will go up. This means that the electricity price will almost double, by 2030. On the other hand, the natural gas price will decrease slightly due to a decrease in demand. As a result, the energy bill will increase slightly. The behavioural effect will barely change and remains at 0.1%. All in all, this will lead to a total effect of -1.1%.

Figure 3.4 Income effects current policy + Climate Agreement up to and including 2030, including provisional estimates of delayed-impact effects and price effects of policies abroad

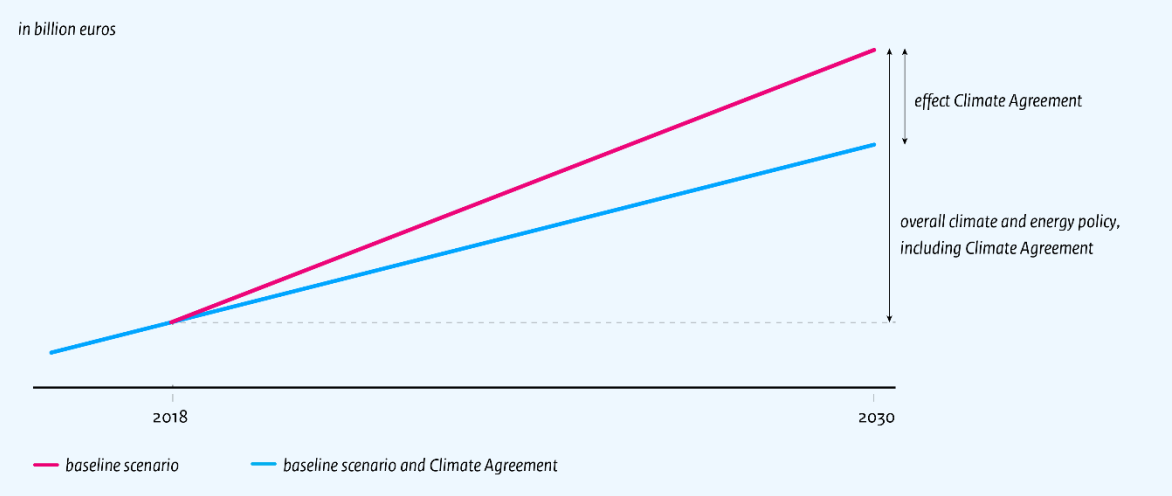


[22] CPB and PBL, 2016, Background document WLO: climate and energy, CPB/PBL Background document, 30 March 2016 (link).

Appendix A: Baseline scenario

Households and businesses will be affected by the changes in policy measures from both the Climate Agreement and current policy on climate and energy. Current policy and that of previous cabinets have consequences for government expenditure, the financial burden on households and businesses and household income. Most important for both households and businesses is the total impact of climate and energy policy, including the Climate Agreement. For this overall effect, it makes little difference in relation to which baseline or reference scenario the evaluation is presented. It also makes little difference, in this respect, whether the evaluation presents this overall impact in comparison to CPB's baseline scenario or to PBL's reference scenario. Figure A.1 shows a stylised representation of the relationship between the baseline scenario and the Climate Agreement.

Figure A.1 Stylised representation of the baseline scenario and the Climate Agreement



In this evaluation report, CPB presents the effects of the Climate Agreement compared to a corrected version of the Macro Economic Outlook (MEV 2020),[23] with the short-term projections having been extended up to 2030. The MEV 2020 has been corrected for the financial burden and expenditures related to the Climate Agreement as included in the Budget Memorandum 2020. By filtering these measures out of the baseline scenario, we were able to derive the pure impact of the Climate Agreement as a whole. Table A.1 shows the climate and energy measures under the baseline scenario.

[23] CPB, 2019, Macro Economic Outlook 2020, CPB Communication, 17 September 2019 (link).

Table A.1 Climate measures under the baseline scenario (billion euros, 2018 price level)

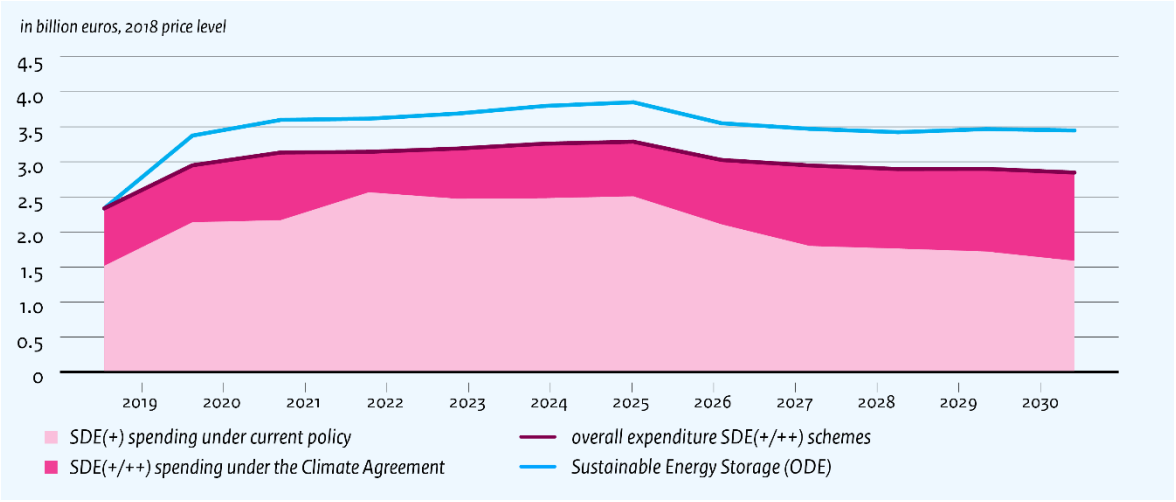
Number	Measure	2021	2025	2030
CPB_101	Other policy on energy tax (households)	0.488	0.488	0.488
CPB_102	Other policy on energy tax (businesses)	0.131	0.131	0.131
CPB_106	Vehicle registration tax (BPM) policy (households)	-0.112	-0.112	-0.112
CPB_107	Vehicle registration tax (BPM) policy (businesses)	-0.028	-0.028	-0.028
CPB_108	Private motor vehicle and motorcycle tax (MRB) policy (households)	0.038	0.021	0.023
CPB_109	Private motor vehicle and motorcycle tax (MRB) policy (businesses)	0.009	0.005	0.006
CPB_110	Implementation of air travel tax (households)	0.055	0.055	0.055
CPB_111	Implementation of air travel tax (businesses)	0.055	0.055	0.055
CPB_112	Implementation of air travel tax (other countries)	0.110	0.110	0.110
CPB_113	Increase in tax on waste incineration and disposal (households)	0.053	0.053	0.053
CPB_114	Increase in tax on waste incineration and disposal (businesses)	0.053	0.053	0.053
CPB_115	Decrease in tax on rental earnings	-0.180	-0.207	-0.207
CPB_116	Losses unauctioned emission rights	0.000	0.000	0.000
CPB_117	Sustainable Energy Storage (ODE) tax (households)	1.253	1.415	1.390
CPB_118	Sustainable Energy Storage (ODE) tax (businesses)	1.253	1.415	1.390
CPB_119	Expenditure scheme SDE(+)	-2.167	-2.508	-1.587
CPB_121	Active restructuring package	-0.028	-0.005	0.000
CPB_123	No indexation of the reduction in energy tax (households)	0.064	0.178	0.320
CPB_124	No indexation of the reduction in energy tax (businesses)	0.016	0.044	0.080
CPB_127	Spending increase in Infrastructure Fund	-0.100	-0.100	-0.100
CPB_128	Incidental spending increase in Delta Fund[24]	0.000	0.000	0.000
CPB_129	Incidental spending from low-caloric to high-caloric natural gas	-0.030	0.000	0.000
CPB_130	Measures on company-car-related addition to taxable income (Motor Vehicles Memorandum Act (Autobrief II))	0.178	0.178	0.178
CPB_MEV_101	Package of climate measures Rutte III Cabinet	-0.300	-0.300	-0.300
CPB_MEV_103	Implementation of the temporary category of environmental investments under the MIA (environmental investment rebate)	-0.004	0.000	0.000
CPB_MEV_104	Include foreign waste in waste collection and processing rates	0.017	0.000	0.000
CPB_MEV_105_a	Expenditure related to the Urgenda judgement	0.000	0.000	0.000
CPB_MEV_106	Abolition net metering scheme energy tax	0.000	0.084	0.266
CPB_MEV_107	Abolition net metering scheme (VAT) (households)	0.000	0.008	0.026
CPB_MEV_108	Abolition net metering scheme (VAT) (businesses)	0.000	0.003	0.009
Total		0.824	1.036	2.299
Non-EMU-related financial burden				
CPB_126	EU standards for heavy goods vehicles and light commercial vehicles	0.000	0.281	0.000
CPB_MEV_105_b	Reduction obligation Urgenda measures	0.000	0.000	0.310
CPB_MEV_105_c	Compensation reduction obligations Urgenda measures	0.000	0.000	-0.435
CPB_MEV_109	Closure of coal-fired power plants towards 2030	0.075	0.399	0.505
Total		0.075	0.680	0.380
+ : balance improvement / increase in financial burden				

[24] These concern incidental spending increases in 2019 and 2020, together totalling 0.2 billion euros.

