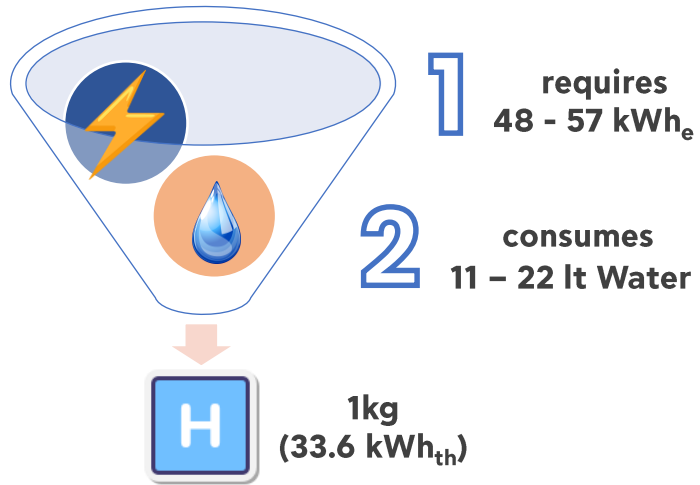


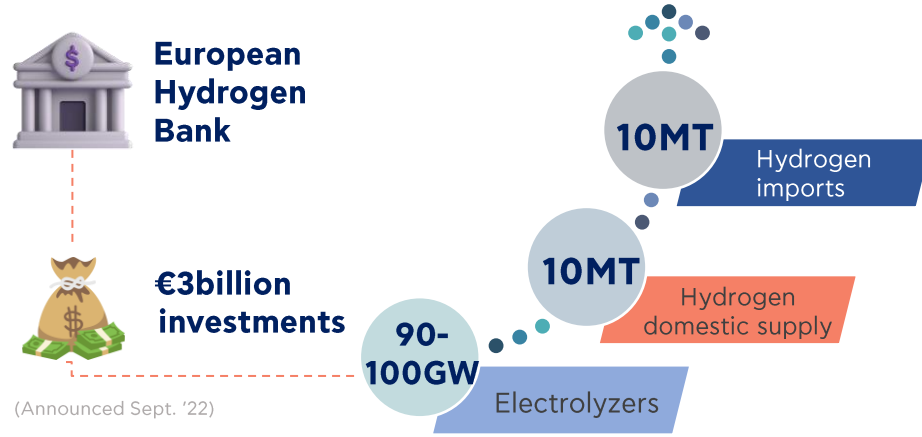
Hydrogen state of play and green future

Hydrogen: State of play and green future

Hydrogen through electrolysis

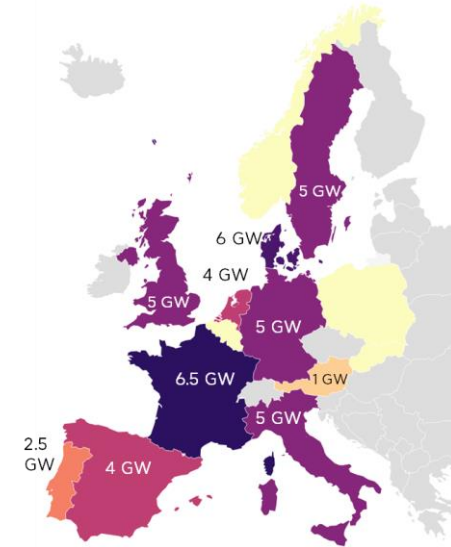


Hydrogen targets by 2030



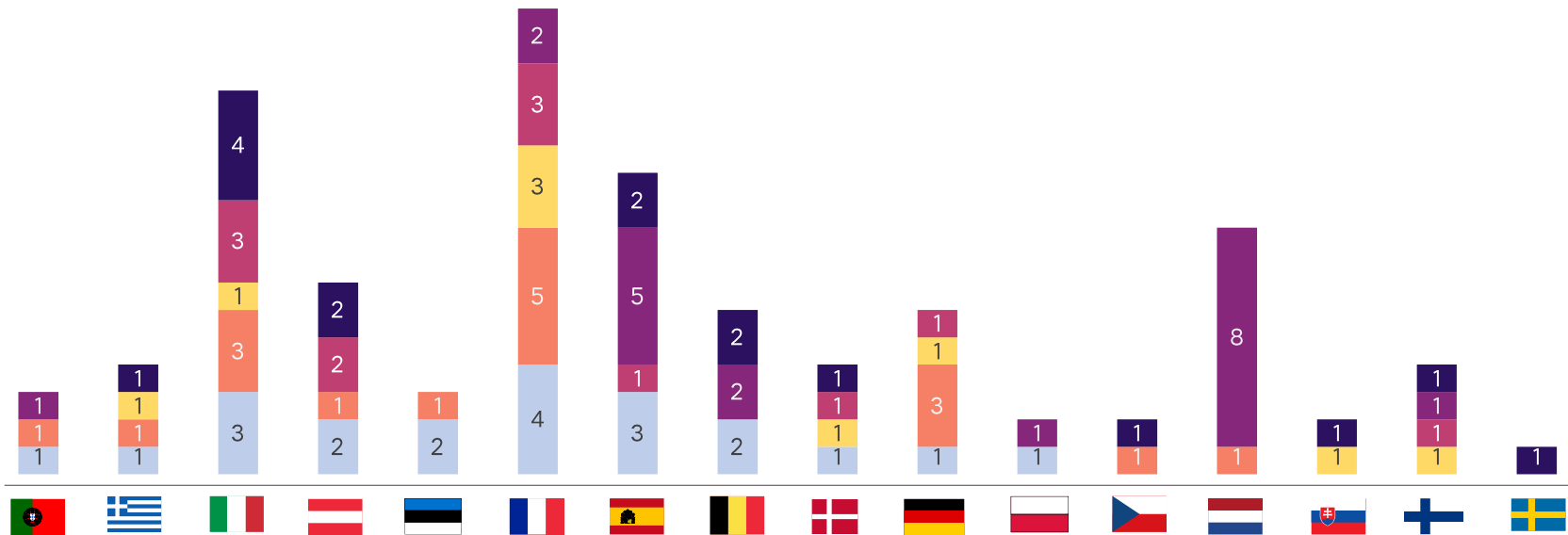
Source: European Commission

European countries with published H2 strategies and their electrolyser capacity targets for 2030 [where stated]



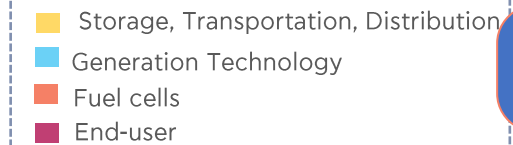
Source: International Energy Agency, Global Hydrogen Review 2022

Number of approved IPCEI per country and sector – 1st and 2nd Wave (Jun-Sep 2022)



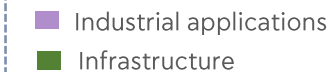
Source: European Commission

IPCEI Hy2Tech (Jun '22)



€5.4 billion

IPCEI Hy2Use (Sep '22)



€5.2 billion



Hydrogen through electrolysis

Electrolysis is **one of the most common methods to produce hydrogen** with a plethora of projects to take place in the coming years.

Through electrolysis, **water can be split into hydrogen and oxygen**. Therefore, water consumption is essential, in the scale of 11-22 Litres for 1kg of hydrogen.

To achieve the split of hydrogen and oxygen, **energy is required**. To produce 1 kg of hydrogen the energy requirements range from 48 to 57 kWh.



Hydrogen targets in 2030 and announced plans

On 14th of September 2022, the European Commission President, Ursula von der Leyen **announced** the creation of **the European Hydrogen Bank**. The bank will leverage investment of **€3 billion** in order to **support the integration of hydrogen in hard-to-decarbonize sectors** of industry and transport and thus, **reduce the dependency** on natural gas, coal and other fossil-based fuels.



