DOING BUSINESS WITH SOLAR ENERGY INDUSTRY IN MIDDLE EAST

LEVERAGE ON SKYMINDER SOLUTIONS

OCTOBER 2023 SKYMINDER NEWSLETTER

Solar Industry Overview

Solar energy is radiant light and heat from the Sun that is harnessed using a range of technologies such as solar power to generate electricity, solar thermal energy (including solar water heating), and solar architecture.

It is an essential source of renewable energy, and its technologies are broadly characterized as either passive solar or active solar depending on how they capture and distribute solar energy or convert it into solar power. Active solar techniques include the use of photovoltaic systems, concentrated solar power, and solar water heating to harness the energy. Passive solar techniques include orienting a building to the Sun, selecting materials with favorable thermal mass or light-dispersing properties, and designing spaces that naturally circulate air.

In 2011, the International Energy Agency said that "the development of affordable, inexhaustible and clean solar energy technologies will have huge longer-term benefits. It will increase countries' energy security through reliance on an indigenous, inexhaustible, and mostly import-independent resource, enhance sustainability, reduce pollution, lower the costs of mitigating global warming .... these advantages are global".

SOURCE: International Energy Agency.

Main Solar Energy Technologies

Photovoltaic (PV)

Photovoltaic technology captures the energy of the sun to convert light directly into electricity. Energy from the sun is collected via photovoltaic cells made of semiconductor materials such as silicon. These cells convert the electricity into direct source electricity (DC power). This is then either used directly at the source or can be converted to AC power via an inverter and stored for later use in a battery device such as a municipal grid.

Concentration photovoltaic (CPV)

These systems use a Fresnel lens that is located between the sun and the solar cells to focus and magnify sunlight onto the solar cells that are anywhere from 250 to 500 times smaller than the typical “one-sun” PV solar panels. Concentration photovoltaic systems effectively replaces inexpensive plastic (Fresnel) lenses in place of the expensive silicon solar cells.
Today’s concentration photovoltaic solar systems integrate “track” the sun, to maintain maximum energy transfer from the sun to the solar cells. They are completely automated and integrate a tracking software control system that is hydraulically driven. Concentration photovoltaic solar systems integrate the Fresnel lens, solar cell, and solar receiver plate into the system.

Concentrated Solar Power (CSP)

Concentrated solar power (CSP) systems use lenses or mirrors to focus a large area of sunlight onto a small area. The concentrated light is then directed onto photovoltaic surfaces or used to heat a transfer fluid for a conventional power plant to produce electricity.

Solar Thermal

Solar thermal technology works by harnessing the energy of the sun via solar energy collectors (normally flat plates) which in turn provide low-medium temperature heat energy for direct use. The most common application for this technology is heating of hot water systems, space heating and swimming pools as well as cooling systems for residential and commercial buildings.

Passive Solar

Architects and builders can apply special design practices to maximize sunlight in interior spaces and position shading devices to protect from excessive heat, thus utilizing clever design practices to maximize solar energy. The use of special materials and designs which absorb the suns heat and release this later to warm a building during cooler evenings and nights is also an example of passive solar technology.

Emerging Technology

As the potential for solar energy across the world increases, a significant amount of time and money is being invested into the research and development of emerging solar technologies. Over time we expect to see a significant increase in the emergence or further solar technologies.
SOURCE: MESIA (Middle East Solar Industry Association)

