Renewable Energy in Jordan

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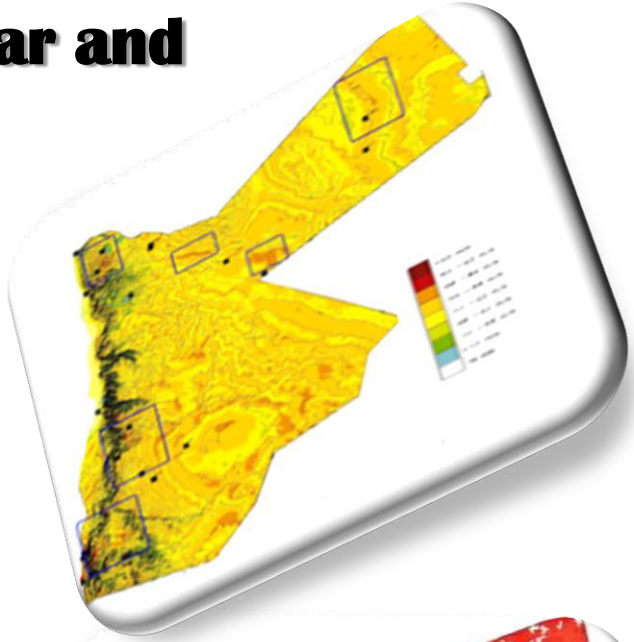
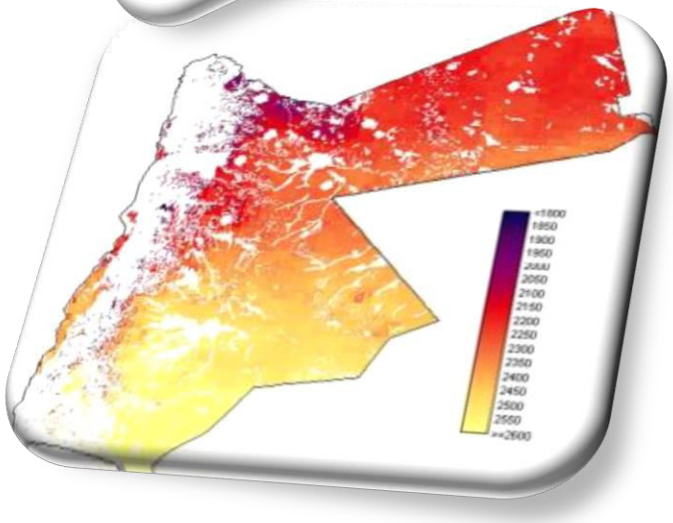
Jordan enjoys world class quality Solar and Wind Energy

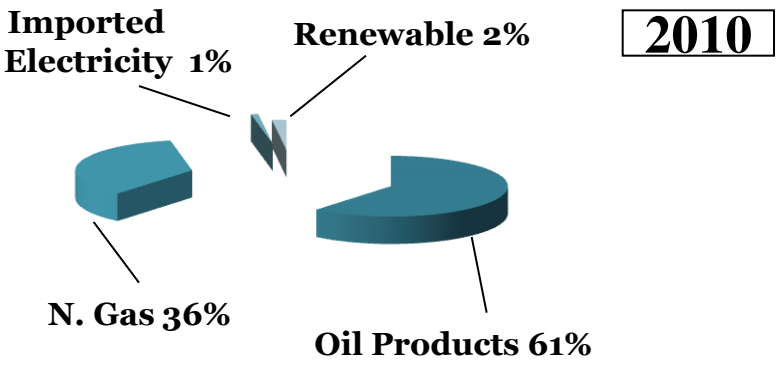
- Wind speed reaching between 7.5 to 10.0 m/s in some places.
- Wind projects are now feasible and competitive without further concessional support
- High solar radiation figures of 5 – 7 kWh/m2 per day with about 300 sunny days per year.
- Jordan future Renewable Energy source is Solar Energy.



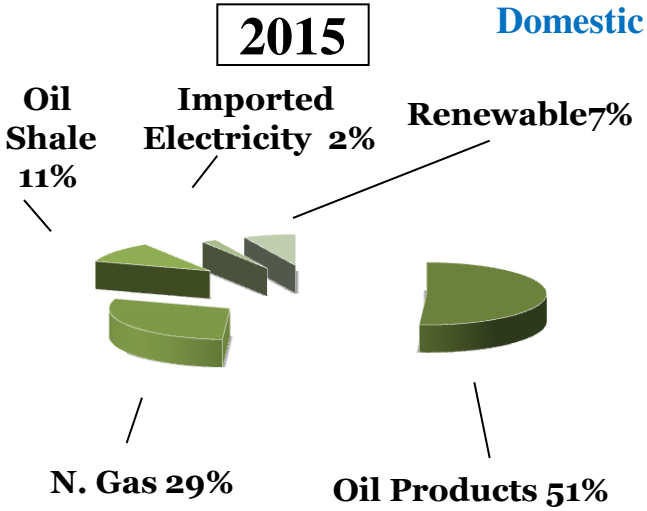


Jordan Energy Strategy

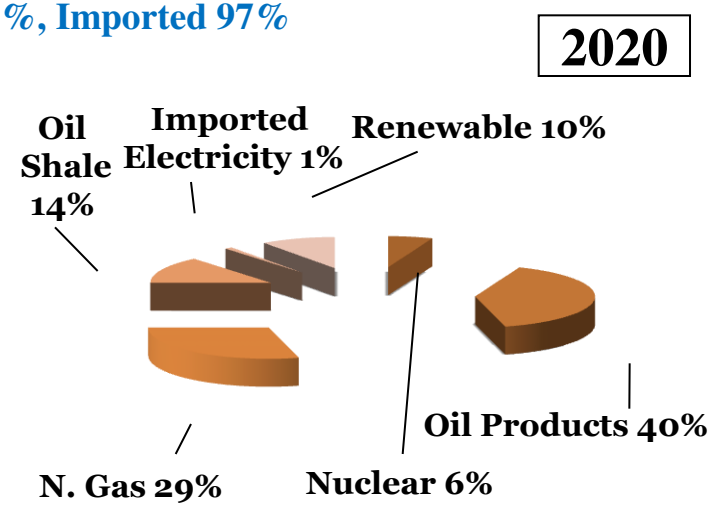
The Energy Mix in Jordan (2010 – 2020)



