



Dutch State Treasury Agency  
*Ministry of Finance*

# State of the Netherlands

## Green bond report

25 May 2023



# Contents

<b>1. Introduction</b>	<b>3</b>
<b>2. Allocation Report</b>	<b>5</b>
I. Renewable Energy	8
II. Clean transportation	8
III. Climate change adaptation and sustainable water management	8
<b>3. Impact Report</b>	<b>10</b>
I. Impact of the Dutch State Green Bond	12
II. Social indicators	14
III. Adverse indicators	14
IV. Renewable Energy	14
V. Clean transportation	15
VI. Climate change adaptation and sustainable water management	16
<b>4. Case study ‘Zwolle-Herfte’</b>	<b>18</b>
<b>5. Case Study ‘NURG’</b>	<b>20</b>
<b>6. Case Study ‘Sustainable bicycle parking Maastricht station’</b>	<b>22</b>
<b>7. Other topics regarding the green bond</b>	<b>24</b>
I. Market developments/liquidity/volume of green bonds	25
II. Investor feedback on previous green bond reporting	25
III. Dutch green bonds in the future	25
IV. The EU green bond standard	25
V. Climate	25
VI. Climate: Dutch vision on global action	26
<b>Annex I Auditor’s Report by the independent auditor</b>	<b>28</b>
<b>Annex II Post-issuance verification letter from Sustainalytics</b>	<b>31</b>

# 1. Introduction



In 2022, the Dutch State Treasury Agency updated its Green Bond Framework ('GBF')<sup>1</sup> in order to align it with the EU Taxonomy Climate Delegated Act (the 'EU Taxonomy')<sup>2</sup> and reopened the Green Dutch State Loan ('DSL') 15 January 2040 for € 4.98 bn through a Dutch Direct Auction ('DDA'). It is my pleasure to present the allocation and impact report of this issuance.

An effort was made to bring the GBF in line with the EU Taxonomy and to report on the requirements set in the EU Taxonomy in the GBF. What is new in this year's allocation and impact report is that, where feasible, we aim to provide an overview of social and adverse impacts related to the Eligible Green Expenditures.

The total outstanding amount of the Green DSL 15 January 2040 is now € 15.7 bn. This higher outstanding amount improves the liquidity of the green bond, which is particularly important as these are favoured by buy-and-hold investors. In 2023 the DSTA will launch a new Green 20-year DSL. The existing GBF will be updated accordingly to include new expenditures.

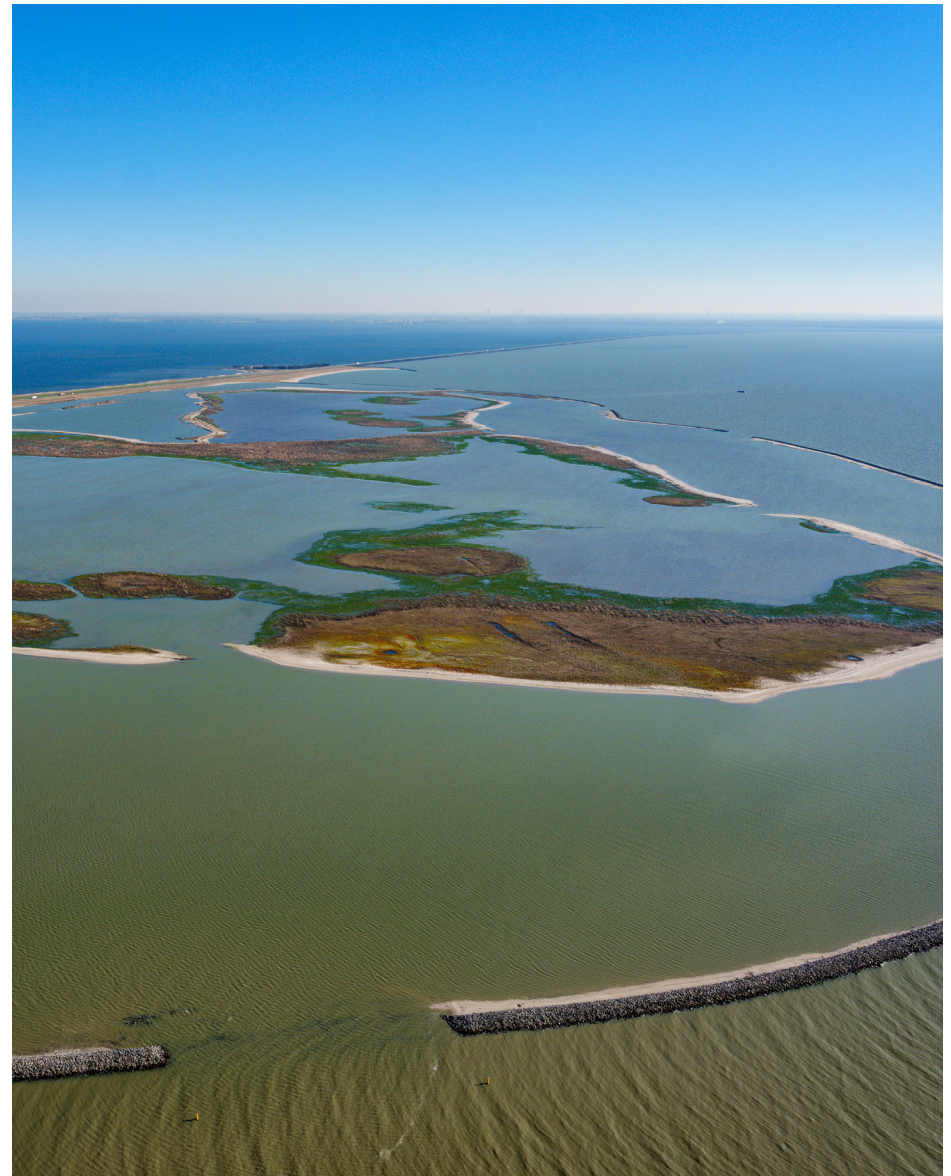
The DSTA remains devoted to improve its reporting, where possible. I would therefore like to extend an invitation to investors to provide feedback on this report.



**Saskia van Dun**  
Agent  
Dutch State Treasury Agency

<sup>1</sup> Green Bond Framework | Publication | [english.dsta.nl](https://english.dsta.nl)

<sup>2</sup> [EU taxonomy for sustainable activities \(europa.eu\)](https://europa.eu)



# 2. Allocation Report



With its green bond, The Netherlands intends to finance or refinance expenditures which are part of the Central Government Budget and contribute to Climate Change Mitigation and Climate Change Adaptation. There are four categories of Eligible Green Expenditures in the Green Bond Framework that can be used for the allocation of Green Bond proceeds: i) renewable energy, ii) energy efficiency, iii) clean transportation and iv) climate change adaptation & sustainable water management. The revision of the Green Bond Framework has also been used to assess to what extent eligible expenditures are aligned with the EU Taxonomy<sup>3</sup>. Subsequently, the table in the Allocation Report now contains information about the percentage of alignment of expenditures with the EU Taxonomy.

The interdepartmental Green Bond Working Party (with representatives of the DSTA, Ministry of Finance, Ministry of Economic Affairs and Climate, Ministry of Infrastructure and Water Management and the Ministry of the Interior) annually allocates the proceeds of the green bonds to budget items. For this purpose, a list of potential Eligible Green Expenditures is proposed by the DSTA, which the Working Party reviews and verifies whether these expenditures comply with the criteria and definition of Eligible Green Expenditures described in the Green Bond Framework. Subsequently, the Working Party approves the final selection of Eligible Green Expenditures.






Following the 2022 revision of the Green Bond Framework, the significant increase of the Green DSL 15 January 2040 outstanding by means of a DDA on 14 June 2022 amounted to € 4,982,366,000 bringing the total outstanding amount of the bond to € 15,690,370,000. According to the Green Bond Framework, up to 50% of the proceeds may be allocated to Eligible Green Expenditures in the financial year preceding the issuance of the green bond. At least 50% of the proceeds will be allocated to expenditures in the year of issuance or future years. Applying these principles to the nearly € 5 bn increase in 2022, indicates that at least € 2.5 bn will need to be allocated to expenditures in 2022 or future years. As € 2.5 bn of eligible expenditures of 2021 remained unallocated after last year's Green Bond Report, this amount is now allocated to the proceeds of the 2022 tap.

As the DSTA wants to have a diversified portfolio of allocations, the choice was made, percentage-wise, to allocate a lower than possible percentage to railway expenditures (47.4% over year 2022). All eligible expenditures on railway infrastructure over 2021 have been taken into account, which had not yet been allocated with the funds raised in 2021. A correction in the eligible expenditures was made for the percentage of non-electrified railway infrastructure in

2021 (7.1%). The table clearly sets out how the funds have been allocated to the relevant government expenditures. The table has been corrected to show the relevant proceeds on the items with which the selected expenditures outside the green bond are being financed. At the same time, the nature of expenditures is explained in detail for each expenditure category.

---

<sup>3</sup> [State-of-the+Netherlands+Green+Bond+Framework+CBI+Pre-Issuance+Letter \(2\).pdf](#)

Annual expenditures category (x € 1 mln)			Allocation table expenditures financed with the green bond											
Category	Description	EU Taxonomy alignment	2021				2022				Type green expenditure	Total	Percentage of total	2022 to be allocated
			Expenses to be allocated	Total expenses	Expenses allocated to green bond	Percentage of allocation	Total expenses	Expenses allocated to green bond	Percentage of allocation	Type green expenditure				
<b>Renewable Energy</b> 	Stimulation of Sustainable Energy Production (SDE)	100%	379	540	379	70.2%	Subsidy	172	172	100.0%	Subsidy	551	11.1%	
	Offshore wind energy	100%	269	380	269	70.7%		159	159	100.0%		428	8.6%	
	Onshore wind energy	100%	102	148	102	68.8%		1	1	100.0%		103	2.1%	
	Solar energy	100%	8	12	8	70.8%		11	11	100.0%		19	0.4%	
<b>Clean Transportation</b>  	Maintenance and management of railway infrastructure, development of railway infrastructure for passenger rail	100%	1,424	2,104	1,323	62.9%	69.0% operational expenditures* and 31.0% direct investment	2,213	1,049	47.4%	73.2% operational expenditures* and 26.8% direct investment	2,372	47.6%	1,081
	Management, maintenance and replacement	100%	1,080	1,596	1,004	62.9%		1,946	922	47.4%		1,926	38.7%	951
	Construction	100%	241	356	224	62.9%		302	143	47.4%		367	7.4%	148
	Integrated contract forms/PPC	100%	129	190	120	62.9%		196	93	47.4%		213	4.3%	96
	Interest and redemptions	100%	0	0	0	0.0%		0	0	0.0%		0	0.0%	0
	Receipts	100%	-26	-38	-24	62.9%		-232	-110	47.4%		-134	-2.7%	-113
	Regional Infrastructure and accessibility Projects	100%	32	32	20	62.9%		29	14	47.4%		34	0.7%	14
	Mega Projects Traffic and Transportation	100%	141	141	88	62.9%		185	88	47.4%		176	3.5%	91
<b>Climate Change Adaptation &amp; Sustainable Water Management</b>  	Delta Fund	5.2%	680	961	680	70.8%	60.0% operational expenditures and 40.0% direct investment	1,169	1,169	100.0%	53.8% operational expenditures and 46.2% direct investment	1,849	37.1%	0
	Flood risk management Investments	0%	180	254	180	70.8%		328	328	100.0%		508	10.2%	0
	Freshwater supply investments	100%	25	35	25	70.8%		71	71	100.0%		96	1.9%	0
	Management, maintenance and replacement	0%	162	229	162	70.8%		257	257	100.0%		419	8.4%	0
	Experimentation	0%	36	51	36	70.8%		73	73	100.0%		109	2.2%	0
	Network related costs and other expenditures	0%	246	348	246	70.8%		372	372	100.0%		618	12.4%	0
	Water quality investments	0%	31	44	31	70.8%		68	68	100.0%		99	2.0%	0
<b>Total expenditures</b>		<b>64.8%</b>	<b>2,656</b>	<b>3,777</b>	<b>2,491</b>			<b>3,768</b>	<b>2,491</b>			<b>4,982</b>	<b>100.0%</b>	<b>1,186</b>

\*\* The expenses for maintenance, management and replacement of railway infrastructure are distributed by the Ministry of Infrastructure and Water Management as a subsidy to ProRail.

