The Role of Policies and Regulations in Scaling-Up Renewable Energy Markets

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Regional Center for Renewable Energy and Energy Efficiency
المركز الإقليمي للطاقة المتجددة وكفاءة الطاقة

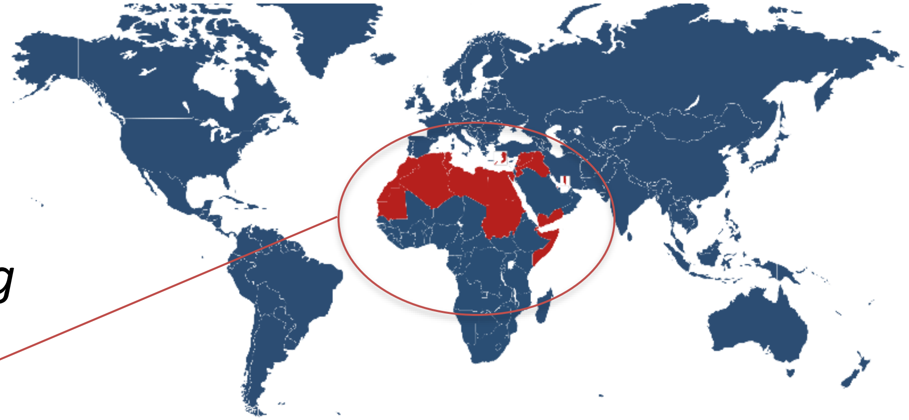
Egypt Energy

Cairo, 16 October 2025

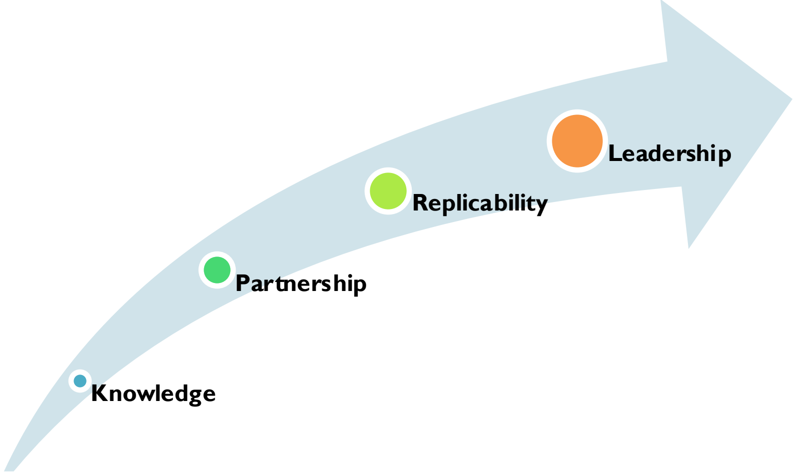
RCREEE – Who we are

"We, the Regional Center for Renewable Energy and Energy Efficiency, are the ***strategic partner*** *for the* ***Arab countries*** *driving* ***energy transition*** *for the* ***prosperity*** *of all our* ***people****."*

- **Intergovernmental Organization with 17 Member States**
- **The technical arm of the League of Arab States**
- **A leader in clean energy policy dialogues, strategies, technologies, investments promotion, and capacity development**
- **The first regional renewable energy and energy efficiency center across the world**
- **Secretariat in Cairo, Egypt with regional antennas and a pool of short-term experts**



Work in the Pan-Arab Region…
know how to navigate your way



Sustainable Energy Policies and Technical Support → Energy Market Research and Knowledge Management → Sustainable Energy Investments Promotion → Socio-Economic & Environmental Assessments

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WORKING AREAS

POLICY REFORM AND SUPPORT

Sustainable Energy Action Plans
Legal Framework conception

KNOWLEDGE MANAGEMENT

Sustainable Energy data management
Professional credentialing

STANDARDIZATION AND CERTIFICATION

Products and personnel certification
Organizational accreditation

PRIVATE SECTOR PROMOTION

Market Analysis
Investment Promotion

ENVIRONMENT AND CLIMATE CHANGE

Climate Action
Environmental and social Impact Assessment

FINANCIAL AND ECONOMICAL ASSESSMENT

Green Economy access to finance
Job creation and gender mainstream

Civil policy is the management of a home or a city in accordance with morality and wisdom, to lead the public to a path that preserves and perpetuates the species.

Abd al-Rahman, Ibn Khaldun

(1332 - 1406 AD)

- **السياسة المدنية هي تدبير المنزل أو المدينة بما يجب بمقتضى الأخلاق والحكمة ليحمل الجمهور على منهاج يكون فيه حفظ النوع وبقاؤه.**

عبد الرحمن، بن خلدون

(1332 - 1406م)

The Interplay of Strategy, Policy, Regulations and Service Provision – From Purpose to Action

Strategy:

A question of **why** I need to do something and **where** to go 💡

- This is the fundamental purpose or reason behind an initiative. It defines the core problem and the ultimate long-term vision. It is a high-level plan designed to achieve a long-term goal or desired outcome. It provides direction, sets priorities, and outlines how resources should be used to gain advantage, overcome challenges, or respond to opportunities.

Policy:

A question of **how** to achieve the objectives/targets requested by the strategy 🗺

- These are the formal guidelines, principles, and plans that articulate **how** to achieve the strategic objectives. Policies are the actionable roadmaps. A high-level declaration of intent or guiding principle adopted by a government, organization, or institution.

Regulations:

A question of **what** to do and what not to do? Governing legal framework 📜

- This is the legal and technical framework that specifies **what** to do and **what not** to do. Regulations provide the specific, enforceable rules. A binding legal instrument (law, decree, directive, standard) that enforces compliance with the policy.

Service Provision:

Implementing the strategy in the framework of the set policy and complying with the set regulations. ⚡

- This is the final, tangible result: the implementation of the strategy through policies and regulations. It's the moment when citizens and businesses experience the benefits of the policy framework.

The "Global Energy Trilemma"

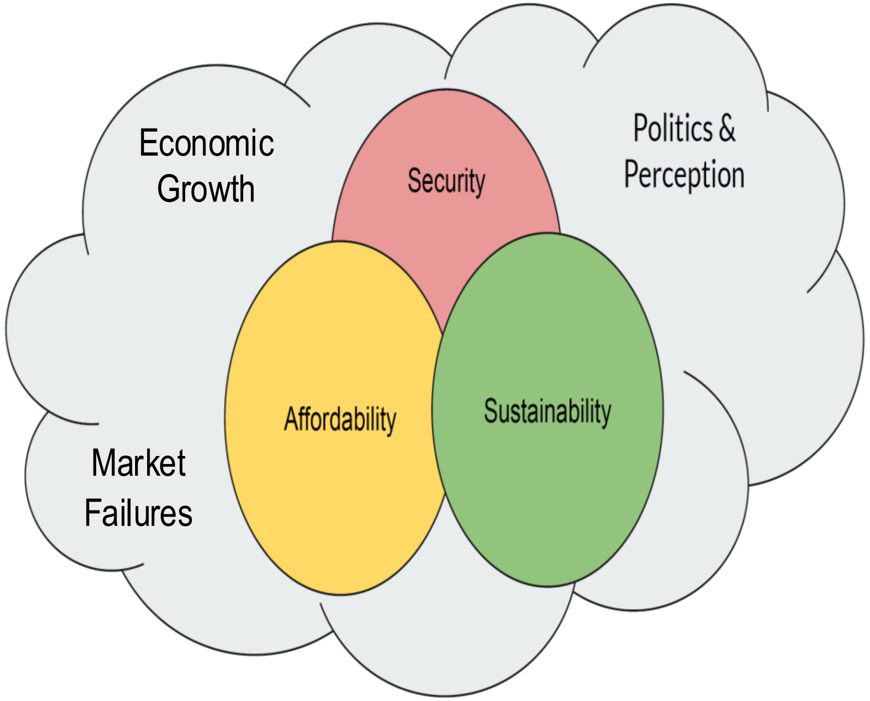
Energy Security: Reliably supplying energy (electricity/heat) to customers in the face of:

- Short-term risks (e.g. blackouts)
- Long-term risks (e.g. oil market shocks due to wars)

Affordability: Cost (both average cost and volatility).

-Some definitions use "**Energy Equity** = Access + Affordability". Energy Equity is accessibility and affordability of energy for all segments of society.

Environmental Sustainability: The transition to a low-carbon energy system that mitigates climate change and environmental damage (CO_2 (or equivalent), plus pollution of air/land/water).



