



# Danske Bank Green Hydrogen Seminar

September 2023

Mahmoud Shata, Senior Business Development Manager, Green Hydrogen





# Disclaimer

The following presentation is being made only to, and is only directed at, persons to whom such presentation may lawfully be communicated ('relevant persons'). Any person who is not a relevant person should not rely, act or make assessment on the basis of this presentation or anything included therein.

The following presentation may include information related to investments made and key commercial terms thereof, including future returns. Such information cannot be relied upon as a guide to the future performance of such investments. The release, publication or distribution of this presentation in certain jurisdictions may be restricted by law, and therefore persons in such jurisdictions into which this presentation is released, published or distributed should inform themselves about, and observe, such restrictions. This presentation does not constitute an offering of securities or otherwise constitute an invitation or inducement to any person to underwrite, subscribe for or otherwise acquire securities in Scatec ASA or any company within the Scatec Group. This presentation contains statements regarding the future in connection with the Scatec Group's growth initiatives, profit figures, outlook, strategies and objectives as well as forward looking statements and any such information or forward-looking statements regarding the future and/or the Scatec Group's expectations are subject to inherent risks and uncertainties, and many factors can lead to actual profits and developments deviating substantially from what has been expressed or implied in such statements.

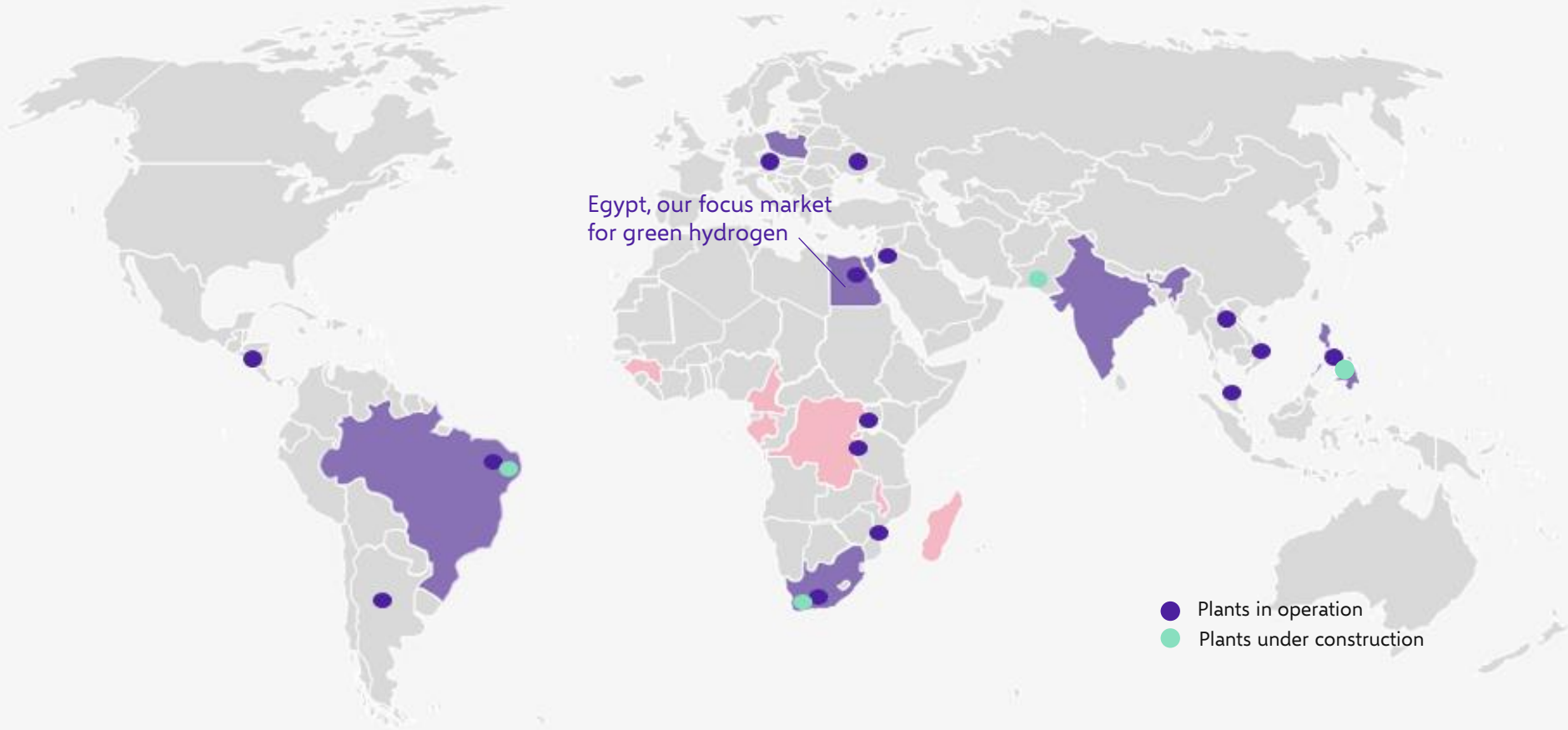
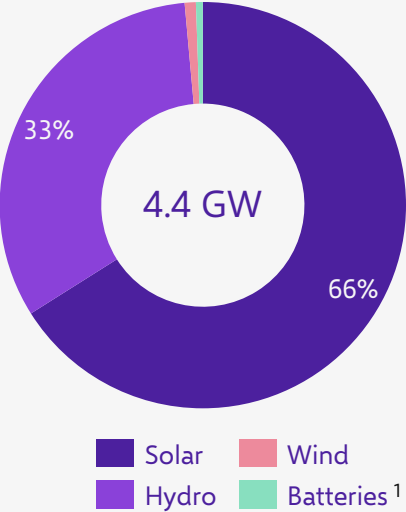
Alternative performance measures (APM) used in this presentation are described and presented in the second quarter and first half 2023 report for the group.





