

# Opportunities in the Energy Sector of the Kingdom of Saudi Arabia

December 2017

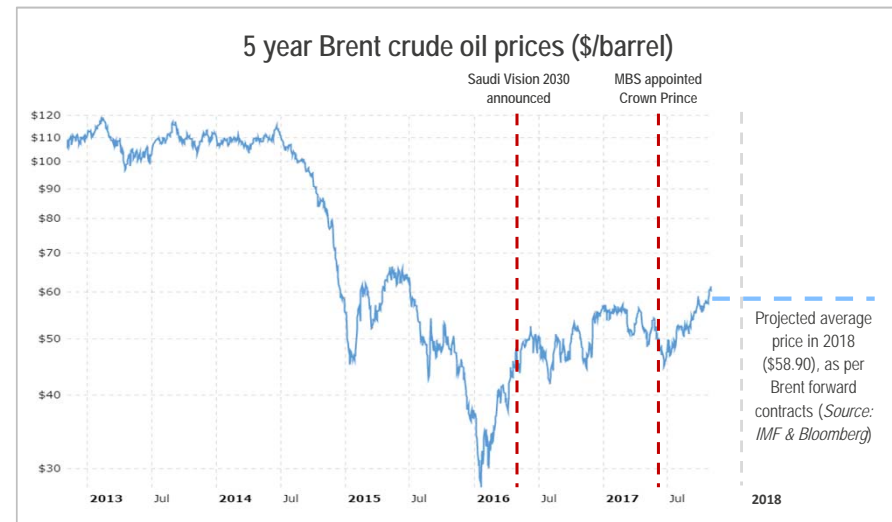


## Introduction

- Drivers of reform in the Kingdom
- Sub-sector Focus: Oil & Gas
- Sub-sector Focus: Power & Water
- Conclusion
- Al-Maarifa

## Drivers of reform in the Kingdom

- Historically, the Kingdom's economy has been heavily dependent on the export of oil revenues (up to 80% of GDP)
- A decline in oil prices has a major impact on the Kingdom's budget
- This is significant because the Government has historically funded domestic infrastructure and services (a "cradle to grave welfare system")
- Oil prices may never recover given new sources of global oil supply



Low oil prices + Young & growing population + High unemployment = Need for economic & social reform

## Drivers of reform in the Kingdom

### Saudi Vision 2030

- Announced in April 2016, it is wide-ranging privatisation and economic reform program that aims to **reposition the Kingdom's economy away from its dependence on oil export revenues and Government spending by encouraging greater private sector participation and promoting non-oil and gas and newly-established industries**
- Economic targets include:
  - increasing the Kingdom's overall **non-oil government revenue** from SR163 billion to SR600 billion by 2020, increasing it further to SR1 trillion by 2030
  - increasing the **private sector's contribution** from 40% to 65% of GDP
  - raising the Kingdom's share of **non-oil exports in non-oil GDP** from the current 16% to 50%
- Key initiatives include:
  - **Saudi Aramco IPO**: Up to 5% of Saudi Aramco will be listed
  - **PIF's new role** as the Kingdom's sovereign wealth fund (value up to \$3 trillion)
  - **Privatisation** of up to 146 state-owned entities
  - **Private Sector Investment**, both local and international, will be sought in sectors such as healthcare, municipal services, housing, finance and energy sectors
- **National Transformation Program 2020** was announced in June 2016 and is a program that has been launched across 24 different government bodies to help build the institutional capacity and capability required to fulfill SV2030

#### Key takeaways from SV2030

- Encouragement of **greater private sector participation** in the economy, including foreign investment
- **Reduced Government spending**, through:
  - reducing the size (and salaries) of the public sector
  - reducing subsidies
  - increasing utilities prices
  - procuring infrastructure and services through private sector investment (i.e. PPPs)
  - emphasis on privatisation
- Promotion of **non-oil and gas-related industries**
- **Improved living standards** (i.e. focus on improved housing, healthcare & education)

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## Drivers of reform in the Kingdom

### National Champions

- PIF, Saudi Aramco and SABIC are each key players in helping the Kingdom to realise SV2030
- Saudi economy still heavily reliant on the investment by, and capabilities of, these “National Champions”

#### PIF

- Will invest proceeds of Saudi Aramco IPO and hold Government's shares in Saudi Aramco
- Co-investment with SoftBank in a new \$100 billion technology fund (Vision Fund)
- Planned \$1 billion investment in Virgin Galactic
- MOU with Blackstone to commit \$20 billion to a new infrastructure fund
- Sponsorship of numerous new local free zones and economic cities, including NEOM (\$500 billion) and The Red Sea Project (\$20 billion)

