



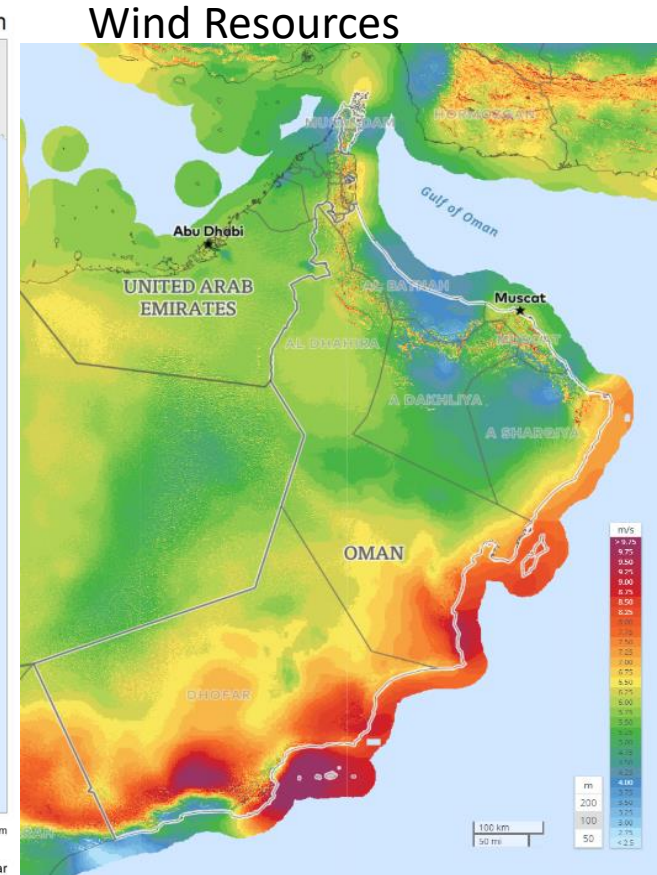
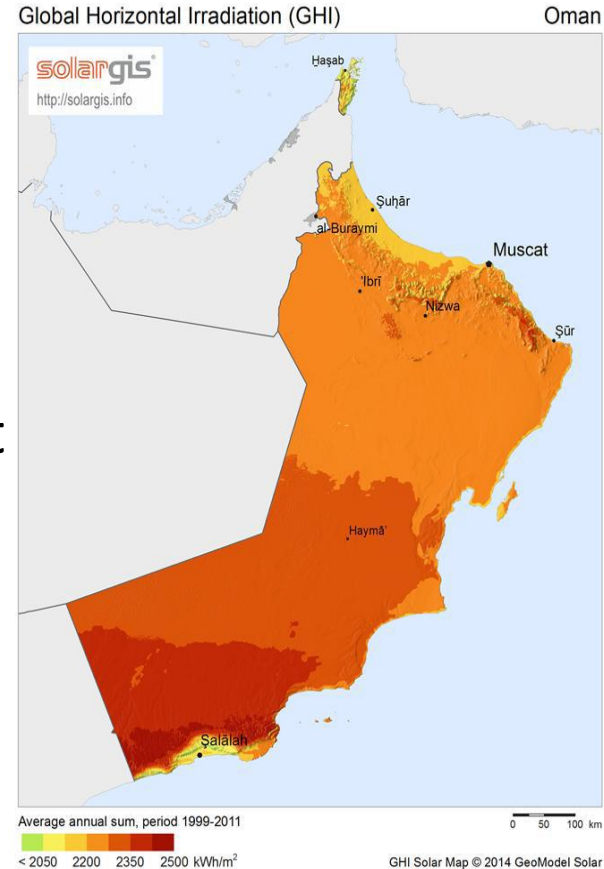
هيئة تنظيم الخدمات العامة
Authority for Public Services Regulation

RES in the Omani power sector

March 2022

Oman: RES Potential

- High consistent amounts of solar irradiance year round,
- Vast unutilized land for Solar and Wind deployment,
- 2008 Renewable Energy resource assessment conducted by the Authority found that Solar resources are among the highest in the world averaging 1900 Kwh/m² annually,
- Study also concluded that the north of Oman is better utilized for Solar energy with the south better suited for wind energy.