Domestic Resources 3%, Imported 97%



Domestic Resources 25%, Imported 75%



Domestic Resources 39%, Imported 61%

Regulatory Framework

- The Renewable Energy and Energy Efficiency Law was passed as a permanent Law in 2012 and amended in 2014.

- This law, the first in the region, allows investors to identify and develop grid-connected electricity production projects through the so called unsolicited or direct proposal submission.

- the Jordan Renewable Energy and Energy Efficiency Fund has been established, which aims to channel financial resources to that end.

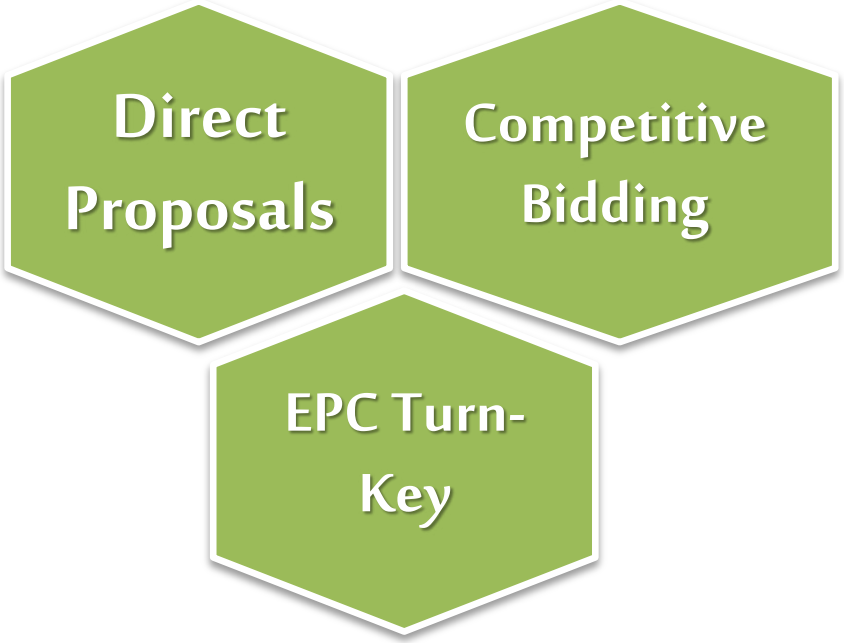
- A well-founded reference price list (ceiling prices) for different Renewable technologies was set by the EMRC .
- Net- Metering for small RE Systems (Roof Tops) with Fixed Purchase Prices for Excess Power.
- Tax Incentive regime, a By-Law was issued on Tax exemptions for RE and EE systems and Equipment.
- Grid Expansion and Reinforcement Plans are ongoing

Reference Price List

RE source	Tariff Fills/ kWh
Wind Energy	80
Solar Energy (CSP)	135
PV	100
Bio mass	90
Bio gas	60

Renewable Energy Development Schemes

The Government is currently engaged with the 3 tracks approach to develop RE Projects as follows:



Renewable Energy Projects 2016-2018

2016

- PV MDA 160 MW
- PV Qwera 100 MW
- PV Shamsuna 10 MW
- PV Scatec 10 MW
- PV JoSolar 20 MW
- Tafila Wind 117 MW
- King Hussein Wind 75 MW
- Fujaij Wind 100 MW

592 MW

2017

- PV MDC 150 MW
- PV Mwqr 50 MW
- PV Safawi 50 MW

842 MW

2018

- Wind KOSPO 50 MW
- Wind XENEL 50 MW
- Wind Rajif 83 MW

1025 MW

Net- Metering (Roof Top) Systems

- More than 4000 applications received by distribution companies, resulted in installations of about (20) MW of PV total capacity all over the country, it is expected to double this figure by the year end, or even more.

Power Wheeling

"Wheeling" refers to the transfer of electrical power through transmission and distribution lines from one utility's service area to another's.

Regulations for Power Wheeling

- **The Capacity allowed to be generated and transmitted through wheeling must be equal to or less than 10% of the firm capacity of the Transmission Line OR 20% of The firm capacity of the substation feeder for the load.**

- **The Generated Capacity = The Load**

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Type Of Connection	Losses %	Wheeling Cost (Fills/KWH)
Connect to the **transmission** system to feed a **transmission** system connected consumer	2.3	4.5
Connect to the **distribution** system to feed a **distribution** system connected consumer	6	7
Connect to the **transmission** system to feed a **distribution** system connected consumer	2.3 (Transmission Sys.) + 6 (Distribution Sys.)	4.5 (Transmission Sys.) + 7 (Distribution Sys.)

NEPCO Technical Requirements for Grid Connected RE Projects

NEPCO has developed a document for all technical requirements which any grid connected RE project must comply with.

Intermittent Renewable Resources (IRR) Wind & PV Transmission Interconnection Code (TIC)

- Voltage Requirements
- Frequency Requirements
- Voltage Flicker
- Harmonics
- Ramp Rate

Thank You