#### SABIC

- Key training ground for talented Saudis
- JV with Exxon Mobil for world's largest ethane cracker in Texas
- Yanbu Oil-to-Chemicals Project
- Other opportunities in Asia and the US to access new customers and alternate sources of ethane feedstock

#### Saudi Aramco

- Key training ground for talented Saudis
- IPO scheduled for 2018
- RAPID with Petronas in Malaysia, a refinery project with Pertamina in Indonesia and other opportunities in the oil and gas supply chain abroad, particularly Asia
- Yanbu Oil-to-Chemicals Project (discussed later)
- Focusing on upstream oil and gas activity in the Kingdom (discussed later)
- Energy Industrial City in the Eastern Province to develop energy-related industries
- King Salman International Complex for Maritime Industries & Services at Ras Al Khair
- Initiatives to improve efficiency and localisation of the supply chain (e.g. through Saudi Aramco's “In-Kingdom Total Value Add” (“IKTVA”) program, which aims to deliver 70% localisation of the oil and gas supply chain by 2021 and which must be complied with as a condition to doing business with Saudi Aramco)

## Sub-sector Focus: Oil & Gas

### Highlights

- High levels of activity and investment
  - Oil production levels remain high and the total value of active upstream oil projects in the Kingdom is at its highest level in 5 years, peaking at \$21.4 billion in early August (*MEED, 2 October 2017*) – this may be explained by:
    - the low cost of production
    - the need to maintain market share
    - the need to maintain Saudi Aramco revenues (with the IPO scheduled for 2018)
    - the need to stimulate the local economy through creating and maintaining jobs
    - the opportunity to take advantage of building oil and gas infrastructure at a lower cost (as contractors are struggling to find contracts elsewhere)
    - the importance of associated gas (e.g. ethane) to power generation and the petrochemicals sector (the latter is key to increasing the quantity of non-oil exports)
  - Over the period between November 2014 and August 2017, the value of the Kingdom's active gas projects rose by 26% from \$18.6 billion to \$24.3 billion (*MEED, 2 October 2017*) – this may be explained by:
    - the region's continuing reliance on gas as a fuel for power generation (according to Amin Nasser, Saudi Aramco's CEO, gas production in the Kingdom will need to increase on the back of demand for power generation, as it is expected that 70% of the Kingdom's power generation will rely on gas as the primary fuel for at least the next 10 years)
    - the continuing demand of the petrochemicals sector for ethane as a feedstock

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## Sub-sector Focus: Oil & Gas

### Highlights

- **Importance of Gas**
  - The Kingdom was the **world's seventh largest gas producer in 2015** (and has the world's sixth largest proven gas reserves)
  - Despite this, the Kingdom **frequently consumes as much gas as it produces due to the competing demands of the petrochemicals and power sectors**. This is likely to continue given the Kingdom's plan for gas to remain the primary fuel for power generation (notwithstanding measures to curb demand (i.e. higher prices)) and the importance of petrochemicals to increasing the quantity of non-oil exports
  - NTP2020 provides that **dry gas production capacity is targeted to rise from 12 bcf/day to 17.8 bcf/day by 2020**, which will be achieved through the development of exploration and reserves activities, which will include sourcing **unconventional gas (i.e. shale or tight gas)** locally and natural gas from **non-associated fields**
- **Supplementing domestic gas supply – a potential LNG import program**
  - U.S. Secretary of Energy Rick Perry has discussed **possible U.S. exports of LNG with the Kingdom** at the Carbon Sequestration Leadership Forum (December 2017) in Abu Dhabi
  - Saudi Aramco's chief executive, Amin Nasser, in an interview with *Petroleum Economist*, said the Kingdom's plan for the coming decade was to **supplement its domestically produced natural gas with imports** and that Saudi Aramco is currently engaging with a number of companies **"to identify opportunities for gas internationally"**
  - There is speculation that Saudi Aramco may be considering an investment in the **Arctic 2 LNG project** being developed by Russia's Novatek
  - "Aramco is looking at any possibility for **investment in oil and gas production globally**, including countries overlooking the Caspian Sea, and Turkmenistan as I mentioned is among the countries that have the most reserves, **especially in gas**," (Khalid Al-Falih, Minister of Energy, Industry & Mineral Resources)
  - Currently, the Kingdom has **very limited facilities for import of LNG**, so the development of this infrastructure will be a major undertaking – floating LNG terminals or pipelines from Bahrain LNG, for example, may be alternatives in the short-term

