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June 16, 2026

ENERGY & POWER

Electric Shock

- Transition To Renewables Gets Attention In New Budget
- Why 'Good' Energy Transition Reforms Do Not Succeed
- Tariffs Rose, But Consumer Protection Came First

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About JERA

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- Upstream Investment **6 Projects**
- LNG Procurement from **15 Countries**
- LNG Fleet Carriers **22 carriers**

LNG Receiving & Storage Terminals

- LNG Tank Capacity in Japan **6.65 million kL**
- Equivalent to **Approx.30%** of LNG tank capacity in Japan
- LNG Receiving Terminals in Japan **11 terminals**

Domestic Power Generation

- Thermal Power Station **26 stations**
- Power Generation Capacity **Approx.61GW** Largest in Japan
- Power Generation Output **Approx. 235 TWh**
  Equivalent to approx. 33% of power generation in Japan

Overseas Power Generation

- Number of projects **In more than 10 Countries**
  Approx. 30 Projects
- Power Generation Capacity **Approx.13.7GW**
  (Output Corresponding to Equity)
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  (Included in the Power Generation Capacity)

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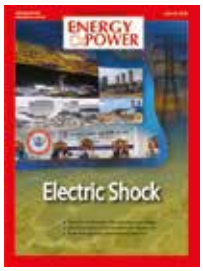

ENERGY & POWER

EDITORIAL

Bangladesh's latest electricity tariff increase is more than a routine adjustment of utility prices. It is a stark reminder of how vulnerable the country's energy sector has become to global markets, policy missteps, and years of inadequate planning. The official justification for the tariff hike is straightforward: electricity generation costs have risen sharply, driven by higher fuel prices, a weaker taka, and growing subsidy requirements. Yet the deeper question remains unanswered. Why should consumers bear the consequences of decisions over which they had no control? For more than a decade, Bangladesh expanded its power generation capacity at an unprecedented pace. While this helped eliminate widespread load-shedding, it also created a system with significant excess capacity and substantial fixed payments to power producers. Insufficient investment in domestic energy resources increased reliance on imported energy, exposing the sector to global price shocks and exchange-rate volatility. Costs rise, deficits widen, subsidies increase, and tariffs are eventually raised. Consumers and industries are then asked to absorb the burden. However, price increases alone cannot solve structural weaknesses. Without reducing inefficiencies, improving governance, and strengthening domestic energy security, higher tariffs will simply postpone the next crisis.

Bangladesh needs a long-term strategy that prioritizes exploration of domestic gas resources, prudent generation planning, greater transparency, and accountability across the energy sector. Consumers should contribute to a sustainable power system, but they should not be expected to pay indefinitely for avoidable mistakes. The real challenge is not merely generating electricity. It is generating it efficiently, affordably, and responsibly.

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highlights


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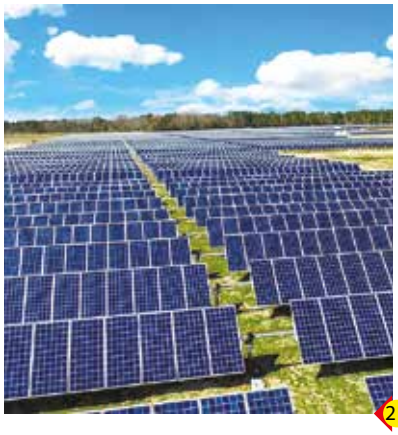
The allegation that the BERC does not place adequate importance on consumer interests is incorrect. Consumer welfare was given due consideration in the latest electricity tariff adjustment. That is why only a small portion of the gap between the BPDB's production cost and selling price has been adjusted ... Jalal Ahmed tells EP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Behavioural interventions can deliver significant impact at relatively low cost. One study in the United States found that sending households simple energy reports comparing their electricity use to that of their neighbours generated energy savings of 27.3 kWh for every dollar spent..... More in Analysis

COVER


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The debate surrounding the tariff hike shows a deeper challenge confronting Bangladesh's energy sector. Once largely self-sufficient in natural gas, the country now relies heavily on imported fuel, making electricity generation expensive. As the government seeks to balance affordability, the latest price increase has renewed questions about who should bear the burden of a power sector struggling with rising costs.

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Green page

Encouraged by the readers and patrons, the EP would continue bringing out Green Pages to contribute to the country's efforts in its journey towards climate-friendly energy.

Contents

Contents

ADES Jack-Up Rig Selected for Indonesia's Mako Gas Field Development

Conrad Asia Energy has secured an ADES jack-up rig for the development of the Mako gas field in Indonesia's Natuna Sea, with drilling operations scheduled to begin in the second quarter of 2027.

Through its subsidiary West Natuna Exploration, the company signed a binding agreement with PT Pertamina Drilling Services Indonesia and the PDSI–ADES consortium to deploy the Admarine 502 rig.

The contract covers the drilling of six development wells and the installation of conductor support infrastructure over a 180-day period, with options for extension.

Gas from the Mako field will be transported via a 59-kilometre pipeline to the KF platform in the neighbouring Kakap PSC before entering the West Natuna Transportation System (WNTS) pipeline for delivery to Indonesia's domestic market.

The Mako project, located in the Duyung Production Sharing Contract (PSC) area, was discovered in 2017 and reached a final investment decision (FID) in March 2026.

TGS Acquires Apparition Geoservices to Enhance Seismic Imaging Technology

Energy data company TGS has acquired Swiss-based Apparition Geoservices to strengthen its seismic survey capabilities and improve subsurface imaging for energy exploration projects.

The acquisition gives TGS exclusive access to Apparition's simultaneous source acquisition and separation technology. TGS plans to combine the technology with its Gemini Enhanced Frequency Source (EFS) system to boost operational efficiency, increase source capacity and deliver clearer subsurface images for clients.

According to the company, tests conducted over the past two years showed efficiency gains of up to 30%, alongside improved signal quality, stronger low-frequency performance and better visibility of deeper and more complex geological targets.

The technology will be integrated into TGS's ocean-bottom node (OBN), towed streamer and ultra-high-resolution 3D survey operations using its Ramform vessel fleet.

US Moves to Speed Up Home Energy Rebate Program

The Trump administration has issued new guidance to accelerate the rollout of the multi-billion-dollar Home Energy Rebates program, unlocking funding that had been paused during a review of Inflation Reduction Act initiatives.

The U.S. Department of Energy's updated rules aim to restart the distribution of state-level funds designed to support home energy efficiency upgrades, including insulation, heat pumps, and other energy-saving technologies that reduce household energy bills.

The revised guidance introduces changes such as tighter limits on fuel switching, simplified state planning requirements, and a return to the original program names: the HOMES rebate program, which rewards whole-home energy savings, and the HEEHR program, which provides rebates for specific efficient technologies, with eligibility capped at 150% of area median income.

Chevron Seeks $13.8b Investment Approval for Argentina Oil Project

US energy giant Chevron has submitted a proposal to join Argentina's Large Investment Incentive Regime (RIGI) for a $13.8 billion unconventional oil development at the El Trapial-Este block in the Vaca Muerta shale formation.

The project aims to increase production from around 7,000 barrels per day (b/d) to approximately 30,000 b/d, subject to government approval and the availability of infrastructure.

The application marks one of the largest single investment proposals under Argentina's RIGI program and Chevron's biggest planned investment in the country since it entered the market in 1999.

The filing does not represent a final investment decision and remains subject to regulatory approval.

Japanese Mitsui Explores Investment Opportunities in Bangladesh

A delegation from Mitsui & Co., one of Japan's leading trading and investment companies, met Prime Minister Tarique Rahman recently to discuss investment opportunities and business expansion in Bangladesh.

The meeting, held at the Prime Minister's Office, focused on potential investments in key sectors including food, agriculture, energy and information and communication technology (ICT).

Prime Minister Tarique Rahman reaffirmed the government's commitment to maintaining an investment-friendly environment and providing maximum support to foreign investors.

He also highlighted the introduction of a one-stop service system aimed at simplifying business procedures and accelerating project implementation.

Fire Breaks Out on Oil Tanker in Chattogram

A fire broke out on an oil tanker anchored at the outer anchorage of Chattogram on 28 May.

The fire reportedly started on the vessel named MT Meghna Trader.

After receiving the news, multiple units of the Bangladesh Coast Guard began operations to bring the blaze under control.

According to Coast Guard sources, the vessels Shyamol Bangla and BCGT Promotto joined the firefighting efforts. In addition, two firefighting teams equipped with high-speed boats from BCG Base Chattogram and BCG Outpost Patenga were deployed to the scene.

The Coast Guard Eastern Zone Media Control Room confirmed the incident.

However, the cause of the fire and the extent of the damage could not be immediately determined. Coast Guard personnel are continuing efforts to contain the blaze.

Fuel Prices Increased to Align with Global Market: State Minister

State Minister for Power, Energy and Mineral Resources Anindya Islam Amit has said that the government increased fuel prices to align domestic rates with the international market.

Speaking to reporters recently, the state minister said the government had no alternative but to take the unpopular decision.

He also noted that the fuel price adjustment would have no impact on the upcoming national budget.

Expressing optimism about the global energy situation, Amit said he hoped tensions and disruptions in the Middle East would be resolved soon. He added that fuel prices in Bangladesh would be reduced if global oil prices decline.

Govt Prioritizes Virtual Meetings to Save Fuel

The government has directed ministries, divisions and field administrations to prioritize virtual platforms for meetings, workshops and training programs to reduce fuel consumption amid global energy challenges.

A circular issued by the Cabinet Division said district-level officials should join divisional programs online, while upazila-level officials should participate virtually in district-level events. Physical meetings may be held when necessary, subject to proper justification.

The directive, which takes immediate effect, aims to conserve fuel, reduce travel costs and increase the use of digital technology in government operations. The latest circular replaces a previous instruction issued on April 22.

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Govt Approves Tk 17,033 Crore Fuel Oil Imports for June-August

The Cabinet Committee on Government Purchase (CCGP) has approved four proposals to import refined petroleum products worth approximately Tk 17,033.42 crore to meet the country's fuel demand during the June-August 2026 period.

The approvals were granted at a meeting chaired by Finance Minister Amir Khosru Mahmud Chowdhury, following proposals submitted by the Energy and Mineral Resources Division under international competitive tendering. The largest contract, valued at Tk 7,672.66 crore, was awarded to Unipec Singapore Pte Ltd for the supply of low-sulphur gas oil and Jet A-1 aviation fuel.

Another package for the import of gas oil and Jet A-1 fuel, worth Tk 6,711.75 crore, was awarded to Vitol Asia Pte Ltd, which emerged as the lowest responsive bidder.

The committee also approved the import of Furnace Oil 180 CST at a cost of Tk 1,900.05 crore, with Trafigura Pte Ltd selected as the supplier.

In addition, Vitol Asia Pte Ltd secured a contract worth Tk 748.96 crore to supply Gasoline 95 Unleaded.

Government Raises Octane, Petrol and Kerosene Prices by Tk 5.0 per Liter for June

The government has increased the retail prices of octane, petrol and kerosene by Tk 5.0 per liter for June, while keeping diesel prices unchanged.

According to a recent notification issued by the Energy and Mineral Resources Division, the revised fuel prices will take effect from June 1.

Under the new pricing structure, the price of octane has been raised to Tk145 per litre from Tk140, while petrol will now cost Tk140 per liter, up from Tk135. Kerosene prices have also been increased by Tk5 to Tk135 per liter. However, the price of diesel, the country's most widely used fuel, remains unchanged at Tk115 per liter.

The Energy Division said the latest adjustments were made in line with movements in the international petroleum market and changes in global fuel prices. The new fuel prices came into effect on June 1.

UAE Pledges Support for Bangladesh's Energy Sector

The United Arab Emirates (UAE) has assured Bangladesh of all possible cooperation in the energy sector.

The assurance was given recently by UAE Ambassador to Bangladesh Abdullah Ali AlHamoudi, during a meeting with Aninda Islam Amit, State Minister for Power, Energy and Mineral Resources.

During the meeting, both sides discussed a number of issues of mutual interest.

The state minister said the UAE has historically been one of Bangladesh's major and reliable sources of crude oil and petroleum product imports. He reiterated the importance of bringing these supplies under a "Bangladesh First" policy framework to help the country withstand global fuel price hikes and sudden market shocks.

The UAE ambassador reaffirmed his government's interest in the development and expansion of Bangladesh's power and energy sectors and assured all forms of cooperation.

BERC Cuts Jet Fuel Prices Again for Domestic and International Flights

The Bangladesh Energy Regulatory Commission (BERC) has reduced jet fuel prices once again, marking the second price cut within two weeks in line with international market trends.

Under the revised rates announced on Sunday, the price of jet fuel for domestic flights has been reduced by nearly Tk 15 per liter, from Tk 165.88 to Tk 150.21 per liter.

For international flights, the price has been lowered from US$1.08 to US$0.98 per liter, according to the BERC notification.

The new rates will come into effect from midnight and remain valid until further notice. This follows an earlier reduction announced on May 23, reflecting continued adjustments to global fuel price movements.