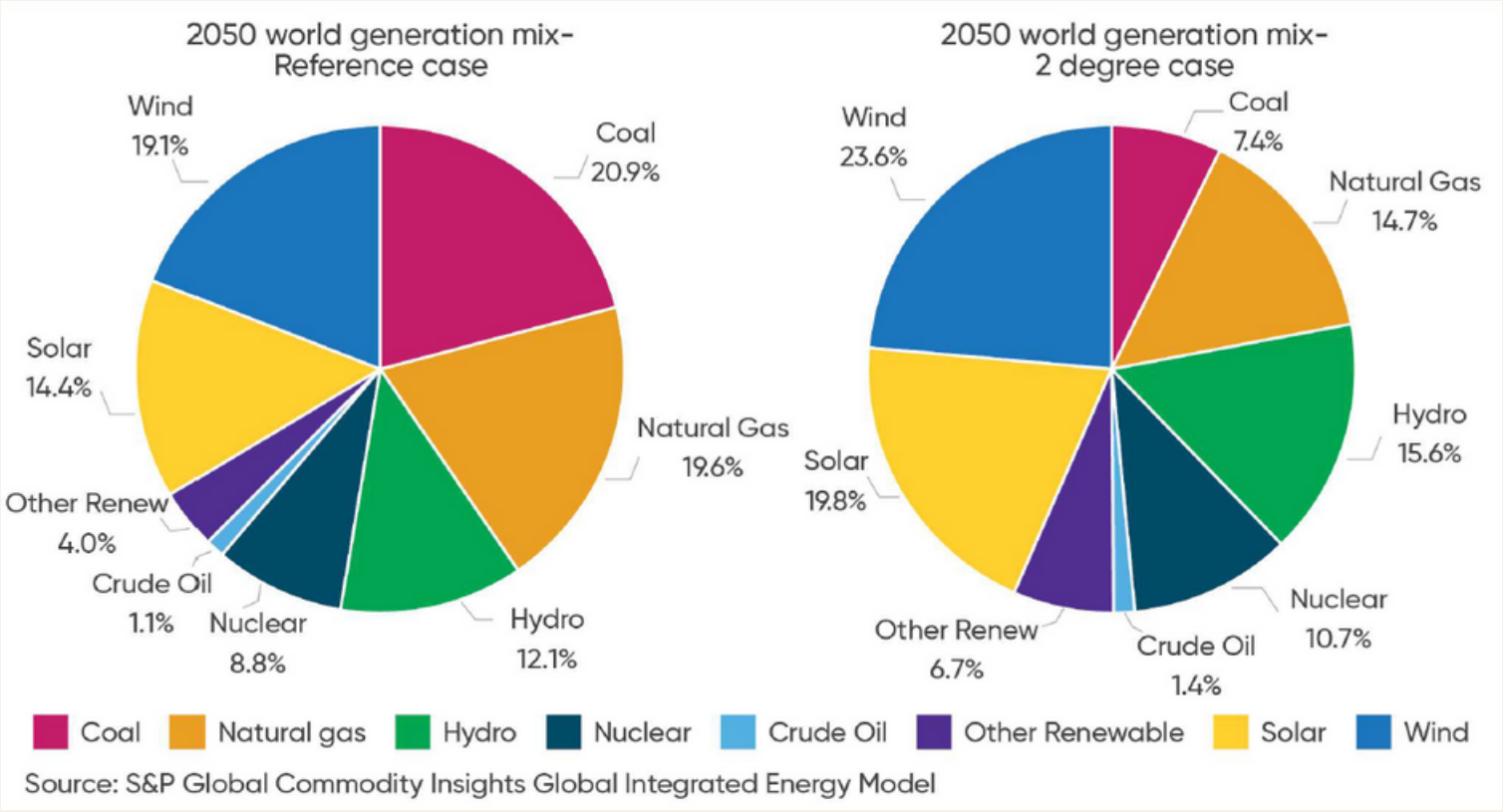
Facts and Figures

The 2022 United Nations Climate Change Conference or Conference of the Parties of the UNFCCC, more commonly referred to as COP27, was the 27th United Nations Climate Change conference, held from November 6 until November 20, 2022 in Sharm El Sheikh, Egypt. It took place under the presidency of Egyptian Minister of Foreign Affairs Sameh Shoukry, with more than 92 heads of state and an estimated 35,000 representatives, or delegates, of 190 countries attending. It was the fifth climate summit held in Africa, and the first since 2016.

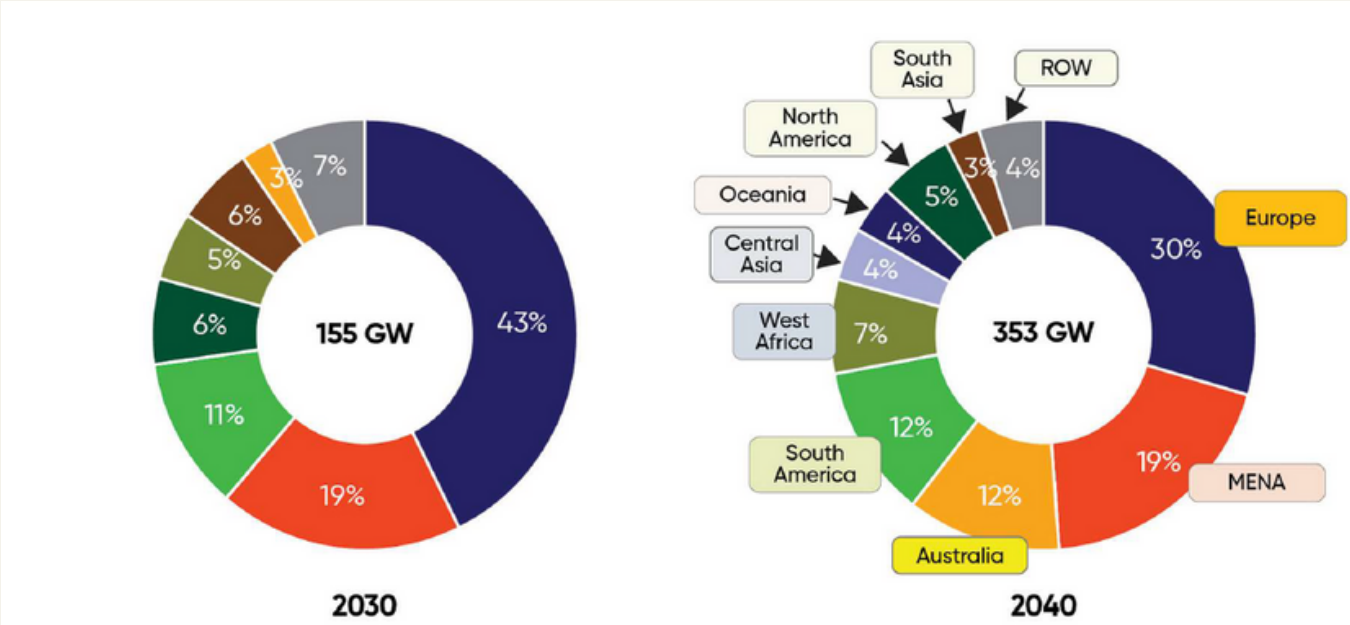
The conference has been held annually (except 2020 due to the COVID-19 pandemic)[5] since the first UN climate agreement in 1992. It is used by governments to agree on policies to limit global temperature rises and adapt to impacts associated with climate change.