Optimal Energy Policy

Policy = Σ Security + Σ Affordability + Σ Sustainability

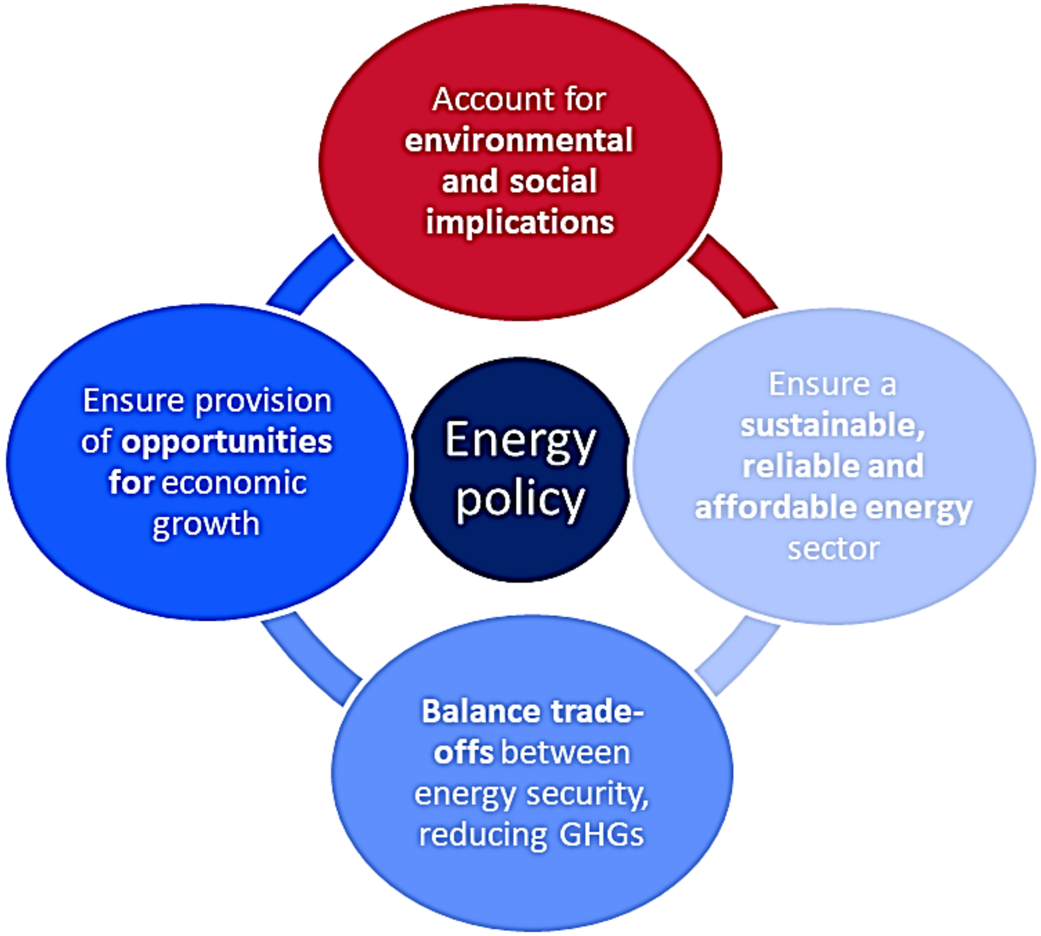
Integrated over time

The Challenge: A policy that improves one aspect can negatively impact another. For example, a rapid shift to renewables might raise electricity prices initially (affecting equity) or introduce grid stability challenges (affecting security).

Energy policy must consider trade-offs between affordability, security, and sustainability.

Characteristics of Governmental Policy

A statement of intent	A guiding framework	Not always binding	Shaped by politics	Often limited in duration
A policy is a government's official declaration of how it plans to achieve a specific strategic goal or target.	It serves as a high-level guide and can be a collection of documents and decisions rather than a single piece of legislation.	Unlike a “regulation” which is a specific, legally binding rule, a policy can include both binding elements (e.g., legislation) and non-binding guidelines.	A policy is an output of the government that is directly influenced by political agendas, economic conditions, and competing stakeholder interests.	Its lifespan is typically linked to the parliamentary or administrative term of the government that created it.



Polices Adopted Internationally to Support RE

- Policies for RE
  - Main policies
    - Quantitative Policies
      - Competitive bids/Auctions
      - Direct Proposals
      - Quota (RPS)
      - Green Certificates
    - Pricing Policies
      - Feed-in Tariff
      - Added Premium
      - Net-Metering
  - Supporting policies
    - Financial
      - Soft Concessional Loans
      - Public Purchases
    - Taxes and Customs Incentives
      - Related to Production
      - Related to Consumption
    - Contractual
      - Power Purchase Agreements
      - TPA and Dispatch Priority

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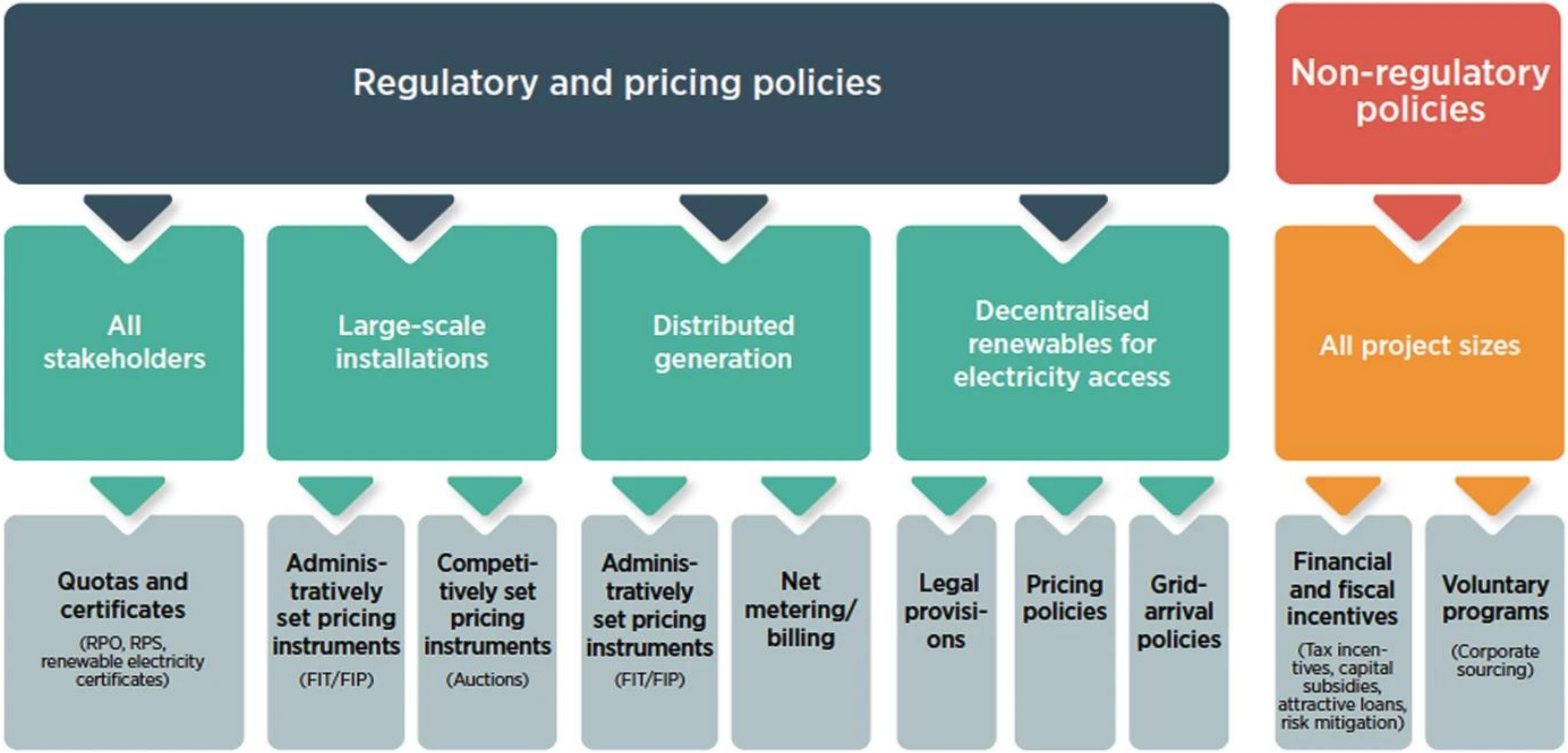
Polices Adopted Internationally to Support RE



Source: Handbook of International Energy Economics, https://link.springer.com/book/10.1007/978-3-030-86884-0

Renewable Energy Policy Making: Examples 🌍

- **United States:** The **Inflation Reduction Act (IRA)** is a prime example of a green industrial policy. It uses a range of **tax credits and production tax credits** to incentivize the domestic manufacturing and deployment of clean energy technologies, from solar panels to electric vehicles.

