TECNNO
Enable Your Mission

# TECNNO Annual Report of Green Power

2024

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# Objectives of Saudi Green Initiative

Protecting 30% of Saudi Arabia's Land And Sea by 2030

Plant 10bn trees over the coming decades, equal to rehabilitating 40mn heactares of land


Reduce carbon emissions by 278 mtpa by 2030

# Achievement of the Saudi Green initiative

30% of Saudi Arabia's land and sea (644,000+km2) will be under protection by 2030 (equal to the...)

**600 tons**

Produced per day by the world's largest clean hydrogen project in NEOM by 2026

**1,200+**

Endangered animals were rewilded across 15 diffrent locations in the country in 2022

**4-fold**

Increase in the size of areas under protection in Saudi Arabia has been enabled by coordinated national...

**600+ Million**

Trees to be planted across Saudi Arabia by 2030, including 100 million mangroves

# Achievement of the Saudi Green initiative

**100**

Species of native tree being planted in 62 approved sites across Saudi Arabia

**18 Million**

trees planted & 60,000 hectares of land rehabilitated in 2022 (an area the size of St. Lucia)

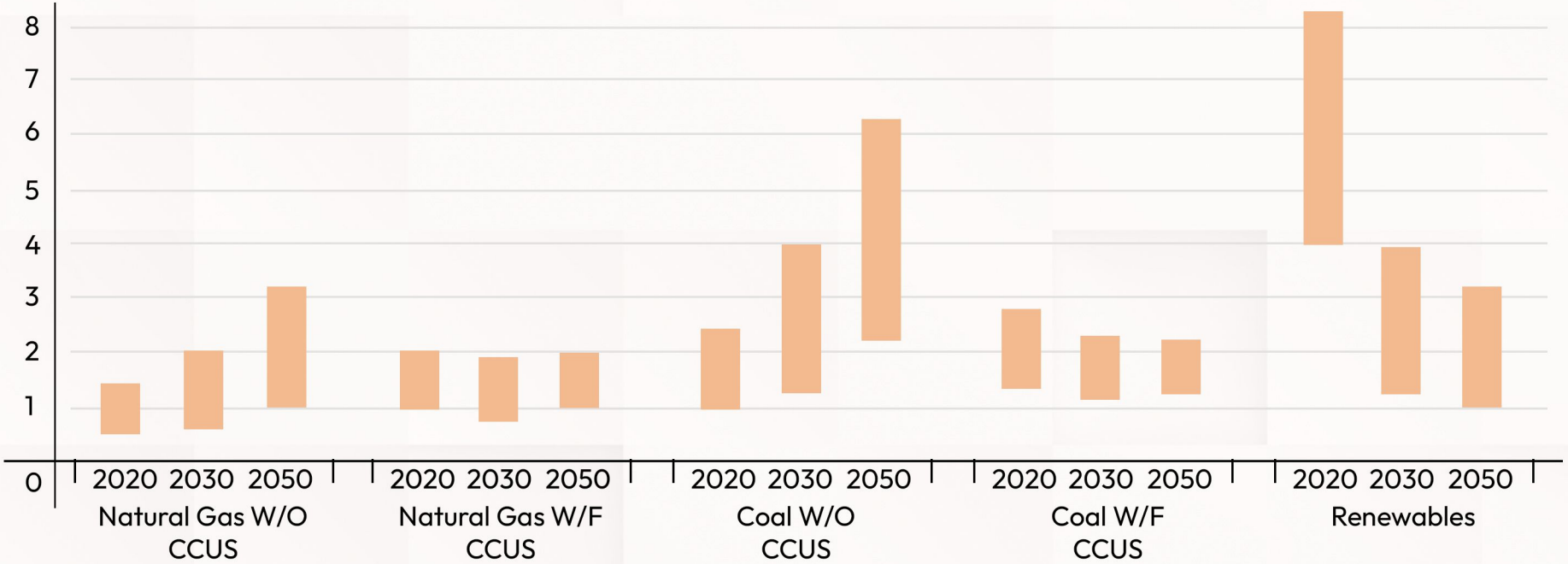
**17**

renewable energy projects are under development, with a total capacity of 13.76 GW.

**700MW**

solar/wind energy was connected to the grid in 2022, providing capacity to power 100,000+ homes

## Levelised cost of hydrogen production by technology in 2020, and in the Net zero Emissions Scenario, 2030 and 2050




**Notes:** CCUS = carbon capture, utilisation and storage. Ranges of production cost estimates reflect regional variations in costs and renewable resource conditions.

**Sources:** Based on data from McKinsey & Company and the Hydrogen Council: IRENA (2020); IEA GHG (2014); IEA GHG (2017); E4Tech (2015); Kawasaki Heavy Industries; Element Energy (2018).

