

Public consultation on accounting methods and conditions for the 10 % renewable energy in transport target – and on the need for additional types of biofuels being listed in Annex III of the Renewable Energy Directive

Introduction

The European Union (EU) has set in the Renewable Energy Directive¹ ('the Directive') an overall 20 % renewable energy target in final energy consumption and a 10 % target of renewable energy in transport for 2020. For the transport sector each Member State has to ensure that the share of energy from renewable sources in all forms of transport in 2020 is at least 10 % of the final consumption of energy in transport in that Member State. All forms of energy from renewable sources can contribute to the target, including biofuels - liquid or gaseous - and electricity produced from renewable sources. The Directive required Member States to submit by June 2010 National Renewable Energy Action Plans² setting out inter alia the contribution expected of each renewable energy technology to meet the 2020 targets, including in the transport sector. The Renewable Energy Directive contains rules for the calculation of the 10% target³.

For biofuels, this involves using the energy contents that are listed in Annex III to the Directive. This Annex can be updated. This public consultation, in section D, seeks views on whether and how the Annex should be updated.

For the contribution of electricity from renewable sources, the Directive prescribes that the average share of electricity produced from renewable energy sources (Member States or EU level) has to be taken into account in the calculation. In addition, the Directive requires the Commission to present by December 2011, if appropriate, 'a proposal permitting, subject to certain conditions, the whole amount of the electricity used to power electric vehicles to be counted towards the 10% target'. This public consultation, in section A, seeks views on what conditions could reasonably be applied for this.

As far as hydrogen originating from renewable sources is concerned, the Directive does not include any specific rules on how to account this towards the 10% target. Further, hydrogen is currently not part of the EU energy statistics system. This means that Eurostat and the Member States would develop statistical methodologies along the lines of the overall energy balance when the contribution of hydrogen to the fuel mix will become significant. The Directive requires the Commission to present by December 2011, if appropriate, 'a proposal for a methodology for calculating the contribution of hydrogen originating from renewable sources for counting towards the 10% target'. This public consultation, in section B, seeks views on what method(s) could reasonably be applied for this.

For the contribution of methane originating from renewable sources (biomethane⁴) and supplied via the natural gas grid, the Directive does not include any specific rules for the calculation towards the 10% target. In the absence of accurate statistical methods for measuring the share of injected biomethane consumption by sector, Eurostat would attribute

¹ Directive 2009/28/EC OJ L140 of 5.06.2009 p. 16

² All plans are available at: http://ec.europa.eu/energy/renewables/transparency_platform/action_plan_en.htm

³ In Article 3(4) and 5(5)

⁴ Either biogas upgraded to the quality of natural gas or gas of similar quality produced from biomass by other production methods.

to each natural gas consuming sector a portion of the biogas injected to the natural gas network, proportional to each sector's natural gas consumption. The Commission considers that it is of interest to further explore the accounting of biomethane from the grid, in parallel to those for electricity and hydrogen from renewable sources. This public consultation, in section C, seeks views on whether other accounting methods could be appropriate to apply for this.

The consultation is open from 14/04/2011 and closes on 14/06/2011. This questionnaire exists only in English, but responses can be in any EU language. If you have views on some questions and not others, feel free to send an answer covering only these questions.

Contributions will be published: http://ec.europa.eu/energy/consultations/index_en.htm

This document has been prepared by the Commission services as a basis for comments. It does not prejudge the final form of any decision to be taken by the Commission.

Section A: Electricity from renewable sources in transport

According to the National Renewable Energy Action Plans, Member States estimate that the contribution of renewable electricity will by 2020 account for approximately 1% of energy consumed in transport: 0.8% in non-road transport (mainly in trains) and 0.2%^s in road transport, including electric cars, trolleybuses, etc.

Given that electricity is generated from both renewable as well as non-renewable sources,

1. how do you value the impact of the 10% target for renewable energy in transport by 2020 on the development of electric vehicles?