\*\* Due to rounding in the table above it could occur that the sum of the categories is slightly different than the total.

## I. Renewable energy

To stimulate renewable energy generation, the State of the Netherlands has introduced several successive subsidy schemes over the last few years, including the Stimulation Sustainable Energy Production and Climate Transition (SDE, *Stimulerend Duurzame Energie Productie en Klimaattransitie*). SDE expenditures relate to a series of techniques for the generation of renewable energy. The proceeds of green bonds are only allocated to SDE expenditures in the areas of onshore wind energy, offshore wind energy, and solar energy. The SDE scheme compensates additional costs incurred by a producer in the generation of renewable electricity (and biogas) for a period of 12 to 15 years. The SDE scheme is therefore a subsidy focused on operational expenditures (OPEX). This subsidy will compensate for the unprofitable part of renewable electricity generation in order to encourage the development of these kinds of projects. The annual subsidy amount decreases as the electricity price increases (as it is more profitable to generate renewable electricity when electricity prices are higher). The subsidy scheme applies to renewable energy projects which are now operational, but only for which an annual subsidy has been granted for a period of 12 to 15 years. As a result, project developers and investors have gained greater certainty about the profitability of these projects, enabling them to operate their energy generation plants in a responsible manner.

When the SDE scheme was introduced, it was one of the most important instruments through which the State encouraged the energy transition. Many of the SDE features are still present in the SDE+ scheme and its successor, the SDE++ scheme.

## II. Clean transportation

Since rail expenditures are, with respect to this green bond, the largest expense category, and since the DSTA wants to have a diversified portfolio of allocations, it was decided to apply a selection to the rail expenditure category. The table above is adjusted for the relevant receipts on the selected expenditures. Moreover, the table provides insight into how the funds have been allocated to the relevant government expenditures.

The percentage of allocation is the percentage of the proceeds of the green bond that is allocated to a category of expenditures, in relation to the total eligible green government expenditures. For all categories other than rail infrastructure, all eligible expenditures from 2022 have been selected.

Where possible, we have aligned green spending with the EU Green Taxonomy published in April 2022. For clean transportation, a correction is made to the green expenditures to bring the expenditures in line with the technical ‘screening’ criteria of the EU Green Taxonomy.

The screening criteria for clean transportation have electrified track ‘in scope’. To this end, a correction is made to rail expenditures of 7.1%, equal to the percentage of passenger rail that is not electrified.

The Dutch railroads facilitate the safe, sustainable, cost- and area efficient transport of passengers. In 2022, passengers traveled 13.325 bn kilometres via train. This is 70.5% of the kilometres traveled in 2019 before COVID-19. The number of passengers during the weekends almost equaled pre-COVID numbers. Yet during the week the number of passengers fell short. Passengers choose to travel mainly on Tuesdays and Thursdays during rush hour. The spreading of passengers has become even more difficult.

The largest Dutch rail transporter – de Nederlandse Spoorwegen – uses 100% green energy. Additionally, 92.9% of the railroad is electrified. Next to that, railroad manager ProRail focuses on minimizing their carbon footprint during maintenance and construction, for instance by constructing energy efficient stations. ProRail operates and is commissioned by the Ministry of Infrastructure and Water Management. Through the management concession, ProRail receives a subsidy from the Mobility Fund (previously Infrastructure Fund) from the Ministry for the management, maintenance and replacement of the track. ProRail also receives resources from the Mobility Fund for the construction of government infrastructure projects. Expenditures specifically intended for freight traffic have not been taken into account in the allocation of the green bond.

## III. Climate change adaptation and sustainable water management

The Netherlands experienced a record-breaking number of sunny days in 2022. Less cloud cover led to a higher solar radiation of 15% on average. Paired with a precipitation deficit, another record was broken: the drought was the most severe in the Netherlands this century.

In *The State of our Climate*<sup>5</sup>, the Royal Netherlands Meteorological Institute (KNMI) discusses the relationship between the changing climate and changing weather patterns in the Netherlands.

<sup>5</sup> KNMI - De staat van ons klimaat 2022: steeds vaker extremer weer door klimaatverandering (Available [here](#))



Since the beginning of the last century, the Netherlands has warmed by 2.3°C, about twice as much as the global warming of 1.2°C. The Paris Climate Agreement sets out to limit global warming to well below 2°C, with a clear target of 1.5°C (relative to benchmark year 1990). For the northern hemisphere, the warming of 1.5 °C was already reached in 2020, for the Netherlands this happened around 2000. At current trends, global warming will reach 1.5°C around 2033, and Northern Hemisphere warming will reach 2.0°C around 2037.

The global mean sea level continued to rise in 2022, at 3.4 cm per decade on average. However, from the first ten years (1993-2002) to the last ten years (2013-2022), the rate has doubled to 4.4 cm per decade.

The temperature increases covered in the KNMI report, the exceptional drought experienced in 2022 and increasing sea levels reflect the challenges that the Netherlands faces in the water domain. The threat is two-sided: having too little, or too much water. Therefore, both climate change mitigation and adaptation are important. The Ministry of Infrastructure and Water Management has started the program “Water and Soil (are) Guiding”. For example, with the building task of one million houses up until 2030, the importance of thinking about future climate risks cannot be understated.

Working on flood risk management, freshwater supply and water quality requires continuous efforts and investments. These are accounted for in the Delta Fund. The number of people and the value of the property to be protected change under the influence of economic and demographic developments. Water and soil also change over time; the sea level rises and the soil subsides. Climate change will make it warmer and river discharges and rainfall will show greater extremes.

Since 2010, the Netherlands has been working on joint goals with various governments and organizations in the Delta Program. The expenditures in the green bond are from the Delta Fund that ensures that flood protection, freshwater supplies and spatial planning are climate-proof and that flood risk management is guaranteed. For example, the identified weak links in flood protection are systematically addressed and improved up to the threat level that is foreseen for 2050.

Cooperation with local authorities and suppliers is approached actively to reduce associated CO<sub>2</sub>-emissions. The Ministry of Infrastructure and Water Management has the ambition to work fully climate neutral and circular by 2030 at the latest. This means 100% CO<sub>2</sub> reduction, high-quality reuse of all materials and halving the use of primary raw materials. The Ministry

demonstrates efforts to reduce its own CO<sub>2</sub>-emissions, and reduces emissions in infrastructure projects. For example, ProRail and Rijkswaterstaat request that rail and water projects are climate neutral and circular.

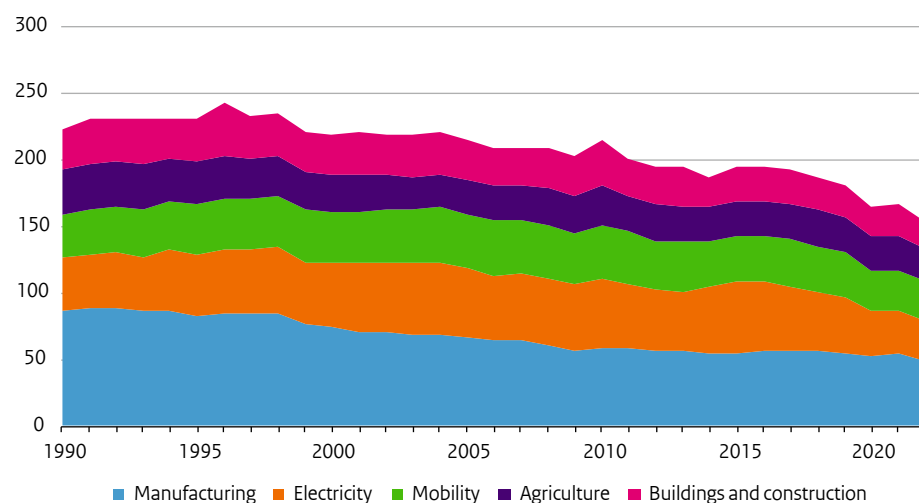
# 3. Impact Report



This chapter initially discusses impact metrics that apply to the Netherlands and are related to climate change. Then, where feasible and available, specific impact results are presented in relation to green expenditures allocated to the green bond. The emphasis here is on the projections of avoided carbon emissions for each expenditure category. Following the revision of the green bond framework in 2022, social indicators and adverse indicators have been included in the impact report where possible. Examples of social indicators are the number of social housing units that were made more sustainable, the availability of public transportation and avoided deaths by water protection measures. Examples of adverse indicators are noise complaints near railways or loss of biodiversity due to the Delta Works.