- **European Union:** The **EU Green Deal** combines multiple instruments, including a robust **Emissions Trading System (ETS)** with increasingly ambitious caps, and the **Carbon Border Adjustment Mechanism (CBAM)**, which imposes a carbon price on imports to prevent "carbon leakage.“

- **China:** The government's **Five-Year Plans** act as a powerful **command-and-control** mechanism, setting aggressive, top-down targets for renewable energy deployment. This is combined with massive **state-led investment** in manufacturing and R&D.

Intermittency: The Achilles' Heel of Renewables

- "Achilles' Heel" of renewable energy, particularly wind and solar, is the intermittency of their power generation, which necessitates energy storage solutions to match fluctuating supply with consistent demand
- Wind and solar are foundational to decarbonizing electricity, but their intermittent nature challenges grid stability.
- Battery Energy Storage Systems (BESS) and hydrogen offer unique solutions for storing surplus electricity for later use.

Supply Demand Misalignment

Peak solar production often misaligns with demand periods, creating energy surpluses that cannot be utilized.

RE Resource Variability

Solar and wind power generation can be highly variable, creating unpredictable gaps in energy supply.

Energy Curtailment

Without effective storage or flexible consumption, valuable renewable energy is wasted through curtailment.

Arab region

Map credits: League of Arab States,
http://www.lasportal.org/ar/aboutlas/Pages/CountryData.aspx

- 22 countries with a population of approximately **490** million, representing **6%** of the world's population, and an annual population growth rate of approximately 3%.
- A total area of approximately **13** million square kilometers, equivalent to about **10%** of the world's area.
- It contains more than **half** of the world's proven oil reserves (56.5% according to the Arab Monetary Fund's estimates issued in 2020).
- More than a **quarter** of the world's gas reserves (26.7%)
- The countries of the region have **not yet** achieved a **decoupling** of economic growth rates from energy demand, meaning that a country grows economically without increasing, or perhaps decreasing, energy demand.
- Over a period of fifteen years, the average annual growth in electricity demand was about **6%** per year, with GDP growth of **about 4.5%** per year.

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Regional and National Policy Making Process

	Political Governance System (LAS/RCREEE/Arab States/Partners)	
Master Document	Pan-Arab Sustainable Energy Strategy	
Implementation tool	Arab EE Guideline	Arab RE Framework
Planning tools	NEEAP	NREAP
Monitoring tool	Reporting Guideline	Reporting Guideline

The Arab Sustainable Energy Strategy 2030 (LAS, 2018)

Increasing the share of RE

The share of RE will reach 12.4% of the electricity generated, and its share in the total final energy will reach 2.8%.

Improve energy efficiency

The **primary energy intensity will improve more than 30%** compared to 2014 levels from 0.29 to 0.22 kOE/ USD, and the average **efficiency of the power plants will increase** significantly from 36% **to 49%,** while the electricity **transmission and distribution losses** will **decrease** from 16.5 % **to 9%**.

Ensuring access to modern energy services

The **entire Arab population will have complete access to the electricity grid,** and the per capita share of electricity will increase to 3500 kWh, and the per capita share of final energy will increase to 1.4 million TOE.

Policies for Mobilizing RE Investments in Arab Countries

- **The preferred policy option for utility scale projects in the region is the public competitive bidding/auctions in many countries.**
- **Feed-in Tariffs (FiTs) are phasing out for utility scale projects**
- **The adoption of direct proposal submission proved to be successful for the development of large-scale RE projects in some countries.**
- **FiT and net metering are emerging for decentralized RE systems.**

Competitive Bidding and Auctioning	• 16 countries
Direct Proposal Submission	• 4 countries
Feed-in Tariffs	• 3 countries
Net Metering	• 10 countries
EPC Contracting	• More than 17 countries

The current openness to private investment was not the case 10 years ago, when the prevailing approach was mainly based on state-owned projects and the only way for the private sector to participate was through engineering, procurement and construction (EPC) contracts.