- Not significant.

- Ikke af væsentligt betydning. Det skyldes primært, at elbilers høje energieffektivitet indebærer et væsentligt lavere energiforbrug end det fortrængte forbrug af fossile drivmidler fra en konventionel benzin eller dieselbil. I Danmark forventes 47 % af elproduktionen i 2020 at være baseret på VE. Udskiftes ca. 10 % svarende til ca. 220.000 konventionelle biler til elbiler, svarer det til ca. 1 % -point af VE-målet på 10 % for transport (inklusive faktor 2,5). Målet ville i højere grad fremme elbiler, hvis det også tog højde for energieffektivitet og mængden af fortrængt olie. Det kan endvidere bemærkes, at generelt har produktion af VE-el intet eller et meget mindre konverteringstab end termisk elproduktion i EU.

- Significant, but other policies/developments will be of more importance

- Important, along with other policies/developments

- A key driver

2. under what condition do you think it would be justified to count the whole amount of electricity in electric vehicles as renewable?

- None

- When the electricity is produced fully from renewable energy and without connection to the electricity grid.

- Ja.

- When the electricity comes with a tradable certificate showing that that amount of renewable electricity was generated.

- Det bemærkes indledningsvis, at VE-el, der handles gennem oprindelsesgarantisystemet, i henhold til VE-direktivets artikel 15, stk. 2, ikke må indgå i beregning af VE-andelen til brug for hverken den overordnede VE-målopfyldelse eller transportsektorens VE-målopfyldelse. Er der tale om andre former for "tradable certificates", må der indledningsvis tages stilling til, om – og i givet fald hvordan – anden form for virtuel handel med el kan anvendes til at indgå i landenes VE-målopfyldelse.

- Er det tilfældet, kan der svares ja men med følgende forbehold: Såfremt der er tale om "tradable certificates", der kan handles over landegrænserne, som det f.eks. planlægges i det svensk-norske certifikatmarked, er der flere vilkår, der skal være opfyldt, før virtuel handel med VE-el kan tælle med i transportsektorens VE-andel. For det første skal støtten til VE-el efter dansk opfattelse gives i det land, der kan tælle VE-forbruget med i sin VE-andel, og for det andet skal det sikres, at VE-forbruget ikke tæller med i flere landes VE-statistik. Såfremt der er tale om lande, der anvender et nationalt certifikatsystem, vil der næppe være problemer med støttetildeling og dobbelttælling.

- When there is a supply contract showing that that amount of renewable electricity was generated.
 - Nej, en sådan kontrakt vil ikke sikre eksklusiv anvendelse af den pågældende mængde producerede VE-el.
 - When there is evidence on a Member State level that the development of electric vehicles has led to that amount of additional renewable electricity generation.
 - Ja, hvis det kan dokumenteres, at mere VE-el er blevet efterspurgt til elbiler og/eller mere VE-elproduktions kapacitet er etableret for at tilfredsstille efterspørgslen.
 - Other (please specify):
 - Hvis ny elproduktionskapacitet er baseret på VE. Den nye VE-produktionskapacitet går dermed bl.a. til at forsyne nye typer elforbrug, herunder elbiler og varmepumper.
 - Hvis opladningen foregår intelligent og med henblik på at sikre en højere VE-andel af den el, der er oplades. Hvis andet ikke dokumenteres, foreslås at medlemsstatens gennemsnitlige VE-el produktion kan anvendes til opgørelse af elbilparkens VE-elforbrug. Anvendelse af højere VE-andele end den gennemsnitlige VE-andel af medlemsstatens samlede elproduktion, bør kun kunne ske på baggrund af dokumentation af, at opladningen er styret og sikrer en højere VE-andel af den el, der er oplades. Det kan f.eks. være gennem ladeprofiler, der er styret VE-andelen, opladning på baggrund af "tradable certificates" og via ladestandere, der styrer opladningen intelligent, foretager identifikation af elbil, måler elforbruget og som muliggør udnyttelse af elbiler til at stabilisere og støtte elsystemet (ancillary services).
3. what benefits do you expect the option you selected under (2) will have:
- Additional renewable electricity generation.
 - Ja, intelligent opladning vil fremme fleksibel udnyttelse af fluktuerende VE. "Tradable certificates" kan formidle en øget betalingsvillighed hos elbilejere for VE-el, som fremmer og nyttiggør øget VE-el produktion og ny VE-el produktionskapacitet.
 - Faster development of electric vehicles
 - Muligheden for at anvende VE-el som drivmiddel vil formentligt kunne være en klar interesse for en stor del af køberne til elbiler.
 - Other (please specify):
 - None, it only changes the accounting method