Electric Shock

Mollah Amzad Hossain
& Afroza Akther Pervin

The latest electricity tariff hike and the growing burden it places on consumers and businesses reflect deeper structural problems in the energy sector, including rising dependence on imported fuel, currency depreciation, excess generation capacity, and mounting subsidy requirements. While regulators argue that higher tariffs are necessary to reduce financial deficits, critics contend that consumers are paying for years of poor planning and inefficiency. The article explores the causes, consequences, and policy choices shaping Bangladesh's increasingly expensive power sector.

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Innovation

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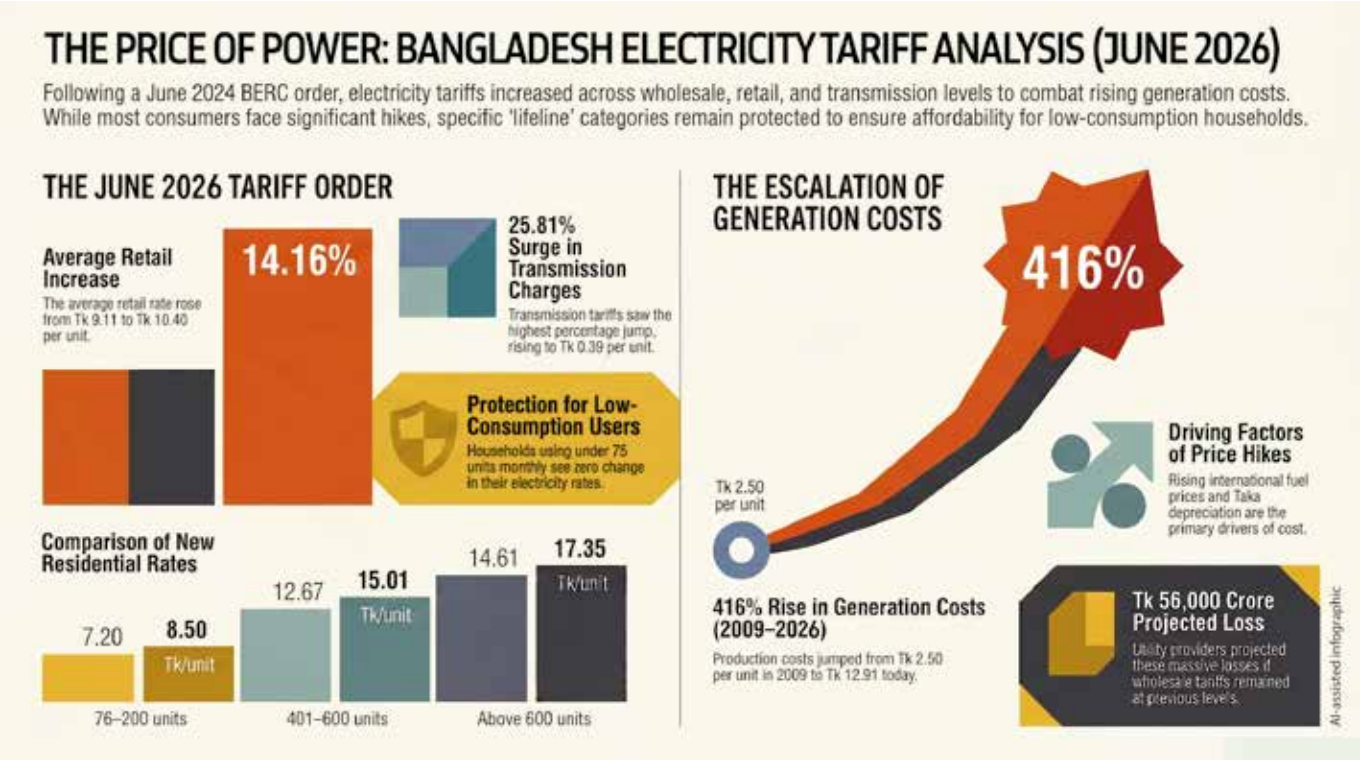


For millions of Bangladeshis, electricity is no longer merely a public utility – it has become a growing source of financial pressure. The latest increase in electricity tariffs, announced in June after a gap of more than two years, comes at a time when households and businesses are already grappling with persistent inflation, rising fuel costs, and broader economic uncertainty. While regulators argue that the adjustment is necessary to reduce mounting deficits in the power sector, critics contend that consumers are once again being asked to shoulder the costs of policy failures, inefficiencies, and an increasingly import-dependent energy system.

The debate surrounding the tariff hike reflects a deeper challenge confronting Bangladesh's energy sector. Once largely self-sufficient in natural gas, the country now relies heavily on imported fuel, making electricity generation costs vulnerable to global market volatility and exchange-rate fluctuations. As the government seeks to balance affordability, energy security, and fiscal sustainability, the latest price increase has renewed questions about who should bear the burden of a power sector struggling with rising costs.

Rising Fuel Prices and Electricity Tariff Adjustments

The price of cooking fuel is now adjusted every month in line with international market conditions, and fuel oil prices are also revised monthly. Recently, fuel prices were increased because of rising tensions in the Middle East following military actions involving the United States and Israel against Iran.

Although the Bangladesh Power Development Board (BPDB) and the Power Division had been advocating for electricity tariff adjustments, electricity prices were finally increased on June 3, after a gap of 28 months, at the wholesale, retail, and transmission levels.

Consumer Concerns over the Price Increase

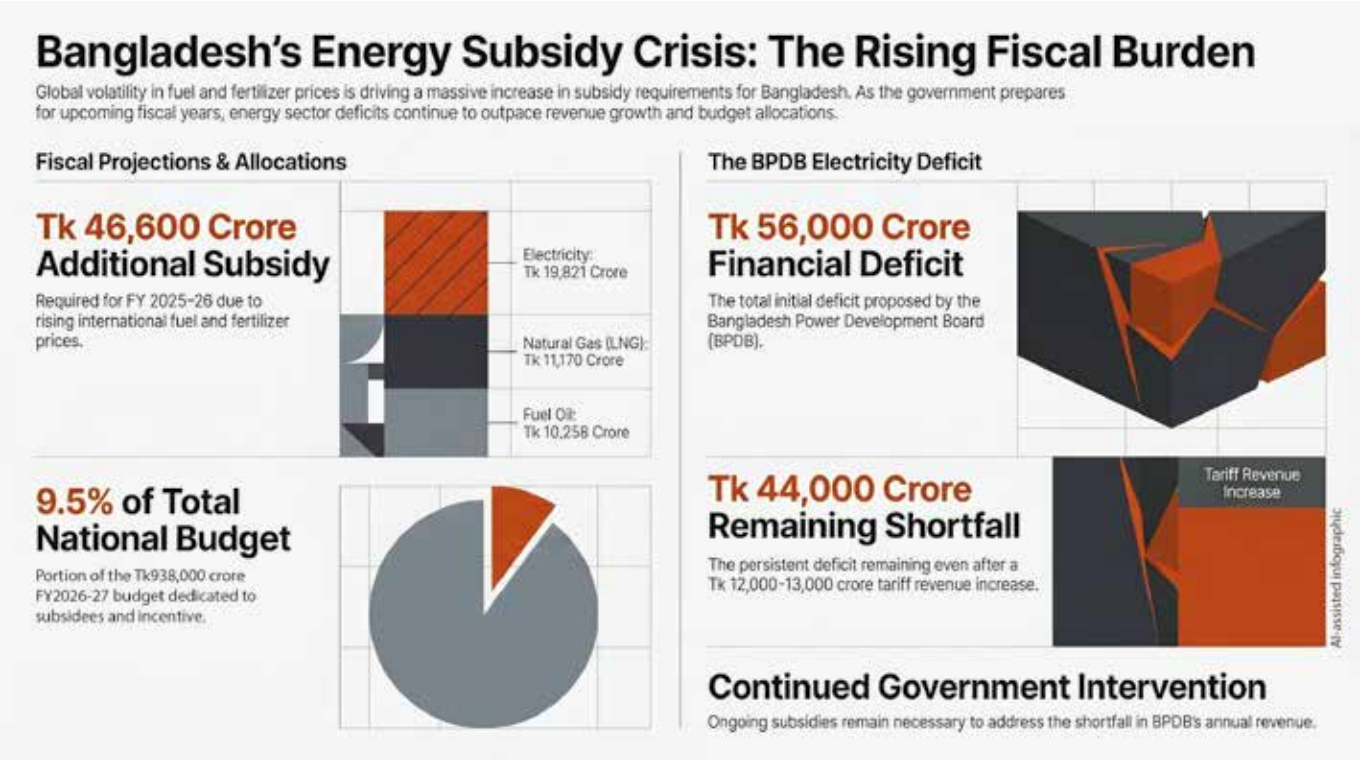
Consumer rights organizations, including the Consumers Association of Bangladesh (CAB), along with various business associations, have criticized the price increase. They argue that the increase is unjustified given the country's current economic situation, persistently high inflation, and the failure to provide reliable, quality energy and electricity services. Critics have accused the regulator of disregarding consumer interests and shifting the burden of inefficiencies in the power sector onto consumers.

However, the Bangladesh Energy Regulatory Commission (BERC) has rejected these allegations. According to the commission, the decision was made with consumer interests in mind and would address only a portion of the sector's financial deficit through higher tariffs. At the same time, BERC instructed institutions in the power sector to reduce electricity generation costs by tackling inefficiencies, excess generation capacity, and operational irregularities.

Commission Order on Electricity Tariff Increases

On June 3, 2026 BERC issued an order increasing electricity tariffs at the wholesale, retail, and transmission levels. The following day, on June 4, a revised order was issued to keep tariffs unchanged for two categories of consumers.

According to the commission's order, the average retail electricity tariff was increased from Tk 9.11 per unit to Tk 10.40 per unit, representing an increase of Tk 1.29 per unit, or 14.16 percent. The wholesale tariff was increased



from Tk 7.00 per unit to Tk 8.39 per unit, an increase of Tk 1.39 per unit, or 19.86 percent. Similarly, the transmission tariff was increased from Tk 0.31 per unit to Tk 0.39 per unit, representing an increase of Tk 0.08 per unit, or 25.81 percent.

Protection for Low-Consumption Consumers

At the retail level, tariffs remain unchanged for lifeline consumers, defined as households using up to 50 units of electricity per month, as well as for consumers using between 0 and 75 units per month.

The updated residential retail tariff structure is below:

Consumption Slab	Previous Rate (Tk/unit)	New Rate (Tk/unit)
Lifeline (up to 50 units)	4.63	4.63
0–75 units	5.26	5.26
76–200 units	7.20	8.50
201–300 units	7.59	9.10
301–400 units	8.02	9.62
401–600 units	12.67	15.01
Above 600 units	14.61	17.35

Separate tariff structures have been approved for medium- and high-voltage consumers.

Medium-Voltage Industrial and Commercial Consumers

For medium-voltage (11 kV) consumers with connected loads ranging from 50 kW to 5 MW, the flat tariff has been increased from Tk 10.55 to Tk 12.50 per unit. The off-peak tariff has risen from Tk 9.50 to Tk 11.25, while the peak-hour tariff has increased from Tk 13.29 to Tk 15.62 per unit.

Agricultural Irrigation

For low-voltage agricultural irrigation consumers, the tariff has been raised from Tk 5.25 to Tk 6.04 per unit.

For medium-voltage irrigation consumers (11 kV), the flat rate has increased from Tk 6.42 to Tk 7.38 per unit, the off-peak tariff from Tk 5.77 to Tk 6.64, and the peak tariff from Tk 8.06 to Tk 9.23 per unit.

Electric Vehicle and Battery Charging Tariffs

For low-voltage electric vehicle and battery charging stations, the flat tariff has been increased from Tk 9.59 to Tk 11.36 per unit. The off-peak rate has risen from Tk 8.63 to Tk 10.22, the super off-peak rate from Tk 7.71 to Tk 9.09, and the peak-hour tariff from Tk 12.14 to Tk 14.20 per unit.

For medium-voltage (11 kV) battery charging facilities, the flat tariff has been raised from Tk 9.62 to Tk 11.31 per unit, while the off-peak, super off-peak, and peak-hour rates have been set at Tk 10.18, Tk 9.05, and Tk 14.14 per unit, respectively.

Institutional and Other Consumers

The tariff for educational institutions, religious establishments, charitable organizations, and hospitals under the low-voltage category has been increased from Tk 7.55 to Tk 9.05 per unit.

Proposals for Higher Electricity Tariffs

Earlier, BPDB proposed increasing the wholesale electricity tariff by between Tk 1.20 per unit (17 percent) and Tk 1.50 per unit (21 percent). In its proposal, BPDB stated that the projected cost of electricity generation for fiscal year 2026–27 would be approximately Tk 143,108 crore. The average generation cost was estimated at around Tk 12.91 per unit.

The utility projected losses of around Tk 56,000 crore if the wholesale tariff remained unchanged.

Power Grid Bangladesh PLC, the country's sole electricity transmission company, also proposed increasing its wheeling charge from 30–31 paisa per unit to 48–49 paisa per unit. At the same time, all electricity distribution companies submitted applications seeking increases in retail tariffs.

