

A nighttime photograph of a cityscape, likely Baghdad, featuring a prominent crescent moon in the dark blue sky. In the center, a tall, cylindrical building is under construction, illuminated by a crane's lights. The city lights create a warm orange glow on the horizon. Large, dark, curved shapes are overlaid on the image, framing the central scene.

The Potential of German-Iraqi Renewable Energy Partnership

Yesar Al-Maleki, Managing Director
Zoom Webinar, 11 August 2020

Agenda

Sector overview

Closing the gap

**Quick and cost
effective**

Potential impact

Challenges

First bid round

Energy freedom?

**Iraqi-German
Partnership**

Sector Overview



Generation



Transmission



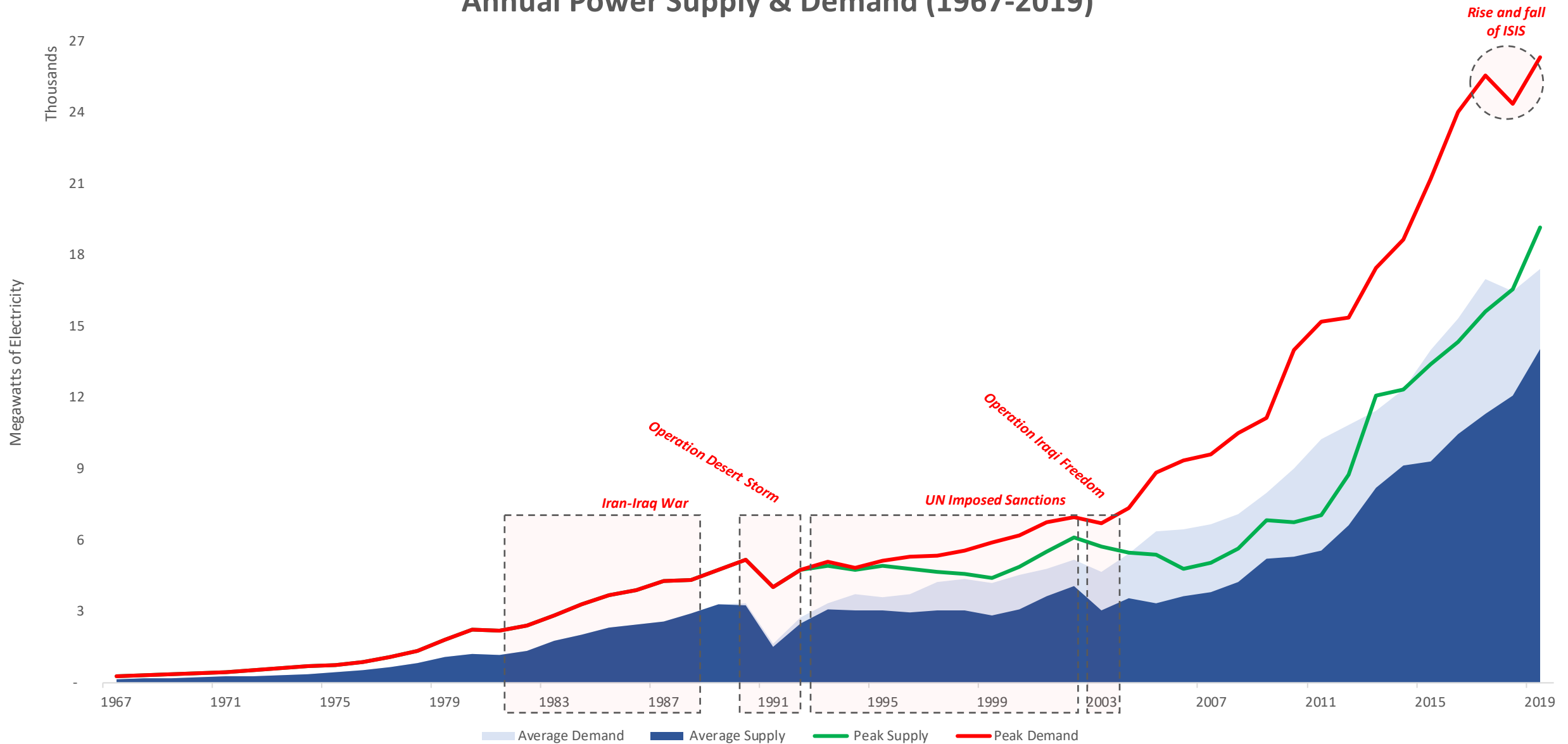
Distribution



Republic of Iraq
MINISTRY OF ELECTRICITY
وزارة الكهرباء

Closing The Gap

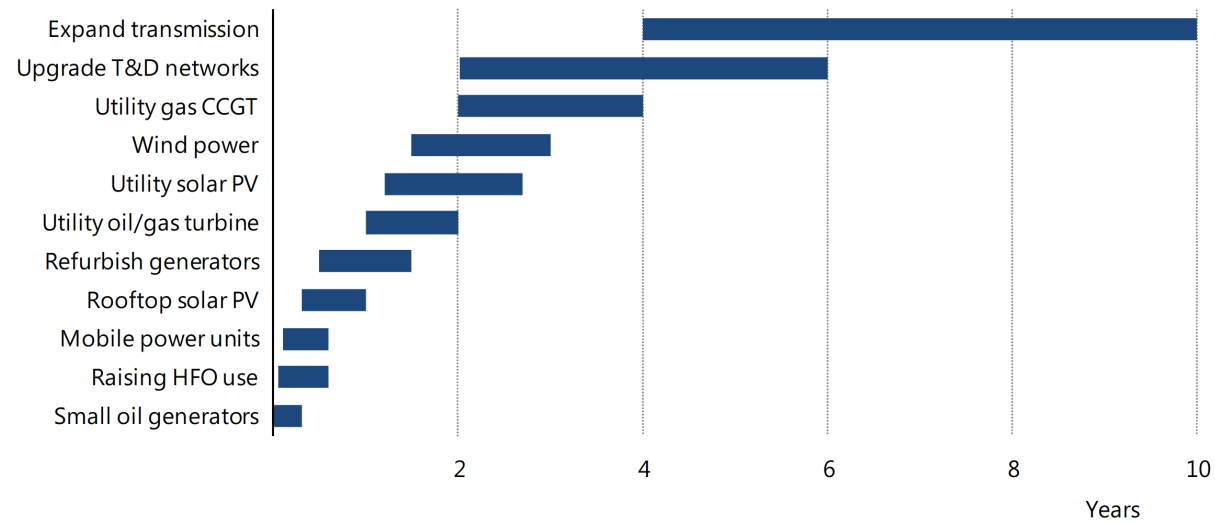
Annual Power Supply & Demand (1967-2019)



Data Sources: Iraq's Ministry of Electricity and Iraq Energy Institute Analysis

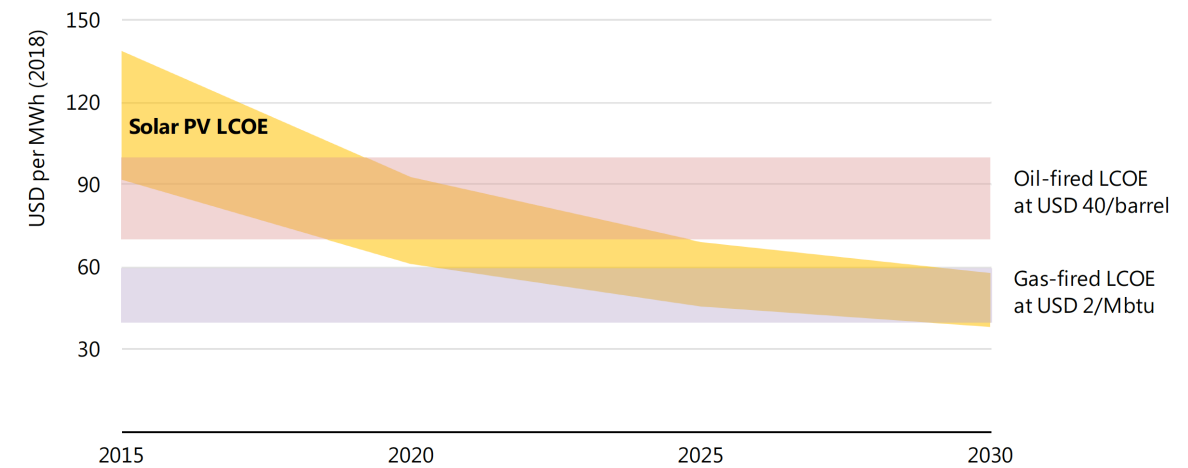
Quick and Cost-Effective

Technology Options to Improve Electricity Supply by Time of Completion



Notes: T&D = transmission and distribution. CCGT = combined-cycle gas turbines. PV = photovoltaics. HFO = heavy fuel oil.

