

Progress report

*Energy from renewable sources
in the Netherlands 2015-2016*

Directive 2009/28/EC

Commissioned by the Ministry of Economic Affairs and Climate

Foreword

Under Article 22 of Directive 2009/28/EC¹ (hereinafter referred to as ‘the Renewable Energy Directive’), the Minister for Economic Affairs and Climate is required to provide a report every two years on progress in the promotion and use of energy from renewable sources. The present fourth progress report must be sent to the European Commission no later than 31 December 2017.

This report complies with the template established by the European Commission on 30 June 2009 and follows, where possible, the updated template of 30 October 2017, which includes supplementary provisions following the amendments to the 2009 Directive by Directive (EU) 2015/1513 of 9 September 2015. The national implementation of Directive (EU) 2015/1513 has not yet been completed at the time of drawing up this report.

Description of existing or new policy

This report describes the progress during the years 2015 and 2016. The results are the effect of the policy and measures that applied during that time. This progress report includes details of the effects of the Energy Agreement signed in September 2013. More than forty organisations, including the Dutch government, employers, trade unions, nature conservation and environmental organisations, other civil society organisations and financial institutions, have committed to the Energy Agreement for Sustainable Growth. The essence of the Agreement is made up of broadly supported agreements on energy saving, clean technology and climate policy. The agreements are being implemented with the aim of achieving an affordable, clean energy supply, as well as employment and opportunities for the Netherlands in the clean technologies markets.

Graphs and tables

The figures used in this report relating to 2015 and 2016 have been supplied by Statistics Netherlands (*Centraal Bureau voor de Statistiek* – CBS) and the Dutch Emissions Authority (*Nederlandse Emissieautoriteit* – NEa) and are consistent with results of the Eurostat SHARES calculation tool, which is fuelled by data from the official European energy statistics. The figures in this report take account, as far as possible, of supplementary provisions resulting from the amendment of the Renewable Energy Directive in accordance with Directive (EU) 2015/1513. This includes a change to the calculation factors for electricity for transport. This change also has a retroactive effect on the figures for the years 2009 to 2014 inclusive for the share of renewable energy for transport (see Annex 2).

The figures for the support schemes to promote renewable energy listed under Question 3 were provided by the Ministry of Economic Affairs and Climate and the Netherlands Enterprise Agency (*Rijksdienst voor Ondernemend Nederland*). Where other sources have been used, this is stated in the text or indicated by means of a reference.

The reader is referred to the template for any further explanations of the tables and figures.²

¹ Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC.

² <https://ec.europa.eu/energy/en/links-member-state-reporting>.

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Chapter 1. Energy from renewable sources: the situation in 2016

The binding target figure for the share of gross final energy consumption to come from energy from renewable sources in 2020 has been set at 14% for the Netherlands.

The energy situation in the Netherlands in 2016 was characterised by primary energy consumption of 3 155 petajoules. The country's major sources of energy are natural gas (1 239 petajoules), oil (1 227 petajoules) and coal (427 petajoules). Renewable energy sources contributed 158 petajoules in 2016. Figure 1 shows the distribution of primary energy consumption according to the various sources.

In accordance with the Directive, the share of renewable energy was based on gross final consumption of energy. In 2016, this was 2 084 petajoules, which was more than the 2 043 petajoules consumed in 2015, partly due to the colder weather. The final energy consumption of renewable energy in 2016 was 124 petajoules, an increase compared to 2015 (119 petajoules) and 2014 (110 petajoules).

As a result of these developments, the share of renewable energy in 2016 rose to 6.0 per cent, which was slightly more than the figure of 5.8 per cent in 2015.

The indicative target figure for the Netherlands for the 2015–2016 period was 7.6 per cent. The actual figure achieved in the 2015–2016 period still fell short of the indicative target figure.

Figure 1: Primary energy consumption in the Netherlands in 2016: total 3 155 PJ³

Key

Kolen	Coal	427 PJ
Kernenergie	Nuclear energy	38 PJ
Hernieuwbare energie	Renewable energy	158 PJ
Afval/overig	Waste/other	43 PJ
Aardgas	Natural gas	1 239 PJ
Elektriciteit (netto import)	Electricity (net import)	23 PJ
Aardolie	Oil	1 227 PJ

³ Source: CBS Statline.

Chapter 2. An outline of the second Rutte Government's energy policy

The second Rutte Cabinet took up office on 5 November 2012. The Cabinet laid out its ambitious and firmly sustainable energy policy in the coalition agreement that was presented on 29 October 2012. Achieving these targets requires considerable investment and the Cabinet made sufficient financial resources available to make it possible to achieve a renewable energy share of 14% by 2020 and a share of 16% by 2023. The priority is to use a smart and efficient mix of policy instruments to enable the objective to be achieved at the lowest possible cost.

In order to create a stable investment climate in the short and long term, the Cabinet concluded an Energy Agreement in September 2013 with more than 40 parties, including employers, employees, nature conservation and environmental organisations, energy companies, decentralised authorities and interest organisations. By signing up to the Energy Agreement, the parties jointly assumed responsibility for bringing about large-scale investment for the purpose of achieving a share of renewable energy of 14% by 2020 and 16% by 2023.

The Energy Agreement also included, among other things, agreements with regard to reducing costs by means of innovation, gradual roll-out of onshore and offshore wind farms, a restriction on the auxiliary firing and co-firing of biomass and encouraging the generation of sustainable energy at local level. As a result of the Agreement, 3 450 megawatts' worth of offshore wind is being put out to tender. Agreements have also been reached with the Dutch provinces regarding onshore wind farms, with a view to generating 6 000 megawatts of operational wind power by 2020. The promotion of auxiliary firing and co-firing of biomass is restricted to a maximum of 25 petajoules of renewable energy, and auxiliary firing and co-firing will be subject to stringent sustainability criteria. The generation of sustainable energy at local level is being incentivised in the form of an energy tax reduction. An implementation plan listing actions has been drawn up for the purpose of implementing the Energy Agreement. In order to ensure progress in implementation of these actions, a governance structure has been agreed, in which all signatories to the Agreement play an active role. A detailed description of the measures that were agreed in the Energy Agreement is included in Annex 1.

The SDE+ scheme (a national incentive scheme for sustainable energy production) is and will continue to form the most important tool in increasing the share of renewable energy in a cost effective way. Since the launch of SDE+ and up to and including 2016, the Dutch government has entered into commitments worth €22 billion. Spending on the roll-out of renewable energy, under MEP, SDE and SDE+, amounted to €676 million in 2015 and €903 million in 2016, and is set to increase to around €3.4 billion in 2023.

The Top Sector Energy continues to use financial resources to promote innovation in order to boost the energy sector and achieve reductions in the costs of sustainable energy technologies. The Green Deal scheme is also being continued. The tool aims to eliminate bottlenecks, such as those in legislation and regulations, ensure effective and objective information provision and create effective partnerships. This also paves the way for promising projects.

Policy is entirely focused on achieving the renewable energy targets by 2020 and for that reason, the use of cooperation mechanisms is not on the agenda for the time being. If it turns out at a later date that the Netherlands may be at risk of an energy shortfall, then cooperation mechanisms may be considered in order to make up this shortfall. It should be noted, however, that there is minimal political support for the use of cooperation mechanisms.

In 2016, the Cabinet published the Energy Agenda, which maps out the long-term energy policy (after the Energy Agreement, from 2023). Prior to drawing up this Energy Agenda, the Cabinet's commitments were discussed in detail with civil society in an Energy Dialogue. In this dialogue, everyone is offered the opportunity to make a contribution. The result is that 144 meetings, involving about 3 000 people, were organised within a period of six months. The results of the dialogue have been used as building blocks for the Energy Agenda.

Chapter 3. Answers to questions from the template report

Question 1. Sectoral and overall shares and actual consumption of energy from renewable sources in 2015 and 2016

Sectoral and overall shares and actual consumption of energy from renewable sources in 2015 and 2016.

In accordance with the Renewable Energy Directive, the share of renewable energy was based on gross final consumption of energy. Overall, energy consumption in 2016 amounted to 2 084 petajoules, which was more than the 2 043 petajoules consumed in 2015, partly due to the colder weather. Final consumption of renewable energy in 2016 was 124 petajoules, an increase compared to 2015 (119 petajoules) and 2014 (110 petajoules).

As a result of these developments, the share of renewable energy in 2016 rose to 6.0 per cent, which was slightly higher than the figure of 5.8 per cent in 2015.

The indicative target figure for the Netherlands for the 2015–2016 period was 7.6 per cent.⁴ The actual figure achieved in the 2015–2016 period still fell short of the indicative target figure.

Table 1: The sectoral (electricity, heating and cooling, and transport) and overall shares of (gross final consumption of) energy from renewable sources⁵

	2015	2016
RES – H&C (%)	5.5	5.5
RES – E (%)	11.1	12.5
RES – T (%)	5.3	4.6
Overall RES share (%)	5.8	6.0
of which from cooperation mechanism (%)	0	0
Surplus for cooperation mechanism (%)	0	0

The production of renewable electricity has increased. Renewable electricity produced from biomass remained more or less stable, while electricity generated from wind and sunlight increased. The production of renewable electricity in 2016 more or less equates to 12.5 per cent of electricity consumption.

In 2015, the share of renewable heat of total consumption of energy for heat rose from 5.2 per cent in 2014 to 5.5 per cent. In 2016, the share of heat from renewable energy remained more or less unchanged because the increase in consumption of renewable heat was no greater than the increase in overall consumption of energy for heat.

Consumption of renewable energy for transport fell from 5.3 per cent in 2015 to 4.6 per cent in 2016, as a result of reduced consumption of liquid biofuels for transport.

A large part is attributable to biodiesel from residue streams and waste, which counts twice towards the transport target from the Renewable Energy Directive.

Electricity for rail transport makes a substantial contribution to the renewable energy consumption for transport. In spite of the relatively strong growth in the number of electric vehicles, the contribution of electricity for road transport is still marginal. The amended legislation resulting from

⁴ Indicative target figure calculated in accordance with paragraph B of Annex I to the Renewable Energy Directive.

⁵ Facilitates comparison with Tables 3 and 4a of the National Renewable Energy Action Plans.

Directive (EU) 2015/1513 was taken into account to calculate the contribution of electricity for transport.

Table 1a: Calculation table for the renewable energy contribution of each sector to final energy consumption (PJ and ktoe)⁶

	2015 PJ	2016 PJ	2015 ktoe ⁷	2016 ktoe
(A) Gross final consumption of RES for heating and cooling	59	61	1 419	1 448
(B) Gross final consumption of electricity from RES (excluding electricity for transport)	46	52	1 094	1 249
(C) Gross final consumption of energy from RES in transport (without double-counting, including electricity for transport)	14	12	334	276
(D) Gross total RES consumption (without double-counting) ⁸	119	124	2 847	2 973
(E) Transfer of RES to other Member States	0	0	0	0
(F) Transfer of RES from other Member States and third countries	0	0	0	0
(G) RES consumption adjusted for target (D)-(E)+(F)	119	124	2 847	2 973

⁶ Facilitates comparison with Table 4a of the National Renewable Energy Action Plans.

⁷ 1 PJ = 23.8845897 ktoe; 1 ktoe = 0.041868 PJ.