BERC held public hearings on May 20 and 21 to discuss the proposed electricity price increases.

Previous Electricity Price Adjustments

The most recent electricity price increase before this took place on February 29, 2024, through an executive order, which raised retail electricity prices by 8.5 percent. At the same time, the wholesale tariff was increased by 5 percent, from Tk 6.70 per unit to Tk 7.04 per unit.

An analysis of BPDB data shows that the cost of electricity generation was Tk 2.50 per unit in 2009. Today, that figure has risen to Tk 12.91 per unit. If international fuel prices continue to rise and the Bangladeshi taka depreciates further against the US dollar, electricity generation costs may exceed Tk 13 per unit during fiscal year 2026–27.

In 2009, the wholesale selling price of electricity was Tk 2.37 per unit. Following the latest increase on June 3, it has risen to Tk 8.39 per unit. At the consumer level, the average retail selling price was Tk 3.73 per unit in 2009; it has now increased to Tk 10.40 per unit.

Middle East Conflict, Rising Energy Prices, and Higher Subsidy Requirements

After the beginning of the budget session, Finance and Planning Minister Amir Khasru Mahmud Chowdhury informed Parliament that the government would need to provide an additional Tk 46,600 crore in subsidies during fiscal year 2025–26 because of rising international prices for fuel and fertilizer.

Of this amount, Tk 19,821 crore would be allocated to the electricity sector, Tk 11,170 crore to the natural gas (LNG) sector, and Tk 10,258 crore to fuel oil.

Meanwhile, in the proposed budget for fiscal year 2026–27, 9.5 percent of the total Tk 938,000 crore budget has been allocated for subsidies and incentives. A significant portion of this allocation will be directed toward electricity, LNG, and fuel oil.

According to BERC sources, BPDB proposed increasing wholesale electricity tariffs due to a financial deficit of Tk 56,000 crore. Based on BERC's approved tariff increase, BPDB's annual revenue is expected to rise by Tk 12,000–13,000 crore. However, the organization will still face a deficit of Tk 41,000–44,000 crore, meaning the government will need to continue providing subsidies to address the shortfall.

Reactions to the Electricity Price Increase

The increase in energy prices has intensified inflationary pressures across the country. Following the latest rise in electricity tariffs, the cost of living for ordinary households is expected to become even more difficult to manage, according to economist Fahmida Khatun.

The Consumers Association of Bangladesh (CAB) also criticized the decision. Its President, AHM Shofiquzzaman, said that much of the deficit could have been reduced through improved management and by eliminating corruption and irregularities, rather than increasing electricity prices. He argued that the commission's decision was unacceptable despite these concerns being raised during the public hearings.

Professor M. Tamim believes that higher energy and electricity prices will undoubtedly have negative impacts on both ordinary consumers and industries. He stated that electricity generation costs have reached their current level because power plants were built without ensuring fuel supplies, excessive generating capacity was installed beyond actual demand, unnecessary capacity payments were made, and the taka depreciated against the US dollar. Therefore, he argued that consumers should not bear the entire burden. Instead, efforts should be made to reduce generation costs while maintaining government support where necessary.

Various chambers of commerce, including the Bangladesh Garment Manufacturers and Exporters Association, the Bangladesh Textile Mills Association, and the Bangladesh Knitwear Manufacturers and Exporters Association, have also described the electricity price increase as unreasonable and called for a reduction in tariffs. They warned that otherwise Bangladesh's export-oriented industries would lose international competitiveness while domestic prices would rise further.

Economist Masrur Riaz stated that higher energy and electricity prices would undoubtedly fuel inflation. However, he noted that the government cannot indefinitely address deficits through subsidies. Therefore, Bangladesh should prioritize extracting and utilizing its own natural resources, particularly gas and coal, to reduce electricity production costs.

Professor Ijaz Hossain observed that an electricity generation cost of 10 US cents per unit is acceptable by global standards. However, due to the depreciation of the Bangladeshi taka against the US dollar, this cost has become excessively high for Bangladesh. Therefore, he argued that the entire burden should not be transferred to consumers.

Shafiqul Alam said that electricity generation costs have risen significantly because power plants were established without proper planning and because fuel supplies were not adequately secured. The sharp increase in dependence on imported energy and electricity has further increased production costs. Although measures should be taken to reduce costs, he cautioned that doing so would not be easy.

Former BERC member Mizanur Rahman believes that there is still an opportunity to reduce electricity generation costs by adopting the appropriate fuel mix. He noted that the lowest-cost electricity is generated using domestically produced natural gas, but supply shortages remain a major obstacle. Although electricity

generated from imported LNG is cheaper than furnace oil-based generation, it is still more expensive than coal. Therefore, he emphasized the need to ensure adequate financing for continued coal imports so that Bangladesh's coal-fired power plants can operate at an 80 percent plant load factor.

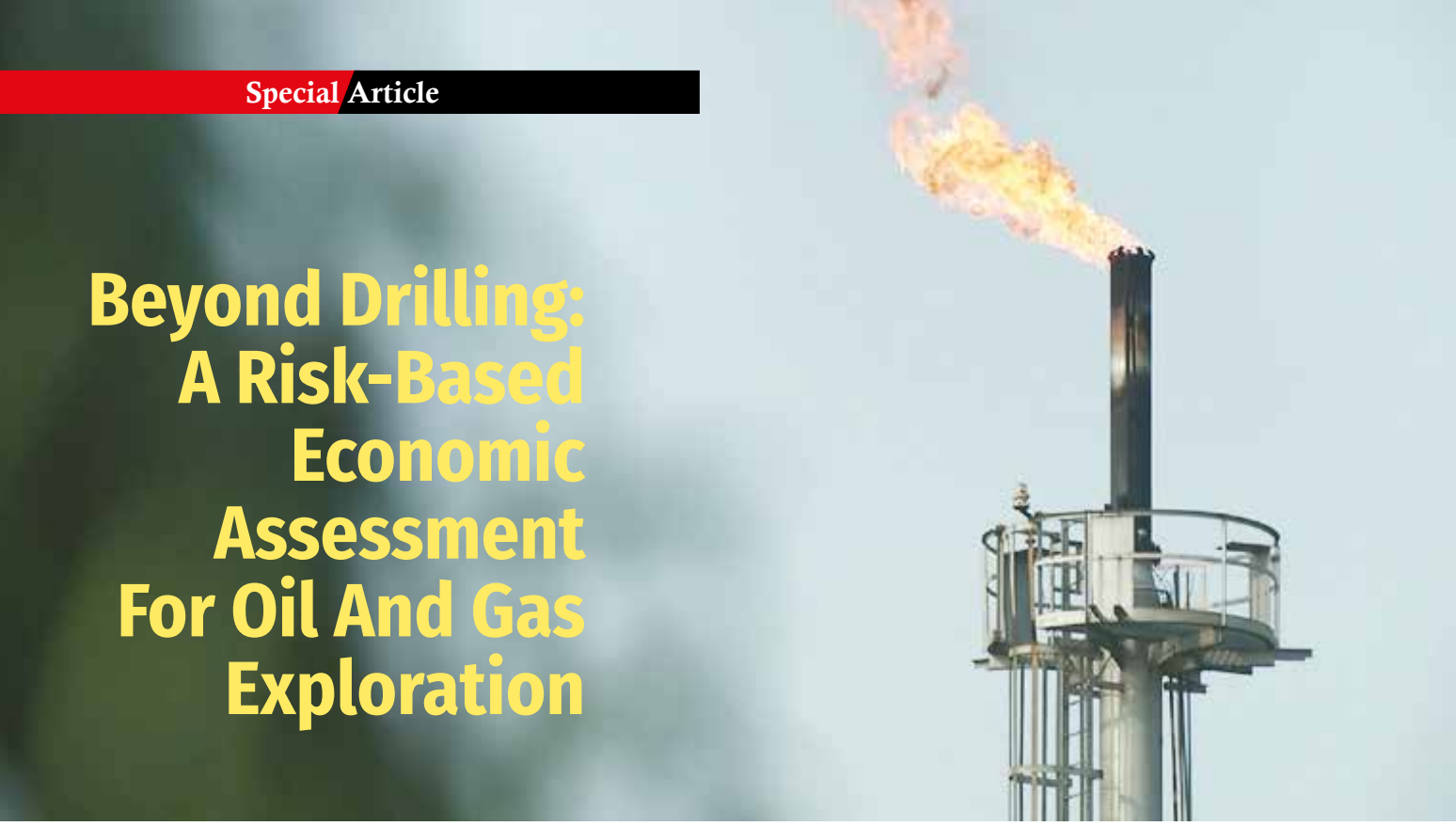
Conclusion

The latest electricity tariff increase is not simply a pricing decision; it is a reflection of deeper structural weaknesses within Bangladesh's energy sector. Despite having more than 33,000 MW of installed generation capacity, the country's highest recorded output remains only around 17,200 MW, highlighting the extent of excess capacity that consumers are helping to finance through electricity bills.

Industry experts estimate that around 60 percent of generation costs are linked to fuel and operations, while the remaining 40 percent consists of fixed costs embedded in power purchase agreements. In its tariff proposal to BERC, BPDB argued that nearly Tk 5.0 of the average per-unit generation cost is attributable to capacity payments. Yet many analysts contend that the larger problem is not the existence of capacity charges themselves, but years of investment decisions that created more generating capacity than the system actually required.

Bangladesh's growing dependence on imported energy – now accounting for roughly 65 percent of overall energy and electricity supply – combined with a more than 40 percent depreciation of the taka against the US dollar over the past five years, has sharply increased electricity production costs. At the same time, allegations of inefficiency, weak planning, corruption, and governance failures have compounded the sector's financial difficulties.

As a result, future tariff increases alone cannot provide a sustainable solution. Bangladesh will need a broader strategy that combines greater development of domestic gas and coal resources, more prudent investment planning, reduced reliance on costly imported fuels, and stronger oversight of sector institutions. Without such reforms, consumers are likely to face recurring price hikes while the underlying causes of rising electricity costs remain unresolved. The challenge for policymakers is therefore not merely to balance the books of the power sector, but to restore affordability, efficiency, and public confidence in a system that has become increasingly expensive to sustain. EP



Beyond Drilling: A Risk-Based Economic Assessment For Oil And Gas Exploration

Hoshne Ara Banu

This is one of the most important early stages of the drilling process. Reservoir engineers then estimate production potential and possible hydrocarbon recovery.

Hydrocarbon reserves cannot be increased without drilling. Exploration drilling, one of the most expensive and high-risk activities in the petroleum industry, is considered the central part of oil and gas exploration. In reality, drilling is only the final step in a much broader decision-making process. Before a well is drilled, extensive geological, geophysical, engineering, and economic studies must be carried out.

The exploration process usually begins with geoscientists, who identify potential hydrocarbon-bearing structures and evaluate geological uncertainties. This is one of the most important early stages of the drilling process. Reservoir engineers then estimate production potential and possible hydrocarbon recovery. Drilling engineers assess well design, operational feasibility, and technical risks, while petroleum engineers/ economists evaluate project profitability, investment risk, and long-term economic viability.

A drilling decision should therefore be based on integrated technical and economic analysis rather than on a single seismic anomaly or structural feature. It must answer several important questions before drilling:

1. How possible is it that the geological structure can effectively trap and seal hydrocarbons?
2. How likely is the reservoir to have sufficient porosity and permeability for hydrocarbon storage and flow?
3. How effective is the seal in preventing hydrocarbon leakage?
4. Are hydrocarbons likely to have migrated into the trap?
5. What is the geological probability of success?
6. Is the project economically feasible?
7. Are there alternative prospects with better investment potential? etc.

Modern seismic technology and risk-analysis tools help exploration teams make better and more transparent drilling decisions. These methods allow experts to compare different possibilities, understand uncertainties, and estimate both technical and financial risks. Instead of relying on

assumptions alone, companies can use data-driven analysis to identify the most promising prospects, reduce the chance of costly dry wells, and improve overall exploration planning and management decisions for economic growth.

Importance of Data Analysis

During the early period of petroleum exploration, geoscientists relied on basic seismic interpretation and visible "bright spots" to identify possible hydrocarbons. Due to limited computing and seismic technology, advanced seismic attribute analysis was uncommon. Modern oil and gas exploration now uses advanced computer analysis and seismic evaluation methods to better understand underground conditions, which improves the chances of successful drilling.

Different seismic attributes, which are measurable indicators extracted from seismic data, and Direct Hydrocarbon Indicators (DHIs) are widely used in modern petroleum exploration to identify possible oil and gas accumulations, reservoir quality, and fault systems. However, no single seismic indicator can provide a completely reliable interpretation. Therefore, multiple seismic attributes, DHI responses, and geological models should be carefully integrated and cross-checked before making drilling decisions.

Chance of Success (COS) Evaluation

After identifying the potential presence of hydrocarbons within a geological formation, the next step in petroleum exploration is to evaluate the associated geological risks and uncertainties. Geological Chance of Success (COS) is a fundamental tool used in the risk assessment process to estimate the probability of discovering commercially recoverable hydrocarbons within a prospect.

