

# ELECTRIFICATION

System electrification is the decarbonisation option that seems to have the most consensus among and within the many types of stakeholders. It appears to be a simple, quick and efficient way to completely reduce the emissions associated with certain processes, as long as the electricity used comes from renewable sources. An example of heavy industries' processes that are decarbonized through electrification is electric arc furnaces for steel production. These furnaces are usually filled with scrap steel and use powerful electric arcs to melt the material or can be fed direct reduced iron that will be converted to liquid steel.

However, there are some concerns from market stakeholders when it comes to full electrification. First of all, there is the issue of competition for electricity. Whether one is a private, commercial, or industrial user, the electricity used is the same and the electrification of certain uses, such as individual transport, reduces the amount of electricity available to industrial users. Secondly, and still linked to the competition for green electricity, comes the issue of green hydrogen production. As explained above, the REPowerEU plan envisages a European production of 10 billion cubic meters of green hydrogen by 2050.



To achieve this, the same plan announces an increase in the installed capacity of solar photovoltaics (PV) to reach 320 GW newly installed in 2025 (more than double the current capacity) and reach 600 GW in 2030. As the production of green hydrogen by electrolysis is an electricity-intensive process, there is a risk that the increase in green electricity production will be totally consumed by the production of hydrogen, thus penalizing sectors opting for electrification.

Another problem hindering the development of green electricity is the slow and complex permitting process. It can take up to 9 years to obtain a permit for wind projects and up to 4,5 years for ground-mounted solar projects. Given the speed at which the political context changes, these times can be frightening to investors, and it is, therefore, essential that these processes are simplified and shortened in time if industrial decarbonisation is to take place through electrification.

Finally, there is the intermittency of the main renewables used to produce green electricity. Whether it is solar or wind power, the production of green electricity is dependent on weather conditions. This intermittent nature is problematic for many industries whose workload does not coincide with the peak period of electricity production.

## TRADE

### ASSOCIATIONS

**When discussing the electrification of industries, it is important to have a level playing field among different players. Indeed, renewable electricity production capacity is not equivalent in every country, and it is important to have a regulatory framework dealing with inequality issues.**

### POLICY

## MAKERS

**The priority is the electrification of industrial processes fed by green and renewable electricity, whose production is supported by REDII.**