

PORTUGAL

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Is Portugal's tax framework ready for the hydrogen economy?

Filipe de Vasconcelos Fernandes of Vieira de Almeida looks at the tax challenges that lay ahead as Portugal embraces hydrogen, especially through the lens of the Energy Sector Extraordinary Contribution.

Hydrogen is enjoying renewed and rapidly growing attention in Europe and around the world. Hydrogen can be used as a feedstock, a fuel or an energy carrier and storage, and has many possible applications across industry, transport, power and buildings sectors.

However, hydrogen does not exist in nature in its pure state, so it must be obtained through energy-consuming processes, to then be utilised in many ways, either in direct combustion or in fuel cells.

The most common processes for producing electricity from hydrogen are:

- **Reforming:** it works by applying high temperatures where the steam reacts with a hydrocarbon fuel (natural gas, diesel or coal) to produce hydrogen (the so-called 'grey hydrogen'). Today, about 95% of hydrogen is produced through vapour from natural gas; and
- **Electrolysis:** an electric current is used to separate water into hydrogen and oxygen. These processes occur with an electrolyser, which can create hydrogen from water molecules (the so-called 'green hydrogen').

Portugal on the green hydrogen route

As mentioned in the European Commission's communication of July 8 2020, "in the integrated energy system of the future, hydrogen will play a role, alongside renewable electrification and a more efficient and circular use of resources".

The Commission's Recovery Plan (*Europe's moment: Repair and Prepare for the Next Generation*) highlights the need to unlock investment in key clean technologies and value chains. It stresses green hydrogen as one of the essential areas to address in the context of the energy transition and mentions a few possible avenues to support it.

In this strategic context, Portugal has

the ambition to become EU's principal green hydrogen producer. According to its National Energy and Climate Plan (NECP), Portugal is committed to "create a real market for renewable gases", to develop an industrial policy with the aim to "position Portugal as an important European player in the green hydrogen market, leveraging solar energy as a factor for competitiveness".

Once again in its NECP, Portugal estimates an installed capacity in 2030 of 9.3 GW in wind and 9 GW in solar PV, generating almost 43 TWh of renewable electricity in 2030.

Portugal is in a favourable position for green hydrogen deployment given its abundant renewable electricity potential, its 1GW electrolyser's and solar farm flagship project in Sines, with the aim to "jumpstart the Portuguese hydrogen economy by implementing the necessary infrastructures and economic critical mass".

In the National Hydrogen Plan, approved by the Resolution of the Council of Ministers No. 63/2020, the Portuguese government expressly states that "support will be studied, evaluated and proposed through the attribution of tax benefits or through positive discrimination on applicable taxes, based on the advantages of green hydrogen".

Some of the tax challenges surrounding the development of the green hydrogen industry in Portugal are considered below.

The tax elements of green hydrogen and the CESE

As with any strategic option, it is also expected that Portuguese public authorities or governments will use tax instruments to encourage relevant investments into this sector.

It is at this level that the Energy Sector Extraordinary Contribution (CESE) is highlighted again. CESE was created by Law No. 83-C/2013 of December 31 (State Budget Law for 2014), when Portugal was going through a serious economic and financial crisis.

The universe of taxpayers in this extraordinary contribution is very wide and includes energy producers using renewable sources – which, as of 2019, are no longer exempt if they do not operate in a market regime (that is, if they benefit from some guaranteed remuneration regime, such as the well-known 'feed-in tariff').

As we understand it, this is one of the hot topics for the development of the green hydrogen industry in Portugal.

The reason is clear. As in the start-up phase of any new energy vector, it is crucial that investors have risk coverage mar-

gins, including in the tax impacts involved.

Therefore, it is expected that the Portuguese government will attribute to the production of green hydrogen, some type of guaranteed remuneration scheme – even if it is not necessarily a pure feed-in tariff.

Knowing that this type of guaranteed remuneration schemes creates costs that can be paid by consumers, the Portuguese government may be tempted to charge CESE on the promoters of the green hydrogen projects.

Does this make any sense? Definitely not. However, it also makes no sense to charge CESE on renewable energies promoters (in particular, wind farms) just because they benefit from guaranteed remuneration schemes, and yet that is what really happens at this moment.

Furthermore, in a context where the green hydrogen production process needs electricity from a renewable source (wind, solar), it makes even less sense to tax promoters at this level.

An interesting solution that is being discussed in the European context is that the guaranteed remuneration schemes attributed to the green hydrogen production processes can be paid with European funds. If this happens, there will be no reason for the Portuguese government to consider taxing these types of projects at CESE level.

An integrated tax policy for the green hydrogen economy

A country like Portugal, which has large-scale objectives for the green hydrogen economy, has an excellent opportunity to reconsider some solutions in its tax system in order to encourage investment in clean energy production processes (which have to be remunerated, especially until the maturity of the projects and technologies involved is reached).

One such example is CESE, which in the future may burden the green hydrogen industry very aggressively, especially if, as expected, some type of guaranteed remuneration schemes are assigned.

It is hoped that public authorities and/or the Portuguese government will clarify these doubts and establish clear (and attractive) tax solutions for the new green hydrogen economy.

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