The COP27 was focused on responsibilities related to developed countries regarding emissions and related and agreed to help compensate vulnerable nations for their climate-change inducted costs. While the gap between the status quo and the needed incremental emissions reductions to achieve the 1.5-degree target remains considerable, COP27 did not signal much-increased progress. Few countries communicated increased ambition, and the approach of limiting fossil fuels remains the same declared in Glasgow.

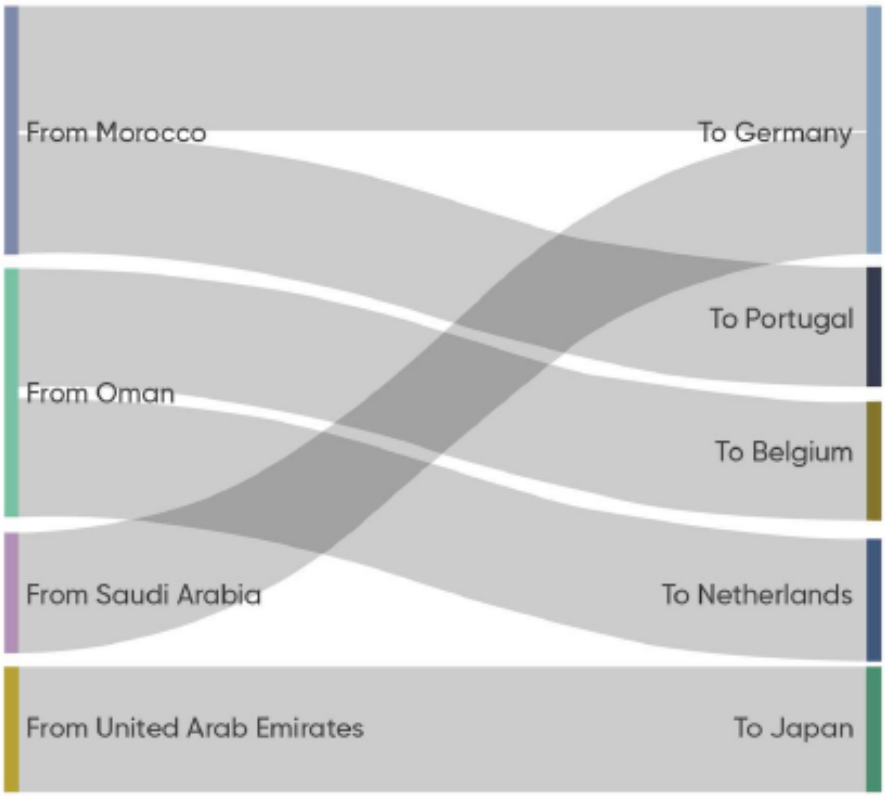
Despite requests from COP26 (Glasgow, October-November 2021) to update their ambition, only 35 countries have released new or updated Nationally Determined Contributions (NDCs) through 2030). There are several G20 countries like Australia, Brazil, India, Indonesia, South Korea, Mexico and Turkey, but emissions trajectories remain far from 1.5 degrees target level. Current NDCs would only reduce emissions by approximately 2% in 2030 relative to 2019 levels, compared with the 23% reduction as in Intergovernmental Panel and Climate Change (IPCC) defined.