### Greenhouse gas emissions in accordance with the IPCC guidelines

Megaton CO<sub>2</sub> equivalent



The greenhouse gas emissions diagram<sup>6</sup> shows that emissions in the Netherlands in 2022 were 9% lower than in 2021, mainly due to energy savings caused by high gas prices. Emissions in 2022 were 31.7% lower than in 1990. The objective in the Climate Agreement is to reduce greenhouse gas emissions by 49% by 2030 in comparison to 1990. The Dutch Coalition Accord of 2022 raises this target to at least 55%. The largest reduction in emission last year was in the built environment (homes, offices, schools, care institutions, etc.) which emitted 21% fewer

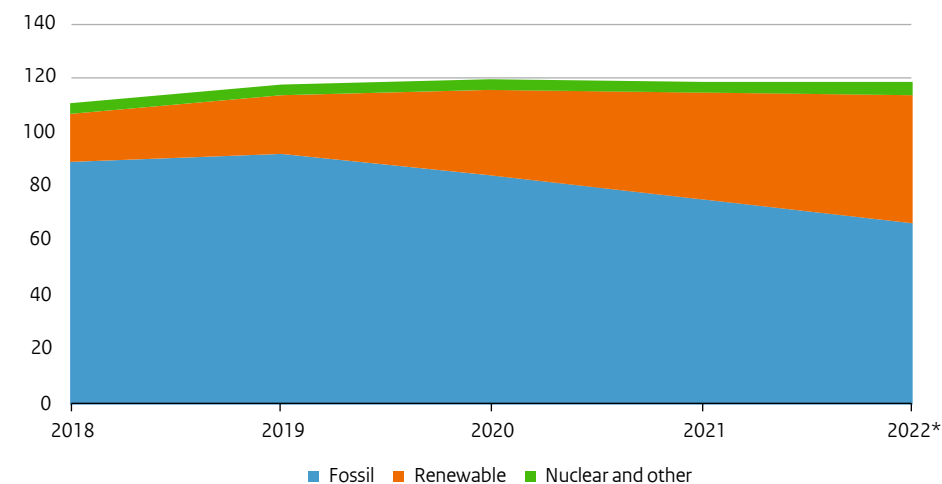
<sup>6</sup> Statistics Netherlands – Greenhouse gas emissions 9 percent lower in 2022 – CBS 2023 (Available [here](#)).

greenhouse gasses than in 2021. Substantial cuts were made in the consumption of natural gas due to high natural gas prices. In addition, the weather was milder compared to 2021, resulting in less natural gas consumption to heat homes and offices.

The production of renewable electricity in 2022 amounted to 40% of the total electricity consumption in the Netherlands, or 37.33 bn kWh<sup>7</sup>. Measured in kilowatt-hours (kWh), this is 20% more than in 2021. Growth can mainly be found in the production of electricity using solar panels. Here, production increased by 54% compared to 2021 (from 11.5 to 17.7 bn kWh). The increase is directly related to the increased installed capacity. Wind energy production increased by 17% (from 18.01 to 21.15 bn kWh). The rise in electricity production from renewable sources corresponds largely with the rise in capacity for the production of electricity from sunlight (+4 GW in 2022) and wind (+1 GW in 2022). While wind energy production increased less than solar, it represents the largest share in the production of renewable electricity in the Netherlands. The use of biomass for electricity production dropped by 12% (from 9.8 to 8.6 bn kWh).

### Electricity production per source

bn kWh








<sup>7</sup> Statistics Netherlands – Renewable electricity share up by 20 percent in 2022 – CBS 2023 (Available [here](#)).

## I. Impact of the Dutch State Green Bond

The impact table on the next page shows an overview of the impact of the green bond issued in relation to eligible expenditures in 2021 and 2022. The avoided CO<sub>2</sub> always relates to the joint impact of all the expenditures and investments of all actors for the underlying projects, with the exception of clean transportation, where the avoided CO<sub>2</sub> is calculated on the part financed by the green bond. Paragraph IV hereafter states what the share or ratio of the government's expenditures are compared to total expenditures.

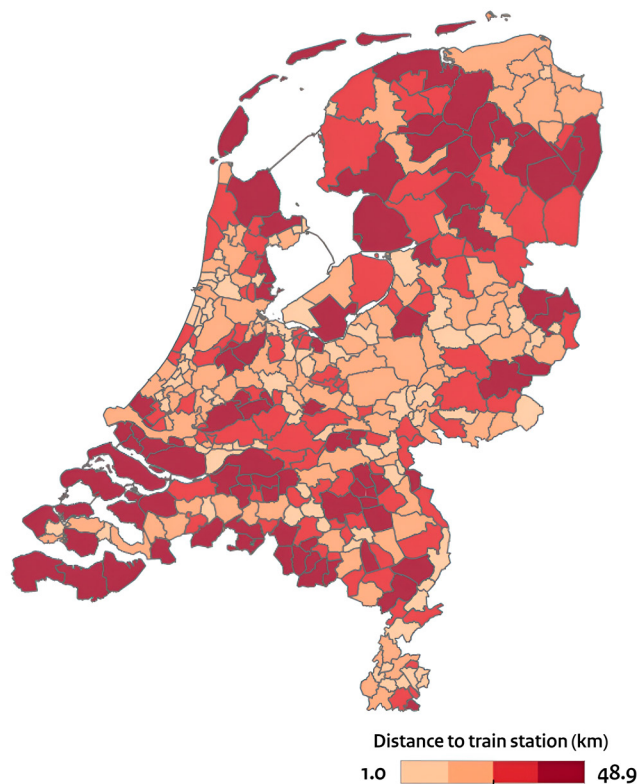
Impact table expenditures financed with the green bond

Category	Category description	Impact table expenditures financed with the green bond					
		2021			2022		
		Impact metric avoided CO <sub>2</sub>	Result indicators	Impact metric other	Impact metric avoided CO <sub>2</sub>	Result indicators	Impact metric other
 <b>Renewable Energy</b>	Stimulation of Sustainable Energy Production (SDE) Research offshore wind energy Hydrogen Backbone	2.06 Mton	9,782 projects; 1,730 MW subsidized power	15.38 PJ sustainable production; 4,903 mln kWh	2.65 Mton	9,703 projects; 1,729 MW subsidized power	18.70 PJ sustainable production; 5,195 mln kWh
  <b>Clean Transportation</b>	Maintenance and management of railway infrastructure, development of railway infrastructure for passenger rail  Regional Infrastructure and accessibility Projects Mega Projects Traffic and Transportation	0.09 Mton	1 developed railway project 7,053 km maintained railway Invested in 46 projects	8,630 bln passenger kilometres on the railways in 2021	0.11 Mton	5 developed railway projects 7,023 km maintained railway Invested in 26 projects	13,325 bln passenger kilometres on the railways in 2022
  <b>Climate Change Adaptation &amp; Sustainable Water Management</b>	Delta Fund: • Flood risk management investments • Freshwater supply investments • Management, maintenance, and replacement • Experimentation • Network related costs and other expenditures • Water quality investments		In 2021 there is 157 kilometres of safe dykes, based on the newest norms  This is 10.5 % of all dykes to be improved The target is 100 % safe dykes in 2050  In 2021 32 flood defence works meet the new standards  This is 8.4 % of all works identified to be improved  The target is 100 % safe flood defence works in 2050	The target value is a mortality risk of 1:100,000 per year, in 2050  The standards for dykes and weirs have been adjusted accordingly  The availability of storm surge barriers in 2021 was 83 %  The target value is 100 %		In 2022 there is 196 kilometres of safe dykes, based on the newest norms  This is 13.1 % of all dykes to be improved  The target is 100 % safe dykes in 2050  In 2022 51 flood defence works meet the new standards  This is 12.0 % of all works identified to be improved  The target is 100 % safe flood defence works in 2050	The target value is a mortality risk of 1:100,000 per year, in 2050  The standards for dykes and weirs have been adjusted accordingly  The availability of storm surge barriers in 2022 was 83 % The target value is 100 %

## II. Social indicators

### Clean transportation – access to rail mobility

Proximity to a railway station is important for the choice between public transportation and transportation by car. On average, Dutch inhabitants lived 5.1 km from the nearest railway station in 2020<sup>8</sup>. On the basis of the proximity to the railway station in every municipality, it can be estimated that 71.4% of the Dutch population lives within a 5 km range to a railway station. The geographical distribution of the proximity to a railway station is shown on the map of the Netherlands included on this page.



<sup>8</sup> Statistics Netherlands – Public transport monitor – CBS 2023 (Available [here](#))

### Flood Defences – people protected by flood defence works

The flood defence works in the Netherlands protect 10.9 mln inhabitants distributed over 53 dyke ring sections that are under flood risk. The Deltaprogramme ensures any individual in these sections a life protection level of 1:100.000 years of becoming a flood casualty<sup>9</sup>.

## III. Adverse indicators

### Renewable energy – Use of Space by Offshore wind parks

The Dutch sector of the North Sea amounts to 57,800 square kilometres. In 2019, 0.23% of the area was covered by offshore wind parks. Due to the construction of new wind parks, the area covered by offshore wind parks is expected to increase to 1.65% in 2023, and to 4.5% in 2030<sup>10</sup>. This will result in space in the North Sea becoming occupied by windmills in the future.

### Clean transportation – Noise pollution of railways

ProRail monitors noise pollution through 56,629 reference points along the Dutch railway infrastructure. In 2021, ProRail measured an exceedance of the annual noise pollution limits (0.8% in 2020)<sup>11</sup> at 411 reference points (0.7% of all reference points).

## IV. Renewable energy

The renewable energy generated by projects financed with the SDE scheme is measured on the basis of actual meter readings and can therefore be determined with a relatively high level of accuracy. The conversion of generated energy to avoided carbon emissions is based on Statistics Netherlands (CBS) figures. The granted subsidy was recognised on the basis of realised cash expenditures.

Over time, the number of relevant projects has reduced, as no new SDE subsidy decisions are being issued. For new subsidy decisions, the SDE subsidy has been succeeded by the SDE+ and SDE++ subsidy schemes, which do not qualify as Eligible Green Expenditures. Part of the current subsidy decisions are financed in full over time and thus disappear from the charts. Below are two charts presented that reflect the aggregated figures per year. The further details for 2022 are reflected in the charts on the next page.

<sup>9</sup> National Delta program – What are the new water security standards - (Available [here](#))

<sup>10</sup> Wind Energy – Usage of space by wind energy in the North Sea - (Available [here](#))

<sup>11</sup> Noise register railroads Netherlands - (Available [here](#))

Graph: SDE Production Summary Chart

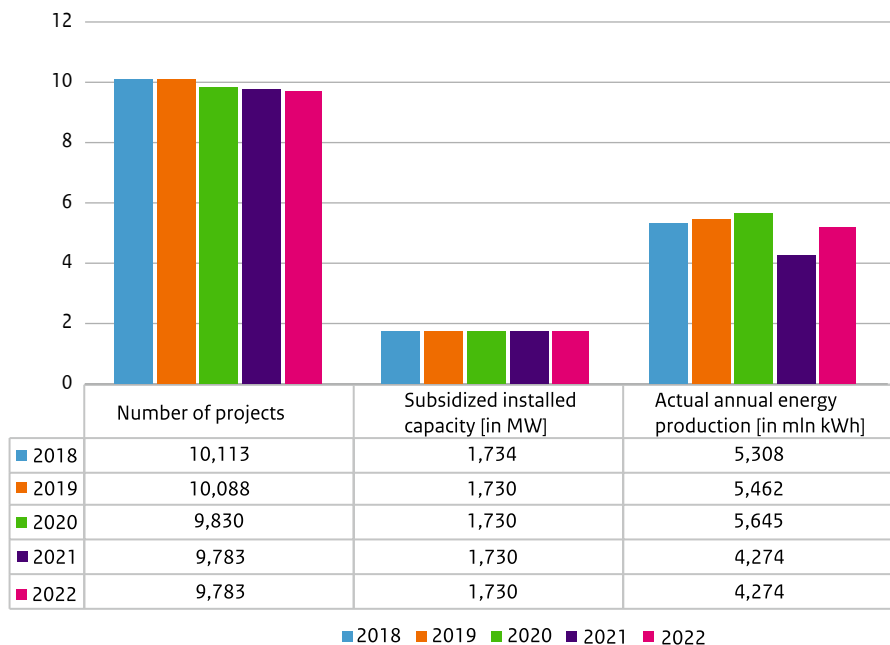


Table: Cash expenditure and avoided CO<sub>2</sub> emissions per year regarding SDE

Year	2018	2019	2020	2021	2022
Cash expenditures [EUR/mlin]	528	495	520	521	172
Avoided CO <sub>2</sub> emissions in mln. tons	3.13	3.22	2.77	1.80	2.65

For 2022, € 172 mln worth of SDE subsidy was granted for the categories solar energy, offshore wind energy, and onshore wind energy. With this subsidy, 18.7 Petajoules (5,195 mln kWh) of renewable energy was generated. This generated renewable energy is equal to 2.65 megatons of avoided carbon emissions. In 2022, the avoided carbon emissions per generated volume of renewable energy was higher than in 2021. That is because the conversion factor used for this calculation, based on CBS publications, is higher. At the end of 2022, 9,703 projects received subsidy with a total capacity of 1,729 megawatts.