There are only a few differences between the respective baseline scenarios used in the evaluation of the Climate Agreement and the draft Climate Agreement. For example, for certain expenditures, the timeframe was changed, and measures on the waste collection and processing rates and MIA were added. In addition, the phase-out of the net metering scheme has been revised, which resulted in abolition of the feed back subsidy. Adjusted and new measures can be identified by their 'MEV' numbering in Table A.1.

For consistency between the CO_2 reduction calculated by PBL and the overall budget presented by CPB (expenditure and financial burden), for the period after this Cabinet term, we used the SDE(+/++) expenditure series of PBL.[25] Under current policy, the expenditure level is lower, because no new SDE subsidies will be granted after 2019 (see Figure A.2).[26] Compared to the baseline scenario, more SDE subsidies can be awarded over the 2019–2030 period, as is the intention of the Climate Agreement. Originally, ODE tax revenues only served to finance the SDE(+/++) subsidies. However, in the Climate Agreement, ODE revenues exceed the amount required to cover these expenditures. The additional amount will cover the greater reduction in energy tax.

Figure A.2 SDE (+/++) and ODE, under the baseline scenario



[25] PBL, 2019, Climate and Energy Outlook 2019, PBL Report, 1 November 2019.
[26] PBL, 2019, Effects draft Climate Agreement, PBL Report, 13 March 2019 (link).

Appendix B: Linkage differences

This appendix describes the differences in linkages between PBL's and CPB's analyses, on a measure level. There are two categories of differences. First of all, there are measures that, according to PBL, will have a CO_2 effect, but which are not included in CPB's evaluation (see Table B.1). This is because, according to CPB, they are not unilaterally enforceable by the government and/or have not been worked out in sufficient detail to allow costs to be determined. As a result, the reduction potential calculated by PBL, for which CPB provides no indication of the budgetary, financial burden and income effects, may be several megatonnes lower, in total. Then there are also measures without an independent CO_2 effect that PBL qualifies as flanking policy for achieving CO_2 reductions but which CPB does not include in its analysis — again because of non-enforceability on the part of the government (see Table B.2).

Table B.1 Overview of the measures with their own CO_2 impact, not included in this CPB evaluation

Number	Measure
	Agriculture and Land use
CA_108	Reducing methane emissions via feed measures
CA_111	Methane oxidation outdoor storage on dairy farms
CA_112	Seeding of grass clover by dairy farmers
CA_131	New forest realisation
CA_134	Realising reforestation according to the national ecological network (NNN)
	Built Environment
CA_085	Standardisation energy performance non-residential construction

Note: CA = Climate Agreement

Table B.2 Overview of measures that have no direct impact on CO_2, not included in this CPB evaluation

Number	Measure
	Built Environment
CA_055	Obligation to provide information about sustainability in housing appraisals
CA_061	Promoting participation in Neighbourhood approaches
CA_067	Guaranteeing housing-cost neutrality for tenants
CA_068	Agreements national government and Aedes about the Unremunerative Top
CA_075	Development of benchmarks on energy use
CA_079	Transparency of residual heat potential in industry
	Industry
CA_103	Increase in CO_2 prices on a European level
	Mobility and Transport
CA_171	More stringent EU emission standards for passenger vehicles
CA_173	Flanking measures to stimulate electric modes of transportation
CA_178	Agreements about adjusting regulations to promote innovation
CA_198	Increase in the sustainability of the government's own car fleet
CA_199	Climate-neutral procurement of civil engineering works
CA_200	More stringent standards for equipment public procurement
CA_203	Collaboration between provinces and municipalities in the regional energy strategies
CA_204	Procurement benefits for businesses with a sustainable car fleet
CA_212	Learning process consumer affairs electric passenger vehicles
CA_213	Facilitation of application procedure battery charging infrastructure
CA_214	Research into an application for comparing fuel costs
CA_216	Development of sustainable human resource policy
CA_219	Study into the barriers for electric transportation modes
CA_220	Collaboration between car leasing companies and car-sharing platforms
CA_221	Agreements about cost comparison between electric and conventional-fuel vehicles
CA_222	Research into the feasibility of leasing second-hand electric vehicles
CA_224	Inclusion of electrification of car fleet in studies on the use of fiscal measures
CA_238	Development of implementation plans for the national agenda on battery charging infrastructure
CA_240	Monitoring the measures in the Climate Agreement
CA_242	Implementation of proven sustainable solutions
CA_243	Knowledge development Top sector logistics
CA_246	Promotion of new concepts city logistics
CA_250	Advisory process for passenger and goods transport
CA_251	Implementation and enforcement of a dynamic standard
CA_253	Study amendments to the Environmental Management Act
CA_261	Capacity increase and optimisation of the train timetable
CA_264	Commitments to participation in the success of MaaS pilot projects

Appendix C: Measures

This appendix provides a detailed overview of the evaluated 122 measures in the Climate Agreement, as well as their impact on public finances. The amounts are ex ante and relate to deviations from the baseline scenario in Appendix A.

Climate Agreement

Expenditures

On balance, the Climate Agreement will increase public spending by 1.5 billion euros in 2021 (Table 3.1). This will increase to 1.9 billion euros in 2030. A list and a table of expenditure measures are provided for each sector, below.

Electricity

- Cabinet will further roll-out offshore wind energy production. This involves a limited increase in spending, the amount of which will increase between 2020 and 2030. (CA_019)
- Cabinet will develop demo facilities, pilot projects and public–private project plans in the field of hydrogen. It concerns a limited efficient increase in spending, the amount of which will increase between 2019 and 2030. (CA_020)
- Cabinet will earmark funds for pilot projects and demos in the field of storage and conversion of renewable energy. This represents a limited increase in spending, the amount of which will increase between 2019 and 2030. (CA_021)
- Cabinet will efficiently increase spending on setting up pilot projects in the field of spatial integration. This involves a limited increase in spending, the amount of which will increase between 2019 and 2030. (CA_022)
- Cabinet has indicated that regional agreements on electricity, green natural gas and heat be made within the framework of the Regional Energy Strategies (RES). This involves a limited increase in spending between 2019 and 2021. (CA_024)
- Cabinet will partly cover spending increases in the Electricity sector from a release of funds earmarked for climate policy in the Coalition Agreement of the Rutte III Cabinet. (CA_026)
- Cabinet will cover spending increases in the Electricity sector partly from the existing renewable energy budget reserve. (CA_028)
- Cabinet will increase spending on renewable electricity through the SDE+ scheme, from 2022 onwards. (CA_275)
- The Climate Agreement contains measures that involve friction costs, but for which the exact budgetary burden cannot be calculated on the basis of their impact. For these measures, a provisional estimate has been included for each sector. For the Electricity sector, this estimate represents a limited increase in spending, the amount of which will increase between 2019 and 2030. (CA_318)

Table C.1 Electricity: Net spending cuts, compared to the baseline scenario (ex ante, billion euros, 2018 price level)

Number	Measure	2021	2025	2030
CA_019	Further roll-out of offshore wind energy	-0.010	-0.018	-0.018
CA_020	Pilot projects and demo facilities for hydrogen within the Electricity sector	-0.015	-0.020	-0.020
CA_021	Pilot projects and demo facilities for storage and conversion within the Electricity sector	-0.010	-0.015	-0.015
CA_022	Pilot projects and demo facilities for spatial integration within the Electricity sector	-0.010	-0.020	-0.020
CA_024	Agreements regional energy strategies Electricity	-0.010	0.000	0.000
CA_026	Climate package Electricity	0.055	0.055	0.055
CA_028	Covered from budget reserve sustainable energy	0.010	0.018	0.018
CA_275	Spending increases SDE+ for renewable electricity	0.000	-0.123	-0.200
CA_318	Other spending increases and implementation costs Electricity	-0.003	-0.010	-0.014
Total		0.007	-0.133	-0.214