## Sub-sector Focus: Oil & Gas

### Highlights

- **Measures to reduce consumption of gas and petroleum products**
  - Electricity tariff rises in 2010 and 2016
  - Domestic petrol prices to rise by 80% in January 2018 and jet fuel prices to rise to international levels in January 2018
  - Gas tariff rises and incentives to consume gas efficiently
  - Application of “international pricing” to the trade of domestic petroleum products
  - Use of more efficient technologies (one of the key drivers of the SEC privatisation (discussed later))
  - Use of alternative petrochemicals feedstocks and fuel for power generation
- **Use of petrochemicals feedstocks other than ethane**
  - **Naphtha as a petrochemical feedstock** – e.g. Sadara and Petro Rabigh II (added benefit is that it yields aromatics as well as olefins, resulting in a broader range of chemical products)
  - **Crude Oil-to-Chemicals technology** – e.g. Joint Venture between Saudi Aramco and SABIC for a \$30 billion facility at Yanbu, which would remove the need to refine crude oil into naphtha, by producing light olefins directly from crude oil
- **Use of alternative fuels (to gas) for power generation**
  - Renewable energy program (discussed later)
  - Atomic energy program (discussed later)
  - Jubail petcoke IPP (discussed later)
  - **Power plants using oil as the primary fuel are not seen as the preferred technology going forward (for environmental, cost and opportunity cost reasons)**



## Sub-sector Focus: Oil & Gas

### Recent deals signed by Saudi Aramco

- The deals set out in the following slides are a selection of deals recently signed by Saudi Aramco, which can be seen as confirmation that **Saudi Aramco will continue to serve as the Kingdom's "national champion" not only in the oil and gas sector itself but also in areas like the use of technology to improve efficiency and localisation of the supply chain** (e.g. through the IKTVA program)
- The nature of the deals also reflects the **Kingdom's focus on local benefits that investment by international companies will bring to the Kingdom**
- It has been suggested that this reflects a change in the way in which the Kingdom will do business with the West going forward and is consistent with SV2030 – **any deal must have tangible, long-lasting benefits for the Kingdom**, hence we highlight the specific localisation and economic benefits for the Kingdom

## Sub-sector Focus: Oil & Gas

### Recent deals signed by Saudi Aramco

Deal	Details	Local benefits
New Saudi Aramco joint venture with National Oilwell Varco	New joint venture to provide high-specification drilling rigs and advanced drilling equipment and provide related aftermarket services	<ul style="list-style-type: none"> <li>Establishment of education center to train Saudi technicians in the maintenance and operation of drilling technology</li> <li>Expected to create 1,000 jobs</li> </ul>
Extension of Saudi Aramco joint venture with Nabors	Extension of the joint venture will provide additional well services and studies into rig movements as an extension of the joint venture	<ul style="list-style-type: none"> <li>\$9 billion of investment over a ten-year period</li> <li>Expected to create 4,000-5,000 new jobs</li> </ul>
Extension of joint venture with Rowan Companies	Commencement of the design and selection process for offshore rigs as part of the \$7 billion investment over a 10 year period with Rowan Companies to own and operate offshore drilling rigs (the agreement to create the joint venture to own, operate, and manage offshore drilling rigs was signed in November 2016)	Expected to create 2,800 new jobs
Saudi Aramco MoU with Jacobs Engineering	MoU to localize design, engineering, procurement, construction and project management services for the oil and gas industry	<ul style="list-style-type: none"> <li>Value of the MoU estimated to be \$250 million</li> <li>Expected to create 300 jobs, with a focus on increasing construction management and engineering services</li> </ul>
Saudi Aramco MoU with Weatherford	MoU to deliver a series of projects related to localizing oil field goods and services	<ul style="list-style-type: none"> <li>Value of the MoU estimated to be \$2 billion</li> <li>Expected to create over 900 jobs</li> <li>Expected to support suppliers with \$16 million in funding</li> </ul>
Saudi Aramco MoU with McDermott International	MoU to expand and develop human capital in the Kingdom	<ul style="list-style-type: none"> <li>Value of the MoU estimated to be \$2.8 billion</li> <li>Expected to create up to 2,000 jobs</li> </ul>
Saudi Aramco MoU with Rowan Companies	MoU to deliver projects localizing goods and services along Saudi Aramco's supply chain	Initial investment of \$1.2 billion

