

# Strategic Priority of Oil & Gas Industry in the UAE in coming years



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# OUTLINE

1. How to meet the growing domestic demands for oil & gas through explorations and imports.
2. New energy generation strategies for meeting domestic needs of energy.
3. Support development of downstream processing industries to supplement LNG expansion.
4. To create opportunities for further world-class projects and infrastructure and help diversification of the Territory's economy.
5. Environmental consideration keeping in view the UN Climate Change Conference of 2015 in Paris.
6. Oil production freeze method considerations.
7. Domestic strategy considerations of oil and gas.

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# 1. HOW TO MEET THE GROWING DOMESTIC DEMANDS FOR OIL & GAS?

## ❑ UAE's position in the world market

- UAE has the world's 7th largest proved reserves of both oil and natural gas, estimated at 97.8 million barrels and 215 trillion cubic feet.
- Holds 4 % of the world's oil reserves and 3.5 % of gas reserves.
- 95% of UAE's oil reserves and about 94% of its gas reserves are in Abu Dhabi (**ABD**).
- Other Emirates account for just 6% of the UAE's oil reserves, led by Dubai with approximately 4 billion barrels.



## 2. WHY IS UAE IMPORTING?

- ❖ The UAE's natural gas reserves have been estimated as the 7<sup>th</sup> largest in the world.
- ❖ It has been importing the natural gas since 2007 and it became a net importer of natural gas in 2008.

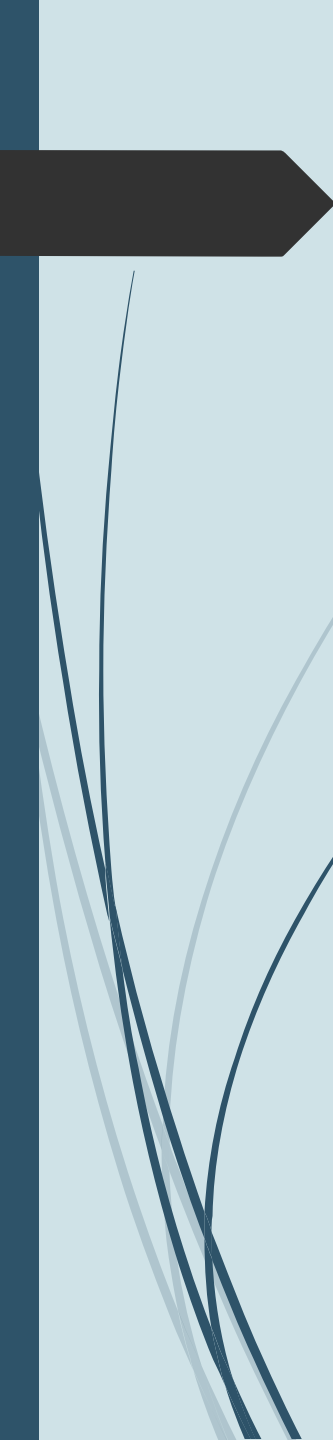




# REASONS

There are two reasons:

- a. Gas is primarily used as a feedstock for power/electricity; and
- b. Gas is also used for reinjection into oil fields as part of **EOR (Extensive Oil Recovery)** techniques.

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- ❖ Electricity demand has reached 105 billion kilowatt /hours in 2013 and could grow by 50% by 2020.
  - ❖ Oil is only used as an emergency back-up fuel.
  - ❖ We currently do not use coal as fuel.
  - ❖ Domestic gas production only meets about 50% of electricity demand.
  - ❖ Domestic demand for gas is increasing.

# Q. HOW DO WE MEET THESE GROWING DEMANDS FOR OIL AND GAS?

- ❖ Imports
- ❖ expansion of domestic production



## A. IMPORTS - VIA THE DOLPHIN ENERGY PIPELINE


❑ We are importing 2 billion cubic feet of gas per day.

### **How do the imports help?**

- free up Abu Dhabi's natural gas for oil recovery;
- free up exports levels that we must meet under contracts;
- supply all seven Emirates; and
- meet 30% of the country's natural gas demand.

