

How to make the Renewable Energy Directive (RED II) work for renewable electricity in transport

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Summary

In November 2016 the Commission presented its new proposal for a Renewable Energy Directive in the 2021-2030 period. The main elements of the proposal on transport are to reduce the cap on food and feed-based biofuels to 3.8% in 2030 and to establish a mandate on fuel suppliers, requiring them to blend 6.8% of advanced fuels by 2030 (T&E's position on biofuels in the RED can be found [here](#)).

Although the Commission recognises the key role of renewable electricity, the RED II proposal – just like the RED I legislation currently in force – does little to effectively stimulate the use of renewable electricity in transport. Moreover it does not ensure that new renewable electricity capacity is built to fulfil the increased transport electricity demand. This briefing summarises how the REDII could accelerate the use of renewable electricity in transport.

Our key recommendations are:

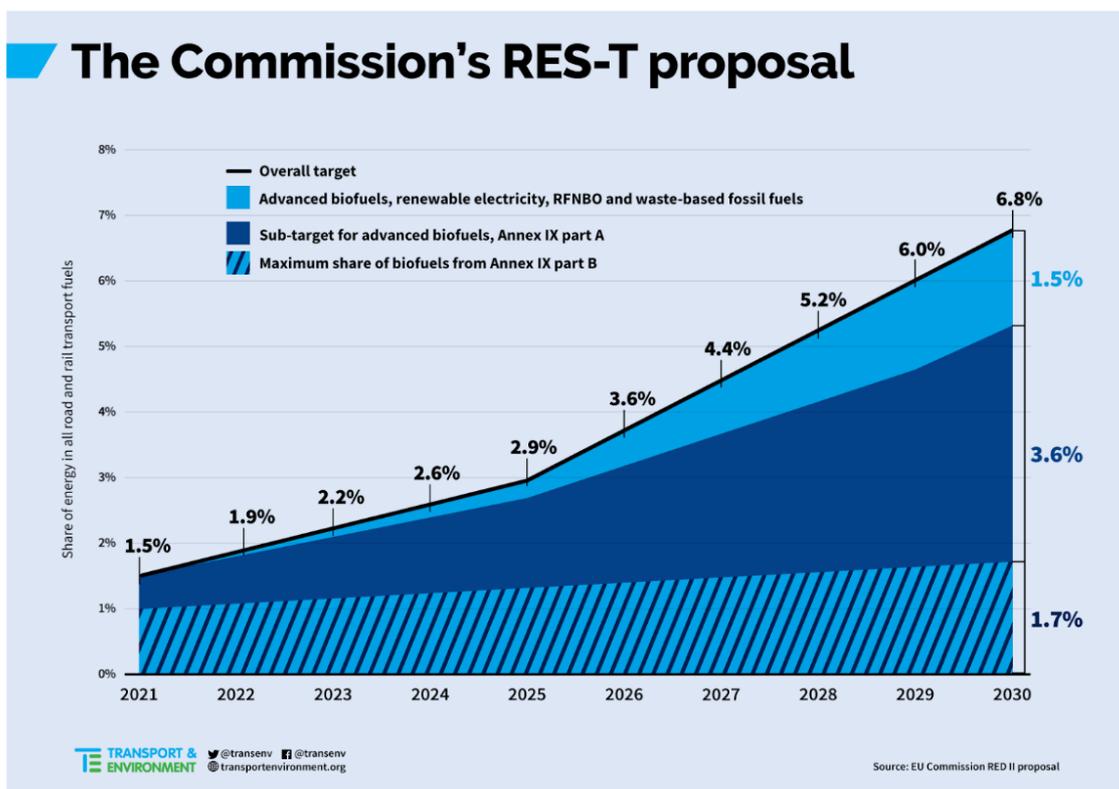
1. **Oblige member states to enable all forms of renewable energy – not just biofuels – to contribute to the 6.8% target.** The problem with RED I is that while in theory it treats all forms of renewable energy in transport equally, in practice almost all member states have implemented it in a way that only stimulates biofuels. Hence RED II should oblige member states to create a market for “clean fuel credits” to which all forms of sustainable renewable energy for transport can contribute. The system should give companies that supply renewable electricity to transport the opportunity to qualify for clean fuel credits which they can sell to fossil fuel suppliers. Renewable electricity could then compete with other fuels such as advanced biofuels, hydrogen or used cooking oil.
2. **Don't punish electricity for being efficient:** Renewable electricity is 2.5 times more efficient than fossil fuels in terms of transport work it delivers. But the way the target is defined (volume) makes it harder to comply through renewable electricity. To give electricity a fair chance, it should be given a 2.5 multiplier, as a multiplier already exists in the current RED.
3. **Create space for renewable electricity in the “blending mandate”:** The Commission's proposed 6.8% blending mandate leaves little space for renewable electricity. It is also overly optimistic on the potential of sustainable “advanced biofuels”. The solution is to reduce the 3.6% advanced biofuels mandate to a more realistic 2.3% but keep the overall 6.8% target intact and encourage competition between solutions.