Focus on Green Hydrogen

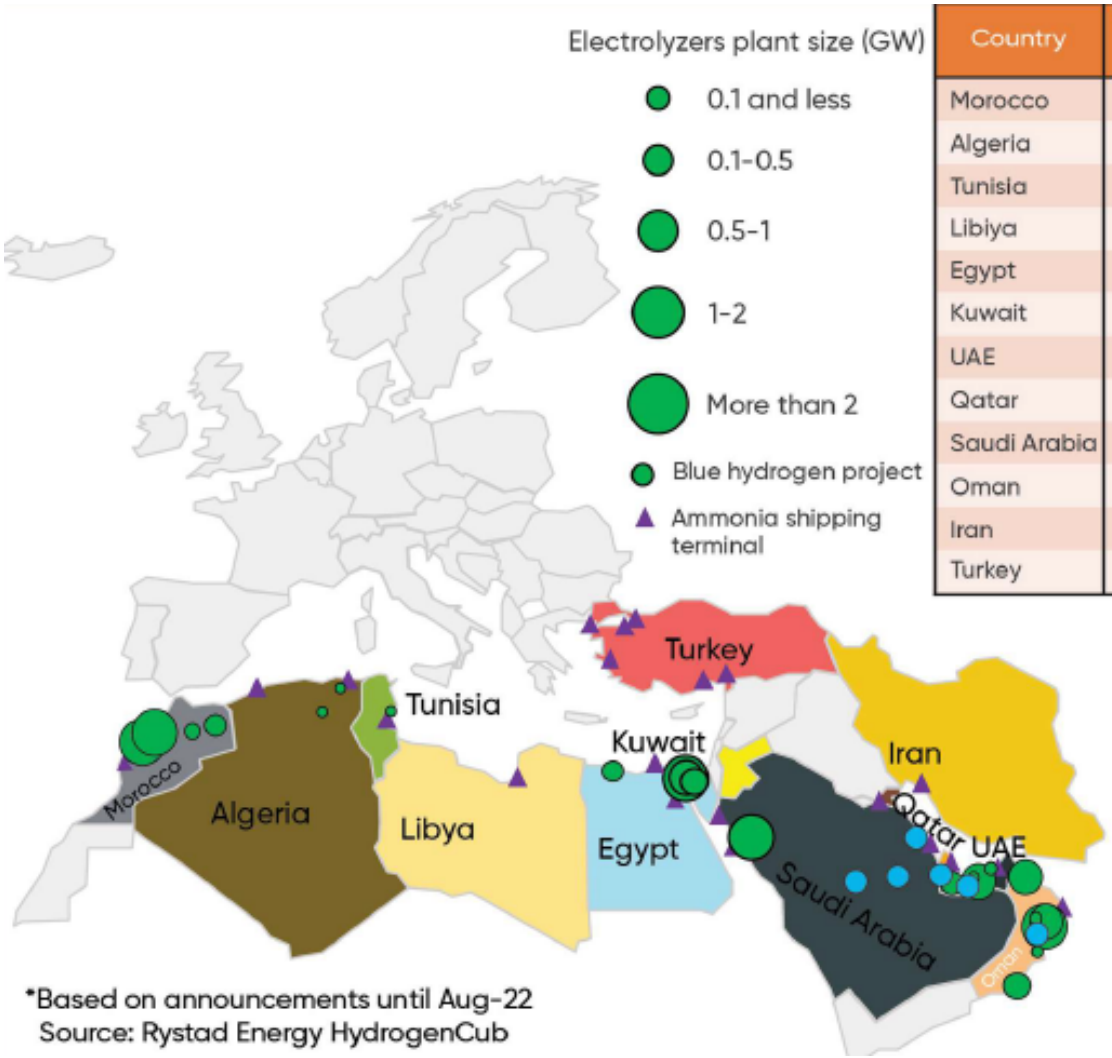


Global Green Hydrogen Installed Capacity Outlook



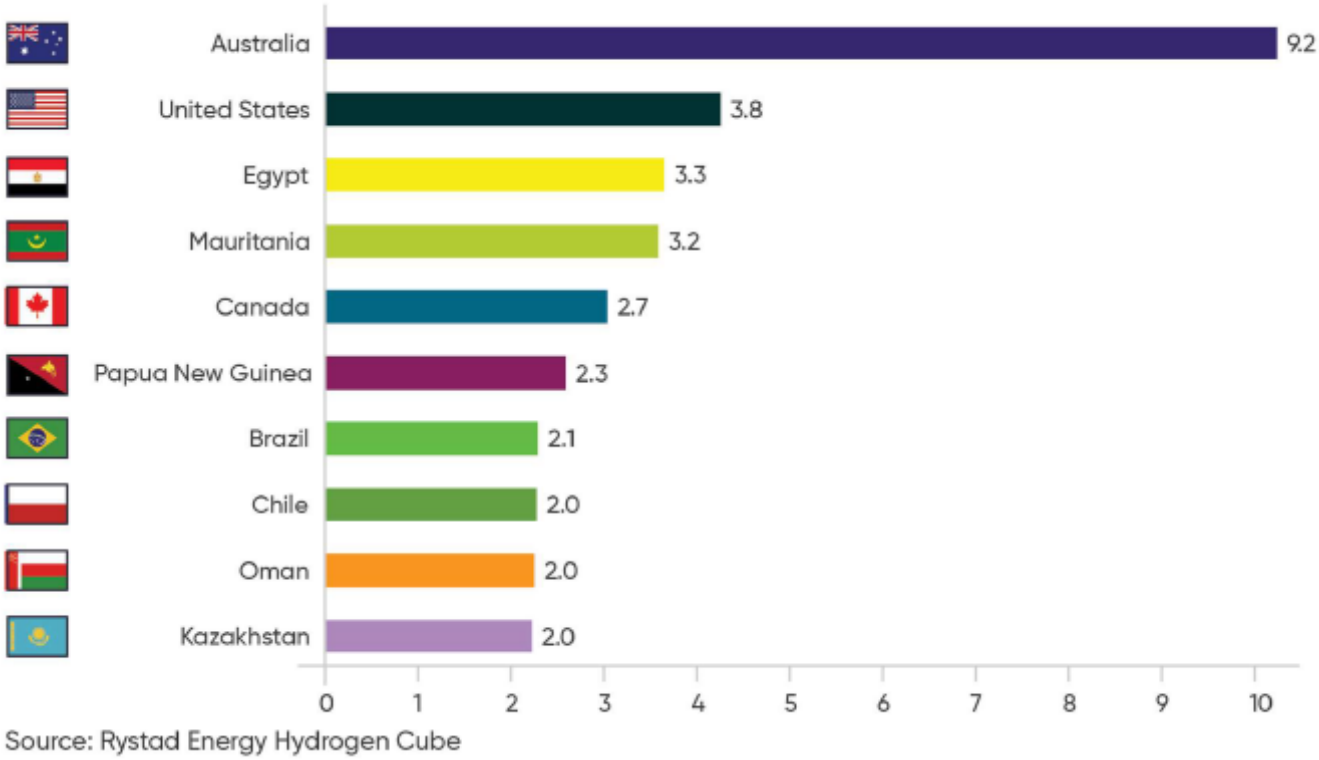
Source: Rystad Energy RenewableCube

Bilaterals Hydrogen agreements in MENA region currently in place



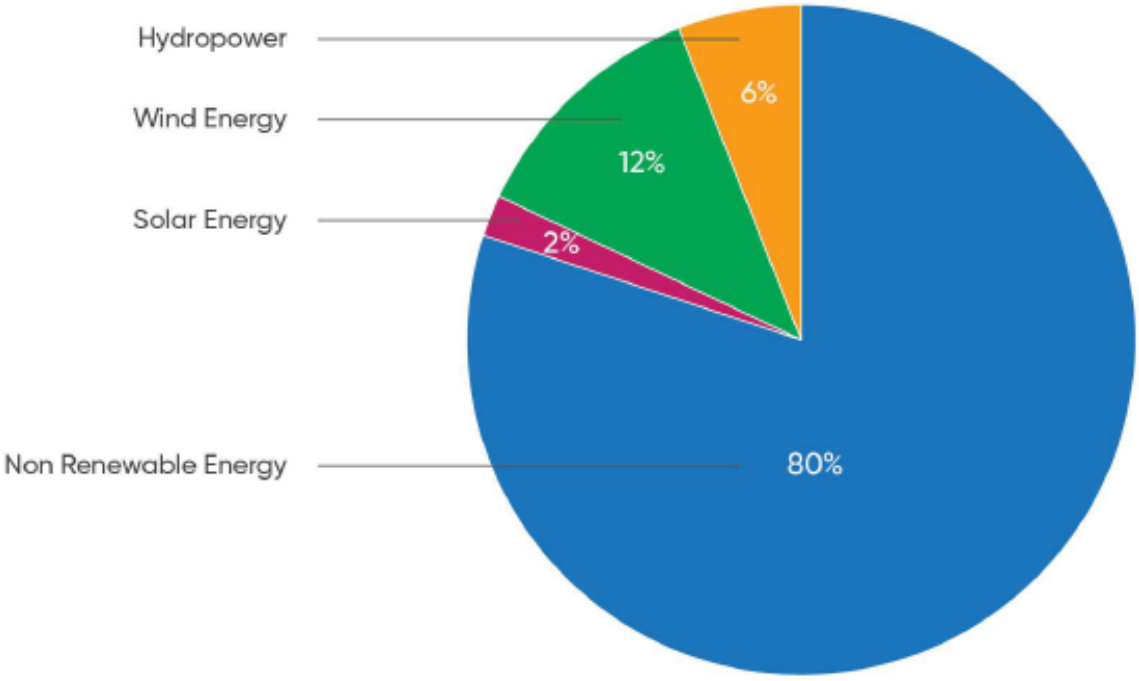
Country	Present Capacity (tonnes)	Total pipeline (Million tonnes)
Morocco	230,000	1.1
Algeria	135,000	2.45
Tunisia	55,000	0.2
Libiya	40,000	0.2
Egypt	115,000	5.65
Kuwait	46,000	0.48
UAE	40,000	5.65
Qatar	165,000	5.54
Saudi Arabia	100,000	4.07
Oman	60,000	11.82
Iran	120,000	3.5
Turkey	164,000	0.89