As illustrated in Figure 1, successful hydrocarbon accumulation depends on the simultaneous occurrence of several independent geological elements within a petroleum system. Failure of any critical element may significantly reduce the probability of exploration success.

The major geological factors considered in COS evaluation include:

- **Source Rock:** Presence of mature source rock capable of generating hydrocarbons (oil and/or gas).
- **Reservoir:** Presence of porous and permeable rock with sufficient storage capacity and fluid transmissibility.
- **Seal and Trap:** Presence of an effective cap rock and structural or stratigraphic trap capable of preventing hydrocarbon leakage.
- **Migration and Timing:** Successful migration of hydrocarbons from the source rock into the reservoir trap at the appropriate geological time.

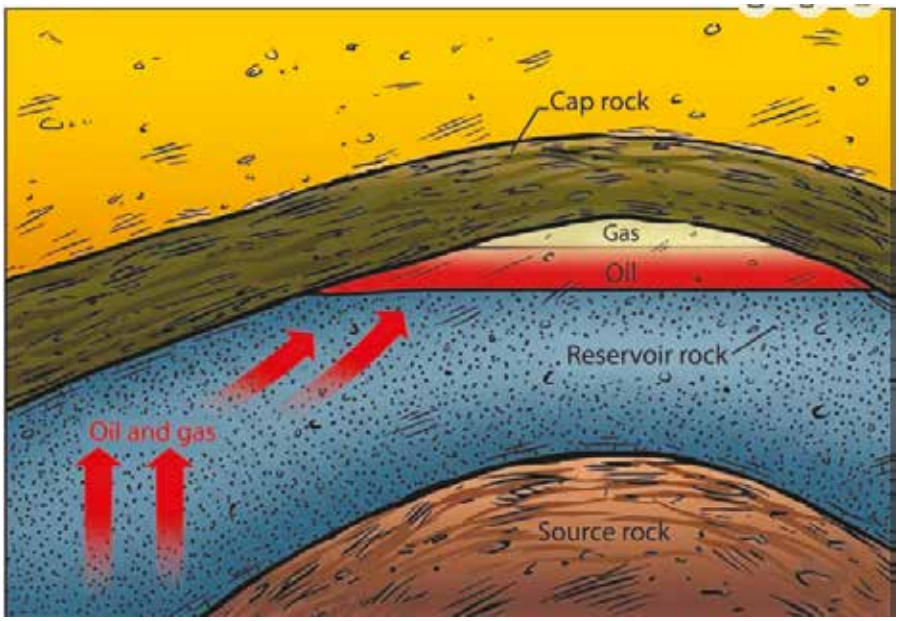


Figure 1. Simplified geological model illustrating hydrocarbon generation, migration, trapping, reservoir accumulation, and seal configuration within a petroleum system.

The overall COS is commonly estimated by multiplying the probabilities of these independent geological factors:

COS = Psource×Pmigration×Preservoir ×Ptrap×Pseal×Ptiming

For example, if the probabilities of source rock presence, hydrocarbon migration, reservoir quality, trap integrity, seal effectiveness, and timing are estimated as 60%, 65%, 90%, 80%, 85%, and 75%, respectively, the resulting overall COS is approximately 18%. In simple terms, the overall chance of success depends on several uncertain geological factors working together. If any one of these critical factors fails or is absent, the exploration well may ultimately fail.

A study conducted by ExxonMobil and published in Benchmarking Exploration Predictions and Performance Using 20+ Years of Drilling Results: One Company's Experience by Rudolph and Goulding (2017) reported that prospects supported by advanced analytical techniques achieved significantly higher exploration success rates compared to those evaluated without advanced analysis support. The study further indicated that the average exploration drilling Success for these prospects exceeded 72%.

The research also demonstrated that approximately half of exploration failures were associated with trap- and seal-related issues, indicating that these geological uncertainties are among the major contributors to dry-hole risk. In addition, 27% of failure cases were attributed to the absence of effective source rocks or unsuccessful hydrocarbon migration, while nearly 22% of failures occurred due to inadequate reservoir quality, where the rock lacked sufficient porosity to store hydrocarbons effectively.

Improved uncertainty analysis can reduce the chance of costly dry holes and save millions of dollars in exploration expenses. The Chance of Success (COS) evaluation should

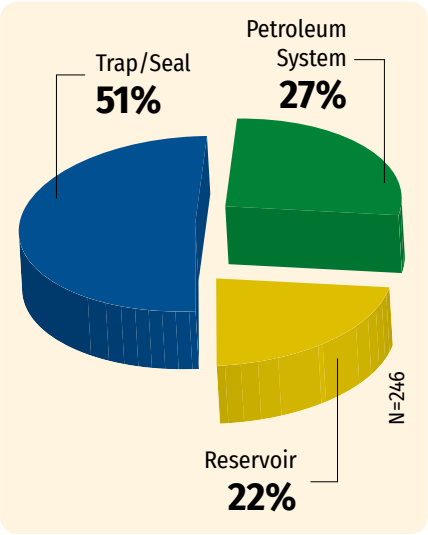


Figure 2. Major Causes of Exploration Failure in Hydrocarbon Exploration (ExxonMobil, N = 246)

follow a structured and evidence-based approach using standard checklists to ensure that all the key geological factors are assessed. Input from multidisciplinary experts and independent peer reviews is essential for improving reliability and supporting better exploration decisions.

Uncertainty in Reserve Evaluation

While the Chance of Success (COS) indicates the probability of hydrocarbon presence, it does not determine the quantity of recoverable oil or gas. Therefore, before drilling an exploration well, petroleum companies undertake estimating the potential volume of hydrocarbons that may be present in the subsurface. These estimates are derived from seismic surveys, geological interpretations, petrophysical analysis, and data obtained from nearby wells. However, the exact quantity of hydrocarbons cannot be determined before drilling because many subsurface conditions remain uncertain.

Important reservoir properties such as reservoir thickness, porosity, hydrocarbon saturation, and reservoir size are usually estimated within a range of possible values rather than as fixed numbers. This helps account for geological uncertainty in reserve estimation. For example, if reservoir thickness is estimated to vary between 15 and 20 meters, the estimated reserves will also vary within a range. Since several uncertain factors influence reserve estimation at the same time, single-value calculations may produce unreliable results.

To better quantify uncertainty, petroleum companies commonly use a probabilistic technique using Monte Carlo simulation. This method generates thousands of possible reserve scenarios by combining different values of reservoir parameters within their uncertainty ranges. The simulation results are typically presented as probability distribution curves and histograms.

These simulations help technical and management teams evaluate:

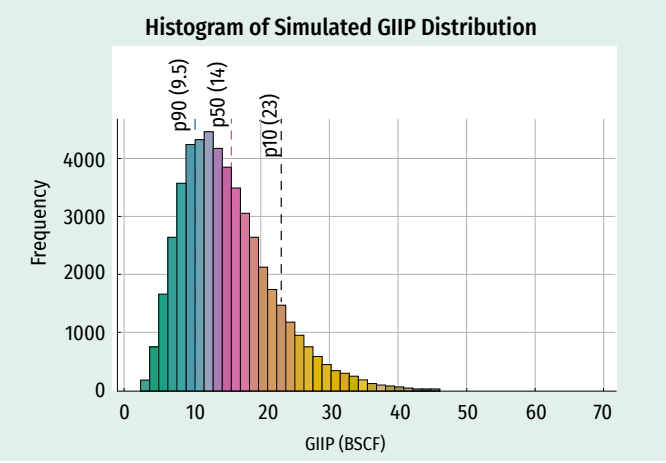
- The most likely reserve size,
- The possible minimum and maximum reserve volumes,
- The level of technical and financial risk, and
- The probability of commercial success.

In Figure 3, the simulation results demonstrate that the estimated gas reserve may vary over a wide range of possible outcomes. The graph also highlights important probabilistic reserve estimates, including:

- **P10** — Optimistic estimate, indicating a 10% probability that the actual reserve will exceed this value,
- **P50** — Most likely or median estimate, and
- **P90** - Conservative estimate, indicating a 90% probability that the actual reserve will exceed this value.

As Figure 3 shows, the histogram and cumulative probability curve provide a clear visualization of uncertainty, enabling decision-makers to evaluate exploration risk more effectively and make more informed investment decisions. When multiple exploration prospects are available for investment consideration, uncertainty analysis helps decision-makers to:

- Understand both upside potential and downside risk,
- Compare multiple drilling opportunities,
- Prioritize exploration and investment decisions,
- Allocate exploration budgets more efficiently, and
- Improve overall exploration planning and risk management.



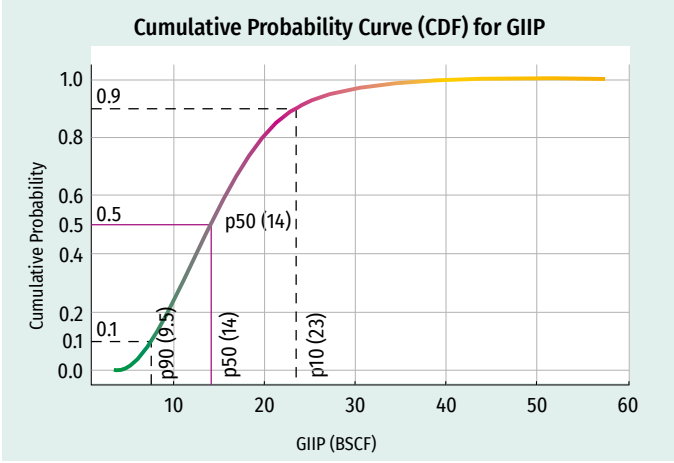


Figure 3. Example of Monte Carlo simulation output for hydrocarbon reserve estimation.

Commercial Success Evaluation

Geological success does not necessarily guarantee commercial success. Even if hydrocarbons are discovered, the project

may still be economically unviable. Therefore, economic evaluation is one of the most important stages in determining the commercial feasibility of an exploration project before drilling. Economic feasibility studies commonly include:

- Net Present Value (NPV),
- Internal Rate of Return (IRR),
- Payback Period,
- Break-even Analysis (the point where profit equals cost),
- Sensitivity Analysis, and
- Risk-adjusted Valuation (Expected Monetary Value (EMV)).

Among these, Net Present Value (NPV) is one of the most widely used economic indicators, calculated based on estimated recoverable hydrocarbon reserves, projected production profiles over the life of the field, development and operational costs, and forecasted oil or gas prices.

Accurate estimation of recoverable reserves and production performance is critically important for reliable NPV calculation. Therefore, reserve estimation and production forecasting should be carried out by petroleum engineers using the geological, geophysical, petrophysical, and reservoir engineering data.

Petroleum economists and financial analysts are also involved in the evaluation process. They assess the economic indicators, market conditions, project uncertainties, and overall financial risks of the exploration project.

Risk Reduction through Integrated Analysis

Exploration risk can never be eliminated because subsurface geology always contains unknown factors. Therefore, the primary objective of exploration analysis is not to remove risk entirely, but to minimize it as much as possible before drilling.

Figure 4 illustrates how exploration risk gradually decreases as additional geological, geophysical, and engineering information becomes available during the exploration process. Initial stages, such as regional geological studies and 2D seismic interpretation, contain high uncertainty. As more advanced techniques, including 3D seismic analysis, integrated subsurface studies, reservoir modeling, and economic evaluation, are applied, uncertainty is progressively reduced. However, the figure also demonstrates that exploration risk can never be eliminated, and some level of uncertainty always remains before drilling.