## Sub-sector Focus: Oil & Gas

### Recent deals signed by Saudi Aramco

Deal	Details	Local benefits
Saudi Aramco MoU with Nabors	MoU to deliver projects localizing goods and services along Saudi Aramco's supply chain	<ul style="list-style-type: none"> <li>Value of the MoU estimated to be \$1.6 billion</li> <li>Expected to create 1,000 jobs</li> <li>Expected to support suppliers with \$6 million in funding</li> </ul>
Saudi Aramco MoU with Honeywell	MoU to deliver projects localizing goods and services along Saudi Aramco's supply chain	<ul style="list-style-type: none"> <li>Value of the MoU estimated to be \$3.6 billion</li> <li>Expected to create 400 jobs</li> <li>Expected to support the development of SMEs, suppliers and partners with \$10 million in funding</li> </ul>
Saudi Aramco MoU with Schlumberger	MoU to deliver a series of projects related to localizing oil field goods and service	<ul style="list-style-type: none"> <li>Expected to create 2,600 jobs</li> <li>Expected to support suppliers with significant funding</li> </ul>
Saudi Aramco MoU with Halliburton	MoU to deliver a series of projects related to localizing oil field goods and services	<ul style="list-style-type: none"> <li>Expected to create 750 jobs</li> <li>Expected to support suppliers</li> </ul>
Saudi Aramco MoU with GE for Digital Transformation of Saudi Aramco's operations	<ul style="list-style-type: none"> <li>MoU to effect a digital transformation of Aramco's operations with the goal of generating \$4 billion in annual productivity improvements</li> <li>GE will provide a private Predix Industrial IoT cloud, GE's pioneering APM and industry-specific applications, and staff a Digital Transformation Office ("DTO") with local industrial engineers, process experts, and technologists</li> </ul>	<ul style="list-style-type: none"> <li>The DTO is expected to generate 250 high-tech jobs and stimulate local economic demand for an additional 500 Digital Industrial careers</li> <li>GE will work to create a "STEM" educational curriculum for high schools and universities to develop Saudi digital industrial talent to meet future demand for software developers and data scientists</li> </ul>
Saudi Aramco MoU with GE on the feasibility of new business development across the energy value chain	MoU envisages a feasibility assessment of new business development across the energy value chain, including the upstream, midstream and downstream oil and gas businesses and the development of "Oilfield Services and Equipment" manufacturing hubs	Unquantified at this stage
Saudi Aramco MoU with Emerson	<ul style="list-style-type: none"> <li>MoU for collaboration for digital transformation within Saudi Aramco's operations</li> <li>Covers Plantweb Digital Ecosystem Solutions, digital oil field initiatives and research and development in advanced applications for process automation</li> </ul>	Unquantified at this stage but involves competency development programs (training of Saudi Aramco employees)

## Sub-sector Focus: Power & Water

### Highlights

- In good news for power developers, **“All future projects will be IPPs or IWPPs”**, according to Oasama Khawandanah, energy trading and ventures senior vice president of SEC
- This is backed by NTP2020, which provides that the **percentage of power plant electricity generation through “strategic partners” will be lifted to 100% from 27% (by 2020)**
- NTP2020 also provides that **water and electricity subsidies will be reduced by SR200 billion by 2020**
- To support SV2030 and with peak demand for power forecasted to reach 122GW in 2032 from the 62GW peak recorded in 2015, the Kingdom is set to undertake a **major capacity building program in the coming years**

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## Sub-sector Focus: Power & Water

### Power (excluding Renewable Energy)

- **PP15 IPP**
  - A 5,400 MW gas-fired power plant, which would make it **second only to the Barakah nuclear project in Abu Dhabi for power capacity**
  - The project may be broken into three 2,000 MW phases, owing to uncertainty surrounding electricity demand in the Kingdom
  - As the peak demand actually decreased in 2016, the Government will make a decision on the specification of PP15 when the peak demand for 2017 is known
- **Jubail Petcoke IPP**
  - A petcoke-fired cogeneration plant with 900 MW power capacity and 450 tonnes/hour of steam capacity, the offtakers will be Satorp and Sadara (although Saudi Aramco seems to be responsible for procurement) and we understand that Saudi Aramco is planning to issue tender documents by **April 2018**
  - The plant will be developed as an IPP using Saudi Aramco's preferred BOOT structure, as was the case with the last cogeneration plant procured by Saudi Aramco (i.e. the Fadhili IPP, which closed at the beginning of this year)
  - Saudi Aramco is planning to hold an equity stake in the project company that will develop the plant
  - A "first-in-kind" project as we are not aware of any other plants in the Kingdom that use petroleum coke as the primary fuel and have been developed under the IPP model
- **Taiba ISCC**
  - A 3,780 MW gas-fired power plant with 180 MW CSP, **which may be converted to an IPP or EPC plus finance deal from an EPC deal**
- **Aramco IGCC**
  - A 3,400 MW integrated gasification combined cycle plant at Saudi Aramco's Jizan refinery, **which may be converted to an IPP (i.e. only the power component) from an EPC deal following completion**