Table: Number of projects SDE resulting in annual energy production

2022	Number of projects	Subsidized installed capacity [in MW]	Actual annual energy production [in mln kWh]
Offshore wind energy	3	719	2,848
Onshore wind energy	140	962	2,317
Solar energy	9,560	48	0,030
<b>Total</b>	<b>9,703</b>	<b>1,729</b>	<b>5,195</b>

There are many parties involved in projects subsidised with the SDE scheme, such as equity financiers, loan capital financiers, the government, local and regional authorities and project developers. All these parties have a unique role in the realisation of the project and thus the CO<sub>2</sub> impact achieved with the projects cannot be specifically divided among the various parties involved. To illustrate this, the SDE scheme covers the unprofitable top, which depends on, among other things, the electricity price. Projects that are exactly the same but only started at a different point in time will have the same CO<sub>2</sub> impact, but will differ in the SDE subsidy received due to changing electricity prices. However, the role of the government and the instrument used does not differ between the two projects. As a result, the calculation of the avoided CO<sub>2</sub> in the impact table is based on the total renewable electricity generation of the underlying projects and the amount of carbon emissions that this has avoided.

The ratio of the SDE subsidy paid in respect to the total operational and capital expenditures varies from 51% to 74%. This cannot be interpreted as the government's share in the realisation of the projects, because the government subsidy is intended to eliminate risk by covering the unprofitable part and does not constitute an investment subsidy.

## V. Clean transportation

By investing in management, maintenance, renewal and expansion of the track (for passenger transport), travelers in the Netherlands are provided with a mode of transport that has very few CO<sub>2</sub> emissions. In 2022, the Ministry of Infrastructure and Water Management has completed 5 rail projects (see: casestudy Zwolle-Herfte). Next to that, 26 rail projects are invested in. The railway manager ProRail managed and maintained 7,023 kilometres of track in 2022.

The estimation of the avoided CO<sub>2</sub> as a result of investments and maintenance in rail infrastructure required more effort than the above categories of expenditures as there was no

existing data for rail infrastructure suitable for the impact reporting of the green bond. In France, Carbone 4 has developed a method for SNCF-Réseau in which the avoided CO<sub>2</sub> is calculated based on the expected change in passenger behavior as a result of investments and maintenance in rail. This method has also been used by the Spanish carrier ADIF-Alta Velocidad. At the time of the first Green Bond Report, the DSTA concluded with the Ministry of Infrastructure and Water Management and ProRail that this method cannot be applied to the Dutch situation. There is no “degeneration curve” available for the Netherlands that indicates how the infrastructure deteriorates if, year after year, no investments would be made in the management, maintenance and replacement of rail infrastructure.

In 2020, the DSTA has therefore commissioned Significance, an independent research agency focusing on mobility and transport, to develop a variant in which the change in passenger behavior without the availability of rail infrastructure is the starting point. If no railway infrastructure were available, the public would come to other choices with regard to transport modality, need to travel, home/work location, etc. These other choices can be partly estimated with the “Landelijk Model Systeem” (LMS), although the LMS is not developed for this purpose. The LMS is a forecasting model of Rijkswaterstaat that predicts mobility in the Netherlands in the medium and long term and that is primarily used for capacity analysis, the consideration of different alternatives in projects and the consequences of other policy measures. Although the use of LMS for the calculation of avoided CO<sub>2</sub> due to the situation with and without the availability of rail infrastructure is a prognosis, in our opinion, this currently provides the best estimate for the avoided CO<sub>2</sub> as a result of investments and maintenance of rail infrastructure in the Netherlands.

In 2022 passengers traveled 13.325 bn kilometres on the rail, which would disappear completely if there were no investments in rail. Every year, approximately € 6 bn is spent on the train system, to be divided into the costs of rail infrastructure (State/ProRail) and the costs of rolling stock (NS/regional carrier). For the expenditures on sustainable transport allocated to the green bond in 2019, this amounts to 0.2 Mtons of avoided CO<sub>2</sub> per year for the years 2018 and 2019.

#### *Corona and the impact on avoided CO<sub>2</sub> calculations*

Significance’s research focuses on two scenarios: (1) where the train is not available as a means of transport and (2) where the train is available. ProRail has indicated that without expenditures on management, maintenance and replacement of the track, it is no longer justified to allow trains to run in the first year. In the first scenario, there are alternatives to the train, such as working from home more often, taking the car or bicycle or moving house. In times of the corona crisis, this choice was influenced in advance and the substitute for the train

has often been working from home. In addition, consumers indicated that they more often choose an individual vehicle such as a car or bicycle when traveling (Kennisinstituut voor Mobiliteit, 2020).

Passenger railway kilometres were 70.5% in 2022 compared to before COVID-19. The main reason for this is the lockdown that ended in March 2022. Even though the last lockdown ended in March, passenger numbers did not fully return. Working from home has decreased the number of passengers throughout the week. The number of weekend travelers almost equals pre-COVID numbers.

The train is now used less as a means of transport, just like every other means of transport, except for the (e-)bike and walking. In addition, there have also been far fewer movements. The number of passenger kilometres by rail has been reduced to 13.325 bn in 2022, a reduction of 29.5% compared to 2019. As a result, emissions in the scenario without train (1) have been reduced by 29.5%, assuming that the choices continue to emit the same emissions.

Nevertheless, the avoided CO<sub>2</sub> due to train transport does not equal 141 tons of avoided CO<sub>2</sub> emissions per million euros of rail expenditures as indicated in 2018 and 2019 in a previous Green Bond Report based on the Significance report. Expenditures on management and maintenance remained the same (or increased), so the avoided CO<sub>2</sub> per million euros is less. For the calculation, we assume a one-off decrease of 29.5% in 2022. For the expenditures on sustainable transport allocated to the green bond in 2022, this amounts to 0.09 Mtons avoided CO<sub>2</sub> in 2021, and 0.11 Mtons avoided CO<sub>2</sub> in 2022 respectively.

**Table: Avoided CO<sub>2</sub> in Mtons with the Green Bond issues over the years 2018 until 2022**

Clean transportation	2018	2019	2020	2021	2022
Avoided CO <sub>2</sub> in Mtons with the Green Bond in 2019	0,18	0,18			
Avoided CO <sub>2</sub> in Mtons with the Green Bond in 2020		0,02	0,08		
Avoided CO <sub>2</sub> in Mtons with the Green Bond in 2021			0,10	0,04	
Avoided CO <sub>2</sub> in Mtons with the Green Bond in 2022				0,09	0,11



## VI. Climate change adaptation and sustainable water management

Over the past few years, the Delta Plan on Spatial Adaptation has raised awareness amongst layers of government about the adaptation task. Significant steps have therefore been taken in recent years to accelerate and intensify the approach to climate adaptation. In addition, the Ministry of Infrastructure and Water Management invested in 27 projects in 2022, such as the Programmatic Approach to Large Waters (PAGW), where the national government, the region and civil society organizations work on future-proof large waterbodies.

In total, 196 of the 1,500 kilometres of identified dykes to be improved are declared safe in 2022 (13.1%). This means that they meet the flood protection standard for 2050. In 2022, 19 flood defence works of the 426 identified to be improved have been restored to a safe level. A total of 51 flood defence works (12.0%) have been reinforced since the introduction of the new flood protection program in 2016. Currently, all primary defences (dykes and dunes) are assessed on the basis of the new standards in the Water Act. The assessment is expected to be finalized in 2023.

Alongside water safety, the Dutch government invests in fresh water supply and water quality projects. Several Delta Plans are imbedded in the Delta Programme to facilitate the achievement of mentioned policy goals. The government works together with several layers of government and other stakeholders to protect Dutch citizens against floods and droughts; supply fresh water; and ensure water quality in an effective, efficient and sustainable manner. As an EU member state, the Netherlands complies with directives such as the 'Water framework directive' and 'Natura 2000'. These projects ensure that water quality and safety have high standards in restoring or maintaining the ecological value (see case study 'NURG').

# 4. Case study 'Zwolle-Herfte'



At the moment, roughly 60,000 people travel through Zwolle in 750 different trains. Every half hour, 8 trains arrive at Zwolle Station, carrying people to and from their destinations. On 17 December 2013, it was decided that the trajectory Zwolle-Herfte was to be expanded, increasing its width from 2 to 4 train tracks. This decision was made to better deal with an increase in the train traffic on this trajectory, as well as to realize ambitions for the further expansion of train usage in the northern provinces. This project has allowed for an increase in efficiency, dependability and capacity of the Dutch rail network, as well as a better rail connectivity to the north of the Netherlands. This project includes a so called 'dive-under', a type of viaduct which allows for trains to cross each other more efficiently than would be possible in a regular crossing. This project was completed in July 2021.

The project is part of a larger strategy called the 'Spoorplan Noord-Nederland' (Rail Plan Northern Netherlands), which aims to realize 20 rail projects with a total investment of ca. € 1 bn between 2012 and 2023. All of these are aimed at improving rail travel and the connection between the Randstad and the northern provinces. It is expected that the project Zwolle-Herfte (and projects like it) will increase the use of the rail network in the Netherlands, as well as improve travel times and overall efficiency of the rail network.



