



**PUBLIC CONSULTATION ON
ACCOUNTING METHODS AND
CONDITIONS FOR THE 10%
RENEWABLE ENERGY IN
TRANSPORT TARGET**

POSITION PAPER

14 JUNE 2011

Introductory considerations

APPA Biocarburantes represents the Spanish biodiesel, bioethanol and biogas producers. One of its key objectives is to promote the wider use of biofuels in order to take full advantage of their enormous potential to reduce greenhouse gas (GHG) emissions, while ensuring that they are sustainably produced.

The Renewable Energy Directive (RED) establishes a 10% target of renewable energy in transport for 2020, which can be achieved by using various forms of renewable energies, including biofuels, electricity from renewable sources or hydrogen.

Unlike other similar low carbon energy technologies, biofuels need to comply with an additional requirement in order to be counted towards the aforementioned target: meet the most ambitious and stringent biofuels sustainability criteria in the world.

While applying the principle of technology neutrality –one of the fundamental principles of the EU regulatory framework- the EU and national governments must also ensure that **fair and non-discriminatory treatment is given to all competing renewable energy technologies used in transport**. Furthermore, **policy decisions should be robust and stable, in order to avoid putting past and future investments in danger**.

Most importantly, *APPA Biocarburantes* will further argue that **the accounting methodology to be proposed by the European Commission (EC) should make sure that only the contribution of renewable energy sources is counted towards the fulfilment of the 10% objective**. This would certainly avoid unintended consequences such as the promotion of energy-intensive and climate-hostile sources via the renewable energy target. Should this not be the case, the EU goal of switching towards a low carbon economy will be completely missed.

This document outlines *APPA Biocarburantes'* response to the questions posed by the EC in the framework of the public consultation on the method of accounting for renewable electricity, hydrogen and biomethane towards the 10% target for renewable energy in transport by 2020, as well as on the potential update of Annex III to the Directive.

Section A: Electricity from renewable sources in transport

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**
- *Significant, but other policies/developments will be of more importance*
- *Important, along with other policies/developments*
- *A key driver*

The inclusion of renewable electricity in road transport in the 10% target is **not** a significant element in the underlying incentive structure of this technology, given that **the electricity used by these vehicles predominantly comes from non-renewable energy sources (fossil and nuclear)**.

This is despite the fact that, in contrast to other competing renewable energy technologies for transport (biofuels, renewable electricity in other forms of transport and hydrogen), **renewable electricity used in electric vehicles currently counts 2.5 times towards the EU target**. As an additional incentive, Member States can base their claims either on their national or the EU average renewable electricity -whichever is higher- and **not on the actual electricity consumption of electric vehicles**.

Acknowledging the relevant role that electric cars may play in reducing CO₂ emissions and oil consumption, *APPA Biocarburantes* firmly believes that **any support measure that will be adopted at national and EU level must adequately take into account the quality of the electricity used by these vehicles**. Electricity, just like hydrogen, is a mere energy carrier and not a renewable energy source *per se*.

Policy measures and incentives aimed at **simply increasing the number of electric vehicles will definitely not result in a reduction of greenhouse gas emissions savings**, nor will it boost energy production from renewable sources. Quite on the contrary: it will penalise the use of renewables in transport, while maximising the consumption of fossil-derived fuels that the 10% target was seeking to replace in the first place.

Therefore, it is of the utmost importance that EU Member States closely monitor and report estimates of the **actual share** of renewable electricity used by electric vehicles, implement measures in order to manage and regulate demand and quality of electricity delivered to them and encourage the wider use of smart charging technologies that favour renewables. **Benefits or incentives to electric vehicles should be strictly proportional to the amount of renewable electricity actually used**.

Taking the above considerations into account, **it is thus critical to avoid unfair competition with other types of renewable energies in transport, and in particular with sustainable biofuels**. The overall fiscal and regulatory framework to be developed must provide **consistent treatment** of electric vehicles and all other competing technologies.

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**

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

- *When there is a supply contract showing that that amount of renewable electricity was generated*

- *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*

- *Other (please specify):*

Without any doubt, the **only** situation in which the whole amount of electricity used to power electric vehicles can be counted towards the 10% target is **when the**

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

APPA Biocarburantes completely rejects any proposal that would permit counting 2.5 times towards the EU renewable energy target any electricity source that is not renewable. This would constitute a very **serious contradiction of the EU climate policy objectives**, as it would have the perverse effect of stimulating the higher use of fossil-derived energy sources in the power mix, to the detriment of renewables, compromising EU goals of promoting renewable energy.