**We also:**



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- Import LNG (**liquefied natural gas**) at a terminal off the coast of Dubai;
  - Dubai purchases approx. 3 million metric tonnes of LNG a year;
  - ABD's state-owned IPIC and Mubadala Development also developing an LNG import facility in Fujairah;
  - Gives the UAE access to global LNG supplies without the need to transport the fuel through the Strait of Hormuz to a Gulf port.

## B. EXPANDING DOMESTIC PRODUCTION BY USING EOR TECHNIQUES

- ❖ UAE plans to increase oil production by 800,000 bbl/d to 3.5 million bbl/d in 2020

### How we do this?

- ❖ Exclusively by using EOR techniques:
- ❖ Designed to extend the lifespan of the existing oil fields.
- ❖ By improving the recovery rates at the existing fields, such techniques helped the UAE to nearly double the proved reserves in ABD over the past decade.

# A HEAVY PROGRAM OF INVESTMENT OFFSHORE & ONSHORE

- ❖ Amounting to more than USD70 billion.
- ❖ Seeks to achieve a target of 3.5 million bbl/d by 2017.
- ❖ At the offshore Upper Zakum field operated by **ADNOC** USD14 billion will be invested:
  - To increase production from 585,000 bbl/d to 750,000 bpd
  - By 2024, to 1 million bpd
- ❖ Onshore, the ABD Company for Onshore Oil Operations (**ADCO**) plans to invest:
  - USD5 billion to USD7 billion to meet its production target of 1.8 million bpd by the end of 2017

## OTHER PROJECTS

- ❖ **Sour gas exploitation**, ADNOC has joint ventured with leading international oil companies to develop gas fields such as **Bab and Shah**.
  - Add more than 500 million standard cubic feet of gas to ABD's supplies.
  - Shah will produce significant volumes of light oil that can be used to make vehicle fuels.



## 2. NEW ENERGY GENERATION STRATEGIES FOR MEETING DOMESTIC NEEDS OF ENERGY

UAE is planning to diversify domestic energy supply to include:

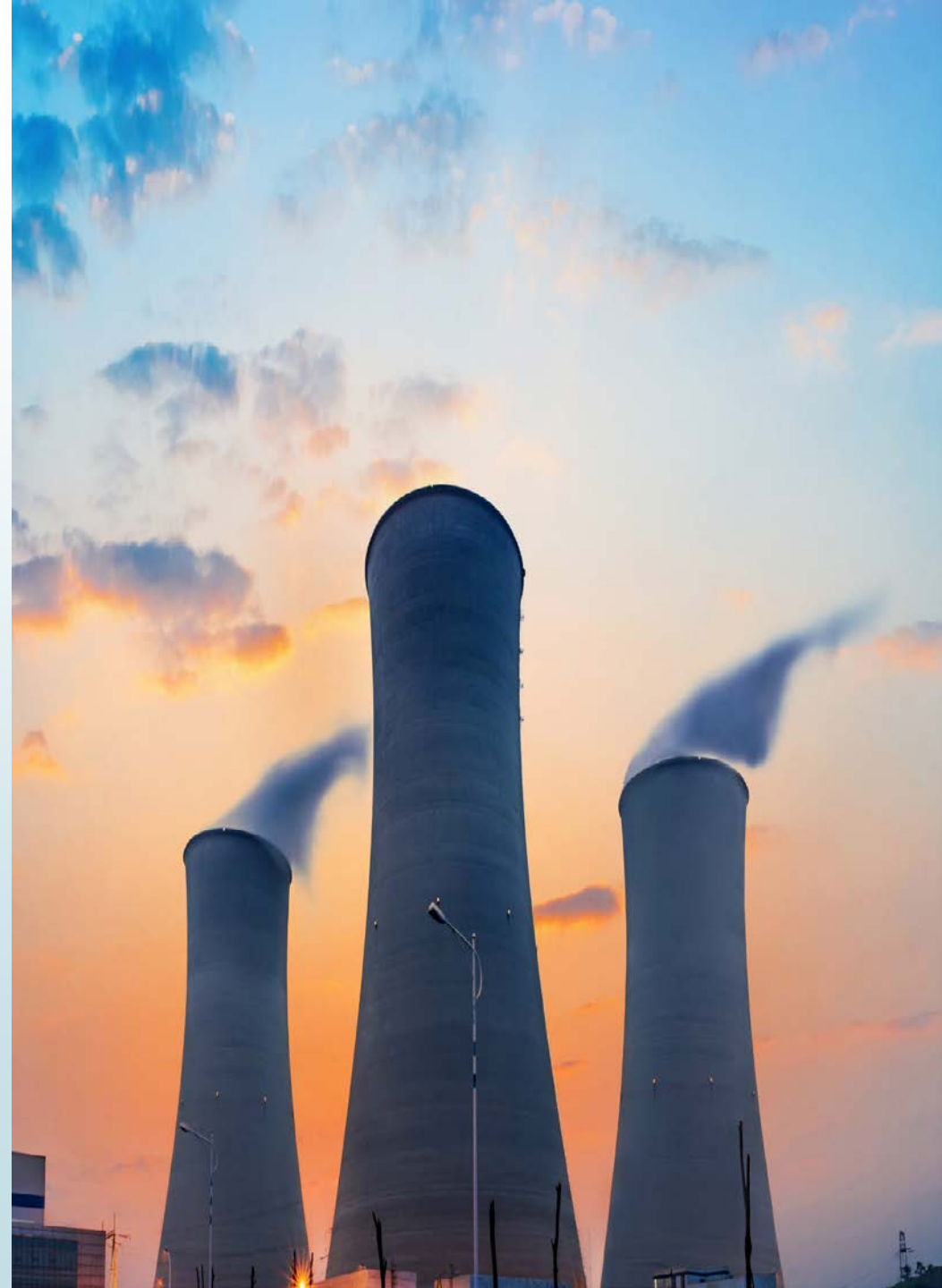
- ❖ Nuclear power
- ❖ Solar power
- ❖ Waste-to-energy projects
- ❖ Coal-fired power generation