## Sub-sector Focus: Power & Water

### Renewable Energy

- **NREP**
  - The Kingdom's **9.5 GW renewable energy program**, known as the "National Renewable Energy Program" (the "**NREP**"), has been established by the Ministry of Energy, Industry & Mineral Resources
  - The NREP will be administered by an office within the MEIMR, known as the "Renewable Energy Project Development Office" ("**REPDO**")
  - REPDO will report to a new renewable energy steering committee, chaired by the Minister of Energy, Industry & Mineral Resources and will include the heads of various government stakeholders in the Kingdom including KA CARE, ECRA, Saudi Aramco and SEC
  - KA CARE will undertake a monitoring role for the NREP and will form the renewable energy monitoring agency (Remo) for this purpose
  - Although Saudi Aramco has also developed a number of renewable energy projects itself in the past, the creation of the **NREP is likely to mean that new renewable energy projects in the Kingdom will be procured by REPDO rather than Saudi Aramco**
  - **All projects within the NREP will be competitively tendered following a bidder pre-qualification process and developed on a BOO basis as IPPs with a 25 year PPA and with private developers owning 100% of each project.** This follows the model proposed for the cancelled Rafha and Al-Jouf solar PV IPPs, except we understand that the offtaker will be an affiliate of SEC known as "Saudi Power Procurement Company" ("**SPPC**") and its payment obligations will be guaranteed by SEC for so long as SEC is controlled by the Government, after which, a Government Guarantee would be given if SPPC has a credit rating below BBB

## Sub-sector Focus: Power & Water

### Renewable Energy

#### ■ Phases of the NREP

- The **first phase of the NREP** (which targets 3.45GW of projects by 2020) is intended to have three rounds. The **Sakaka IPP** and **Dumat al-Jandal IPP** are the two projects that make up the first round of the first phase of the NREP
- Sakaka IPP is a 300MW solar PV power project, which, we understand, has strict local content requirements which are linked to the goal of localizing the renewable energy sector (e.g. there is a Saudisation requirement of 30% of CAPEX). The deadline for submission of bids for Sakaka IPP was **2 October 2017, with the lowest tariff setting a new world record for the lowest renewable energy tariff**
- Dumat al-Jandal IPP is a 400MW wind power project. The deadline for submission of bids for Dumat al-Jandal IPP is **25 January 2018**
- The **second round of the first phase of the NREP** will comprise IPPs at eight different locations with an aggregate capacity of 1,020 MW, while the **third round of the first phase of the NREP** will comprise IPPs at 12 different locations with an aggregate capacity of 1,340 MW.
- There are no further details available at this stage, although the **second and third rounds may include projects using CSP, waste-to-energy and even geothermal technologies, in addition to solar PV and wind**

#### NTP2020

- **RCJY** will spend over SR41.5 billion on new initiatives over the next five fiscal years, including the localization of the renewable energy industry in Yanbu
- **KA CARE targets to be achieved by 2020**
  - Enabling renewable energy to contribute to the national energy mix in the amount of 3.45GW
  - Increasing the local content in the industrial and service value chains and localization of expertise in the renewable energy sector (from 25% to 35%)
- **Notable Initiatives** – KA CARE will spend over SR5 billion on new initiatives over the next five fiscal years, including:
  - the launch of the “King Salman Renewable Energy Initiative”
  - development of necessary human capabilities
  - localization of renewable energy technology to support the Kingdom’s power and
  - water desalination sectors
  - development of necessary legislation

