



MINISTRY OF ENERGY AND MINERAL RESOURCES

Renewable Energy Sector in Jordan

The First Engineering Consultancy Conference

Towards Quantum Leap

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By: Mohammed Dabbas/ Minister's Advisor

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The Outline

Our updated energy strategy will focus on **(4)** thematic pillars:-

- Energy Security.
- Energy independence.
- Diversification of local resources, AND;
- Reducing energy cost.

Jordan's Energy Sector

- Jordan depends highly on imported energy: (94%) of the energy was imported in the year 2017, with a total cost of 2.429 Billion JD which equals 8.5% of the GDP, creating a burden on the economy and future risk of exposure to price increases. Local production share of total energy requirements was 6%, oil & gas generation from oil shale has been almost negligible. High energy demand with growth rates reaching 7.4% between 2008-2020 amplifies this burden.



Electricity

Our main goal is to diversify our energy sources to include all affordable sources such as:-

- The Renewables,
- oil shale,
- as well as diversifying the sources of gas.

To:-

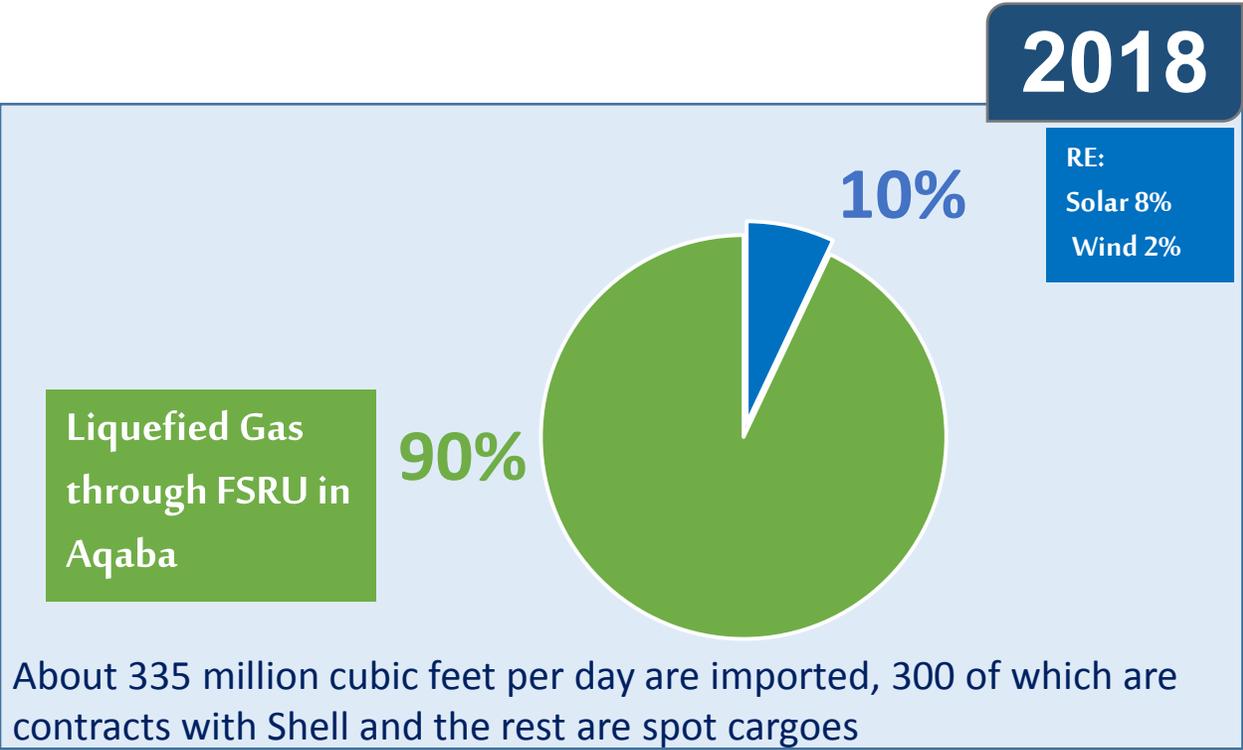
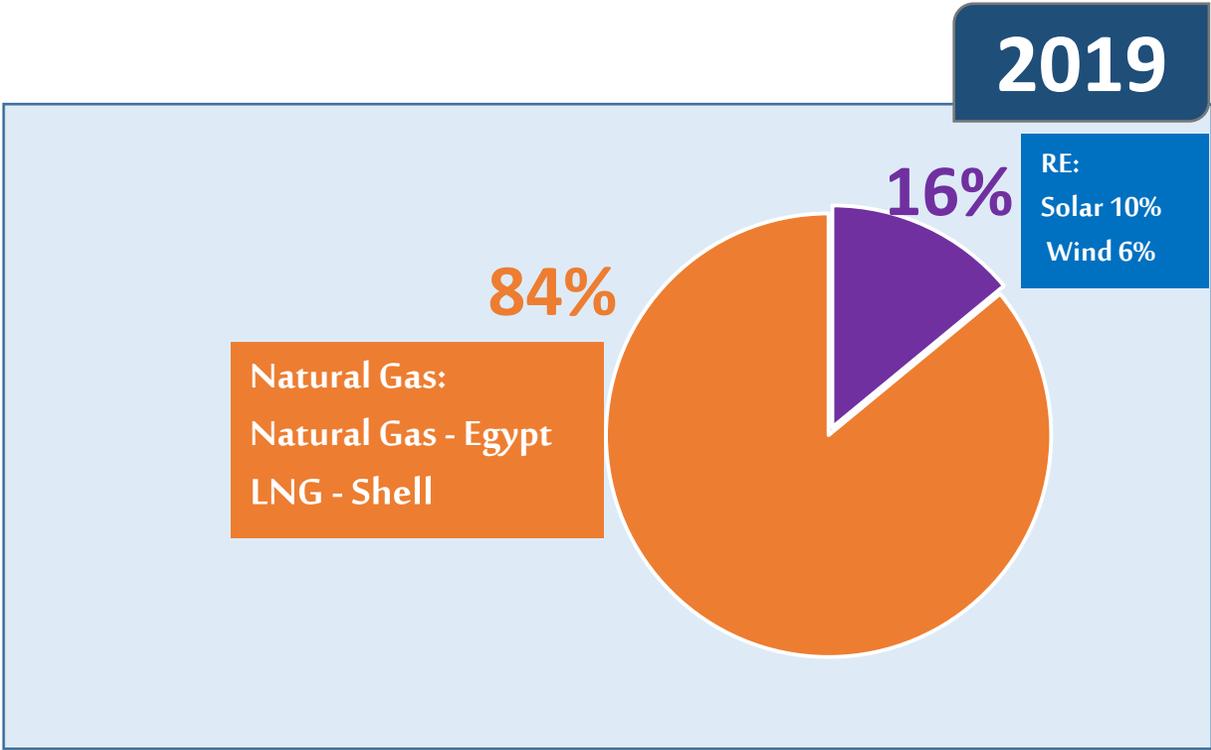
Enhance energy security, diversification as a strategy, and self-reliance, in addition to lowering the costs of production in certain cases.