# NUCLEAR

- ❖ The first of four nuclear reactors are expected to commence operations in 2017.
- ❖ By 2020 the UAE expects nuclear power to provide up to 25% of its electricity capacity.



# SOLAR POWER

- ❖ ABD plans to generate 7% of its electricity from renewable sources by 2020.
- ❖ Dubai has a 5% target.

## **The key focus for both is solar power:**

- ❖ Solar Park as one of the world's largest solar energy projects aims to generate 1,000MW of power by 2020.
- ❖ Increase it to 5000MW by 2030, with total investments of Dh50 billion.



# "SHAMS DUBAI" INITIATIVE

- ❖ Revolves around connecting solar energy to houses and buildings.
- ❖ Aims to encourage people to install solar panels on buildings' roofs to produce electricity by using solar energy.
- ❖ Under the National Agenda Vision 2021, the UAE government has set a target of 24% **clean energy** contribution.
  - which will be achieved through the implementation of both nuclear and clean-energy projects


### 3. SUPPORT DEVELOPMENT OF DOWNSTREAM PROCESSING INDUSTRIES TO SUPPLEMENT LNG EXPANSION

- ❖ In view of the fact that downstream can support stability to economy and help maximization of available resources, the UAE petroleum industry has lined up a number of significant projects in the downstream sector.
- ❖ An expansion of the ABD Oil Refining Company's (Takreer) became operational in early 2015;

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- ❖ This large expansion has added 417,000 bpd of distillation capacity, more than doubling the unit's size.
  - ❖ A significant upgrade of the Jebel Ali condensate refinery is also set to occur, enabling the production of refined products to Euro 5 standards.
  - ❖ A planned 200,000 bpd grassroots refinery project in **Fujairah** is currently at the early engineering and design stage.



- ❖ Such expansions will certainly increase LNG productions.
- ❖ This is one of the safest as well as traditional alternative for oil economy like UAE to depend on and at the same time generate further revenues by exporting the expanded production outcome.



## 4. Diversification of the Territory's economy

- ❖ Every oil economy sooner or later must consider diversification.
- ❖ The UAE has already started walking on the path of diversification
- ❖ Making notable progress in diversifying its economy through tourism, trade, manufacturing, and real estate.