**Reference 1:** Global Hydrogen Review 2021, International Energy Agency (IEA).
https://iea.blob.core.windows.net/assets/5bd46d7b-906a-4429-abda-e9c507a62341/GlobalHydrogenReview2021.pdf

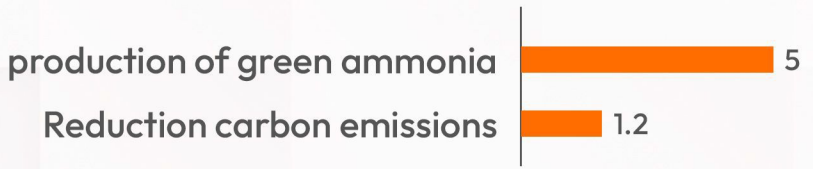
**Reference 2:** National Energy Technology Laboratory (NETL).7.3 Technologies for Hydrogen Production
https://netl.doe.gov/research/carbon-management/energy-systems/glasification/glasifipedia/technologies-hydrogen#:`:text=Thermal%20Processes%3A%20processes%20use,reforming%2C%20gasification%2C%20and%20pyrolysis.

# Green Saudi Arabia Initiative

# Green Saudi Arabia initiative

- The Kingdom of Saudi Arabia seeks to become the largest exporter of hydrogen in the world.
- This comes within the framework of the kingdom's plan, which seeks to clean energy while keeping up with technologies by converting 50% of energy sources to renewable sources and reducing carbon emissions.
- The energy sector in Saudi Arabia has invested USD 8.5 billion to develop the largest green hydrogen production facility in the world In the city of "NEOM", which costs about 500 billion homes to build, wind and solar energy will be used to produce up to 600 tons of green hydrogen per day, by the end of 2026.

## Metric Tons



# Green Saudi Arabia Initiative

- It aims to produce four million tons of clean hydrogen annually, in addition to capturing more than 27 million tons of carbon dioxide equivalent.

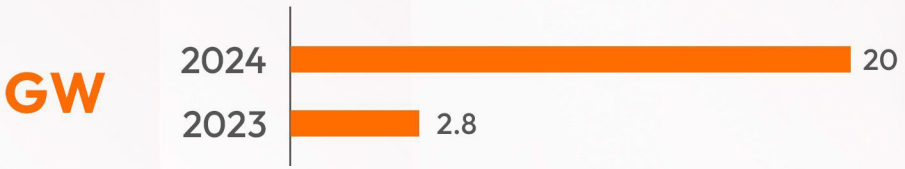
- Many parties are participating in this initiative among them.

**The kingdom has quadrupled its current renewable energy capacity from :**

- Plants agriculture so It aims to convert 30 percent of its land and sea areas into nature reserves and plant about 10 billion trees by 2030.

- Renewable energy reaching the optimal energy mix for electricity production by about 50% for natural gas and 50 % for renewable energy by 2030

- Carbon emissions implement the circular carbon economy model with the aim of implementing its pledges to reduce emissions by 278 million tons per year by 2030




# Green Saudi Arabia initiative

- Egypt is characterized by its geographical proximity to Europe and human energy, which reduces the costs of hydrogen production, pointing out that Europe needs 20 million tons of green hydrogen annually, of which it imports at least 10 million tons from outside the European Union, according to the latest European Studies.

- While Saudi Arabia is characterized by its geographical proximity to Asian countries, in addition to fossil fuels, which is an important component for the production of hydrogen.

- The integration of Egypt and Saudi Arabia in the hydrogen markets guarantees almost a third of the market share in the European and Asian markets, up to 50-100 billion dollars a year, over a period of 3-5 years.

- Egypt and Saudi Arabia are similar in the sustainability of renewable energy production, through the sun and air, as well as infrastructure and ports .

- **Geographical Location Advantage's**

  - This makes Saudi Arabia the preferred customer for Asia to buy green hydrogen.

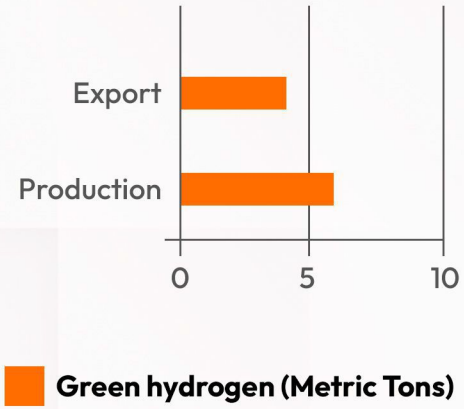
  - Which makes Egypt the preferred customer for Europe to import green hydrogen instead of the EU.


# Green Saudi Arabia initiative

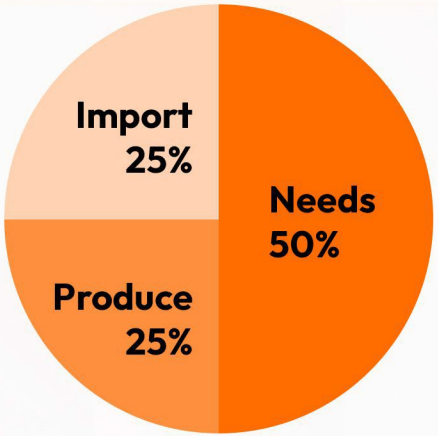
- Egypt aims to produce 5 million and 800 thousand tons per year by 2024, with 3 million and 800 thousand tons allocated for export annually, which represents 5 % of the green hydrogen market in the world.

- The European Union has allocated billions of dollars for the production of hydrogen inside and outside the Union and has set its annual needs at about 20 million tons per year, of which 10 million will be produced, and the remaining amount will be imported from abroad, such as Egypt and Mozambique.

**Green Hydrogen (Metric Tons)**




**The size of hydrogen market in Egypt**



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