Electricity from RE Sources

We have been able to transform a 2% renewable energy contribution in 2014 (most of it as solar water heating and a biogas plant), to approx. 10% by the end of 2018. Vowing to increase this amount to 16% by the end of 2019 and to more than 20% in 2020. These projects range from Wind to Solar and we are hoping to execute a waste to energy project soon.



Electricity

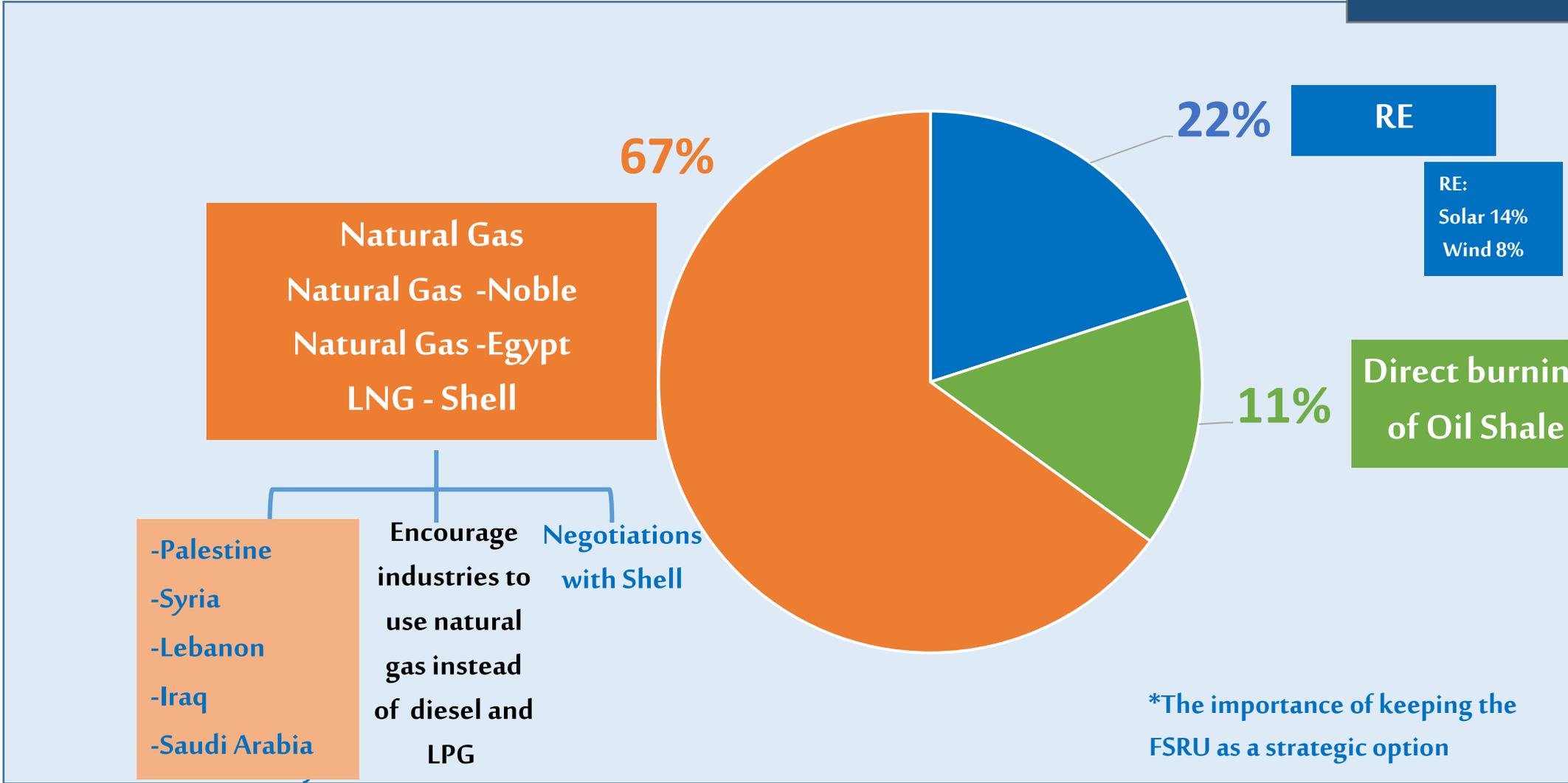


* As of mid 2018



Electricity

2020





RE Projects in Jordan

Until present; We were able to:-

- Diversify our energy resources,
- Attract investments,
- Work closely with the private sector, and
- Expand and reinforce our electric grid.

RE Projects in Jordan

Moreover;

- Jordan pioneered a legislative and regulatory environment that helped replication of Renewable Energy Resources.
- Bearing in mind; that our success in the past 5 years is primarily due to the ongoing collaboration between both the public and private sectors in the Kingdom.



RE Projects in Jordan

Still; we are working on preserving and increasing the local energy mix through the introduction of energy storage projects in one hand; and studying the feasibility of pump storage on the other to be installed on dams to help us in preserving electric grid stability and store energy. We are currently studying the feasibility of these projects on almujib dam, king talal dam and wadi alarab dam and will be ready by mid of this year to request expressions of interest.

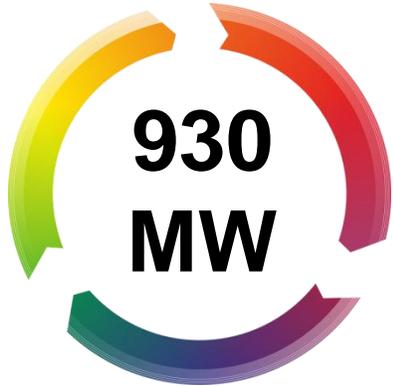
The first project -battery storage- will commence construction before the end of 2019. We are also looking into In addition, work has commenced to increase the grid capacity to allow for more renewables. Both the Green Corridor project and the eastern corridor project act as our flagship grid enhancement projects in this area.



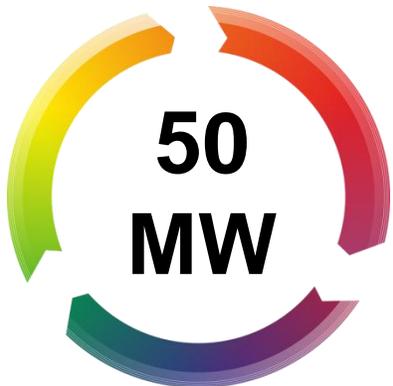
RE Projects in Jordan



Operational



Under Construction



Under Financial Close



In the Pipeline COD before 2022

Projects  
491 MW 283 MW

Net Metering 
248 MW

Wheeling 
112 MW

Projects  
396 MW 334 MW

Net Metering & Wheeling 
200 MW

Projects 
50 MW

Projects  
156 MW 50 MW

(In addition to net Metering & Wheeling)

