

# Past time for action:

Subsidies and Public Finance  
for Fossil Fuels in the Netherlands



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# Colofon

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**“None of us can escape the consequences of climate change. None of us can turn a blind eye to what is happening right now, and what will happen in the future. All of us have a responsibility to tackle the causes of climate change and adapt to its impact. All of us – together.”**

Prime Minister Mark Rutte speaking at the Climate Vulnerability Forum Partners and Leaders event at COP25 in Madrid, December 2019



Source: © European Union 2016 - European Parliament

## THE PITTSBURGH SUMMIT 2009



**“Today we agreed to phase-out and rationalize over the medium term inefficient fossil fuel subsidies while providing targeted support for the poorest. Inefficient fossil fuel subsidies encourage wasteful consumption, reduce our energy security, impede investment in clean energy sources and undermine efforts to deal with the threat of climate change.”**

G20 Leaders Statement, Pittsburgh Summit in 2009

Source: Presidencia de la Nación Argentina

**“Stop subsidizing fossil fuels. Taxpayer money should not be used to boost hurricanes, spread droughts, [fuel] heat waves, and melt glaciers.”**

United Nations Secretary-General Antonio Guterres remarks to Climate Summit preparatory meeting in Abu Dhabi, June 2019



Source: UNclimatechange



Source: TVA

**“The Netherlands has no grants or subsidies for fossil fuels.”**

Draft National Energy and Climate Plan for the Netherlands, December 2018

**“[We are doing] research into the various definitions of fossil fuel subsidies ... Afterwards an inventory of existing subsidies will be made and a concrete policy will be formulated.”**

Minister of Economic Affairs and Climate, Eric Wiebes, in a letter answering parliamentary questions, July 2019.



Source: Ministerie van Buitenlandse Zaken

# 1. Executive Summary

To meet its climate goals, the Netherlands will need to rapidly reduce emissions and transition from a primarily fossil fuel based energy system (fossil fuels make up 90% of primary energy in the Netherlands) to a renewable energy system. To this end, the Dutch government will need to redirect financial flows from fossil fuels to climate action. The government has committed to do so under the Paris Agreement, which includes the objective of “[m]aking finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development” (Article 2.1.c.). In the current context of the corona crisis it is especially important that the government follows through on these commitments as well as on its plans to introduce a carbon tax. These measures are particularly important for maintaining the competitiveness of renewables in this time of low oil prices and to provide the regulatory certainty needed for sustained investments in the clean and green industries that can deliver the jobs needed for recovery from this crisis. This can also provide the funds needed to respond to the corona crisis and its impacts and to support those affected by it, including those working in the fossil fuel industry.

Our research\* shows that:

- between 2016 and 2020, the Netherlands provided an average of 4.9 billion euros in fossil fuel subsidies each year;
- the sum of the various forms of financial support to the fossil fuel industry, including subsidies, public finance and state-owned enterprise (SOE) investment described in this report, amounted to an average of 8.3 billion euros per year between 2016 and 2020;
- ending the 4.9 billion euros in fossil fuel subsidies can achieve a reduction in the Netherlands’ greenhouse gas emissions of 7.5% by 2030.

Until recently, the Dutch government claimed that no fossil fuel subsidies exist in the Netherlands. However, at the end of 2019, in response to adopted parliamentary resolutions calling on the government to take action on fossil fuel subsidies, the Netherlands commissioned the OECD and the IEA to peer review its fossil fuel subsidies framework to inform policy on the topic (Minister Wiebes, 2019c). This creates an important opportunity for the government to turn long-standing commitments into concrete action. In this report, we argue that the whole range of fossil fuels-supporting instruments should be included in the government’s efforts to align financial flows with climate goals.

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\* We report the full amount of support dispersed through loans, credit support and SOE investments from 2016 up to and including 2020, even though only the revenue foregone due to this support being provided at below market value constitutes a subsidy. We chose to do so because the Dutch government exerts more direct control over these financial flows and thus also has the power to redirect them.

The largest fossil fuel subsidies provided by the Netherlands are energy tax exemptions for fuels used in aviation and waterway transportation, costing 2.1 billion euros and 1.4 billion euros a year respectively. In addition, the Netherlands provides an average of 2.9 billion euros of public finance per year to support fossil fuel production and related infrastructure at the international level (e.g. via export credit agency Atradius DSB and the FMO development bank). We estimate that Dutch state-owned enterprises (SOEs) (e.g. Energiebeheer Nederland, Gasunie and GasTerra) invest around 513 million euros a year in fossil fuels. Only a share of this financial support counts as a subsidy, but in this study we report on the full amount of support dispersed. The sum of the various forms of financial support to the fossil fuel industry described in this report amounted to an average of 8.3 billion euros per year between 2016 and 2020. This constitutes an increase relative to fossil fuel support provided between 2014 and 2016, estimated at 7.6 billion euros per year.

The International Institute for Sustainable Development (IISD) used its Global Subsidies Initiative Integrated Fiscal (GSI-IF) model to estimate that ending fossil fuel subsidies worth 4.9 billion euros per year, combined with a partial reinvestment of this money in energy efficiency (20%), renewable energy (10%) and social safety nets (50%), can achieve a reduction in greenhouse gas emissions of 7.5% by 2030, or 11.35 MtCO<sub>2</sub> a year compared to business as usual from 2025.

Ending fossil fuel subsidies can thus contribute towards meeting the 49% emission reduction target for 2030 included in the Dutch Climate Act and the ruling of the Supreme Court in the Urgenda climate case. The latter requires the Dutch government to intensify its efforts to reduce carbon emissions by at least 9 MtCO<sub>2</sub>e by the end of 2020 to ensure meeting its 25% emission reduction obligation (compared to 1990 levels), in order to protect human rights against the impacts of climate change. Further emission reductions can be achieved by excluding fossil fuels from public finance and State-Owned Enterprise (SOE) investment and introducing an appropriate price on carbon.

Although, to date, a concerted effort to align all financial flows with the climate goals is lacking, the Netherlands has taken a few small steps to end some of its financing and subsidisation of fossil fuels. The excise tax rebate introduced to promote the use of Liquefied Natural Gas (LNG) was discontinued at the end of 2019 after research showed that the environmental advantages of LNG compared to diesel were limited. In addition, in the context of policy coherence, the Netherlands decided to eliminate fossil fuels from its international funding mechanisms, although at present this commitment only applies to fossil fuel exploration and extraction. It does not include fossil fuel infrastructure and excludes export credit support.

In order to meet its commitment to align public financial flows with climate goals, we recommend the Dutch government to:

- End all public financial support for fossil fuels. The Netherlands is failing to keep its European commitment made in 2013 to end all environmentally harmful



subsidies by 2020. The Dutch government should immediately start taking the actions needed to ensure a rapid phase out of all public financial support for fossil fuels. In the context of today's ever more urgent climate crisis, it is necessary to speed up political processes in order to keep established climate goals within reach. Ending fossil fuel support now frees up money that can be used to create green jobs through green stimulus and to support people through the corona crisis and its wider impacts;

- This also means broadening the decision to make Dutch international funding mechanisms fossil free to encompass all fossil fuel activities and infrastructure and all types of financial support, including export credit support, instead of limiting it to fossil fuel exploration and extraction alone;
- Ensure that stimulus packages and other support measures introduced in response to the corona crisis do not lead to an increase in public support for the fossil fuel industry or industries that are large users of fossil fuels such as aviation. In case support is provided, it should go to workers rather than corporate executives and shareholders and should be made conditional on plans for a managed decline of fossil fuel production or use in line with a 1.5°C trajectory and appropriate taxation of the industry;
- Partially reinvest the resulting savings in energy efficiency, renewable energy and social safety nets in order to ensure a just and fair, but rapid phase-out of subsidies in a way that supports low-income households and affected businesses;
- Ensure a transparent phase-out process that comprises reporting, communication and consultation with stakeholders, including Civil Society Organisations (CSOs);
- Recognise that there is no consensus in the literature on the effects of energy prices on competitiveness and carbon leakage and that for Dutch industries to be competitive in the longer run, it will be crucial to make them fit for the transition. This requires dedicated transition support measures rather than support for fossil fuels;
- Ensure that the 'polluter pays' principle is applied to all transition support measures, such as decommissioning costs and compensation for damages caused by gas extraction, limiting the extent to which these costs are carried by taxpayers;
- Take leadership in international fossil fuel subsidy phase-out processes, including at the EU level, through the National Energy and Climate Plans, the EU taxonomy and the European Green Deal, the revision of the EU Energy Taxation Directive in 2021, the review of EU financial instruments and through ensuring that the EU includes a commitment to end public financial support for fossil fuels in its reviewed Nationally Determined Contribution. At the international level, the Netherlands should lead on ending public support for fossil fuels by ensuring this is part of the implementation of Article 2.1.c. of the Paris Agreement and the SDGs,

and by making sure that Multilateral Development Banks (MDBs) and Export Credit Agencies (ECAs) exclude fossil fuels from their financing and export credit support.

