Question relating to the Introduction / Summary of the National Renewable Energy Policy (1)

The cover letter and the plan state that the plan is of a tentative nature because the Balkenende IV government was about to resign. Further, it is stated that the targeted share from renewable sources in 2020 is achievable, but only on condition that the construction of the relevant facilities is not delayed and an adequate budget is made available to finance these sustainable options. In light of this, it should be confirmed that the measures described in sections 2-5 of the plan meet these conditions and thus are considered to be the adequate measures to be taken to achieve the national overall target as set out in Article 4(1) of the Renewable Energy Directive.

Answer

The new incentive scheme for sustainable energy production+ (SDE+) is being published on 1 July. This is the successor to SDE and an important instrument in achieving the national target. In the new scheme, all sustainable options are to compete for the available budget and it will not be clear in advance which options will receive support.

Publication is scheduled for 1 July 2011. In view of the above it is not possible to calculate the effect on the national renewable energy policy until the second half of 2011.

Article 22 of the Directive states that each Member State must send an initial progress report by the end of December 2011. At that time my office will be able to report on how the Netherlands is meeting its European commitment.

Technical specifications (4.2.2)

The technical specification for renewable energy equipment and systems for obtaining support should be better clarified where it concerns references to national standards as these are not clearly explained and it is not mentioned whether they go further than European standards.

Answer

In respect of the main support schemes mentioned in the action plan, we indicate below what national standards they refer to for sustainable energy applications and how those standards relate to European standards.

<u>SDE/MEP/OVMEP</u>

There is no reference to national standards in these schemes. The only exception is NTA8003:2008. This Netherlands Technical Agreement describes a classification system for breaking down and classifying mainly solid and liquid biomass streams for use as fuels for energy production.

The system is used here to target the scheme as cost-effectively as possible. Different biomass streams are subject to different subsidy rates so as to avoid overstimulation.

<u>Green investment</u>

In this scheme, reference is only made to international standards for projects eligible within the sustainable energy category (Article 2(f)). These standards are:

- NEN-EN 14511 (European standard for heat pumps)

- The European safety standards IEC 61400-1, 3rd edition, and IEC WT01 (here, reference to the Dutch standard NVN 11400-0 was recently removed).

EIA

To be eligible for EIA (energy investment deduction) the asset must meet the general savings standards or be included in the 2011 energy list. Various sustainable energy systems are eligible. They are included in Chapter 5. There are no references to national standards here.

Sustainable heat

This scheme refers to European standards. These are EN 12975 and EN 12976 for solar water heaters, EN 12309 and EN 12309 [sic] for heat pumps and EN 677 for micro co-generation plants.

The only reference to national standards is to NPR 7976. These practical guidelines allow test results to be converted to Dutch standard conditions. This is necessary to link the subsidy to the anticipated yield under Dutch conditions. To ensure conformity with Dutch standard NEN 5128:2004 adapted application of NPR 7976 for a heat path from 10°C (cold water) to 60°C (hot water) is permitted.

Buildings (4.2.3)

According to the plan no minimum renewable energy requirements in buildings exist and no future plans related this are indicated. It is mentioned that the more stringent energy performance standards already require increased amount of use of energy from renewable sources in the building sector. The figures in Table 6 seem, however, to imply that between 2010 and 2020 the share of renewable energy in the building sector will not increase by much. In light of this, the reasons for not having plans to introduce minimum renewable energy requirements in buildings should be better explained.

Answer

The Table below shows the relative growth of the proportion of renewable energy in buildings in the three categories, expanding on Table 6a. This shows an increase in the percentage of renewable energy, even two-fold in the services sector.

Table 6a: Estimated share of renewable energy

	2010	**2015**	**2020**	**Growth '10-'15**	**Growth '10-'20**
Household	2.3%	2.8%	3.8%	21.7%	65.0%
Services	1.8%	2.7%	3.7%	50.0%	105.6%
Industry	0.8%	0.7%	0.9%	-12.5%	12.5%

Source: National action plan

The percentages refer to total final demand. The increase after 2015 is particularly striking, for example the doubling of the share in the services sector and the 65% increase in the household sector. The growth between 2015 and 2020 is the result of a more stringent EPC requirement, 0.4 in 2015. The assumption in the reference estimates is that with an EPC of 0.4 new housing will have either a solar water heater, a heat pump or solar photovoltaics.