# Abu Dhabi Vision 2030

- ❖ ABD has expressed its intention of such diversification in its vision 2030. Stating *'there is no denying to the fact that there is demonstrable link between economic diversification and economic sustainability. The route to sustainability therefore starts with diversification'*.
- ❖ ABD furthers its economic diversification by stimulating non-oil sectors, especially into **export-oriented businesses**.



# SECTORAL DIVERSIFICATION ALONE IS NOT ENOUGH

- ❖ In ABD even the non-oil sectors demonstrate sensitivity to the oil price, because they tend to be oriented to the domestic market and are reliant on domestic liquidity.
  - When the oil price is high, there is plenty of money to support growth in these sectors.
  - When it is low, and liquidity is squeezed, the non-oil sectors grow at slower rates.
- ❖ Diversification must therefore be directed towards export sectors in order to de-couple overall growth from volatile oil receipts.



## 5. Environmental consideration (the UN Climate Change Conference of 2015 in Paris)

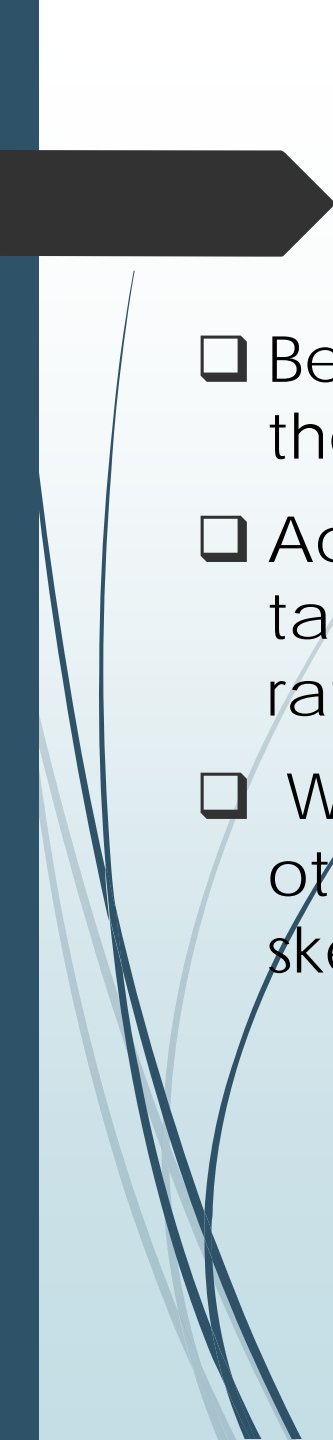
- ❖ Delegates of over 190 countries sat together in Paris.
- ❖ How to reduce the emission of greenhouse gases that rises from the increased dependency on fossil fuels.
- ❖ The Conference negotiated the Paris Agreement.
- ❖ Which seeks to reduce the pace at which the climate is changing.





## Effect on the Middle East

- ❖ Saudi Arabia, Qatar, Kuwait, Sudan, Somalia, and UAE are Non-Annex Parties to the UNFCCC.
- ❖ They are vulnerable to the adverse impacts of climate change.
- ❖ The average temperature in this region is considerably high and a further increase could have catastrophic results.
- ❖ Also affect the economic stability, which makes the issue far more serious.

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- ❑ Because UAE along with Saudi Arabia, Kuwait are **dependent** on the resources of fossil fuels.
  - ❑ Accordingly, they are more vulnerable to the responsive measures taken by those countries annexed to the UNFCCC to cut down the rate of greenhouse emissions.
  - ❑ With a decline in the imports and consumption of fossil fuels by other countries, the economy of these Gulf countries could be skeptically affected.

- ❑ It is necessary for the negotiators of the Agreement to consider the concerns of these countries who would now have to set carbon-reduction targets and allot major finances in order to facilitate the transition.