Announced project in MENA region

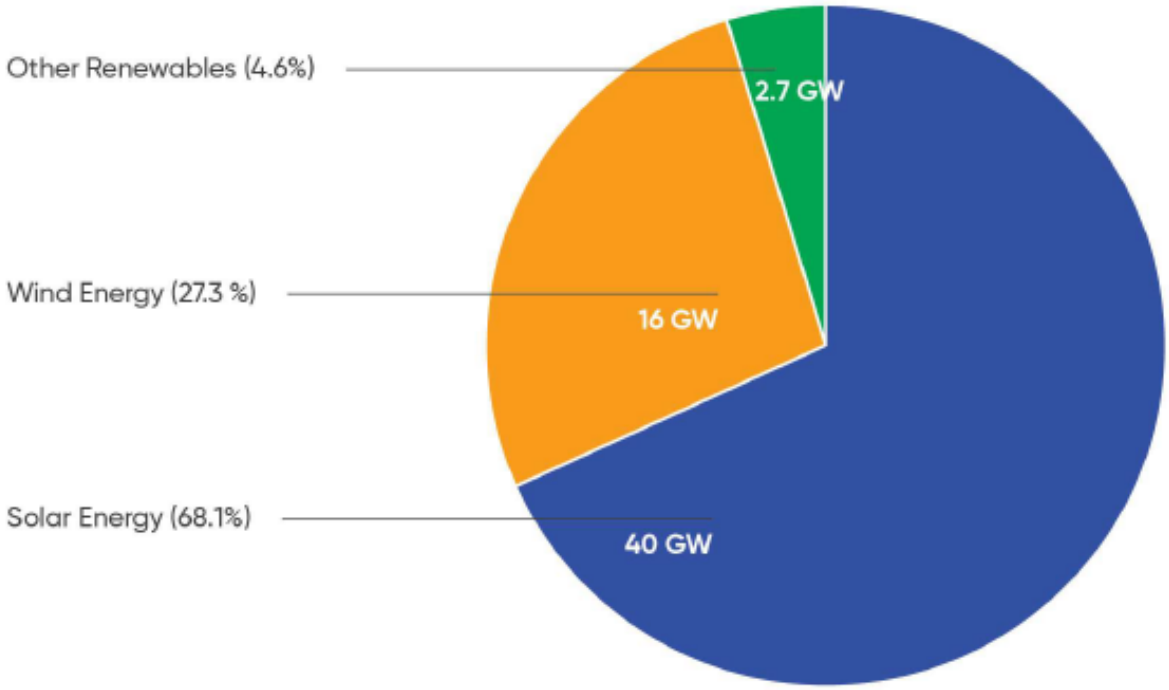


Top 10 countriess

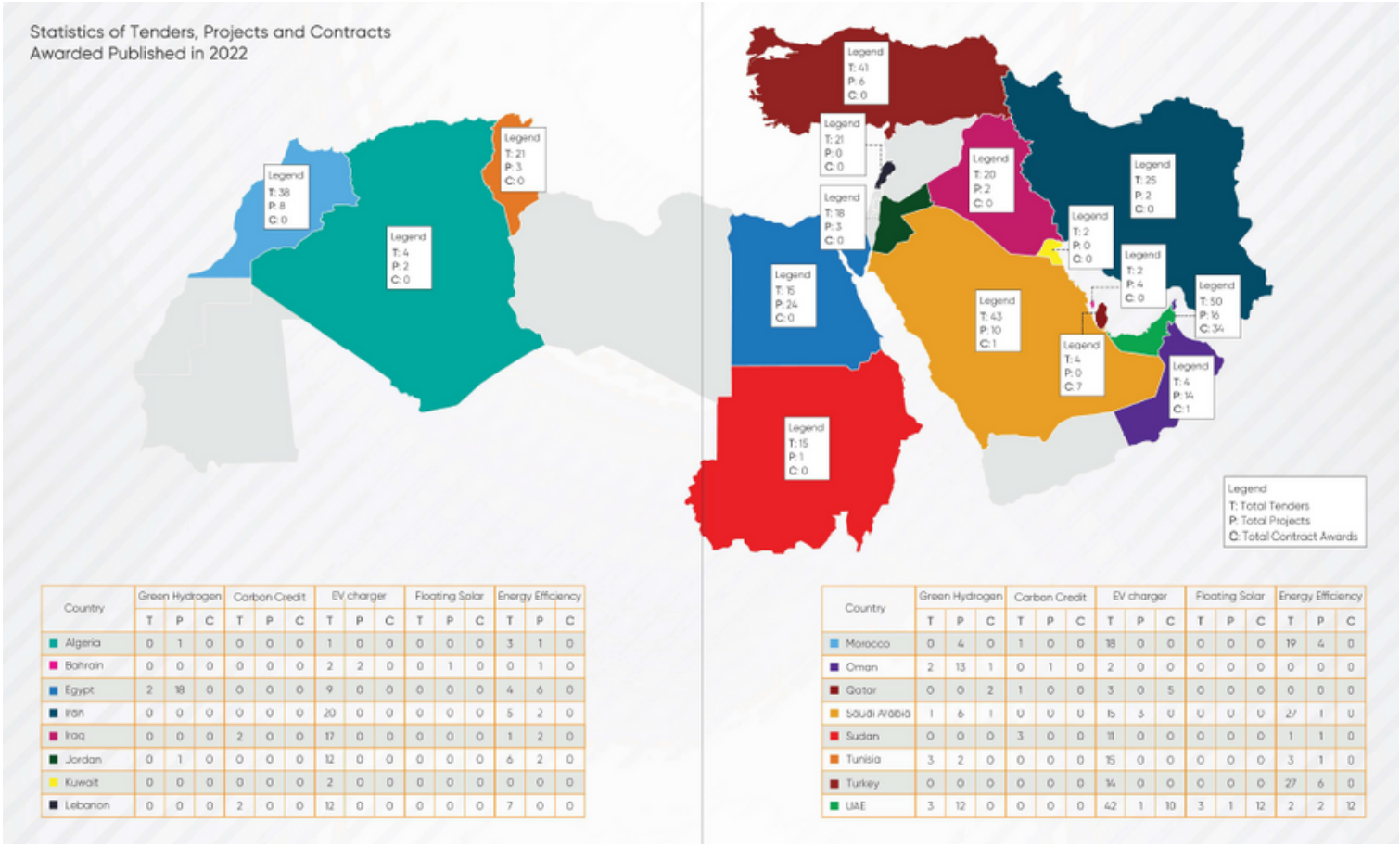
Focus on Egypt



Focus on Saudi Arabia



MENA Region Overview

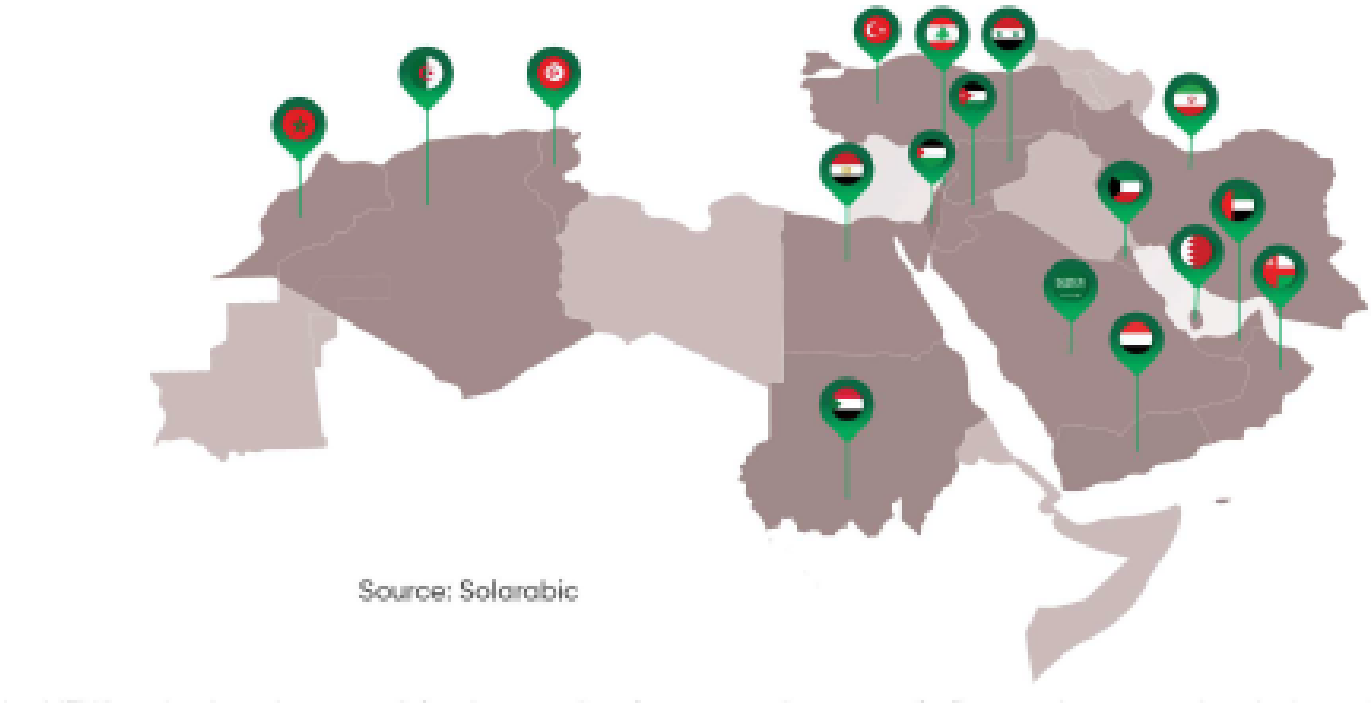


Country	Green Hydrogen			Carbon Credit			EV charger			Floating Solar			Energy Efficiency		
	T	P	C	T	P	C	T	P	C	T	P	C	T	P	C
Algeria	0	1	0	0	0	0	1	0	0	0	0	0	3	1	0
Bahrain	0	0	0	0	0	0	2	2	0	0	1	0	0	1	0
Egypt	2	18	0	0	0	0	9	0	0	0	0	0	4	6	0
Iran	0	0	0	0	0	0	20	0	0	0	0	0	5	2	0
Iraq	0	0	0	2	0	0	17	0	0	0	0	0	1	2	0
Jordan	0	1	0	0	0	0	12	0	0	0	0	0	6	2	0
Kuwait	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
Lebanon	0	0	0	2	0	0	12	0	0	0	0	0	7	0	0

Country	Green Hydrogen			Carbon Credit			EV charger			Floating Solar			Energy Efficiency		
	T	P	C	T	P	C	T	P	C	T	P	C	T	P	C
Morocco	0	4	0	1	0	0	18	0	0	0	0	0	19	4	0
Oman	2	13	1	0	1	0	2	0	0	0	0	0	0	0	0
Qatar	0	0	2	1	0	0	3	0	5	0	0	0	0	0	0
Saudi Arabia	1	6	1	0	0	0	16	3	0	0	0	0	27	1	0
Sudan	0	0	0	3	0	0	11	0	0	0	0	0	1	1	0
Tunisia	3	2	0	0	0	0	15	0	0	0	0	0	3	1	0
Turkey	0	0	0	0	0	0	14	0	0	0	0	0	27	6	0
UAE	3	12	0	0	0	0	42	1	10	3	1	12	2	2	12

SOURCE: Mesia

Countries with renewable energy legislations



SOURCE: Mesia

Countries with electricity shortage

SOURCE: Mesia

Focus on MESIA

MESIA was created when a group of solar pioneers came together with the aim of giving life to the vast potential for solar in the Middle East. The group was led by Vahid Fotuhi from BP Solar and Prof. Georgeta Vidican from Masdar Institute. After a hugely successful launch event on November 23, 2009, the group established a steering committee made up of the key players in the local solar market.