A calculation example:

Use of renewable sources will only make up a proportion of the final consumption of new housing, probably some 25%. In the period from 2014 to 2020 there will be four complete new building years. With a new buildings rate of 1% per year this will be 6% for the whole period. With a share of 25% renewables in the final demand per housing unit, this is an increase of 1.5% in absolute terms, but 65% in relative terms.

As far as the state of the art is concerned, the growth will not be greater than that indicated here. The percentages in the Table are maxima and mandatory requirements will hardly have an additional impact. This supports the view that minimum requirements for renewable sources in buildings should not be introduced.

For new housing and utility buildings and major renovation work the Netherlands has had energy performance requirements on buildings since 1995. The use of renewable energy is a measure for meeting energy performance requirements. Large-scale renovation and change of use of a building are deemed to be 'new buildings' in building legislation so the requirements on the energy performance of buildings apply to them.

Biofuels support schemes (4.5)

The concrete obligations/targets per year (per fuel or technology) should be provided. They should refer to the period until 2020, as the reference period for the action plan.

Answer

The new Dutch legislation implementing the Renewable Energy Directive provides that in the next few years suppliers of transport fuels blend in a certain minimum percentage of biofuels.

The percentages for these years are:

2011: 4.25%
2012: 4.5%
2013: 5.0%
2014: 5.5%

The commitments for the years thereafter are not yet known. The growth rate to 2014 was deliberately chosen as a modest one so that in the years after that larger steps could be used to reach 10% in 2020. The Netherlands is very keen to ensure that indirect land-use effects are included in the greenhouse gas balance. This aspect will have to be a very important element of the evaluation of the Directive in 2014. If that sustainability aspect is settled the percentage can justifiably increase in larger steps.

Biomass supply (4.6.1)

It would seem to follow from the figures in Table 7a that the conversion factor for the "indirect supply of wood biomass for energy generation" for the years 2015 and 2020 are

respectively 0.317 toe/m³[1] and 0.320 toe/m³[2]. This seems possibly beyond what seems theoretically possible[3]. These figures should be substantiated.

Answer

In our action plan we converted the specific gravity of specific biomass directly into primary energy content. In the plan we gave no biomass volumes.

To clarify the conversion of biomass density to energy content we have added the underlying figures for Table 7a (biomass from forestry in 2020) below.

The assumed moisture content varies for the different categories of biomass from forestry. Thus, 50% moisture content is assumed for wood from forests. 10% and 40% are assumed for wood residue from the timber-processing industry and compost surplus respectively. The specific gravity of the wet biomass also varies with the moisture content.

We understand that when formulating the additional question a figure of 900 kg/m³ (wet matter) was used to determine the volume of wood residue from the timber-processing industry and compost surplus (on that assumption, 475 kt has a volume of 527 725 m³).

For wood residue from the timber-processing industry and wood chips a specific gravity of 200 to 450 kg/m³ is more normal. This may explain differences in results.

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[1] On the assumption that the number of kt moist material as reported in the plan is equivalent to 442178 m³

[2] On the assumption that the number of kt moist material as reported in the plan is equivalent to 427725 m³

[3] See 'Biomass Energy Europe' (http://www.eu-bee.com): If the wood is assumed to be completely dry the conversion factor can scarcely exceed 0.208 toe/m³ (based on the wood having a specific gravity of 450 kg/m³.