Following the above recommendations will enable the Netherlands to raise the bar for global climate leadership by showing that fossil fuel subsidies and finance must be phased out rapidly to avoid the worst of the climate crisis and that this can be done in a fair and equitable way. In the current context of the corona crisis, low oil prices, and massive stimulus packages, such leadership is more important than ever.



## 2. Introduction

While climate change is wreaking havoc across the world, governments, including that of the Netherlands, continue to subsidise and finance the biggest single source of greenhouse gas emissions: the production and use of fossil fuels. Emissions from oil and gas in operational fields and mines globally alone will already push the world beyond the 1.5°C global warming limit (OCI, 2016; McGlade & Ekins, 2015). Any expansion of fossil fuel production and any increase in fossil fuel use is incompatible with the Paris climate limits (Tong et al., 2019).

And yet, estimates for global fossil fuel subsidies range from USD 370 - 620 billion annually for 2010-2015 (OECD, 2018) to USD 5.2 trillion in 2017 (IMF, 2019) worldwide, with the latter estimate also including health impacts and environmental and social costs of these subsidies. In addition, Multilateral Development Banks (MDBs) and the G20 public finance institutions provided 77 billion US dollars in public finance for fossil fuels between 2016 and 2018, compared to 24 billion US dollars for renewables (Tucker & DeAngelis, 2020). In order to keep the 1.5°C climate limit within reach, this public support for fossil fuels will have to come to an end.

Governments worldwide, including the Netherlands, have long-standing commitments to end the financing and subsidisation of fossil fuels. The parties to the Paris Climate Agreement agreed to make financial flows – private and public – “consistent with a pathway towards low greenhouse gas emissions and climate-resilient development” (UNFCCC, 2015, Article 2.1.c). The G20, which the Netherlands – through the EU - is part of, committed to “rationalise and phase-out inefficient fossil fuel subsidies that encourage wasteful consumption over the medium term while providing targeted support for the poorest” to “deal with the threat of climate change” back in 2009 (G20, 2009). The G7, which the Netherlands is also part of through the EU, called on all countries to meet this objective by 2025 (G7, 2016). In the EU context, the Netherlands has agreed to end environmentally harmful subsidies by 2020 (European Parliament and the Council of the European Union, 2013). In 2015, alongside 40 other countries and hundreds of companies, the Netherlands signed a communiqué calling on all countries to eliminate inefficient fossil fuel subsidies (Friends of Fossil Fuel Subsidy Reform (FFFSR), 2015).

Yet until recently the Dutch government claimed that no fossil fuel subsidies exist in the country (van der Burg, et al., 2019), even though reports by international organisations and institutions, such as the Organisation for Economic Cooperation and Development (OECD), the International Monetary Fund (IMF) and the European Commission showed otherwise, with some even finding that fossil fuel subsidies in the Netherlands dwarf the country’s support to renewable energy technologies (Trinomics, 2019). Pre-existing estimates of the Netherlands’ financial support to fossil fuels range from 2.47 billion euros by the European Commission to 7.6 billion euros a year between 2014 and 2016 (with the latter figure also including public

finance and SOE investment in fossil fuels) (ODI, CAN Europe, 2017). Regardless, the Netherlands' draft National Energy and Climate Plan, submitted to the European Commission at the end of 2018, stated that *"the Netherlands has no grants or subsidies for fossil fuels"*.

However, the Dutch government has now embarked on an effort to map its fossil fuel subsidies. In 2018, the Dutch parliament adopted several parliamentary resolutions calling on the Dutch government to partake in a G20 peer review of its fossil fuel subsidies (Tweede Kamer, 2018). In response, the Dutch Ministry of Economic Affairs and Climate Policy initiated a stakeholder process to support an OECD/IEA peer review of its fossil fuel subsidies that will be used to inform Dutch policies on the issue. This creates an important opportunity for the Netherlands to turn its long-standing international fossil fuel subsidy phase-out commitments into action.

This study provides a Civil Society Organisation (CSO) perspective. It lists all identified fossil fuel subsidies as well as public finance for an SOE investment in fossil fuels. Only a share of public finance and SOE investment counts as a subsidy, but in this study we report on the full amount of support dispersed.<sup>1</sup> This study also estimates the greenhouse gas emission reduction potential of ending fossil fuel subsidies, using the IISD's Global Subsidies Initiative Integrated Fiscal (GSI-IF) model. It concludes with a series of recommendations for the Netherlands to urgently end financing and subsidisation of fossil fuels in a way that supports a just and equitable energy transition away from fossil fuels, both domestically and globally.

## 2.1. This is the right time to end fossil fuel support in a fair way

In the current context of the corona crisis and low oil prices, it is especially important for the Dutch government to proceed with its commitment to end fossil fuel subsidies and finance and to prevent the introduction of new public support to fossil fuels in response to the current crisis. Already prior to COVID-19, the oil and gas sector was showing signs of permanent decline. During 8 of the last 9 years the sector under-performed global stock markets, and last year the sector placed dead last in the Standard & Poor's 500 index. With the current low oil price and the COVID-19 crisis, the sector is facing an additional hit (van der Burg et al., 2020).

But throwing money at a sunset sector is the wrong bet for getting through this crisis. Instead, this is a critical moment to fund a just transition away from fossil fuels that protects workers (e.g. through unemployment insurance, early retirement schemes, worker transfer schemes, subsidised training), communities, and the climate

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1 We report the full amount of support dispersed through loans, credit support and SOE investments from 2016 up to and including 2020, even though only the revenue foregone due to this support being provided at below market value constitutes a subsidy. We chose to do so because the Dutch government exerts more direct control over these financial flows and thus also has the power to redirect them.

instead of a sunsetting and volatile commodity. Investments in a just transition for oil and gas workers, and in transition sectors, will create jobs, and healthier, more equitable and resilient societies that can avert future crises.

Ending fossil fuel subsidies and introducing sufficiently high carbon prices at a time when oil prices are low is crucial to ensure renewables remain competitive and to incentivise the inefficient use of energy, as low energy prices encourage their use. Because oil and gas prices are low, the removal of subsidies will not significantly increase energy prices. The broader support packages introduced in response to the corona crisis should ensure that households and small and medium sized businesses receive sufficient support so that they are not negatively affected by any increase in fossil fuel prices due to the introduction of sufficiently high carbon prices. At the same time, removing fossil fuel subsidies saves government expenditure, which, combined with income generated through a carbon tax, can be redirected to support today's more pressing policy goals.

## **2.2. Ending fossil fuel subsidies is good for health, climate and the economy**

Ending fossil fuel subsidies and finance is not only necessary to meet climate goals, it is also imperative for budgetary, social, economic and health reasons. Subsidies for fossil fuels often disproportionately benefit the wealthy, who consume higher levels of fossil fuels. Ongoing subsidies for fossil fuel production distort the market, making clean energy and energy efficiency technologies relatively more expensive. They also lead to 'lock-in' of high-carbon investments, increasing the risk of 'stranded assets' (Gerasimchuk, Bassi et al., 2017; Worrall et al., 2018), and are damaging to public health (HEAL, 2018).