1. Allowing renewable electricity to compete in the RED

In November 2016, the Commission released a recast of the Renewable Energy Directive (RED II) that will define the EU's renewable policy in the period 2021-2030. When it comes to transport fuels, the proposal has two main components:

1. It focuses on phasing down food-and feed-based biofuels by lowering the cap from 7% in 2021 to 3.8% in 2030.
2. For bringing new fuels to the market, the proposal establishes a blending mandate of 6.8% for fuels that are deemed to bring GHG reductions to the transport sector - renewable electricity included.

The blending mandate - shown in the below graph - is the cornerstone of the Commission’s attempt to promote new, advanced fuels - renewable electricity included. Despite the fact that electricity is by far the most promising and scalable clean transport fuel, it is put together with other advanced alternative fuels such as “renewable fuels of non-biological origin” (synthetic fuels produced from renewable electricity), waste based fossil fuels, and advanced biofuels (if above their sub-target level). Combined, these advanced alternative fuels could contribute 1.5% of the overall target in 2030.



2. Creating a framework in which renewable electricity can compete

2.1. Create a marketplace for clean fuels – the Dutch example

The proposal places a responsibility on obligated fuels suppliers to supply incrementally increasing amounts of advanced renewable fuels. The obligation can be met by choosing to:

- physically supply those fuels
- buy credits from someone who has excess credits
- buy credits from non-obliged parties such as charging station operators or biofuels traders. This ensures flexibility for compliance towards the renewable obligation.

Unlike other fuel options, renewable electricity is not a drop-in fuel - i.e. you can't blend it. It has another form and requires separate infrastructure and vehicles in order to be deployed to the market. This makes it difficult for direct charging electricity to qualify. The solution is to establish a credit-based accounting, tracking and trading system as has been done in The Netherlands.