European countries with published H2 strategies and their electrolyser capacity targets for 2030 [where stated]

A number of European countries have issued specific **strategies on hydrogen**, including **targets for electrolyser capacity** by 2030.

The rest of the countries, including **Greece**, are also elaborating on their hydrogen strategies, which are **expected to be announced in the near future**.

Number of approved IPCEI per country and sector – 1st and 2nd Wave (Jun-Sep 2022)

“Hy2Use” includes **two different categories** of participating projects: some involve the construction of **large-scale infrastructure for the production, storage and transport of renewable and low-carbon hydrogen**, while others develop highly-innovative technologies leading to reduced greenhouse gas emissions in industries that typically face higher barriers to decarbonize. The Member States will provide up to **€5.2 billion in public funding**, which is expected to unlock additional **€7 billion in private investments**. The investments approved under the Hy2Use IPCEI will allow to build new **electrolysis capacity** of approximately **3.5 GigaWatt** resulting in an output of approximately **340,000 tons of renewable and low-carbon hydrogen** per year.

“Hy2Tech” includes **four different categories** of participating projects: some involve the development of **technologies related to (1) generation, (2) storage, transmission, distribution, (3) fuel cells and (4) end-users**. The Member States will provide up to **€5.4 billion in public funding**, which is expected to unlock additional **€8.8 billion in private investments**.



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