According to the IMF, the removal of subsidies and the efficient pricing of pollution could lower global carbon emissions by 28% and could almost halve global fossil fuel air pollution deaths, while increasing government revenues by 3.8% of Global Domestic Product (GDP). For the EU, the IMF estimates that removing fossil fuel subsidies and appropriate carbon pricing would help reduce CO<sub>2</sub> emissions by approximately 22% and premature deaths caused by air pollution by approximately 40%, while increasing GDP by approximately 3% (IMF, 2019).

A 2018 study published in Nature found that potential emission reductions from fossil fuel subsidy removal could amount to 500 million to 2 billion mtCO<sub>2</sub> a year by 2030, amounting to one quarter of the energy-related emission reductions that countries have pledged to undertake under the Paris Climate Agreement (Jewell et al., 2018). A more recent study that looks at the climate impacts of a specific tax break for oil producers in the United States that allows them to deduct most of the costs of constructing new wells from their tax bill suggest that previous emission reduction estimates from ending fossil fuel subsidies likely

underestimate the potential emission reductions from a fossil fuel subsidy phase-out. They typically assume that production subsidies are uniformly distributed, whilst production subsidies often target new rather than existing investments (Erickson et al., 2020). Another study looking at fossil fuel subsidies in the United States finds that almost half of future oil production in the United States would be unprofitable without subsidies (Erickson et al. 2017). As yet, there are no studies that look specifically at the profitability of fossil fuel production in the Netherlands in the absence of government subsidies. However, from the above we can conclude that ending fossil fuel subsidies matters for our climate, health and the economy.

## 2.3. Methodology used

This study uses a typology of energy subsidies (Table 1) (UNEP et al., 2019) that builds on the most commonly accepted definition of a subsidy: that of the World Trade Organisation's (WTO) Agreement on Subsidies and Countervailing Measures (ASCM), which was signed by 164 member states and has legal force. It defines subsidies as *“any financial contribution by a government, or agent of a government, that confers a benefit on its recipients in comparison to other market participants”* (WTO, 1994).



Type of subsidies	Examples
Direct transfer of government funds	<ul style="list-style-type: none"> <li>- Direct spending and off-budget transfers</li> <li>- Government ownership of energy-related enterprises if on terms and conditions more favourable for business than in case of private ownership</li> </ul>
Tax expenditure, other revenue foregone, and under-pricing of goods and services	<p>Tax breaks</p> <ul style="list-style-type: none"> <li>- Under-pricing of government-owned energy resources</li> <li>- Under-pricing of non-energy, government-owned natural resources or land</li> <li>- Under-pricing of government-owned infrastructure</li> <li>- Under-pricing of other government-provided goods or services</li> <li>- The cost to the government of below-market risk-adjusted returns from equity infusions</li> <li>- Below-market lending to energy-related enterprises, including loans to energy exporters, and debt restructuring and cancellations</li> </ul>
Induced transfers (price support)	<ul style="list-style-type: none"> <li>- Price support, including through market regulation</li> </ul>
Transfer of risk to government	<ul style="list-style-type: none"> <li>- Credit support through risk transfer mechanisms like loan guarantees</li> <li>- Debt restructuring and cancellations</li> <li>- Insurance and indemnification</li> <li>- Assumption of risks related to occupational health and accidents</li> <li>- Assumption of responsibility for remediating environmental damage</li> </ul>

Table. 1. Typology of energy subsidies. Source: UNEP, OECD, GSI (2019).

This typology is borrowed from a 2019 report drawn up by the United Nations Environment Programme (UNEP), the Organisation for Economic Cooperation and Development (OECD) and the International Institute for Sustainable Development (IISD), which clarifies how to use the WTO definition to map and estimate fossil fuel subsidies (UNEP et al. 2019). It was developed for the purpose of tracking progress towards the Sustainable Development Goals (SDGs).

Between 2020 and 2030, UN members, including the Netherlands, are asked to use this methodology to annually report on the “*amount of fossil fuel subsidies per unit of GDP (production and consumption)*”, under SDG indicator 12.c.1.

The approach as such provides the first internationally agreed methodology for measuring fossil fuel subsidies. It covers direct transfers, tax expenditures and price support. Reporting on the transfer of risks to a government (such as through public finance) is optional under the methodology because of issues with data availability and complexity. This is why in our report we opted for using the full support dispersed through public finance and full capital expenditure on fossil fuels by SOEs rather than singling out the subsidy element of these forms of support (which is the extent to which loans and other forms of public finance are provided at below market-value and the concessional sub-component of SOE investment that constitutes a subsidy).

## 2.4. Guidance for ending fossil fuel subsidies

While overall transparency issues remain, and as such reporting efforts are important, research suggests that it is not a lack of fossil fuel subsidy data, nor a

lack of phase-out commitments or available tools to guide reform processes that explain the limited action on fossil fuel subsidies reduction. Rather, the biggest obstacles to subsidy phase-out seem to be political inertia, vested interests of the industry and a lack of public awareness on the issue (Victor, 2009; Skovgaard & van Asselt, 2019; Gerasimchuk et al., 2018).

These are obstacles that the Dutch government should be able to overcome. There is a considerable body of literature (e.g. Beaton et al., 2013; Inchauste & Victor, 2017; Whitley & van der Burg, 2015; Gerasimchuk et al., 2018) that provides guidelines for successful subsidy reform, building on experiences worldwide. While approaches to end fossil fuel subsidies will need to be tailored to specific domestic circumstances, such processes generally gain impetus when based on or supported by (Whitley & van der Burg, 2015 and Gerasimchuk et al., 2018):

- a whole-of-government approach, requiring strong collaboration between ministries;
- research undertaken before, during and after the reforms in order to be able to understand and mitigate the impacts of reform;
- a transparent process, including extensive communication and consultation with stakeholders;
- resources made available upfront to support the reforms. While the benefits of reform tend to far outweigh the costs, they will often only materialise after the reforms have been enacted;
- a visible and efficient reallocation of resources to public policy goals (for example decarbonisation) and to the protection of vulnerable groups.

These principles should guide Dutch efforts to ensure a rapid phase-out and reorientation of the country's wide range of subsidies and other financial measures supporting the exploration, exploitation, production and consumption of fossil fuels described in the next section.

### **3. Overview of public financial support to fossil fuels in the Netherlands**

This report looks at the support measures that the Netherlands continues to provide to the production and use of fossil fuels both domestically and internationally across a broad range of economic sectors. It covers the full range of support measures dispersed through budgetary, tax expenditure and price and income support, public finance and SOE investments and does not limit its analysis to direct subsidies only.

The Dutch government continues to provide support both domestically and internationally to the production and use of fossil fuels across all sectors reviewed in this report. We estimate fossil fuel subsidies in the Netherlands (including budget spending, tax breaks and price and income support) at an average of 4.9 billion euros per year between 2016 and 2020. The highest amount of budgetary support goes to the consumption of fossil fuels in the transport sector, at €3.5 billion. Support linked to oil and gas production, including for decommissioning and compensation for damages caused by gas extraction-related earthquakes in Groningen is estimated at €449 million per year during the same period.

Between 2016 and 2020, investment by state-owned enterprises (SOEs) in oil and gas stood at nearly €513 million per year. During that same period, the Netherlands provided international public finance for fossil fuel production and fossil fuel-based electricity infrastructure worth €2.9 billion per year. Table 2 provides an overview of the various types of support for fossil fuels, including public finance and SOE investment. We must note that our research found no data for 32% of the fiscal support instruments, including e.g. support for North Sea gas production, and 40% of the state or municipality-owned enterprises (SOEs) that invest in fossil fuels identified in this report. This suggests that actual financial support provided to fossil fuels is likely to be higher than estimated here.