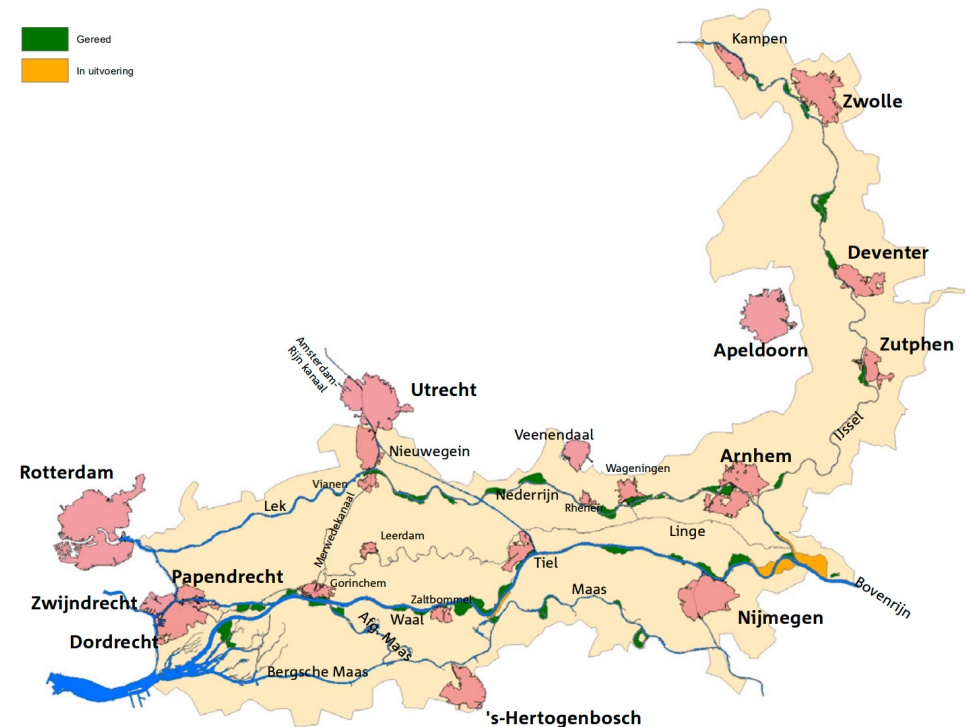
# 5. Case Study 'NURG'



In 2022, the Ministry of Infrastructure and Water Management's contribution to the NURG-effort came to a conclusion with the finalization of the project 'Uiterwaardevergraving Afferdense en Deestse Waarden'. The NURG, or rather: 'Nadere uitwerking rivierengebied' is a more than 25-year-old program (1993 – 2021), in which the Government aims to realize new natural areas in the floodplains of multiple large rivers, notably the Meuse and Waal.

In total, the NURG-effort is responsible for 6,687 hectares of new natural areas, divided over 55 sub-projects along the aforementioned rivers. These natural areas include wetlands, bird habitats, sandy riverbanks and grasslands, among others. The NURG-projects form a robust natural network for countless characteristic river species, such as stream valley plants, dragonflies, grasshoppers and other insects, countless breeding migratory birds, beavers and otters. Besides the increase in natural areas, the NURG-effort focused on increasing the water-safety levels, and decreasing the flood risk.

The last project within the scope of the NURG to be finished, the 'Uiterwaardvergraving Afferdense en Deestse Waarden' has the primary ambition to increase water and flood safety, with the added goal of creating 158 hectares of new natural area. This natural area includes an artificial island designed to be a haven for birds, including special features in the landscape which are aimed at house bats, specific bird species and a mussel bank. This natural area is also meant to be enjoyed: with the addition of hiking trails, lookout points and paths, this natural area is largely accessible to people.



# 6. Case Study 'Sustainable bicycle parking Maastricht station'



The bicycle storage at Maastricht station on Meerssenerweg has been converted in 2022 by ProRail into an energy-neutral storage at street level.

For ProRail, the bicycle parking facility on Meerssenerweg is a national first. Nowhere in the Netherlands is an outdoor shed equipped with the technical gadgets that have been applied in Maastricht. For example, solar panels are installed in the roof, which provide power to digital signposts. Cyclists can see from a distance on the signs where parking space is still available. Cameras in the bicycle racks monitor how long a bicycle has been parked.

The year 2023 is a pilot year: are the digital road signs and camera systems working as planned? ProRail will continuously monitor the parking facility in the coming year, in close cooperation with the municipality of Maastricht with the aim of applying the same innovations in every outdoor parking facility around the Dutch stations.

Prorail aspires to work in a circular manner by 2030. More and more train stations in the Netherlands are getting solar panels. Until now, these were mainly large stations, such as Utrecht, Rotterdam, and Eindhoven, that were fitted with solar panels. In the next ten to fifteen years, all suitable station roofs will be fitted with solar panels. Generating solar energy at bicycle parking is a first at Maastricht station.



# 7. Other topics regarding the green bond





## I. Market developments/liquidity/volume of green bonds

According to S&P, the level of newly issued green bonds decreased on a global scale in 2022 to USD 473 bln from USD 548 bln in 2021. Other categories of sustainable bonds, such as social bonds and sustainability bonds, experienced a similar decrease (total issuance of sustainable in 2022 amounted to USD 853 bln compared to USD 1,056 bln in 2021). The decrease is largely attributed to difficult market conditions in 2022. In these difficult market conditions, green bond issuances decreased less than other bond types in 2022.

The European Union continued to be the largest issuer in 2022, with € 6.5 bln in issuances. The UK issued its inaugural sovereign green bond in 2022. The DSTA was with € 4.98 bln issuance amongst the largest global issuers in 2022. Total green issuance by Dutch issuers amounted to € 30 bln with 5 new Dutch issuers entering in the green bond market.

## II. Investor feedback on previous green bond reporting

During the roadshow for the 2022 reopening of the 2040 Green DSL, DSTA seized the opportunity to ask feedback on the green bond reporting by DSTA. Generally, investors indicated that they appreciated the combined allocation and impact reporting by DSTA. The case studies that are presented in the reports are considered helpful to see the effect of green finance in practice. Some investors were also interested in reporting on social indicators and adverse effects by DSTA.

Investors requested that future reporting is done on a bond-by-bond basis if the DSTA were to issue a new green bond. The DSTA can confirm that it intends to report on a bond-by-bond basis, once a new green bond would be issued. Another point raised by investors is how the DSTA will report on expenditures in case there is EU financing through the Recovery and Resilience Facility. In relation hereto, it should be noted that DSTA decided not to allocate expenditures to the green bond that are partly financed through the Recovery and Resilience Facility.

## III. Dutch green bonds in the future

After the 2022 reopening by means of a DDA, the outstanding amount of the 2040 Green DSL is currently € 15.7 bln, which is in line with regular long dated bonds. As the DSTA wants to remain active in the green bond space, the DSTA announced in the 2023 Outlook that it is looking to launch a new Green 20-year DSL in 2023 by means of a DDA. The updated 2022 Framework is the basis of this bond.

The importance of the role of public issuers in developing new products should not be underestimated and the DSTA feels obliged to continue to explore its role in this process. In addition, the DSTA will always be looking into exploring other types of issuances to be used in the future.

## IV. The EU green bond standard

In February 2023, the EU institutions reached a provisional agreement on the Green Bond Standard. It is expected that the Green Bond Standard will formally be adopted later in 2023 and will come into force 12 months later. The voluntary Green Bond Standard will be the highest standard in the market.

The State of the Netherlands fully supports the increased level of ambition and transparency the Green Bond Standard aims to introduce. The DSTA Green Bond Framework was first updated in 2022 to align with the EU Taxonomy Climate Delegated Act (the “EU Taxonomy”) as well as the proposed EU Green Bond Standard on a best effort basis. The Green Bond that the DSTA aims to introduce in 2023 will continue to achieve alignment on a best effort basis.



## V. Climate

The Netherlands is fully committed to the United Nations (UN) 2030 agenda for Sustainable Development and the Paris Agreement on Climate Change (the 'Paris Agreement'). The Netherlands aims to ambitiously contribute to the fight against global warming and is firmly dedicated to the goal set out in the European Green Deal to reduce carbon emissions by at least 55% by 2030 compared to 1990 levels.<sup>12</sup>,<sup>13</sup> The 2021 – 2025 Coalition Agreement 'Looking out for each other, looking ahead to the future' (the 'Coalition Agreement')<sup>14</sup> shows a high level of climate ambition, and the Dutch Climate Act has been updated accordingly<sup>15</sup>.

The Coalition Agreement outlines that the Dutch climate policy will focus on increased carbon emission reductions, with the objective of achieving at least 55% reduction by 2030 (from 1990 levels), but striving towards 60%. For 2050, the ambition is to be climate neutral. A Minister for Climate and Energy has been appointed to oversee the climate policy and a Climate Fund amounting to over € 30 bn. Over a period of 10 years, this fund will help to create the nation's required energy infrastructure, establish a green industrial policy and make transport and the built environment more sustainable. In addition, extra investments will be made available for research and innovation in climate-neutral technologies.

In 2019, the State of the Netherlands issued the inaugural Green Dutch State Loan (DSL) 2040 and published its Green Bond Framework. Since then, the green capital market has grown significantly. With the reopening of the Green DSL 2040 in 2022, which brought the total outstanding amount of this bond to € 15.7 bn, and the expected issuance of a new Green 20-year DSL in 2023, the State of the Netherlands aims to continue to support the further development of this market. Additional to public investments, private investments also need to be mobilised. In the Dutch capital market more than € 60 bn has been issued in green bonds by financial institutions and corporates, indicating that the sovereign green bond contributed to add critical mass to the market.

---

<sup>12</sup> European Commission – European Green Deal, 14 July 2021 (available [here](#)); European Commission – European Climate Law, 30 June 2021 (available [here](#))

<sup>13</sup> Additionally, in 2019 the Supreme Court ruled in the case of the Urgenda foundation against the State of the Netherlands that annual greenhouse gas emissions should be reduced by 25% by the end of 2020 compared to 1990. The government responded with additional measures to ensure this target was met in 2020. Emissions in 2021 were slightly higher, but down to a 30% reduction in 2022.

<sup>14</sup> 2021 – 2025 Coalition Agreement 'Looking out for each other, looking ahead to the future', 15 December 2021 (available [here](#))

<sup>15</sup> Change of the Dutch Climate Act (in Dutch), (available [here](#))

## VI. Dutch vision on global climate action

In the Coalition Agreement the cumulative CO<sub>2</sub> reduction per sector by 2030 was estimated. The largest drivers of reduction are expected to be in the 'Infrastructure, innovation and customised approach', 'Built environment' and 'Electricity' sectors.<sup>16</sup> As part of these efforts, the total capacity for offshore wind energy in 2030 will be doubled to around 21 gigawatt by developing three additional offshore windfarms.<sup>17</sup> In addition, the State of the Netherlands supported the 'Statement on International Public Support for the Clean Energy Transition' at the COP26 (Conference of Parties) conference in Glasgow and has discontinued new direct public support for the international unabated fossil fuel energy sector as of 2023.<sup>18</sup>

In September 2022, the European Commission endorsed the Netherlands' recovery and resilience plan,<sup>19</sup> paving the way for the EU to disburse € 4.7 bn in grants to the Netherlands under the Recovery and Resilience Facility (RRF). The Netherlands' plan devotes 48% of its total allocation to the green transition, substantially exceeding the minimum of 37% required by the RRF Regulation. The plan includes investments and reforms to speed up the deployment of renewable energy sources, investments supporting a sustainable built environment and nature restoration. Several measures also contribute to the REPowerEU plan objectives to become energy independent and fast forward the green transition.

