

Why Nuclear Makes Sense

مؤسسة الإمارات للطاقة النووية
Emirates Nuclear Energy Corporation

شركة بركة الذبيح
Barakah One Company PJSC

شركة نواح للطاقة
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With climate change at the top of the agenda worldwide, people are discussing what forms of energy we can use to power our communities in a sustainable manner.

The United Arab Emirates is a country blessed with more than 330 days of sunshine every year. It is logical that the nation should make use of this resource and promote the use of solar energy for electricity production. It's no surprise that the Noor Abu Dhabi solar park is the world's largest solar power plant with 1.2 gigawatts (GW) of installed capacity.

However, while renewable energy sources will play a growing and important part of the nation's energy supply, they can't deliver the dependable baseload electricity required to power the nation 24/7. That's because they are intermittent, not continuous. Battery storage can help ease the periods when the sun isn't shining, but the technology is not advanced enough to provide baseload power.

Therefore, the UAE's electricity system requires additional reliable and efficient energy sources to ensure a diversified energy portfolio that seeks to tackle climate change while supporting the nation's continued economic growth and development.

The Barakah Nuclear Energy Plant does just that, as well as providing a bridge to other forms of low-carbon energy to enable the UAE to dramatically decarbonize its energy sector and deliver against its climate change targets.

Five Reasons Why Nuclear Energy Makes Sense in the UAE

CO₂

1. Nuclear energy is clean and provides a solution to climate change. During operations, a nuclear energy plant produces no harmful emissions and releases no CO₂ into the environment.

- When Barakah Unit 1 achieved 100% of its power capacity in December 2020, it became the single largest electricity generator in the country, accounting for 36% of the UAE's clean electricity. Soon, we will add three more units, making significant leaps in meeting the UAE's carbon emissions reduction targets.



2. A nuclear energy plant produces clean electricity about 90% of the year, day and night, regardless of the weather conditions. It shuts down for refueling and maintenance every 12 to 18 months.

- Once fully operational, the Barakah Nuclear Energy Plant will deliver up to 25% of the UAE's electricity, carbon emissions free.



3. A nuclear energy plant provides high-quality skilled job opportunities for decades.

- ENEC employs over 3,000 people and 60% of them are talented and skilled UAE Nationals, spearheading the advancement of the intellectual wealth of the Nation and inspiring the next generation of clean energy leaders.
- Over the past decade, ENEC has invested in developing technical capabilities to successfully deliver the Barakah megaproject to the highest standards of quality.
- The Barakah Plant will operate for at least 60 years, providing high-quality knowledge-based jobs to Emirati men and women for almost 100 years from program start to finish.



4. Nuclear energy drives economic diversification by creating a new industrial sector.

- In the UAE, over 2,000 local companies have so far been awarded contracts worth \$4.8 billion to deliver goods and services to the Barakah Plant.
- Nuclear science and technology creates opportunities for research and development in sectors such as medicine, agriculture and space exploration.



5. Nuclear science and technology provide almost limitless opportunities for research and development in numerous sectors, inspiring the next generation of innovators.

- Nuclear technology plays an important role in sectors such as medicine, agriculture, environmental protection and space exploration.
- The diverse applications for nuclear technology create exciting opportunities for the UAE's brightest minds to bring forward innovative solutions.
- Nuclear energy has a promising future as a bridge to other clean energy forms, particularly green hydrogen, due to the abundant electricity and high-quality steam a nuclear plant produces around the clock.