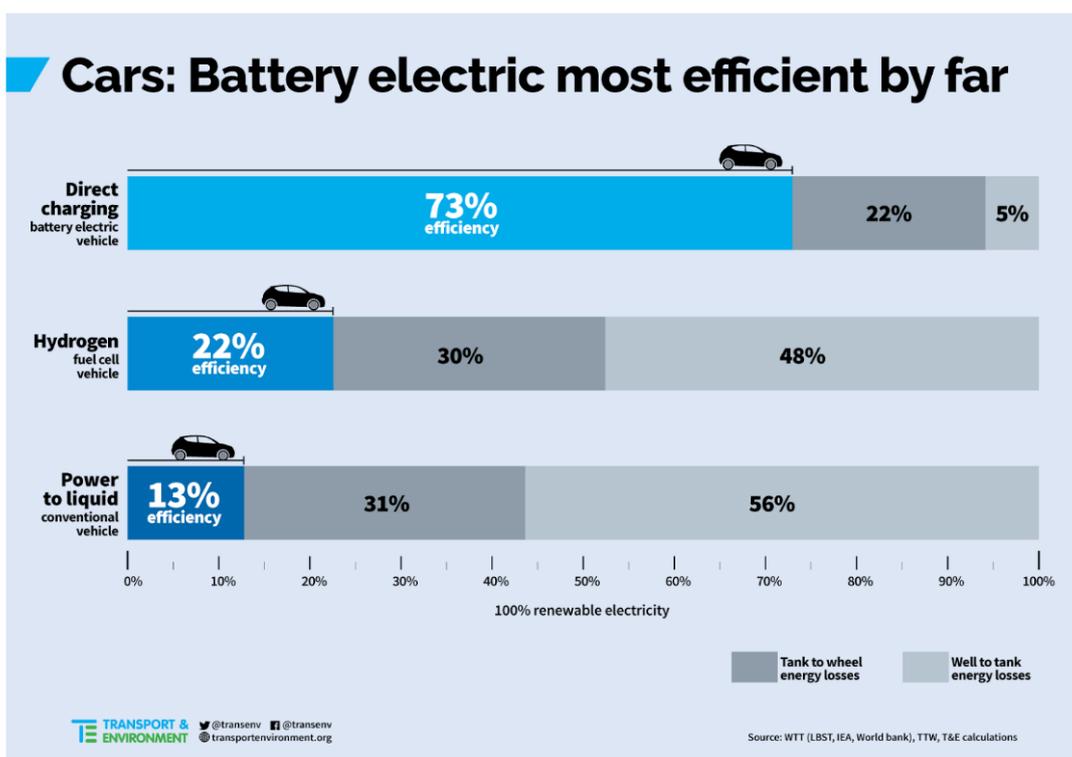
The Netherlands has implemented the Renewable Energy Directive through a flexible [trading platform](#) where obligated parties, the fuel suppliers, can buy and sell renewable transport energy credits. Non-obligated parties (such as charging stations operators or biofuels traders), can also participate in the market by selling renewable transport credits. For electricity the Dutch system currently only covers electricity supplied by fast chargers.

This type of system should be developed across the EU to ensure cost effective compliance of the blending obligation. The reformed RED should oblige member states to create national “clean fuel trading platforms”. Article 25(4) is a good start, but the trading aspect needs to be further developed. The system should give companies that supply electricity to transport the opportunity to qualify for clean fuel credits which they can sell to fossil fuel suppliers. Electricity could then compete with other fuels such as advanced biofuels, hydrogen or used cooking oil. Whilst initially these schemes would be set up at national level, the Commission should specify the design parameters to ensure coherence and to enable a link between the different national trading platforms. The trading platforms could also be expanded to also cover home and office charging which is likely to account for the majority of EV charging.

2.2. End the discrimination of electricity

An EU-wide trading system of credits would reduce the cost of compliance for fuel suppliers and would provide increased flexibility. However, without changes, the Commission proposal rigs the market in favour of liquid fuels. Electricity is 2.5 times more efficient than fossil fuels in terms of work it provides per unit of energy. In other words, vehicles powered by electricity travel 2.5 times further than internal combustion vehicles for the same energy input. Since the blending obligation is a volume target (expressed as a percentage of total energy of transport fuels sold), it is much easier to meet with voluminous liquid fuels than with efficient electrons.

The solution to this is to introduce a 2.5 multiplier for electricity that is supplied to vehicles. A multiplier already exists in the current RED, but was removed from the November 2016 Commission proposal. The multiplier needs to apply only for direct charging, not for intermediate products, or synthetic fuels, such as power to liquid or hydrogen. Synthetic fuels have high efficiency losses due to conversions during the fuel production and consumption in the vehicle, and as such do not merit the same efficiency gains as direct charging.



The combination of a market place and a level playing field for renewable electricity increases flexibility and also enables more cost effective compliance for the obligated parties. And whilst the low carbon fuel credits won't cover the costs of rolling out electric charging infrastructure, the income from selling credits can be a way to improve the business case.