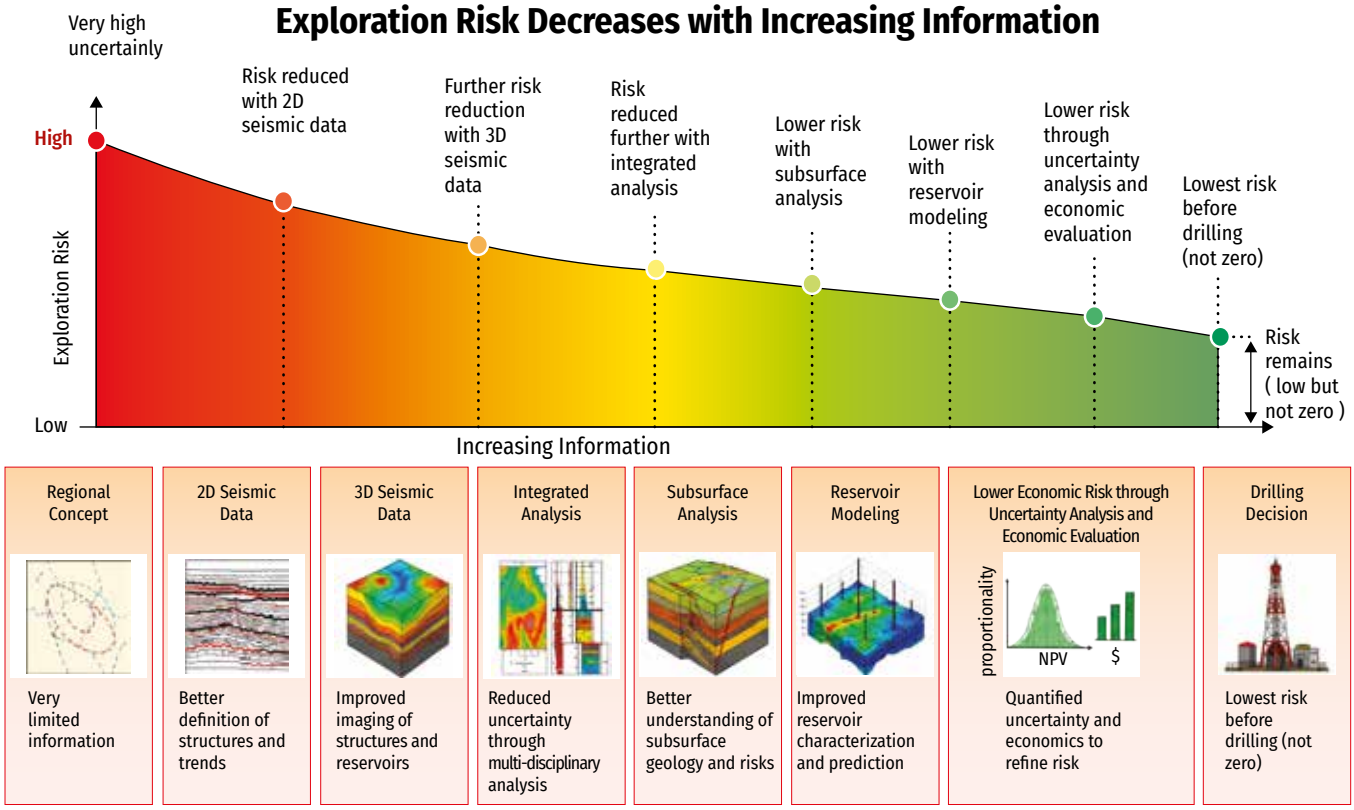


Figure 4. Example of a risk-based exploration framework showing how exploration risk decreases with increasing geological and engineering information before drilling

Quantitative Prospect Ranking

After completing the technical and commercial evaluation of individual exploration prospects, companies commonly apply a quantitative prospect ranking framework to identify the most economically attractive investment opportunities among multiple alternatives. Quantitative prospect ranking is critically important for top management when making exploration drilling decisions. By prioritizing investment in the most prospective drilling opportunities, a company can:

- Minimize the risk of drilling failure,

Table 1. Economic Evaluation of Five Hypothetical Exploration Wells							
Well	COS (%)	Recoverable Reserve (BCF)	Gross Revenue (USD MM)	Drilling Cost (USD MM)	NPV (USD MM)	EMV (USD MM)	Cost-Benefit Ratio
A	20	50	150	20	130	26.0	7.50
B	25	45	135	20	115	28.75	6.75
C	15	100	300	20	280	42.0	15.00
D	10	120	360	20	340	34.0	18.00
E	40	67	201	20	181	72.4	10.05

- Maximize financial returns,
- Achieve faster recovery of invested capital,
- Generate profits that can be reinvested into future exploration and development activities,
- Support long-term growth, and
- Improve the overall success and sustainability of the company

For example, consider five hypothetical exploration prospects named Wells A, B, C, D, and E. Geoscientists estimate the COS for each prospect, while reservoir engineers estimate recoverable reserves. Drilling engineers estimate drilling costs. Based on these technical inputs, a risk-based economic evaluation can be performed using parameters such as Net Present Value (NPV), Expected Monetary Value (EMV), and Cost-Benefit Ratio.

Assumptions for Economic Evaluation	
Parameter	Value
Gas Price	USD 3 per MCF
Value of 1 BCF Gas	USD 3 Million
Drilling Cost per Well	USD 20 Million
Development/ OPEX	Ignored for simplification
Discounting	Simplified screening-level NPV
Recoverable Reserve Unit	BCF

Table 1 shows how companies compare different drilling opportunities using both risk and potential profit.

Table 2. Prospect Ranking Based on Expected Monetary Value (EMV).

Petroleum economists and financial analysts are also involved in the evaluation process. They assess the economic indicators, market conditions, project uncertainties, and overall financial risks of the exploration project.

Expected Monetary Value (EMV) combines possible profit with the probability of success

Rank	Well	EMV (USD MM)
1	E	72.4
2	C	42.0
3	D	34.0
4	B	28.75
5	A	26.0

Well E ranks highest based on Expected Monetary Value (EMV) because it combines a relatively high Chance of Success (40%) with reserve potential (67 BCF). Although Well D contains the largest estimated reserve volume, its relatively low COS significantly reduces its overall risk-adjusted economic value. This analysis demonstrates that both geological probability and reserve size are critical factors in exploration investment decision-making.

The above example demonstrates how quantitative prospect ranking further supports decision-making by integrating all uncertainties into a single evaluation framework and helping identify the best option among multiple opportunities.

Conclusion

It is not possible to eliminate exploration risk. However, a structured risk-based framework can significantly improve drilling success rates and support responsible investment decisions in the petroleum industry. Each exploration prospect should be assessed through integrated seismic interpretation, geological risk assessment, uncertainty analysis, Chance of Success (COS) evaluation, and economic feasibility studies.

Quantitative prospect ranking helps management compare exploration opportunities objectively, optimize investment decisions, and improve long-term exploration success. Ultimately, modern petroleum exploration is not simply about drilling wells, but about making informed scientific and economic decisions in an environment of uncertainty and risk. Therefore, before initiating any drilling program, it must be ensured that every stage of the pre-drill analysis process has been evaluated thoroughly and accurately. EP

Hoshne Ara Banu, Petroleum Engineer, *Adjunct Professor of BUET and MIST*

Global Gas Generation Nears Structural Peak As Clean Electricity Accelerates

The global power sector is undergoing a clear structural transition as natural gas steadily loses share in electricity generation for the fifth consecutive year. According to analysis from the energy think tank Ember, gas generation has continued to grow slightly in absolute terms. Still, its share of the global electricity mix has declined from 23.9% in 2020 to 21.8% in 2025.

This shift is being driven primarily by the rapid expansion of solar and wind power, which are increasingly meeting new electricity demand at lower cost and with faster deployment timelines than fossil fuel-based generation.

The data indicates that 61 out of 124 gas-dependent electricity markets have already passed their peak gas generation, including major advanced economies such as the UK, Germany, Italy, and Japan.

Key drivers include post-crisis energy security concerns, particularly following geopolitical shocks in 2022 and 2026, improving renewable economics, and the ability of emerging economies to expand electricity access without heavy reliance on gas infrastructure.

Declining Role of Gas in the Global Power Mix

Natural gas is losing momentum in the electricity sector despite continued demand growth.

- Gas share in global electricity has declined every year since 2020
- Growth in gas generation (2021–2025) is roughly half the pace of 2016–2020
- In 2025, gas added only 38 TWh, contributing just 5% of new global electricity demand growth

While gas is still expanding in some regions, its role as the default "bridge fuel" is increasingly weakening.

Solar Power Leads Global Electricity Expansion

Solar energy has emerged as the dominant driver of new electricity supply, significantly outpacing gas.

In 2025:

- Solar generation increased by 636 TWh
- Gas increased by only 38 TWh
- Solar grew about 17 times faster than gas
- Solar contributed roughly three-quarters of new electricity demand growth, while gas contributed only about 5%

This marks a fundamental shift in which renewable energy is no longer supplementary but the main engine of global electricity expansion.

Geopolitical and Economic Forces Reshaping Energy Systems

The decline of gas is being reinforced by structural economic and geopolitical changes.

Energy security shocks, particularly the 2022 Russia–Ukraine conflict and the 2026 Middle East disruptions, exposed vulnerabilities in LNG-dependent systems and triggered renewed investment in domestic renewable energy capacity.

At the same time, declining costs of solar and wind have strengthened their competitiveness. In many regions, domestically produced clean electricity is now seen as more stable, faster to deploy, and less exposed to global price volatility than gas.

Regional Trends and Market Divergence

G7 Economies: Transition Past Peak Gas

Several advanced economies have already passed structural peaks in gas generation. Four G7 members—the UK, Germany, Italy, and Japan—are among the countries that have reached this milestone.

In 2025:

- G7 gas generation fell by 50 TWh
- Renewable generation increased by 123 TWh
- Clean electricity now exceeds fossil-based generation across the G7

United States: A Global Outlier

The United States remains the largest single driver of global gas generation, accounting for around 26% of global output in 2025, and has contributed significantly to global gas growth over the past decade.

Emerging Economies: Low Gas Dependence

Despite rapid demand growth, several large emerging economies have limited reliance on gas:

- India: Gas share declined from 12.6% (2010) to 2.3% (2025)
- Brazil: Fell from 13.7% peak (2014) to 7.3%
- China: Maintains ~3% gas share despite massive demand expansion

These trends reflect a broader pattern of electrification driven increasingly by renewables rather than fossil gas.

Conclusion

Global electricity systems are approaching a decisive inflection point in gas generation. While gas remains part of the energy mix, its strategic role is diminishing as countries prioritize affordability, energy security, and domestic generation capacity.

The evidence points to a long-term trajectory where clean electricity—particularly solar and wind—becomes the primary driver of global power system growth, gradually marginalizing gas in both developed and emerging markets. EP

Lin Zhuo & Janina Krupski

Why 'Good' Energy Transition Reforms Do Not Succeed

Launched in Thailand in 2019, the People's Solar Power Campaign set an ambitious goal: generating 100 MWh from residential rooftop solar installations in its first year, as part of the country's broader target of 1,000 MWh by 2028. Yet despite strong public interest, with two-thirds of homebuyers expressing interest in the initiative, actual adoption remained extremely limited. Participating households added just 3 MWh in 2019.

Affordability was an issue, but not the only barrier. The role of behavioural factors in shaping adoption decisions also mattered. Many households had a limited understanding of rooftop solar, influencing how they perceived its benefits and risks. As a result, even interested households did not follow through. Adoption was further held back by limited visibility, with many preferring to "wait and see" until solar installations became more common in their communities.

How behavioural insights improve policy uptake

Thailand's experience highlights that well-designed energy transition policies can still fall short of the goals if they do not duly consider how people make decisions. Insights from behavioral science, including nudges, help bridge this gap by focusing on cognitive and psychological aspects.

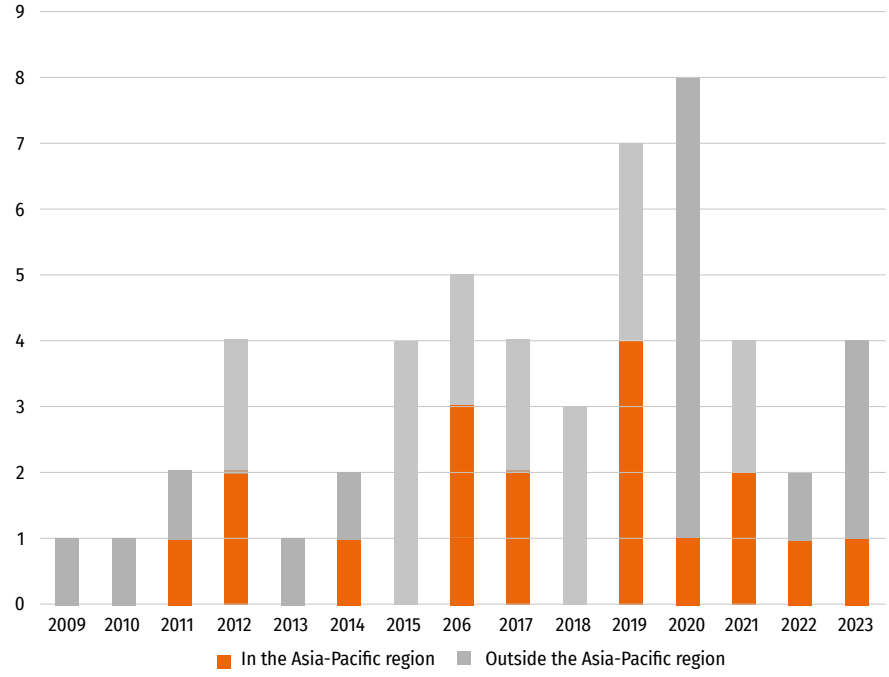
'Default settings' can strongly influence behaviour. People often stick with the easiest or pre-selected option, especially when decisions are complex or unfamiliar. In Switzerland, setting renewable energy as the default option led more than 80% of 200,000 households to remain on green electricity, despite higher costs. The example illustrates how choice architecture can encourage greener decisions without restricting consumer choice.

'Framing' shapes how people perceive costs and responsibilities associated with transition-related policies. In India, surrendering LPG subsidies was presented as an act of national solidarity, prompting around one million households to voluntarily give up the subsidies. Similarly, in Thailand, linking fuel taxes to visible climate impacts such as floods and droughts helped reduce fuel consumption by 5% among personal car drivers.

'Social norms' can be equally powerful. In the Republic of Korea, public buses in Seoul carried the message "Energy we save together, one nuclear power plant

we reduce together" as part of its One Less Nuclear Power Plant initiative. By emphasising collective responsibility, the initiative contributed to a 4% reduction in electricity consumption between 2011 and 2014.