The Middle East Solar Industry Association- MESIA, is the only non-for profit solar association bringing together the entire solar sector across the Middle East and North Africa (MENA) region. Our aim is to:

1. Promote solar growth and opportunities in the entire region
2. Collaborate as marketing and content partner with our local, regional and international members and partners
3. Organize educational webinars, events, and networking workshops for solar professionals
4. Produce reports on market trends, latest technologies, standards, and best practices
5. Support our members' and partners' through various physical and digital activities

MESIA has over 80 local, regional and international members as well as key partners from the entire solar value chain: EPCs, integrators, subcontractors, technical advisors, law firms, components manufacturers, Investors/lenders/funds, components suppliers/components agents, or distributors or industry media and content/ research providers. These include companies such as ACWA Power, Synergy Consulting, Huawei, Sungrow, Drone Base, Pure Energy, NES Fircroft, Ingeteam, FTC Solar, Arabian Qudra, Desert Technologies, JA Solar, Trina Solar, Jinko Solar, Tenka Solar and LONGi.

SOURCE: MESIA

SKYMINDER SOLUTIONS

SkyMinder is the worldwide CRIF platform helping you to take decisions based on high-quality information. If you are required to evaluate a business partner in the Solar Energy Industry, a customer or a supplier, in a risk evaluation process or for compliance requirements or a cyber risk assessment, SkyMinder is the right solution.

Requirement	SkyMinder Solution	Description