RE Installed Capacities in the Arab Region

Wind Capacity
6 GW

PV Capacity
21.5 GW

CSP Capacity
1.3 GW

Other (W2E, geothermal, etc)
0.5 GW

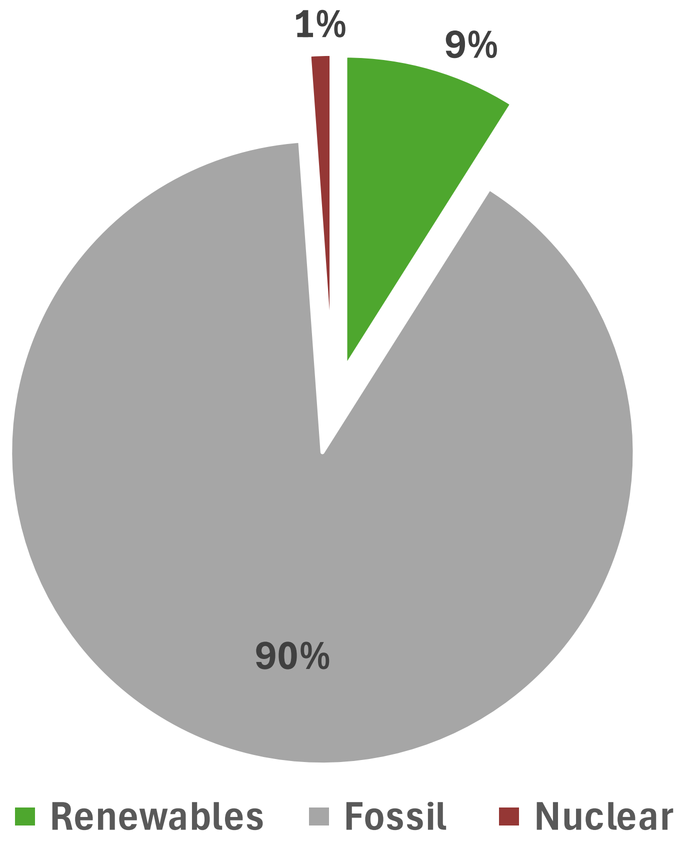
Total new RE Capacities
~**29.3** GW

Hydro Capacity
9.1 GW

Total RE Capacities
~38.4 GW

Installed RE capacities in the Arab region,

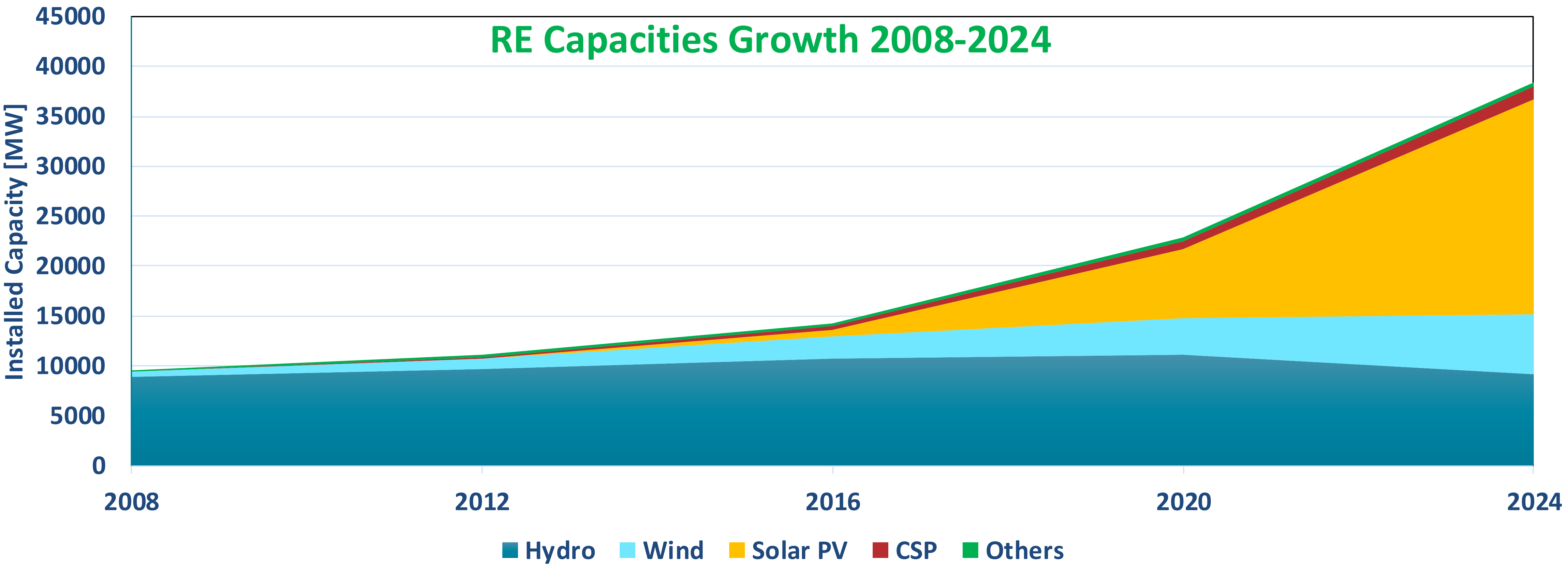
As of 31st December 2024



RE Share in 2023 Installed Capacities

Source: Maged K. Mahmoud, 2025

RE Installed Capacities in the Arab Region



2024 New Renewables Capacities = 40 Folds 2008 New Renewable Capacities

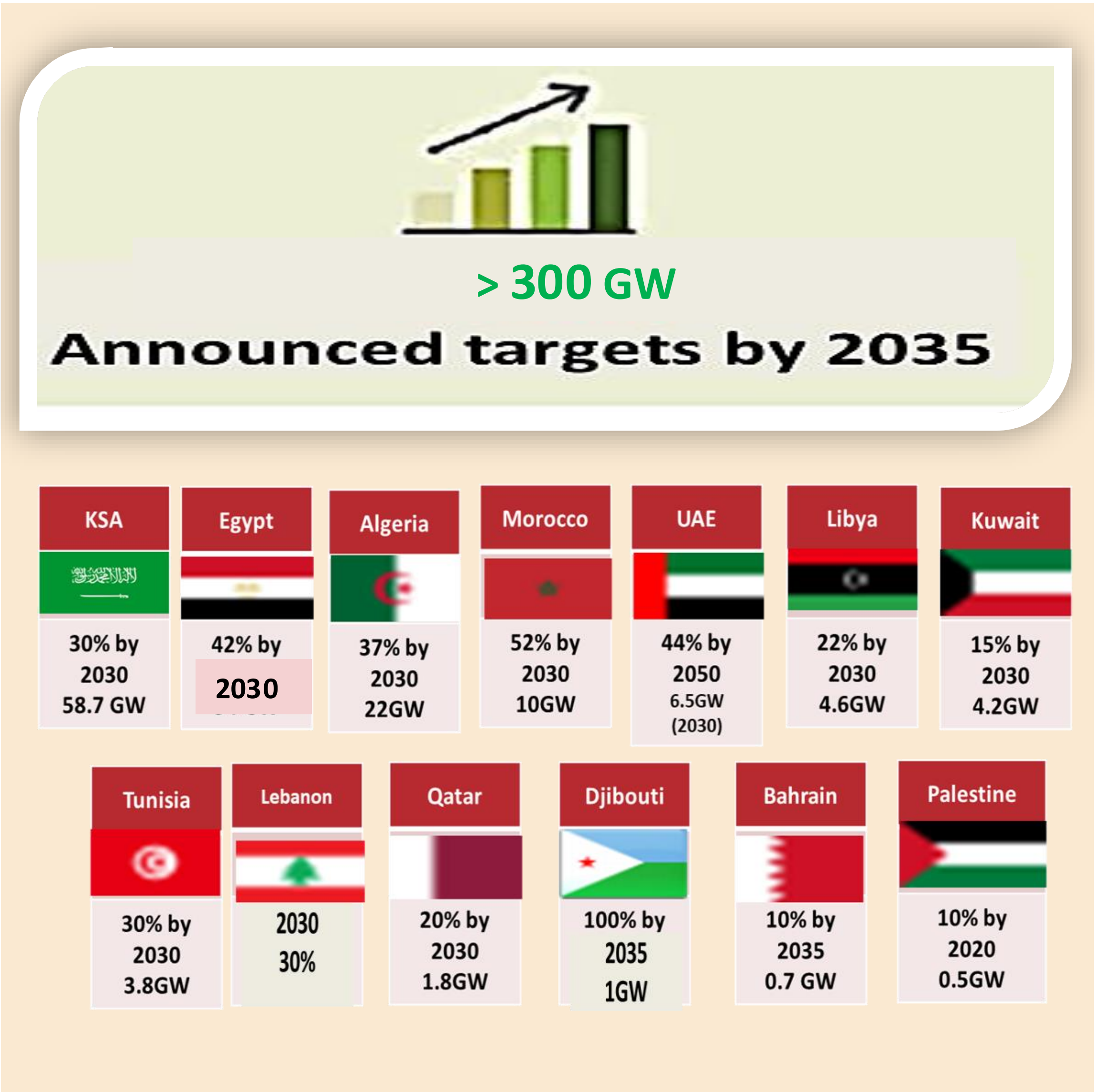
Source: Maged K. Mahmoud, 2025

RE Targets

- Two Arab countries have 100% RE targets: Djibouti by 2035, and Morocco by 2050. Morocco also aims to achieve 52% of RE share by 2030.
- Many Arab countries are developing carbon markets, where many governments have announced Net Zero targets, including the United Arab Emirates (2050), Oman (2050), Bahrain (2060), Saudi Arabia (2060), Kuwait (2060), Lebanon (2050) and Tunisia (2050), among others.
- In terms of installed capacity, the highest are Saudi Arabia target of 58.7 GW and Egypt target of 59.7 GW. The Egyptian RE strategy is under revision.

At least 300,000 estimated direct green jobs in Arab countries by 2030

>75 Renewable Hydrogen/ Green Ammonia/ e-fuel Projects (CN, MoU, FS, Operational) announced in 12 Arab countries.



RCREEE, AFEX 2023

Institutional Capacity

National institutional frameworks for RE deployment varies widely based mostly on

- **Political commitment** to RE
- Power sector **structure**
- Mandate and **relative influence** of different actors (ministry of energy, regulators, RE agency, utilities)

Main focus of existing RE related institutions:

- Barriers removal/ risks mitigation (investors confidence)
- Competitiveness of markets
- Technological advances
- Socio-economic / environmental problems related to energy

Institutional setup	Dedicated RE agency	Alternative* energy agency	No RE agency
Number of countries	**6**	5	**12**

* RE with EE in 4 cases; and RE with nuclear in 1 case

Energy Subsidy Reforms

- The recent drops in oil prices has, in part, encouraged Arab countries to undertake various **reform actions and make progress in reducing their energy subsidies**. The region witnessed an unprecedented wave of energy subsidy reforms