+ balance improvement

Built Environment

- Cabinet will encourage natural gas-free neighbourhoods by means of pilot projects. This is an incidental spending increase of 0.1 billion euros in 2020, which will be phased out in the subsequent period. (CA_035_b)
- Cabinet will set up a knowledge centre to support the innovation agenda. This represents a limited increase in spending. (CA_036)
- Cabinet will scale up the application of geothermal energy as implementation of the master plan for geothermal heat. This involves a once-only limited spending increase in 2019. (CA_038)
- Cabinet will allocate a budget to the construction of a heat roundabout in the Province of South Holland. This involves a once-only limited spending increase in 2019. (CA_039)
- Cabinet will provide an additional subsidy, between 2020 and 2022, for insulation of privately owned housing. This represents a spending increase of 0.1 billion euros, between 2020 and 2022. (CA_043)
- Cabinet will cover spending increases in the Built Environment sector from the release of funds earmarked for climate policy under in the Coalition Agreement of the Rutte III Cabinet. (CA_048)
- Cabinet will increase the ISDE budget. This represents an increase in spending of 0.1 billion euros. (CA_056)
- Cabinet will enter into regional agreements on electricity, green natural gas and heat. This represents a limited spending increase, between 2019 and 2021. (CA_060)
- Cabinet will provide additional subsidies for innovation in order to reduce the costs related to sustainability efforts. This involves a limited increase in spending, the amount of which will increase up to 2025, after which the subsidy scheme will be terminated. (CA_069)
- After 2022, Cabinet will scale up the achievement of natural gas-free districts. This represents a limited increase in spending, the amount of which will increase up to 2030. (CA_091)
- Cabinet will increase the SDE+ budget from 2019 onwards. This involves an increase in spending, the amount of which will increase by up to 0.1 billion euros in 2030. (CA_273)
- Cabinet will take measures that involve friction costs, but for which the exact budgetary impact cannot be calculated on the basis of their effects. For these measures, a provisional estimate has been included for each sector. For the Built Environment sector, this represents a limited increase in spending, the amount of which will increase between 2019 and 2030. (CA_320)

- Cabinet will cover the Energy Investment Allowance for landlords from funds released from the EIA budget reserve. (CA_406)
- Cabinet will expand lending facilities for owner-occupiers and homeowners' associations (VvEs) to finance sustainability measures. The national government will guarantee the fund from which these loans are provided and will make non-revolving credit available. Including private resources, the fund can ultimately grow to 4.5 billion euros. The measure involves an increase in spending, the amount of which will increase by up to 0.1 billion euros by 2030. (CA_447)
- Cabinet will make funding available to municipalities for the implementation of the new tasks arising from the Climate Agreement. This represents an increase in spending of 0.2 billion euros in 2019. (CA_448)

Table C.2 Built environment: Net spending cuts, compared to the baseline scenario (ex ante, billion euros, 2018 price level)

Number	Measure	2021	2025	2030
CA_035_b	Natural gas-free districts (pilot projects)	-0.070	0.000	0.000
CA_036	Installing knowledge centre on integral knowledge and innovation (*kenniscentrum Integrale Kennis en Innovatieagenda*)	-0.025	-0.025	-0.025
CA_038	Implementation action plan geothermal energy	0.000	0.000	0.000
CA_039	Construction 'heating roundabout' [*warmterotonde*] South Holland	0.000	0.000	0.000
CA_043	Subsidy on insulation for owner-occupied housing	-0.050	0.000	0.000
CA_048	Climate package Built Environment	0.100	0.070	0.070
CA_056	Increase in budget ISDE	-0.100	-0.100	-0.100
CA_060	Agreement regional energy strategies Built Environment	-0.020	0.000	0.000
CA_069	Subsidy on innovations to make housing more sustainable	-0.005	-0.045	0.000
CA_091	Natural gas-free districts (scale-up)	0.000	0.000	-0.045
CA_273	Spending increases SDE+ for renewable heat and green natural gas	0.000	-0.166	-0.135
CA_320	Other spending increases and implementation costs Built Environment	-0.019	-0.023	-0.022
CA_406	Coverage from EIA budget reserve	0.020	0.000	0.000
CA_447	Financing Fund homeowners and homeowners' associations (VvEs)	-0.070	-0.080	-0.080
CA_448	Expansion of municipal tasks	0.000	0.000	0.000
Total		-0.239	-0.369	-0.337

+ : balance improvement

Industry

- Cabinet will set up pilot projects, innovation programmes and demo facilities for hydrogen chains in industry. This involves a limited, efficient increase in spending, the amount of which will increase between 2019 and 2030. (CA_096)
- Cabinet will set up pilot projects to promote sustainability efforts in industry. This will focus on technologies such as electrification, CO_2 capture and storage, circular use of materials and substances and residual heat recovery. This represents an efficient increase in spending, the amount of which will increase from 2019 to 2025, after which it will be terminated. (CA_097)

- Cabinet will oblige businesses to draw up an emission reduction plan and take emission-reducing measures from the recognised list of measures if those have a payback period of up to five years. The company-specific plans and the related progress must be monitored by an independent party (RVO.nl). These monitoring activities involve implementation costs, representing a limited increase in spending, from 2020 onwards. (CA_101_a)
- Cabinet will partly cover spending increases in the Industrial sector from a release of funds earmarked for climate policy in the Rutte III Coalition Agreement. (CA_106)
- Cabinet will increase spending on CO_2 reduction in the Industrial sector through the SDE+, from 2022 onwards. (CA_276)
- Cabinet will take measures that involve friction costs, but for which the exact budgetary burden cannot be calculated on the basis of their impact. For these measures, a provisional estimate has been included for each sector. For the Industrial sector, this estimate represents a limited increase in spending, the amount of which will increase, between 2019 and 2030. (CA_319)
- Cabinet will set up a fund to compensate industrial companies for Climate Agreement-related consequences in terms of business economics. This represents a limited spending increase between 2021 and 2025. (CA_417)

Table C.3 Industry: Net spending cuts, compared to the baseline scenario (ex ante, billion euros, 2018 price level)

Number	Measure	2021	2025	2030
CA_096	Pilot projects and demo facilities for hydrogen in industry	-0.009	-0.014	-0.019
CA_097	Pilot projects and demo facilities for sustainable technologies in industry	-0.056	-0.081	-0.076
CA_101_a	Review costs company-specific CO_2 reduction plans	-0.005	-0.005	-0.005
CA_106	Climate package Industry	0.070	0.100	0.100
CA_276	Spending increases SDE+ for CO_2 reductions Industry	0.000	-0.250	-0.550
CA_319	Other spending increases and implementation costs Industry	-0.004	-0.018	-0.033
CA_417	Emergency Fund for the compensation of industry	-0.025	0.000	0.000
Total		-0.029	-0.268	-0.583

+ : balance improvement

Agriculture and Land use

- Cabinet will cover spending increases in the Agriculture and Land-use sector partly through the release of funds earmarked for climate policy in the Coalition Agreement of the Rutte III Cabinet. (CA_313)
- Cabinet will take measures that involve friction costs, but for which the exact budgetary consequences cannot be calculated on the basis of their impact. For these measures, a provisional estimate has been included for each sector. For the Agriculture and Land-use sector, this estimate represents a limited spending increase that will be phased out between 2019 and 2030. (CA_321)
- Cabinet will increase spending on tackling methane and ammonia emissions. This represents a limited efficient increase in spending between 2020 and 2030. (CA_418)
- Cabinet will increase spending on the production of artificial fertiliser from animal manure. This involves a limited efficient increase in spending between 2020 and 2030. (CA_419)
- Cabinet will increase spending on the development of a revenue model for climate-friendly products in agriculture. This represents a limited efficient increase in spending between 2020 and 2022. (CA_420)

- Cabinet will increase spending on compensation for extensification of land use around Natura 2000 areas. This involves an efficient spending increase of 0.1 billion euros in 2020 and 2021. (CA_421)
- Cabinet will increase spending in knowledge building and assisting farmers in developing revenue models for farming under wet conditions. This represents a limited efficient increase in spending between 2020 and 2030. (CA_422)
- Cabinet will increase spending on technical innovations and the dissemination of knowledge around soil strategies. This involves a limited efficient increase in spending between 2020 and 2030. (CA_423)
- Cabinet will increase spending on measures for livestock farming to the benefit of nature value around Natura 2000 areas. This represents a limited spending increase between 2020 and 2022. (CA_424)
- Cabinet will increase spending on advising entrepreneurial farmers on ecological recycling agriculture. This involves a limited spending increase between 2020 and 2030. (CA_425)
- Cabinet will take measures to stimulate the use of low-emission animal housing. This represents a limited efficient increase in spending from 2019 onwards. (CA_426)
- Cabinet will take measures to stimulate the use of low-emission animal housing in pig farming. This involves a limited efficient spending increase between 2020 and 2027. (CA_427)
- Cabinet will allocate resources for scale-up schemes, research and pilot projects on innovation and savings in greenhouse horticulture. This represents a limited efficient increase in spending. (CA_428)
- Cabinet will increase spending on pilot projects for knowledge development in four designated peat meadow areas. This involves a limited increase in spending. (CA_429)
- Cabinet will provide various financial resources for peat meadow issues focused on agricultural soils. This represents a limited efficient increase in spending, which will expire between 2019 and 2030. (CA_430)
- Cabinet will increase spending on the management of forests, trees and nature through field research. This concerns a limited efficient increase in spending, which will expire between 2019 and 2030. (CA_431)
- Cabinet will strengthen cultural landscapes with hedgerows. This represents a limited efficient increase in spending, which will expire between 2019 and 2030. (CA_432)
- Cabinet will take anti-desiccation measures for peatland areas from the Nature Pact. These measures include, for example, the construction of weirs and dams. This represents a limited increase in spending, which will expire between 2019 and 2030. (CA_433)
- Cabinet will provide resources to combat food wastage. This represents a limited efficient increase in spending. (CA_434)
- Cabinet will increase spending on the innovation and roll-out of precision agriculture by setting up pilot projects and subsidies for dairy and arable farming. This involves a limited efficient increase in spending, the amount of which will increase between 2019 and 2030. (CA_436)
- Cabinet will increase spending on measures to reduce greenhouse gas emissions from dairy farms. This measure will be financed under the expanded SDE+ scheme and, therefore, will not have a budgetary impact. (CA_437)
- Cabinet will increase spending on achieving knowledge building and innovation within the framework of the plan for a climate-responsible dairy sector in the Netherlands (*Klimaatverantwoorde Zuivelsector Nederland*) with respect to 'manure storage and fertilisation' 'livestock and feed', 'crops and soil', 'energy saving and sustainable energy production' and 'animal housing'. This involves a limited, efficient increase in spending, from 2019 onwards. (CA_438)
- Cabinet will offer financial support for farmers for the cessation of businesses (restructuring) in the pig farming sector. This represents a limited increase in spending, the amount of which will increase between 2019 and 2020, after which support will be terminated in 2023. (CA_439)
- Cabinet will explore bottlenecks in licensing procedures for large-scale low-emission manure processing on pig farms in regional clusters. The measure is funded from the expanded SDE+ scheme and will, therefore, have no budgetary impact. (CA_440)

