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EGYPTIAN-DANISH SECTOR COOPERATION PAVES THE WAY FOR EGYPT'S GREEN TRANSITION

The new Egyptian-Danish energy cooperation will assist Egypt in saving 50 million tonnes CO₂ annually by 2035. The cooperation will focus on developing energy scenarios and long-term planning, which will guide the transition towards a greater share of renewable energy in a sustainable and cost-efficient way.

With close to 100 million inhabitants, Egypt is the greatest consumer of oil and natural gas on the African continent. 90 per cent of the country's energy supply is based on fossil fuels, primarily natural gas. The country's electricity production is about six times greater than Denmark's and is rapidly increasing due to the economic growth in Egypt. The country's CO₂ emissions are around eight times higher than Denmark's, and without a transition to significantly more renewable energy, Egypt is expected to double its CO₂ emissions by 2050.

A driver for the green transition in North Africa and the Middle East

Egypt has set an ambitious target for renewable energy, such as wind and solar PV, to constitute 42 per cent of the electricity production in 2035. This equals 63 gigawatt renewable energy production in 2035, while the current total is 5.8 gigawatt. For comparison, the Danish production capacity from wind turbines alone was 6 gigawatt in 2020.

Egypt's ambitions for a green transition requires the implementation of new policies and significant changes in both planning and operation of the power system. The challenge here is to develop a system, which can

accommodate and adjust efficiently to the increasing shares of variable renewable energy from wind and solar PV. In this field, Denmark has vast experience and is regarded as one of the world-leading countries. Successful integration of renewable energy in Egypt is thus one of the focal points in the cooperation between the Danish Energy Agency and the Egyptian authorities.

Due to its geographical position in the region, Egypt has the potential to become a driver for green transition in North Africa and the Middle East. Greater ambitions and a stable, well-regulated market for renewable energy will attract energy equipment and component manufacturing and thereby create green jobs. Thus, qualified labour will be needed to support the needs for production, installation, maintenance and operation. In turn, this will increase Egypt's opportunities for becoming a regional hub for the design and production of components and increase the country's exports.

Denmark re-establishes close cooperation with a broader focus

The new strategic sector cooperation with Egypt builds on a relationship dating back to the 1990s when Denmark and Egypt started cooperating on wind energy.



Households and businesses all over Denmark enjoy Europe's highest security of supply of electricity, with a steady supply 99.996 per cent of the time. On top of that, more than half of Denmark's electricity consumption is supplied by renewable energy. Denmark's experiences with green transition provide an excellent foundation for developing a stable operation of the Egyptian power system through close cooperation.

Power sector modelling is an essential tool when developing long-term energy plans. Electricity from solar PV and wind is the cheapest way to extend the power system today, but only if it is balanced by the existing system and only if it does not jeopardize the security of supply. Developing energy scenarios are essential for decision-makers when planning for a sustainable and cost-efficient future and will therefore be an essential part of the cooperation.

Besides energy modelling, the cooperation will transfer experiences from the Danish energy transition such as energy efficiency, liberalisation of the electricity market, integration of fluctuating energy as well as short term forecasting of renewable energy production.

Egypt's current target of 42 per cent renewable energy in the electricity supply in 2035 will save 49 million tonnes of CO₂ emissions annually according to The International Renewable Energy Agency. Politically, there is a growing interest in increasing the share of renewable energy to 60 per cent in 2035 which would lead to a further reduction of 43 million tonnes CO₂ - totalling a reduction of 92 million tonnes CO₂ emissions in 2035. This equals three times the current Danish emissions.

FAKTA

- The Danish-Egyptian energy cooperation is led by the Danish Energy Agency and the Danish embassy in Cairo, in cooperation with the Danish TSO, Energinet, and The Egyptian Ministry of Electricity and Renewable Energy, Egyptian Electricity Holding Company, Egyptian Electricity Transmission Company, New and Renewable Energy Agency and Egyptian Energy Regulator.
- The cooperation puts forth relevant Danish experience for use in an Egyptian context, with a focus on supporting Egypt in reaching its targets for renewable energy and the UN's Sustainable Development Goals on energy and climate. Specifically, the cooperation focuses on long-term energy planning and greater flexibility in the electricity grid to ensure successful integration of more renewable energy.
- The three-year programme is financed by the Danish Ministry of Foreign Affairs under the Strategic Sector Cooperation (SSC), which started in September 2020.

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