# Scatec delivers renewable energy in emerging markets

Capacity in operation & under construction



1) 225 MW/1,140 MWh of battery storage is additionally under construction related to the RMIPPP project in South Africa  
\*Scatec's focus markets: Brazil, South Africa, Philippines, Egypt, India, Poland & Hydro Africa.



Our strategy:  
**Develop, build, own and operate renewable energy in emerging markets**

**Grow  
Renewables**

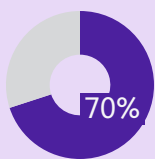
**Optimise  
Portfolio**

**Advance  
Green Hydrogen**



# Green hydrogen is a natural extension of Scatec's core capability: Developing and realising complex projects based on renewable energy

## Green H2 is a natural extension of what we do



Renewable power is the largest cost component in a green hydrogen project

**>50**  
projects

Strong track record of developing projects in top-tier markets for green hydrogen



Cooperating with governments, being part of their energy strategy



Executing complex projects with many stakeholders

## Our approach

1

Secure world-class sites with access to key export routes resulting in a very competitive LCOH / LCOA

2

End-to-end project integration with rapid adoption of new technologies

3

Developed in-house tools for evaluating optimal configurations of renewables and electrolyzers

4

Bring in complimentary industrial partners

5

Optimise financing structure at reduced cost by accessing concessional funding

6

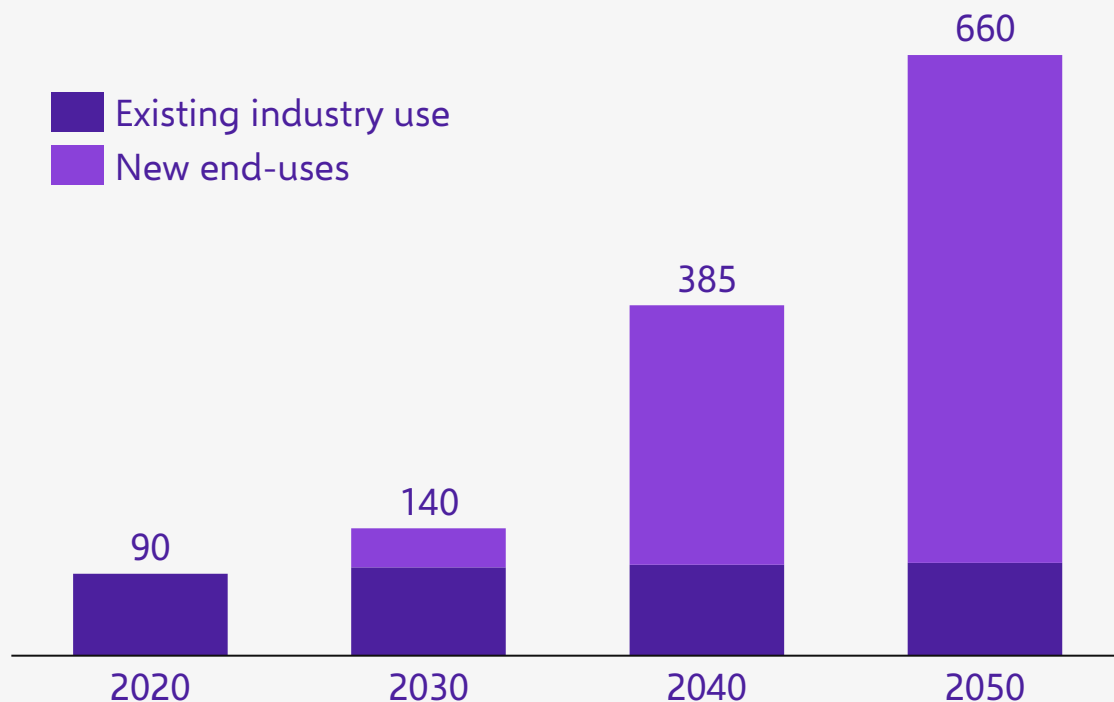
Secure long term offtake agreements with reputable industrial companies



# The next five years green hydrogen demand will be driven by strong policy support in EU, US and Japan

## Green hydrogen demand forecast

H2 end-use demand for net zero, million MT H2 p.a.