13 Countries in 2024
6 Countries in 2014

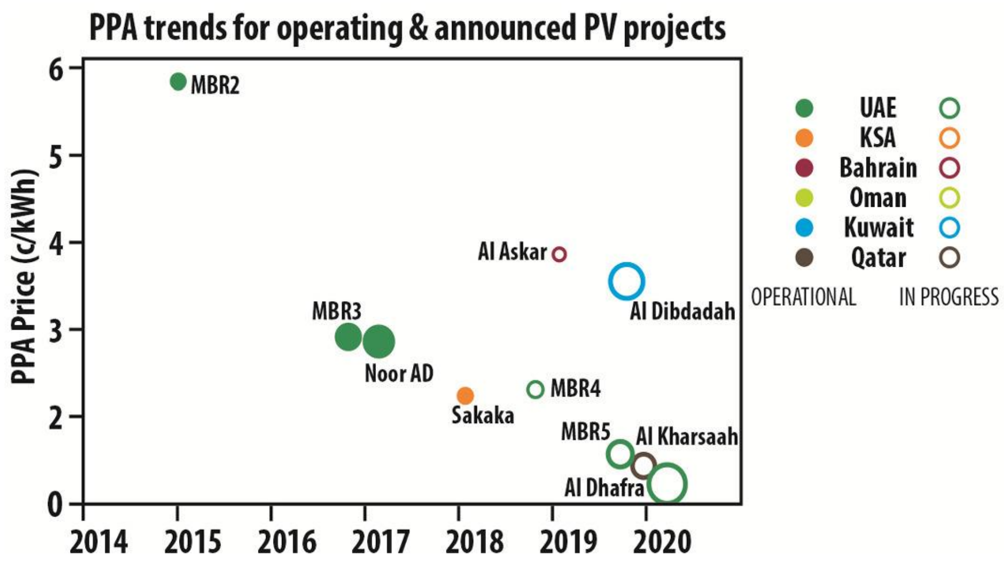
Features of the Arab energy transition

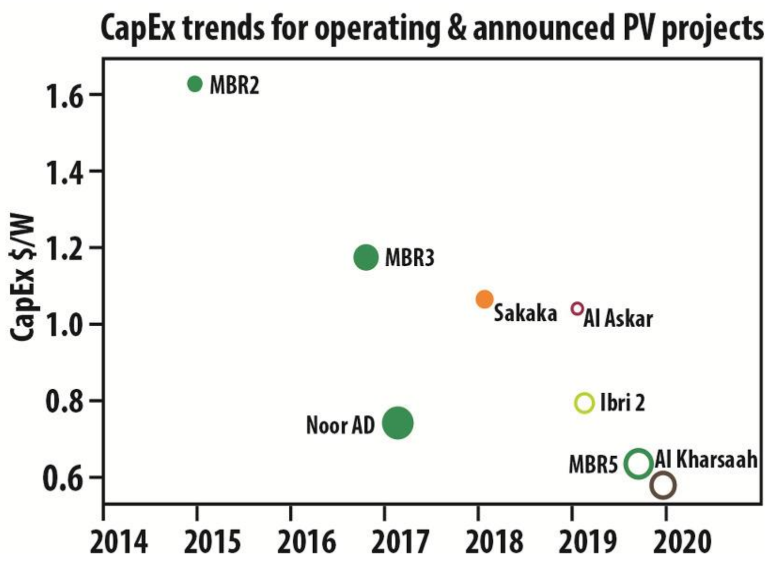
Competitive bidding for large-scale renewable energy projects has become the preferred option in the Arab region in Arab countries such as Algeria, Bahrain, Egypt, Tunisia, Jordan, Kuwait, Lebanon, Oman, Palestine, Qatar, Saudi Arabia, and the United Arab Emirates.

Other Arab countries are still in the planning or bidding stages, or rely solely on state-owned utilities and institutions to own and operate projects.

- ❑ The region's excellent wind and solar potential
- ❑ Maturity of the prevailing business model in the region, providing guarantees and incentives for investment, which are :
  - ❑ Long-term power purchase agreements
  - ❑ PPPS with national utilities and agencies
  - ❑ Facilitated international and national finance.
- ❑ Other features vary from one country to another, such as:
  - ❑ Sovereign guarantees from the country's Ministry of Finance
  - ❑ Covering the costs of land, network connection and expansion
  - ❑ Full or partial customs tax exemptions.
  - ❑ ....

Features of the Arab energy transition





Project developers continue to race to reduce costs in their competitive bidding and auctions for grid-connected projects across the Arab region, reflecting the competitive advantages of wind and photovoltaic projects. Under improved conditions including:

- Selecting sites with superior solar radiation or wind speed
- Attractiveness and reliability of the applied policy systems
- Deep participation of national electricity companies and institutions as partners in projects with
- A number of other measures to mitigate investment risks include opportunities for soft financing.

Progress in Photovoltaics: Research and Applications, Volume: 29, Issue: 6, Pages: 638-648, First published: 04 March 2021, DOI: (10.1002/pip.3414)

Challenges in Policy Design

Balancing cost, equity, and sustainability

Regulatory capacity and enforcement

Subsidy reform and tariff rationalization

Grid integration and system flexibility

Managing investor confidence and risk allocation

Barriers & Gaps in Implementation

Policy inconsistency or reversals	Weak regulatory institutions	Currency and off-take risks
Grid bottlenecks and curtailment	Financing challenges for SMEs	Data and monitoring limitations

Requirements for RE Business Conducive Environment

Market size and profitability	Developed and transparent legal and regulatory system	Developed infrastructure	Stability and strength of local currency	Political and economic stability
Ease of setting up a business / local licensing	Allowance for foreign ownership of property / business	Country's foreign investment track record	Presence and readiness of solid financial institutions	Presence of high quality partners
Capital Markets history – level of maturity	Bi/multilateral investment treaties in place	Available and competitively priced fuel /subsidy reforms	Clear safety and environmental standards and labor laws	Liquidity/exit strategy

Emerging Opportunities

- Blended finance and green bonds
- Hybrid renewables + storage
- Green hydrogen and e-fuels
- Regional interconnection projects
- Smart grid and digitalization
- Strengthening local value chains

Egypt success story

EPC Tenders

Government projects tendered and owned by NREA for design-Supply and construction of projects.

Build-Own-Operate (BOO) Projects

EETC invites private investors to submit their offers for specific capacities and the award will be made to the lowest kWh price

Feed in-tariff

EETC invites private sector company to bid for projects and sell electricity to the grid.

Auction

Projects announced by the state and the award will be made according to the lowest price regardless of the project capacity.

Net metering

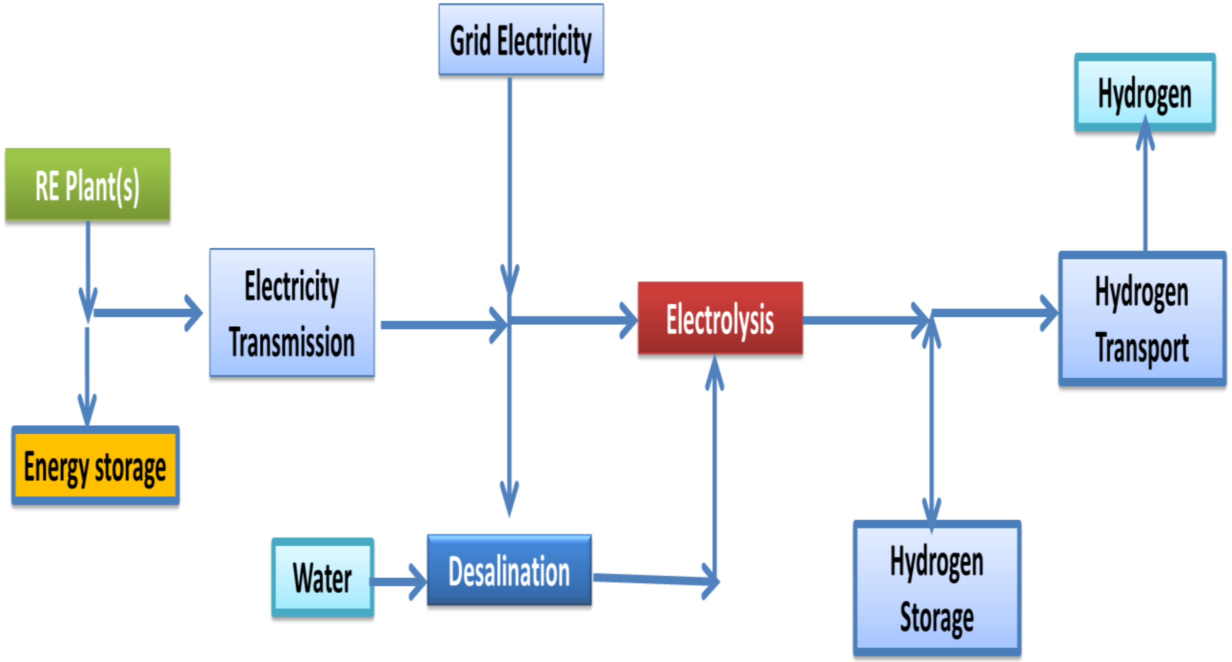
Solar PV projects up to 20 MW implemented by the private sector to feed his own Grid Connected loads.

