



GLOBAL ENERGY MIX EVOLVES WITH UPTAKE OF ADVANCED TECHNOLOGIES

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The energy sector has always been at the forefront of adopting technological innovations. New technologies are being brought on-line far faster than anticipated. In the oil and gas sector, the efficiency of extracting these sources continues to improve and more advanced technologies are now used in exploration and production activities. Continuing technological advances and rapid deployment of many renewable technologies have thoroughly demonstrated their potential.

By looking at our current global energy mix we can notice that it is based mainly on hydrocarbons or fossil fuels (oil, gas and coal), accounting for over 80 per cent of world total primary energy supply. The rest is covered mainly by renewables and nuclear energy.

Over the years, energy supply has grown in volume but different fuels have changed at varying degrees. Additionally, new sources of energy, including modern renewables, have been exploited leading to a rapidly evolving and a more diversified energy mix. However, despite the notable growth of many renewable energy technologies, the overall share of renewable energy in the global energy mix has only moderately increased since 1990.

Fossil fuels will continue to account for a major share of the world energy mix for decades to come, 75 per cent of world primary energy demand in 2040. Among fossil fuels, gas is the fastest growing fuel and its share in the energy mix is rapidly increasing. Oil continues to be the single dominant fuel, though its share falls. Renewable energy (excluding biomass), is expected to gain share rapidly, increasing its significance in the overall energy mix to account for 9 per cent of world primary energy demand in 2040 compared to a share of 4.7 per cent in 2020.

Generally, the main motivations for the expansion of renewable energy are numerous and vary from country to country. Among the factors that set the foundation for the recent rapid growth in renewables are the following:

- Acceleration of government policies aimed at encouraging a shift to renewables.
- Significant rise in investment in renewables.
- Declining costs of renewable technologies, in particular solar PV and onshore wind.

Despite difficulties confronted by regional economies and energy sectors, the Arab world is taking bold steps to advance renewables and play a substantial role in the global energy shift. Since 2014, a striking scale-up of renewable installed capacity has been observed in many

OAPEC members and other Arab countries. Today, almost all countries in the Arab region have set renewable energy targets for future deployment.

The main drivers behind the marked expansion of the Arab region's renewable energy market include:

- The need to diversify energy resources to enhance energy security;
- High energy and electricity demand growth;
- Excellent solar and wind potential across the region, as well as hydro in certain locations;
- Increasing use of desalination plants driven by renewable energy;
- Arab countries' energy policymakers have become more aware of the renewable energy potential.

Renewables are steadily becoming a greater part of the global energy mix, in particular in the power sector and in the countries that have put in place measures to promote their development. The role of renewables differs across regions and countries. It depends on the country's energy demand, its own fossil fuel resources and its ability to import such fuels. It also depends on climate, geography and the availability of RE.

Government support policies for renewable energy are becoming widespread worldwide. Renewables can only complement rather than supplant the hydrocarbon fuels which will remain OAPEC's main source of energy for many decades to come.

There is no doubt that no single energy resource can meet the growing global energy demand. Mixing all exploitable energy sources is a feasible way of attaining stability in energy. The expected increase in energy demand by 2040 cannot be met with today's renewable technologies alone and fossil fuels will continue to play a substantial role in the energy mix.

Finally, the future energy mix is paving the road toward lower-carbon energy. When COP21 endorsed the Paris Agreement with the consensus of 195 countries, oil-exporting countries, including OAPEC member countries, adopted a transparent and objective approach.

They announced very clearly that they share in international efforts aimed at tackling climate change according to international agreements signed in this regard. They also reiterated their commitment to improving energy efficiency, shifting from liquid fuel to gas, encouraging clean energy research, expanding the use of carbon capture and storage (CCS) techniques, as well as promoting public trends on the use of renewable energy, such as solar, thermal and wind as complementary energies to fossil fuels. ■