The State of the Netherlands also lives up to the commitments of the Paris Agreement by providing financial resources to assist developing countries with respect to both mitigation and adaptation through the Dutch Fund for Climate and Development. The central aim of the Paris Agreement is to strengthen the global response to the threat of climate change. This will be done by keeping the global average temperature rise above pre-industrial levels well below 2 degrees Celsius this century and pursue efforts to limit the temperature rise to 1.5 degrees Celsius. The three pillars of the policy on climate change of the State of the Netherlands are climate change mitigation, adaptation and finance, as outlined in our Global Climate Strategy.<sup>20</sup> The expenditures financed by this Green Bond are mainly focused on mitigation and adaptation. The Netherlands strives to ensure that any action on climate change is fair and inclusive to those most vulnerable to climate change.

---

<sup>16</sup> Financial appendix of 2021 – 2025 Coalition Agreement, 15 December 2021 (available [here](#))

<sup>17</sup> Ministry of Economic Affairs and Climate - Elaboration coalition agreement Climate and Energy, 11 February 2022 (available [here](#))

<sup>18</sup> Statement on International Public Support for the Clean Energy Transition, 4 November 2021 (available [here](#))

<sup>19</sup> European Commission – European Commission endorses the Netherlands' €4.7 billion recovery and resilience plan (available [here](#))

<sup>20</sup> [The Netherlands' Global Climate Strategy | Publication | Government.nl](#)

### Climate change mitigation

The first pillar is climate change mitigation. Hereto the Netherlands has set out a clear and robust framework for the implementation of the Paris Agreement in the Climate Act. Under this Act, the government is required to draw up a Climate Plan setting out measures to ensure that the targets stipulated in the Act are achieved<sup>21</sup>. In June 2022, the Dutch Government outlined the climate and energy policy in its Draft Climate Policy Programme (*Ontwerp Beleidsprogramma Klimaat*)<sup>22</sup>, updating the Climate Plan 2021-2030 adopted in 2020 to incorporate the more ambitious targets set in the Coalition Agreement. This brings the Dutch climate policy in line with the latest European ambitions.

The Climate Act requires the Netherlands Environmental Assessment Agency (*Planbureau voor de Leefomgeving*) ('PBL') to publish an annual Climate and Energy Outlook (*Klimaat- en Energieverkenning, KEV*), which is one of the accountability instruments of Dutch climate and energy policy. According to the 2022 KEV report<sup>23</sup> published in November 2022, more rapid implementation of existing plans and formulation of additional policies are both needed to achieve the Dutch climate goal for 2030. The substantial package of climate measures announced by the government in their Coalition Agreement will yield additional reductions, but the reductions projected for 2030 are not yet in line with the increased target from 49% to 55% by 2030, compared to 1990 levels. Since this publication, the government has committed to accelerate the implementation of its policies and introduce additional policies in order to achieve the 2030 reduction target. The Climate Policy Programme will be updated and adjusted during 2023 based on the findings from the 2022 KEV report. After the European Union (EU) has adopted the full 'Fit for 55' package, the climate policy of the State of the Netherlands will be revised in order to bring it in line with the projected impact on carbon emissions and taking into account affordability for households and small and medium-sized enterprises.

### Climate change adaptation

The second pillar is climate change adaptation, given that the Netherlands is vulnerable to climate change. On the national level, climate adaptation policy is laid down in the National Adaptation Strategy (NAS) and the Delta Programme, to ensure a climate-proof and water-resilient country by 2050. The NAS describes the main climate risks facing the Netherlands and sets a course for addressing these risks. The Delta Programme has its legal base in the Delta Act

<sup>21</sup> The increased carbon emissions reduction targets are stipulated in the Climate Act, which has been passed by Parliament and is due to be voted in the Senate.

<sup>22</sup> Draft Climate Policy Programme (Ontwerp Beleidsprogramma Klimaat), 2 June 2022 (available [here](#))

<sup>23</sup> Climate and Energy Outlook 2022, 1 november 2022 (dutch version available [here](#), english available [here](#))

(*Deltawet waterveiligheid en zoetwatervoorziening*). It ensures that flood risk management, freshwater supply and spatial planning will be climate-proof and water-resilient by 2050. As part of the Delta Programme, the national Flood Protection Programme sets out the measures that are required to ensure primary flood defence systems meet the statutory safety standards, now and in the future. An increased investment in the Delta Fund to catch up on the maintenance backlog and accelerate the implementation of the National Delta Programme was agreed upon in the Coalition Agreement. The latest climate scenario's developed by the Royal Netherlands Meteorological Institute (KNMI) are incorporated into those standards. Financing is needed to implement the measures contained in the Delta Programme. An amount is set aside annually for this purpose in the Delta Fund. The average budget will be € 1.5 bn in the period 2023-2036. The government extends the Delta Fund annually by one year. In addition, the Ministry of Infrastructure and Water Management has made € 200 mln available to accelerate implementation of measures for adaptation on a regional and local level to increase resilience and limit the effects of climate related risk, such as flooding, extreme weather and drought. This Impulse Programme<sup>24</sup> started at the beginning of 2021. If measures are not taken, damages are estimated to rise to an amount between € 77.5 and € 173.6 bn by 2050.<sup>25</sup> The State of the Netherlands has taken the initiative, together with the UN and other countries, to establish the Netherlands-based Global Centre on Adaptation.

<sup>24</sup> Impulsregeling Klimaatadaptatie (dutch version available [here](#))

<sup>25</sup> Public Information Service – Climate adaptation in the Netherlands (available [here](#))

# Annex I

Auditor's Report by the independent auditor



To: The Agent of the Dutch State Treasury Agency

## Our opinion

We have audited the Allocation report (chapter 2 of the Green Bond Report 2022 of the Dutch State Treasury Agency based in The Hague).

In our opinion the allocation report is prepared, in all material respects, in accordance with the principles as described in the Green Bond Framework of the Dutch State (version 10 May 2022), chapters 2.1, 2.2, 2.3 and 2.4.

## Basis for our opinion

We conducted our audit in accordance with Dutch law, including the Dutch Standards on Auditing. Our responsibilities under those standards are further described in the 'Our responsibilities for the audit of the allocation report' section of our report.

We are independent of the Dutch State Treasury Agency in accordance with the Verordening inzake de onafhankelijkheid van accountants bij assurance-opdrachten (ViO, Code of Ethics for Professional Accountants, a regulation with respect to independence) and other relevant independence regulations in the Netherlands. Furthermore we have complied with the Verordening gedrags- en beroepsregels accountants (VGBA, Dutch Code of Ethics). We believe the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

### *Emphasis of the basis of accounting and restriction on use and distribution*

We draw attention to note paragraphs 1 and 2 of chapter 2 of the Green bond report 2022 of the Dutch State Treasury Agency based in The Hague, which describes the basis of accounting. The Green bond report 2022 of the Dutch State Treasury Agency based in The Hague is intended for the investors in the green bonds issued by the Dutch State Treasury Agency and is prepared to assist the Dutch State Treasury Agency to comply with the principles as described in the Green Bond Framework of the Dutch State (version 10 May 2022), chapters 2.1, 2.2, 2.3 and 2.4. As a result, the Allocation report may not be suitable for another purpose. Therefore, our auditor's report is intended solely for the Dutch State Treasury Agency and the investors in the green bonds issued by the Dutch State Treasury Agency and should not be distributed to or

used by other parties than the Dutch State Treasury Agency and the investors in the green bonds issued by the Dutch State Treasury Agency. Our opinion is not modified in respect of this matter.

## Other information

To the Allocation report other information has been added that consists of:

- Introduction
- Impact report
- Case study: Zwolle-Herfte
- Case study: NURG
- Case study: sustainable bicycle parking Maastricht station
- Other topics regarding the green bond

Based on the following procedures performed, we conclude that the other information is consistent with the allocation report and does not contain material misstatements.

We have read the other information. Based on our knowledge and understanding obtained through our audit or otherwise, we have considered whether the other information contains material misstatements.

By performing these procedures, we comply with the requirements of the Dutch Standard 720. The scope of the procedures performed is substantially less than the scope of those performed in our audit of the Allocation report.

### *Responsibilities of the Agent of the Dutch State Treasury Agency for the allocation report*

The Agent of the Dutch State Treasury Agency is responsible for the preparation of the allocation report in accordance with the Green Bond Framework of the Dutch State (version 10 May 2022), chapters 2.1, 2.2, 2.3 and 2.4. Furthermore, the Agent of the Dutch State Treasury Agency is responsible for such internal control as she determines is necessary to enable the preparation of the allocation report that is free from material misstatement, whether due to fraud or error.

### *Our responsibilities for the audit of the allocation report*

Our objective is to plan and perform the audit engagement in a manner that allows us to obtain sufficient and appropriate audit evidence for our opinion.

Our audit has been performed with a high, but not absolute, level of assurance, which means we may not detect all material errors and fraud during our audit.

Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the allocation report. The materiality affects the nature, timing and extent of our audit procedures and the evaluation of the effect of identified misstatements on our opinion.

For a more detailed description of our responsibilities, we refer to [https://www.nba.nl/ENG\\_algemeen\\_o1](https://www.nba.nl/ENG_algemeen_o1)

The Hague, 25 May 2023

Auditdienst Rijk

Drs. A.J.M. van Winden RA

# Annex II

Post-issuance verification letter from Sustainalytics



# The State of the Netherlands

## PROGRAMMATIC POST-ISSUANCE VERIFICATION LETTER

### MARINE RENEWABLE ENERGY, WIND ENERGY, SOLAR ENERGY, TRANSPORT, AND WATER INFRASTRUCTURE CRITERIA OF THE CLIMATE BONDS STANDARD

**Type of engagement:** Assurance Engagement

**Period engagement was carried out:** May 2023

**Approved verifier:** Sustainalytics

**Contact address for engagement:** De Entrée 35-37 – 1101 BH, P.O. Box 22703 – 1100 DE, Amsterdam, The Netherlands

**Post-Issuance Engagement Leader:** Nadia Djinnit, [nadia.djinnit@morningstar.com](mailto:nadia.djinnit@morningstar.com), (+31) 20 560 2933

**Post-Issuance Engagement Support:** Amrita Kaur, [amrita.kaur@morningstar.com](mailto:amrita.kaur@morningstar.com)

### Scope and Objectives

In May 2019, The State of the Netherlands (the “Dutch State”) issued green bonds (the “Dutch State Green Bonds”) to finance existing and future government expenditures intended to promote the Netherlands’ realization of policy objectives aimed at decarbonizing the country’s energy, housing and transportation sectors, while building resilience to climate change.