Electric vehicles cannot be rewarded for changing the source of high GHG emissions from the exhaust pipes to the power stations' chimneys. **Electric vehicles are as "clean" as the energy they consume.** The most recent data shows that the renewable energy share in total electricity consumption in EU-27 was in 2009 18,2%¹. This implies that almost **82% of the EU's average electricity consumed by electric vehicles was produced by fossil fuel fired plants** (coal, natural gas and liquid fuels) and by nuclear power plants.

While the estimations presented by Member States in their National Renewable Action Plans (NREAPs) show that the average share of renewable energies will gradually increase up to 36% in 2020 (as a response to EU objectives), it is evident that fossil and nuclear-derived energy sources will continue to clearly dominate the power mix in 2020 and beyond. When charged with electricity produced from coal, electric cars produce equal or higher emissions than comparable conventional vehicles.

As this percentage varies widely between the various Member States –and they have the flexibility to use either the national or the EU share of electricity from renewable sources- **there is a high risk that non-renewable electricity will be counted 2.5 times towards the 10% target of renewable energy in transport.** Taking this into account, counting the whole amount of electricity in electric vehicles as renewable would be a completely unjustified and illogical policy measure.

It is for this reason that **any kind of middle-ground solutions will be completely ineffective**: tradable certificates and supply contracts do not guarantee that the share of renewable energy generated was actually consumed by an electric vehicle. On the other hand, it is very difficult for Member States to demonstrate that there is a direct connection between the development of electric vehicles and the generation of certain amount of additional renewable electricity. Increases in renewable electricity generation have many causes that go beyond the wider deployment of electric cars, such as policy measures and incentives, technical developments, electricity prices, CO2 prices etc.

Furthermore, the implementation of such measures would significantly increase the administrative burden both for the electricity sector and the Member States. It is much easier to demonstrate that the electricity consumed by electric vehicles was produced fully from renewable energy and without connection to the electricity grid.

¹ EurObserv'er Report, 2010, "The State of Renewable Energies in Europe", available at: <http://www.eurobserv-er.org/pdf/barobilan10.pdf>

Taking these considerations into account, *APPA Biocarburantes* strongly believes that **the best way to correctly assess the contribution of electricity from renewable sources in road transport would be to analyse the actual electricity consumption by electric vehicles**. Member States should be requested to monitor and report estimates of the share of renewable electricity actually used in electric cars, and not just the share of renewables in national or EU energy production. Only by implementing this approach will electric vehicles really contribute to the targets laid down in the Renewable Energy Directive.

The monitoring of the actual electricity that powers electric vehicles can be done by using **metering at the charging station supplied by electricity providers or on-board monitoring**. Metering of the quantity and quality of electricity will be a critical element in managing and regulating demand and quality of electricity delivered to electric vehicles. It would also allow that vehicles are only charged when surplus renewable energy is available on the grid. In order to implement this measure, priority should be given to developing common plug and charging standards and protocols for data exchange.

Until these essential measuring tools are in place, the current accounting methodology for renewable energy from electric vehicles should continue to be applied.

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

- **Additional renewable electricity generation**
- *Faster development of electric vehicles*
- *Other (please specify):*
- *None, it only changes the accounting method*

The most important benefit of ensuring that only renewable electricity will be counted towards the 10% renewable energy target is that **a stronger incentive will be provided for the additional generation of electricity from renewable sources** - which is supposed to be the main purpose of the EU renewable energy targets. Moreover, **it will guarantee that the 10% target is actually met** (by not accounting electricity produced from non-renewable energy sources).

An automatic increase in the number of electric vehicles without taking into account properly the quality of the electricity that powers them will only encourage the wider deployment of electricity of fossil origin, penalizing biofuels and other sources of renewable electricity.

Demand management and adequate monitoring of the quality of the electricity used by electric vehicles will determine Member States and economic operators to boost the use of renewables in the power mix in order to fulfil the EU and national targets.