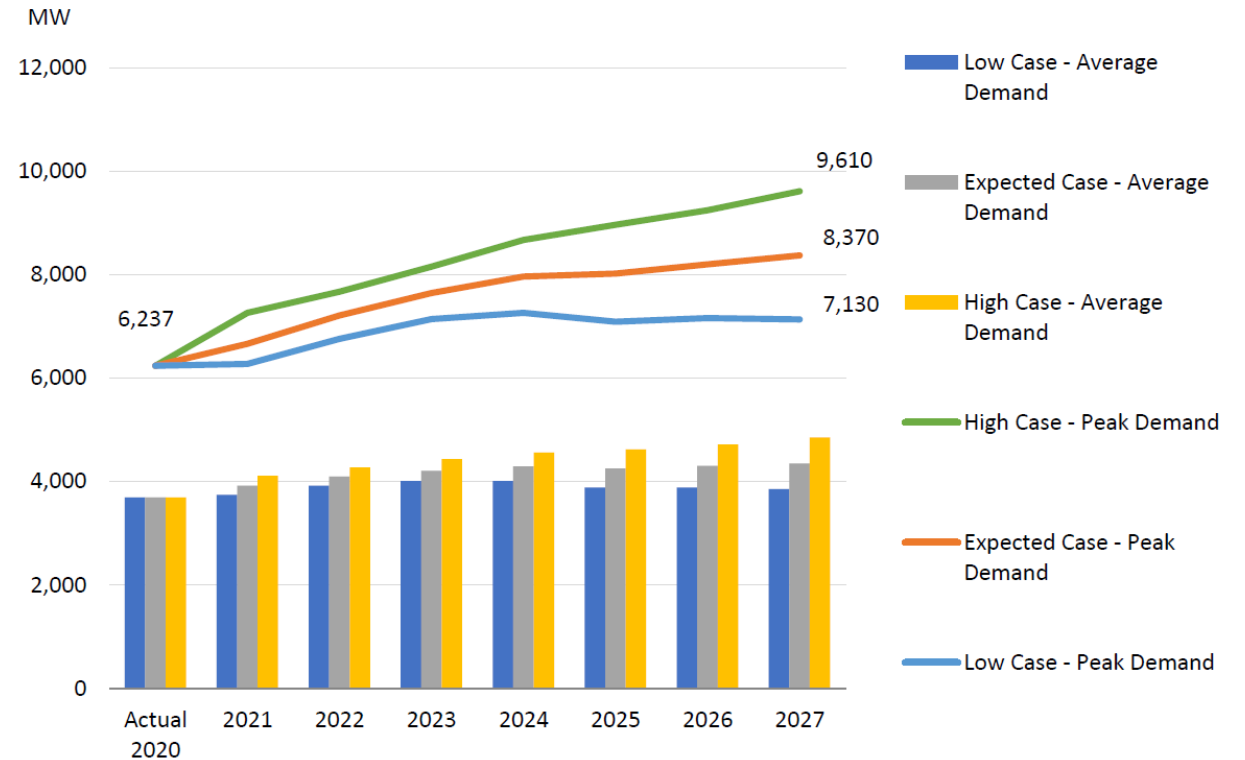
A brief history

- **2008**- APSR commissions a R.E resource assessment study assessing various resources including solar, wind, tidal and geothermal energy;
- **2017**- APSR launches its Sahim initiative establishing a regulatory and technical framework allowing households and business to install grid connected PV systems;
- **2018**- A national renewable policy is issued mandating 20% R.E as part of the generation mix by 2030 and 35-39% R.E by 2040.
- **2019**- Commissioning of Oman's first wind IPP with a capacity of 50 MW;
- **2021**- Oman's first utility scale solar IPP is commissioned with a capacity of 500 MW.
- **2022**- Establishment of a dedicated entity to accelerate Oman's push towards Green Hydrogen



The power sector in numbers- Demand for Electricity

- Every year OPWP issue their 7 year statement covering forecasted energy demand;
- This is critical in determining peak demand and subsequent future capacity expansion plans;
- Developed based on quant analysis of weather, macroeconomic patterns and demographic demand drivers;