## Sub-sector Focus: Power & Water

### Renewable Energy

- **SoftBank Vision Fund and PIF sign MoU to build 3GW solar projects in the Kingdom**
  - Under the terms of the MoU, PIF and SBVF will develop the solar power projects through SEC in 2018
  - PIF and SBVF will also create solar energy and energy storage manufacturing facilities in the Kingdom
  - The MoU is subject to due-diligence
  - Additionally, the parties will assess the possibility of SoftBank Vision Fund acquiring a significant equity in SEC



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## Sub-sector Focus: Power & Water

### Atomic Energy

- **Future Nuclear Capacity** - The Government has not publicly committed to a target for total nuclear power capacity. Previously, the Kingdom has announced a target of 17-19GW of nuclear power generation capacity within the next 20 years
- **Conventional Plants** - Conventional nuclear power plants are to be built at various sites around the country. The Kingdom's first two major nuclear reactors will produce total power of 2.8GW
- **SMART Facilities** - Nuclear power is planned to be developed at several locations through SMART (System-integrated Modular Advanced Reactor) facilities, which will produce nuclear power from much smaller reactors. There will be two 100MW SMART facilities initially and these are planned to be developed within the next four years. We understand that these facilities are to be used for desalination
- **HTGRs** - China Nuclear Energy Engineering Group (CNEC) and KA CARE signed a cooperation agreement for a joint study on the feasibility of constructing high-temperature gas-cooled reactors (HTGRs) in the Kingdom. The cooperation agreement includes examining cooperation in IP and the development of a domestic industrial supply chain for HTGRs built in the Kingdom
- **Uranium Mining** - The Kingdom is also seeking to launch a program to mine uranium, which will be used to produce fuel for the nuclear plants and also for other uses such as nuclear medicine

#### NTP2020

- **KA CARE targets to be achieved by 2020**
  - Enabling atomic energy to contribute to the national energy mix
  - Increasing the local content in the industrial and service value chains and localization of expertise in the atomic energy sector (from 25% to 30%)
- **Notable Initiatives** – KA CARE will spend over SR5 billion on new initiatives over the next five fiscal years, including:
  - identification and preparation of the construction locations of the first nuclear power plant sites
  - provision of necessary infrastructure
  - development of necessary human capabilities
  - localization of small nuclear reactors and industry
  - localization of nuclear fuel cycle in uranium production to achieve investment returns
  - development of necessary legislation

## Sub-sector Focus: Power & Water

### SEC Privatisation

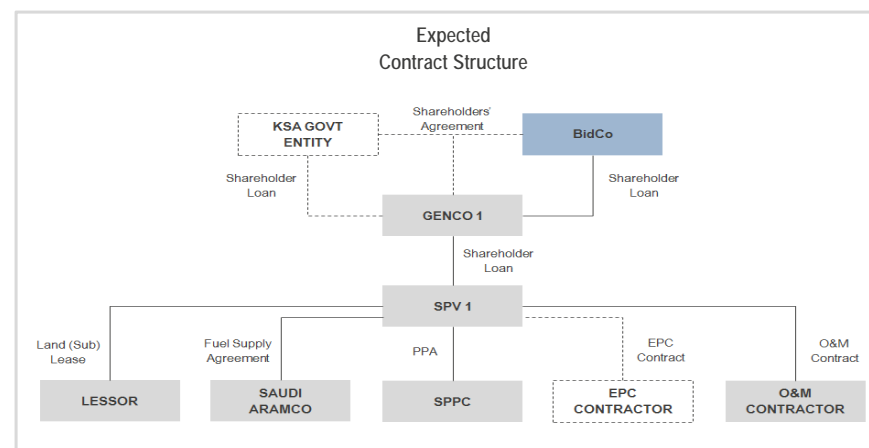
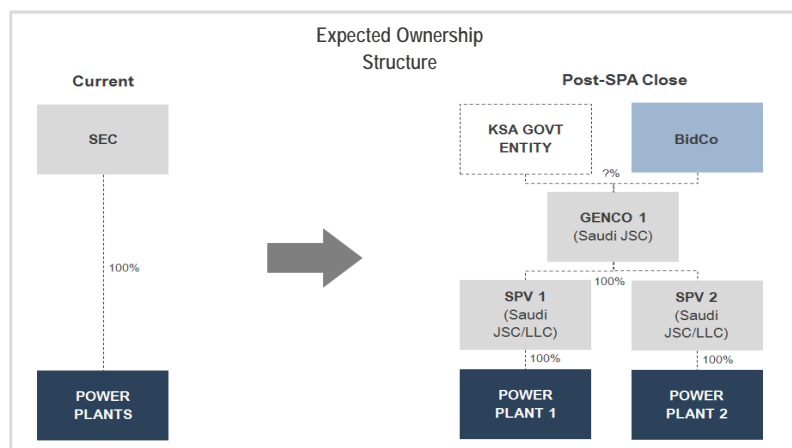
- SEC's power generation business is to be split into four separate companies (each a "GENCO")
- Through a **public bid/auction process**, private investors will bid for a **majority of the shares in each GENCO**, although it may be as much as 100% of the shares
- **Public bid/auction process likely to have similarities with a typical IPP process**
- Each GENCO will own a portfolio of **power plant assets formerly wholly-owned by SEC (i.e. no I(W)PPs and no financing will be inherited)** with a **deliberately even mix of technologies, geographies and lifecycles**
- Aggregate "value" of the power plant assets to be transferred to the four GENCOs could be as high as **\$125 billion**, so potentially over \$30 billion per GENCO
- Given the size of the potential financings, SEC will be looking to put in place a structure that **facilitates different financing methods to the greatest extent possible**
- GENCOs are intended to be divested **sequentially** given the market liquidity pressure that the financing of the purchase of the shares in each GENCO is likely to create
- **The first GENCO is expected to be auctioned in 2018**