Name	Moisture content, wet			Mean ash	Calculated HHV	Calculated calorific value	Calculat-ion based on		
	Average	Bio-mass	Fossil	% wt dry	MJ/kg dry, from composition	MJ/kg wet		ktoe LHV/t	ktoe HHV/kt wet
Wood from forest, without felling	50%	100%	0%	2.3	19.8	8.0	LHV	0.19	0.24
Wood from forest, with felling	50%	100%	0%	2.3	19.8	8.0	LHV	0.19	0.24
Wood from countryside	50%	100%	0%	2.3	19.8	8.0	LHV	0.19	0.24
Natural grass	60%	100%	0%	5.0	18.1	5.3	HHV	0.13	0.17
Grass from verges and watercourses	60%	99%	1%	5.0	18.1	5.3	HHV	0.13	0.17
Heather	15%	100%	0%	10.0	18.1	13.0	HHV	0.31	0.37
Cane	15%	100%	0%	7.0	18.8	13.9	HHV	0.33	0.38
Wood residue from timber-processing industry	10%	100%	0%	6.5	19.4	15.4	LHV	0.37	0.42
Compost surplus	40%	100%	0%	2.3	19.8	10.1	LHV	0.24	0.28

Name										
	kt wet 2020(1)	kt wet 2020(2)	kt wet 2020(3)	kt wet 2020(4)	Range, kt	ktoe 2020(1)	ktoe 2020(2)	ktoe 2020(3)	ktoe 2020(4)	Range ktoe 2020
Wood from forest, without felling	-	75	75	150	0-150	-	14	14	29	0-29
Wood from forest, with felling	124	498	746	995	124-995	24	95	143	190	24-190
Wood from countryside	96	192	288	384	96-384	18	37	55	73	18-73
Natural grass	135	405	675	945	135-945	23	70	117	164	23-164
Grass from verges and watercourses	80	420	800	1280	80-1280	14	73	138	222	14-222
Heather	-	-	34	52	0-52	-	-	11	16	0-16
Cane	-	-	14	19	0-19	-	-	5	6	0-6
Wood residue from timber-processing industry	425	425	425	425	425-425	157	157	157	157	157-157
Compost surplus	50	50	50	50	50-50	12	12	12	12	12-12

Table 10

2005 figures for total hydro gross electricity generation in the plan are neither matching normalised nor non-normalised Eurostat figures for 2005. It should be either confirmed that the 2005 figures and the figures for subsequent years are normalised figures; or the normalised figures should be provided.

The hydro figures should be differentiated in accordance with the template into figures for “<1MW”, “1MW–10 MW”, “>10MW” and “of which pumping”.

Answer

The results are in Annex A. In the data there, no normalisation has been applied for 2005 given that CBS data are available for that year. 2005 could be normalised if necessary; the results are summarised in the Table below:

	2005	
	MW	GWh
Hydro:	37	100
<1MW	0	0
1MW—10MW	2	5
>10MW	35	95
of which pumping	0	0
tide, wave, ocean	0	0

Annex A presents electricity production by tide, wave and ocean separately from hydro, as per the template. If required the powers and production indicated can be added to the category hydro >10MW.

Annex A

	2005		2010		2011		2012		2013		2014	
	MW	GWh	MW	GWh	MW	GWh	MW	GWh	MW	GWh	MW	GWh
Hydro:	37	88	47	127	56	151	67	181	68	184	68	184
<1MW	0	0	0	0	2	5	2	5	2	5	2	5
1MW—10MW	2	5	2	5	9	24	20	54	21	57	21	57
>10MW	35	83	45	122	45	122	45	122	45	122	45	122
of which pumping	0	0	0	0	0	0	0	0	0	0	0	0
tide, wave, ocean	0	0	0	0	0	0	0	0	0	0	0	0

	2015		2016		2017		2018		2019		2020	
	MW	GWh	MW	GWh	MW	GWh	MW	GWh	MW	GWh	MW	GWh
Hydro:	68	184	68	184	68	184	68	184	68	184	68	184
<1MW	2	5	2	5	2	5	2	5	2	5	2	5
1MW—10MW	21	57	21	57	21	57	21	57	21	57	21	57
>10MW	45	122	45	122	45	122	45	122	45	122	45	122
of which pumping	0	0	0	0	0	0	0	0	0	0	0	0
tide, wave, ocean	0	0	27	103	54	206	81	308	108	411	135	514