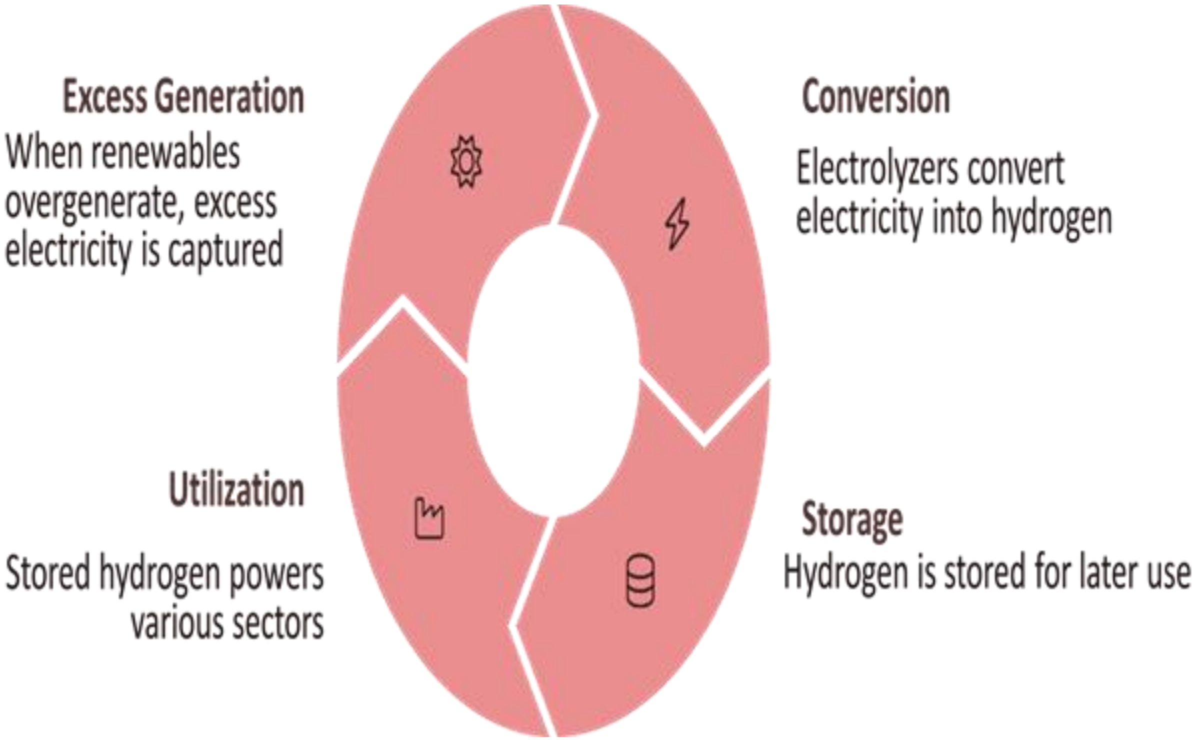
Merchant IPP to private

Projects implemented by private sector companies either to feed their own loads or sell the electricity generated directly to their own consumers

Source: NREA, 2019

Renewables and Hydrogen: Complementarities





Power-to-X Applications

Hydrogen's flexibility extends beyond electricity generation. It can be converted into various products, such as ammonia for fertilizer production, synthetic fuels for aviation and shipping, and hydrogen-based steel for industrial applications. Egypt's Ain Sokhna Green Ammonia Hub is a prominent example of this integration, with the goal of producing green ammonia for export.

The Green Hydrogen Opportunity in the Arab Region

Exceptional Solar and Wind Potential

The Arab region has exceptional solar and wind potential for renewable energy generation.

Integrated Production

Large-scale RE projects with electrolyzers enable hydrogen production at scale.

Export Potential

Coastal locations facilitate hydrogen export to global markets.

Strategic Location

Geographic positioning enables export to European and Asian markets.

Economic Diversification

Hydrogen offers hydrocarbon economies a pathway to diversify revenue streams.

Renewable Hydrogen/ Green Ammonia Announced Projects Plans

>74 Projects plans announced in 12 Arab countries

Country	No of Renewable Hydrogen/ Green Ammonia Projects (CN, MoU, FS, Operational)
Egypt	>24
Oman	15
UAE	9
Morocco	8
KSA	5
Algeria	2
Mauritania	4
Djibouty	2
Tunisia	2
Jordan	1
Lebanon	1
Bahrain	1

The Arab region is on track to lead the global Hydrogen/Ammonia market with the first world-scale project to come onstream by 2025

Example of Major Projects with Awarded contracts

NEOM Project
(1.2 mt/y of green NH_3)
Startup 2026

- Financial close completed at $8.4 B
- EPC agreements signed with AirProducts worth $ 6.7 B
- An 30-year offtake agreement has been secured.

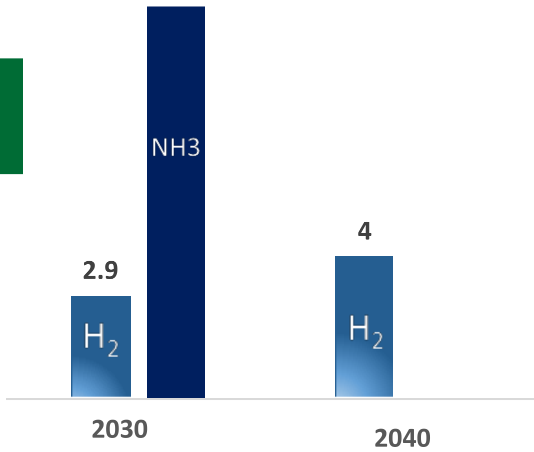
Oman Green NH3 in Duqm
(1.2 mt/y of green ammonia: 2 phases)
Startup mid-2025

- Land acquired (80 km2).
- Site construction started.
- Term sheets signed with Hydrom company
- Project facilities' orders placed.

RCREEE GH projects database, 2024

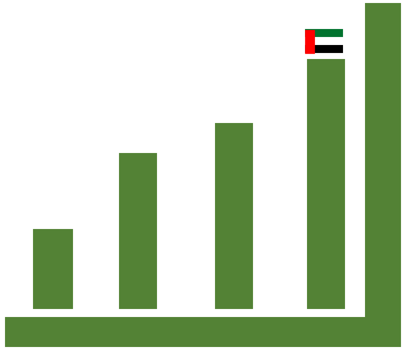
Hydrogen Objectives and Targets in the Arab countries

KSA



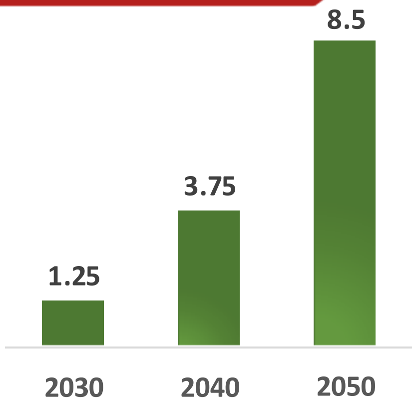
Clean H_2/blue NH3 production targets, mtpa

UAE



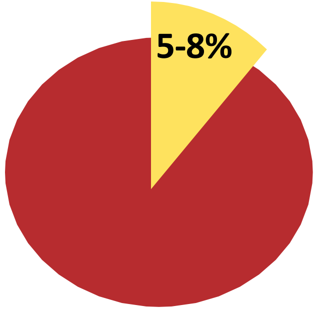
Top Ten H_2 producers by 2031

Oman

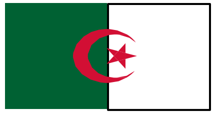


Clean H_2 production targets, mtpa

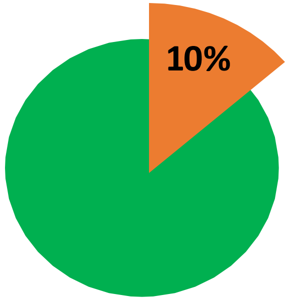
Egypt



% of global hydrogen market by 2040



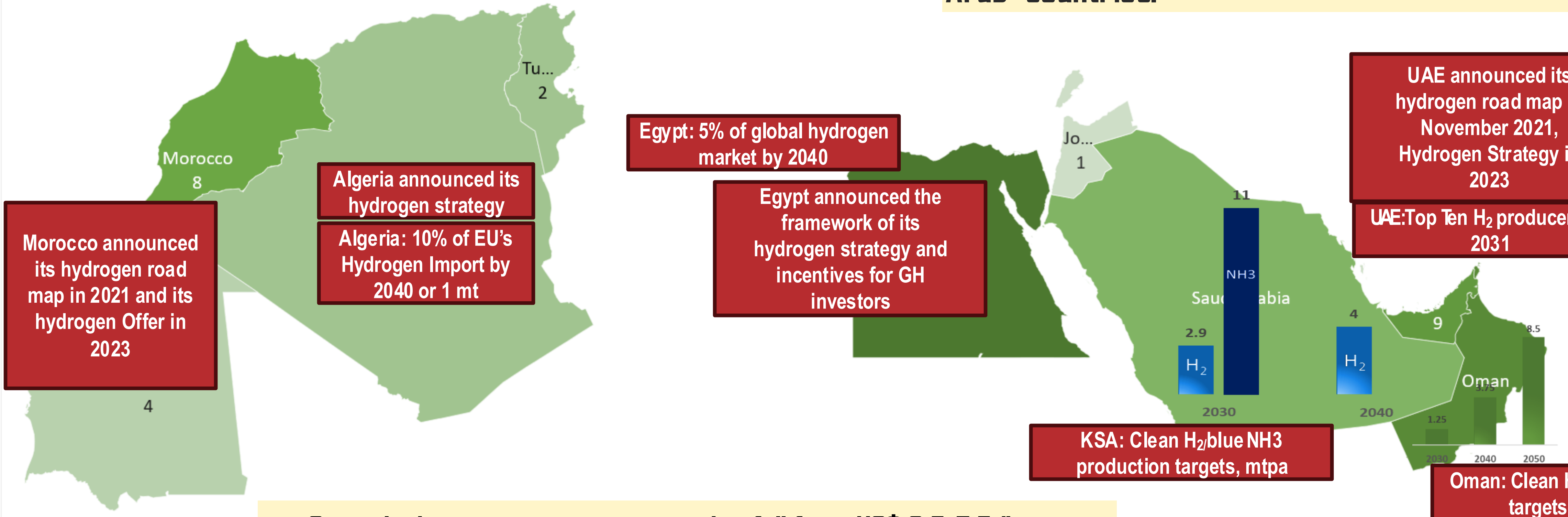
Algeria



% of EU's Hydrogen Import by 2040 or 1 mt

Hydrogen Objectives and Targets in the Arab countries

Ammonia is the preferred option for export in the Arab countries.