⁸ According to Article 5(1) of Directive 2009/28/EC, gas, electricity and hydrogen from renewable energy sources shall be considered only once. No double counting is allowed.

Table 1b: Total actual contribution (installed capacity, gross electricity generation) from each renewable energy technology in the Netherlands to meet the binding 2020 targets and the indicative interim trajectory for the share of energy from renewable sources in electricity⁹

	2015 MW	2015 GWh	2016 MW	2016 GWh
Hydro: ¹⁰	37	99	37	98
- of which non-pumped ¹¹	37	99	37	98
- of which pumped	0	0	0	0
- of which mixed	0	0	0	0
Geothermal	0	0	0	0
Solar: ¹²	1 515	1 122	2 049	1 559
- of which photovoltaic	1 515	1 122	2 049	1 559
- of which concentrated solar power	0	0	0	0
Tide, wave and ocean	0	0	0	0
Total wind: ¹³	3 391	6 917	4 257	8 364
- of which onshore wind	3 034	5 882	3 300	6 041
- of which offshore wind	357	1 035	957	2 323
Total biomass	895	5 031	866	5 018
- of which solid biomass ¹⁴	656	3 894	644	3 912
- of which biogas ¹⁵	239	1 137	221	1 106
- of which bioliquids ¹⁶	0	0	0	0
Total	5 838	13 168	7 209	15 039
- of which CHP	616	3 162	671	3 755

⁹ Facilitates comparison with Table 10a of the National Renewable Energy Action Plans.

¹⁰ Normalised in accordance with Directive 2009/28/EC.

¹¹ In the template, hydro power is split into three size classes. CBS only provides totals. In view of the confidentiality of data, CBS is unable to provide an itemisation. CBS is obliged not to provide such information by virtue of statutory obligations.

¹² Electricity from solar energy is fully photovoltaic.

¹³ In line with the procedure in accordance with Directive 2009/28/EC, wind energy has been fully normalised. The division into onshore wind and offshore wind was based on (non-standardised) electricity generation from onshore wind and offshore wind.

¹⁴ Including renewable fraction from household waste.

¹⁵ Including electricity production from green gas.

¹⁶ From 2011 onwards, only bioliquid that demonstrably fulfils the sustainability criteria in the Directive is counted.

Table 1c: Total actual contribution (final energy consumption) from each renewable energy technology in the Netherlands to meet the binding 2020 targets and the indicative interim trajectory for the share of energy from renewable sources in heating and cooling (TJ and ktoe)¹⁷

	2015	2016	2015	2016
	TJ	TJ	ktoe	ktoe
Geothermal (excluding geothermal heat in heat pump applications)	2 448	2 843	58	68
Solar	1 137	1 147	27	27
Biomass:	50 180	50 134	1 199	1 197
- of which solid biomass ¹⁸	42 484	42 862	1 015	1 024
- of which biogas ¹⁹	6 772	6 554	162	157
- of which bioliquids ²⁰	923	718	22	17
Renewable energy from heat pumps:	5 653	6 491	135	155
- of which aerothermal (outdoor air)	2 019	2 635	48	63
- of which geothermal (soil) ²¹	3 634	3 855	87	92
TOTAL	59 418	60 615	1 419	1 448
- of which district heating ²²	13 081	13 451	312	321
- of which biomass in households	18 638	19 036	445	455

¹⁷ Facilitates comparison with Table 11 from the National Renewable Energy Action Plans.

¹⁸ Including renewable fraction from household waste.

¹⁹ Including final consumption for heat from green gas.

²⁰ From 2011 onwards, only bioliquid that demonstrably fulfils the sustainability criteria in the Directive is counted.

²¹ Including a small portion of hydrothermal (heat from surface water).

²² Defined as heat sold, i.e. including steam sold to industry.

Table 1d: Total actual contribution from each renewable energy technology in the Netherlands to meet the binding 2020 targets and the indicative interim trajectory for the shares of energy from renewable resources in the transport sector (ktoe)^{23, 24}

	2015 TJ	2016 TJ	2015 ktoe	2016 ktoe
Bioethanol	5 934	4 727	142	113
Biodiesel (FAME)	6 324	4 868	151	116
Hydrotreated Vegetable Oil (HVO)	118	98	3	2
Biogas	0	0	0	0
Fischer-Tropsch diesel	0	0	0	0
Bio-ETBE	15	25	0	1
Bio MTBE	0	0	0	0
Bio-DME	0	0	0	0
Bio-TAEE	0	0	0	0
Biobutanol	0	0	0	0
Biomethanol	0	0	0	0
Pure vegetable oil	0	0	0	0
Total sustainable biofuels	12 391	9 718	296	232
- of which produced from feedstock listed in Annex IX Part A	0	0	0	0
- of which other sustainable biofuels eligible for the target set out in Article 3(4)(e)	0	0	0	0
- of which produced from feedstock listed in Annex IX Part B	6 033	4 965	144	119
- of which sustainable biofuels for which the contribution towards the renewable energy target is limited according to Article 3(4)(d) (biofuels from food crops)	6 358	4 753	152	114
- of which imported	unknown	unknown	unknown	unknown
Hydrogen from renewables	0	0	0	0
Renewable electricity	1 600	1 850	38	44
- of which road transport	171	275	4	7
- of which rail transport	1 429	1 575	34	38
- of which other	0	0	0	0
Total²⁵	22 852	19 994	546	478

²³ For biofuels take into account only those compliant with the sustainability criteria, cf. Article 5(1), last subparagraph.

²⁴ Facilitates comparison with Table 12 of the National Renewable Energy Action Plans.

²⁵ Including set-off calculation factors for double-counting biofuels and electricity for transport.

Question 2. Measures taken in 2015 and 2016 and/or planned at national level to promote the growth of energy from renewable sources

Measures taken in 2015 and 2016 and/or planned at national level to promote the growth of energy from renewable sources, taking into account the indicative trajectory for achieving the national RES targets as outlined in the National Renewable Energy Action Plan.

Table 2a provides an overview of the measures currently in place, along with new measures from 2015 and 2016.

Table 2a: Overview of all measures and policy (2015 and 2016)

Name of the measure	Type of measure	Expected result	Target group and/or activity	Existing or planned	Start and end dates of the measure
SDE+	Financial	Generated energy	Energy producers	Existing	2011–
SDE (national incentive scheme for sustainable energy production)	Financial	Generated energy	Energy producers (incl. consumers)	Existing	2008–2010 (payment over max. 15 years)
MEP (environmental quality in the electricity production sector)	Financial	Generated energy	Energy producers	Existing	2003–2006 (payment over max. 10 years)
OVMEP (environmental quality in the electricity production sector – transition scheme)	Financial	Generated energy	Energy producers	Existing	2006-2007 (payment over 10 years)
EDS (energy-saving and sustainable energy sports facilities subsidy scheme)	Financial	Installed capacity	End-users sports facilities	Existing	2016-2020
ISDE (investment subsidy sustainable energy)	Financial	Installed capacity	End users/energy producers	Existing	2015-
EIA (energy investment relief scheme)	Financial (tax)	Installed capacity	Energy producers	Existing	2001–
MIA/VAMIL (environmental investment rebate/arbitrary depreciation of environmental investments)	Financial (tax)	Installed capacity	Energy producers	Existing	MIA: 2000– VAMIL: 1991–
<i>Garantieregeling geothermie</i> (geothermal guarantee scheme)	Financial	Installed capacity	Energy producers	Existing	2009–
<i>Groen beleggen</i> (green investment scheme)	Financial (generic, financing)	Installed capacity	Energy producers and investors	Existing	1995–
GO (<i>Garantie Ondernemingsfinanciering</i> - government-backed large-enterprise loans scheme), <i>Borgstelling MKB kredieten</i> (government-backed SME	Financial (generic, financing)	Installed capacity	Energy producers	Existing	2008-

Name of the measure	Type of measure	Expected result	Target group and/or activity	Existing or planned	Start and end dates of the measure
loan scheme), <i>Innovatiekrediet</i> (innovation loan scheme)					
Topsector Energy	Financial	Installed capacity, generated energy, energy innovation	Industry and research institutions, government	Existing	2011–
<i>Subsidieprogramma proeftuinen intelligente netten</i> (smart-grid pilot areas subsidy programme)	Financial	Energy innovation	Energy transporters	Existing	2011–2015
<i>Subsidieregeling hernieuwbare energie</i> (renewable energy subsidy scheme)	Financial	Energy innovation	Research institutions, end users	Existing	2015–
<i>Subsidieregeling demonstratie energie innovaties</i> (demonstration of energy innovations subsidy scheme)	Financial	Energy innovation	Research institutions, end-users	Existing	2015–
Energy tax on electricity and gas (offsetting for electricity, biomass heating)	Financial	Generated energy	End-users	Existing	1996–
Differentiated motor vehicle and motorcycle tax based on CO ₂ emissions	Financial	Installed capacity	End-users (vehicles)	Existing	2011–
<i>Verplichting hernieuwbare energie in vervoer</i> (renewable energy for transport obligation)	Regulatory	Generated energy	Suppliers of fuels for transport	Existing	2007–
<i>Structuurvisie wind op land</i> (Structural Concept concerning onshore wind)	Regulatory	Installed capacity	Various	Existing	2014–
<i>Structuurvisie wind op zee</i> (Structural Concept concerning offshore wind)	Regulatory	Installed capacity	Various	Existing	2014–
State Coordination Scheme	Regulatory	Installed capacity	(National) government, energy producers	Existing	2008–
Crisis and Recovery Act (provincial coordination scheme) (<i>Crisis- en Herstelwet (provincial coördinatieregeling)</i>)	Regulatory	Installed capacity	(Provincial) government, energy producers	Existing	2010–
(Tightening of) EPC (tightening in 2011 and 2015)	Regulatory	Installed capacity	Government, town and country planners, architects	Existing	1995–
<i>Voorrang voor Duurzaam opgewerkte energie</i> (priority for sustainably generated energy)	Regulatory	Generated energy	Energy producers	Existing	2010–

Name of the measure	Type of measure	Expected result	Target group and/or activity	Existing or planned	Start and end dates of the measure
Gas Act (<i>Gaswet</i>) and Electricity Act (<i>Elektriciteitswet</i>)	Regulatory	Generated electricity	Energy producers and transporters	Existing	Gas: 2000– Electricity: 1998–
Energy Report – transition to sustainable, national energy dialogue, Energy Agenda towards 2050	Soft	Change in behaviour; installed capacity and generated energy	Various	Existing	2016–
National Heat Expertise Centre	Soft	Change in behaviour; installed capacity	Various	Existing	2009–
<i>Nationaal plan bijna energieneutrale gebouwen</i> (national plan for virtually energy-neutral buildings)	Soft	Change in behaviour, regulatory	Public authorities, building managers, homeowners	Existing	2012–
<i>Certificerings-regeling en opleidingsstructuur duurzame energie voor installateurs</i> (certification scheme and training in sustainable energy for installers)	Regulatory	Change in behaviour	Installers of sustainable energy systems	Existing	2012–
Action Plan: electric vehicles	Soft and Financial	Change in behaviour	Investors, end-users, government	Existing	2011-2015
Reduced rate on energy tax (postcode catchment area (<i>postcoderoos</i>))	Financial (tax)	Citizen participation, Installed capacity	Energy cooperatives and owner associations	Existing	2014–
Reduced VAT rate for labour costs for insulation in the residential market	Financial (tax)	Installed capacity, energy-saving measures	Homeowners	Existing	2013–2015
<i>Nationaal energiebesparings-Fonds</i> (national energy-saving fund)/ <i>Fonds energiebesparing huursector</i> (loan fund for energy-saving in the rented sector), <i>STEP-regeling</i> (energy performance incentive scheme for the rented sector), energy-saving loan	Financial (generic, financing)	Installed capacity, energy-saving measures	Owners of rented properties, property owners' associations	Existing	2013–
Indicative Energy Label	Soft	Change in behaviour; installed capacity, energy-saving	Homeowners	Existing	2014–2015