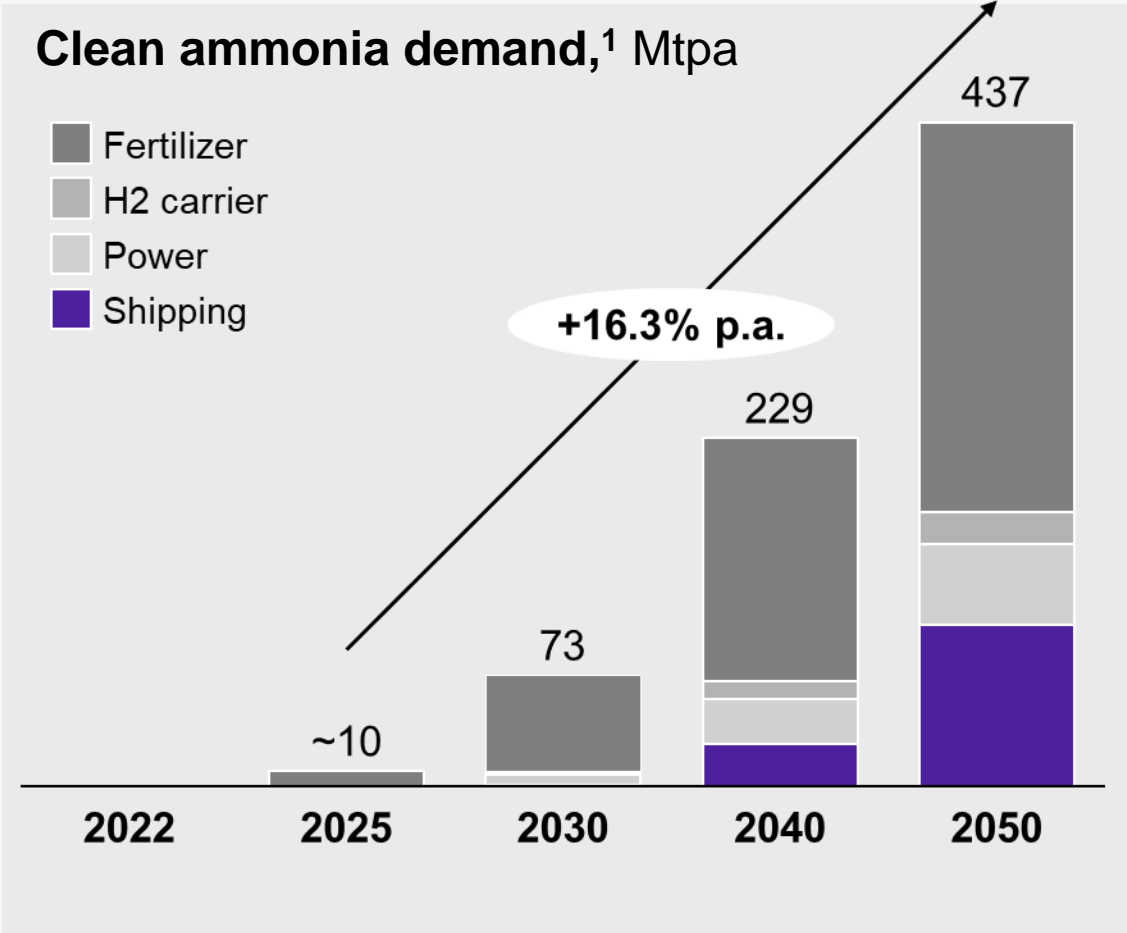