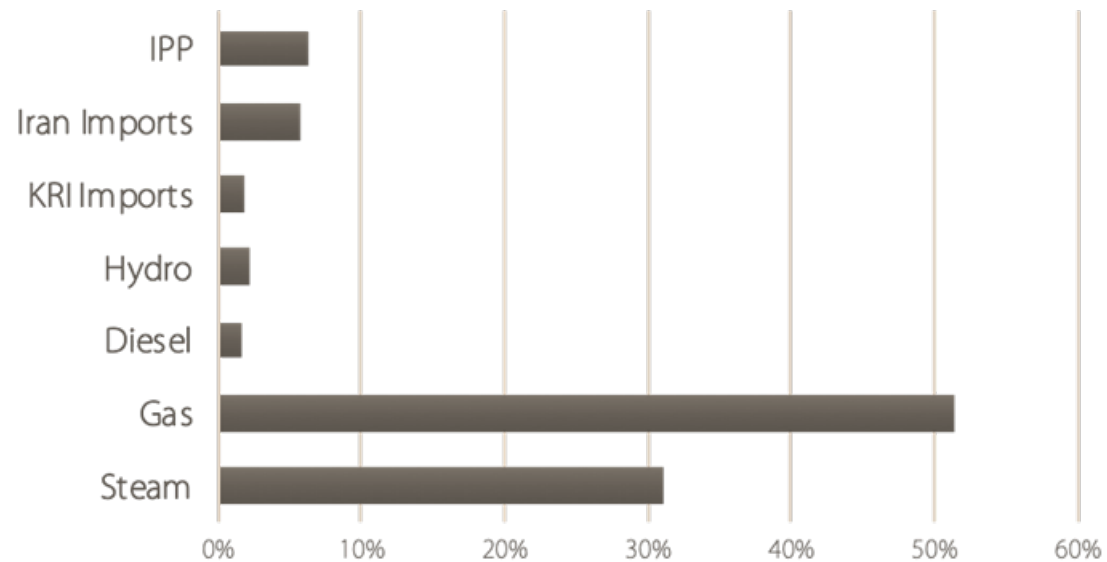
Solar PV LCOE Compared to Oil and Gas Fired Generation



Note: LCOE = levelised cost of electricity. LCOEs for oil- and gas-fired power plants are based on a range of operational efficiencies.