Name of the measure	Type of measure	Expected result	Target group and/or activity	Existing or planned	Start and end dates of the measure
		measures			
Obligation to display energy performance of buildings certificate	Regulatory	Raising awareness, exemplary role of government	All public buildings	Existing	2014-
Energy saving awareness campaign	Soft	Raising awareness	Residential consumers	Existing	2013-
<i>Programma Stroomversnelling</i> and <i>Energiesprong</i> (net zero energy refurbishment programme)	Financial	Energy innovation, installed capacity, energy-saving measures	Homeowners, housing corporations, property owners and tenants	Existing	2013-
<i>VNG Ondersteunings-Structuur</i> (Association of Dutch Municipalities funding programme)	Soft, financial	Energy innovation, installed capacity, energy-saving measures	End-users (via municipalities and regions)	Existing	2014-
Package of measures under the Environmental Management Act (<i>Wet Milieubeheer</i>)/Activities Decree (<i>Activiteitenbesluit</i>)	Regulatory	Installed capacity, energy-saving measures	Businesses, property owners	Existing	2014-
Communications plan for the roll-out of smart meters	Soft	Change in behaviour, information	Homeowners, housing corporations, property owners and tenants	Existing	2015-
(Draft) requirements for 'virtually energy-neutral buildings'	Regulatory	Installed capacity, energy-saving measures	Designers and principals (including public authorities) of new buildings	Planned	Starts 2018 (public authorities) and 2021 (rest of the market)
<i>Subsidie regeling Energiebesparing en verduurzaming sportaccommodaties</i> (energy-saving and sustainability of sports facilities subsidy scheme)	Financial	Installed capacity, energy-saving measures	Sports associations and sports foundations	Existing	2016-
IP2020 (intensification, acceleration tables)	Soft	Installed capacity, energy-saving measures	Energy producers and end-users	Existing	2016-
Open data including national energy atlas	Soft	Change in behaviour, information	Researchers, energy producers and end-users	Existing	2016-
Energy label C obligation offices	Regulatory	Change in behaviour, installed	Office owners	Planned	2023-

Name of the measure	Type of measure	Expected result	Target group and/or activity	Existing or planned	Start and end dates of the measure
		capacity, energy-saving measures			

Expansion of budgets, resolution of bottlenecks within schemes and new financial schemes to promote renewable energy ensure that public authorities, intermediary organisations and market participants develop more initiatives and strategies for implementation of renewable energy technologies. Within the national Energy Agreement, a Governance Committee (*borgingscommissie*) supervises and calls to account both the national government and the market regarding agreements entered into. With the focus on environmental management, local citizens' energy cooperatives and the national energy dialogue, local authorities, citizens and entrepreneurs are more explicitly invited to participate in the energy transition and the attainment of the targets of the (renewable) energy policy.

The table below provides an overview of the covenants in place in 2015 and 2016.

Table 2b: Overview of covenants (2015 and 2016)

Covenant	Date	Signatories	Objectives
Green Deal	2011–	Private individuals, businesses, other public authorities, civil-society organisations and the national government	To complete local, sustainable projects in areas including energy-saving, sustainable energy, sustainable mobility and sustainable use of raw materials and water
Multi-annual agreements on energy efficiency (MJAs)	Various years	MEE: ETS companies MJA3 (2001–2020): municipalities and non-ETS companies	To improve energy efficiency in businesses and institutions; in-house and within the chain
Covenant 'Clean and Energy-efficient Agricultural Sectors'	2010–	National government and agricultural sectors	30% of 1990 greenhouse gas emissions by 2020

Question 2a. Progress made in evaluating and improving administrative procedures

Please describe the progress made in evaluating and improving administrative procedures to remove regulatory and non-regulatory barriers to the development of renewable energy.

As a result of the introduction of the State coordination scheme for (energy) infrastructure of national interest (*Rijkscoördinatieregeling voor (energie) infrastructuur van national belang*) and the Crisis and Recovery Act (provincial and municipal coordination scheme) (*Crisis- en Herstelwet (provinciale en gemeentelijke coördinatieregeling)*), for example, the administrative procedure for renewable energy projects has been made more efficient over the past few years. In the meantime, work has also been carried out on the Environment Act (*Omgevingswet*), in which (spatial planning) procedures are being reviewed, and a draft structural concept has been drawn up for activities below ground level. In addition, various actions have been undertaken specifically for wind energy.

State coordination scheme

The State coordination scheme ensures the spatial integration of large-scale renewable energy projects of national interest, under the management of the Ministry of Economic Affairs and Climate and the Ministry of Infrastructure and Water Management, and coordinates the granting of permits.

Crisis and Recovery Act

The entry into force of the Crisis and Recovery Act also introduced coordination schemes for provinces and municipalities, and administrative law procedures have been streamlined in addition to this. For example, the deadlines for the courts have been shortened and decentralised authorities may no longer appeal against decisions of central government.

This has cut the time required for spatial integration and the granting of permits including legal proceedings from what has often been 10 years to around 2 years. Various energy projects have been carried out under the Crisis and Recovery Act. The realisation of these projects is partly attributable to the experimentation provision in the Crisis and Recovery Act. Projects covered by this experimentation provision include, for example, the establishment of permit-free solar parks and mini-wind turbines, the imposition of a lower energy performance coefficient (EPC), the temporary use of wind turbines and the storage of sustainable energy in ice cellars. In addition, sustainability rules are laid down by local authorities in the various 'land use plans with extended scope'. This refers, for example, to rules for requiring a BREEAM certification, more flexible rules for permits for solar panels on roofs, and rules concerning electric charging stations for vehicles.

Environment Act

In 2015 and 2016, the parliamentary scrutiny of the Environment Act took place. The aim of the Environment Act is to speed up (spatial planning) procedures and to package plans and permits. The aim of this packaging is to save costs, limit research costs and provide better possibilities for plans, decisions and research to be drawn up and made available digitally.

Draft Structural Concept for Underground

With the Draft Structural Concept for Underground, a spatial plan at national level, the Cabinet clarifies how the balance is sought between on the one hand protecting the underground with its groundwater resources with a view to ensuring the future drinking water supply and on the other providing scope for using the underground for the transition to a sustainable energy supply, among other uses. In 2016, the Draft Structural Concept was presented for public participation and

discussed with the Lower House. It is for the new Cabinet to finalise the Structural Concept – whether or not amended.

Onshore wind energy

In the Onshore Wind Core Team already established previously, participants include the Ministry of Economic Affairs and Climate, the Ministry of Infrastructure and Water Management, the Association of the Provinces of the Netherlands (IPO), the Association of Dutch Municipalities (VNG), the wind sector, Netbeheer Nederland (the gas and electricity network operators' association) and nature conservation and environmental organisations. At the end of 2015, the Core Team, in cooperation with the provinces, identified generic and region-specific bottlenecks and drew up a targeted action plan to resolve them, which was adopted on 1 December 2015. The action plan contains measures concerning bottlenecks including in the fields of process optimisation, radar, flora and fauna, illumination of obstacles and aviation safety. In the past year, all parties involved have worked on resolving bottlenecks in order to ensure that as many as possible of the remaining MWs required can still be achieved in time.

Offshore wind energy

Major strides have been made concerning offshore wind energy, including the adoption of the Offshore Wind Energy Act (*Wet windenergie op zee*) in 2015, which enables permits to be granted for offshore sites for wind energy by means of tendering procedures.

In addition, in 2016, the 1998 Electricity Act (*Elektriciteitswet 1998*) was amended (achievement of the Energy Agreement targets in time). This enabled the designation of TenneT as grid operator for the offshore grid (which took place in August 2016) and the establishment of an appropriate regulatory framework. Furthermore, a compensation scheme provides security to wind farm developers with respect to liability for damages caused by delays in construction and/or offshore grid failures.

On the basis of the roadmap, which announced five tendering procedures for 700 MW in the period up to the end of 2019, two successful tendering procedures were organised in 2016 for the award of four sites (in total approximately 1 400 MW) in the 'Borssele' wind energy area and the relevant permits were granted. These wind farms will be in operation in 2020. The winning bids of 7.27 cents and 5.45 cents per kWh respectively represent a breakthrough in lowering the costs for this form of renewable energy. This breakthrough was made possible partly as a result of research commissioned by the national government into the physical conditions (including wind climate, water depth and soil conditions) of the wind energy areas. The information obtained from this research reduces the risks for the wind farm developers.

The procedure for the Structural Concept concerning Offshore Wind was completed in December 2016 for the last three tendering procedures under the roadmap. As a result, the Hollandse Kust (south and north) wind energy areas have been extended to include a strip between 10 and 12 nautical miles, which means that these areas are sufficiently large for wind farms of 1 400 and 700 MW respectively. This was a necessary step for three tendering procedures which are still to take place by the end of 2019. The wind farms concerned will be brought into service between 2021 and 2023.

In December 2016, the Cabinet announced a follow-up roadmap for offshore wind energy for approximately 7 000 MW of extra offshore wind farms to be brought into operation between 2024

and 2030, with the tendering procedure from 2020. This follow-up roadmap is currently being drawn up, with the new Cabinet possibly still adjusting the level of ambition.

Question 2b. Measures ensuring the transmission and distribution of electricity produced from renewable energy sources and rules for bearing and sharing of costs related to grid connections and grid reinforcements

Please describe the measures in ensuring the transmission and distribution of electricity produced from renewable energy sources and in improving the framework or rules for bearing and sharing of costs related to grid connections and grid reinforcements.

The Dutch 1998 Electricity Act (Article 23) requires grid operators to connect installations to the grid without discrimination. The connection must be completed within a reasonable period after installation. This period is limited to 18 weeks for (a) a connection of up to 10 MVA or (b) a connection for a production installation for generating sustainable electricity or high-performance combined heat and power (CHP). This ensures access to the grid for all production installations.

Grid operators are also obliged to transmit the electricity produced, unless grid capacity is not sufficient (Article 24 of the 1998 Electricity Act). If transport capacity appears to be insufficient, congestion management is used. Congestion has occurred relatively infrequently in the Netherlands and is limited to specific regions and specific time periods. The costs of congestion management are borne by all by means of transmission tariffs.

There are in fact already measures in place to ensure the transmission and distribution of electricity from renewable energy sources at present. If it is necessary to adjust production within an area due to congestion, that does not affect generation of renewable energy.

