



Insights on

Hydrogen In Egypt

Potential Investment Opportunities

Japan-Egypt Business and Investment Seminar (Online)
Economic & Commercial Bureau at the Egyptian Embassy in Tokyo
UNIDO ITPO Tokyo, JCCME

20th October 2021

Hydrogen Production In Egypt ... Background & Capabilities



- ▶ Late 1950th H₂ was produced in Kima facility as an industrial gas from renewable energy resources
- ▶ Currently, H₂ is produced from many facilities as “by-product” and is consumed locally for industrial processes “iron & steel, fertilizers, cement,)



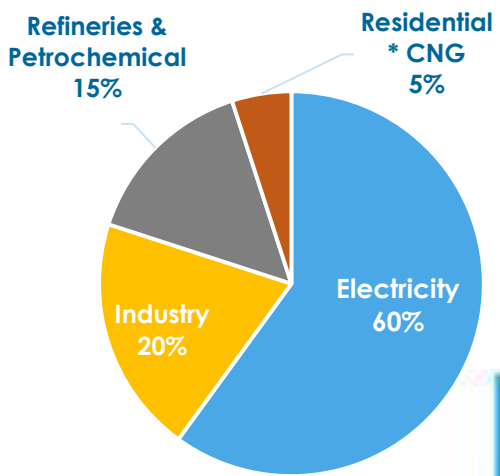
- ▶ Egypt has a unique geographic location, reliable infrastructure (natural gas networks, liquefaction facilities), RES potential (Solar and wind), marine ports and waterways (shipping lanes/suez canal)
- ▶ Egypt's 2035 Energy Strategy foresees an increasing share of clean energy in the Country's Energy Mix with an ambition target to reduce carbon emissions;



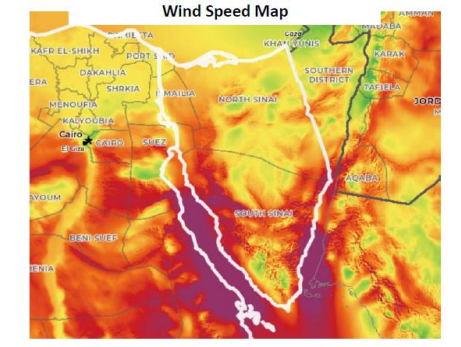
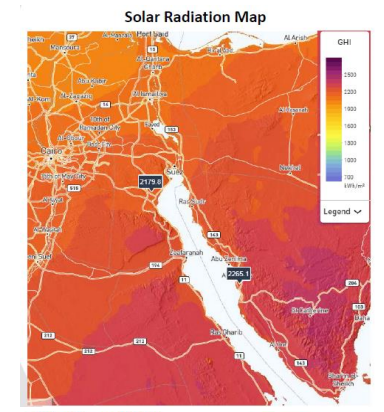
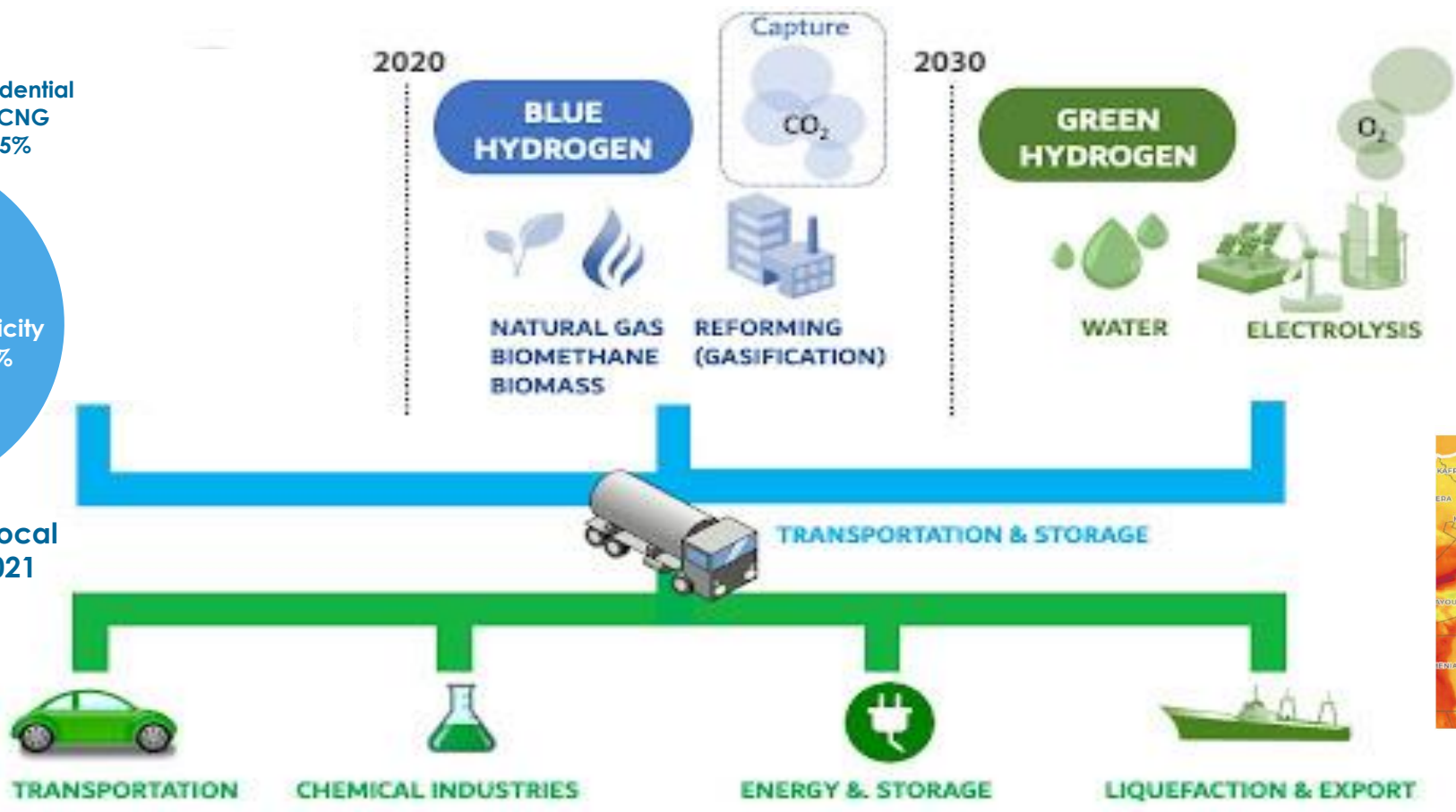
Egypt A targeted Role towards the Global Hydrogen Markets