Potential Impact

Shares of Iraq's Electricity Mix by Source & Technology



Solar PV Displacement of Oil Consumption & Cost Savings



Challenges



FiT vs Bidding



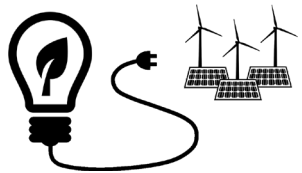
Procurement Process



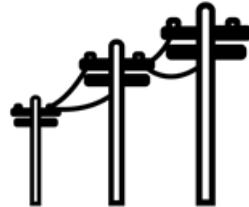
Weak Off-Taker Credit



IPP Track Record



**Renewable Energy
Project Experience**



**Future Grid Stability &
Technology Integration**



**Underdeveloped
Banking Sector**



**Renewable & Clean
Energy Legislation**



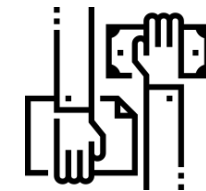
**Land Title
Availability**



Safety & Security



Subsidies

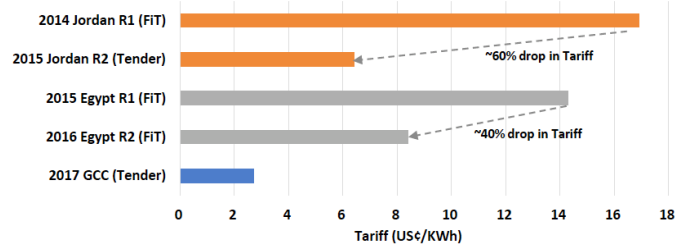


**Bureaucracy &
Transparency**

First Bid Round

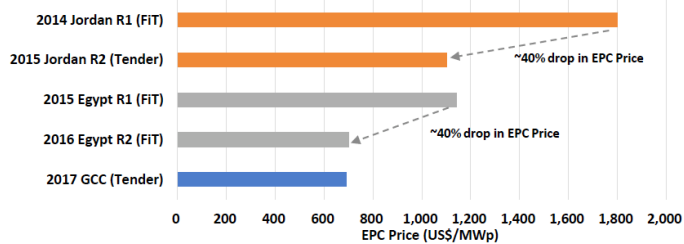
Market Dynamics

Tariff Evolution in Successive Rounds



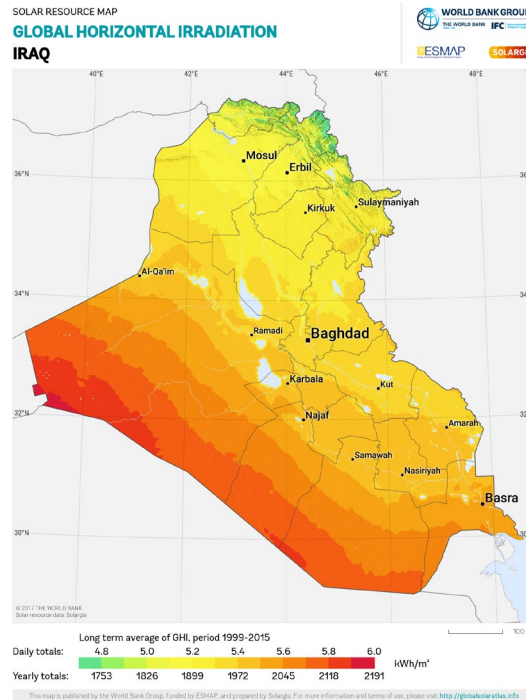
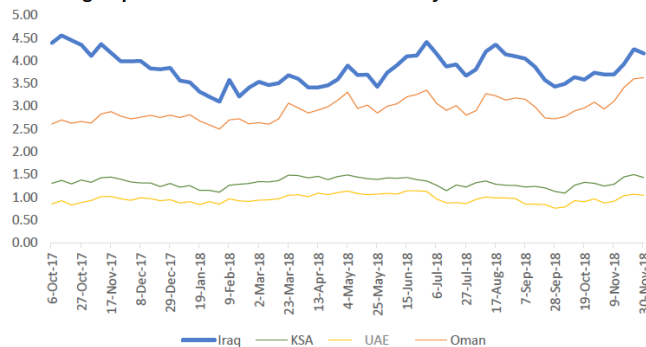
EPC Cost Reduction

EPC Price Evolution in Successive Rounds



Cost of Financing

Sovereign spread over benchmark US treasury



Project	Capacity (MWp)	Province
Sawa-1	30	Muthana
Sawa-2	50	Muthana
Khidhir	50	Muthana
Iskandariya	225	Babil
Jissan	50	Wassit
Karbala	300	Karbala
Diwania	50	Diwania
Total	755	