Please motivate your answer

4. what costs in terms of administrative burden do you expect the implementation of the option you selected under (2) will have:
- Additional statistics collection in all Member States
 - Der vil under alle omstændigheder skulle sikres intelligent opladning og kommunikation med elsystemet på længere sigt, betalingssystemer mv. af andre årsager, herunder for at undgå overbelastning af elnettet, sikre betalingsstrømme, sikre indtægter til operatører for balancerkraft/ancillary services mv. Elbiler forventes at blive en væsentlig del af den generelle smart grid udvikling.
 - Generating additional information on the basis of existing statistics
 - Other (please specify):
 - None

⁵ This 0.2% counts however with a multiplication factor of 2.5 towards the 10% target - Cf. Article 3(4) of the Directive.

Section B: Hydrogen from renewable sources in transport

According to the National Renewable Energy Action Plans, only one Member State estimates that hydrogen from renewables will be used in transport by 2020.

1. Which are in your view the most likely ways to produce hydrogen from renewable sources (partly or fully) by 2020?

- From biomethane, e.g. by steam reforming/partial oxidation
- From a mixture of natural gas and biomethane, e.g. by steam reforming/partial oxidation
- On the basis of renewable electricity, by electrolysis
- On the basis of the electricity mix from the grid, by electrolysis
- From biomass directly, e.g. by gasification/partial oxidation or biological processes
- Other (please specify):
- None are likely to be significant by 2020

- Der er initiativer i gang i Danmark med etablering af en brintinfrastruktur til transport. Målet er at have etableret 15 brinttankstationer i 2015.
- Det er på nuværende tidspunkt vanskeligt at forudsige hvilken energikilde der vil blive dominerende til brintproduktion, men den mest sandsynlige vil være elektrolyse baseret på et elmix fra nettet. Alternativt kan brintproduktionen baseres på SOFC-elektrolyse af naturgas/biomethan fra gasnettet i det omfang biomethan vil være tilgængeligt. SOFC-elektrolysen er pt. under udvikling og vil sandsynligvis kun være i et tidligt kommercielt stadie i 2020.
- Uafhængigt af produktionsmetoden forventes brint til brintbiler ikke at bidrage signifikant til målsætning om anvendelse af 10 % fornybare ressourcer i transportsektoren, på grund af det forventede relative lave antal brintbiler på markedet i 2020.

2. For each option you selected under (2), if it would be used for transport, how would you suggest to calculate its contribution to the 10% target for renewable energy in transport?

- Opgørelsesmetoden for anvendelse af brint fremstillet ved elektrolyse vil basere sig på samme opgørelsesmetode som for anvendelse af el under sektion A.

Section C: Biomethane via the natural gas grid in transport

According to the National Renewable Energy Action Plans, Member States estimate that biofuels other than first and second generation bioethanol and biodiesel will by 2020 account for approximately 0.2% of energy consumed in transport, part or all of which may be biomethane.

Given that methane in the gas grid originates mostly from non-renewable sources (natural gas),

1. how do you value the impact of the 10% target for renewable energy in transport by 2020 on the development of methane vehicles fuelled by methane from the gas grid?

