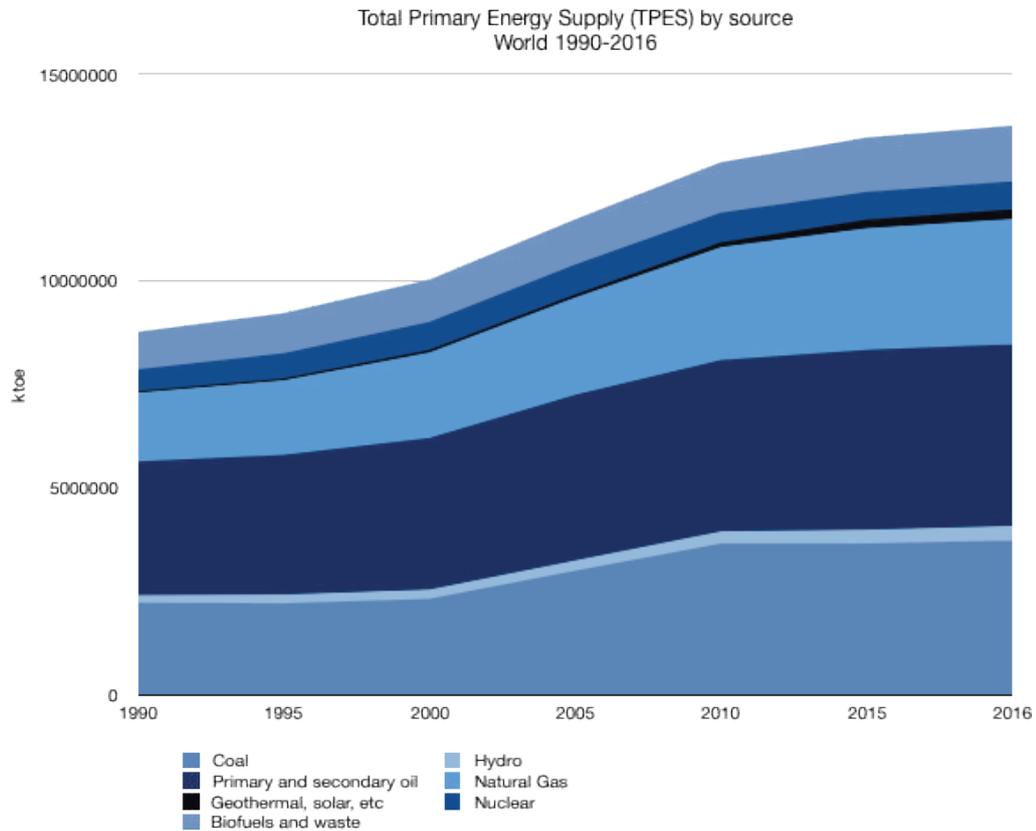


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As concerns of sustainability has become a prominent factor shaping the global policy agenda, many countries are now devoting more effort into improving the efficiency of renewable energy production and to reform the domestic energy supply market.

One such country is Saudi Arabia. Well known for its prominent status as the world's number one fossil fuel exporter, the Kingdom now actively seeks to divert its domestic energy consumption to renewable energy.



Source: IEA, 2018. All rights reserved.
 *ktoe= the kiloton of oil equivalent

“Vision 2030” is a national blueprint that Saudi Arabia launched in 2016 to reduce its dependence on oil, to diversify its economy, and develop public service sectors. Amongst the programmes under the Vision 2030 blueprint, the National Renewable Energy Program (NREP) plays a prominent role in transforming the Kingdom’s domestic energy supply.

This dossier seeks to provide some background information to the Kingdom’s current energy supply landscape and an executive summary on the Vision 2030 blueprint by the GSI’s in-house energy expert Dr. Ka Ho Yu.

Traditional energy remains the main contributor to the global energy generation. Primary and secondary oil, coal, and natural gas are the three main sources according to the data provided by the International Energy Agency (IEA).

In Saudi Arabia, primary and secondary oil, and natural gas take up almost 100% of the power generation capacity.