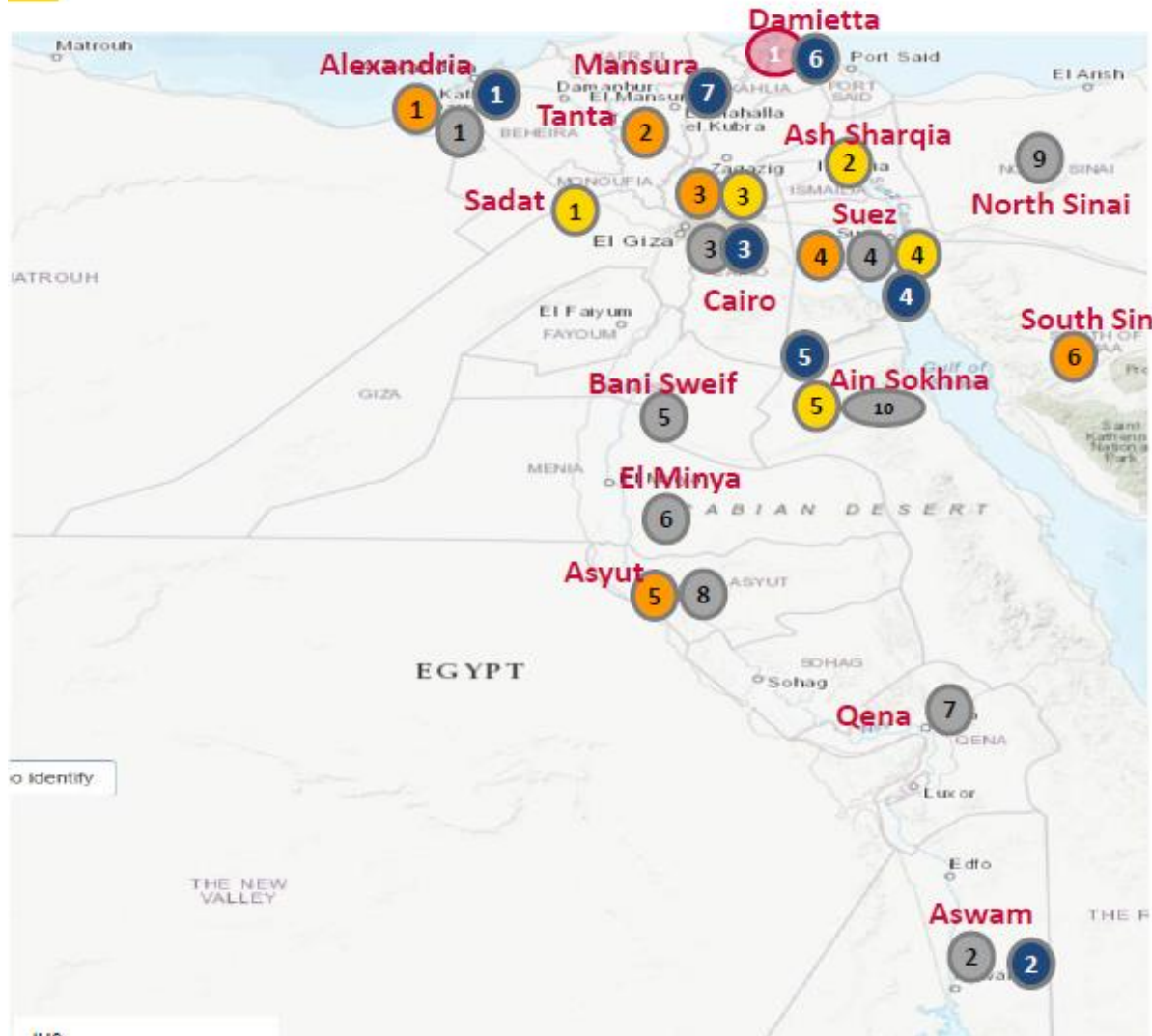
Hydrogen Production In Egypt ... Opportunities