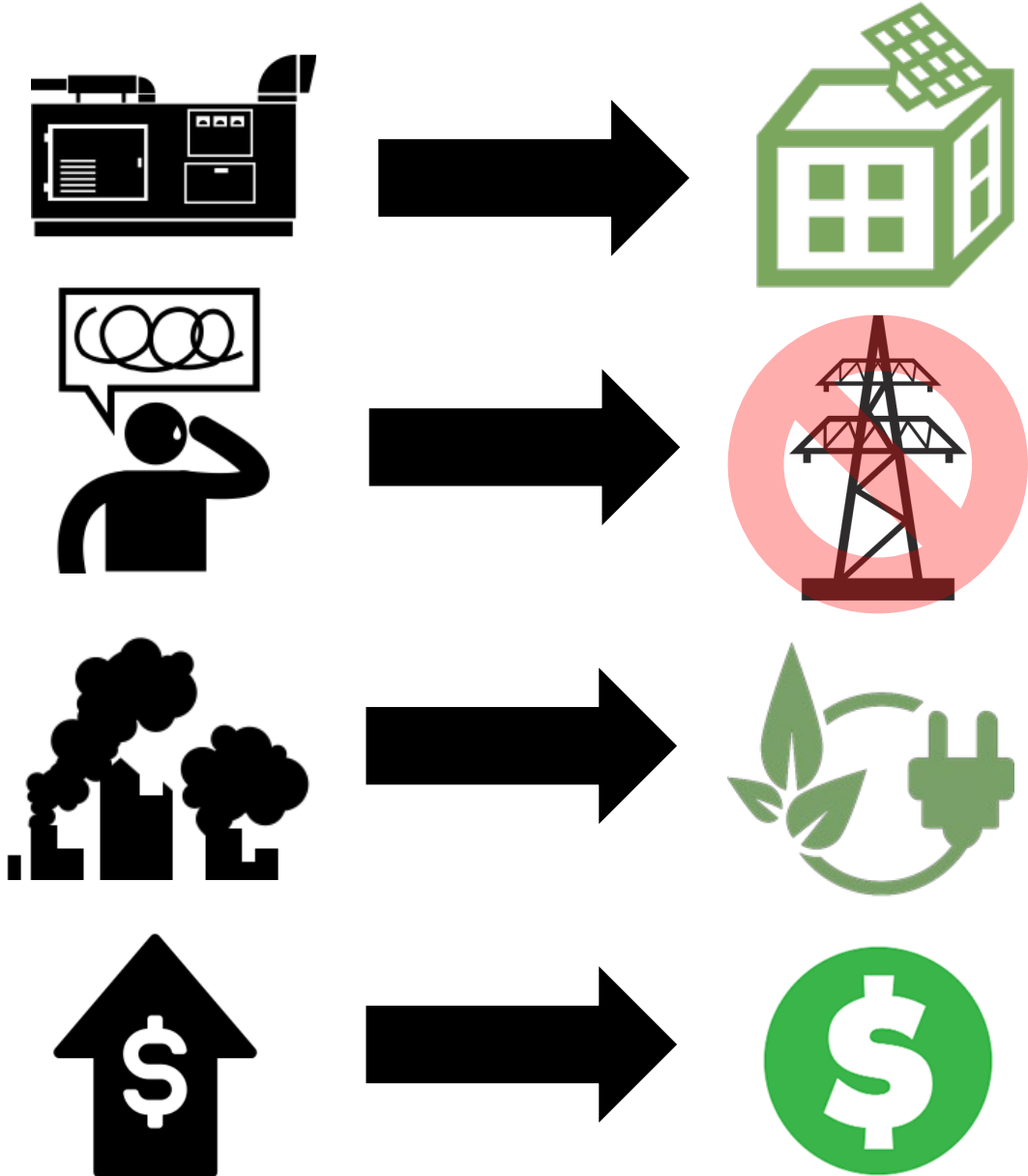
Transparent, competitive, reverse auction... left to market to determine

BOO basis...

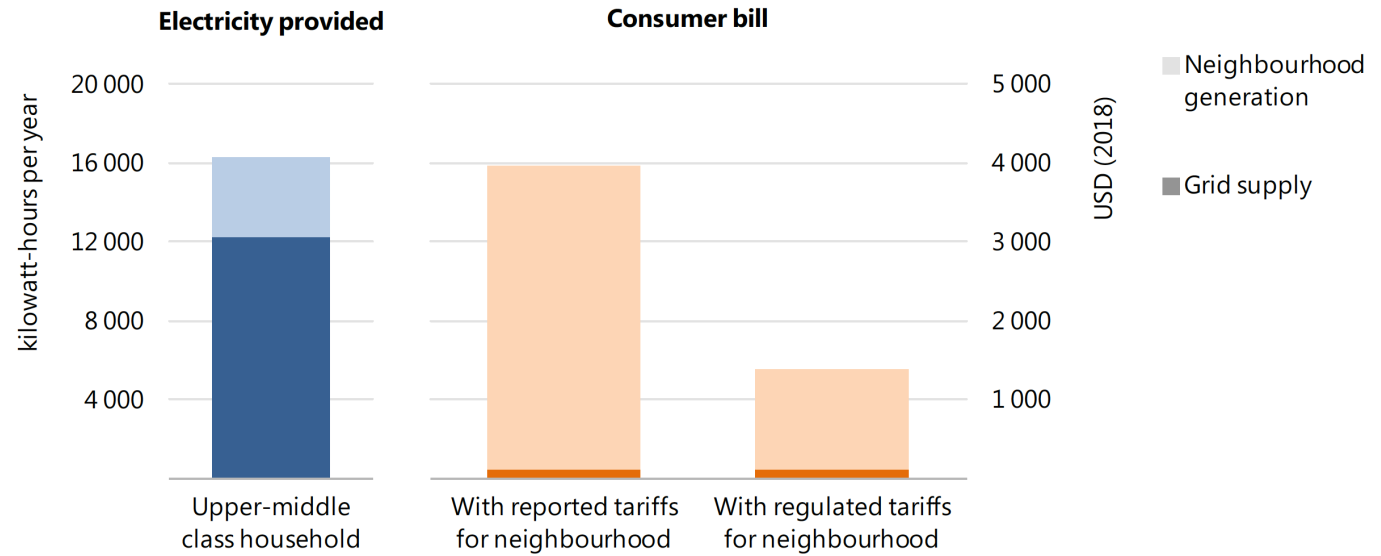
Access to government owned land, reduced customs fees, and ability to repatriate profits free of taxes...