2.3. Better define the obligated party: the fossil fuel supplier (oil companies)

The purpose and aim of the EU's renewable energy policy (RED and FQD) is to oblige fossil fuel suppliers to reduce transport fuel carbon emissions. In other words, the obligated parties in the RED are the fossil fuel suppliers that supply petrol, diesel, liquefied petroleum gas, and natural gas to transport. This is not sufficiently clear in the current definition in the Commission's proposal which could mean that all energy providers – including utilities – are under an obligation to reach the 6.8% target. It should be clarified that the obligated party in this context is the “fossil fuel suppliers”, and that the advanced biofuel blending mandate should not apply to transport electricity suppliers.

2.4. Account correctly for renewable transport electricity

The RED proposal on how to account for renewable electricity in transport is flawed. Article 25 allows member states to choose between either the national or the EU-wide renewable electricity share of renewable energy. This effectively allows MS with lower than average renewable electricity share to opt for the EU average, which in turn would result in gross overestimation of the renewable electricity share in transport. This is exactly what happened during the implementation of RED I.

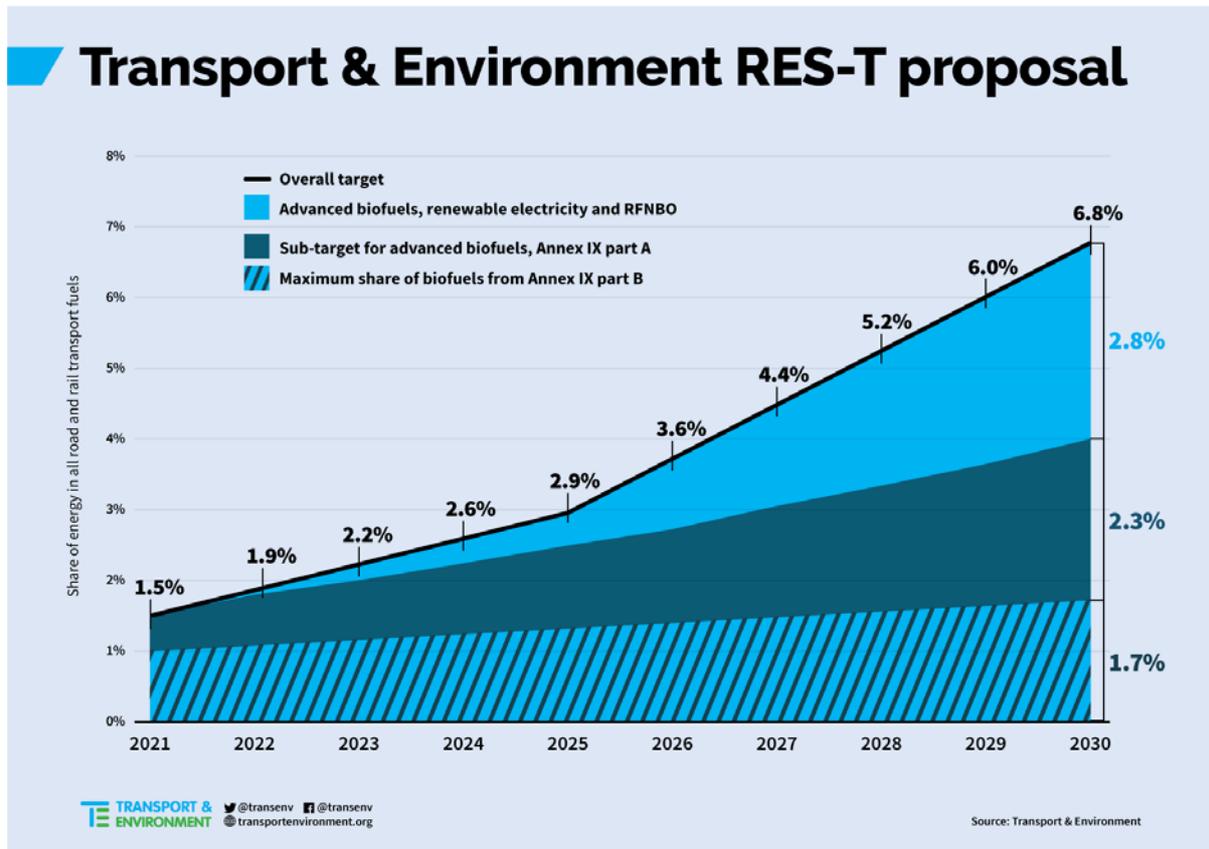
The RED should, at a minimum, specify that only national averages can be used for renewable electricity estimations. At national level, member states should be given the freedom to develop more advanced and accurate accounting methodology, to account for 100% renewable electricity in transport when coming from 100% additional renewable capacity.