Structural congestion is remedied by means of investing in additional grid capacity. Grid operators in the Netherlands are obliged by law to provide the necessary capacity (Article 16 of the Electricity Act). In addition, 'measures with regard to sustainable electricity, energy-saving and demand regulation or decentralised energy production, as a result of which the need for replacement or expansion of production capacity can be met' (Article 16(1)(c)) should also be taken into consideration.

The third Structural Concept concerning Electricity Supply (SEV III, 2009) provides for capacity reservations for large-scale production and transmission of electricity in the Netherlands. The SEV III applies until 2020.

Question 3. Support schemes and other measures for renewable energy

Please describe the support schemes and other measures currently in place that are applied to promote energy from renewable sources and report on any developments in the measures used with respect to those set out in your National Renewable Energy Action Plan.

This section describes the following schemes in place to promote the use of renewable energy:

1. ISDE
2. SDE+
3. SDE
4. MEP
5. EIA
6. Green Projects Scheme
7. Topsector Energy
8. Green Deals

1. Investment Subsidy for Sustainable Energy, ISDE

The ISDE Investment Subsidy for Sustainable Energy was announced in the Heat Concept in April 2015. This multi-annual scheme was opened on 1 January 2016 and will run until 31 December 2020. Through the ISDE, the Dutch Government aims to promote the heating of homes and offices less by means of gas and more by means of sustainable heat. Private individuals and business users can therefore obtain a subsidy via the ISDE on the purchase of solar boilers, heat pumps, biomass boilers and pellet stoves. The budget for the scheme amounted in 2016 to €70 million. In 2016, over 20 000 appliances were purchased with ISDE. About half of them were pellet stoves and biomass boilers and a quarter were heat pumps.

2. Incentive Scheme for Sustainable Energy Production, SDE+

The SDE+ Incentive Scheme for Sustainable Energy Production was first opened on 1 July 2011. The SDE+ is a technology-neutral scheme and its purpose is to promote the roll-out of renewable energy production in a cost-effective way. The lower the cost price, the greater the likelihood that the project will receive a subsidy. It also offers initiators the opportunity to submit their project in the 'free category' for a lower sum than that recommended by the Energy Research Centre of the Netherlands (ECN) for the technology in question. In this form, the SDE+ scheme fulfils the best-practice principles for feed-in premium systems which were published by the European Commission at the end of 2013.²⁶

The SDE+ scheme offers long-term financial security (of up to 15 years) by covering the unprofitable higher costs of projects. The SDE+ is a feed-in premium system: it pays the difference between the cost price of grey energy and that of sustainable energy over a period not exceeding 15 years (base amount – correction amount = subsidy). The base amount is the average cost price of renewable energy technology, or the sum of investment and operating costs, plus a reasonable profit margin, divided by the quantity of sustainable energy that is expected to be produced. The correction amount is derived from the predicted and actual energy prices (the payment for the energy that the producer is able to receive on the market). For the purpose of paying advances for projects, an

²⁶ European Commission guidance for the design of renewables support schemes, SWD (2013) 439 final.

expected energy price is set in advance (provisional correction amount). The energy price is established at the end of every calendar year for the preceding calendar year (final correction amount). As the correction amount may vary from year to year, the producer receives a different subsidy amount per unit of produced energy per calendar year. However, the producer does have practically constant revenue from grey energy and subsidy in euro per kilowatt hour. The subsidy is subject to a maximum, and the maximum subsidy per unit of produced energy must not exceed the difference between the base amount and the base energy price (2/3 of the average energy price expected over the long term).

The base amounts and correction amounts are based on independent recommendations by the ECN and DNV GL and in 2016 TNO for geothermal energy. The base amounts are revised annually and adapted to developments in the market. The recommendation process features a consultation with market parties, during which stakeholders are given the opportunity to provide their written and/or oral input with regard to content. For the purpose of monitoring the recommendations made by ECN, DNV GL and TNO, their findings are reviewed annually by an external authority. The SDE+ 2015 review was conducted by the Flemish Institute for Technological Research (VITO) and the SDE+ 2016 review by the International Institute for Sustainability Analysis and Strategy (IINAS).

The SDE+ 2015 scheme was opened with a budget of €3.5 billion. In 2016, the SDE+ scheme was opened twice for a total of €9 billion. The commitments budget has therefore risen sharply compared to previous years. Since it was launched and up to the end of 2016, the SDE+ scheme has entered into commitments worth over €22 billion.

This amount excludes 'offshore wind'. This technology has its own budget and application procedure within the SDE+. For offshore wind, the subsidy ceiling amounted to €5 billion in both 2015 and 2016. Due to the sharply falling cost prices, these maximum budgets will not be fully utilised.

3. Incentive Scheme for Sustainable Energy Production, SDE (2008–2010)

The predecessor of the SDE+ scheme was the Incentive Scheme for Sustainable Energy Production - (SDE). Just as SDE+ is, this scheme was a feed-in premium scheme that was opened annually, but unlike the SDE+, a budget ceiling was published and a base amount established for each technology within the SDE scheme. The scheme was launched in 2008 with the opening of various subsidy categories for renewable electricity and green gas; it was opened for the last time in 2010. It is expected that cash payments that were entered into by virtue of commitments up to 2010 inclusive under the SDE will be covered by general funds up to 2030 inclusive.

4. Environmental Quality of Electricity Production, MEP (2003–2006)

Under the Environmental Quality of Electricity Production (MEP) scheme, subsidies were granted between 2003 and 2006 in the form of a fixed feed-in premium for renewable electricity projects. The MEP was an open-ended scheme. The last commitments for MEP were entered into in 2006. The MEP subsidy was a fixed subsidy tariff per produced kilowatt hour and applied for a period of 10 years. The cash payments for MEP up to 2020 are running out rapidly and until that time will still be covered by general funds.

5. Energy Investment Relief scheme (EIA)

The Energy Investment Relief scheme is intended for entrepreneurs who want to invest in energy-saving technologies and the use of renewable energy in their business. Entrepreneurs are able to deduct a percentage of their investment costs from their taxable profits, in addition to the usual write-down. Up to 2015, this percentage was 41.5%; in 2016 it rose to 58%. The EIA is a generic scheme. The operating assets or parts of operating assets that are eligible are included on the EIA

Energy list. The list is updated annually and adapted according to the best available alternatives on the market.

This tax scheme of the Ministry of Finance and the Ministry of Economic Affairs and Climate is run by the Netherlands Enterprise Agency (RVO.nl) and the Tax Administration. RVO.nl assesses an item that is notified against the technical and administrative requirements of the EIA and issues a certificate if the requirements have been fulfilled. The Tax Administration determines whether or not an entrepreneur receives an EIA subsidy.

Up to 2013, the EIA promoted both energy-saving and renewable energy projects. The EIA was confined to energy-saving in 2014, in implementation of the Energy Agreement, since the promotion of renewable energy already takes place through the SDE+ subsidy scheme.

The EIA budget was €106 million in 2015 and €161 million in 2016. In 2016, the budget was not fully utilised. In 2015, renewable energy investments accounted for over 13 per cent of the reported investment amount. In 2016, this percentage was just under 8 per cent.

6. Green Projects Scheme

Consumers are able to purchase green securities (green savings) or shares in a green investment fund (green investment), the intention being that the funds raised are invested in green projects that have been approved by the Dutch government. The scheme also offers tax relief.

Banks then lend the contributed funds at a low interest rate to projects that offer an obviously greater benefit than usual to the natural world and the environment, and one that far exceeds the statutory minimum requirements. A list has been drawn up of project categories that are eligible for these loans. The benefit to the natural world and the environment is laid down in requirements that are monitored by RVO.nl.

According to the Budget Memorandum for 2018, the tax expenditure relating to the scheme amounted to €74 million in 2015 and €71 million in 2016.

7. Topsector Energy

In order to promote innovation, the Cabinet has designated nine 'top sectors'; these are sectors in which the Netherlands is excelling at a global level. The basic principle of the approach is that the government no longer just uses rules and subsidies as a guiding mechanism, but Dutch companies will be more at the helm and be given the scope to do business, invest, innovate and export. The top sector policy adopts a sector-based, integrated approach, as opportunities and bottlenecks are usually of a sector-specific nature and have an effect on a wide range of factors that determine the climate in which to establish a business. This is the case, for example, with bottlenecks relating to knowledge and innovation, (sector-specific) regulations, tax law, financing new products, linking education to the employment market and entering foreign markets. The specific nature and scope of these bottlenecks varies considerably from sector to sector. Substantive and financial agreements have been laid down in what are known as innovation contracts, and these consist of a mix of measures in the areas of fundamental research, applied research and valorisation. A 'top team' has been assembled for each top sector, including representatives from SMEs, academia, government and a 'standard bearer' from the sector who is responsible for implementing the innovation contracts.

One of the nine top sectors is the energy sector, and this top sector consists of five 'top consortia' (the respective Top Consortia for Knowledge and Innovation in Offshore Wind, Biobased Economy (BBE), Urban Energy (EU), Energy & Industry (E&I) and Gas). Almost 1 650 public and private organisations are participating financially in the energy top sector, and over half of these are SMEs. In total, energy innovation funding amounting to €130 million in 2015 and €133 million in 2016 has

been made available for research and pilot projects (via separate tenders for the energy top consortia, innovations in renewable energy and the *Demonstratie Energie Innovatie* (demonstration of energy innovation products) scheme). In addition, the government made available €25 million in each of the years 2015 and 2016 via the Energy Research Centre of the Netherlands (ECN) and the Netherlands Organisation for Applied Scientific Research (TNO). Approximately 40% of the programmes were funded by companies.

8. Green Deals

The Green Deal plan was presented on 3 October 2011. The plan is an easily accessible plan with which the Cabinet promotes growth in green technologies. The Cabinet is facilitating initiatives by companies, civil-society organisations, decentralised authorities and citizens by eliminating obstacles (which may relate to existing legislation and regulations, or access to funding, for example). Social initiatives that have arisen from the bottom up form the basis of the Green Deal plan. The main topics concerned are energy, raw materials, mobility, biodiversity, climate, food, biobased economy, construction and water.

The Green Deal plan forms an important part of the Cabinet's wider sustainability policy. By the end of 2016, 208 Green Deals had been concluded, of which 120 contained an energy component. These energy deals were taken out by 950 parties, of which about 545 are companies. The deals concluded in 2015 and 2016 are characterised by a more strategic nature and a larger number of participants, as a result of which the potential for upscaling and the spillover effect of the deals are more effectively ensured from the very start. By the end of 2016, a total of 145 of the Green Deals taken out had been completed.

An important secondary effect of the Green Deal plan is that it has resulted in a different and innovative way of working in the Dutch government. This way of working is characterised by a focus on eliminating barriers (policy workers are tasked with resolving bottlenecks on behalf of the government), 'opening doors and windows' (policy workers are encouraged to seek cooperation with industry parties to identify bottlenecks), a focus on collaboration (a Green Deal always consists of contributions from the Dutch government *and* industry parties), a bottom-up approach (industry parties are invited to put forward initiatives) and a project-based way of working (policy workers provide guidance to one or multiple Green Deals).

Table 3. Cash payments from MEP, SDE and SDE+ for renewable energy.

