

Position Paper: Why Investments in Renewable Hydrogen Should be Considered as Facilitating the Energy Transition and Hence Qualify for the Energy Investment Deduction.

This paper puts forth the arguments of Virya Energy NV ('Virya') to support the inclusion of investments in renewable hydrogen in the envisaged new category (investments facilitating the energy transition) for the energy investment deduction.

Energy Investment Deduction

The Belgian Energy Investment Deduction ('EID') is part of the Investment Deductions system and is a deduction from the tax base for corporate taxpayers, in addition to the normal tax depreciation for qualifying investments.¹

Qualifying investments are investments listed in one of the categories of annex 2 of the Royal Decree to the Belgian Income Tax Code and include a.o. qualifying patents, environmentally friendly R&D investments and energy-saving investments.

Following discussions with the relevant stakeholders, Virya understands that the option is on the table to extend the scope of the EID by adding a new category of 'qualifying investments' (e.g. investments facilitating the energy transition) to annex 2 of the Royal Decree to the Belgian Income Tax Code.

How renewable hydrogen can facilitate the energy transition

Energy transition

Europe has set the ambitious goal to cut CO2 emissions by at least 55% by 2030 and achieve climate neutrality by 2050. This entails the transition from pre-dominantly fossil based energy to renewable and other low-carbon sources.

It is beyond doubt that renewable hydrogen is needed to achieve the ambitious European climate goals. Hence the regulatory and fiscal framework should facilitate and stimulate renewable hydrogen investments contributing to climate neutrality.

Role of Renewable Hydrogen in the Energy Transition

1. Decarbonization of 'hard-to-abate' sectors (heavy transport, maritime transport, aviation, ...)
 - Virya supports the energy efficiency principle by backing the fact that in each particular case the most efficient energy vector should be used in the transition to climate neutrality (we believe that in order to identify the 'most efficient' vector, both the technical and economical benefits of the potential alternatives should be taken into account).
 - In a lot of cases direct electrification will be the most efficient option.
 - However, in some cases, direct electrification is not the most efficient option (e.g. certain types of (international) heavy duty transport and heavy industry). In those cases, renewable hydrogen or its derivatives in e-fuels are the most suitable alternative to fossil fuels.
2. Optimization of renewable power system – mitigating intermittency
 - Intermittency is inherent to renewable energy sources such as wind and solar. This implies that the moments during which power is generated are beyond human control and do not necessarily coincide with the (peaks in) corresponding demand.

¹ Regulatory framework: art. 69 Belgian Income Tax Code j. art 49, §1 Royal Decree to the Belgian Income Tax Code for investments listed in annex 2 Royal Decree to the Belgian Income Tax Code

- Due to the expected exponential uptake of sustainable generation, the impact of this timing-discrepancy between renewable supply and electricity demand is only expected to increase.
- Therefore, hydrogen, by providing a long-term and big scale storage opportunity for (renewable) electricity, is key to align renewable electricity generation and demand hence ensuring a more optimal use of the available green energy.
- Hydrogen (produced for example through electrolyzers) has the potential to relieve power deficits through demand-side response, reduce congestion and manage seasonal demand peaks.
- In that sense renewable hydrogen is a complimentary storage solution to other solutions like electrical batteries that work more on a short term basis.
- Renewable hydrogen can be stored as such or in the form of e-fuels (e-Methane, e-Methanol, e-Amonia, ...)
- As such, it helps to avoid expensive power grid investments and facilitates cheap renewable and eco-friendly storage of renewable electricity by facilitating and accelerating the integration and deployment of renewable generation capacity.

3. Transport opportunities

- The characteristics of hydrogen, in pure form or as in its e-fuels derivatives, allow it to be transported in a fairly easy and cheap way compared to other energy vectors (e.g. electricity).
- It is for example possible to store large amounts of hydrogen in ships / trucks, which is not an economical option for electricity and batteries. In addition, both the losses in energy while transporting and the required investments in infrastructure in hydrogen pipelines are significantly lower compared to electricity.
- This way, renewable hydrogen can be produced at locations where renewable energy is abundant (e.g. by using solar energy in the desert, on- and off-shore wind) and transported to the end users.