- Not significant.

- Ikke væsentlig. Opfyldelsen af målet forventes at ske primært med flydende biobrændstoffer.

- Significant, but other policies/developments will be of more importance

- Important, along with other policies/developments

- A key driver

2. under what condition do you think it would be justified to count the whole amount of methane extracted from the gas grid for the use in vehicles as renewable?

- None, until the time that all methane injected into the gas grid concerned is originating from renewable sources

- When the methane comes with a tradable certificate showing that that amount of biomethane was generated.

- Ja, men med de samme forbehold, som gælder for virtuel handel med el. Der skal således tages stilling til, om – og i givet fald hvordan - virtuel handel med gas kan anvendes til at indgå i landenes VE-målopfyldelse, både den overordnede VE-andel og transportsektorens VE-andel. Såfremt der er tale om "tradable certificates", der kan handles over landegrænserne, er der – som for el – nogle yderligere vilkår, der skal være opfyldt, før virtuel handel med biogas kan tælle med i transportsektorens VE-andel. For det første skal støtten til biogas gives i det land, der kan tælle VE-forbruget med i sin VE-andel, og for det andet skal det sikres, at VE-forbruget ikke tæller med i flere landes VE-statistik. I Danmark foreslår regeringen i forbindelse med "Energistrategi 2050" støtten til biogas omlagt, så en del af støtten gives til biogasproduktion, hvilket vil vanskeliggøre, at virtuelt solgt biogas til et andet land kan indgå i VE-andelen i det land, der forbruger biogas virtuelt. Såfremt der er tale om lande, der anvender et nationalt certifikatsystem, vil der næppe være problemer med støttetildeling og dobbelttælling.

- When there is a supply contract showing that that amount of biomethane was generated.

- Nej, en sådan kontrakt vil ikke sikre eksklusiv anvendelse af den pågældende mængde producerede biogas.

- When there is evidence on a Member State level that the development of methane vehicles has led to that amount of additional biomethane generation

- Other (please specify):

3. what benefits do you expect the option you selected under (2) will have:

- Additional biomethane generation

- Faster development of methane vehicles.

- Eventuel større betalingsvillighed for biogas til transport vil via "tradable certificates" kunne fremme anvendelsen af biogas til transport.
- Other (please specify):
- None, it only changes the accounting method

Please motivate your answer

4. what costs in terms of administrative burden do you expect the implementation of the option you selected under (2) will have:

- Additional statistics collection in all Member States

- Der vil i alle tilfælde være behov for fremover at opgøre i alle medlemslande, hvor store mængder biogas, der opgraderes og indføres i naturgasnettet, alene for at kunne fastlægge, hvor store mængder biogas, der rent fysisk kan forudsættes transporteret over landgrænserne og indgå i et andet lands målopfyldelse. Hvis virtuel handel også skal kunne indgå i andre landes målopfyldelse, vil det kræve yderligere statistisk indsamling centralt for at holde styr på, at der ikke forekommer dobbelttælling i flere medlemslande.
- Generating additional information on the basis of existing statistics
- Other (please specify):
- Der kan forventes en administrativ opgave i at sikre, at statsstøtte til fremme af biogas kun udbetales i det land, der får lov til at tælle biogassen med i sin målopfyldelse. Samme problemstilling gælder med hensyn til at undgå dobbelttælling.

- None

Section D: Energy content of biofuels

According to the National Renewable Energy Action Plans, Member States estimate that the contribution of biofuels will be approximately 9.5% of energy consumed in transport, most of which is expected to be biodiesel and bioethanol.

1. Do you think additional types of biofuels need to be listed in Annex III of the Directive? If yes, which ones and could you provide values?

- Nej.

Please provide references for suggested values

2. Do you think more precision in terms of decimals is necessary in the values in the Annex? If yes, could you provide such values?

- Normalt anvendes i Danmark en eller to decimaler.

Please provide references for suggested values