MEP, SDE and SDE+ support schemes	Support per unit ²⁷ (€ct/kWh)		Total (× €1 million)	
	2015	2016	2015	2016
MEP Onshore wind	7.7	7.7	105.1	41.3
MEP Offshore wind	9.7	9.7	77.7	68.7
MEP Biomass (incl. waste and landfill gas; incl. transitional MEP)	8.9	8.9	175.2	178.0
MEP Solar	9.7	9.7	0.2	0.1
MEP Hydro	9.7	9.7	4.8	0.4
Total annual support from MEP²⁸			363.0	288.4
SDE Onshore wind	5.6	6.2	88.8	119.4
SDE Offshore wind	13.9	13.2	30.8	237.5
SDE Biomass renewable electricity	6.3	6.4	61.6	59.4
SDE Biomass renewable gas	3.5	3.9	14.0	14.3
SDE Solar	32.0	33.6	12.6	13.2
SDE Hydro	8.1	8.1	-	-
Total annual support from SDE			207.8	443.8
SDE+ Onshore wind	4.5	4.4	29.8	47.3
SDE+ Offshore wind	-	-	-	-
SDE+ Biomass renewable electricity	4.9	5.2	0.3	1.0
SDE+ Biomass from renewable heat and CHP	2.5	3.2	50.1	76.9
SDE+ Biomass renewable gas	3.8	4.2	9.9	13.1
SDE+ Solar	6.2	8.2	4.4	15.7
SDE+ Hydro	-	4.5	-	0.1
SDE+ Geothermal heat	2.1	2.4	10.3	16.7
Total annual support from SDE+			104.8	170.7

²⁷ The quantity of energy supported by the per unit support gives an indication of the effectiveness of the support for each type of technology. For the SDE and SDE+ schemes, this table assumes weighted average base amounts and correction amounts each year. This weighted average is determined on the basis of the actual production in the year in question. In the case of wind energy, a correction has been made for the wind factor, and in the case of waste, for the percentage of biogenic waste. For biomass with residual heat level, the table assumes the maximum residual heat level and a cost effectiveness per kWh of electricity and heat combined.

²⁸ The fixed subsidy contribution per unit is given for the MEP (excl. biomass).

Question 3.1. How supported electricity is allocated to final customers

Please provide the information on how supported electricity is allocated to final customers.

The Fuel Mix Disclosure Order (*Regeling Stroometikettering*) entered into force on 1 January 2005. This Order requires energy suppliers to inform end-users of how the supplied electricity has been generated. End-users are informed no later than four months after the end of a calendar year of the mix of the electricity supplied in the previous calendar year. Energy suppliers use Guarantees of Origin to validate the renewable portion of the energy they offer. The remainder of the electricity supply is made up of energy suppliers' trade balances.

In addition, the electricity label is used by energy suppliers to inform consumers of the quantity of radioactive waste per kWh that is created in the course of generating the nuclear energy supplied and the quantity of CO₂ emitted as a result of energy generated from fossil fuels.

Question 4. Support schemes taking account of applications of energy from renewable sources that give additional benefits

Please provide information on how, where applicable, the support schemes have been structured to take into account RES applications that give additional benefits, but may also have higher costs, including biofuels made from wastes, residues, non-food cellulosic material, and ligno-cellulosic material.

As part of the primary instrument to promote renewable energy production (SDE+), subsidies were also paid out during 2015 and 2016 for waste processing and the use of biomass by means of fermentation or incineration for the purpose of supplying electricity, heat or gas. Within the SDE+ scheme, this method of generating energy competes with other technologies such as wind turbines and solar PV in a way that grants subsidies to the projects that produce renewable energy for the lowest cost price. New waste incineration plants and additional heat generation at existing waste incineration plants were no longer included as an eligible category for subsidies in 2015 and 2016 because there is no demand for this. For sewage treatment, in addition to the two existing categories, a new category was opened involving thermophilic fermentation of secondary sludge. In addition to the existing categories of manure co-fermentation (in which the input must consist of at least 50% manure), fermentation of at least 95% manure has become a technology that is eligible for a subsidy for the production of green gas and for the production of electricity and heat using CHP. The aim is for less demand for co-products because of their limited availability.

By replacing part of the coal by biomass in the combustion process in a coal-fired power station, a major contribution can be made to the renewable energy targets and the CO₂ emissions from coal-fired power stations can be reduced. This is also known as auxiliary firing and co-firing of biomass in coal-fired power stations. Under the Energy Agreement, it has been agreed with environmental organisations and energy producers to promote this technology from 2015 up to a maximum of 25 PJ renewable energy per year and that sustainability criteria will apply to the biomass used. In addition, a new category was opened in the SDE+ in 2015 for steam production with sustainable biomass (wood pellets) using boilers with a capacity exceeding 10 MW thermal capacity (MWth). This new category provides the opportunity for industrial players to ensure the sustainability of their heat demand.

The Energy Investment Relief scheme (EIA) was adapted in 2014 in order to focus in particular on energy-saving technologies. SDE+ decisions prior to 2014 are still eligible for EIA. The SDE+ decisions made after 2014 are no longer eligible for EIA, but have been compensated for this by a higher base amount within the SDE+ scheme. The EIA applies to energy investments that are included on the Energy List. The described operating assets fulfil a specific requirement with regard to savings or yield. This means that incentives are being geared towards the best available alternatives. The Energy List is updated annually.

From 1 January 2016, a new subsidy scheme exists for small installations for the production of renewable energy (ISDE). These are installations such as solar boilers, biomass boilers and low-power heat pumps. The new scheme gives households the opportunity to replace their hot water boiler by a solar boiler, businesses to produce their (process) heat with a biomass boiler and housing corporations to install heat pumps for the heating of rented housing. In this way, individuals and businesses are encouraged to produce renewable energy themselves and to contribute to the renewable energy target.

Setting up the ISDE offers the opportunity to streamline and further optimise the instruments for the promotion of renewable energy production.

In 2009, the Ministerial Order on double-counting of better biofuels entered into force. It was amended with effect from 1 January 2011 by the publication of the Dutch legislation transposing the Renewable Energy Directive and the Fuel Quality Directive. The legislation relating to double-counting was at the time incorporated in the Order on renewable energy for transport (*Regeling hernieuwbare energie vervoer*) (Articles 16 and 17). This Order was amended in 2013 and 2015. The latest legislative amendment of 2015 made no change to the rules on double-counting. Biofuels produced from waste, residues, non-food cellulosic material and ligno-cellulosic material may be double-counted under specific conditions if the annual commitment is fulfilled. Annex 2 to the Order includes tables listing the raw materials that are and are not eligible for double-counting.

Question 5. System of guarantees of origin

Please provide information on the functioning of the system of guarantees of origin for electricity and heating and cooling from RES, and the measures taken to ensure reliability and protection against fraud of the system.

In the Netherlands, guarantees of origin must be issued in order to demonstrate that electricity is generated from renewable sources. Guarantees of origin for electricity are supplied in the Netherlands by CertiQ, which is a wholly-owned subsidiary of TSO TenneT. Some of the tasks undertaken by CertiQ are statutory tasks of TenneT, as laid down in the Electricity Act. CertiQ reports directly to TenneT and its public shareholders. To this end, CertiQ draws up an annual plan and annual report once a year and submits its performance data periodically to ACM (Dutch Authority for Consumers and Markets) and the Ministry of Economic Affairs and Climate.

From 2015, guarantees of origin are also issued for heat (by CertiQ) and gas (by Vertogas, a subsidiary of Gasunie) from renewable sources. Essentially the same conditions apply as for the guarantees of origin for electricity from renewable sources.

Question 6. Developments in the availability and use of biomass resources for energy purposes

Please describe the developments in 2015 and 2016 in the availability and use of biomass resources for energy purposes.

Table 4 shows the raw materials for domestic production (recovery in terms of the Energy Balance) of biomass for electricity and heat. This includes the biomass recovered in the Netherlands and exported (approximately 12 PJ in 2015 and 2016). Domestic production of biomass for electricity and heat originates almost entirely from domestic sources of biomass. In addition, the Netherlands also imports biomass which is directly suitable for use as energy source. In 2015 and 2016, this primarily concerned the renewable fraction of household waste that is burned in waste incineration plants (approximately 10 PJ) and waste wood (3 to 4 PJ). An important stream in the previous report was the import of wood pellets for the co-firing of biomass in power stations. In 2015 and 2016, this share declined as a result of the expiry of MEP subsidies for auxiliary firing and co-firing of biomass in coal-fired power stations. In 2016, however, new SDE+ subsidies were granted for auxiliary firing and co-firing, as a result of which the share of imported wood pellets is expected to increase again after 2016.

There are no data available with regard to the quantity, origin and nature of the raw materials for the production of biofuels for transport in the Netherlands, but there are data for the biofuels for transport placed on the market in the Netherlands. These data are contained in the annual reports of the Dutch Emissions Authority.^{29,30} In accordance with the European Renewable Energy Directive, the administrative system relating to the blending obligation in the Netherlands focuses on mapping out the biofuels placed on the Dutch market. Information is collected about the sustainability, origin and nature of the raw materials, CO₂ emissions, etc., for those biofuel streams. Nearly all biofuels placed on the Dutch market meet the sustainability requirements. According to the aforementioned annual reports of the Dutch Emissions Authority, these biofuels are nearly all certified to ISCC EU.

Dutch companies that produce biofuels for transport do so not only for the Dutch market, but also to a considerable degree for markets in other countries. The collection of information on the origin of raw materials for domestic production of biofuels for transport would create additional administrative burdens. Furthermore, it is uncertain whether these data could be published, for reasons of traceability to individual companies.

Table 4a shows the total area used for rape seed cultivation in the Netherlands. It is not known which portion thereof was used for energy crops. In the Netherlands, no rape seed or maize grown within the country was used for biofuels for transport for the domestic market in 2016.³⁰ It may well be the case that primary agricultural crops grown in the Netherlands have been used for biofuels that were brought onto the market in other countries. No data are available on this.

No rape seed was used for biofuels for transport placed on the Dutch market in 2016, while maize was used for 12% (bioethanol). The largest supplier of maize in 2016 was the Ukraine (37%), followed by the United States (18%) and Hungary (12%).³⁰

²⁹ NEA (2016), Rapportage Energie voor vervoer in Nederland 2015.

³⁰ NEA (2017), Rapportage Energie voor vervoer in Nederland 2016.

Information about the fodder maize cultivation area used in 2015 and 2016 for fuel crops was calculated by CBS from the information obtained from surveys of operators of fermentation plants. Domestic use of agricultural land for growing fuel crops is minimal compared to the total area of land used for arable farming, namely approximately 504 000 hectares, and for fodder cultivation (including fodder maize), namely approximately 216 000 hectares.

Table 4: Biomass supply for energy use^{31,32}

Raw materials from within the Netherlands							
Biomass supply for heating and production of electricity	Physical units			PJ ³³		ktoe	
	2015	2016	unit	2015	2016	2015	2016
Direct supply of wood (forests, gardens, parks)	2 251 033	2 229 787	m ³	15	16	366	374
Indirect supply of wood (waste wood, residues from wood processing)	2 126 739	2 221 986	tonne	27	28	653	677
Residual and by-products from farming and the agricultural industry	5 130 464	5 204 522	tonne	19	21	459	496
Biomass from waste	7 839 752	7 904 644	tonne	53	53	1 257	1 264
Fuel crops	25 821	25 042	tonne	0	0	4	4
Other	0	0	tonne	0	0	0	0

Table 4a: Current domestic agricultural land use for production of crops dedicated to energy production (ha)

Domestic agricultural land use for crops dedicated to energy production (ha)	2015	2016
Fuel maize	700	600
Rape seed ³⁴	<2 300	<1 700
Short-rotation forestry	33	13
Miscanthus	280	245

³¹ Data originate from a combination of data from official energy statistics, data for the RVO.nl *Green Deal Duurzaamheid vaste biomassa* report, CBS manure statistics and expert assessments.