Morocco announced its hydrogen road map in 2021 and its hydrogen Offer in 2023

Algeria announced its hydrogen strategy

Algeria: 10% of EU's Hydrogen Import by 2040 or 1 mt

Egypt: 5% of global hydrogen market by 2040

Egypt announced the framework of its hydrogen strategy and incentives for GH investors

UAE announced its hydrogen road map in November 2021, Hydrogen Strategy in 2023

UAE:Top Ten H_2 producers by 2031

KSA: Clean H_2/blue NH3 production targets, mtpa

Oman: Clean H_2 production targets, mtpa

- Green hydrogen costs are projected to fall from US$ 3.5-7.5/kg in 2020 to US$ 1.6-2.2/kg by 2030.

National Hydrogen Strategy

United Arab Emirates

July 2023

Ministry of Energy and Infrastructure (MoEI)

Vision: To be amongst the top global producers of low carbon hydrogen, continuing the pioneering efforts in driving the global energy transition and fostering environmental stewardship while contributing to a prosperous future for all.

Mission: By leveraging both engineered and natural advantages, the UAE will become a global top ten producer by:

Mission	Creating a clear policy and regulatory environment that projects confidence for the business community, stimulates demand, and contributes to our Net Zero targets.	Fostering global collaboration to enable hydrogen market growth and drive foreign direct investment.	Creating a thriving talent pool to ensure the UAE is equipped with dynamic talent to power the acceleration of the hydrogen economy.	Catalysing research, technology, and innovation across the value chain.	Accelerating the shift towards a circular carbon economy.
Objectives	Create a robust hydrogen economy in the UAE to support the national decarbonisation efforts.	Drive the hydrogen economy through attracting foreign direct investment, job creation and workforce upskilling.	Embed innovation in the UAE's industrial clusters through pioneering R&D.	Establish the UAE as a leading global producer and exporter of low carbon hydrogen.	Develop a resilient hydrogen supply chain to support domestic industry growth.
Targets 2031	25% emission reduction in hard-to-abate sectors	184,000 new jobs created	R&D hydrogen center established	Production of 1.4 mtpa of hydrogen	Establishment of two hydrogen oasis in the UAE
Targets 2050	100% reduction in hard-to-abate sectors	500,000 new jobs created	Globally recognized innovation hub for hydrogen	Production of 14.9 mtpa of hydrogen	Establishment of five hydrogen oasis in the UAE

10 Elements:

- Policy, Regulation and Standards
- Finance and Investments
- Global Collaboration
- Industry Development and Demand Activation
- Resources and Assets
- Enabling Infrastructure
- Climate, Safety and Social Drivers
- Sustainable Commercial and Economic Models
- Skills and Education
- Research and Innovation

Egypt low carbon hydrogen strategic framework

2020s

Pilot Projects

Building on Egypt's hydrogen experience the pilot projects will lay the foundations for the developing low carbon hydrogen economy and export market. Providing close support for initial projects, and establishing a fit for purpose governance structure

2030s

Scale Up

Securing market position in the growing hydrogen economy, using the lower costs for hydrogen to support the wider decarbonisation of Egypt replacing grey hydrogen. Scaling up hydrogen production to the GW scale and beyond

2040s

Full Market

Implementation

Maintain market position in the low carbon hydrogen economy Using hydrogen across society to support decarbonisation and secure Egypt's low carbon future in industry and transport

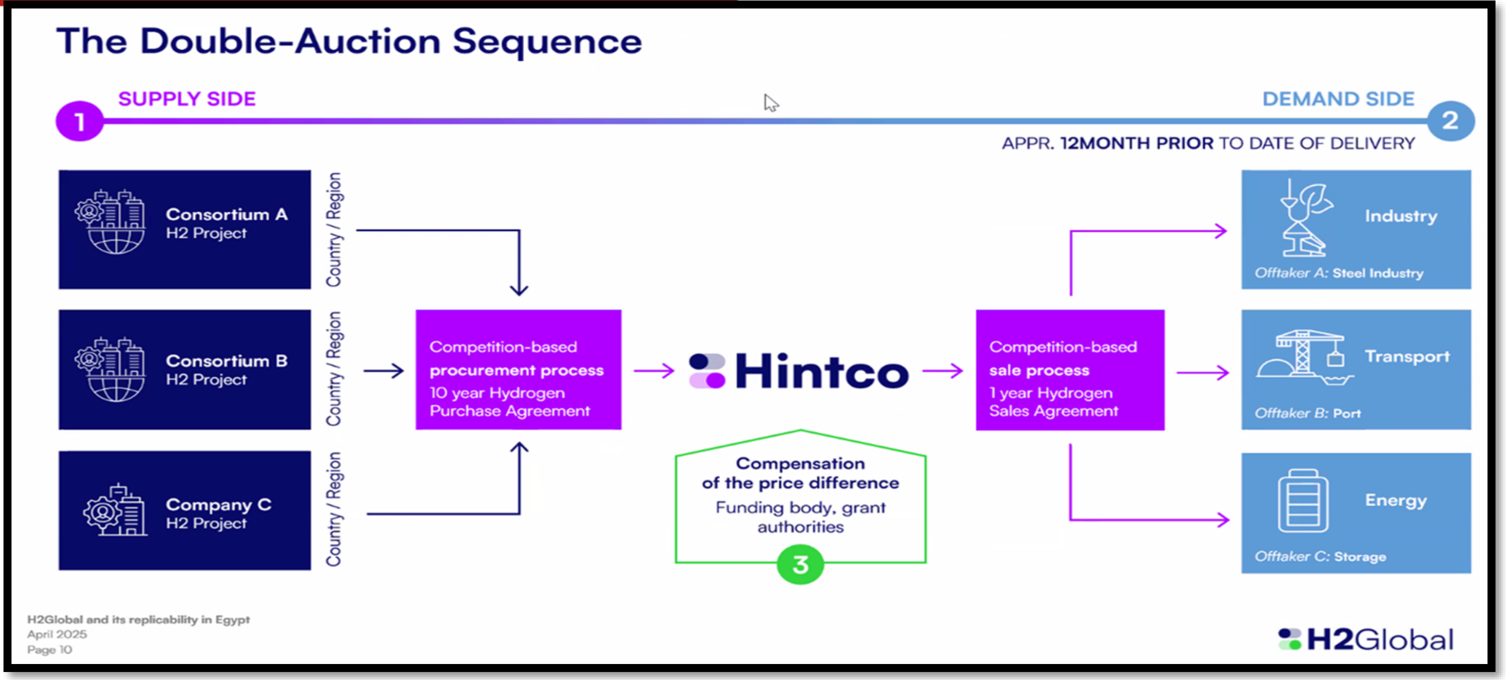
POTENTIAL GREEN HYDROGEN VALLEYS IN MOROCCO

IRSEN, 2023

Policies for Mobilizing Green Hydrogen Investments: Examples

Financial Incentives and Support

- Double Auction Mechanism
- Direct Subsidies and Grants
- Tax Incentives
- Accelerated Depreciation
- Low-Cost Financing and Guarantees
- Contracts for Difference (CfD)
- Green Bonds
- Carbon TAX
- Carbon credits