Average Natural Gas Local Consumption 2020/2021
2220 BCF



Potential Areas of Cooperation



● Cement ● Refinery ● Steel ● Ammonia ● Methanol

Policy & Regulation

Carbon Capture Techniques, CCU, CCUS

Accreditation & Certification Mechanism

Natural Gas –Hydrogen Blend

Financing Regimes

Hydrogen Dedicated Infrastructure

Capacity Building

R&D

Cooperation with International Companies/Institution

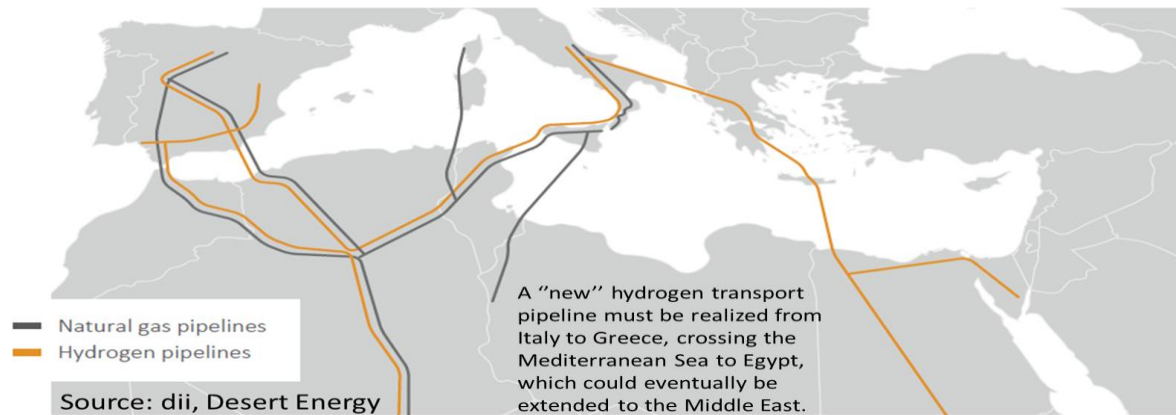
Decarbonization Projects



Signed MoUs



Comply with the global Policies/long term strategies including EU Hydrogen Strategy,



1st Phase up to 2035: Blue Hydrogen (from NG)

2nd phase 2035-2050: Green Hydrogen (rom RE)

Egypt in the Spot...Hydrogen Transporter in both phases via the planned routes;

- Neom Project (KSA-**Egypt**-Greece-Italy)
- African Hydrogen Partnership (Ethiopia-**Egypt**-Greece-Italy)

Cooperation with Leading Countries/Entities

Egypt's Energy Hub including Hydrogen in the equation through;

- Diversify cooperation with leading countries (Europe, Asia Pacific & Far-Eastern, USA...)
- Seek for Hydrogen Technology Transfer
- Activate Preparing related Feasibility studies
- Join Hydrogen Capacity Building Programs
- Implement Hydrogen pilot projects
- Market blue/green Ammonia cargos as Hydrogen carrier
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WAY FORWARD



- Comply with the renewables' global policies and long term strategies (including hydrogen).
- Investigate potential to utilize the Egyptian natural gas assets (network & facilities) and other qualifications (Suez Canal, marine ports, ...etc)
- Maximize value added of natural considering other opportunities cost
- Issue Egyptian regulations for hydrogen (Egypt's 2030 sustainable vision)
- Check possibilities of having zero carbon sustainable cities
- Study the possibility of constructing dedicated hydrogen infrastructure
- Allocate a share of the Egyptian hydrogen in the international market
- Diversify cooperation with leading countries in the field of Hydrogen (real projects)
- Egypt to become Hydrogen pioneer among neighbor countries



Thank You