³² The quantity of imported raw materials for the production of biomass for electricity and heat is minimal and has not been recorded separately.

³³ The energy values of the raw materials have been determined on the basis of tonnages/m³ and the calorific values of the incoming biomass streams. In the case of biogas production, these were determined on the basis of the highest calorific value, and, for the use of solid and liquid biomass, on the basis of the lowest calorific value.

³⁴ Total area of rape seed cultivation. Rape seed is also grown for purposes other than energy production. It is not known what portion is grown for energy production and what portion for other purposes.

Question 7. Changes in commodity prices and land use

Please provide information on any changes in commodity prices and land use in 2015 and 2016 associated with increased use of biomass and other forms of energy from renewable sources. Please provide where available references to relevant documentation on these impacts in your country.

Changes in commodity prices

With regard to wood pellets, wood chippings and energy wood, there is no indication that demand from energy applications in the Netherlands over the past two years has resulted in any changes to commodity prices.

If this were to lead to structural price rises, these will be taken into account in the SDE+.

With regard to energy wood, individual suppliers have data available in relation to price development. However, these must be treated as confidential in most cases.

Changes in land use

There have been no significant changes in land use in the Netherlands as a result of increased use of biomass and other forms of energy from renewable sources.

The aforementioned NEa report indicates that in 2016 all maize used for biofuels placed on the market in the Netherlands originates from other countries. In 2016, no biofuels produced from rape seed were placed on the market in the Netherlands.³⁵

Sustainability and voluntary schemes

In the Energy Agreement, it has been agreed to link sustainability criteria to the promotion of auxiliary firing and co-firing of biomass. The sustainability criteria are among the most progressive and far-reaching criteria in the world. The sustainability criteria have been drawn up in consultation with the energy companies and environmental organisations. The sustainability criteria also apply for the bio-steam category in the SDE+ scheme. Using voluntary certification schemes, companies can demonstrate that they meet the sustainability criteria. An advisory committee will examine the extent to which the voluntary schemes meet the requirements laid down by the Netherlands and advise on the subject.

³⁵ NEa (2017), Rapportage Energie voor vervoer in Nederland 2016.

Question 8. Share of biofuels made from wastes, residues, non-food cellulosic material, and ligno-cellulosic material

Please describe the development and share of biofuels made from wastes, residues, non-food cellulosic material, and ligno-cellulosic material.

Since 2009, the Netherlands has had legislation in place concerning the double-counting of biofuels from waste, residues, non-food cellulosic material and ligno-cellulose. The Netherlands was the first EU country to have such legislation. During 2015 and 2016, these types of biofuels contributed around 53% and 50% respectively in terms of energy in the end use of renewable energy for transport. In practice, this primarily concerns biodiesel made from used cooking oil and animal fats from abattoirs. There are three major biodiesel producers in the Netherlands that produce this type of biodiesel.

For 2015 and 2016, no further breakdown can be made for biofuel production by feedstock listed in Annex IX to Directive 2009/28/EC and as asked for in Table 5 of the updated (voluntary) template drawn up by the European Commission. The list of feedstocks in Annex IX relates to the amendments to the Renewable Energy Directive in accordance with Directive (EU) 2015/1513. The national transposition of Directive (EU) 2015/1513 has not yet been completed at the time of drawing up this report.

Table 5: Development in biofuels (see explanation).

Question 9. Impacts of the production of biofuels and bioliquids on biodiversity, water resources, water quality and soil quality

Please provide information on the estimated impacts of the production of biofuels and bioliquids on biodiversity, water resources, water quality and soil quality within the Netherlands in 2015 and 2016. Please provide information on how these impacts were assessed, with references to relevant documentation on these impacts within your country.

Hardly any raw materials for biofuels are grown in the Netherlands. In addition, practically no new agricultural land has been brought into use. For this reason, the impact on biodiversity, water resources, water quality and soil quality as a result of growing crops for the production of biofuels is immaterial in the Netherlands.

Question 10. Estimate of the greenhouse gas emission savings due to the use of energy from renewable sources

Please estimate the net greenhouse gas emission savings due to the use of energy from renewable sources

The application of electricity is relatively important in terms of prevented greenhouse gas emissions compared to the applications of heat and transport. In terms of gross final consumption, the relative contribution of electricity is far smaller. The reason for this is that, in the reference situation, far more primary fossil fuel is required to make 1 joule of electricity than to make 1 joule of heat; this is related to the high conversion losses in the thermal production of electricity. In addition, in the reference situation, the Netherlands uses far more coal with relatively high CO₂ emissions per unit of energy when generating electricity than is the case with heat.

The greenhouse gas emission savings due to the use of renewable electricity and heat have been calculated according to a substitution method in accordance with the *Protocol Monitoring Hernieuwbare Energie*.³⁶ The reference technology for electricity is a national mix of natural gas, coal and nuclear power stations with an emission of 0.68 kg of CO₂ per kWh in 2015 and 0.63 kg of CO₂ per kWh in 2016. In the case of heat, the most important reference technology is a natural gas boiler with performance of 90 per cent, resulting in emissions of 63 kg CO₂ per GJ of useful heat.

The emissions of greenhouse gases that have been prevented as a result of using biogasoline and biodiesel for transport have been calculated from a combination of data from the energy statistics of CBS and data from the Dutch Emissions Authority (NEa) on greenhouse gas performance of biogasoline and biodiesel placed on the market. The NEa received these data from companies that supply biogasoline and biodiesel under the laws and regulations on renewable energy for transport and the laws and regulations on fuels and air pollution.

Table 6: Estimated GHG emission savings from the use of renewable energy (kton CO₂eq)

Environmental aspects	2015	2016
Total estimated net GHG emission saving from using renewable energy³⁷	11 869	12 575
- Estimated net GHG saving from the use of renewable electricity	8 523	9 293
- Estimated net GHG saving from the use of renewable energy in heating and cooling	2 567	2 643
- Estimated net GHG saving from the use of renewable energy in transport	780	638

³⁶ RVO and CBS (2015) *Protocol Monitoring Hernieuwbare Energie*, Revision 2015.

³⁷ The contribution of gas, electricity and hydrogen from renewable energy sources should be reported depending on the final consumption (electricity, heating and cooling or transport) and only be counted once towards the total estimated net GHG savings.

Question 11. Excess/deficit production of energy from renewable sources up to 2020

Please report on (for 2015 and 2016) and estimate (for the coming years up to 2020) the excess/deficit production of energy from renewable sources compared to the indicative trajectory which could be transferred to/imported from other Member States and/or third countries, as well as estimated potential for joint projects until 2020.

According to current estimates, the Netherlands is achieving the renewable energy targets for 2020 without experiencing a deficit or excess. It is therefore not necessary to use cooperation mechanisms.

If it emerges at a later date that a deficit has developed, cooperation mechanisms will be considered as a measure for making up this deficit

It should be noted that there is very little political support for the use of cooperation mechanisms.

Table 7: Excess/deficit in production of renewable energy

	2015	2016	2017	2018	2019	2020
Actual/estimated excess or deficit in production	0	0	0	0	0	0

Question 12. Estimate of share of biodegradable waste in waste used for producing energy

Please provide information on how the share for biodegradable waste in waste used for producing energy has been estimated, and what steps have been taken to improve and verify such estimates.

The method of estimating the share of biodegradable waste in waste used for producing energy is described in the 'Methodology report on the calculation of emissions to air from the sectors Energy, Industry and Waste' (ENINA taskforce).³⁸ The model for the calculation of the share of renewable energy is also used to calculate the emissions from waste incineration plants.

The estimate of the share of biodegradable waste is made annually by an independent organisation, the Rijkswaterstaat Environment, using the annual report of the Waste Recording working group. The estimate is based on seven stages. The data from the years of research into the composition of waste in the Netherlands are used to form the basis. The data obtained from that are used to determine the energy and carbon content and associated share of biomass of the waste streams burned in waste incineration plants. The biomass share of energy is then used to calculate a 'flat-rate percentage' of renewable energy for all waste incineration plants in the Netherlands.

The proportion of biogenic waste was 55% in 2015 and 2016.

³⁸ <http://english.rvo.nl/file/enina-update-2016>

Question 13. Amounts of biofuels and bioliquids per feedstock group

Please provide the amounts of biofuels and bioliquids in energy units corresponding to each category of feedstock group listed in part A of Annex VIII taken into account by the Netherlands for the purpose of complying with the targets set out in Article 3(1) and (2), and in the first subparagraph of Article 3(4).

In the Netherlands, approximately 6 PJ and approximately 5 PJ of biofuels produced from food crops were placed on the Dutch market in 2015 and 2016 respectively (Table 1d). These quantities correspond to just over 1 per cent of the energy consumption for transport. In particular, the biogasoline placed on the market is produced from food crops, mainly cereals and other starch-rich crops and to a lesser extent sugars. In 2015, some biodiesel made from rape seed was placed on the market, whereas in 2016 no biofuels from oil crops were placed on the market any more.^{39, 40}

³⁹ NEa (2016), Rapportage Energie voor vervoer in Nederland 2015.

⁴⁰ NEa (2017), Rapportage Energie voor vervoer in Nederland 2016.

Annex 1 Factsheet on the Energy Agreement for Sustainable Growth⁴¹

The Energy Agreement for Sustainable Growth (hereinafter referred to as: the Energy Agreement) was signed in September 2013 by more than 40 parties. The signatories include representatives from the business community, environmental organisations, trade unions, the national government and local authorities. The intention behind the Energy Agreement is to ensure a stable and sustainable policy during the period up to 2020 for the transition towards a sustainable energy supply in the Netherlands, and one that has secured broad public support. This energy transition is necessary in order to achieve the Netherlands' target and to work within an international context towards creating a fully sustainable energy system by 2050.

The parties to the Energy Agreement have committed to the following objectives:

- An average saving in final energy consumption of 1.5% per year;
- A saving of 100 petajoules of final energy consumption in the Netherlands by 2020;
- An increase in the share of renewable energy generation to 14% by 2020;
- A further increase in this share to 16% by 2023;
- To create at least 15 000 full-time jobs, the majority of which during the next few years.

In order to achieve these ambitious targets from the Energy Agreement, the parties have agreed a number of specific actions and targets. The most important actions with regard to renewable energy are as follows:

- To achieve 6 000 MW of onshore wind energy by 2020 (compared to approximately 2 200 MW in 2012). The national government and the provinces are jointly responsible for achieving this target, in collaboration with companies in the wind sector and environmental organisations.
- To achieve 4 450 MW of offshore wind energy by 2023 (compared to approximately 1 000 MW in 2012). The national government has developed a roll-out strategy in order to achieve this target. This roll-out strategy vision assumes five one-year tendering procedures for offshore wind farms of 700 MW up to and including 2019. In this way, five new wind farms will have been created by 2023. The companies involved in completing these wind farms have agreed to achieve a cost reduction of 40% over the coming years.
- To achieve a maximum of 25 PJ of renewable energy through biomass auxiliary firing and co-firing, with the biomass fulfilling stringent sustainability criteria. These sustainability criteria are the result of agreements between the government, energy companies and environmental organisations.
- To increase the independent energy generation capacity of private individuals and local energy initiatives. In order to support the energy transition, it is important for people to be able to participate in this transition themselves and to feel involved in reaching the target and meeting the challenges of this transition.