- Cabinet will increase spending on achieving greater nitrogen efficiency and reducing the generation of nitrous oxide emissions in the agricultural sector. This also includes research into the effects of nitrification inhibitors. This concerns a limited increase in spending. (CA_441)
- Cabinet will explore more efficient use of residual heat for greenhouses. This concerns a limited efficient increase in spending (CA_442)
- Cabinet will provide financial resources for peat meadow issues aimed at nature areas (meadow bird areas). This concerns a limited efficient increase in spending. (CA_443)
- Cabinet proposes to further limit deforestation. This measure will have no budgetary impact (CA_444)
- Cabinet will make funds available to the National Green Fund as a guarantee facility, in the years 2019 to 2021. This represents a limited spending increase, which will expire between 2019 and 2022. (CA_445)
- Cabinet will partly cover spending increases in the Agriculture and Land-use sector from the release of funds earmarked in the Framework agreement on active restructuring in pig farming. (CA_446)

Table C.4 Agriculture and Land use: Net spending cuts, compared to the baseline scenario (ex ante, billion euros, 2018 price level)

Number	Measure	2021	2025	2030
CA_313	Climate package Agriculture and Land-use sector	0.030	0.030	0.030
CA_321	Other spending increases and implementation costs Agriculture and Land-use sector	-0.004	-0.002	-0.002
CA_418	Reduction in methane and ammonia emissions through feed and animal measures	-0.006	-0.005	-0.005
CA_419	Creating artificial fertiliser from animal manure	-0.004	-0.003	-0.003
CA_420	Development of revenue model climate-friendly products	-0.002	0.000	0.000
CA_421	Extensification of land use, peat meadows	-0.050	0.000	0.000
CA_422	Knowledge building and assistance for farmers in revenue models	-0.001	-0.001	0.000
CA_423	Innovation and knowledge dissemination, soil strategies	-0.010	-0.001	-0.001
CA_424	Strengthen nature value around Natura 2000 areas	-0.040	0.000	0.000
CA_425	Advice to entrepreneurs about ecological recycling agriculture	-0.001	-0.001	-0.001
CA_426	Stimulate investments in low-emission animal housing in dairy farming	-0.004	-0.004	-0.004
CA_427	Stimulate investments in low-emission animal housing in pig farming	-0.013	-0.012	-0.002
CA_428	Continuation of Programme 'Kas als Energiebron' for greenhouse horticulture	-0.021	-0.016	-0.016
CA_429	Implementation of pilot projects in peat meadow areas	-0.025	0.000	0.000
CA_430	Financing the roll-out of measures on peat meadows – agriculture	-0.004	-0.011	-0.012
CA_431	Research programme on the management of forests, trees and nature	-0.002	-0.001	-0.002
CA_432	Additional hedgerows in landscape structures	-0.002	-0.001	-0.001
CA_433	Implementation of anti-desiccation measures for peat areas	-0.002	-0.001	-0.001
CA_434	Halving food wastage	-0.002	-0.001	-0.001
CA_436	Stimulate investments and accelerated roll-out precision agriculture	-0.007	-0.007	-0.007
CA_437	Mono manure fermenter in dairy farming	0.000	0.000	0.000
CA_438	Realisation of knowledge and innovation programmes in the dairy sector	-0.001	-0.001	-0.001
CA_439	Elaboration of restructuring scheme pig farming	-0.023	0.000	0.000
CA_440	Processing and value creation pig manure in regional clusters	0.000	0.000	0.000
CA_441	Research into the effects of nitrification inhibitors in arable farming	-0.001	-0.001	-0.001
CA_442	Application of residual heat for greenhouse horticulture	-0.005	-0.005	-0.005
CA_443	Financing of roll-out measures peat meadows – agricultural nature	-0.001	-0.001	-0.001
CA_444	Limiting deforestation to the unavoidable minimum	0.000	0.000	0.000
CA_445	Revolving fund (Dutch National Fund for Green Investments (Groenfonds))	-0.020	0.000	0.000
CA_446	Active restructuring package	0.028	0.005	0.000
Total		-0.193	-0.040	-0.036

+ : balance improvement

Mobility and Transport

- Cabinet will introduce road pricing for heavy goods vehicles, which involves system costs. This represents a limited increase in spending over the 2019–2021 period, and a further increase of 0.1 billion euros from 2022 onwards. (CA_153_c)
- The net revenues from heavy goods vehicle tax (i.e. minus system costs, excise duty losses, abolition of the Eurovignette and lower private motor vehicle and motorcycle tax for heavy duty vehicles) are fed back into the transport sector. This involves an efficient increase in spending, the amount of which will increase from 0.2 billion euros in 2023 to 0.3 billion euros in 2030. (CA_153_i)
- Together with various parties, Cabinet will draw up an implementation agenda for the sub-sectors of urban logistics, to enable zero-emission transport by 2025, at the latest. This represents a limited, efficient increase in spending, from 2020 onwards. (CA_155)
- Cabinet will increase spending on the exchange of knowledge and experience regarding zero-emission mobile equipment. This involves a limited, efficient increase in spending, from 2020 onwards. (CA_159)
- Cabinet will set up a programme to stimulate the number of zero-emission delivery vans, through 40% co-financing of the additional price of these vehicles. The subsidy would be paid out at the time of purchase (ex ante), under a 'when it's gone, it's gone' principle. This represents a limited spending increase, over the 2020–2025 period. (CA_161)
- Cabinet will set up a programme to stimulate the number of zero-emission heavy goods vehicles, through 40% co-financing of the additional price of these vehicles. The subsidy would be paid out at the time of purchase (ex ante), under a 'when it's gone, it's gone' principle. This represents a limited spending increase, over the 2020–2025 period. (CA_162)
- Cabinet proposes that at least 1000 employers express the commitment to reduce their CO_2 emissions by 50% in commercial mobility and transport, by 2030, compared to 2016 levels. The national government and other parties will make every effort to limit the administrative burden for employers. This involves a limited, efficient increase in spending, from 2020 onwards. (CA_163)
- Cabinet will increase the provision of public information for the purpose of making personal mobility and transport more sustainable. This represents a limited, efficient increase in spending, from 2020 onwards. (CA_165)
- Cabinet will make funds available for addressing peak rush hours in railway services. This represents a limited, efficient increase in spending, from 2020 onwards. (CA_166)
- Cabinet and other parties will enter into agreements about communication, education and regulations concerning tyre replacements and tyre pressure. This represents a limited, efficient increase in spending, from 2020 onwards. (CA_167)
- Cabinet will make funds available to accelerate the process and establishment of basic preconditions for the roll-out of a public charging infrastructure for electric vehicles. This concerns a limited, efficient increase in spending, over the 2020–2025 period. (CA_175)
- Cabinet will increase spending on improvements to provide information about the locations and availability of charging stations, charging price transparency, use of open protocols in the charging chain and an open charging market. This represents a limited, efficient increase in spending, over the 2020–2025 period. (CA_176)
- Cabinet will investigate how *smart charging* can be designed for a stable power grid in which the use of electric transport is stimulated. This involves a limited, efficient increase in spending, over the 2020–2025 period. (CA_177)
- Cabinet will investigate the practical possibilities of promoting the use of electric transport within the logistics sector. This concerns a limited, efficient increase in spending, over the 2020–2025 period. (CA_179)
- Cabinet will partly cover spending increases in the Mobility and Transport sector from a release of funds earmarked for climate policy under the Rutte III Coalition Agreement. (CA_187)