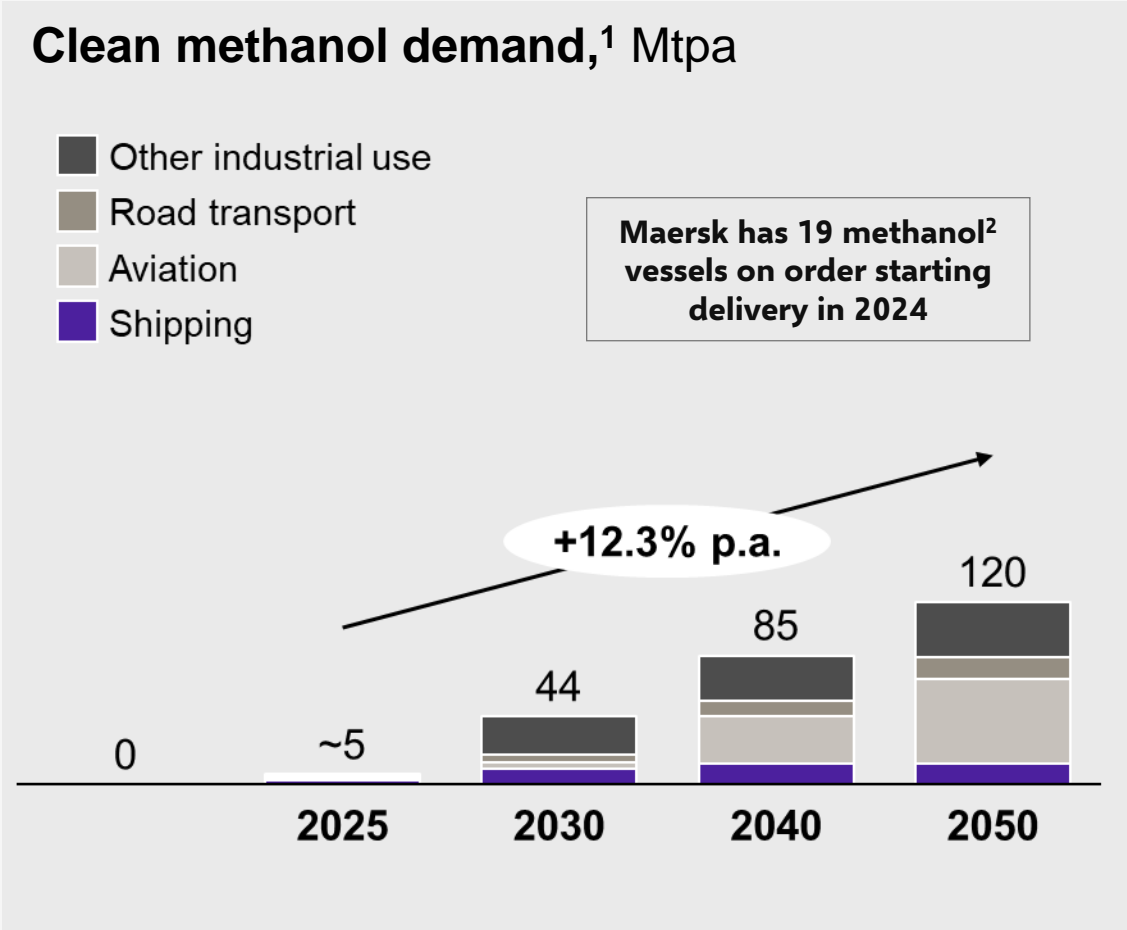
## Demand drivers next 3-5 years:

- EU, US and Japan are targeting to ramp up the use of green hydrogen for industrial use
- Key policies:
  - REPowerEU
  - Inflation reduction Act in the US
- Industry leaders in the fertiliser and shipping industries are driving the market development





# Demand for green fuel expected to pick up in 2025 and exponentially grow towards 2050



1. Hydrogen Council demand forecast adapted to accommodate for higher than forecasted e-methanol uptake in 2030 based on latest views e.g., Maersk Liner announcements  
2. Vessels with dual-fuel engines able to operate on green methanol

Source: Hydrogen Council; 2022 Net-Zero Scenario; IMO target case; team analysis



# Renewable Energy EU Delegated Act Requirements

## Main principle



### ***Additionality*** (Article 5)



### ***Temporal correlation*** (Article 6)



### ***Geographical correlation*** (Article 7)

## Rule

- The renewable asset came into operation not earlier than **36 months** before the hydrogen plant.
- It cannot have received operation or investment aid.

Dec  
2029

- Hydrogen production occurs within the **same calendar month** as renewable prod under the PPA.

Jan  
2030

- Hydrogen production occurs within the **same Hour** as renewable prod under the PPA.

## Exemption

- Principle of additionality should not apply **until January 2038** to plants that come into operation **prior January 2028**.

- Temporal correlation is considered met when using electricity in the same **hour** **when the day ahead price is lower than 20 EUR/MWh or lower than < 0.36 CO2**

- The renewable asset and H2 production are in the **same bidding zone**.
- The renewable asset and H2 production are located in interconnected zone and the renewable asset is located into a bidding zone where the price is higher than the one of the hydrogen plant.
- The renewable asset is in an **Offshore bidding zone**.