'Simplification' can help translate interest into action. Even when households are motivated to act, complex procedures and uncertainty can prevent follow-through. In Uganda, when households received clear, practical guidance on purchasing reliable solar systems and support to set savings goals, they were 31 percentage points more likely to take the first step. In Malaysia, the introduction of a clear, principle-based climate taxonomy reduced ambiguity and encouraged more climate-aligned bank lending.



Together, these experiences show that even small adjustments in policy design and communication can significantly influence public uptake of transition-related policies. Recognising this potential, governments are increasingly seeking ways to apply these approaches more systematically.

Institutionalising behavioural insights

For policymakers, behavioural interventions can deliver significant impact at relatively low cost. One study in the United States found that sending households simple energy reports comparing their electricity use to that of their neighbours generated energy savings of 27.3 kWh for every dollar spent.

Governments are therefore increasingly formalising the use of behavioural tools. By 2023, more than 50 behavioral insight units were operating worldwide (Figure 1). Dedicated teams can test policy designs, identify decision-making barriers early, and refine reforms before scaling them nationally. Importantly, this does not necessarily require creating entirely new institutions; behavioural approaches can be integrated progressively within existing government structures.

Figure 1. Number of new government-affiliated BIUs established each year, 2009-2023

Source: Data are derived from the OECD Observatory of Public Sector Innovation (OPSI) BIU database and include supplementary government BIUs identified through additional desk research.

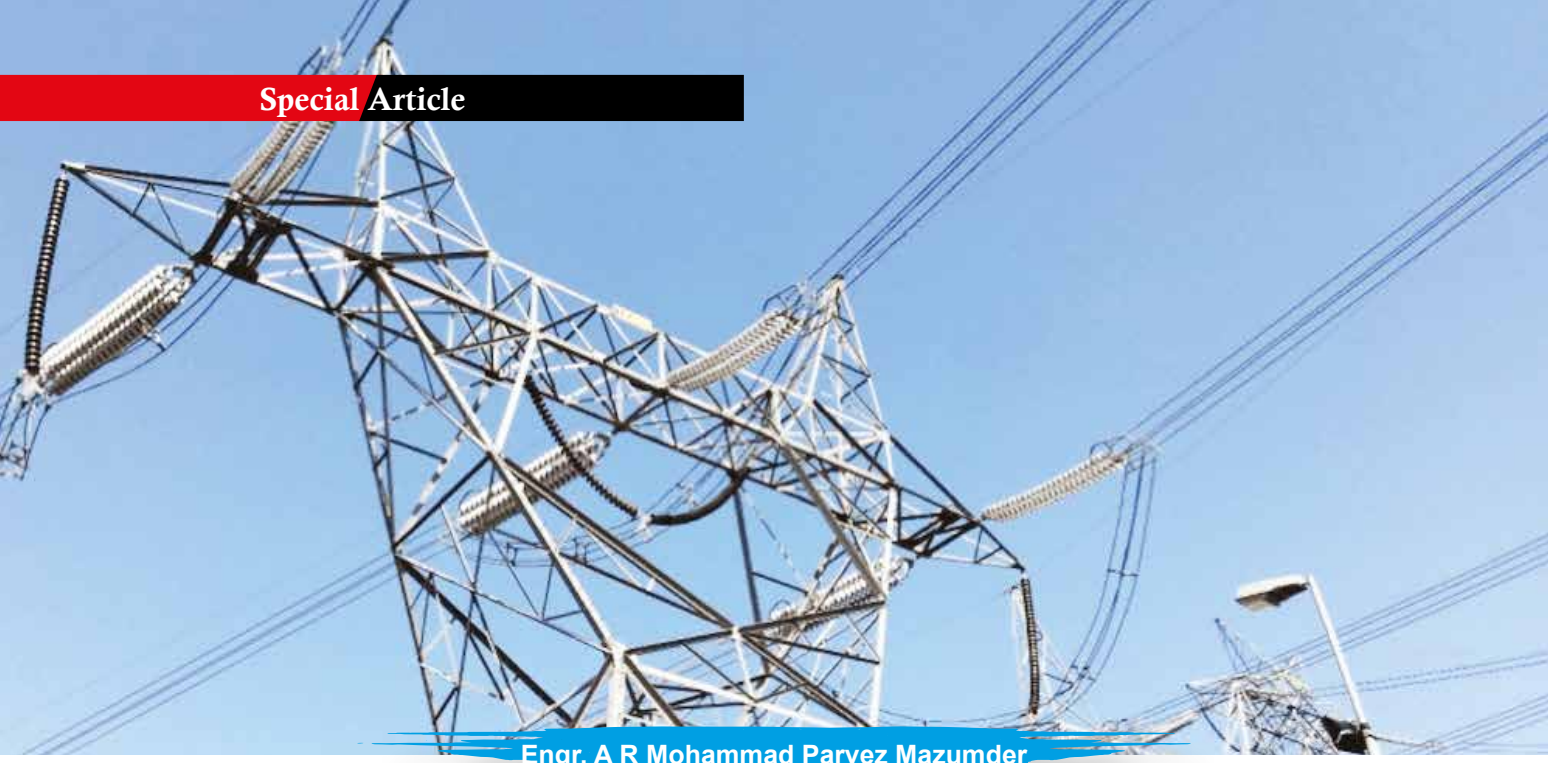
Note: Coverage reflects voluntary disclosure and is not exhaustive. Results should be interpreted as indicative.

Governments can start small and build capacity over time. The United Kingdom's Behavioural Insights Team began as a small unit within the Cabinet Office before expanding globally, while Canada progressively integrated behavioural science functions across government through Impact Canada. Institutionalising behavioural insights allows governments to move beyond one-off experiments towards more systematic policy implementation.

In Asia and the Pacific, however, the institutionalisation of behavioral science remains uneven. Most dedicated units are concentrated in higher-income economies such as Australia, New Zealand, Japan, and Singapore. By contrast, in countries such as China, Indonesia, Thailand, and Viet Nam, the application of behavioural science remains limited to pilot initiatives or research partnerships, rather than being systematically embedded in policymaking processes.

As countries accelerate energy transition reforms, people-centred approaches can help close the gap between policy ambition and real-world adoption. The Economic and Social Survey of Asia and the Pacific 2026 goes beyond identifying which transition policies should be adopted and explores how insights from political economy and behavioural science can be leveraged to support their implementation. Ultimately, successful energy transitions will depend not only on sound economics and strong institutions, but also on policies designed around how people actually make decisions. EP

Lin Zhuo, *Economic Affairs Officer, ESCAP*
Janina Krupski, Intern, ESCAP



Engr. A R Mohammad Parvez Mazumder

STRUCTURAL VULNERABILITIES AND FINANCIAL STRESS IN STATE-OWNED POWER TRANSMISSION GRIDS

Bangladesh Perspective

The power sector forms the backbone of any developing economy, and the transmission grid is the bridge connecting electricity generators to end consumers. However, in South Asia, state-owned power transmission companies face severe operational and institutional crises. A primary example of this distress is Power Grid Bangladesh PLC (PGCB), established in 1997. It is a state-owned enterprise that has incurred recurring operating losses over several fiscal years. The company's accumulated losses have surpassed Tk 1,500 crore, while its total debt burden has grown to nearly Tk 60,000 crore, as of May 2026. This huge debt accrual is driven by the execution of several large infrastructure initiatives worth Tk 74,000 crore. PGCB has formally stated its inability to repay loans obtained from international financial institutions. The crisis is deteriorating due to rising administrative expenses, massive interest on loans, and substantial foreign exchange conversion losses (over Tk 3,000 crore) resulting from the devaluation of the local currency.

The primary cause behind this structural failure is the severe gap between planned electricity transmission and actual grid utilization. PGCB expanded its network infrastructure to a total transmission capacity of 30,000MW. However, a major portion of this capacity remains unutilized due to lower generation volumes. It forces the company to spend massive sums on maintaining idle infrastructure and a large workforce. This mismatch is further intensified by generation deficiencies within the state-owned power system. Publicly owned gas and coal-fired plants fail to maintain regular generation. Often, it is forced to bring in electrical power from far-flung private power producers. Such long distances heavily increase transmission system losses (3.31% in May 2026) and create significant voltage instability. To survive, the company has submitted a proposal to the national regulatory body to increase its wheeling charges (ie, cost of using and maintaining the electric grid/transmission and distribution lines to the consumer) by over 50% across various voltage levels (for 230 kV: tariff Tk 0.3057 to Tk 0.4831/kWh, for 132 kV: tariff Tk 0.3086 to Tk 0.4877/kWh, for 33 kV: tariff Tk 0.3144 to TK 0.4969/kWh). However, the experts warn that addressing these losses by raising transmission tariffs will ultimately increase the total generation cost of electricity, causing inflation and additional financial stress for retail consumers.

Case Study 1: Pakistan, National Grid Company (NGC)

A similar pattern of financial distress and structural vulnerability can be observed in Pakistan, which directly

threatens national development. Here, the NGC Limited of Pakistan (former National Transmission and Dispatch Company- NTDC) handles primary electricity transmission for managing the bulk high-voltages (220 kV, 500 kV, and above).

The core problem in Pakistan is circular debt, which paralyzes the entire energy supply chain. NGC struggles with poor revenue collection and fails to meet the targets for transmission and distribution losses. The distribution entity defaults on payments to the central power purchasing agency. Therefore, the transmission utility faces a severe cash crunch, leaving it without the necessary capital to upgrade its outdated network. On a standalone basis, NGC's tariff structure is designed for full cost recovery, and it manages to pull a net profit after tax, reporting a revenue of PKR (Pakistan Rupee) 53,076 million for 9 months in FY (fiscal year) 2025. However, the company faces an acute liquidity and structural loss crisis due to severe technical constraints, aging infrastructure, and South-North transmission bottlenecks. These issues resulted in a massive national system loss of PKR 60.39 billion (US$ 216 million) during FY 2023-24 alone, as cheaper power had to be curtailed in favor of expensive local generation. The legacy of Pakistan's energy circular debt heavily penalizes the grid, and up until recently. The National Electric Power Regulatory Authority (NEPRA) had withheld PKR 41.44 billion in dues from NGC's system charges over economic merit order violations. This heavily impairs its working capital and delays vital grid infrastructure projects.

Pakistan's transmission infrastructure consists of tens of thousands of kilometers of lines. Yet, it suffers from massive system losses and frequent blackouts. Because the government historically sets consumer tariffs well below the actual cost of supply, the entire network relies on heavy state subsidies. Delays in releasing these subsidies trigger a chain reaction of payment defaults affecting fuel suppliers, private generators, and transmission agencies alike. Furthermore, the mismatch between generation planning and transmission capability is highly visible. Sub-optimal capacity utilization and a heavy reliance on expensive imported fuel oil have caused generation costs to skyrocket. This operational inefficiency costs Pakistan's economy an estimated 2% of its gross domestic product (GDP) annually. Due to inadequate investment and bureaucratic delays in upgrading transmission corridors, the grid cannot reliably handle peak loads, forcing industries to set up expensive private backup generators. The state transmission entity, i.e., NGC, remains financially crippled, dependent on periodic government bailouts. It is unable to achieve financial sustainability because its revenue model is broken by system-wide collection failures.

Case Study 2: Sri Lanka, Ceylon Electricity Board (CEB)

In Sri Lanka, the transmission system is managed by the CEB, a vertically integrated state utility that faces comparable systemic failures. Under the newly enacted Sri Lanka Electricity Act, it is being unbundled into separate state-owned entities, with its high-voltage transmission and system operations remaining under state control. Sri Lanka's geographical isolation as an island means its electrical grid cannot import or export power from the wider South Asian subcontinent. Therefore, ensuring grid stability and infrastructure utilization is incredibly sensitive. Historically, CEB has suffered from massive financial deficits caused by bad political management and rigid pricing frameworks. Still, it remains under severe fiscal strain, despite aggressive electricity tariff revisions implemented throughout 2024-25 to align with actual generation costs. High generation costs driven by an expensive reliance on thermal power during dry quarters have offset tariff revenue. According to the Central Bank of Sri Lanka's Annual Economic Review, the CEB recorded a total financial loss of LKR (Sri Lanka Rupee) 38.7 billion (US$ 128 million) for the year 2025. Consequently, its short-term liabilities rose to LKR 206.2 billion.

The Sri Lankan grid relies on a combination of cheaper domestic hydropower and expensive thermal generation run by imported petroleum products. The grid is forced to rely entirely on high-cost thermal power during droughts. It causes the utility's operational costs to shoot up dramatically. CEB has struggled with capacity shortfalls and overstretched medium-voltage transmission and distribution lines. The country succeeded in reducing its

overall transmission and distribution losses from much higher levels down to around 14%. Still, the financial model of the utility remains deeply broken. CEB has consistently failed to cover its supply costs through electricity tariffs due to state-enforced consumer subsidies. This lack of financial independence has limited the board's capacity to execute long-term generation and transmission expansion plans. The utility remains heavily dependent on foreign development assistance and state guarantees to fund its substation augmentations and network expansions. Like Bangladesh, Sri Lanka's power utility faces a severe financial squeeze due to high operational costs and a reliance on imported fuel. Because it cannot independently adjust tariffs, it has accumulated massive debts that place a major fiscal burden on the state.