- Cabinet will apply a transfer of funds in the Infrastructure Fund, whereby the budgets that fall under the responsibility of the Ministry of Infrastructure and Water Management will be utilised sooner than previously foreseen, with this fund later being replenished again. Withdrawals from and payments into the fund will alternate; cumulatively, over the 2020–2030 period, this represents a budget-neutral funds transfer. (CA_196)
- Cabinet will stimulate the production of advanced sustainable biofuels for transport through SDE+. This represents a limited increase in spending, over the 2021–2028 period. (CA_272)
- Cabinet will set up a monitoring programme at RVO.nl to monitor progress of the implementation of the National Agenda on Charging Infrastructure. This involves a limited, efficient increase in spending, over the 2020–2024 period. (CA_277)
- Cabinet will take measures that involve friction costs, but for which the exact budgetary effect cannot be calculated on the basis of their impact. For these measures, a provisional estimate has been included for each sector. For the Mobility and Transport sector, this estimate represents a limited increase in spending, the amount of which will increase between 2019 and 2030. (CA_317)
- Over the 2021–2024 period, Cabinet will increase spending on subsidies, credits and guarantees for the second-hand zero-emission vehicle market. This represents a limited temporary increase in spending. (CA_414)
- Over the 2021–2023 period, Cabinet will increase spending on bicycle parking facilities at public transport hubs. This represents a limited increase in spending between 2021 and 2023. (CA_415)
- Cabinet will introduce a temporary and decreasing purchase subsidy on zero-emission private passenger vehicles. The subsidy will come to an end in 2025 and has a ceiling. The exact amount and phase-out mechanism of the subsidy has not yet been determined. This involves a limited increase in spending, between 2019 and 2024. (CA_416)

Table C.5 Mobility and Transport: Net spending cuts, compared to baseline scenario (ex ante, billion euros, 2018 price level)

Number	Measure	2021	2025	2030
CA_153_c	Implementation heavy goods vehicle tax (system costs)	-0.039	-0.108	-0.107
CA_153_i	Implementation heavy goods vehicle tax (feed back via expenditures)	0.000	-0.374	-0.336
CA_155	Drawing up implementation agenda for zero-emission city logistics	-0.007	-0.017	-0.010
CA_159	Exchange knowledge about zero-emission mobile equipment	-0.008	-0.018	-0.010
CA_161	Subsidy on the purchase of zero-emission delivery vans	-0.032	-0.014	0.000
CA_162	Subsidy on the purchase of zero-emission heavy goods vehicles	-0.009	-0.017	0.000
CA_163	Limit the administrative burden on employers	-0.003	-0.003	-0.003
CA_165	Provision of information to the public about more sustainable personal mobility and transport	-0.002	-0.002	-0.002
CA_166	Approach to railway peak rush hour	-0.003	-0.003	-0.003
CA_167	Approach to tyre pressure and replacement	-0.002	-0.002	-0.002
CA_175	Acceleration of basic preconditions for the roll-out of public charging infrastructure	-0.002	-0.001	0.000
CA_176	Improvement in the provision of information about charging infrastructure	-0.001	-0.001	0.000
CA_177	Research into the design of smart charging	-0.001	-0.001	0.000
CA_179	Research to improve electric transport in the logistics sector	-0.001	-0.001	0.000
CA_187	Package of climate measures Mobility and Transport	0.040	0.040	0.040
CA_196	Funds transfer Infrastructure Fund	0.003	0.019	0.043
CA_272	Increase in spending SDE+ on biofuels	-0.025	-0.025	0.000
CA_277	Set-up of monitoring programme National Agenda on Charging Infrastructure	-0.001	0.000	0.000
CA_317	Other spending increases and implementation costs Mobility and Transport	-0.008	-0.035	-0.035
CA_414	Increase in spending on the market for second-hand zero-emission vehicles	-0.015	0.000	0.000
CA_415	Increase in spending on bicycle parking facilities at public transport hubs	-0.025	0.000	0.000
CA_416	Purchase subsidy zero-emission vehicles	-0.020	0.000	0.000
Total		-0.161	-0.563	-0.425

+ : balance improvement

Financial burden

Apart from the carbon tax,[27] the Climate Agreement will reduce the public financial burden by 0.9 billion euros in 2021 (Table 3.2). Towards 2025, the reduction in this burden will, on balance, amount to 0.5 billion euros; in 2030, the Climate Agreement will have a negative impact of 0.3 billion euros. Apart from the carbon tax,[28] in the Industrial sector, the financial burden in 2021 will be reduced by 1.3 billion euros for households and increased by 0.4 billion euros for businesses. The non-EMU-related financial burden will be increased by 0.1 billion euros in 2021 and 1.2 billion euros in 2030, as a result of the Climate Agreement. A summary of the measures related to the financial burden for each sector is followed by a table.

[27] For the 2021–2029 period, the impact of the carbon tax on the financial burden of businesses cannot be outlined, but this may be considerable. The overall reduction in the financial burden will be lower as the carbon tax on industry increases this burden.
[28] See previous footnote.

Electricity

There are no measures on the EMU-related financial burden for the Electricity sector.

Non-EMU-related burden

- The grid costs for offshore wind parks in the follow-up map Offshore wind energy are included in the grid tariffs. This leads to non-EMU-related costs for households, which will increase to 0.2 billion euros, between 2020 and 2030. (CA_031_a)
- The grid costs for offshore wind parks in the follow-up map Offshore wind energy are included in the grid tariffs. This leads to non-EMU-related costs for businesses, which will increase to 0.4 billion euros, between 2020 and 2030. (CA_031_b)
- The Climate Agreement leads to necessary additional regional onshore power grids, the costs of which will be included in the grid tariffs, assuming that these newly constructed grids are distributed throughout the country. Tariffs will also include the costs of removing natural gas connections. This leads to non-EMU-related costs for households increasing by up to 0.1 billion euros, between 2020 and 2030. (CA_316_a)
- The Climate Agreement leads to necessary additional regional onshore power grids, the costs of which will be included in the grid tariffs, assuming that these newly constructed grids are distributed throughout the country. Tariffs will also include the costs of removing natural gas connections. This leads to non-EMU-related costs for businesses increasing by up to 0.1 billion euros, between 2020 and 2030. (CA_316_b)

Table C.6 Electricity: non-EMU-related financial burden mutations compared to the baseline scenario (ex ante, billion euros, 2018 price level)

Number	Measure (non-EMU-related)	2021	2025	2030
CA_031_a	Costs of offshore wind energy for households	0.005	0.069	0.189
CA_031_b	Costs of offshore wind energy for businesses	0.011	0.136	0.376
CA_316_a	Costs of additional onshore power grids and removal of natural gas connections (households)	0.018	0.055	0.100
CA_316_b	Costs of additional onshore power grids and removal of natural gas connections (businesses)	0.016	0.049	0.090
Total		0.050	0.309	0.755

+ : increase in financial burden

Built Environment

- Cabinet will make the EIA available to landlords, between 2019 and 2022. This represents a decrease in the financial burden on businesses of 0.1 billion euros, between 2019 and 2022. (CA_046)
- Cabinet will increase the energy tax on natural gas by 4 euro cents per m³ in 2020, followed by an annual increase of, in total, 10 euro cents per m³ in 2026. This represents an increase in the financial burden on households, the amount of which will increase to 0.7 billion euros in 2030. (CA_401_a)
- Cabinet will increase the energy tax on natural gas by 4 euro cents per m³ in 2020, followed by an annual increase of, in total, 10 euro cents per m³ in 2026. This represents an increase in the financial burden on businesses, the amount of which will increase to 0.3 billion euros in 2030. (CA_401_b)

- Cabinet proposes to gradually reduce the energy tax on electricity, from 2021 onwards, by up to a total of 2.3 cents per kWh in 2028. This represents a reduction in the financial burden on households, the amount of which will increase to 0.4 billion euros in 2030. (CA_402_a)
- Cabinet proposes to gradually reduce the energy tax on electricity, from 2021 onwards, by up to a total of 2.3 cents per kWh in 2028. This represents a reduction in the financial burden on businesses, the amount of which will increase to 0.1 billion euros in 2030. (CA_402_b)
- Cabinet proposes to further reduce energy tax by 178 euros in 2020, after which it will increase to up to 212 euros in 2030. This represents a 1.3 billion euro reduction in the financial burden on households. (CA_403_a)
- Cabinet proposes to further reduce energy tax by 178 euros in 2020, after which it will increase to up to 212 euros in 2030. This represents a 0.1 billion euro reduction in the financial burden on businesses. (CA_403_b)
- Cabinet will change the tariffs for ODE tax, from 2020 onwards, for natural gas and electricity in the second and third tax bracket. On balance, this represents an increase in the financial burden on businesses from 0.4 billion euros in 2020 to 0.6 billion euros in 2030. As a result, the ODE will yield more revenues than needed to finance the SDE+/++ scheme. (CA_404)

Non-EMU-related financial burden

- As part of the neighbourhood approach, Cabinet will connect part of the non-residential construction sector to district heating networks. This represents a limited increase in non-EMU-related financial burden on businesses, the amount of which will increase up to 2030. (CA_035_a)