Measure or project	Targeted energy source	Incidence	Stage	Million euros, annual average (2016-2020)
RD&D for fossil fuels	Oil, gas and coal	Production	RD&D	12.29
EU ETS compensation	Multiple or unclear	Consumption	Industry and business	49.40
CO <sub>2</sub> capture subsidy for Shell	Oil, gas and coal	Production	Industry and business	0.07
Co-firing of biomass in electricity generation	Oil, gas and coal	Production	Power plants	450
Government accounting for costs linked to the damages caused by gas extraction in Groningen	Gas	Production	Decommissioning and rehabilitation	243.75
Compensation to Exxon and Shell (owners of the NAM) for loss in revenue due to earlier phase-out of gas extraction in Groningen	Gas	Production	Development, extraction and preparation	22.5
Reduced Energy Tax Rate in Horticulture	Gas	Consumption	Agriculture	133
Energy tax rebate for Religious Institutions and Non-Profit Organisations	Gas	Consumption	Industry and business	28.8
Energy tax exemption for energy-intensive processes	Electricity (Gas and Coal)	Consumption	Industry and business	88.6
Refund energy tax large commercial users	Electricity (unspecified)	Consumption	Industry and business	6.8
Energy Tax Exemption for fuels used in Aviation and VAT exemption on airplane tickets	Oil	Consumption	Aviation	2153.6
Energy Tax Exemption for fuels used in Waterway Transportation	Oil	Consumption	Maritime	1392.33
Differentiated tax rates electricity	Electricity (unspecified)	Consumption	Multiple or unclear	n/a
Differentiated tax rates natural gas	Gas	Consumption	Multiple or unclear	n/a
Small fields policy	Gas	Production	Development, extraction and preparation	n/a
Marginal fields and prospects incentive	Gas	Production	Development, extraction and preparation	170
Energy investment deduction	Multiple or unclear	Production	Multiple or unclear	n/a
Energy tax exemption for the use of coal and gas in electricity production	Electricity (Coal and gas based)	Production	Power plants	168.5
LNG excise tax rebate	Gas	Consumption	Transport	2.4
Fuel tax exemption for refineries	Oil	Consumption	Industry and business	n/a
Differentiation excise duty diesel versus petrol in combination with a higher road tax (excise duty)	Oil	Consumption	Transport	n/a



Transport of aircraft fuel by the Netherlands Defence Organisation via its own pipeline network.	Oil, gas and coal	Production	Power plants	n/a
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Table 2. Fossil fuel subsidies available in the Netherlands (Euro millions, annual average 2016-2020)

Measure or project	Entity	Targeted energy source	Incidence	Million euros, annual average (2016-2020)
FMO international development finance for energy	Nederlandse Financieringsmaatschappij voor Ontwikkelingslanden (FMO) – Dutch Government has a 51% stake	Coal, oil and gas	Multiple or unclear	35.35
Access to Energy Fund: Jointly initiated by the Dutch government and FMO	Nederlandse Financieringsmaatschappij voor Ontwikkelingslanden (FMO) – Dutch Government has a 51% stake	Coal, oil and gas	Multiple or unclear	2.39
ABN – public finance to fossil fuel projects	ABN Amro	Coal, oil and gas	Multiple or unclear	1670
Insurances provided by Atradius to fossil-fuel related projects	Atradius	Coal, oil and gas	Multiple or unclear	1166.66
SNS bank – public finance to fossil fuel projects	SNS Bank	Coal, oil and gas	Multiple or unclear	n/a

Table 3. Dutch public finance for fossil fuels (Euro millions, annual average 2016-2020)

Entity	Targeted energy source	Incidence	Stage	Million euros, annual average (2016-2020)
Investments by Energie Beheer Nederland (EBN)	Gas	Production	Multiple or unclear	207
Investments by Gasunie	Gas	Infrastructure	Multiple or unclear	305
Investments by GasTerra	Gas	Production	Multiple or unclear	1.47
Eneco	Multiple or unclear	Production	Power plants	n/a
Delta	Multiple or unclear	Production	Power plants	n/a

Table 4. State-owned enterprise investments in fossil fuels (Euro millions, annual average 2016-2020)

The following sections give more detail on subsidies, finance and SOE investment for the production and consumption of oil, gas and coal, as well as fossil fuel-powered electricity. A comprehensive list of identified subsidies can be found in [this datasheet](#).

## 3.1. Fossil fuel production, processing and distribution

### 3.1.1. Domestic

The Netherlands has a long history of gas production, and as a result, strong ties exist between the gas industry and the Dutch government (Oxenaar, 2017). The state participates in exploration and production, gas infrastructure, and trading and supply of gas, including through public-private partnerships. The production, distribution and sale of natural gas is governed through the 'gas building' (gasebouw), a collaboration between public and private entities. In addition to non-financial support for the industry, the government dispenses substantial subsidies for the production of natural gas. However, the strong relationship between the government and the industry is increasingly under pressure and the Dutch Minister for Economic Affairs and Climate Policy recognises that the dismantling of the 'gas building' is unavoidable (Minister Wiebes, 2019a), a recognition that is of historic importance. The turnaround is in large part a result of a strong and growing resistance movement opposing the production of gas in the northern province of Groningen, which is home to one of the largest gas reserves in the world, where gas extraction has led to recurring earthquakes and damage to people's houses. In response, the government first introduced production caps and in 2018 agreed to fully end gas exploitation in Groningen by 2022. At the same time, this has led to a new push for oil and gas extraction from smaller fields across the country and in the North Sea, including through an increase in subsidies for production. This is inconsistent with climate goals, which require a managed decline of fossil fuel production and use (OCI, 2016; McGlade & Ekins, 2015). Also from a geological perspective a managed decline would be timely. Last year, for the first time in the preceding decade and despite exploration efforts, no new oil and gas reserves were found in the North Sea (van Santen, 2020a).



Source: Rijksdienst voor het Cultureel Erfgoed.

This section lists and describes the identified subsidies, finance and SOE investment for fossil fuel production, processing and distribution.

#### ***Small fields policy (subsidy)***

In 1974, the Dutch government introduced the 'small fields' policy to encourage the production of natural gas from smaller fields throughout the Netherlands. The policy obliges the main trading and supply company, GasTerra, which is fifty percent state-owned, to act as a guaranteed buyer of gas from small fields to reduce uncertainties with regards to demand. It also obliges the GasUnie Transport Services (GTS) to transport the gas. This policy has led to the development of additional reserves, some of which were not put into production and thus left as stranded assets. No estimates are available for the amount of support provided to gas production through this measure.

#### ***Marginal fields and prospects incentive (subsidy)***

In 2010, the Dutch government introduced a 'marginal fields and prospects' incentive, which allowed operators of marginal fields in the North Sea to deduct 25% of their investment costs from their taxable profit, provided that they met certain production criteria such as expected productivity. Although no estimates are available, around half of the offshore field developments in the Netherlands benefitted from this allowance between 2010 and 2013. From 2020 onwards, the Dutch government is extending the investment allowance available to all new investments in offshore oil and gas production by making it unconditional, while increasing the allowance from 25% to 40%. The resulting foregone tax revenue is estimated at 170 million euros in 2020. The stated objective for the increase in the gas allowance is security of energy supply in the face of a wind-down in gas production from Groningen.

#### ***Research & Development (subsidy)***

Based on figures from the International Energy Agency's (IEA) database for research and development (R&D) budgets for fossil fuels, we estimate the annual average R&D subsidies for fossil fuels in the Netherlands at 12.3 million euros a year between 2016 and 2020.

#### ***Investments by Energie Beheer Nederland (EBN) (SOE investment)***

Energie Beheer Nederland (EBN) is 100% owned by the Dutch government and takes part in exploration, production, transportation, pipelines and storage, as well as sales activities. It participates in all fossil fuel projects in the Netherlands, typically taking a 40% stake. This lowers the risks for private investors. EBN's calculations show that generally only 32% of the costs of a dry hole are borne by private investors. When EBN participates in exploration activities, private investors only bear 19% (net) of the costs of a dry hole (EBN, 2015). Data beyond 2018 are not available, but total investments by EBN averaged 207 million euros per year between 2016 and 2018. EBN's overall investments decreased from 765 million euros in 2014 to 184 million euros in 2018. In its annual report, EBN highlights that its investments will need to substantially increase over the next few years to keep fossil fuel production

up to level. As gas production in Groningen is being phased-out, EBN embraces a proactive role in “*encouraging investments in exploration so as to identify and produce Dutch gas*” (EBN, 2018).