Primary objective is to **increase the efficiency of power generation in the Kingdom** and should result in a fully-functioning open power market, where:

- **power generation is primarily the responsibility of the private sector**, thereby reducing the need for Government investment
- generators will be required to **consume fuel in the most efficient manner possible** using the latest available technology in power generation because (among other reasons): (a) fuel will be paid for by generators on a "full opportunity cost basis" (i.e. without any subsidies); and (b) there will be competition between power generators for buyers
- the Government performs a **limited supervisory role**, thereby reducing public sector participation in the power market but also allowing "market forces" to dictate supply and demand
- the **price of power is set by generator supply and consumer demand**, although some degree of subsidy (via a rebate) may still be required for retail consumers

## Sub-sector Focus: Power & Water

### SEC Privatisation



#### Likely Key Issues

- **Financing solutions** - Short term vs long term; potential to mix different sources of finance; potential value of GENCOs vs market liquidity; restrictions on ECA participation
- **Contractual structure** – Fuel supply (a la Fadhili IPP) and offtake arrangements will be put in place with respect to each power plant asset, opening up project financing possibilities for the investors in the GENCOs. “Principal Buyer” of power will be SPPC, raising potential offtaker creditworthiness concerns
- **Pricing for the bid/auction process** – Will bidders be required to bid a purchase price based on a fixed tariff or would the tariff be part of the bid? We understand that the Government prefers the latter, as a way of promoting efficiency in power generation but lenders will need to due diligence the resulting cashflows
- **Generation licenses** – Potential investors in the GENCOs will want the ability to transfer generation licences from plants owned by the GENCO to new plants after old plants are decommissioned, meaning that investors in the GENCOs are buying a right to generate and sell an aggregate quantity of power
- **Management of existing staff and contracts** – This is an issue found on all privatisations and will be better understood when more information becomes available during the bid/auction process

## Sub-sector Focus: Power & Water

### Desalination

- **SWCC/WEC** - SWCC is SEC's desalinated water counterpart in the Kingdom, however, WEC will be the offtaker on future IWPs
- **Future use of renewables technology** - SWCC is looking to increase investment in the use of **renewables technology to power desalination plants** – it has collaborated with King Abdullah University for Science and Technology to install solar PV panels at Al-Khafji and is also collaborating with KA CARE to explore potential for smaller satellite plants that may use solar/wind technology
- **Future desalination projects**
  - SWCC/WEC are planning to develop nine new desalination projects by 2021 to meet anticipated water demand
  - All new desalination projects will be **IW(P)Ps** - EPC procurement will only be used for water transmission or distribution projects
  - **Rabigh 3 IWP** is a planned 600,000 m<sup>3</sup>/day RO desalination plant, which will be the first standalone IWP to come to market. WEC will offtake production from the plant under a 25-year water purchase agreement supported by a guarantee from the Government. WEC has received 55 EOIs and is planning to set a bid submission date in **April 2018**, with the intention of signing the WPA in **August 2018** and achieving financial close by **October 2018**
  - **Shuqaiq 3 IWP** (a 380,000 m<sup>3</sup>/day desalination plant) and **Yanbu 4 IWP** (a 450,000 m<sup>3</sup>/day desalination plant) are additional new IWPs, with 51 EOIs received. These two plants may be bundled with existing assets (see next slide)
  - **Jubail 3 IWPP** is a planned IWPP with a 3,000 MW power capacity and 1.2-1.5 million m<sup>3</sup>/day desalinated water capacity, although the timetable for this project is not clear. If completed, this plant would be the largest desalination facility in the Kingdom