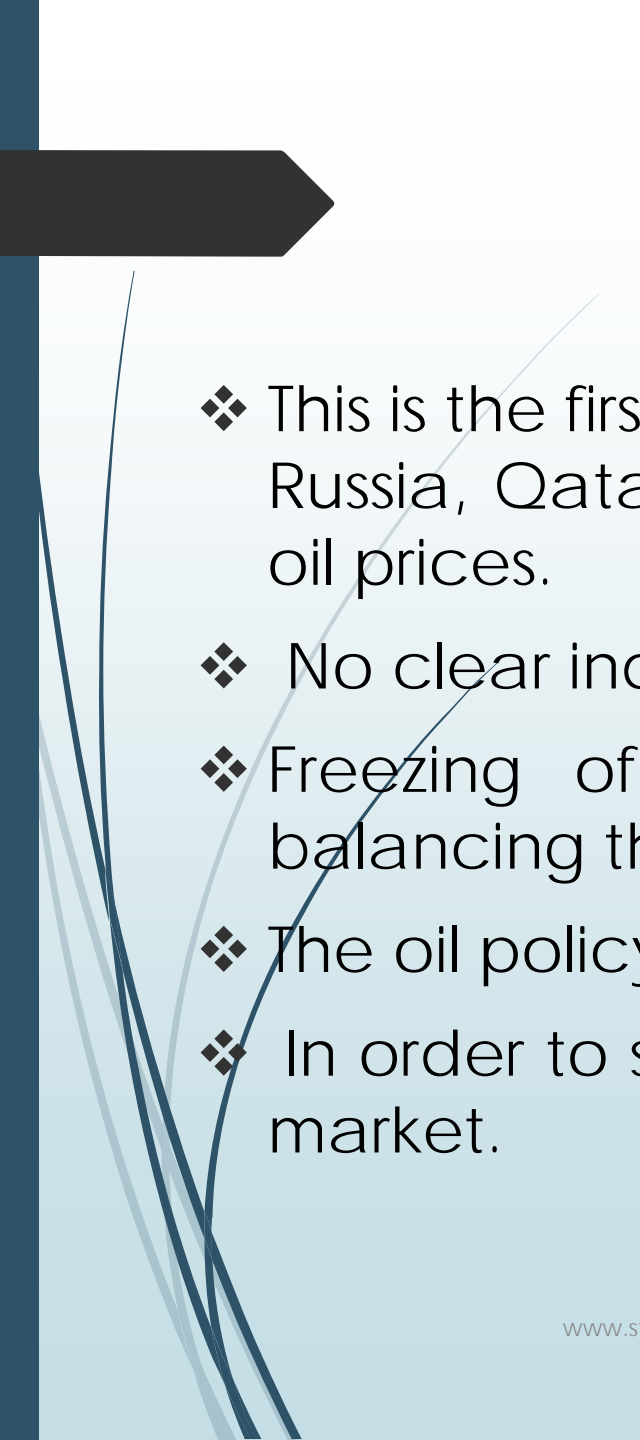
## 6. Oil production freeze method considerations

- ❖ As the current market price is not suitable for everyone.
- ❖ Force producers of oil and gas to freeze production levels and limit their investments.

### Examples:

- ❖ Countries such as Ecuador and Venezuela have been hardest hit by plummeting of the prices.
- ❖ Venezuela has seen its worst recession since the 1940s, and its economy is expected to shrink by 10 percent this year.



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- ❖ This is the first time the oil producing countries, such as Saudi Arabia, Russia, Qatar have come together to take an initiative to **prop up** oil prices.
  - ❖ No clear indication whether they will cut production.
  - ❖ Freezing of production levels will have a positive impact in balancing the future demand with the current oversupply.
  - ❖ The oil policy in the UAE is always open for cooperation.
  - ❖ In order to serve the interests of the producers and to balance the market.