EBN also takes part in decommissioning activities and the re-use of depleted oil and gas fields, for example for carbon capture and storage. Estimated decommissioning costs have risen steadily over time (EBN, 2016a) and the Dutch state is expected to contribute 75% - €5 billion - of the total estimated decommissioning costs (EBN, 2016b).

Furthermore, the oil and gas industry association (NOGEPa) and EBN, in 2018, together set up Nexstep, a national platform to lead the decommissioning and re-use of fossil fuel infrastructure. NOGEPa and EBN also developed an instrument to provide financial guarantees for permit holders of decommissioning contracts. If a permit holder is not able to meet a decommissioning obligation, the Dutch state will become responsible for the financial guarantees, shifting an even larger proportion of decommissioning costs onto the Dutch state (EBN, 2018). Considering its ongoing participation in fossil fuel production activities, a case can be made for the Dutch state to carry part of the decommissioning costs. However, it is essential that the Dutch government ensures that there is a fair balance between decommissioning costs carried by the government and private investors.

#### ***Investments by Gasunie (SOE investment)***

Natural gas infrastructure and transportation in the Netherlands is controlled by Gasunie, a 100% state-owned company. It owns both the Dutch transmission network and part of the transmission network in Germany. Data beyond 2018 are not available, but annual investments in the transmission network averaged 305 million euros per year between 2016 and 2018. Gasunie not only expects that, in the near future, gas will continue to play an important role in the energy transition, but also that, further down the energy transition, gas infrastructure will stay in use for ‘green gas’, hydrogen, heat networks and CCS (Gasunie, 2020).

#### ***Investments by GasTerra (SOE investment)***

GasTerra is 50% owned by the Dutch Government (10% Ministry for Economic Affairs and Climate and 40% EBN) and 50% owned by Shell and ExxonMobil. The company has been involved in trade and supply of natural gas produced, mostly from the Groningen gas field, since the 1960s. Its total investments averaged 1.5 million euros per year between 2016 and 2018. In response to the decision to phase-out gas production in Groningen by 2022, GasTerra’s shareholders (the government, Shell and ExxonMobil) have asked GasTerra to develop a plan to wind down its operations. A social plan is under development for all remaining 165 employees of the company (DVNH, 2019).

#### ***Compensation to Shell and Exxon for gas production phase-out in Groningen (subsidy)***

The Dutch government is compensating Royal Dutch Shell and ExxonMobil - as co-owners of the NAM, which exploits the gas fields in Groningen - for loss of revenue



as a result of the decision to phase-out natural gas production in Groningen by 2022. This compensation provided is 90 million euro. In May 2020 it became clear that Shell and Exxon are starting an arbitration case against the Dutch government to seek additional compensation (Global Arbitration Review, 2020).

### *Government accounting for the costs of damages caused by gas-related earthquakes (subsidy)*

Gas extraction has led to recurring earthquakes in the province of Groningen, causing significant damage. Reparation costs, including necessary reinforcement operations, are estimated at between 3.5 billion and 5.5 billion euros up to 2030 (Minister Wiebes, 2018). These are borne in part by the government and in part by the NAM. Reparations covered by the government averaged 243.75 million euros a year between 2016 and 2020. The NAM can list its compensation and restoration payments as a profit-reducing cost item, lowering its corporate tax bill and the State Profit Sharing (SPS) levy (which stands at 50% of qualified income). EBN, as a state-owned enterprise, also contributes to the payment of damages in accordance with its 40% stake in oil and gas production.

### *Excise tax exemption for use of fossil fuels in refineries (subsidy)*

The use of fuels in refineries is exempted from excise taxes. This is in line with the EU Energy Taxation Directive, but, as acknowledged by the government, does indirectly encourage the use of fossil fuels. For this subsidy measure, data are unavailable for recent years, but in 2014, the costs of this measure were estimated at 48 million euros.

## **3.1.2. International**

In 2019, the Dutch government announced that, as of 2020, it would eliminate all financial support to coal projects and to the exploration and development of new oil and gas fields abroad from its foreign trade and development cooperation instruments (Kaag, 2019). However, this commitment does not cover oil or gas-fired power plants nor other fossil fuel-related infrastructure. It explicitly does not apply to the export credit agency, which provides by far the largest amount of financing for fossil fuel projects and infrastructure abroad. Although Dutch public finance institutions committed to end direct financing for international coal mining and coal power projects, they have not yet formally committed to fully end public financing for oil and gas, although some financial institutions exclude specific oil and gas projects from financing, such as tar sands or Arctic oil and gas.

Only the extent to public finance is provided at this support is provided at below market-value it constitutes a subsidy. But since this is difficult to estimate, we report the full amount of support dispersed through public finance.

### *FMO (public finance)*

FMO (the Dutch development bank, 51% government owned) states that it only funds oil or gas projects when there are no sustainable alternatives available. As of 2016,

20% of the total committed portfolio for international finance for energy provided by FMO, totalling around €456 million, benefitted fossil fuel projects (FMO, 2017). More recent figures on the fossil fuel share of total energy finance are not available. Yet the most recent (2019) fossil fuel project that can be found on the FMO website is a loan worth 27.7 million euros for the extension of the Aziito III gas-fired power plant in Cote D'Ivoire. In 2003 the Dutch government and FMO jointly initiated the Access to Energy Fund. The fund supports private sector projects aimed at providing long-term access to energy services in Sub-Saharan Africa. Between 2006 – 2018, €102 million in funding was made available by the Dutch Ministry of Foreign Affairs to provide access to energy for 3 million people. As of 2016, 28.1% of the support provided, amounting to €2.39 million a year, has gone to fossil-fuel projects. We estimate total support provided to fossil fuels by FMO at 38 million euros a year between 2016 and 2020.

### *Atradius Dutch State Business (public finance)*

Atradius DSB is the export credit agency (ECA) of the Dutch government. ECAs are little-known government-backed financial institutions that provide loans, guarantees and insurance with the aim of supporting exports of goods or services from their country's businesses to markets abroad. Atradius DSB provides significant support to the fossil fuel sector and related infrastructure. Between 2012 and 2018, Atradius DSB extended €10.8 billion (or €1.5 billion per year) in export credits to fossil fuel-related projects, almost entirely for oil and gas, accounting for almost two-thirds of the total maximum insured value issued over that period. The support to fossil fuel-related projects accounts for 98% of all insurances supporting energy projects (Hazekamp and Wiertsema, 2019). In September 2019, the government, together with Atradius DSB, organised a stakeholder meeting on the decarbonisation of Atradius DSB. Here, civil society groups highlighted the need to end export credit support to fossil fuels and related infrastructure in order to meet climate goals. The State Secretary for Finance and Atradius DSB emphasised that they intended to focus on expanding export credit support for 'green' projects, rather than addressing support provided to fossil fuels. In response to the COVID-19 crisis, the Dutch government and Atradius DSB have put together a package of special export credit insurance measures that relax the existing conditions for export credit financing, including by allowing the ECA to insure domestic transactions when there is an (indirect) link to export and by introducing a fast track approval process (Atradius DSB, 2020).

### *ABN Amro (public finance)*

In the wake of the financial crisis in 2008, the Dutch government nationalised several banks, and ABN Amro Bank is currently still government-owned (56.3%). On fossil fuels, the bank maintains that *"we simply cannot produce the energy that we need without fossil fuels, and for the present they remain indispensable,"* even though multiple studies show that it is entirely possible to meet the world's energy needs by means of renewable energies (e.g. Jacobson et al., 2016; Grubler et al, 2018). In the United Kingdom, NatWest (formerly Royal Bank of Scotland (RBS)) announced that it will stop lending to major oil and gas producers without a Paris-aligned transition

plan by 2021, in an effort to “do what is necessary” to align its business with the Paris Agreement (Makortoff, 2020). ABN AMRO does exclude financing for new coal-fired power plants, oil and gas exploration and production in the Arctic region as well as the production, processing or transportation of tar sands. Nevertheless, ABN Amro in 2016/2017 increased its investments in fossil fuel projects by 68% compared to the period 2013/2014. It provided an average of 1.7 billion euros per year in loans and underwriting for fossil fuel projects between 2016 and 2017 (Marcelis et al., 2019).