In May 2023, the Dutch State engaged Sustainalytics to review the projects financed in 2021 and up to December 2022 with proceeds from the Dutch State Green Bonds (the “Nominated Projects”), and provide an assessment as to whether the Nominated Projects met the post-issuance requirements under the Marine Renewable Energy<sup>1</sup>, Wind Energy,<sup>2</sup> Solar Energy,<sup>3</sup> Low Carbon Land Transport,<sup>4</sup> and Water Infrastructure<sup>5</sup> Criteria of the Climate Bonds Standard Version 3.0.<sup>6</sup> Sustainalytics provided CBI pre-issuance verification letters in 2019 and 2022, and CBI post-issuance verification letters in 2021 and 2022.

The Nominated Projects include:

- Marine Renewable energy
  - Offshore wind energy
- Wind energy
  - Onshore wind energy
  - Research offshore wind energy
- Solar energy
  - Onshore solar electricity generation facilities
- Hydrogen Backbone<sup>7</sup>
- Low carbon land transportation
  - Public passenger transport infrastructure
- Water infrastructure
  - Engineered water infrastructure
    - Flood defense
    - Water distribution
  - Nature-based water infrastructure
    - Flood defense

Schedule 1 provides details of the Nominated Projects and disbursement of proceeds.

<sup>1</sup> Climate Bonds Initiative, Marine Renewable Energy Criteria under the Climate Bonds Standard, at: <https://www.climatebonds.net/standard/marine>

<sup>2</sup> Climate Bonds Initiative, Wind Energy Criteria under the Climate Bonds Standard, at: <https://www.climatebonds.net/standard/wind>

<sup>3</sup> Climate Bonds Initiative, Solar Energy Criteria under the Climate Bonds Standard, at: <https://www.climatebonds.net/standard/solar>

<sup>4</sup> Climate Bonds Initiative, Low Carbon Transport Criteria under the Climate Bonds Standard, at: <https://www.climatebonds.net/standard/transport>

<sup>5</sup> Climate Bonds Initiative, Water Infrastructure Criteria under the Climate Bonds Standard, at: <https://www.climatebonds.net/standard/water>

<sup>6</sup> Climate Bonds Initiative, Climate Bonds Standard Version 3.0, (2019), at: <https://www.climatebonds.net/files/files/climate-bonds-standard-v320191210.pdf>

<sup>7</sup> The Dutch State updated its Green Bond Framework in May 2022 and added expenditures related to hydrogen, with the condition not to allocate towards these expenditures until the CBI sector criteria for hydrogen are finalized and provided that such criteria and certification requirements are met. Sustainalytics notes that no allocations were made to the Hydrogen Backbone project between January 2022 and February 2022.



### **Post-Issuance Evaluation Criteria**

Post-issuance Requirements of the Climate Bonds Standard Version 3.0:

- Use of Proceeds
- Evaluation and Selection of Projects & Assets
- Management of Proceeds
- Reporting

### **Issuing Entity's Responsibility**

The Dutch State is responsible for providing accurate information and documentation relating to the details of the Nominated Projects, including description of projects, total development cost of each project and disbursed amounts.

### **Independence and Quality Control**

Sustainalytics, a leading provider of ESG and corporate governance research and ratings to investors, conducted the verification of the Dutch State Green Bonds, issued to finance the Nominated Projects, and provided an independent opinion informing the Dutch State as to the conformance of the Dutch State Green Bonds with the Post-Issuance Requirements and the Marine Renewable Energy, Wind energy, Solar energy, Low Carbon Land Transportation and Water Infrastructure Criteria of the Climate Bonds Standard.

Sustainalytics relied on the information and the facts presented by the Dutch State with respect to the Nominated Projects. Sustainalytics is not responsible nor shall it be held liable for any inaccuracies in the opinions, findings or conclusions herein due to incorrect or incomplete data provided by the Dutch State.

Sustainalytics makes all efforts to ensure the highest quality and rigor during its assessment process and enlisted its Sustainability Bonds Review Committee to provide oversight over the assessment.

### **Verifier's Responsibility**

Sustainalytics conducted the verification in accordance with the Climate Bonds Standard Version 3.0 and the International Standard on Assurance Engagements 3000 (ISAE 3000) – Assurance Engagements other than Audits or Reviews of Historical Financial Information.

The work undertaken as part of this engagement included conversations with relevant Dutch State employees and review of relevant documentation to assess the conformance of the Dutch State Green Bonds with the Post-Issuance Requirements of the Climate Bonds Standard Version 3.0.

### **Exceptions**

No exceptions were identified. All projects aligned with the Post-Issuance Requirements of the Climate Bonds Standard Version 3.0 and were in conformance with the Marine Renewable Energy, Wind energy, Solar energy, Low Carbon Land Transportation and Water Infrastructure criteria.

### **Conclusion**

Based on the limited assurance procedures conducted and evidence obtained, nothing has come to Sustainalytics' attention that causes us to believe that, in all material respects, the allocation of EUR 4,982 million from the proceeds of the Dutch State's Green Bonds is not in conformance with the Post-Issuance Requirements of the Climate Bonds Standard.

## Schedule 1: Detailed Overview of Nominated Projects

### 1) Marine renewable energy: Subsidies for the following offshore wind parks

Name	Capacity (MW)	Number of windmills	Location	Allocation 2021 <sup>8</sup> (EUR mn)	Allocation 2022 (EUR mn)
Gemini Offshore Wind Park	600	150	Dutch North Sea	269	159
Luchterduinen Offshore Wind Park	129	43	Dutch North Sea		

### 2) Wind and Solar Energy: Subsidies for the following onshore wind and solar projects

	Number of projects 2021	Allocation 2021 <sup>9</sup> (EUR mn)	Number of projects 2022	Allocation 2022 (EUR mn)
Onshore wind projects	141	102	140	1
Solar projects	9,638	8	9,560	11

### 3) Low Carbon Transportation:

Expenditures related to upgrading trajectories for higher-frequency passenger rail travel, railway capacity management, bicycle parking space at rail stations, and linkages to other modes of public transportation. To be eligible for Climate Bond Initiative Certification scheme, railway infrastructure must fulfill Criterion 3: Emissions threshold for public passenger transport, which is 75gCO<sub>2</sub>/passenger/km for 2020 and 56gCO<sub>2</sub>/passenger/km for 2030.

In 2017, the average emissions for Dutch passenger trains were 6g CO<sub>2</sub>/passenger/km. This performance is derived from data on the Dutch rail use,<sup>10</sup> indicating 75% of Dutch passenger km transport via intercity electric trains, 20% local electric trains, and 5% local diesel trains. Given the average 6g CO<sub>2</sub>/passenger/km, the State of the Netherlands' green bond fulfills the Climate Bond Initiative Criteria.

Expenditures and investments in the maintenance and management of railway infrastructure, development of railway infrastructure for passenger rail:

Number of realized projects 2021	Allocation 2021 (EUR mn)	Number of realized projects 2022	Allocation 2022 (EUR mn)
1	1,323	1	1,049

Expenditures and investments for the development of regional infrastructure and accessibility and traffic and transport systems:

<sup>8</sup> DSTA has confirmed to Sustainalytics that the data for 2021 was updated based on information received from the Ministry of Economic Affairs, which was not accounted for in the previous reports.

<sup>9</sup> DSTA has confirmed to Sustainalytics that the data for 2021 was updated based on information received from the Ministry of Economic Affairs, which was not accounted for in the previous reports.

<sup>10</sup> Data on the use of and emissions of the Dutch train systems can be found under "Personenvervoer" at: <https://www.co2emissiefactoren.nl/lijst-emissiefactoren/>

Number of realized projects 2021	Allocation 2021 (EUR mn)	Number of realized projects 2022	Allocation 2022 (EUR mn)
1	109	1	102

4) Water infrastructure expenditures include a variety of projects. In the following table examples of projects financed are included in the description:

Expenditure name	Description	Allocation 2021 (EUR mn)	Allocation 2022 (EUR mn)
Flood risk management investments	<p>Second Flood Protection Program (HWBP-2): Investments to get flood defences up to legal standard.</p> <p>Space for the River: Investments to bring safety along the Rhine branches and the downstream part of the dike Maas (from Hedikhuizen) into line with the legally required standard and contribute to improving the spatial quality of the river area, thereby strengthening the river area economically, ecologically and regarding landscape.</p> <p>Grensmaas and Zandmaas, nature development: primarily contributing to flood risk management and in addition, these projects realize nature that benefits the National Ecological Network (EHS).</p>	180	328
Freshwater supply investments	<p>The Delta Plan on Freshwater Supply 2015-2021: Large number of initiatives and measures to make the freshwater supply in the Netherlands more robust for the future effects of climate change and to tackle the bottlenecks that are already there.</p> <p>'Haringvliet Locks Management Decision' project: improves the situation for migratory fish, such as salmon, sea trout and glass eel and improves the fresh water to agricultural areas.</p> <p>The Ministry of Infrastructure and Water Management has the ambition to work completely climatically-neutral and circular by 2030 at the latest.</p>	25	71

<p>Management, maintenance, and replacement</p>	<p>Monitoring water levels, water quality and information provision.</p> <p>Crisis management and prevention.</p> <p>Regulation of use through licensing and enforcement.</p> <p>Complying with administrative agreements on water distribution and use (including in water agreements).</p> <p>Regulation of water distribution (updating and applying operational models, operation (storm surge) barriers, weirs, pumping stations and drains).</p>	<p>162</p>	<p>257</p>
<p>Experimentation</p>	<p>Measures and provisions in other policy areas such as nature, the environment or economic development, subject to the condition that these measures are related to measures for water safety or freshwater supplies.</p>	<p>36</p>	<p>73</p>
<p>Network-related costs and other expenditures</p>	<p>Equipment costs of Rijkswaterstaat (RWS) and the Delta Commissioner Staff.</p> <p>Other network-related expenses of RWS and program expenses of the Delta Commissioner that cannot be directly allocated to the individual projects from this Delta Fund.</p>	<p>246</p>	<p>372</p>
<p>Water quality investments</p>	<p>Water safety and water quality improvements, with particular attention paid to development possibilities and safety of shipping and to nature compensation, recreation and the improvement of the habitat of flora and fauna.</p>	<p>31</p>	<p>68</p>