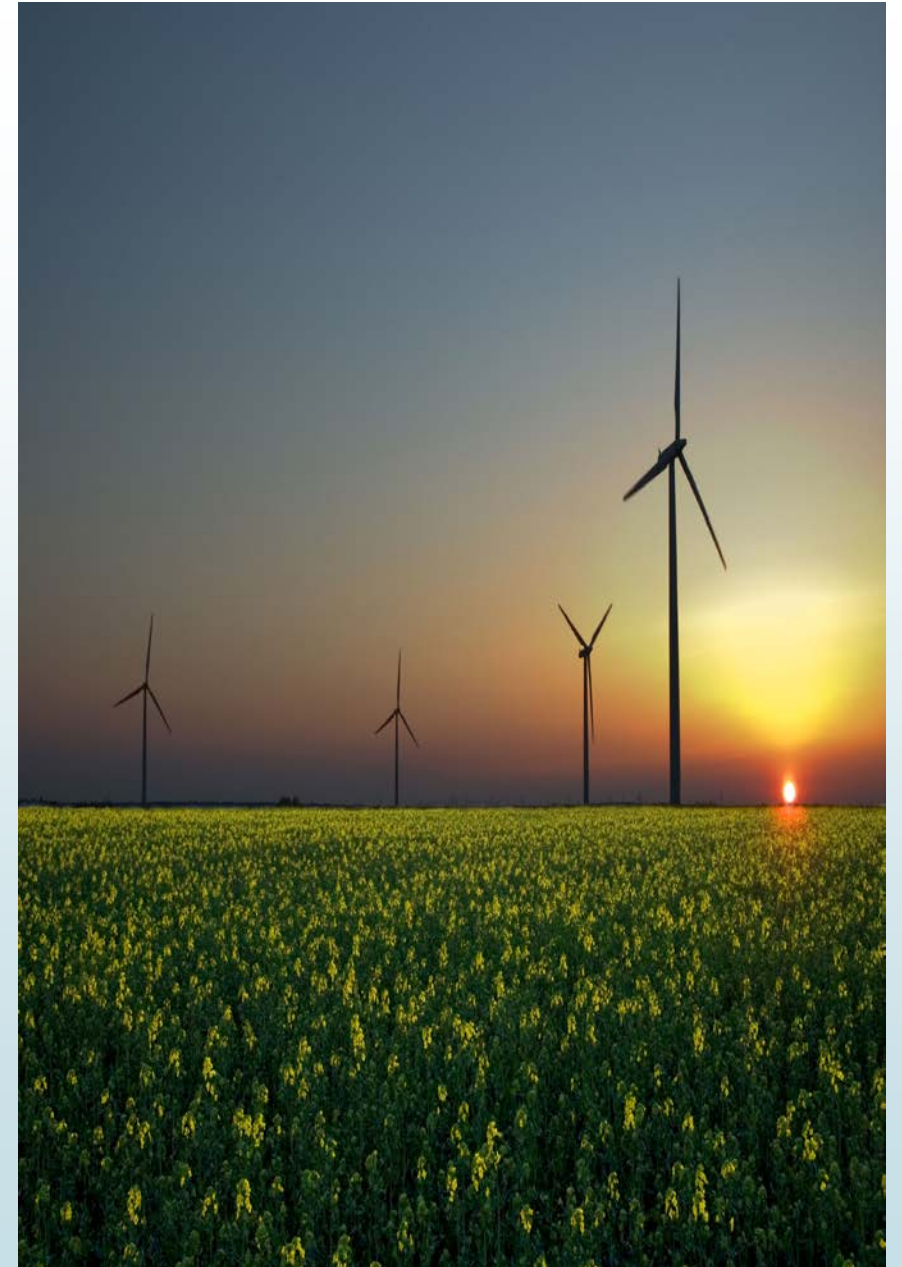


## 7. Domestic strategy considerations of oil and gas

- ❖ The UAE is adding nuclear, renewable, and coal-fired electricity generating capacity.
- ❖ There are plans for seven new power plants slated to come online by 2021 with a combined capacity of 9.5 GW.
- ❖ Plan for a clean-coal facility with 1.2 gigawatts (GW) capacity in Dubai.
- ❖ The first phase of the clean coal project should begin operating in 2020.
- ❖ UAE is diversifying its energy mix beyond fossil fuel-fired electricity generation.
- ❖ Current nuclear energy construction projects are expected to add at least 5.6 GW of capacity.



- ❖ These steps clearly suggest that the strategy of the government is to develop new sources or strategies of energy generation rather than depending on gas based electricity generation.
- ❖ Such initiatives should in time help to reduce carbon emissions and lessen the pressure on the country's gas supplies.





***End of Presentation...***  
***THANK YOU!!!***