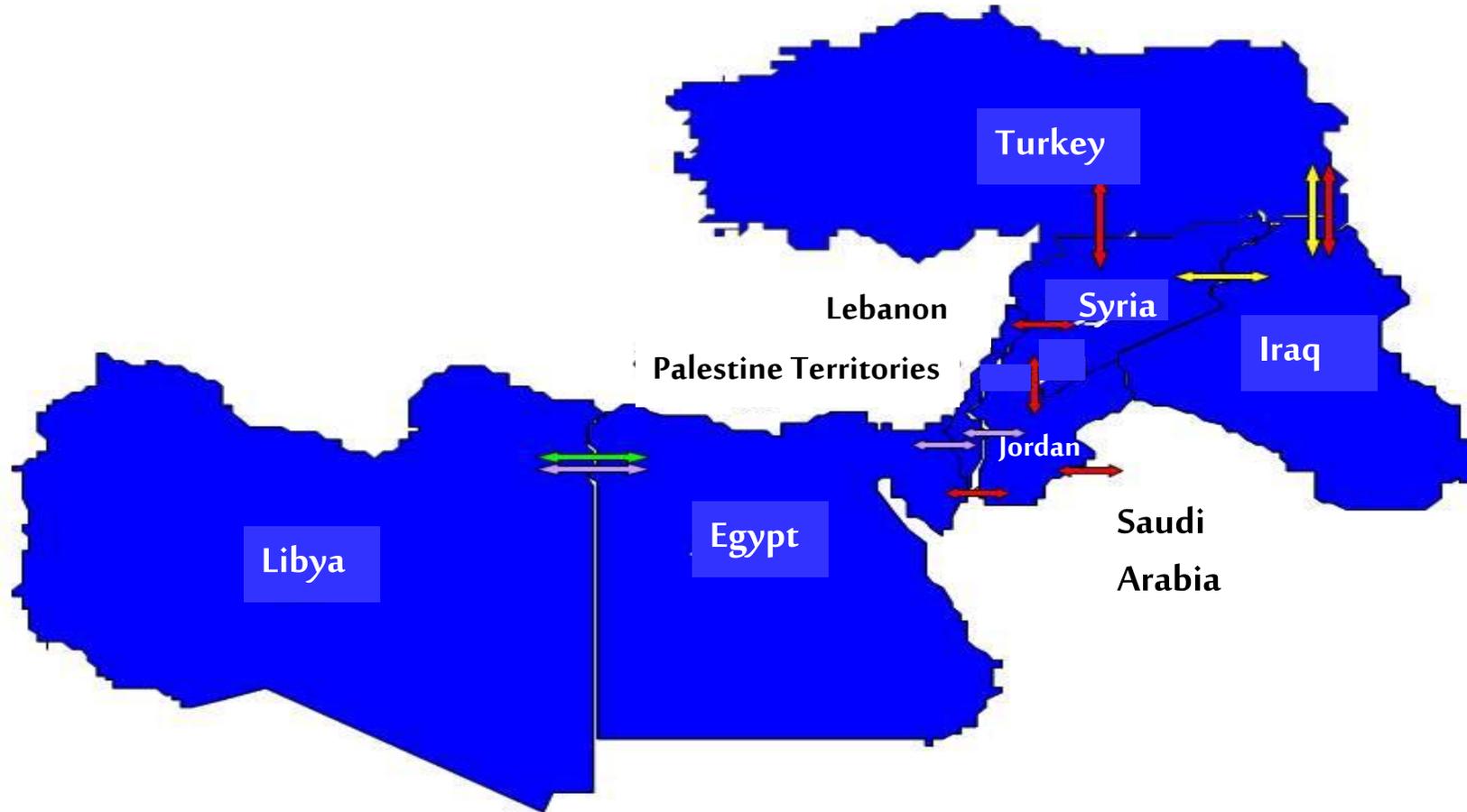
Total Capacity: 2320 MW
Estimated Investment in Projects only: 3,081 M\$



Grid Connectivity

The grid connections with neighbouring Arab Countries is a priority in our agenda to achieve:

- Greater stability for electricity grids in the region.
- Enhance cooperation, and
- Help each other reduce capacity charges.



Conclusion

- As all aware, the Government of Jordan has put an extra ordinary efforts starting from 2014; where we were successfully able to transform from 2% Renewable Energy contribution to approx. 10% by the end of 2018, and we are at MEMR committed to increase this amount to 16% by the end of this year, and to achieve a 20% RE Contribution in 2020.
- Presently, I would emphasis to say that; this remains one of the most serious challenges. Bearing in mind that Jordan has concluded a long way in the field of Energy Investments; which are Capital Intensive and long-term ones. According to the Energy Sector Strategy (2019-2030); the total investments in the Energy Sector in Jordan will be around **\$18 B.U.S till 2020.**
- **Beyond that the issue of sustainable development, economic growth and rationalizing the use of local natural resources, & ecofriendly environmental resources,** were & still within our focused seen in the sector.

Thanks for Your Attention

Eng. Mohammed Dabbas

Ministers Advisor for Energy Affairs

Chief of Experts at the Arab Renewable Energy commission (AREC)

mohammed.dabbas@gmail.com

Mob: +962 777 422 642