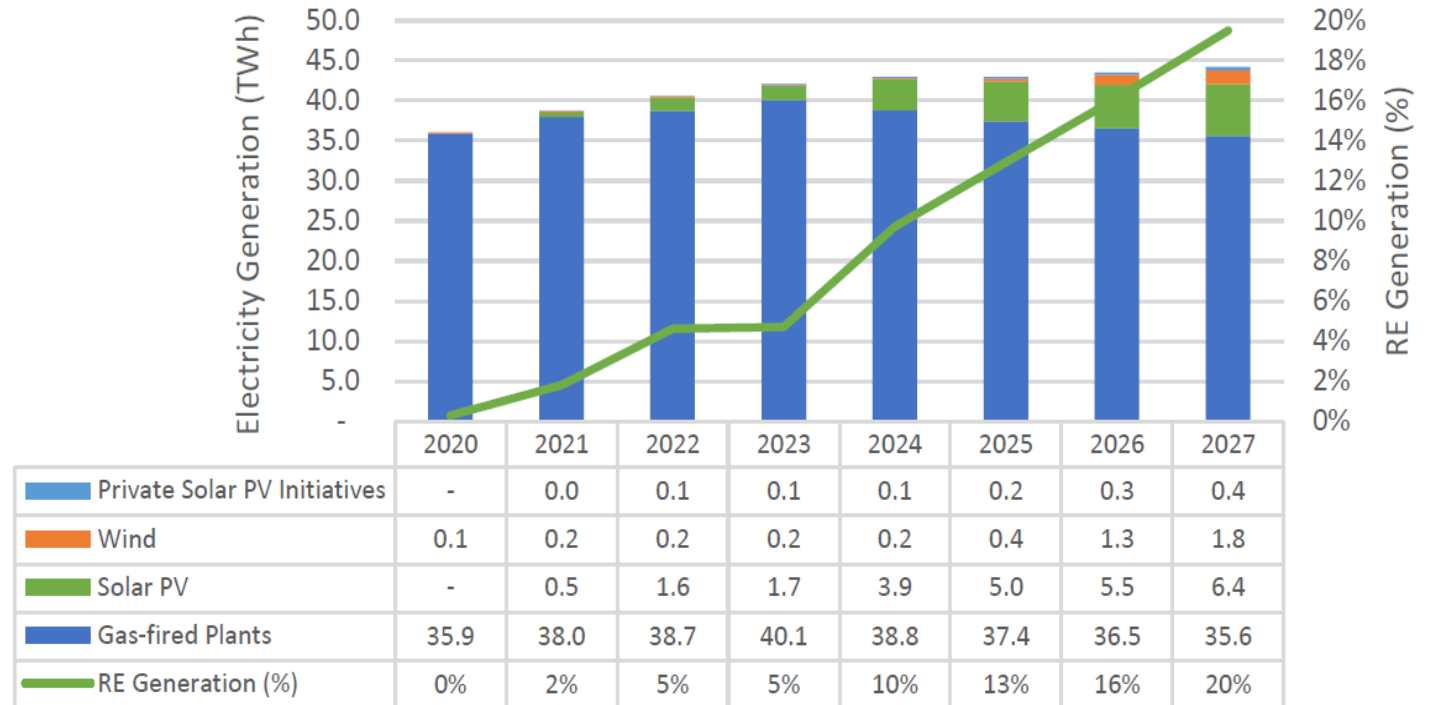


Source: OPWP issue 15 7YS



The power sector in numbers- Fuel mix

- In 2018, the Oman Power and Water Procurement Co, began on implementing the governments energy diversification policy;
- 10% R.E mix by 2025;
- As of now 550 MW of RE capacity with an additional 2,660 MW by 2027 achieving the 20% target.



Source: OPWP issue 15 7YS



R.E Procurement Principles

Oman has historically procured electricity from IPPs utilizing a 15-20 year PPA. Current R.E procurement follow the same blueprint set in our successful IPP program whereby OPWP is obliged to adhere to the following principles:

- **Economic Purchase of Power**
- **Competitive Tendering**
- **Transparency**
- **Fairness**



R.E Procurement Strategy

	2021	2022	2023	2024	2025	2026	2027	
Contracted Projects	MW ^a							
Ibri II Solar IPP ^b	-	500	500	500	500	500	500	
Total Contracted	-	500	500	500	500	500	500	
Planned Projects								
Manah I Solar IPP	-	-	-	500	500	500	500	
Manah II Solar IPP	-	-	-	-	500	500	500	
MIS Solar IPP 2025	-	-	-	-	500	500	500	
Jalaan Bani Bu Ali Wind IPP 2025	-	-	-	-	-	100	100	
Solar PV 2027	-	-	-	-	-	-	600	
Total Planned	-	-	-	500	1,500	1,600	2,200	
Total Capacity Contributions (Contracted and Planned)	-	180	180	225	280	330	330	



Incentives for adoption

Incentives for deployment of R.E vary but could be summarized to the following:

Utility Scale (IPP)	Small to Medium (Grid Connected)
Favorable economic costs of wind and PV driving deployment	Favorable economic costs of PV relative to consumption (Large Consumers)
Opportunity cost of subsidized gas utilized in the power sector	Financial remuneration for exported power
Vast R.E resources and available land	Global market decarbonization requirements for large industry
Omani governments push for Green Hydrogen	

Due to the high level of subsidy incurred by the power sector it has proven to be challenging to adopt schemes such FiT to further promote residential solar adoption



Challenges

In light of the high potential for the deployment of RE (Solar/Wind) one would expect a high level of PV uptake for Grid Connected Systems (connected capacity of 50 MW~). A few challenges were and are facing the local electricity sector that have contributed to the low to small uptake. Including:

- **Government subsidy of natural gas for electricity generation;**
- **Government subsidy for end user electricity consumption (residential customers*);**
- **Translating to 300m OMR in total electricity subsidy paid out this year;**
- **Lack of a RE national policy in the past (A government policy targeting 30% RE by 2030 was issued in 2019);**
- **Lack of a clear framework for development of Renewable Energy projects in the past.**

*Permitted Residential Tariff at 15 Bz as opposed to 32 Bz Economic Cost of Supply



Future of R.E in Oman

- **Gradual removal of subsidy expected to increase solar PV adoption;**
- **Large industrial customers to increase utilization of solar for decarbonizations purposes;**
- **Development of green hydrogen projects will introduce many large utility scale captive R.E projects (anticipated to reach 50 GW by 2040);**
- **Further interconnection with neighboring countries could potentially lead to new export oriented R.E projects.**



Thank you

AUTHORITY FOR PUBLIC SERVICES REGULATION