## 3.2. Electricity production

Electricity production in the Netherlands relies heavily on natural gas (52%), followed by coal (27%) and biomass (8%). As part of the Powering Past Coal Alliance, the Netherlands has agreed to phase-out the use of coal in its electricity production by 2030 and adopted a law towards this end in December 2013 (Rijksoverheid, 2019). Hence, the country will need to put an end to the burning of coal in three coal-fired power plants that came online only in 2015. The government has already agreed to provide compensation worth 52.5 million euros to energy corporation Vattenfall for shutting down the Hemweg coal-fired power plant at the end of 2020 (Minister Wiebes, 2019b). It remains unclear whether and to what extent the other companies involved will be compensated for shutting down their coal-fired power plants. However, utilities Uniper and RWE, which run the remaining power plants, have called for compensation and Uniper has even announced that it is considering legal action against the decision to phase-out the use of coal in electricity generation. One of the routes it is considering is Investor State Dispute Settlement (ISDS) under the Energy Charter Treaty, which allows foreign corporations to sue sovereign states that are signatories to this treaty over investment-related matters (Keating, 2019).

### *Subsidy for the co-firing of biomass in coal plants (subsidy)*

The Dutch government provides 450 million euros per year in subsidies for the co-firing of biomass in coal-fired power plants for 2016 - 2023 (3.6 billion euros in total). We include it here, as without this support the remaining coal-fired power plants in the Netherlands are not likely to be profitable (eRisk Group, 2019). As such, this subsidy provides a lifeline to coal. Meanwhile, the European Academies Science Advisory Council (EASAC), has warned that burning biomass in coal-fired power plants does not necessarily achieve a reduction in CO<sub>2</sub> emissions compared to using coal as the main fuel (Norton et al., 2019). There are no plans to extend this subsidy beyond 2023.

### *Compensation to Vattenfall for the shut-down of the Hemweg coal-fired power plant (subsidy)*

At the end of 2019, the Supreme Court’s ruling in the Urgenda climate case ordered the Dutch government to reduce emissions by 25% by the end of 2020 in order

to fulfil its human rights obligations. In response, the government took the decision to close down the Hemweg power plant by the end of 2020. The government will pay out 52.5 million euros in compensation to Vattenfall for missed revenue as a result of this early closure and potential costs arising from obligations towards its employees (Wiebes, 2019b). Compensation is being provided despite the fact that at the time the new coal plants were built, it was already clear that they compromised climate goals and were unnecessary to ensure security of electricity supply (van Santen, 2020b). The sum involved is not included in the total annual support figures presented in this report because the subsidy has not yet been paid to Vattenfall.

#### *Energy tax exemption for the use of gas and coal in electricity production (subsidy)*

After having been abolished in 2013 for environmental and budgetary reasons, an energy tax exemption on the use of coal in electricity production was reintroduced in 2016 in the context of an agreement reached on efficiency requirements for coal-fired power (Tweede Kamer der Staten-Generaal, 2016). The use of natural gas in electricity production is also exempted from energy taxation. The average annual support provided through these measures amounts to 168 million euros between 2016 and 2020.

#### *Eneco and Delta (SOE investment)*

Until 2019, electricity company Eneco was jointly owned by 53 Dutch municipalities. In 2019, the company was privatized and sold to Mitsubishi Corporation (80%) and Chubu Electric Power (20%). Electricity company Delta used to be 50% owned by the province of Zeeland, but it too was privatized in 2019 and sold to the Swedish private company Vattenfall. No data are available for investments in fossil fuels by Eneco and Delta for the years covered by this study.

### **3.3. Fossil fuel consumption**

This section covers subsidies such as those to carbon capture and storage (CCS) projects, a Liquefied Natural Gas (LNG) excise tax rebate which was phased-out at the end of 2019, a subsidy provided to Shell for a children's festival and government-ownership of the Ports of Rotterdam and Amsterdam and government-ownership of a pipeline network. Government-ownership can lead to subsidisation in case there is preferential treatment or budgetary transfers are provided, but even though this report typically reports the full amount of support provided through state-ownership, we found no data on government expenditure on the pipeline network.



Source: Milieudefensie.

### 3.3.1. Industry

#### *Regressive energy tax rates for electricity and gas (subsidy)*

The energy tax structures for both natural gas and electricity in the Netherlands are regressive, meaning that tax rates are lower for larger energy consumers. The primary reason for this structure, as given by the government, is international competitiveness and carbon leakage. We do not have an estimate for the amount of revenue foregone because of these regressive tax rates. However, natural gas and electricity prices for large-scale consumers in the Netherlands are already relatively low and there is no consensus in the literature on the effects of energy prices on competitiveness and carbon leakage.

#### *Energy tax exemption for energy-intensive processes (subsidy)*

The use of gas, coal and electricity in energy-intensive processes such as in the metallurgical and chemical industry are exempted from energy taxation. This tax exemption amounted to 89 million euros in support to energy-intensive industries per year between 2016 and 2020.

#### *Refund scheme for energy intensive industries (subsidy)*

Energy-intensive companies that use more than 10 million kWh per year can apply for a refund on their energy taxes (paid in the highest tax category, 0,05 euro cents/kWh). Between 2016 and 2020, the average refund amounted to 6.8 million per year. To qualify for the refund, energy intensive industries are required to participate in so-called energy efficiency covenants (BM, MEE and MJA-3) and their annual energy costs must exceed the average European minimum rate.

#### *Energy Investment Deduction (EIA) (subsidy)*

The Energy Investment Deduction (EIA) introduced in 1997 allows companies to



deduct up to 58 percent of investment costs in for example renewable energy production and energy efficiency technologies from their fiscal profits. Although a large proportion of the projects that apply for an EIA are not fossil fuel-related, gas-based projects are eligible for support under the EIA. This extends to, inter alia, gas-fired boilers, ovens, or combined heat and power (CHP) systems. Unfortunately, the publicly available data is not sufficiently disaggregated, so it is not possible to calculate the amount of support provided under this scheme for the years covered by this study (Agentschap NL, 2009; 2012; Oxenaar, 2017).

#### *EU ETS compensation (subsidy)*

The Dutch government compensates energy-intensive industries for the increase in electricity prices expected as a result of the EU Emissions Trading Scheme (ETS). This subsidy was put in place in January 2014 and compensates not only the companies that participate in the permit system, but also those that do not. To receive the subsidy, companies have to participate in long-term agreements on the improvement of energy efficiency, for which they can also receive fiscal stimuli through the Energy Investment Deduction scheme (Tweede Kamer Staten Generaal, 2017). Between 2014 and 2016, the Dutch government spent an annual average of €49 million on this form of support (Oxenaar, 2017), even though the expected increase in electricity prices never materialised (CBS, 2019). Regardless, after a policy review in 2017, the scheme was extended until December 2021. The next evaluation of the scheme is scheduled for 2022.

#### *Subsidies for Carbon Capture and Storage (CCS) (subsidy)*

Shell is one of the companies that receive government subsidies for the development and deployment of Carbon Capture and Storage technologies. The company received 49 thousand euros in 2017 and 97 thousand euros in 2018 for a CCS project. Despite millions in subsidies paid out over the past ten years, so far no CCS project has come to fruition in the Netherlands. Earlier subsidies to Carbon Capture and Storage projects in the Netherlands include a 150 million euro grant from the Dutch government (Kamp, 2017), which was matched by a 180 million grant from the European Commission, for the Rotterdam CCS demonstration project ROAD. The two energy companies behind it, Uniper and Engie, pulled out of the project in 2017 (Port of Rotterdam, 2017).