## Schedule 2A: Post-Issuance Requirements of the Climate Bonds Standard

<p>Use of Proceeds</p>	<p>5.1 The Net Proceeds of the Bond shall be allocated to the Nominated Projects &amp; Assets.</p> <p>5.2 All nominated Projects &amp; Assets shall meet the documented objectives of the Bond as stated under Clause 6.1.1 and shall be in conformance with the requirements of Part C of the Climate Bonds Standard.</p> <p>5.3 The Issuer shall allocate the Net Proceeds to Nominated Projects &amp; Assets within 24 months of issuance of the Bond, or the Issuer shall disclose in post-issuance reporting as per clause 8.3 the estimated timeline for allocation of net proceeds to Nominated Projects &amp; Assets. Net proceeds may be reallocated to other Nominated Projects &amp; Assets at any time while the Bond remains outstanding.</p> <p>5.4 Nominated Projects &amp; Assets shall not be nominated to other Certified Climate Bonds, Certified Climate Loans, Certified Climate Debt Instruments, green bonds, green loans or other labelled instruments (such as social bonds or SDG bonds) unless it is demonstrated by the Issuer that:</p> <p>5.4.1. distinct portions of the Nominated Projects &amp; Assets are being funded by different Certified Climate Bonds, Certified Climate Loans, Certified Climate Debt Instruments, green bonds, green loans or other labelled instruments or;</p> <p>5.4.2. the existing Certified Climate Bond, Certified Climate Loan or Certified Climate Debt Instrument is being refinanced via another Certified Climate Bond, Certified Climate Loan or Certified Climate Debt Instrument.</p> <p>5.5 Where a proportion of the Net Proceeds of the Bond are used for refinancing, the Issuer shall track the share of the Net Proceeds used for financing and refinancing and identify which Nominated Projects &amp; Assets may be refinanced. This may also include the expected look-back period for refinanced Nominated Projects &amp; Assets.</p> <p>5.6 The Net Proceeds of the Bond shall be tracked by the Issuer following a formal internal process which is documented in accordance with Clause 3.1.</p> <p>5.7 The Net Proceeds of the Bond shall be no greater than the Issuer's total investment exposure or debt obligation to the Nominated Projects &amp; Assets, or the relevant proportion of the total Market Value of the Nominated Projects &amp; Assets which are owned or financed by the Issuer.</p> <p>5.8 Additional Nominated Project &amp; Assets may be added to, or used to substitute or replenish, the portfolio of Nominated Project &amp; Assets as long as the additional Nominated Project &amp; Assets are eligible under Part C of the Climate Bonds Standard and are consistent with the Bond's objective as set out in Clause 6.1.1.</p> <p>5.8.1. Where additional Nominated Projects &amp; Assets are covered by Sector Eligibility Criteria which were not included in the scope of either the Pre-Issuance Verification or the Post-Issuance Verification engagements, the Issuer shall engage a Verifier to provide a Verifier's Report covering at least the conformance of the additional Nominated Projects &amp; Assets with the relevant Sector Eligibility Criteria under Part C of the Climate Bonds Standard.</p>
<p>Process for Evaluation and Selection of Projects &amp; Assets</p>	<p>6.1 The Issuer shall document and maintain a decision-making process which it uses to determine the continuing eligibility of the Nominated Projects &amp; Assets. This includes, without limitation:</p> <p>6.1.1. A statement on the climate-related objectives of the Bond;</p> <p>6.1.2. How the climate-related objectives of the Bond are positioned within the context of the Issuer's overarching objectives, strategy, policy and/or processes relating to environmental sustainability;</p> <p>6.1.3. The Issuer's rationale for issuing the Bond;</p> <p>6.1.4. A process to determine whether the Nominated Projects &amp; Assets meet the eligibility requirements specified in Part C of the Climate Bonds Standard;</p>

	6.1.5. Other information provided by the Issuer as described in Clause 2.2
Management of Proceeds	<p>7.1 The Net Proceeds of the Bond shall be credited to a sub account, moved to a sub-portfolio or otherwise identified by the Issuer in an appropriate manner, and documented.</p> <p>7.2 The Issuer of the Bond shall maintain the earmarking process to manage and account for allocation of Net Proceeds to the Nominated Projects &amp; Assets as described in Clause 3.1.3</p> <p>7.3 While the Bond remains outstanding, the balance of the tracked Net Proceeds shall be reduced by amounts allocated to Nominated Projects &amp; Assets. Pending such allocations to Nominated Projects &amp; Assets, the balance of unallocated Net Proceeds shall be:</p> <p>7.3.1. Held in temporary investment instruments that are cash, or cash equivalent instruments, within a Treasury function; or</p> <p>7.3.2. Held in temporary investment instruments that do not include greenhouse gas intensive projects which are inconsistent with the delivery of a low carbon and climate resilient economy; or</p> <p>7.3.3. Applied to temporarily reduce indebtedness of a revolving nature before being redrawn for investments or disbursements to Nominated Projects &amp; Assets.</p>
Reporting – Post-issuance	<p>8.1 The Issuer shall prepare an Update Report at least annually while the Bond remains outstanding.</p> <p>8.1.2. The Update Report shall be made available to holders of the Bond and to the Climate Bonds Standard Board.</p> <p>8.1.3. The Issuer should provide an Update Report to holders of the Bond on a timely basis in case of material developments.</p>

## Schedule 2B: Conformance to the Post-Issuance Requirements of the Climate Bonds Standard

Evaluation Criteria	Factual Findings	Error or Exceptions Identified
Use of Proceeds	<p>5.1 A list of Nominated Projects &amp; Assets is provided in Schedule 1.</p> <p>5.2 The Nominated Project &amp; Assets meets the documented objectives of the finance and are in conformance with the requirements of Part C of the Climate Bonds Standard.</p> <p>5.3 The Net Proceeds have been allocated to Nominated Projects &amp; Assets within 24 months of issuance of the bond.</p> <p>5.4 The Dutch State confirms that the Nominated Projects &amp; Assets have not be nominated to other Certified Climate Bonds, Certified Climate Loans, Certified Climate Debt Instruments, green bonds, green loans or other labelled instruments (such as social bonds or SDG bonds).</p> <p>5.5 The Dutch State confirms that it has tracked the share of the Net Proceeds used for financing and refinancing.</p> <p>5.6 The Dutch State's Green Bond Framework documents that the Net Proceeds are tracked following a formal internal process.</p> <p>5.7 The Dutch State has confirmed that the Net Proceeds raised are no greater than the total investment exposure or debt obligation to the Nominated Projects &amp; Assets which are owned or financed by the Issuer.</p> <p>5.8 Additional Nominated Project &amp; Assets may be added to, or used to substitute or replenish, the portfolio of Nominated Project &amp; Assets as long as the additional Nominated Project &amp; Assets are eligible under Part C of the Climate Bonds Standard and are consistent with the Bond's objective as set out in Clause 6.1.1.</p> <p>5.8.1 N/A</p>	None
Process for Evaluation and Selection of Projects & Assets	<p>6.1 The Dutch State's Green Bond Framework documents a decision-making process which it uses to determine the continuing eligibility of the Nominated Projects &amp; Assets. This includes, without limitation:</p> <p>6.1.1 A statement on the climate-related objectives of the financing;</p> <p>6.1.2 How the climate-related objectives of the financing are positioned within. the context of the Dutch State's overarching objectives, strategy, policy and/or processes relating to environmental sustainability;</p> <p>6.1.3 The Dutch State's rationale for issuing the bond;</p> <p>6.1.4 A process to determine whether the Nominated Project meet the eligibility requirements specified in the Climate Bonds Standard;</p> <p>6.1.5 Other information provided by the Dutch State as described in Clause</p>	None

<p>Management of Proceeds</p>	<p>7.1 The Dutch State confirmed that Net Proceeds of the bond were credited to a sub account, moved to a sub- portfolio or otherwise identified by the Dutch State in an appropriate manner, and documented.</p> <p>7.2 The Dutch State confirmed that it maintained an earmarking process to manage and account for allocation of Net Proceeds to the Nominated Projects &amp; Assets.</p> <p>7.3 The Dutch State has confirmed that while the financing remained outstanding, the balance of the tracked Net Proceeds were reduced by amounts allocated to Nominated Projects &amp; Assets. Pending allocation, the Net Proceeds were managed according to the treasury policy of the State of Netherlands.</p>	<p>None</p>
<p>Reporting – Post-issuance</p>	<p>8.1. The Dutch State is committed to preparing an Update Report at least annually while the financing remains outstanding.</p> <p>8.1.2. The Update Report will be made available to the lenders and to the Climate Bonds Standard Board.</p> <p>8.1.3. The Dutch State will provide an Update Report to the lenders on a timely basis in case of material developments</p>	<p>None</p>



## Disclaimer

**Copyright ©2023 Sustainalytics. All rights reserved.**

The information, methodologies and opinions contained or reflected herein are proprietary of Sustainalytics and/or its third party suppliers (Third Party Data), and may be made available to third parties only in the form and format disclosed by Sustainalytics, or provided that appropriate citation and acknowledgement is ensured. They are provided for informational purposes only and (1) do not constitute an endorsement of any product or project; (2) do not constitute investment advice, financial advice or a prospectus; (3) cannot be interpreted as an offer or indication to buy or sell securities, to select a project or make any kind of business transactions; (4) do not represent an assessment of the issuer's economic performance, financial obligations nor of its creditworthiness; and/or (5) have not and cannot be incorporated into any offering disclosure.

These are based on information made available by the issuer and therefore are not warranted as to their merchantability, completeness, accuracy, up-to-dateness or fitness for a particular purpose. The information and data are provided "as is" and reflect Sustainalytics' opinion at the date of their elaboration and publication. Sustainalytics accepts no liability for damage arising from the use of the information, data or opinions contained herein, in any manner whatsoever, except where explicitly required by law. Any reference to third party names or Third Party Data is for appropriate acknowledgement of their ownership and does not constitute a sponsorship or endorsement by such owner. A list of our third-party data providers and their respective terms of use is available on our website. For more information, visit <http://www.sustainalytics.com/legal-disclaimers>.

The issuer is fully responsible for certifying and ensuring the compliance with its commitments, for their implementation and monitoring.

In case of discrepancies between the English language and translated versions, the English language version shall prevail.

## About Sustainalytics, a Morningstar Company

Sustainalytics, a Morningstar Company, is a leading ESG research, ratings and data firm that supports investors around the world with the development and implementation of responsible investment strategies. For more than 30 years, the firm has been at the forefront of developing high-quality, innovative solutions to meet the evolving needs of global investors. Today, Sustainalytics works with hundreds of the world's leading asset managers and pension funds who incorporate ESG and corporate governance information and assessments into their investment processes. Sustainalytics also works with hundreds of companies and their financial intermediaries to help them consider sustainability in policies, practices and capital projects. With 17 offices globally, Sustainalytics has more than 1500 staff members, including more than 500 analysts with varied multidisciplinary expertise across more than 40 industry groups.

For more information, visit [www.sustainalytics.com](http://www.sustainalytics.com)

Or contact us [contact@sustainalytics.com](mailto:contact@sustainalytics.com)



This report is published by:

Dutch State Treasury Agency

Ministry of Finance

PO Box 20201 | 2500 EE The Hague

The Netherlands

email: [sbr@minfin.nl](mailto:sbr@minfin.nl)

[www.dsta.nl](http://www.dsta.nl)