## Sub-sector Focus: Power & Water

### SWCC Privatisation

- The Government is targeting to have sold all of its brownfield assets by 2020 with the goal of attracting national, regional and international investors
- SWCC is currently working to establish a framework for the privatisation of the desalination sector, set to be complete this year – it is likely that the desalination company will be unbundled into different production and transmission companies but will not use the same structuring approach as SEC
- We understand that, unlike with SEC, the **SWCC assets may be bundled along geographical lines, which gives developers the ability to find synergies among the plant assets**. However, there is skepticism that SWCC's assets will be privatized on a portfolio basis – **instead, plant assets may be sold off individually or privatisation of existing desalination and cogeneration assets may be achieved through bundling these assets with greenfield water projects**. For example, consideration is being given to bundling in four existing cogeneration and desalination assets with the Yanbu 4 IWP and the existing Shuqaiq 1 cogeneration plant may be bundled in with Shuqaiq 3 IWP
- First asset to be privatised is the **Ras Al Khair plant**, a 2,400 MW power capacity and 1.025 million m<sup>3</sup>/day desalinated water capacity plant, with SEC and Ma'aden being the power offtakers and Ma'aden being the water offtaker (with SWCC retaining a portion of the water produced for supply to Riyadh and other cities)
- We expect to see significant progress regarding the sell-off of SWCC assets in 2018, particularly as new IWPs hit the market

## Conclusion

- SV2030 is a paradigm shift for the Kingdom's economy and the realisation of the vision is going to take time – **patience is key**
- SV2030 presents significant new opportunities for private sector participation in the Kingdom's economy
- The Government-owned "National Champions" (and their affiliates) can be expected to be the key drivers in realising SV2030
- Activity in the Oil & Gas sub-sector can be expected to remain high and present many opportunities, particularly with respect to gas project development, the localisation of the supply chain and technology and the development of new and existing industrial cities/SEZs
- Activity in the Power & Water sub-sector can be expected in the following areas:
  - I(W)PPs
  - Privatisations
  - New non-oil & gas related technology and localisation of the supply chain

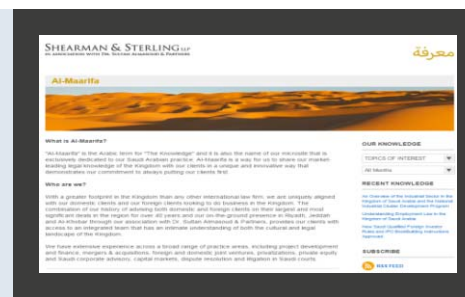
## Al-Maarifa

We are at the forefront of legal developments in the Kingdom and pride ourselves on our market-leading knowledge and insights.

### Al-Maarifa

As part of the service to our clients, we encourage them to use this knowledge and these insights through accessing our microsite, **Al-Maarifa** (or “The Knowledge” in English). Al-Maarifa is exclusively dedicated to our Saudi Arabian practice and covers a wide range of topics that will be relevant to our clients in the Kingdom and to our clients investing or doing business in the Kingdom, including:

- Structure of the Saudi legal system
- Doing business in the Kingdom
- Understanding different Saudi company types and key Government institutions
- Key considerations for foreign investors in the Kingdom
- Overviews of various industry sectors, including mining, oil and gas, telecoms, healthcare, financial institutions and industrials



Our team in the Kingdom regularly adds new topics to Al-Maarifa and it can be found at [www.al-maarifa.shearman.com](http://www.al-maarifa.shearman.com). We welcome suggestions from our clients for new topics to include on Al-Maarifa.

### Client Publications

In addition to Al-Maarifa, we regularly prepare publications for our clients focusing on specific legal or market developments in the Kingdom as they occur, including the New Companies Law and the implementation of the National Transformation Program 2020. If you wish to be included on our email distribution list, please let one of our Saudi contacts know.

Alternatively, our client publications can also be found on our Saudi Arabia web page at [www.shearman.com/en/offices/saudi-arabia](http://www.shearman.com/en/offices/saudi-arabia) or the Al-Maarifa website.

Al-Maarifa  
معرفة

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