#### *The Hague subsidy for Shell's Generation Discover Festival (subsidy)*

In 2016, the municipality of The Hague issued a subsidy of 100,000 euros for the 'Generation Discover' children's festival, organized by Shell Nederland. According to Shell, this festival had an educational purpose, but a prize received by PR firm Brandbase for the event suggests that it was set up for marketing purposes (Brandbase, 2017). The festival is supposed to introduce children between age 8-12 to the future of energy, innovation, science and technology (Gemeente Den Haag, 2016). The festival included an energy mix puzzle that taught children that fossil fuels would still make up over 70% of the energy mix in 2050 (Fossielvrij Onderwijs, 2017). However, we did not count this subsidy towards total fossil fuel subsidy estimates as a direct link between this subsidy and fossil fuel production and consumption is missing.

### 3.3.2. Transport

#### *Energy Tax Exemption for Fuels used in Aviation and Waterway Navigation (Subsidy)*

Fuels used in domestic and international aviation and waterway transportation are exempted from the energy tax that normally applies to the consumption of fossil fuels. These are the largest support measures for fossil fuels identified in the Netherlands, with annual average support estimated at 2.1 billion euros and 1.4 billion euros respectively between 2016 and 2020. While these exemptions follow from the EU Energy Tax Directive (ETD) and international agreements, including the Chicago convention on international flights and the Mannheim Act for international Shipping, they can be waived through bilateral agreements. In addition, the ETD is up for review in 2021, creating opportunities to remove these and other exemptions or tax reductions from the revised agreement. The Netherlands has taken some steps to ensure an increase in taxation on aviation. It has drafted a law for a flight tax, which it would introduce by 2021 if the EU fails to adopt a EU-wide flight tax. However, the proposed flight tax is a tax on flight tickets rather than on kerosene and many other EU countries already have such a domestic flight tax in place. The kerosene tax exemption is much larger than the exemption of Value Added Tax (VAT) on flight tickets, and a tax on kerosene would be more directly linked to levels of pollution than would a tax on flight tickets.



Source: Flickr, photographer Frans Berkelaar.

#### *Government-owned ports of Amsterdam and Rotterdam (SOE investment)*

The ports of Rotterdam and Amsterdam are both jointly owned by their respective municipalities and the Dutch State. They are both important fossil fuel trading hubs, and receive significant support from the government in the form of loans and guarantees as well as subsidies. In Rotterdam, fossil fuels account for almost 54% of the goods coming into the port. The port in Amsterdam, owned by the municipality of Amsterdam, is the world's largest petrol port and Europe's second

largest coal port. Dutch ports paid no corporation tax until January 2017, which also benefited fossil fuel-related activities in the ports. In addition, the ports receive various subsidies, from municipalities and from EU public financing institutions. However, because of the multitude of activities in the ports, it proved impossible to estimate the extent to which investments, loans and subsidies benefit fossil fuel-related activities or infrastructure in the ports of Rotterdam and Amsterdam.

#### *LNG excise tax rebate (subsidy)*

In 2014 an excise tax rebate was introduced for road transport users of LNG with the objective to promote its use because of its environmental benefits. The foregone revenue amounted to 15 million euros in total, or an average of 3 million euros annually. An evaluation of this measure in 2018, however, showed that the environmental advantages of LNG compared to diesel were limited. This fossil fuel subsidy was therefore discontinued at the end of 2019.

#### *Differentiated tax rates for diesel versus petrol (subsidy)*

Diesel is taxed at a lower rate than gasoline for road transport, even if the harmful environmental effects of diesel are well established. According to the Dutch government the heavy vehicle tax in addition to the regular motor vehicle tax partly offsets the preferential tax arrangement for diesel. The government has argued that because of the relative high tax on gasoline, it could lower the gasoline tax to reduce the difference between the gasoline and diesel tax. However, from a climate perspective it makes more sense to raise the diesel tax above the gasoline tax rather than to lower the gasoline tax. This can help to support investments in more efficient heavy vehicles.

#### *Pipeline network DPO (publicly owned infrastructure)*

The Defence Pipeline Organisation (DPO) of the Dutch government transports aircraft fuel to military and civilian airports via its own underground pipeline network. This network has a length of about 550 kilometres and transports about 4.5 billion litres of fuel per year. 90% of the network is intended for fuels used by civilian transport. The DPO obtains this fuel from refineries and storage terminals in the Europoort-Botlek area. There is no data available for the annual public finance provided for the transportation of oil by the DPO.





Source: Milieudefensie.

### 3.3.3. Households

We did not identify any subsidies for the consumption of fossil fuels by households.

### 3.3.4. Agriculture

#### *Reduced Energy Tax Rate in Horticulture (subsidy)*

The horticulture industry profits from an energy tax discount for the use of natural gas for heating. This discount was introduced together with the adoption of an energy tax in 1996. From 1996 until 2000, the use of fossil fuels by large energy consumers, like the horticultural sector, were fully exempted from energy taxation. Since 2000, horticulture companies have been paying a reduced rate. This tax reduction amounts to an average subsidy to the sector of 128 million euros annually between 2016 and 2020. The tax reduction is conditional on participation in voluntary agreements to improve energy efficiency. At the same time, the Dutch government has reached an agreement with the sector about realising carbon neutrality by 2050. The government is also involved in projects to promote the use of alternative heating for the horticultural farming sector, such as geothermal energy and residual heat.

### 3.3.5 Other

#### *Energy Tax Rebate for Religious Institutions and Non-Profit Organisations (subsidy)*

Since 2000, public religious service buildings and non-profit organisations may benefit from a 50% energy tax rebate for their consumption of natural gas and electricity for heating. This support amounted to 29 million euros a year between 2016 and 2020.

## 4. Emissions reductions potential of ending fossil fuel subsidies

We used the IISD's Global Subsidies Initiative - Integrated Fiscal Model (GSI-IF model) to analyse the greenhouse gas emissions reduction potential of a phase-out of Dutch fossil fuel subsidies and the subsequent partial reallocation of the associated savings in renewable energy (10%), energy efficiency (20%) and social safety nets (50%) (Merrill et al., 2019). This model merely looks at reform of fossil fuel subsidies and does not analyse the greenhouse gas emission reductions that can be achieved through ending Dutch public finance for or SOE investment in fossil fuels.

The GSI-IF model was originally developed to help countries with their Intended Nationally Determined Contributions (INDCs) in the lead up to the Paris Agreement (Merrill et al., 2015). The model was updated in 2019 to assist countries in updating their Nationally Determined Contributions (NDCs) as they are required to do under the Paris Agreement. Results are compared to a business-as-usual (BAU) scenario.

We estimate that a phase-out of fossil fuel subsidies and the partial reallocation of the savings towards investments in energy efficiency (20%) and renewable energy (10%) could achieve a 7.5% reduction in greenhouse gas emissions in the Netherlands by 2030, or an average reduction of 11.3MtCO<sub>2</sub>e per year by 2025 compared to a Business As Usual scenario.

This shows that an end to fossil fuel subsidies can contribute towards meeting the 49% emission reduction target for 2030 included in the Climate Act as well as the verdict of the Supreme Court in the Urgenda case. The latter requires the Dutch government to further reduce emissions by at least 9 MtCO<sub>2</sub>e by the end of 2020 to meet the 25% emission reduction obligation compared to 1990 levels, in order to protect human rights against the impacts of climate change.

The effects of subsidy removal are manifested through energy prices. Subsidy reform, leading to higher prices for a particular source, can cause a drop in domestic consumption due to a price response and the substitution for consumption of other, comparatively cheaper, forms of energy. Emission factors are applied to determine total national emissions from the use of energy. As a result, greenhouse gas emissions are affected by both the drop in demand and the change to the fuel mix. Demand and fuel mix are also influenced by other policy interventions, namely the reallocation of subsidy savings to investments in energy-efficiency improvements (assumed to be 20% of subsidy savings) and in renewable energy equipment (assumed to be 10% of subsidy savings).