Case Study 3: India, Power Grid Corporation (POWERGRID)

India presents a slightly different but highly relevant case study through its central transmission utility, named POWERGRID India Ltd. As a Maharatna Public Sector Enterprise under the Ministry of Power, it transmits about 50% of the total electricity generated in India. Unlike its neighbors, the Indian central transmission utility underwent significant structural reforms. That allowed POWERGRID to achieve commercial success and operational efficiency, serving as a valuable lesson for struggling regional utilities. POWERGRID operates under an efficient, regulated return-on-investment model and does not incur financial losses. For the third quarter of the FY 2025-26, the company earns revenue of INR (India Rupee) 12,857.70 crore (US$ 1.54 billion) and a net profit of INR 4,184.96 crore (US$ 500 million), maintaining a net profit margin of over 32%.

Years ago, the Indian power sector faced similar issues to those in Bangladesh, including massive transmission and distribution losses, widespread political interference, and severe financial losses among state-run distribution companies. The central government intervened by unbundling the vertically integrated boards and listing the central transmission entity on the stock exchanges, though the state retained majority ownership. This reform introduced corporate discipline, rigorous project management, and a transparent regulatory framework for tariff determination. Today, POWERGRID manages an extensive network spanning hundreds of kilometers and maintains low transmission system losses of 3-4%. The company's financial strength allows easy raising of capital from international and domestic markets without relying on subsidies.

However, the Indian transmission network still faces indirect vulnerabilities due to the financial weakness of state-level distribution companies. These state-level utilities often fail to pay transmission charges on time because of low billing efficiency, populist subsidies, and pilferage. To protect POWERGRID from these financial risks, it established strict tripartite payment security mechanisms involving the central bank, state governments, and the central grid operator. Such a system allows the central utility to automatically deduct outstanding dues from a state's federal revenue share (if it defaults). This regulatory protection demonstrates structural independence, commercial autonomy, and strict payment security to escape losses and heavy debt that currently cripples PGCB.

Summary Comparison Table of State-owned Power Grid Companies

Based on the information provided above, the following is a comprehensive summary comparison among Bangladesh, India, Sri Lanka, and Pakistan.

Country	State-owned Grid Company	Financial Status	Key Financial Metric
Bangladesh	Power Grid Bangladesh PLC (PGCB)	Net Loss and Debt Crisis	Net Loss of Tk 211 crore (FY 2024-25); Total debt stands at Tk 59,692 crore
India	Power Grid Corporation India Ltd (POWERGRID)	Highly Profitable	Net Profit of INR 4,184.96 crore (US$ 500 million) for 3rd quarter FY 2026
Sri Lanka	Ceylon Electricity Board (CEB)	Substantial Financial Loss	Net Loss of LKR 38.7 billion (US$ 128 million) for the year 2025
Pakistan	National Grid Company of Pakistan (NGC/ formerly NTDC)	Liquidity Crisis and System Losses	System constraint losses of PKR 60.39 billion (US$ 216 million); PKR 41.44 billion in dues historically withheld

Way Forward for PGCB

The critical lessons those PGCB must learn from these regional peers are that structural unbundling, operational autonomy and disciplined planning are the paths to escape systemic financial failure. The cautionary tales of Pakistan and Sri Lanka demonstrate that relying on state subsidies, allowing a gap between generation and transmission planning and absorbing massive currency risks without hedging mechanisms will inevitably lead to insolvency and unutilized infrastructure capacity. Conversely, the success of India reveals that listing the corporation on public markets, establishing good governance, and implementing legal binding tripartite payment mechanism can insulate the transmission company from wider inefficiency. To move forward and transform into an efficient and profitable enterprise, PGCB must align its future capital expenditure projects with actual, active generation capacities to eliminate idle infrastructure overheads. It must move towards an independent, data-driven tariff model (reflecting operational and debt-servicing costs) without disruptive and ad-hoc wheeling charge spikes. PGCB should also actively hedge its foreign currency debts to protect against local currency devaluation. Furthermore, it should aggressively implement advanced smart-grid technologies to minimize transmission losses, which ultimately secures a stable revenue stream, relieving its massive fiscal burden. EP

Colonel (Retd) Engineer A R Mohammad Parvez Mazumder, *afwc, psc*

Mir Moinul Huq and John Talent Memorial Endowment Fund

Advancing Geoscience Education and Research

Mortuza Ahmad Faruque

The "Mir Moinul Huq and John Talent Memorial Endowment Fund" was established on 2 June 2026 at the Department of Geology, University of Dhaka, to honor two distinguished geoscientists: Mir Moinul Huq (1947–2020), a pioneering Bangladeshi petroleum geoscientist, and Professor Emeritus John Alfred Talent (1932–2024), a world-renowned Australian paleontologist. The fund was created through a donation of BDT 10 million by Dr. Mobinul Huq, Professor of Economics at the University of Saskatchewan, Canada, in memory of his late elder brother Mir Moinul Huq and Professor John Talent, his brother's M.S. supervisor and mentor.

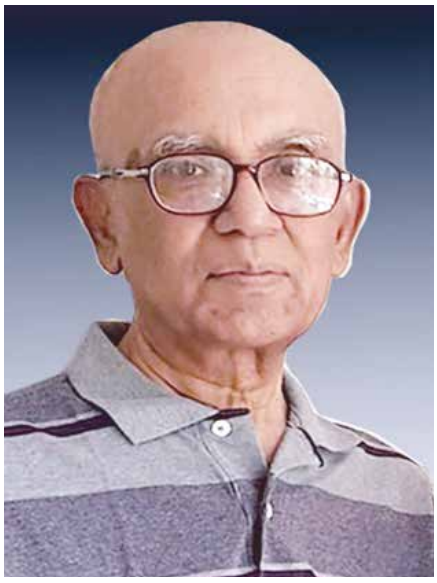
The Endowment Fund aims to promote academic excellence and advanced research in geology and petroleum geoscience by supporting scholarships, fellowships, field investigations, scientific events, academic publications, and modern research facilities. It is expected to strengthen the Department of Geology's research capacity and help develop future generations of geoscientists in Bangladesh.

Inaugural Ceremony

The inaugural ceremony and signing of the Endowment Fund Agreement were held on 2 June 2026 at Professor M. A. Latif Auditorium, Department of Geology, University of Dhaka. Organized jointly by the Department of Geology and the Dhaka University Geological Alumni Association, the event was attended by Professor Dr. Abdus Salam, Pro-Vice Chancellor (Academic), as Chief Guest, and Professor Dr. Md. Humayun Kabir, Dean of the Faculty of Earth and Environmental Sciences, as Special Guest. The ceremony was chaired by Professor Md. Bodruddoza Mia, Chairman of the Department of Geology.

The event was attended by faculty members, researchers, students, alumni, geologists, and distinguished guests. Members of Mir Moinul Huq's family, representatives of the Mir Moinul Huq Memorial Group, and Mr. Mollah Amzad Hossain, Editor of Energy & Power magazine, were also present.

Biography and Legacy



Mir Moinul Huq

The late Mir Moinul Huq was one of the most distinguished alumni of the Department of Geology, University of Dhaka, and a pioneering figure in Bangladesh's oil and gas sector. Born on 10 May 1947, he completed his geology education at the University of Dhaka in the late 1960s and passed away on 26 August 2020 during the COVID-19 pandemic. He is remembered for his scientific excellence, professional integrity, and significant contributions to the nation's energy sector.

Mr. Huq began his career in 1970 with the Oil and Gas Development Corporation and later served in Petrobangla and BAPEX in senior technical and leadership positions. He played a key role in the exploration, discovery, and development of several major gas fields in Bangladesh, including Titas, Bakhrabad, Habiganj, Rashidpur, Shahbazpur, Fenchuganj, Kamta, Narsingdi, Meghna, and Salda Nadi. His expertise in stratigraphy, basin evolution, structural geology, and petroleum systems earned him recognition as one of the country's leading geoscientists.

He also contributed significantly to the modernization of Bangladesh's petroleum sector by introducing computer-based mud logging systems and facilitating advanced overseas training for geoscientists. He participated in major reserve reassessment studies, including the re-evaluation of the Titas Gas Field, which strengthened national gas resource planning.

Beyond exploration, Mr. Huq served as a respected policy expert in hydrocarbon resource evaluation, contributing to energy policy development, reserve estimation, and collaborative initiatives with international organizations. After retirement, he continued to serve as a consultant to the Hydrocarbon Unit under the Energy and Mineral Resources Division and remained active in academia as a part-time lecturer at the University of Dhaka and Jahangirnagar

University. He also served as a national consultant for UNDP.

Throughout his career, Mr. Huq was known for his integrity, humility, professionalism, honesty, and commitment to mentoring young geoscientists. He remains a role model and an enduring source of inspiration for generations of petroleum geologists in Bangladesh.

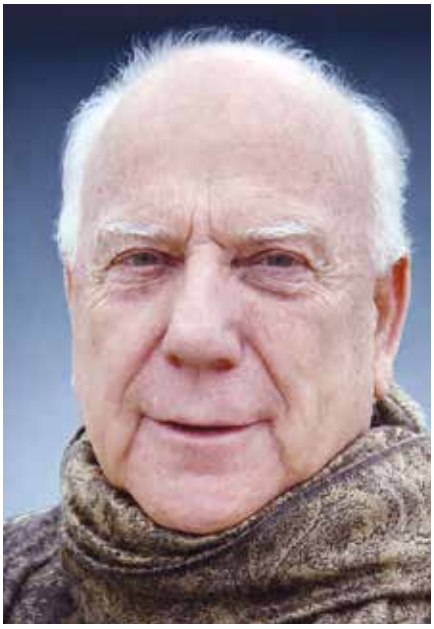
Mir Moinul Huq Memorial Technical Lecture Series

To preserve and promote the legacy of Mir Moinul Huq, the Mir Moinul Huq Memorial Technical Lecture Series was established in 2020 following his passing on 26 August 2020. Since its inception, the series has evolved into an international platform for geoscience knowledge exchange, bringing together experts, researchers, and professionals from Bangladesh and abroad. It serves as a valuable forum for continuing education, professional development, and the sharing of advances across diverse geoscience disciplines.

To date, twenty-five online lectures, including annual memorial meetings, have been organized through Zoom. These events regularly attract 60–100 participants and connect geoscientists from Bangladesh, the USA, Canada, Norway, the UK, Germany, Australia, the UAE, Brunei, Peru, and other countries.

The lecture series and its associated memorial activities have been organized by a dedicated coordinating team comprising Mr. Huq's close friends and professional colleagues. Naz Hussain, one of his closest friends, serves as Chairperson and leads the initiative from Houston, while Nazim Ahmed, a geologist based in Calgary, serves as Chief Coordinator. The virtual sessions have been supported from Dhaka and moderated by Md. Jasim Uddin, retired geologist of Petrobangla; Monwar Ahmed, retired geologist of Kuwait Oil Company; and Mortuza Ahmad Faruque, former Managing Director of BAPEX.

Professor John Alfred Talent, M.S., supervisor of Mir Moinul Huq, was a distinguished Australian paleontologist and stratigrapher whose pioneering work contributed significantly to global



Professor John Alfred Talent

geoscience and the development of the Department of Geology at the University of Dhaka. As a UNESCO Professor in the late 1960s, he introduced advanced paleontological methods and helped train an early generation of Bangladeshi geoscientists.

In 1969, he supervised four M.S. students in Paleontology, including Mir Moinul Huq, providing close mentorship through field and laboratory research. He participated in geological investigations, including micropaleontological studies in the Surma Basin. Although his tenure at Dhaka was brief, he made several return visits to continue supervision and attended thesis presentations. He also taught Invertebrate Paleontology at both B.Sc. and M.Sc. levels. Internationally, he was recognized for his contributions to Paleozoic stratigraphy and marine paleobiology and served as President of the International Paleontological Association. His mentor–student relationship with Mir Moinul Huq evolved into a lifelong friendship and professional collaboration.

Utilization of the Fund

Under the Endowment Fund framework, 30% of the fund will be used to establish the Moinul–Talent Graduate Research Laboratory, equipped with modern computers, geoscience software, servers, and multimedia facilities. The fund will also support laboratory maintenance and upgrades. In addition, an annual memorial technical lecture, preferably in hydrocarbon exploration or petroleum geology, will be organized in honor of Mir Moinul Huq.

The remaining 70% will be invested in a fixed deposit in a state-owned bank. The income generated will support scholarships and fellowships for PhD, MPhil, and MS/MSc students, geological fieldwork, laboratory analysis, scientific events, publication support, and laboratory operations. Priority will be given to students specializing in petroleum geoscience, while support will remain open to other geology disciplines based on merit and research potential.

Governance and Management

The Endowment Fund will be administered through a structured governance framework to ensure transparency and accountability. An Endowment Fund Management Committee, comprising the Chairman of the Department, three faculty members, and Dr. Mobinul Huq as family representative, will oversee the fund. Separate committees will be responsible for student selection and laboratory management, ensuring effective implementation of scholarships, research support, and laboratory operations.

