The International Energy Agency (IEA)'s Electricity Market Report July 2021 and What it Means for Nigeria

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The IEA released its second Electricity Market Report (the "Report") in month of July, 2021, as a sequel to its first report published in December 2020, in the midst of the Covid-19 pandemic. This second edition was published at a time when a lot of countries are already easing the restrictions occasioned by the Covid-19 pandemic. The Report notes that 'despite record additions of renewable generation capacity, fossil fuel-based generation and associated emissions are rising along with electricity demand'.

Off-grid distributed renewable generation capacity is increasing in Africa, more so, in Nigeria. Yet, like the IEA's Report noted there appears to be increasing use of fossil fuel generation in Nigeria. The 'culprit' fossil fuel though, is, this time the 'cleaner' natural gas. The Report makes some predictions and this piece analysis what these predictions mean to Nigeria, as a country.

The Findings and Predictions of the IEA-in Summary

The first prediction by the IEA is that there will be, to use electricity lingua, a surge in electricity demand around the world by around nine per cent (9%) from 2021 to 2022, particularly in emerging and developing economies. It is expected that China will off-take almost half of that increase. After increasing by seven per cent (7%) in the year 2020, renewable energy generation capacity will continue to grow and is expected to grow by more than fourteen per cent (14%) in the years 2021 and 2022. In spite of the fact that renewable generation capacity is increasing, renewables are expected to only serve around half of the projected growth in global demand in the years 2021 and 2021 and fossil-fuel based generation and associated emissions will continue to rise alongside electricity demand which is projected to grow by five per cent (5%) in 2021 and by four per cent (4%) in the year 2022.

Fossil fuel-based electricity is set to cover forty-five per cent (45%) of additional demand in the year 2021 and forty per cent (40%) in year 2022. Coal-fired electricity and gas-fired generation are set to witness increases in the year 2021 and the year 2022. Gas-fired generation is expected to increase by one per cent (1%) in the year 2021 and by close to two per cent (2%) in the year 2022. Significantly coal-fired generation is expected to increase by almost five per cent (5%) in the year 2021 and grow by a further three per cent (3%) in the year 2022. What this means then, is that gas-fired generation growth will lag behind, wait for it, coal-fired generation (dirty coal!) as gas-fired electricity generation will play a smaller role in the fast growing Asia Pacific region, and as it faces increasing competition from renewables in the United States and Europe.

Carbon emissions from electricity are projected to increase by three point five per cent (3.5%) in the year 2021 and two point five per cent (2.5%) in the year 2022 respectively. According to the IEA, to reach the net-zero climate goal, nearly three-quarters (i.e. 75%) of the emissions reductions (around 27%) between the years 2020 and 2025 are to take place in the power sector. Thus, in the IEA's view, coal-fired generation must necessarily reduce with gas-fired generation, partially replacing same. The IEA, thus, suggests that there is the need for an increase in the role of gas to reach climate goals. It then advocates stronger policy actions towards reaching the desired climate goals.

The IEA also notes that, although, wholesale electricity prices have recovered and increased by around twenty-one per cent (21%) compared to the first half of the year 2020. Recent extreme weather events like the Texas power crisis in February have threatened security of supply.

Finally, the IEA finds that variable renewables are having quite a significant impact on the operation and design of electricity systems, making it critical, for electricity systems to become more flexible to complement generation from variable renewables like wind and solar PVs.

What do IEA's Findings and Predictions Mean to Nigeria?

As noted by the IEA, to reach the net-zero climate goal, nearly 75% of the emissions reductions from the years 2020 and 2025 are to take place in the electric power sector. Considering that, in the IEA's view, gas-fired generation must necessarily partially replace coal-fired generation to reach climate goals; there is a huge gas-centric benefit for Nigeria. This is so, because Nigeria has huge gas reserves at around 203 TCF of proven gas reserves and much of Nigeria's generation (at around 80%) is gas-fired. If the inefficiency in the distribution segment are improved upon and distributed generation via natural gas is further encouraged, we can derive more benefit from our gas wealth.

We can begin to even fill the gap to be created by the proposed reduction of coal-generation for many Asian countries looking to soon, substantially, replace coal with natural gas for electric power generation and beyond. With projects such as the the Nigeria Liquefied Natural Gas (NLNG) Train 7, Oben 3, the Ajaokuta Kaduna Kano Gas Pipeline project, the Assa North/Ohaji South (ANOH) project and much more, then Nigeria may be in for more gas business and development.

With electricity demand growing generally more than 2.5 times (according to the IEA), there is no better time for Nigeria to work aggressively towards solving the problems bedeviling the electricity 'downstream' segment and to then be able to concentrate on generating additional revenues in foreign currency via the export of electricity generated benefitting from a comparative gas advantage. It is the case that, a number of power companies, working with the federal government of Nigeria are, indeed, already exporting electricity outside Nigeria. With the proposal to have gas play a more central role as the replacement for coal-fired generation, there should be the opportunity to sell more power offshore Nigeria.

There has been a long-term interest in piped gas in the West African (via the West African Gas Pipeline, in particular) sub-region and with the need to have gas play a more central role together with what is being achieved via the NLNG especially with its train 7, Nigeria can begin to sell more gas in the Sub-Saharan and West African regions. That said, one action that is required, however, is the substantial reduction of the frequent interruptions along the West African Gas Pipeline network.

Nigeria is developing programs to utilize what would otherwise have been gas emissions and amongst such programs are the gas flare commercialization program. As long as successive governments continue to implement these programs, a lot of progress could be made to have gas available for electricity generation.

The Report acknowledges the role renewable energy is playing and will continue to play across Africa, as far as electricity generation is concerned. With Nigeria's solar, wind and other renewable energy potentials, there are abundant opportunities to improve on the generation capacity especially using distributed generation options.

Conclusion

As far as issues such as decarbonization are concerned, many developing and less developed countries which are rich in fossil fuels, especially natural gas, should continue to develop efficiently, their gas resources and consider gas as their own transition fuel. They should take steps in reducing emissions; however, in a manner and at a pace that takes each country's own peculiar municipal or local circumstances, into consideration. Such circumstances include each country's energy needs and use, together with the state of its economy and type of economic growth it requires, without forgetting what is most advantageous for such a country to power its economic growth.

Finally, Nigeria should exploit its comparative advantage with respect to its gas resources whilst also growing its renewables potentials considering that the country does have a lot of renewable resources for its future. Further, the country should save aggressively, whilst also investing its current income from hydrocarbons, generally; as many countries are working hard to reduce the relevance of fossil fuels. Whilst the writer believes this is unlikely to be the case anytime soon, he acknowledges that it is always smart, to err on the side of caution.

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