

Ladies and Gentlemen

Good morning and Good afternoon.

On behalf of Ministry of Energy and Water Lebanon, allow me to extend a warm welcome to you.

And would like to thank the Organizers of this event to give me the opportunities to talk about the Challenges and Opportunities of the Lebanese Power Sector.

1- Brief Introduction

Lebanon has an installed power generation of around 2500 MW of thermal power plants and 280 MW of Hydro plants. Most of the generation parc aged for more than 25 years except for 280MW of Reciprocating engines commissioned in 2017.

Most of the power plants are located on the coastal side where are located as well the main cities including the capital Beirut and subsequently the load centers.

The Transmission sector has three main High Voltage levels: 66 kV, 150 kV and 220 kV. A 400 kV Overhead transmission line is connecting the Lebanese power sector to Syria through a 400/220 300 MVA Substation located in Ksara, Beqaa area, east of Lebanon.

The distribution activities are managed by Distribution Service Providers (DSP) working under contracts with the Public Utility Establishment Electricite du Liban (EDL). EDL has currently 1.3 million subscribers.

2- Renewable Energy Plan.

On April 2019, the Government of Lebanon has approved a policy plan for the power sector including 30% of generation to be from renewable sources. The potential of renewable energy is mainly Hydro, Solar and Wind. Recent studies have proved that the potential of Solar and Wind energies combined would reach beyond 12000 MW of installed capacity, mainly concentrated in East areas and on top of Mountains of both west and east mountain chains.

Further studies should be commissioned in order to evaluate the least cost generation plan of these resources as well their social and environmental impacts, considering that Lebanon has large and rich bio-diverse environment.

We believe that the opportunities for large scale solar and wind projects are real and would introduce a major change for energy mix in 2030 and a dominant percentage for 2050.

3- Transmission Sector challenges.

The Master Plan for transmission has been approved on September 2017. This plan details the major investments including a progressive replacement of the 66 kV and 150 kV networks within the major coastal cities using underground 220 kV cables and 220 kV/Medium Voltages Substations, and Enhancement of the 66kV and 220 kV Overhead networks in regional areas.

In view of the progress being observed in studies for potential renewable energies, The Ministry in cooperation with the World Bank is reviewing a mix-energy Master Least cost generation Plan that reconsiders the transmission plans for regional areas and the allocation of the coastal power plants.

Though Lebanon have had a historic interconnection and electricity exchange with Syria, ranging from 66kV, 220 kV and 400 kV, the latest years the two countries had not exchanged power due to current situation in Syria.

The Master Plan for transmission has not gone into details for updating and developing further the power exchange with Syria and through it with the other countries. However, many ideas are still fresh and continuously being discussed on technical level.

Another challenge is the National Control Center. The NCC is located inside the Head office of EDL. This HO has been severely damaged during the last Blast of Beirut port on August 2020. The NCC is currently out of service.

Before the blast, The Ministry and EDL, in coordination with the World bank, were discussing the upgrade of the NCC to accommodate the new investments of the transmission plan, or a complete new NCC to accommodate as well the potential resources of the renewable energies, mentioned above.

We believe, today, we need to have a complete modern NCC, that deals with more complicated distributed generation including renewables and smarter grids and being integrated with regional control centers to be created within the area.

The Ministry of Energy and Water as well would like to remind that the exchange agreement with Syria, Jordan and Egypt had observed a regional control center to be located at Beirut.

4- Opportunities on regional Level.

The interconnection with the Arab countries (mainly Jordan and Egypt) took place through Syria on the 400-kV level in Ksara Substation located in middle on Bekaa Valley.

The recent studies show that most of the renewable energy potential is located within the east side of Lebanon all along and within 30 km from the Syrian borders.

In 2011, we have discussed the idea of creating a second-high voltage corridor in Bekaa valley, parallel to Syrian borders where Lebanon would have two connecting points with Syria, one in Ksara and another one at the Bekaa North. I believe this idea should be re-discussed and challenged whereby, this corridor would serve not only to stabilize the interconnection with the Arab countries, yet as well to connect the renewable resources potential existing on its way.

Again, I would like to thank the Organizers for this opportunity.