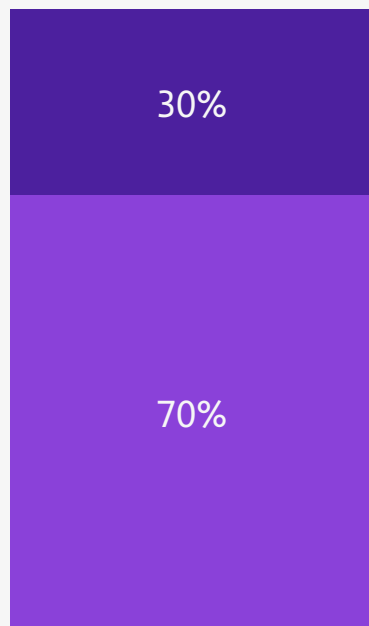


Seeking prime locations

## Low-cost renewables is a must for the economics of green hydrogen

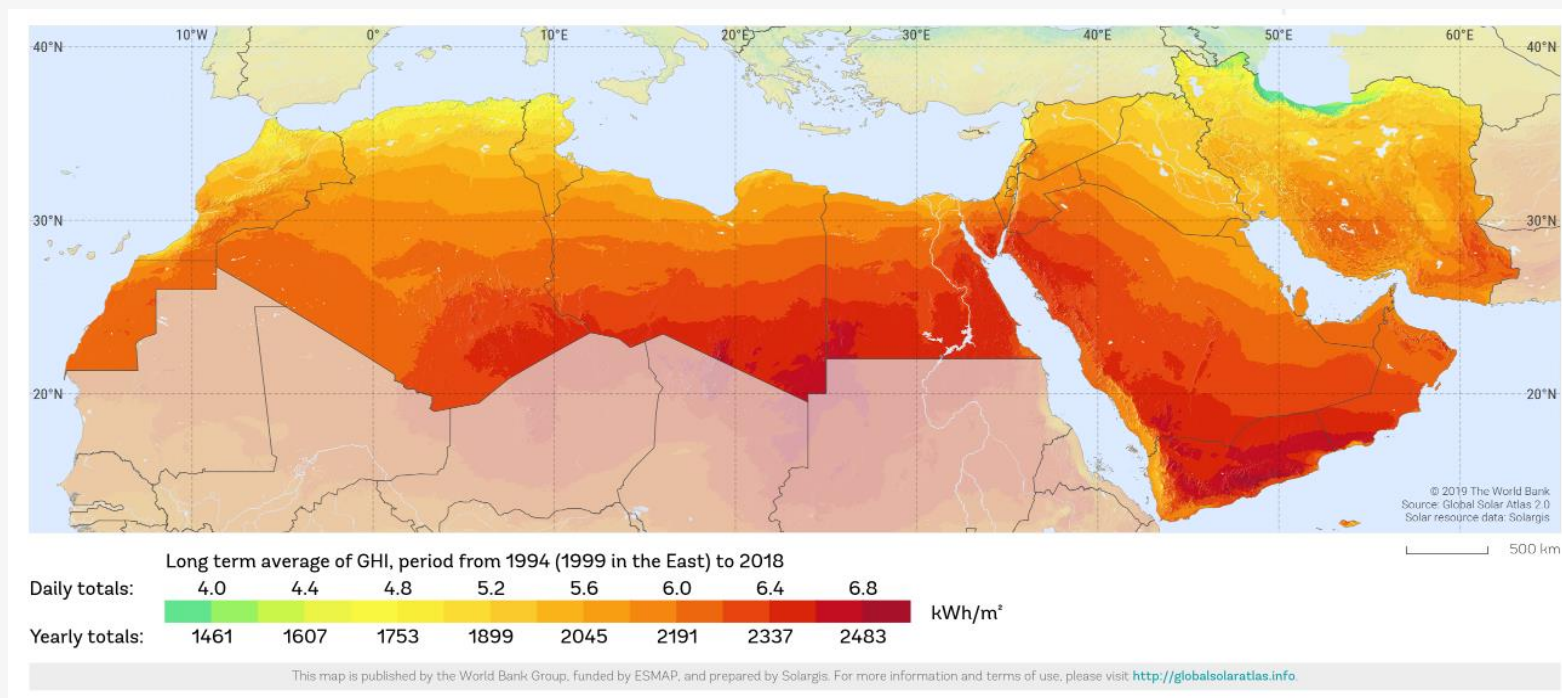
North Africa has the resources, land available and proximity to shipping lanes

### Green hydrogen cost structure



Balance of plant

Renewables





# Bunker: the Asia-Europe shipping route through the Suez canal is a potential green corridor in need of zero-emission fuels

## Shipping industry

### Suez Canal

By the numbers

**12 %**

of global trade

**30%**

of global container ship traffic each day

An average of

**52**

ships pass through the canal each day



Three main types of cargo flow through the canal



Dry bulk Containers Oil

## Green corridor opportunity

- Low cost of fuel and an enabling regulatory environment on the European leg of the route makes the Suez canal a viable **green corridor**
- Under the EU's "**Fit for 55**" legislative package, the ETS would apply to 50% of the shipping into and out of the EU
- These vessels need **bunkering of zero-emission fuels along the route to Europe**, making the Suez an opportunity both for bunkering of ammonia and export of ammonia to bunkering elsewhere