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**
- *Generating additional information on the basis of existing statistics*
- *Other (please specify):*
- *None*

APPA Biocarburantes believes that the option chosen (The whole amount of electricity in electric vehicles can only be counted as renewable when it is produced fully from renewable energy and without connection to the electricity grid) is the most effective from an administrative burden point of view. Its practical implementation involves mainly data collection by relevant authorities with respect to the quantity of renewable energy that was supplied to power electric vehicles. The administrative burden will be significantly reduced once smart metering technologies are widely deployed.

All other options proposed (involving tradable certificates and supply contracts) would most likely require setting up a monitoring mechanism to control these documents and prevent possible fraud. As far as the last option is concerned (*"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"*) will be almost impossible to implement, given that -as argued before- the generation of additional renewable energy has multiple causes, making it very hard in practice to identify the exact contribution of electric vehicles.

APPA Biocarburantes would also like to stress the fact that **a higher administrative burden should not constitute a reason or excuse for not adopting the adequate and correct accounting methods in the case of renewable electricity from electric vehicles. Economic agents involved in biofuels production as well as the Member States are also being faced with a very significant administrative burden and high costs** in order to demonstrate compliance with the sustainability criteria. A **level playing field** must be thus ensured in terms of costs and administrative burdens between all renewable energy technologies to be used in the transport sector.

Section B: Hydrogen from renewable sources in transport

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**

Hydrogen is one of the emerging technologies that promise to play an important role in ensuring the diversification of the energy mix, enhancing the security of supply and contributing to a low-carbon transport system. The European Strategic Energy Technology Plan (SET Plan) also identifies it as one of the new energy technologies needed to achieve a 60 % to 80 % reduction in greenhouse gases by 2050.

Taking into account the estimations made by the International Energy Agency (IEA) in its numerous reports², **the market penetration of hydrogen in the transport sector is only likely to happen after 2020 and not before, given the significant barriers to its uptake**, including, among other things, the prohibitive costs of production, distribution and end-use technologies (e.g., fuel cells) and the absence of a dedicated infrastructure. Affordability, technological ability, standardisation and customer acceptance are the main elements of success for any other form of alternative fuel or alternative propulsion technologies.

Most importantly, since the cheapest sources to produce hydrogen are currently natural gas and coal, it is very likely that the first hydrogen technologies that will enter the market will be derived from fossil fuel products, and not from renewable energy, given that these production processes will require more time, investments and research and development efforts before they can be commercialised. As the processes used to generate hydrogen from fossil-derived sources release important quantities of CO₂, they do not contribute to climate change mitigation.

Taking into account the aforementioned considerations, *APPA Biocarburantes* believes that **the production of hydrogen from renewable sources (partly or fully) will remain limited by 2020**, and will only be developed in the longer term, once the current market barriers are removed.

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?

Regardless of the production process deployed in order to obtain hydrogen for transport in the medium or long term, its contribution to the EU targets for renewable energy in transport should be **calculated taking into account only the amount of hydrogen that comes from a renewable source**, excluding thus the quantities that are derived from fossil fuel sources. For instance, when hydrogen is produced from a mixture of natural gas and biomethane, only one part of the hydrogen produced (proportional to the biomethane deployed) should count towards the renewable energy targets.

Failing to do so will compromise the overall goals of saving GHG emissions and reduce dependency on fossil fuels, as it will unfairly stimulate the wider use of non-renewable, carbon-intensive sources in the final energy mix used in EU transport.

In the current conditions it seems rather **unfeasible and unrealistic to develop an accounting methodology for an embryonic technology that is not likely to be predominantly produced from renewable energy sources before 2020**.

² See, for instance, IEA, 2007, "*Hydrogen Production and Distribution*", available at: <http://www.iea.org/techno/essentials5.pdf>

Section C: Biomethane via the natural gas grid in transport

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**
- Significant, but other policies/developments will be of more importance
- Important, along with other policies/developments
- A key driver

APPA Biocarburantes considers that the 10% target for renewable energy in transport by 2020 **did not have a significant impact on the development of vehicles fuelled by methane from the gas grid**, given that it is (or, better said, should be) an objective aimed at exclusively stimulating the use of **renewable energies** in transport and the methane in the gas grid is predominantly fossil.