For our modelling, we used the fossil fuel subsidy data presented in this study which estimates Dutch fossil fuel subsidies per year at 4.9 billion across coal, electricity



(coal or gas-based), gas and oil. Using this data, the model:

- Estimates the impact of the phased removal of fossil fuel subsidies on greenhouse gas emissions starting immediately and with complete removal by 2025.
- Calculate the fiscal savings from subsidy removal during the chosen period.
- Explores the impacts on greenhouse gas emission reductions from the reallocation of 30% of subsidy savings and subsequent tax revenues to other programs—in this case toward energy efficiency (20%) and renewable energy (10%) promotion. These funds might be allocated to, for example, retrofitting houses to make them more energy-efficient or to subsidies for rooftop solar panels.
- Assumes that a much larger (50%) proportion of the savings from a fossil fuel subsidy phase-out and revenue generated from the extension of fossil energy taxation is reallocated to develop or strengthen social safety nets aimed at shielding communities and segments of society likely to be hardest hit by energy price increases, for example through targeted income support for low-income households and increased investments in health and education.

The analysis considered three scenarios that build on each other: (i) complete fossil fuel subsidy removal by 2030 (following a linear trend from 2018), (ii) the reallocation of 20 percent of subsidy savings to investments in energy-efficiency improvements and (iii) a 10% redirection toward investments in renewable energy plants (from 2018 and continuing through 2030). The research found that the combination of actions could lead to an average national emission reduction of 7.5% by 2030 compared to a BAU baseline. It can be assumed that additional emission reductions could be achieved through redirecting public finance for and SOE investment in fossil fuels and through introducing appropriate taxation of fossil fuels.

Reduction from ending fossil fuel subsidies		Reduction from reinvesting 20% in Energy Efficiency		Reduction from reinvesting 10% in Renewable Energy		Total potential CO <sub>2</sub> e-reduction	
2025	2030	2025	2030	2025	2030	2025	2030
-4.39%	-3.81%	-2.16%	-2.20%	-1.15%	-1.50%	-7.70%	-7.52%
-6.6 Megaton	-5.8 Megaton	-3.3 Megaton	-3.3 Megaton	-1.7 Megaton	-2.3 Megaton	-11.7 Megaton	-11.4 Megaton

Table. 5. Emission reduction potential of fossil fuel subsidy phase-out in the Netherlands. Calculated with a GDP of € 883 billion and annual average fossil fuel subsidy of €4.9 billion between 2016 and 2020. The table shows reductions relative to business as usual as CO<sub>2</sub>-equivalent in percentages and Megatons.

## 5. Recommendations

This study shows that the Netherlands will need to step up its game to meet its long-standing commitments to end fossil fuel subsidies and finance. Over ten years ago, in the context of the G20, the Netherlands made a commitment to end fossil fuel subsidies, followed by a commitment under the 2015 Paris Agreement to align its financial flows with climate goals. But the Dutch government has yet to undertake concerted efforts to bring these goals within reach. If there was ever an opportunity for the government to turn its long-standing commitments into action, the time is now as fossil fuel subsidies have finally made it onto the political agenda in the Netherlands.

This study finds that ending fossil fuel subsidies can make a significant contribution to meeting the country's emission reduction targets. We show that ending fossil fuel subsidies estimated at 4.9 billion euros a year can help achieve a 7.5% reduction in greenhouse gas emissions by 2030 compared to a business as usual scenario, or an average reduction of 11.3MtCO<sub>2e</sub> per year. It can be assumed that further emission reductions could be achieved by also redirecting public finance for and SOE investments in fossil fuels to climate action.

In order to reap this and other benefits of redirecting taxpayers' money away from fossil fuels, we recommend the government to, at the national level:

- Build on and expand the overview of fossil fuel subsidies presented in this study (that builds on the internationally agreed UNEP methodology for mapping fossil fuel subsidies) in planning to end subsidies and public finance and investments in fossil fuels;
- End all public financial support for fossil fuels. The Netherlands is failing to keep its European commitment made in 2013 to end all environmentally harmful subsidies by 2020. The Dutch government should therefore immediately start taking the actions needed to ensure a rapid phase out of all public financial support for fossil fuels. In the context of today's ever more urgent climate crisis, it is necessary to speed up political processes in order to keep established climate goals within reach. Ending fossil fuel support now frees up money that can be used to create green jobs through green stimulus and to support people through the corona crisis and its wider impacts;
- This also means broadening the decision to make Dutch international funding mechanisms fossil free to encompass all fossil fuel activities and infrastructure and all types of financial support, including export credit support, instead of limiting it to fossil fuel exploration and extraction alone;
- Ensure that stimulus packages and other support measures introduced in response to the corona crisis do not lead to an increase in support for fossil fuels or

industries that are large users of fossil fuels such as aviation. In case support is provided to the fossil fuel sector support should go to workers rather than corporate executives and shareholders and should be made conditional on plans for a managed decline in line with climate goals and appropriate taxation of the industry;

- Plan to partially reinvest savings in energy efficiency, renewable energy and social safety nets, such as increased income support for low-income households and increased investments in health and education, in order to ensure a just and fair phase-out of subsidies in a way that does not negatively affect low-income households;
- Ensure that in relation to transition support measures, such as decommissioning costs and compensation for damages caused by the earthquakes in Groningen and in other parts of the country, the 'polluter pays' principle is applied and the extent to which taxpayers carry the costs of such measures is limited;
- Recognise that there is no consensus in the literature on the effects of energy prices on competitiveness and carbon leakage and that for Dutch industries to remain competitive in the longer run, it will be crucial to make them fit for the transition. This requires dedicated transition support measures rather than support for fossil fuels.

At the international level, the Netherlands should:

- Take leadership in fossil fuel subsidy phase-out processes, including, at the EU level, through the National Energy and Climate Plans, the 2021 revision of the EU Energy Taxation Directive, the review of EU financial instruments and ensuring that a commitment to end public financial support for fossil fuels is included in the EU's reviewed Nationally Determined Contribution;
- Take leadership in ensuring that ending public support for fossil fuels is part of the implementation of Article 2.1.c. of the Paris Agreement and the SDGs, and that Multilateral Development Banks (MDBs) and Export Credit Agencies (ECAs) exclude fossil fuels from their financing and export credit support.

The climate science is clear: the actions we take in the next decade will have a decisive impact on our collective fate. The Netherlands must now prove its commitment to avoid the worst of the climate crisis by terminating not only its extensive fossil fuel subsidies, but by also redirecting its other fossil fuel support measures. By following the above recommendations, the Netherlands will be able to raise the bar for global climate leadership.

## 6. Annex 1: Background note on the GSI-IF model

The GSI-IF model is a causal-descriptive partial equilibrium model that uses semi-continuous simulations to forecast energy demand and corresponding GHG emissions. The model relies on the System Dynamics methodology (Sterman, 2000) and estimates energy consumption from 1990 to 2040 using differential equations calculated with an annual time-step. Historical data derived from IEA World Energy Balance data are used to parametrize the model in 1990 and to validate model results from 1990 to 2017. Future scenarios forecast energy demand until 2040 using various assumptions, including fossil fuel subsidy reform. The model forecasts energy consumption by sector (residential, commercial, industrial and transport) and source (oil, natural gas, coal, biomass and waste, and electricity), using elasticities associated with GDP, population, energy price changes and energy efficiency (for which various scenarios can also be tested). GDP growth is based on the IMF World Economic Outlook, and population is based on the UN World Population Prospects database (medium variant). The price of energy is based on data from the IMF (regional coal and natural gas prices), the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) (national gasoline and diesel prices) and national databases (electricity prices).

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[N7rKD0\\_v7GsV32ZlnRDv3Be4jjkDCbsUyT36tKgpO104TUluR4mFTueyf-mff6bpPlaPaTxfXDw-Dnqlk4zqo0tQVMg1wzpr5wr21MshcUQQ0vh8GWSpsgBwdkfRk2mvgi6TbFda9FTgaXE3\\_Mpj1xPh\\_7k0c5IC-A%3D%3D&tracking\\_referrer=blogs.scientificamerican.com\)](https://www.scientificamerican.com/blog/energy-environment/why-fossil-fuel-producer-subsidies-matter/)

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