Source: McKinsey & Company

# Strong position in Egypt with the target to become a green hub



## An established and strong position in Egypt



Offtake secured for one green H2 project and other green ammonia projects under development



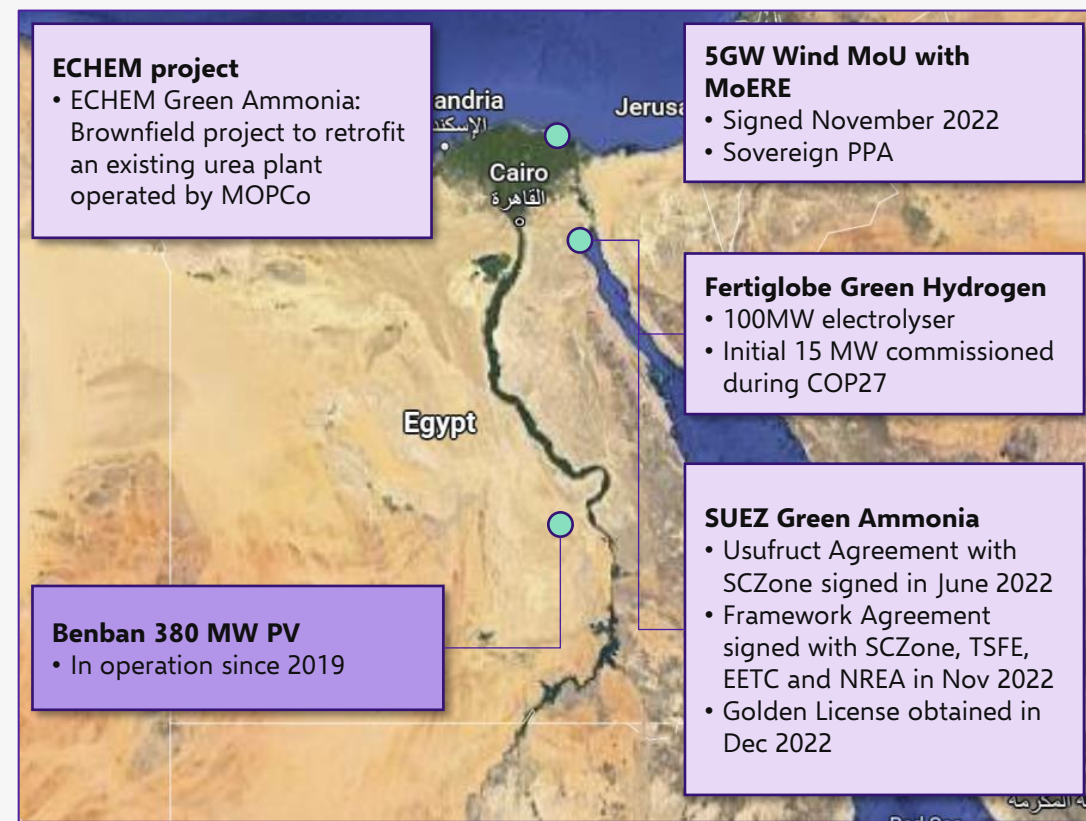
Very strong relationship with the Egyptian government and support from the Norwegian government



Largest renewable developer in Egypt – Benban project was the largest one-site solar PV complex in the world when first commissioned



Proven track record in green financing with a recent investment grade green bond for the Egypt portfolio







## Summing up

- Aiming to advance green hydrogen
- Focusing our H2 activities to Egypt
- Meeting growing demand for green H2



The logo for Scatec, featuring a stylized 'S' with three small vertical lines above it, followed by the word 'catec' in a bold, sans-serif font.