The most important actions with regard to energy saving are as follows:

- The industry will invest in energy-saving, including the use of residual heat. The national government will support the industry in its objectives and monitor progress.

⁴¹ The factsheet describes the agreements that were made upon concluding the Energy Agreement in the autumn of 2013.

- The agriculture sectors will improve their energy efficiency, particularly in greenhouses by means of smart growing methods and the use of geothermal heat.
- Energy efficiency will be increased in the built environment by means of (financial) support provided by the government to homeowners, tenants and landlords. In order to lend support to this, the building sector will develop an integrated approach for energy efficiency solutions for households.

The Energy Agreement is also taking steps with regard to mobility and transport, with a view to achieving more efficient traffic and transport, and creating mobility in a more sustainable way. The parties have agreed on ambitious targets, namely a reduction in CO₂ emissions of 60% by 2050 compared to 1990, and reducing them to 25 Mton (-17%) in the meantime by 2030. Twelve topics have been identified with regard to mobility (developed in 34 actions) to enable the agreed targets to be achieved, including drawing up and developing a vision on sustainable fuel.

In view of the large number of parties to the Energy Agreement and the fact that all parties concerned are responsible for the successful implementation of the actions that they have agreed on, the parties have developed a governance structure. The Energy Agreement Governance Committee forms the central element of this governance structure, and all parties to the Energy Agreement are represented on this Committee. It is chaired by a former Minister for the Environment and it monitors the progress of the agreed objectives and actions. If it proves necessary, the Governance Committee will ensure that all relevant parties are involved in formulating additional actions needed to achieve the targets in the Energy Agreement. The National Energy Outlook, which was published for the first time in 2014, provides an annual update on the progress towards these targets.

Annex 2 Renewable energy for transport data for 2009 to 2014 inclusive (following revision by Directive (EU) 2015/1513)

In 2015, the Renewable Energy Directive was revised in accordance with Directive (EU) 2015/1513 and the calculation factors for electricity for transport were changed. The attached table shows the results of the calculation of the share of renewable energy for transport over the years 2009 to 2014 inclusive, using the new calculation factors.

Table 1: Share of energy from renewable sources for transport, calculated according to the methodology after amendment of the Renewable Energy Directive in 2015

	2009	2010	2011	2012	2013	2014
Share (%)	4.5	3.3	4.8	4.9	5.1	6.2

Annex 3 Implementation of the Aarhus Convention

(Enclosed as separate document)

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Annex: Public participation and the Aarhus Convention

The European Commission made the following request:

[...] to include, in the next national progress report, a detailed description of and reference to the measures and procedures in force that ensure public participation in the decision-making process in accordance with the requirements of Article 6, paragraphs 3, 4 and 8, of the [Aarhus] Convention referred to in Article 7, including reasonable time frames, allowing sufficient time for informing the public and for the public to prepare and participate effectively, allowing for early public participation when all options are open, and ensuring that due account is taken of the outcome of the public participation related to plans adopted under Directive 2009/28/EC relating to the environment. These public participation measures and procedures are also applicable to any amendment of the NREAP, if any, as provided for by Article 4(4) of the Renewable Energy Directive.

This Annex accordingly provides information on public participation in the Netherlands in relation to renewable energy. The Annex consists of two parts:

- A. The first part specifically describes public participation in drawing up the 2010 National Renewable Energy Action Plan ('the NREAP'/'the action plan'), the 2013 Energy Agreement, and the 2016 Energy Dialogue and Energy Agenda.
- B. The second part (in English) describes the way in which the Aarhus Convention has generally been implemented in Dutch legislation in relation to the development of policy and decision-making processes on renewable energy projects. This information was previously sent to the Commission by email of 21 April 2017 supplementing the 2013-2014 progress report.

A. Public participation in drawing up the 2010 NREAP, the Energy Agreement, and the Energy Dialogue and Energy Agenda

Introduction

The 2010 NREAP was submitted to the Commission on 21 June 2010. It is based primarily on existing policy in relation to the requirements laid down in Directive 2009/28/EC, as stated in the 2010 NREAP itself.¹ No new policy was therefore developed for the purposes of drawing up the 2010 NREAP. Since then the 2010 NREAP has not been amended within the meaning of Article 4(4) of Directive 2009/28/EC.

The (2013) Energy Agreement and the (2016) Energy Dialogue and Energy Agenda have been drawn up since 2010. Those documents are not considered to be part of the NREAP. They were not notified to the Commission in accordance with the requirements of Directive 2009/28/EC. The NREAP was not amended in the light of the documents. The progress reports do refer to the Energy Agreement² and the Energy Dialogue and Energy Agenda.³ A description is provided below

¹ See 2010 NREAP, p. 7; see also '1. (2010) NREAP' below.

² See the 2013-2014 and 2015-2016 progress reports.

³ See the 2015-2016 progress report.

of how the public participated in the process of drawing up each of the four documents referred to above.

1. (2010) NREAP

As stated in the 2010 NREAP,⁴ the plan is based primarily on existing policy in relation to the requirements laid down in Directive 2009/28/EC. The announced policies had already been discussed in the usual way and communicated by the relevant Ministry. Only then were they incorporated into the action plan and talked about as a part of that plan. Given that the drafting of the action plan in 2009-2010 focused on existing policy, and not on developing new policy, communication relating to the action plan was aimed at the alignment of texts. The expectation was that this would be of greater interest to professionals than to consumers. That is why the communication was targeted at professional organisations. In addition, publicly available information on the action plan and the Directive was (and continues to be) placed on the website of SenterNovem (now the Dutch Enterprise Agency).⁵

The Association of the Provinces of the Netherlands and the Association of Dutch Municipalities were involved in early reflection on the drafting of the action plan. In addition, on 16 April 2010 an external consultation/participation session based on the draft action plan was held at AgencyNL (now the Dutch Enterprise Agency). The purpose of the meeting was to present the draft action plan and to assess whether the draft contained an adequate description of current policy (at the time) in the area of renewable energy. Organisations from relevant sectors, such as NGOs, public authorities and economic operators, were invited to the meeting, on the basis of the network of SenterNovem and the ministries concerned. 19 organisations, a significant number of the stakeholders invited, attended the meeting.

Before the meeting the draft action plan had been confidentially disclosed to the parties invited. Participants were given the opportunity to make observations on the plan during the meeting and to submit (written) comments on it afterwards. A deadline of 28 April 2010 was agreed for written comments with the organisations present. The organisations were also asked to draft any proposed amendments. The observations made during the meeting were collated, along with the written comments submitted subsequently. The final, definitive version of the action plan was drawn up partly on the basis of the observations and comments. Participants in the external consultation (who attended the meeting on 16 April 2010 or submitted written comments afterwards) received a copy of the definitive action plan.

On 21 June 2010 a copy of the definitive action plan was submitted to the upper and lower houses of the Dutch Parliament. The action plan was subsequently considered by (what was at the time)

⁴ See 2010 NREAP, p. 7.

⁵ Current webpage: <https://www.rvo.nl/onderwerpen/duurzaam-ondernemen/duurzame-energie-opwekken/duurzame-energie/beleid>.

the lower house's Standing Committee on Economic Affairs, Agriculture and Innovation on 6 December 2010 and 30 March 2011.

2. The (2013) Energy Agreement

As stated in the progress report,⁶ a (further) key part of renewable energy policy is the Energy Agreement for Sustainable Growth ('the Energy Agreement'/'the Agreement'), which was signed in September 2013 by 47 organisations, including the Government, employers, trade unions, nature and environmental organisations, other civil-society organisations and financial institutions. The aim of the Energy Agreement was and still is to work together with social partners to shape the energy transition, based on the premise that the Government cannot make the full transition alone. On the contrary, the process is to a large extent a social transition to which broad support, involvement and shared responsibility are key.

The Energy Agreement is a social agreement. The arrangements made by the organisations concerned therefore have no status other than that of shared arrangements by the organisations which support the agreement. By each party reminding the others of the responsibilities they all have, progress is maintained in implementing the arrangements.⁷ The support of this broad group of social partners for the arrangements is accordingly the basis of the Agreement. The arrangements also include measures which provide a legal basis for participation, such as the implementation of renewable energy projects.⁸

Participation in the Energy Agreement was (and still is) open to everyone. A wide range of organisations were accordingly consulted on the drafting of the Energy Agreement, which was eventually signed by the Dutch Government and 46 other parties: from employers' organisations to nature and environmental organisations, from tenants' and cyclists' interest groups to organisations representing the interests of companies in the energy sector and in industry, and from representatives of housing corporations to representatives of motorists. These organisations represent almost all interests which can play a part in energy policy. In addition, the Energy Agreement is open to new parties, and broader cooperation on implementing the arrangements is being sought than merely between the parties to the Agreement.

The Energy Agreement is the product of consultation lasting several months with the social partners referred to above. Since January 2013 a number of conferences and consultation group meetings organised by the Social and Economic Council have been held on four main areas of the Agreement:

1. the built environment;
2. industry, large-scale energy production, and emissions trading (EU ETS);

⁶ See 2015-2016 progress report, p. 7.

⁷ This was one of the reasons for the establishment of the Social and Economic Council's Committee for Safeguarding of the Energy Agreement, which monitors progress made in implementing the Agreement. The Committee is made up of representatives of all organisations which have signed the Energy Agreement.

⁸ See Section B of this Annex.

3. commercialisation, innovation and clean energy technologies;
4. mobility and transport.

A 'round table' was then set up for each area, in which participants from relevant organisations held discussions and negotiations on a total of 10 topics and account was taken of the input from the conferences and consultation group meetings. A Financing Project Group was also established. The partial agreements produced by the round tables and the project group combined to form the Energy Agreement.

The definitive version of the Energy Agreement was submitted to the lower house of the Dutch Parliament on 6 September 2013. On 2 October 2013 the lower house discussed the main elements of the Agreement with the relevant ministers and state secretary (the Minister for Economic Affairs, the Minister for Housing and the Central Government Sector, and the State Secretary for Infrastructure and the Environment). Evaluations/progress reports and annual implementation plans are shared with the lower and upper houses of the Dutch Parliament.

Publicly available information on the Energy Agreement and related processes is published on the website www.energieakkoordser.nl.

3. The (2016) Energy Dialogue and Energy Agenda

The Energy Agenda sets out a road map for the energy transition in the period from 2023 to 2030. It was preceded by an extensive 'Energy Dialogue' with society on future energy policy. The Energy Dialogue was held in the first half of 2016 in order to share knowledge, raise awareness and engage and mobilise sectoral and social forces in order to make the energy transition successful. The input provided in the Energy Dialogue then laid the foundation for drawing up the Energy Agenda.