Table C.7 Built Environment: mutations financial burden, compared to baseline scenario (ex ante, billion euros, 2018 price level)

Number	Measure (EMU-related)	2021	2025	2030
CA_046	Expansion of EIA to include landlords	-0.050	0.000	0.000
CA_401_a	Increase in energy tax on natural gas (households)	0.412	0.675	0.678
CA_401_b	Increase in energy tax on natural gas (businesses)	0.189	0.310	0.311
CA_402_a	Reduction in energy tax on electricity (households)	-0.088	-0.338	-0.406
CA_402_b	Reduction in energy tax on electricity (businesses)	-0.027	-0.104	-0.129
CA_403_a	Increase the refund on energy tax (households)	-1.434	-1.434	-1.303
CA_403_b	Increase the refund on energy tax (businesses)	-0.125	-0.125	-0.113
CA_404	Change in ODE tariffs	0.466	0.563	0.602
Total		-0.657	-0.453	-0.360
	Measure (non-EMU-related)			
CA_035_a	natural gas-free districts (non-residential construction)	0.035	0.008	0.009
Total		0.035	0.008	0.009
+ : increase in financial burden				

Industry

- By 2021, Cabinet will introduce a carbon tax (designed as a minimum price in relation to the EU ETS) for companies that fall under the EU Emissions Trading System (EU ETS) for waste incineration plants and for caprolactam-producing companies. There is a gradually decreasing tax-free base. Any emission allowance under the tax-free rate will be registered by the Dutch Emissions Authority and can be transferred from one company to another. The tax will increase the financial burden on businesses by 0 billion euros in 2030. For the years 2021-2029, the carbon-tax-related burden on businesses cannot be outlined, but may be considerable.[29] The tax will lead to business investments in emission reduction, which will result in non-EMU-related costs, see CA_507. (CA_505)

Non-EMU-related financial burden

- Cabinet will legally oblige businesses to take emission-reducing measures from the recognised list of measures if those have a payback period of up to five years. This represents a limited increase in non-EMU-related financial burden on businesses, from 2020 onwards. (CA_101_b)
- The introduction of the carbon tax will lead to business investments in emission reduction. This represents a non-EMU-related financial burden on businesses of 0.2 billion euros in 2030. For the 2021–2029 period, the non-EMU-related financial burden cannot be outlined.[30] (CA_507)

Table C.8 Industry: non-EMU-related financial burden mutations compared to the baseline scenario (ex ante, billion euros, 2018 price level)

Number	Measure (EMU-related)	2021	2025	2030
CA_505	Implementation of a carbon tax	NA	NA	0.000
Total		0.000+NA	0.000+NA	0.000
	Measure (non-EMU-related)			
CA_101_b	Implementation costs of CO_2-reducing plans for businesses	0.005	0.005	0.005
CA_507	Business investments in emission reduction	NA	NA	0.190
Total		0.005+NA	0.005+NA	0.195

+ : increase in financial burden

Agriculture and Land use

There are no financial burden measures for the Agriculture and Land-use sector.

Mobility and Transport

- Cabinet will introduce road pricing for heavy goods vehicles, from 2023 onwards. In accordance with the policy framework on heavy goods vehicles, the rate will be 15 euro cents per kilometre, on all motorways and on roads for which a substantial amount of diversion traffic can be expected as a result of the pricing

[29] PBL has not been able to estimate the tax base for the intervening years. Therefore, no revenues could be calculate for those years.
[30] See previous footnote.

system. This will increase the financial burden on businesses by 0.7 billion euros, from 2023 onwards. (CA_153_a)

- Cabinet will introduce road pricing for heavy goods vehicles, from 2023 onwards. In accordance with the policy framework on heavy goods vehicles, the rate will be 15 euro cents per kilometre, on all motorways and on roads for which a substantial amount of diversion traffic can be expected as a result of the pricing system. This will increase the financial burden for other countries by 0.1 billion euros, from 2023 onwards. (CA_153_b)
- The introduction of a road pricing system for heavy goods vehicles will lead to excise duty losses. This will reduce tax revenues from businesses, starting with a limited reduction in 2023 by up to 0.1 billion euros by 2030. (CA_153_d)
- The introduction of a road pricing system for heavy goods vehicles will lead to excise duty losses. This will reduce tax revenues from abroad, to a limited extent, as from 2023. (CA_153_e)
- The introduction of a road pricing system for heavy goods vehicles will lead to the abolition of the Eurovignette. This represents a decrease of 0.2 billion euro in the financial burden on businesses, from 2023 onwards. (CA_153_f)
- The introduction of a road pricing system for heavy goods vehicles will lead to the abolition of the Eurovignette. This represents a limited decrease in the financial burden on other countries, from 2023 onwards. (CA_153_g)
- The introduction of a road pricing system for heavy goods vehicles will be coupled to a reduction in motor vehicle tax (MRB) for these vehicles. For those of more than 12 tonnes maximum permitted mass, the MRB will be reduced by 36%; this is the maximum possible reduction in accordance with EU directives. For heavy goods vehicles of a permitted maximum mass of below 12 tonnes, the MRB will be completely phased out. This represents a limited reduction in the financial burden on businesses, from 2023 onwards. (CA_153_h)
- Cabinet will cover spending increases in the Mobility and Transport sector partly from the release of funds earmarked under the Motor Vehicles Memorandum Act (Autobrief II). (CA_407_a; CA_407_b)
- Cabinet will exempt zero-emission vehicles from paying motor vehicle tax (MRB) until 2025. In 2025, zero-emission vehicles will pay 25% of the MRB tax. The exemption for the remainder of the MRB amount will expire in 2026. For plug-in hybrids (PHEVs), the exemption will continue at 50% of the MRB tax until 2025. In 2025 and 2026, PHEVs will pay a respective 75% and 100% of the MRB tax. This represents a reduction in the financial burden on households, which will increase to 0.2 billion euros in 2024 and, subsequently, decrease again to 0.1 billion euros in 2030. (CA_408_a)
- Cabinet will exempt zero-emission vehicles from paying motor vehicle tax (MRB) until 2025. In 2025, zero-emission vehicles will pay 25% of the MRB tax. The exemption for the remainder of the MRB amount will expire in 2026. For plug-in hybrids (PHEVs), the exemption will continue at 50% of the MRB tax until 2025. In 2025 and 2026, PHEVs will pay a respective 75% and 100% of the MRB tax. This represents a reduction in the financial burden on households, which will increase to 0.2 billion euros in 2024 and, subsequently, decrease again to only a limited amount. (CA_408_b)
- Cabinet proposes an annual 24-euro increase in motor vehicle tax (MRB) for delivery vans, between 2021 and 2024. In 2025, this rate will be reduced by 24 euros, after which the resulting rate will remain constant. This will increase the financial burden on businesses by up to 0.1 billion euros in 2024, after which it will decrease again to only a limited amount in 2030. (CA_409)
- Cabinet will exempt zero-emission vehicles from paying vehicle registration tax (BPM) until 2025. From 2025 onwards, a fixed rate of 360 euros will apply. This represents a limited reduction in the financial burden on households. (CA_410_a)
- Cabinet will exempt zero-emission vehicles from paying vehicle registration tax (BPM) until 2025. From 2025 onwards, a fixed rate of 360 euros will apply. This represents a limited reduction in the financial burden on businesses. (CA_410_b)

- For zero-emission company cars, Cabinet will reduce the maximum amount of the list price to which the company-car-related addition to taxable income (the cap) applies, in two equal steps, down to 40,000 euros in 2021. At the same time, the tax credit rate for such vehicles will be phased out to zero by 2026. (CA_411)
- Cabinet will increase the excise duty on diesel by 1 euro cent, in 2021, and again by 1 euro cent in 2023. This represents an increase in the financial burden on households of 0.1 billion euros in 2030. (CA_412_a)
- Cabinet will increase the excise duty on diesel by 1 euro cent, in 2021, and again by 1 euro cent in 2023. This represents an increase in the financial burden on businesses of 0.1 billion euros in 2030. (CA_412_b)
- The mobility measures also will have an impact on other tax revenues. This represents a reduction in the financial burden on households of 0.2 billion euros in 2021 to 0.5 billion euros in 2025, after which it will decrease again to 0.1 billion euros in 2030. (CA_413_a)
- The mobility measures also will have an impact on other tax revenues. This represents a reduction in the financial burden on businesses of 0.1 billion euros in 2021 to 0.2 billion euros in 2025, after which it will decrease again to 0.1 billion euros in 2030. (CA_413_b)