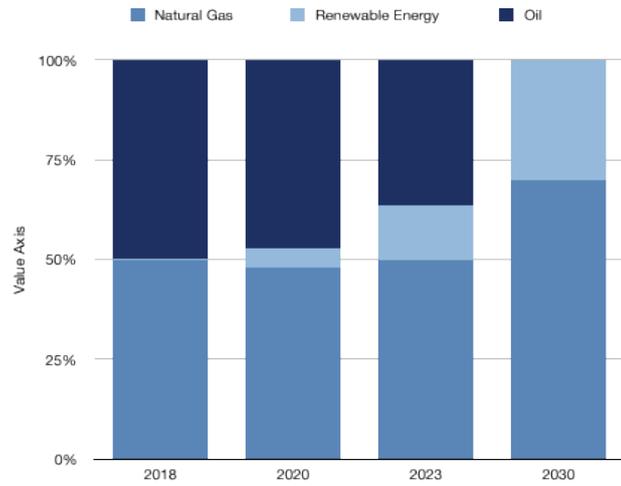
By the end of 2018, the data generated by the International Renewable Energy Agency (IRENA) shows that Saudi Arabia holds 142 megawatts (MW) in the total renewable energy capacity. Although renewable energy accounts for not even 1% of the total power generation capacity, there is a growing trend since 2014.

Country	2017-2018			Share of RE in total electricity capacity	2016	2015	2014
	PV	CSP	Total RE (in MW)		Total RE	Total RE	Total RE
 Saudi Arabia	89	50	142	0.2%	74	74	24
Kuwait	19	50	79	0.4%	20	1	0
Oman	8	0	8	0.1%	2	2	1
Qatar	5	0	43	0.4%	43	42	42
United Arab Emirates	497	100	589	2.0%	144	137	137
Bahrain	5	0	6	0.1%	6	6	6
Total	613	200	867	0.6%	289	262	210

Source: IRENA, 2018a; IRENA estimates. All rights reserved.

*PV= photovoltaic; CSP= concentrated solar power; RE= renewable energy; MW= megawatt. Totals may not add up due to rounding.

As part of the Vision 2030, NREP set the target aiming to achieve 3.45 gigawatts (GW) of installed renewable capacity by 2020; 9.5 GW by 2023; and eventually in 2030, 30% of generation will be from renewables, 70% from natural gas, and other sources. (mainly nuclear power).



Source: REPDO, 2018. All rights reserved.

By the end of 2018, three energy projects have been initiated under the Vision 2030.

Saudi Arabia	
Sakaka Solar PV, 300 MW	Under construction
Dumat Al Jandal Wind plant, 400 MW	Bids received
Waad Al-Shamal CSP, 50 MW	Completed

Source: IRENA, 2019. All rights reserved.



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Dr Ka Ho Yu, non-resident associate at the Harvard Kennedy School Belfer Center and Director of Energy Studies at the Global Studies Institute, pointed out that while Vision 2030 is an ambitious plan to reform and diversify the economy, it certainly does not point to an easy path.

Yu asserts, Vision 2030 is essentially Saudi's grand plan to reinvent its political economy from being driven by fossil fuel exports, to private investments. The blueprint steers the kingdom towards more privatisation in its now mostly state-owned fossil energy sector, and in turn transform those assets into a public investment fund aimed at providing resources needed for the Kingdom's private sector reforms.

One main objective of this plan is to put the state-owned oil company Saudi Aramco on IPO to raise the needed funds. Should the IPO able to raise funding in accordance to its USD 2.5 Trillion estimated value, 5% of that funding that has been earmarked by the Vision 2030 blueprint shall amount to one-sixth of the Kingdom's GDP in 2018.

Although that may not be enough to entirely replace fossil fuel sales' impact on the economy, it should provide sizeable support for the reforms needed. While the new plan of renewable energy reflects Riyadh's effort to better regulate renewables investment and diversify the domestic economy, more robust reforms are needed for renewables such as solar to be cost-competitive. If the government is able to offer supporting infrastructure, clarification on local content requirements and pricing structures, investors should expect much more modest results in the Kingdom's grand plan in renewables.