All participants in the Energy Dialogue were free to organise and attend meetings. A total of 144 meetings were held, organised by 86 different organisations, of which 62 were civil-society and private organisations and businesses (such as local initiatives, citizens' movements, energy companies, network operators, knowledge institutions, social initiatives, think-tanks, industry organisations and round tables) and 24 were government organisations. In addition, over 10 000 people visited the Energy Dialogue website,⁹ on which they could take part in online discussions, register for events and upload their own events and ideas. On 21 November 2016 the then Minister for Economic Affairs informed the lower house of the Dutch Parliament of the outcomes of the Energy Dialogue by means of a letter to Parliament, a report ('Oogsten en inzichten' – 'Insights gained') on the meetings, and an analysis of the online contributions to the dialogue ('De energieke samenleving #mijnenergie2015' – 'The energy society

⁹ www.mijnenergie2050.nl no longer online; archived since March 2017).

#myenergy2015').¹⁰ On 7 December the lower house was informed of the Energy Agenda drawn up on the basis of the outcomes of the Energy Dialogue.¹¹

B. Public participation in decision-making processes regarding renewable energy projects

1. General remarks

The Aarhus Convention has been implemented in the Netherlands through the Act on the Implementation of the Aarhus Convention (*Wet Uitvoering van het Verdrag van Aarhus*).¹² This Act led to amendments of existing Dutch laws, such as the Environmental Management Act (*Wet milieubeheer*) and the Act containing regulations governing public access to government information (*Wet openbaarheid van bestuur*, the Government Information (Public Access) Act). The basic principle of the Government Information (Public Access) Act is access to information, both by providing citizens with the possibility to ask the government for (environmental) information and by active disclosure of information. On the basis of Section 8 of the Government Information (Public Access) Act, the administrative authority directly concerned is obliged to provide, of its own accord, information on its policy and the preparation and implementation thereof, whenever the provision of such information is in the interests of effective, democratic governance. The administrative authority shall ensure that the information is supplied in a comprehensible form and in such a way as to reach the interested party and as many interested members of the public as possible at a time which will allow them sufficient time to submit their views to the administrative authority.

In addition, the General Administrative Law Act (*Algemene wet bestuursrecht*) (GALA) is relevant. The GALA provides for general rules for governmental acts in administrative affairs, for the preparation of decisions, and for the possibilities for appeal to administrative law courts. Both the Government Information (Public Access) Act and the GALA apply to a broader range of issues than merely environmental issues. However, both Acts are highly relevant for the implementation of the Convention in the Netherlands. The GALA contains general provisions for administrative decision-making procedures that are applicable in the preparation of both environmental policy strategies and environmental decision-making. One of the procedures for decision-making is the uniform public preparatory procedure (*uniforme openbare voorbereidingsprocedure*), which is set out in Division 3.4 GALA (Sections 3.10 to 3.18). It contains general provisions on public participation in decision-making, which have to be taken into account when the provisions of this Division apply by law or when the decision is taken to apply these provisions in accordance with a law. Specific environmental laws refer to this procedure for the preparation of decisions and plans.

¹⁰ <https://www.rijksoverheid.nl/doe-mee/documenten/kamerstukken/2016/11/21/kamerbrief-over-uitkomsten-energedialoog>

¹¹ <https://www.rijksoverheid.nl/documenten/kamerstukken/2016/12/07/kamerbrief-over-energieagenda>

¹² State Bulletin 2004, 519.

Most environmental laws refer to the preparatory procedure of the GALA for the preparation of plans and programmes. If reference is made to Division 3.4 GALA, a draft plan will be made available for examination allowing everyone to submit views (Section 3:11 GALA in conjunction with Section 3.8 of the Spatial Planning Act (*Wet ruimtelijke ordening*)¹³ and Section 7.11 of the Environmental Management Act). The draft plan is made available for examination together with the relevant documents which are necessary to assess the draft, as is required by Article 7.

If, according to these specific environmental laws, different or supplementary requirements apply, this is indicated in these laws. One example is the fact that specific environmental laws provide for “everyone” to submit their views on a (draft) decision. This differs from the general rule in the GALA where it is stated that only “persons concerned” can submit their views.

2. Public participation during the preparation of executive regulations and/or generally applicable legally binding normative instruments

In the Netherlands, on draft legislation and regulations prepared by the Government or the Parliament, the public is consulted through a system of internet consultation on <http://www.internetconsultatie.nl>. This includes legislation and regulations with respect to renewable energy (i.e. regulations on subsidies).

Apart from the parliamentary procedure applicable to the preparation of acts (advice of the Council of State, an independent advisory body, followed by a procedure in the Parliament, consisting of a House of Representatives and the Senate), several acts provide for public participation during the preparation of regulations. This is, for example, the case in Section 21.6, paragraph 4, of the Environmental Management Act, which provides for parliamentary participation in the preparation of draft governmental decrees relevant to the environment. This implies that draft decrees are presented to both Houses of Parliament and published in the State Journal. Members of the public are given the opportunity to submit written comments on the drafts to the Minister of Infrastructure and the Environment within a period stated therein of at least four weeks. These comments have to be taken into account in the subsequent procedures.

3. Spatial decision making

Spatial decision-making with respect to renewable energy projects normally starts with the determination of a policy strategy.

Depending on their substance, policy strategies relating to the environment can be considered to be policies within the meaning of Article 7 of the Convention. According to the Government, in certain cases policy strategies relating to the environment can be considered to be plans or

programmes within the meaning of Article 7. This is the case when these strategies are considered to be plans or programmes within the meaning of the Strategic Environmental Assessment Directive.

Public participation in policy strategies is obligatory in the event of policy strategies for which an environmental impact assessment has to be made in accordance with the Strategic Environmental Assessment Directive. The public participation provided has to be accounted for in the policy strategy itself (Section 2.1.1 of the Spatial Planning Decree).

During the following phase, concrete projects are developed, based on the policy set out in the policy strategies described above. For this purpose, legally binding spatial plans are determined, including rules on the use of the land and the constructions that are situated on it. In general municipalities are competent authorities to determine these plans (Section 3.1 of the Spatial Planning Act), i.e. the local zoning schemes. However, such schemes may be established by the Central Government or the Provincial Government if this is in their interest (i.e. where projects of general interest are involved) (Section 3.28 respectively Section 3.26 of the Spatial Planning Act). These plans are called zoning schemes.

The Government is of the opinion that local zoning schemes and zoning schemes relating to the environment, in principle, fall within the scope of Article 7 of the Convention. However, irrespective whether such a zoning scheme may be found to fall within the scope of Article 6 or Article 7 of the Convention, the procedures for both schemes comply with the requirements of Articles 6 and 7 of the Convention as they provide for public participation for everyone and access to justice for persons concerned.

Division 3.4 GALA applies to both local zoning schemes (Section 3.8 of the Spatial Planning Act) and zoning schemes (Sections 3.26 respectively 3.28 in conjunction with Section 3.8 of the Spatial Planning Act) with some extra requirements originating from specific environmental and spatial planning laws, such as the possibility for everyone to submit their views (Section 3.8 of the Spatial Planning Act) and an electronic notice on the internet (Section 3.8 of the Spatial Planning Act).

4. Environmental impact assessment (EIA)

Activities for which an obligatory environmental impact assessment is prescribed are designated in part C of the Annex to the EIA Decree. If an environmental impact assessment (EIA) is required for a (local) zoning scheme, additional requirements for public participation apply in the context of the EIA procedure. If it concerns an EIA within the meaning of the Strategic Environmental Assessment Directive, such additional requirements are set out in Sections 7.8 to 7.15 of the Environmental Management Act. These requirements include the right to submit views for everyone. This means that with the preparation of an EIA relating to a plan, the competent authority, as soon as possible after it has decided to prepare a plan, publishes a notice of the draft decision in one or more daily or weekly newspapers, or in another suitable manner. If the decision

comes from the Central Government, the notice is published in any event in the State Journal, unless a specific law provides otherwise (Section 7.9, paragraph 1, of the Environmental Management Act in conjunction with Section 3:12, paragraphs 1 and 2, GALA).

In the preparation of an EIA relating to a decision, the competent authority, as soon as possible after it has decided to prepare a decision, publishes a notice of the draft decision in one or more daily or weekly newspapers, or in another suitable manner (Section 7.27, paragraph 3, of the Environmental Management Act). If the decision comes from the Central Government, the notice is published in any event in the State Journal, unless a specific law provides otherwise (Section 7.27, paragraph 3, of the Environmental Management Act in conjunction with Section 3:12, paragraphs 1 and 2, GALA). The right to submit views for everyone is included in the procedure.

5. Main steps in in the decision-making process

The main steps to be taken under the uniform public preparatory procedure, where relevant, are presented below.

Informing the public early in the decision-making procedure and envisaged procedure (Implementation of Article 6, paragraphs 2 to 4 of the Convention)

The competent authority makes the draft decision available for examination together with the relevant documents which are necessary to assess the draft (Section 3:11 GALA).

Before these documents are made available for examination, the competent authority publishes a notice of the draft decision in one or more daily or weekly newspapers, local papers that are delivered at home free of charge, or in another suitable manner (Section 3:12, subsection 1, GALA).

Section 3:12 GALA contains additional requirements on the timely public notice of the draft decision, the content of the notice, and the relevant information that is made available to the public. For instance, if the decision is made by an authority forming part of the Central Government, the notice will be published in the State Journal (Section 3:12, subsection 2, GALA).

In most cases, the draft decision and related information is not only physically made available for examination, but also through the internet. Environmental projects being handled by the Central Government are open for online public consultation via the websites www.platformparticipatie.nl and www.bureau-energieprojecten.nl. All information pertaining to large renewable energy projects (i.e. wind farms) that are coordinated by the Central Government, is available on the website www.bureau-energieprojecten.nl. The organisation responsible for this website, the so-called Energy Projects Desk (*Bureau Energieprojecten*), is part of the Ministry of Economic Affairs. It supports governments, initiators of energy projects and people living in the vicinity of those projects that are involved in the decision-making procedure on large energy projects. The Energy Projects Desk provides access to relevant information for each project and receives the related

views submitted by the public. For every project, a description is provided of its substance, the phases of the procedure and its current status, as well as access to the documents corresponding to each phase of the project. All studies and reports that are relevant for decision-making are made available as well. This includes, in the event that an environmental impact assessment is carried out, the environmental impact assessment report and its underlying studies.

Providing for early public participation (implementation of Article 6, paragraphs 4 and 7 of the Convention)

The procedure for public participation that allows persons concerned to submit views (in writing or orally) is implemented in Sections 3:15 to 3:17 GALA. Most relevant (environmental) laws broaden this right to submit views to everyone (see, for example, Section 3.12 of the Environmental Permitting (General Provisions) Act, *Wet algemene bepalingen omgevingsrecht*). The time limit for submitting views for members of the public is six weeks, unless a longer period is specified by law. The term for the submission of views starts on the day that the draft decision is made available for examination (Section 3:16 GALA).

Due account of the outcome of the public participation (implementation of Article 6, paragraph 8 of the Convention)

Division 3.7 GALA contains the requirements for the reasoning of a decision. Section 3:46 GALA requires that a decision shall be based on sound reasons. This means that it should indicate what has been done with the views as expressed in the participation procedure. Section 3:47 GALA requires that these reasons are made public together with the decision.