Non-EMU-related financial burden

- Cabinet will introduce the obligation to also use 27 PJ in renewable fuel in road transport, next to the application of electricity and hydrogen, in addition to the 2030 scenario of the National Energy Outlook (NEV) 2017. This obligation will be formalised in the Environmental Management Act. This represents an increase in non-EMU-related financial burden on businesses, with a limited increase in 2020, and increasing to 0.3 billion euros, by 2030. (CA_151)
- Cabinet will include the use of zero-emission mobile equipment and the principles of the Green Deal 'Het Nieuwe Draaien' (i.e. *the new way of running equipment*) in procurement processes of, for example, construction work and landscaping. The use of zero-emission mobile equipment will become compulsory, by 2026 at the latest. This represents a limited non-EMU-related financial burden on businesses, from 2026 onwards. (CA_152)
- By 2025, Cabinet will establish medium-sized zero-emission zones for goods transport in 35 cities. Should these zero-emission zones not be established by 2026 via local implementation agendas, the national government will implement them by decree, by 2030 at the latest. This represents a limited non-EMU-related financial burden on businesses, by 2030. (CA_158)

Table C.9 Mobility and Transport: financial burden mutations compared to baseline scenario (ex ante, billion euros, 2018 price level)

Number	Measure (EMU-related)	2021	2025	2030
CA_153_a	Introduction heavy goods vehicle tax (financial burden on businesses)	0.000	0.666	0.661
CA_153_b	Introduction heavy goods vehicle tax (financial burden on other countries)	0.000	0.082	0.082
CA_153_d	Introduction heavy goods vehicle tax (loss of excise duty businesses)	0.000	-0.035	-0.061
CA_153_e	Introduction heavy goods vehicle tax (loss of excise duty from other countries)	0.000	-0.004	-0.008
CA_153_f	Introduction heavy goods vehicle tax (abolition Eurovignette businesses)	0.000	-0.173	-0.176
CA_153_g	Introduction heavy goods vehicle tax (abolition Eurovignette abroad)	0.000	-0.021	-0.022
CA_153_h	Introduction heavy goods vehicle tax (feed back reduction MRB heavy goods vehicles)	0.000	-0.034	-0.034
CA_407_a	Covered from the package of measures on determining the horizon for EVs (households)	0.096	0.161	0.161
CA_407_b	Covered from the package of measures on determining the horizon for EVs (businesses)	0.021	0.021	0.021
CA_408_a	Reduced MRB tax rate for (PH)EVs (households)	-0.120	-0.188	-0.052
CA_408_b	Reduced MRB tax rate for (PH)EVs (businesses)	-0.030	-0.047	-0.013
CA_409	Increase in MRB tax rate for delivery vans	0.018	0.053	0.040
CA_410_a	Exemption and fixed BPM tax rate zero-emission vehicles (households)	-0.012	0.000	0.000
CA_410_b	Exemption and fixed BPM tax rate zero-emission vehicles (businesses)	-0.003	0.000	0.000
CA_411	Phase-out of the reduction in company-car-related addition to taxable income for EVs and reduction in cap	0.008	-0.024	0.079
CA_412_a	Increase in excise duty on diesel (households)	0.031	0.060	0.058
CA_412_b	Increase in excise duty on diesel (businesses)	0.039	0.078	0.074
CA_413_a	Delayed impact of mobility measures on tax revenues (households)	-0.234	-0.479	-0.095
CA_413_b	Delayed impact of mobility measures on tax revenues (businesses)	-0.068	-0.184	-0.057
Total		-0.254	-0.068	0.658
	Measure (non-EMU-related)			
CA_151	Obligation for additional application of renewable fuels in road transport	0.049	0.147	0.270
CA_152	Include zero-emission equipment in procurement processes	0.000	0.000	0.000
CA_158	Zero-emission zones in 35 cities	0.000	0.000	0.000
Total		0.049	0.147	0.270

+ : increase in financial burden

Appendix D: Changes compared to the draft Climate Agreement

In the Climate Agreement, Cabinet builds on the draft Climate Agreement. The table below presents the measures that were added, adjusted or cancelled in comparison to those in the draft Climate Agreement, for expenditures and costs per sector — and if they relate to the EMU, also the effect of these changes on the EMU balance. For the Electricity sector, there are no relevant changes at all, and, for the Agriculture and Land-use sector, there are no changes relevant to the financial burden. Finally, an explanation is provided of how the overall budget and income effects relate to those in the evaluation of the draft Climate Agreement.

Table C.10 Built Environment: added, adjusted and cancelled measures that affect expenditure, compared to the draft Climate Agreement

Number	Measure	2021	2025	2030
Adjusted				
CA_406/dCA_050	Covered from EIA budget reserve	-0.030	0.000	0.000
CA_447/dCA_051	Financing fund homeowners and homeowners' associations	-0.015	-0.014	0.000
CA_448/dCA_042	Expansion package of municipal tasks	0.050	0.050	0.050
Cancelled				
dCA_047	Transference of half of the budgetary net effect of the energy tax shift towards Mobility and Transport	-0.001	0.004	0.009
Total		0.004	0.040	0.059
+ : balance improvement				

Table C.11 Built Environment: added, adjusted and cancelled measures that affect the financial burden, compared to the draft Climate Agreement

Number	Measure	2021	2025	2030
Added				
CA_404	Adjustments ODE tariffs	0.466	0.563	0.602
Adjusted				
CA_401_a/dCA_049_a	Increase in energy tax on natural gas (households)	0.242	0.197	-0.061
CA_401_b/dCA_049_b	Increase in energy tax on natural gas (businesses)	0.111	0.090	-0.029
CA_402_a/dCA_045_a	Decrease in energy tax on electricity (households)	-0.088	-0.173	0.041
CA_402_b/dCA_045_b	Decrease in energy tax on electricity (businesses)	-0.027	-0.057	-0.003
CA_403_a/dCA_044_a	Increase in energy tax reduction (households)	-1.204	-0.994	-0.853
CA_403_b/dCA_044_b	Increase in energy tax reduction (businesses)	-0.105	-0.087	-0.074
Total		-0.604	-0.461	-0.378
+ : balance improvement				

Table C.12 Industry: added, adjusted and cancelled measures that affect expenditure, compared to the draft Climate Agreement

Number	Measure	2021	2025	2030
Added				
CA_417	Emergency fund compensation of disadvantage to industry	-0.025	0.000	0.000
Total		-0.025	0.000	0.000
+: balance improvement				

Table C.13 Industry: added, adjusted and cancelled measures that affect the financial burden, compared to the draft Climate Agreement

Number	Measure	2021	2025	2030
Added				
CA_505	Introduction carbon tax	NA	NA	0.000
Total		0.000+NA	0.000+NA	0.000
	Measure (non-EMU-related)			
Added				
CA_507	Business investments in emission reduction	NA	NA	0.190
Total		0.000+NA	0.000+NA	0.190
+ : balance improvement				

Table C.14 Agriculture and Land use: added, adjusted and cancelled measures that affect expenditure, compared to the draft Climate Agreement

Number	Measure	2021	2025	2030
Added				
CA_418	Reduction in methane and ammonia emissions via feed and animal measures	-0.006	-0.005	-0.005
CA_419	Creation of artificial fertiliser from animal manure	-0.004	-0.003	-0.003
CA_420	Development of revenue model for climate-friendly products	-0.002	0.000	0.000
CA_421	Extensification of land use peat meadows	-0.050	0.000	0.000
CA_422	Knowledge build up and assistance farmers in revenue models	-0.001	-0.001	0.000
CA_423	Innovation and knowledge dispersion soils strategies	-0.010	-0.001	-0.001
CA_424	Strengthening nature value around Natura 2000 areas	-0.040	0.000	0.000
CA_425	Advice for entrepreneurs about ecological recycling agriculture	-0.001	-0.001	-0.001
Adjusted				
CA_426//dCA_109	Stimulate investments in low-emission animal housing systems dairy farming	-0.003	-0.003	-0.003
CA_427/dCA_115	Stimulation investments in low-emission animal housing systems in pig farming	-0.003	-0.002	-0.002
CA_428/dCA_120	Continuation of programme *greenhouse as energy source* ('Kas als Energiebron') for greenhouse horticulture	-0.016	-0.011	-0.011
CA_429/dCA_125	Pilot projects conducted in peat meadow areas	-0.024	0.001	0.001
CA_430/dCA_126	Financing roll-out measures peat meadows – agriculture	-0.003	-0.010	-0.011
CA_431/dCA_128	Research programme on the management of forests, trees and nature	-0.001	0.000	-0.001
CA_432/dCA_132	Additional hedgerows in land scape structures	-0.001	0.000	0.000
CA_433/dCA_133	Implementation of anti-desiccation measures on peatland	-0.001	0.000	0.000
CA_434/dCA_139	Halving food wastage	-0.001	0.000	0.000
Cancelled				
dCA_314	Research funding Agriculture and Land-use sector	0.004	0.004	0.004
Total		-0.163	-0.032	-0.033

+ : balance improvement

Table C.15 Mobility and Transport: added, adjusted and cancelled measures that affect expenditure, compared to the draft Climate Agreement