Permits are valid for 20-50 years depending on the type of investment projects.

Energy Freedom?



Electricity Provided & Consumer Bill for an Upper Middle Class Household



Iraqi-German Partnership

Legislative & Policy Frameworks

Financial Frameworks &
Mechanisms

Technical & Technological
Assistance



Professional Skills & Capacity
Building

Research & Studies

Codes and Standards
Development

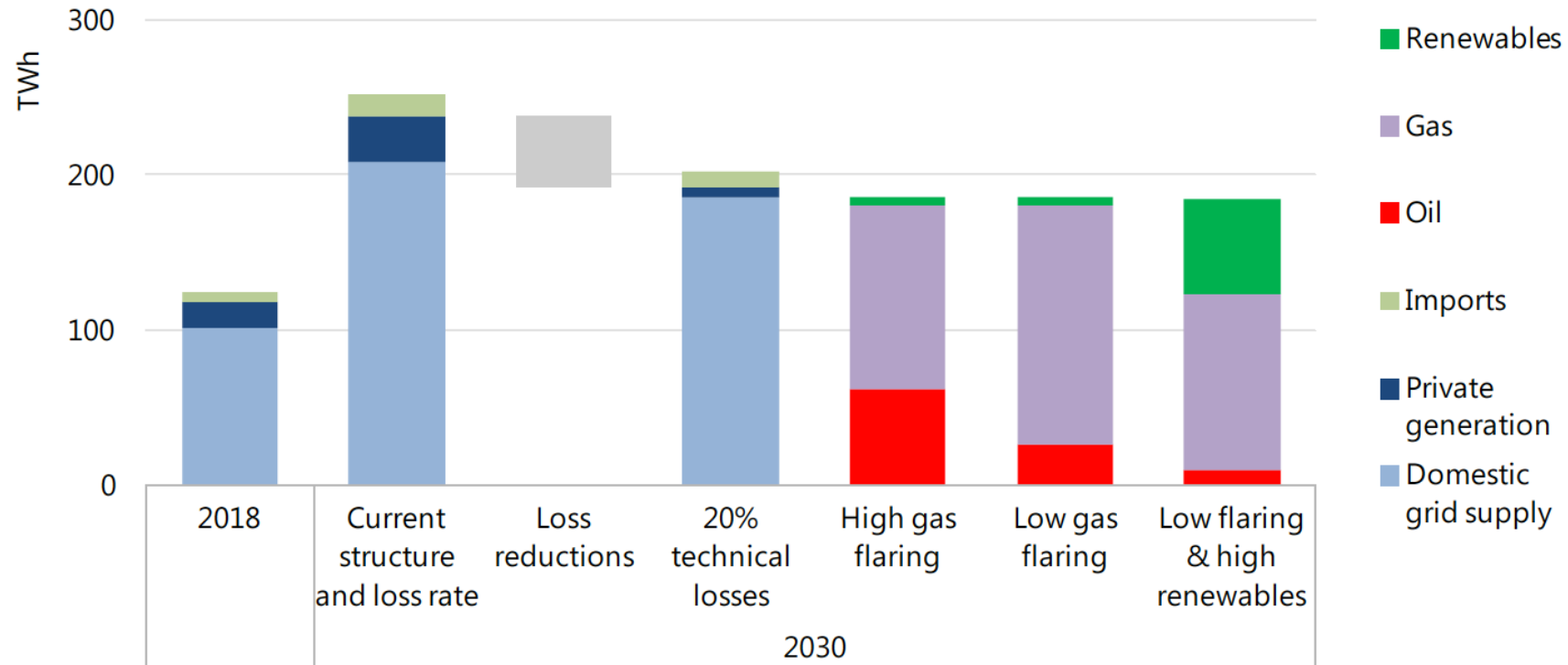
Thank You

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Backup Slides



High potential but dependent on setting a supportive regulatory environment & embracing market mechanisms.