Nevertheless, while it has a limited effect on the general development of methane vehicles, the 10% does stimulate a wider deployment of biogas and biomethane as alternative fuels in the transport sector. In this particular case, more policy measures are needed at national and EU level in order to build a real market for biomethane for transport. Some of the barriers this renewable energy technology is currently facing include high costs of infrastructure for plants, insufficient number of refuelling stations, national regulations that do not allow the injection of biogas into the general natural gas grid, competition with natural gas, LPG and with the greater incentives to generate electricity instead of being used for transport, etc.

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

APPA Biocarburantes restates its **opposition to any proposal that would entail the counting of non-renewable energy sources towards the 10% renewable energy target**. The absence of accurate statistical methods for measuring the share of injected biomethane consumption by sector should be no excuse for allowing fossil natural gas to be considered as "renewable". Therefore, the methane extracted from the gas grid for the use in vehicles can only be counted as renewable when all methane injected into the gas grid concerned is originating from renewable sources.

Tradable certificates and supply contracts do not offer sufficient guarantees that all the quantities of methane used in vehicles have a renewable origin. They may show that a certain amount of biomethane was generated, but they do not guarantee that this biomethane was actually used in the transport sector and not by the heating industry, for instance. There is a risk that double-counting of the same

energy source for both the transport and the general renewable energy target may occur. In addition, Member States do not have the capacity to determine whether the development of methane vehicles had a direct and quantifiable effect on additional biomethane generation, given that the latter is usually the result of multiple technological and economic causes.

From APPA *Biocarburantes*' point of view, the contribution of the biomethane used in the transport sector to the 10% target **should be calculated in a consistent way with the other renewable energies deployed**– in particular liquid biofuels– taking into account the total quantity of methane generated from renewable sources only. It should be emphasized that the biomethane for transport purposes should also be **subject to the same conditions that apply to liquid biofuels** (biodiesel and bioethanol) with respect to the compliance with the sustainability criteria.

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

- **Additional biomethane generation**
- *Faster development of methane vehicles*
- *Other (please specify):*
- *None, it only changes the accounting method*

The most important benefit of not allowing fossil natural gas to be considered as renewable in the framework of the 10% target would be to **stimulate the generation of biomethane**. Member States would have the opportunity to use another renewable energy source to comply with the target and could consider the adoption of more incentives that would accelerate the market penetration of this technology (in particular the injection of biomethane into the natural gas grid, which is only allowed so far by eight Member States).

Using a calculation method that adequately considers the contribution of biomethane towards the fulfilment of the renewable energy targets in transport will also give a positive signal to investors that would benefit from regulatory stability at least until 2020.

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**
- *Generating additional information on the basis of existing statistics*
- *Other (please specify):*
- *None*

APPA *Biocarburantes* believes that the option chosen above would be the most cost-effective from the point of view of the administrative burden that it might create. Gas grid operators also have an important role to play in ensuring that adequate monitoring and traceability systems are in place in order to correctly measure the quantities of biomethane that were injected into the grid and used for transport purposes.

The implementation of the other options would require –besides additional statistics collection– the creation of a mechanism that would ensure that the tradable certificates or supply contracts refer to biomethane consumed in the transport sector. Furthermore, the fourth option proposed–determining whether the

development of methane vehicles has led to a certain amount of additional biomethane generation- would entail the highest administrative burden given the practical difficulties of identifying a cause and effect relation between the greater use of methane vehicles and the additional generation of biomethane.

As mentioned before, **the administrative burden should not be an excuse for not adopting a correct and non-discriminatory accounting methodology**, given that other renewable energies used for the same purpose (biofuels) are being faced with a high administrative burden in order to prove their sustainability and thus count for the 10% target.

Section D: Energy content of biofuels

*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?
Please provide references for suggested values*

APPA Biocarburantes considers that, for the moment, there is no need to add new types of biofuels to those listed in Annex III of the Renewables Energy Directive, as the list already includes all relevant production pathways.

Nevertheless, it is important to stress that any future updates in Annex III should be performed in a **transparent manner**, indicating both the technical reasons that have lead to the need to include additional types of biofuels, as well as the references used for the values adopted.

*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?
Please provide references for suggested values*

In this case, APPA Biocarburantes also considers that, for the moment, it is not necessary to revise the energy content values listed in Annex III of the Renewables Energy Directive, as they seem accurate and in line with both industry data and existing literature.

Nevertheless, any future updates of Annex III should be performed in a transparent manner, indicating both the technical reasons that have determined the need to revise the energy content values, as well as the references used for the new values included.