2.5. Why guarantees of origin (GO) should not be used to account for renewable electricity in transport

Guarantees of Origin (GOs) are used to allocate a certain amount of renewable electricity to individual consumption. It does not ensure that the electricity consumed at a given moment by a specific entity is from a renewable source. It is more of a statistical measure, a bookkeeping exercise.

As there is currently a significant oversupply of guarantees of origin on the market, using GOs does not ensure that new additional renewable electricity capacity is actually being built to meet increased transport demand for electricity. In the future, a system should be developed to ensure that new renewable electricity capacity is built to fulfil the increased transport demand for electricity.

3. How to create more space for renewable electricity?



3.1. Why increasing the overall target is not a solution and reducing the advanced biofuels target is

At the moment, the blending obligation target is set at 6.8 percent. This blending obligation target is already ambitious, and it is not entirely clear from the impact assessment how the Commission chose this target.

Based on a peer reviewed study identifying technical waste and residue potential that could be used for the production of advanced biofuels, T&E has analysed the potential contribution of advanced biofuels in 2030 and concluded that the 3.6% advanced biofuels sub-target is high, given the limited availability of sustainably sourced feedstocks, and the development of a broader bioeconomy competing for the same feedstocks. Our analysis of the availability of waste and residue feedstocks in Annex IX part A shows that a 2.3% target achieves a better balance between ambition, feasibility and flexibility. This would also, together with a robust set of sustainability criteria, improve investor's confidence as an overly ambitious advanced biofuels target is likely to be difficult to meet in the run-up to 2030 and might be adjusted downwards.

Our proposal would not cap the contribution of advanced biofuels - i.e. they would still be allowed to contribute to the 6.8% beyond the mandatory 2.3% target. But beyond the 2.3% target, advanced biofuels would have to compete with other fuels, in particular electricity and other advanced alternative fuels. As shown in the previous graph this would free up almost half of the mandate for competition between different low carbon fuels, thus allowing increased flexibility in meeting the blending obligation.

3.2. Why waste based fossil fuels should be kept out of the RED

Waste based fossil fuels have not been properly assessed and have been poorly defined in the Commission's proposal. Moreover, they are not renewable and hence do not fit into the Renewable Energy Directive. Some degree of support for waste based fossil fuels could be considered in the future, outside of the RED, but

should be based on proper assessment of their life-cycle GHG emissions, environmental impacts, potential overlaps with existing EU policies and other potential perverse impacts.

4. Conclusion

Parliament and Council are discussing the Commission's proposed recast of the RED. While some sustainable advanced biofuels can contribute to lower transport emissions, renewable electricity is the cleanest and most efficient carrier of transport energy. It is also the one that has the biggest potential to decarbonise at scale. The REDII should recognise electricity's importance and create a framework that supports the roll out of clean renewable electricity in transport. The way to achieve this is the following:

- create space for electricity within the 6.8% target
- create a marketplace where all forms of renewable energy, not just biofuels, can compete
- ensure a level-playing field between electricity and other renewable liquid fuels.

This will incentivise the uptake of renewable electricity in transport and help address one of the key obstacles towards electromobility – the lack of investment in charging points. However, more work will be needed in the future to ensure that the increased transport demand for electricity is met with a similar amount of additional renewable electricity production.

Further information

Laura Buffet

Clean fuels manager

Transport & Environment

laura.buffet@transportenvironment.org

Tel: +32 (0)2 851 02 12 / +32 (0)490 645 955