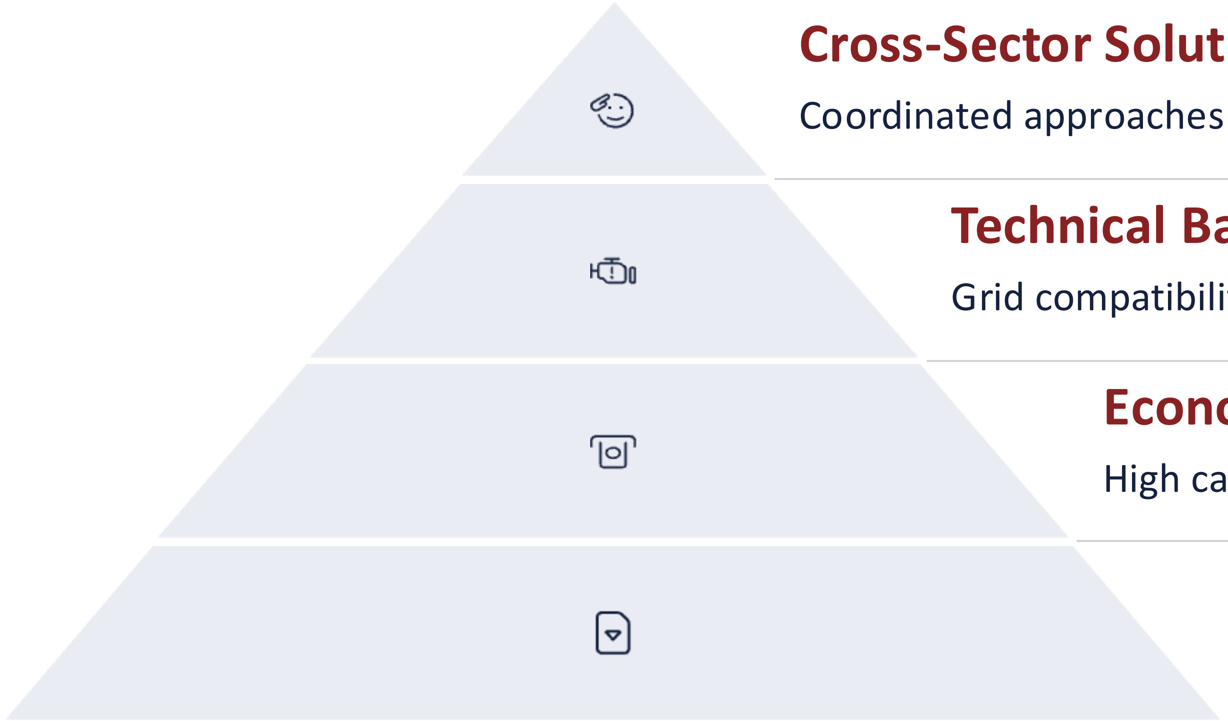
Demand Creation and Market Development

- **Demand-Side Obligations (quota)** in specific sectors, such as industry (e.g., steel, fertilizers), transportation, aviation, and heating, to create a stable demand for green hydrogen. The EU's Renewable Energy Directive (RED III) mandates the use of green hydrogen for current grey hydrogen users.
- **Public Procurement**
- **Blending Mandates** (Requiring a certain percentage of hydrogen used in existing natural gas pipelines or in specific applications to be green hydrogen)
- **International Cooperation and Trade Policies** (Harmonizing international standards and removing trade barriers for the cross-border trade)

Integration Challenges

Despite promising developments, hydrogen-renewable integration faces significant hurdles that require coordinated solutions. The high capital cost of electrolysis technology remains a primary barrier to widespread adoption, while regulatory frameworks often contain gaps that create uncertainty for project developers.

Water availability and purity present location-specific challenges, particularly in water-stressed regions. Grid code compatibility issues can complicate interconnection, and the limited hydrogen transport infrastructure restricts market development. Addressing these challenges requires cross-sector coordination and innovation across policy, technology, and finance domains.



Cross-Sector Solutions

Coordinated approaches across policy, technology, and finance

Technical Barriers

Grid compatibility, water issues, transport limitations

Economic Challenges

High capital costs and uncertain revenue streams

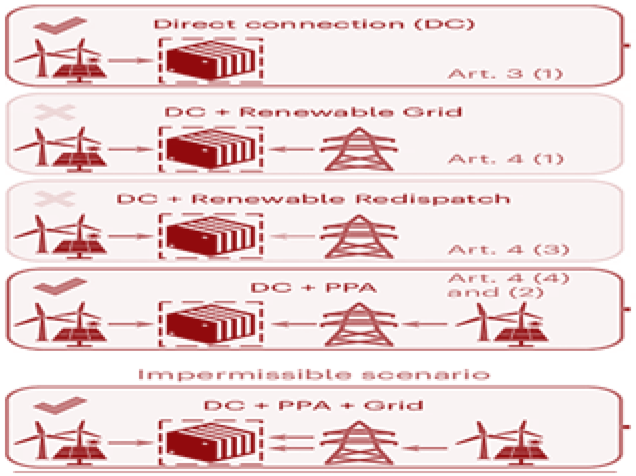
Regulatory Gaps

Incomplete frameworks creating project uncertainty

Regulations for Mobilizing Green Hydrogen Investments

Policies should be accompanied by regulations that ensure:

- **sustainable renewables growth,**
- **appropriate infrastructure investment,**
- **system integration,**
- **standards, certification …**



Regulatory Frameworks and Standards

- **Clear Definitions and Certification Schemes**
- **Streamlined Permitting Processes**
- **Safety and Environmental Regulations**
- **Infrastructure Development Policies (**including electrolyzers, storage facilities, pipelines, and refueling stations, creation of hydrogen industrial clusters, common infrastructure, etc.
- **Grid Integration Policies (**frameworks for connecting green hydrogen production facilities to the electricity grid and for utilizing electrolyzers as grid service providers to enhance grid stability.)

Hot Topics in Energy Policy

Policy Coherence

Grid Modernization & Flexibility

Industrial Decarbonization

Clean Hydrogen

Just Transition

Critical Minerals & Supply Chains

AI and digitalization

Circular Economy

Nuclear Energy Role

….

Recommendations

•**Balanced Incentive Structures**: Policy makers should design incentive structures that balance **attracting investment** with **fiscal sustainability**, potentially through gradually tapered support mechanisms rather than open-ended commitments.

•**Grid Modernization Priority**: Accelerate investments in **grid flexibility**, **storage technologies**, and **modernization programs** to ensure renewable capacity can be effectively integrated and utilized domestically.

•**Local Value Creation**: Strengthen **local content requirements** and **workforce development** components of renewable policies to maximize socioeconomic benefits and create domestic manufacturing opportunities in the renewable value chain.

•**Sequenced Development Approach**: Ensure that **demand and grid compatibility** precede or accompany generation capacity expansion to avoid curtailment and maximize utilization of renewable assets.

Key Takeaways

•**Policy-driven Transformation**: The renewable energy expansion across the Arab region, particularly in Egypt, is fundamentally **policy-driven**, with comprehensive regulatory frameworks as the critical enabler.

•**Egypt's Leadership Role**: Egypt has established one of the region's **advanced policy ecosystems**, combining targets, incentives, and regulatory reforms to accelerate renewable deployment.

•**Balancing Act Required**: Success requires balancing **export ambitions** with **domestic energy security**, **investor attractiveness** with **fiscal sustainability**, and **capacity expansion** with **grid modernization**.

•**Continuous Evolution Needed**: As technologies advance and costs decline, policies must evolve from **subsidy-based support** to **market-based mechanisms** that ensure long-term sustainability while maintaining growth momentum.

- Scaling renewables requires coherent policy, predictable regulation, and robust market mechanisms. Egypt’s and other Arab countries’ experiences offer replicable lessons for sustainable growth.
- The Arab region stands at a pivotal point in the clean energy transition. The future of the Arab region's energy transition will be dictated by national policy priorities and decisions, as well as by Arab countries' ability to secure national and international financing flows.
- We should not take Arab governments' goals and pledges at face value, but rather assess whether current policies are on track to achieve these goals and are indeed attractive to investment.
- Perhaps the best way to predict our future is to shape it in our present!

- يتطلب توسيع نطاق مصادر الطاقة المتجددة سياسات متماسكة، وتنظيمًا واضحًا، وآليات سوقية فعّالة. وتُقدم تجارب مصر والدول العربية الأخرى دروسًا قابلة للتكرار لتحقيق نمو مستدام.
- تقف المنطقة العربية عند نقطة محورية في التحول إلى الطاقة النظيفة. إن مستقبل تحول الطاقة المحتمل للمنطقة العربية ستمليه أولويات وقرارات سياسات وتدابير العمل الوطنية وقدرة الدول العربية على تأمين التدفقات التمويلية الوطنية والدولية.
- ويجب علينا ألا نأخذ أهداف الحكومات العربية وتعهداتها في ظاهرها ولكن أن نقيّم ما إذا كانت سياسات اليوم تسير على الطريق الصحيح لتحقيق هذه الأهداف وأنها بالفعل جاذبة للاستثمار.
- لعل الأسلوب الأمثل لمعرفة مستقبلنا هي أن نصنعه في حاضرنا!

If you won't dream with me …

I have to dream myself!

But even in my dreams…

I will never dream for myself!

Abdel Rahman El-Abnoudi

(Egypt, 1938 - 2015 AD)

لو مش هتحلم معايا .. مضطر أحلم بنفسي

لكني في الحلم حتى .. عمرى ما هاحلم لنفسي

عبد الرحمن الأبنودي

(مصر، 1938 - 2015م)

Thank You

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