

Addressing energy crisis

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Energy crisis, in terms of scarcity of resources and newer sources of renewable energy, is one of the biggest crises in the contemporary world. With the continuous race persistent in the economic and industrial domain, natural energy sources are diminishing at an alarming rate. Against this backdrop, the Russia-Ukraine conflict has transformed the priorities of the global energy system. The global energy order has been defined in terms of the agenda of reducing carbon emissions for the last two decades.

While issues regarding climate change negotiations are still headlines in this arena, energy security has joined it as one of the top concerns for the states across the globe. And the countries have already started looking inwards and assessing their domestic needs and capabilities. Therefore, this trend will exist even as the states continue to work toward achieving net zero emissions. However, the level of prominence might not be forecast now, but the shift in energy order is visible. One of the noteworthy predictions is that the countries will be divided into energy blocs in alignment with the geopolitical alliances. Consequently, economic nationalism and de-globalisation trends

will surface in the energy market. As a derivative of this trend, governmental intervention in energy policy and the market will increase more.

Energy security is one of the main elements in formulating any energy policy. However, the term has not been clearly defined, which makes it hard to measure and difficult to balance against other policy objectives. Energy security studies have extended from their classic beginnings after the 1970s oil crises to include various energy sectors and progressively varied issues. Energy security is an instance of security in general, and thus any concept of it should address three questions: security for whom, security for which values, and security for what threats.

In energy security studies, another influential approach is the "four A's of energy security": Availability, Accessibility, Affordability, and Acceptability. In the context of the Russia-Ukraine conflict, three of the four A's have been highly politicized. The political rhetoric surrounding the availability, accessibility, and acceptability of Russian Energy sources has been defining the ongoing energy crisis. To some extent, the cheaper prices of these sources are also shaping the debates on this issue. Therefore, the conflict has added different dimensions to the traditional energy security challenges: increasing consumption and demands, diminishing supplies, and addressing environmental concerns.

Locked thousands of miles from the conflict, Bangladesh has also been caught in the middle of an energy crisis. The country's energy policy denotes a highly centralized one where the government primarily owns or supervises the production, storage, and distribution of energy resources. Therefore, any reshuffle in the energy sector comes from the top decision-making bodies of the government. Although the country has recently achieved the capability of providing one hundred of its population with electricity, the energy resources of electricity production must be diversified.

In the context of a global crisis, the domestic demand for oil and gas depends on the external situation. Therefore, the pricing in the domestic market often needs to be reshuffled, and thus, the natural course of production gets hampered. Bangladesh has a rapidly increasing power demand and aims to reduce its dependence on natural gas. Its development strategy sees the country becoming a developed nation by 2041.

A large part of that strategy is designed by emphasizing its science and technology sector to drive economic growth. The Ministry of Science and Technology estimated in 2014 that \$6.2 billion would be needed in the next decade to achieve the goals of Vision 2021. The Science and Technology Act 2010 is helping to boost this. The Ministry Of Science And Technology is now allocating over \$150 million per year to nuclear technology development as the country's gas reserves become depleted.

In addition to the mandate of increasing the domestic production of fossil fuels, Bangladesh also has an obligation to increase its dependency on renewable energy resources. As an affected country by climate change, Bangladesh has been championing the cause of vulnerable countries in global forums. Renewable energy has

become a popular option in developed and developing countries, a huge part of it being nuclear energy. Nuclear power plants (NPP) emit almost no greenhouse gases. The best way to strengthen a country's energy security is by increasing the diversity and resiliency of energy supply options, and NPP opens that option for them.

Nuclear electricity generating costs are much less sensitive to changes in fuel prices than fossil-fired electricity generating costs. In the past two decades, there have been significant developments in nuclear plant reliability and an increasingly improved safety record. It is not that nuclear power, by itself, is a universal remedy for global energy security. But suppose the plans and expressions of intent that many countries are working on come to execution. In that case, it can be safe to say that nuclear power will have an increasingly significant role in the global energy race.

This brings Bangladesh to take on Rooppur Nuclear Power Plant's (RNPP) project. It is undoubtedly the most ambitious and expensive project Bangladesh has undertaken. This project has multifaceted challenges like maintaining sustainable project finance, safety issues, corruption, plant maintenance, environmental hazards, etc. Although nuclear energy sources are lauded for their zero-carbon footprint, there are still risks of environmental damage that can stem from these plants.

However, suppose the project is completed successfully and maintained optimally. In that case, the energy sector of Bangladesh will indeed be uplifted and will be in a better position to tackle a global crisis. There will be challenges in every aspect of the energy sector, whether fossil fuels or renewable energy resources are used. The most important thing is to maintain the available resources optimally. Getting entrance to the elite club of nuclear power-producing countries, Bangladesh will also be entitled to a massive stack of responsibilities. Failing due to the slightest errors will have catastrophic fates for a densely-populated country like Bangladesh.

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