Number	Measure	2021	2025	2030
Added				
CA_414	Increase in spending on the market for second-hand zero-emission vehicles	-0.015	0.000	0.000
CA_415	Increase in spending on bicycle parking facilities at public transport hubs	-0.025	0.000	0.000
Adjusted				
CA_416/dCA_185_a	Purchasing subsidy on zero-emission vehicles	0.015	0.144	0.288
Cancelled				
dCA_315	Half budgetary net impact of shift in energy tax	0.001	-0.004	-0.009
Total		-0.006	0.140	0.279
+: balance improvement				

Table C.16 Mobility and Transport: added, adjusted and cancelled measures that affect expenditure, compared to the draft Climate Agreement

Number	Measure	2021	2025	2030
Added				
CA_407_b	Covered from the package of measures on determining the horizon for EVs (businesses)	0.021	0.021	0.021
Adjusted				
CA_407_a/dCA_194	Covered from the package of measures on determining the horizon for EVs (households)	-0.021	-0.021	-0.021
CA_409/dCA_192_b	Increase in MRB tax on delivery vans	0.001	0.001	-0.013
CA_411/dCA_182_a	Phase-out of reduced company-car-related addition to taxable income for EVs and reduction in cap	0.054	0.199	0.094
CA_408_a/dCA_180_a	Reduced MRB rate (PH)EVs (households)	-0.093	-0.101	0.219
CA_408_b/ dCA_180_b	Reduced MRB rate (PH)EVs (businesses)	0.081	0.118	0.166
CA_410_a/ dCA_181_a	Tax exemption and fixed rate vehicle registration tax for zero-emission vehicles (households)	-0.012	0.000	0.000
CA_410_b dCA_181_b	Tax exemption and fixed rate vehicle registration tax for zero-emission vehicles (businesses)	0.000	0.000	0.000
CA_412_a/dCA_193_a	Increase in excise duty on diesel (households)	-0.033	-0.019	-0.005
CA_412_b/dCA_193_b	Increase in excise duty on diesel (businesses)	-0.017	-0.020	-0.007
CA_413_a/dCA_180_c, dCA_181_c,dCA_182_b, dCA_185_b, dCA_188_c, dCA_189_c, dCA_190_c, dCA_193_c	Impact of mobility and transport measures on tax revenues (households)	-0.036	0.294	0.853
CA_413_b/dCA_180_d, dCA_181_d, dCA_188_d, dCA_189_d, dCA_190_d, dCA_193_d	Impact of mobility and transport measures on tax revenues (businesses)	0.075	0.011	0.119
Cancelled				
dCA_189_a	Innovation surtax on vehicle ownership (households)	-0.188	-0.196	-0.204
dCA_189_b	Innovation surtax on vehicle ownership (businesses)	-0.025	-0.026	-0.027
dCA_190_a	Innovation surtax on the purchase of non zero-emission passenger vehicles (households)	-0.017	-0.055	-0.022
dCA_190_b	Innovation surtax on the purchase of non zero-emission passenger vehicles (businesses)	-0.015	-0.037	-0.028
dCA_188_a	Increase in private motor vehicle and motorcycle tax (MRB) for fossil-fuel vehicles (households)	-0.047	-0.679	-0.954
dCA_188_b	Increase in private motor vehicle and motorcycle tax (MRB) for fossil-fuel vehicles (businesses)	-0.005	-0.061	-0.064
dCA_192_a	Increase in private motor vehicle and motorcycle tax (MRB) delivery vans (households)	-0.002	-0.006	-0.006
Total		-0.279	-0.557	0.121

+ : balance improvement

Income effects

The bullets below describe how the income effects of the Climate Agreement compare with those in the draft Climate Agreement.

- The average static income effect of overall climate and energy policy up to and including 2021 has been revised upwards by 0.7% compared to the draft Climate Agreement. The new average income effect is 0.0% for 2021. This is due to the adjustments to the package of measures of the Climate Agreement (see adjustment to the income effect of the Climate Agreement 2021).

- The average static income effect of overall climate and energy policy up to and including 2030 has been revised upwards by 0.9% compared to the draft Climate Agreement. The new average income effect is -0.4% for 2030. This is due to the adjustments to the package of measures of the Climate Agreement (see adjustment to the income effect of the Climate Agreement 2030).

- The average static income effect of the Climate Agreement up to and including 2021 has been adjusted upwards by 0.7% compared to the draft Climate Agreement. The new average income effect is 0.6% for 2021. This is due to the adjustments to the measures in the Climate Agreement compared to those in the draft Climate Agreement. Up to 2021, a number of the more burdensome measures in the Climate Agreement have been abolished, such as the innovation surtax on vehicle ownership and purchase, the excise duty on petrol and the increase in MRB tax on non-electric vehicles. In addition, the reduction in energy tax will be increased by a further 163 euros. Together, these lead to a greater reduction in the financial burden.

- The average static income effect of the Climate Agreement up to and including 2030 has been adjusted upwards by 0.7% compared to the draft Climate Agreement. The new average income effect equals 0.3%. This is due to the adjustments to the measures in the Climate Agreement compared to those in the draft Climate Agreement. Up to 2030, a number of the more burdensome measures in the Climate Agreement have been abolished, such as the innovation surtax on vehicle ownership and purchase, the excise duty on petrol and the increase in MRB tax on non-electric vehicles. For 2021, these measures in the draft Climate Agreement are not expected to have much impact on household income, but by 2030 they will. In addition, the reduction in energy tax will be increased by a further 118 euros.

- The delayed-impact effect of the overall climate and energy policy up to 2030 (without taking into account policies abroad) will be 0.4% less favourable. In the draft Climate Agreement, the overall delayed-impact effect was -0.2%, but now this will be -0.6%. This is due to the fact that businesses will experience a greater financial burden than under the draft Climate Agreement and they are expected to pass the cost increases on to households (-0.6% compared to -0.7%). In addition, fewer households will be switching to electric vehicles as a result of the abolition and adjustments of certain measures in the mobility package (0.4% compared to 0.1%).

- The delayed-impact effect of the overall climate and energy policy up to 2030 (including the policies abroad) will be 0.3% less favourable. In the draft Climate Agreement, the overall delayed-impact effect was -0.4%, but now this will be -0.7%. This is due to the fact that businesses will experience a greater financial burden than under the draft Climate Agreement and they are expected to pass the increase on to households (-0.6% compared to -0.7%). In addition, fewer households will be switching to electric vehicles as a result of the abolition and adjustments of certain measures in the mobility package. And, finally, the demand for natural gas will increase and so will the savings on electricity, due to policies abroad (0.4% compared to 0.1%).

Overall changes compared to the draft Climate Agreement

The Climate Agreement builds on the draft Climate Agreement and, everything taken into consideration, will not change the budget balance in 2030. The net spending increases have been reduced, partly by limiting the purchase subsidy on zero-emission vehicles. On balance, on the other hand, there is an equally large reduction in the public burden on households.

The distribution of the effects on the financial burden has shifted between households and businesses, compared to the draft Climate Agreement. In 2030, businesses will experience a greater burden (policy-related and non-EMU-related), while households will see a reduction in their burden.

The static income effect of overall climate and energy policy, up to and including 2030, will be 0.9% more favourable than under the draft Climate Agreement. This is mainly due to the lower burden on households (0.6%). The remainder is due to the changes in the baseline scenario[31] and lower VAT on the energy bill, which does not have an ex-ante budgetary impact but is included in the impact on income.

The more favourable impact on static income is only partly reflected in the effect on income with delayed-impact effects (without taking any policies abroad into account), because the overall delayed-impact effect will be less favourable than under the draft Climate Agreement. The financial burden on businesses has increased, which will result in more costs being passed on to households (0.1%). In addition, fewer households will be switching to electric vehicles as a result of the abolition and adjustments of certain measures in the mobility package (0.3%). On balance, the income effect with delayed impact will therefore be 0.5% more favourable in 2030 than under the draft Climate Agreement.

[31] This mainly concerns a departmental correction of the tariffs for the reduction in energy tax.

Glossary

GDP	gross domestic product
VAT	value-added tax, a system of taxation on goods and services
BPM	vehicle registration tax
CBS	Statistics Netherlands
CCS	Carbon capture and storage
CO_2	carbon dioxide
CPB	CPB Netherlands Bureau for Economic Policy Analysis
dCA	draft Climate Agreement
ECN	Energy research Centre of the Netherlands
EIA	energy-saving investment credit
EMU	Economic and Monetary Union of the European Union
ETS	Emissions Trading System
EU	European Union
ISDE	sustainable energy investment subsidy
kWh	kilowatt hour
MaaS	Mobility as a Service
MRB	private motor vehicle and motorcycle tax
NEV	National Energy Outlook (by PBL)
NS	Dutch national rail services
ODE	sustainable energy storage tax
PBL	PBL Netherlands Environmental Assessment Agency
PJ	Petajoule
RES	regional energy strategy
RVO.nl	Netherlands Enterprise Agency
RA+	Coalition Agreement Rutte III Cabinet, including subsequently adopted policy
SDE+	stimulation of sustainable energy production
SDE++	stimulation of sustainable energy transition
VvE	Dutch homeowners' association
WLO	Welfare, Prosperity and the Human Environment
NMW	national minimum wage