Know business partners and risk level - have on board new suppliers - understand in depth customers creditworthiness	**Full Report and Slim Report**	Information, with different level of details, related to all companies in the world, including firmographics, credit limit, risk indicator, management, shareholders, negative events etc.
Receive immediate notification with related details if a change affects a company	**Full Monitoring**	Detailed information about changes affecting a company as soon as happened. Combined possibility to request for free updated report.
Be alerted if there is change in company's information	**Alert**	Information related to the area involved by a change as soon as an event happened.
Periodically checks if there are changes involving companies	**Planned Revision**	Scheduled revision with updated report including company's changes if applicable
Obtain documents from Official Registry and LEI repository	**Official Registry and LEI**	Product range including documents coming from public sources or from LEI Registry
Company ownership overview	**Verification Report**	List of shareholders to understand company's structure
Compliance requirements and fraud checks	**Compliance Report and Extended Check Report**	Anti Bribery and Money Laundering lists checks related to financial crimes.
Risk of Cyber attack	**Cyber Risk Report**	Assess the level of risk related to a business partner in being involved in a cyber attack
Understand overall value of intangible assets of a company	**Patent Due Diligence Report**	Patent Asset Overview with geographical coverage, remaining life of active patent assets, high-value patent assets, technology and patent deployment, technology timeline, peer comparison, key inventors.