Observations

The establishment of the Endowment Fund marks a significant milestone in preserving the scientific legacy of Mir Moinul Huq and John Alfred Talent, while also fostering future generations of geoscientists. By combining long-term financial sustainability with targeted academic and research support, the initiative is expected to significantly enhance the Department of Geology's capacity in teaching, research, and innovation. Beyond infrastructure and funding, it symbolizes a continuing bridge between mentorship, international collaboration, and national scientific development, ensuring that the contributions of both mentor and mentee continue to inspire and guide future scholars. EP

Mortuza Ahmad Faruque, *Former Managing Director, BAPEX.*

COP31 Sets New Global Targets for Electrification, Waste Reduction

EP DESK

In addition to energy and industry, the presidency highlighted priorities including food security, climate education, public health, and youth participation. Plans include expanding climate education for young people worldwide and providing climate-resilient agricultural training to young farmers.

The incoming COP31 Presidency of Türkiye has unveiled an ambitious Global Climate Action Agenda, setting new targets on electrification, waste reduction, urban resilience, and green industrialization as countries prepare for the next UN climate summit.

Announced during the UN June Climate Meetings (SB64) in Bonn, Germany, the agenda shifts the focus of international climate efforts from setting new goals to accelerating the implementation of existing commitments.

Speaking at a press conference recently, COP31 President-Designate and Turkish Environment Minister Murat Kurum said the world has entered a critical phase in the fight against climate change and must move beyond promises to tangible action.

Under the new agenda, the COP31 Presidency aims to increase the share of global final energy consumption met by electricity from just over 20% today to 35% by 2035, accelerating the transition to cleaner energy systems.

The initiative also sets a target of halving the growth of global waste by 2035, while bringing methane reduction and circular economy practices to the center of climate action.

For the buildings sector, COP31 aims to reduce global energy consumption intensity by at least 25% by 2035, helping create more resilient, efficient, and climate-ready cities.

The agenda further seeks to advance green industrialization by increasing the

global circular material use rate to at least 15%, reducing pressure on natural resources and supporting sustainable production.

In addition to energy and industry, the presidency highlighted priorities including food security, climate education, public health, and youth participation. Plans include expanding climate education for young people worldwide and providing climate-resilient agricultural training to young farmers.

Türkiye also announced the launch of a Climate Implementation Bridge, a mechanism designed to help countries transform their Nationally Determined Contributions (NDCs) into investable projects and accelerate the flow of climate finance.

"Our task now is to accelerate implementation," Kurum said, emphasizing that COP31 will focus on delivering existing commitments rather than creating new pledges.

The COP31 summit, to be hosted by Türkiye later this year, is expected to place strong emphasis on practical action, investment mobilization, and measurable outcomes as countries work to close the gap between climate ambitions and real-world progress. EP

UN Climate Chief Calls for $1.3 Trillion Finance Push

United Nations climate chief Simon Stiell has called for stronger political commitment and a major increase in climate financing, saying investments made over the next decade will determine whether the world can successfully transition to a low-carbon future and protect billions of people from worsening climate impacts.

Speaking at a joint COP29-COP30 Presidency event during the UN June Climate Meetings in Bonn recently, Stiell said climate finance has become the driving force behind the global implementation phase of climate action.

"This is an era of implementation in climate action, and finance will drive it forward," said Stiell, Executive Secretary of UN Climate Change (UNFCCC). "It is essential for a truly global transition, for turning plans into projects, bringing the benefits of climate action to billions of people, and laying the groundwork for more ambitious commitments that science demands."

Stiell highlighted the commitment made by countries at COP29 to mobilize $1.3 trillion annually in climate finance by 2035 and described the Baku-to-Belém Roadmap as a critical strategy to achieve that target.

He said the roadmap sends a strong signal that raising $1.3 trillion is both necessary and achievable. Although

it is not a negotiated agreement, the plan reflects an unprecedented level of engagement, incorporating hundreds of proposals and record submissions from governments, financial institutions, and climate stakeholders.

"It may not be everything that every party would want, but it is a plan we can and must rally behind," he said.

The UN climate chief acknowledged the significant economic challenges facing many developing countries, warning that financial constraints are limiting their ability to invest in climate adaptation and clean energy projects at a critical moment.

He stressed that stronger political support across international forums is needed to sustain momentum and ensure the roadmap translates into concrete action.

Stiell outlined several immediate priorities, including maximizing the impact of existing climate finance, leveraging public funds to attract significantly larger volumes of private investment, and expanding access to affordable capital.

He also emphasized the need to improve coordination within the fragmented climate and development finance landscape, address debt distress in developing countries, and reshape perceptions of investment risk that often discourage funding in vulnerable nations.

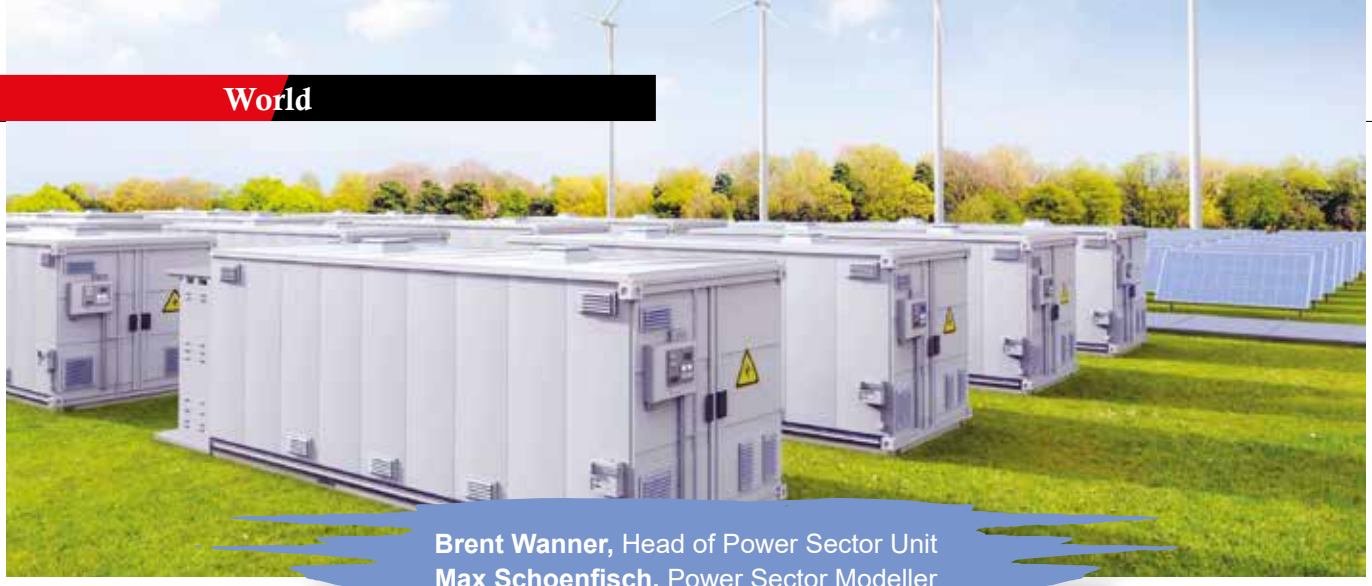
Other priorities include aligning investment frameworks with global climate goals and identifying innovative sources of climate finance to support long-term implementation efforts.

Stiell said collaboration with successive COP presidencies would be essential to maintain progress and strengthen international partnerships ahead of the second Global Stocktake at COP33.

By then, he said, countries must be able to demonstrate measurable progress in scaling up climate finance and delivering tangible outcomes.

"We have a plan," Stiell said in closing. "Let's put it to work."

Climate finance is increasingly viewed as a cornerstone of global efforts to limit temperature rise, strengthen resilience in vulnerable communities, and accelerate the transition toward cleaner and more sustainable economies. EP



Brent Wanner, Head of Power Sector Unit
Max Schoenfisch, Power Sector Modeller
Hans-Kristian Ringkjøb, Analyst consultant

Battery Storage Scaling Up, Taking On Larger System Role

As a result of falling costs and greater flexibility needs, battery storage is playing a growing role in power systems worldwide, acting as a "multi-tool" that can provide a range of critical system services at once. According to the latest data, the deployment of batteries expanded strongly in 2025 and broadened across markets with rapid growth in countries such as Australia and Saudi Arabia, where storage is increasingly being used to support the integration of rising shares of variable renewables.

In regions that have been at the forefront of renewable integration and battery deployment, batteries now play an essential role in continuously balancing electricity demand and supply. Comparatively short construction and development timelines are further supporting the rapid deployment of utility-scale batteries in particular: in many markets, projects typically take around two years to develop and commission, giving them an important advantage in systems that seek flexible capacity quickly.

Looking ahead, battery storage deployment is on track to continue accelerating. However, tackling notable barriers, such as regulatory uncertainty and delays in grid connection and permitting, will be key to setting the pace of growth.

Growth in battery storage capacity broke records again in 2025, with new markets growing fast Global battery storage deployment expanded strongly last year. Total capacity additions reached 108 gigawatts (GW), up around 40% from 2024. Annual growth of this scale exceeds the historical peak for gas-fired power capacity additions, which was around 107 GW in 2002.

Utility-scale battery storage accounted for around 87 GW of global battery capacity additions in 2025, around four-fifths of the total. Behind-the-meter battery storage deployment also accelerated, particularly in markets with high retail electricity prices and supportive regulatory and policy frameworks. Around 24 GW of utility-scale battery storage additions in 2025 were co-located directly with renewables, on par with the previous year. This meant the share of capacity co-located with renewables fell just below 30%, as market reforms in China in early 2025 removed broad co-location mandates.

Meanwhile, the rollout of battery storage accelerated across several markets in 2025, pointing to a broadening of global deployment. Australia stood out, with additions surging to nearly 8 GW, almost nine times higher than the previous year. Utility-scale installations in the country rose from under 1 GW in 2024 to around 4.2 GW in 2025, while behind-the-meter additions increased from roughly 0.2 GW to about 3.4 GW, supported by state- and federal-level incentives. In the Middle East, additions topped 3 GW in 2025, more than three times their 2024 level. This was driven almost entirely by Saudi Arabia, where battery storage has become a key source of system flexibility amid a rapidly expanding pipeline of large-scale projects. In Chile, additions approached 1 GW as utility-scale batteries are deployed to absorb surplus solar generation and meet peak demand.

Battery storage now accounts for around 18% of installed dispatchable capacity in Australia, compared with 7% in China, 5% in the United States, and 4% in Europe –

underlining how rapidly batteries are becoming an important part of the electricity systems in some regions.

In absolute terms, deployment continued to be led by China, the United States, and Europe. China added just over 63 GW of battery capacity in 2025, around one-third more than in 2024. Utility-scale installations accounted for around 55 GW of this total, while behind-the-meter additions reached about 8 GW, continuing to steadily expand alongside distributed solar. The United States added 19 GW of battery capacity in 2025, resulting in year-on-year growth of around 60%, with utility-scale batteries accounting for over 16 GW and behind-the-meter additions rising to nearly 3 GW. In Europe, total battery additions were slightly lower than in 2024 at around 6.2 GW, but with a clear structural shift towards utility-scale systems, where additions more than doubled to about 4.6 GW.

Energy shifting is becoming a key driver of battery storage growth

Supported by a dramatic fall in costs, which declined by more than 90% between 2010 and 2025, driven by innovation, competition, and economies of scale, batteries are becoming a key source of short-term flexibility in power systems with rising shares of variable renewables. In this respect, they are highly versatile, capable of providing a diverse range of services that support grid functioning while helping to shift power loads, ensure sufficient capacity, and manage congestion.

Early battery projects were concentrated in lucrative but relatively shallow ancillary service markets, which involve the use of batteries to help balance and stabilize electricity grids. But energy shifting – or the ability to store large volumes of energy that can be deployed at a later time – has since become the dominant application: its share of new projects increased from around 40% in 2015 to more than 90% in 2025. Over the same period, the share of projects primarily targeting ancillary services fell from around 45% to about 7%, even as the absolute volume of such projects continued to grow. Batteries are therefore increasingly being used to shift larger volumes of power across the day, while still providing fast-response balancing services to electricity systems as needed. A growing number of battery projects now combine multiple revenue streams and system services, which is reflected in how projects are designed.

As deployment pivots towards energy shifting and renewables integration, the duration of utility-scale batteries is increasing, with a rising share of projects offering four hours of storage or more. In 2025, the average duration of projects commissioned rose to three hours from around two hours in 2023.

Fast delivery times support rapid deployment

Another factor supporting the deployment of battery storage is that it is modular and requires relatively limited onsite infrastructure, which allows projects, in principle, to be built in less than a year. Median construction times are around 275 days for utility-scale batteries – close to solar PV, at about 220 days, but far below gas at over two years and nuclear at more than six years.

Total time to market is often determined less by construction than by permitting, financing, and grid connection. In Europe, the United States, and Japan, battery projects typically take around two to two-and-a-half years to become operational, while timelines are shorter in China and parts of the Middle East. Nevertheless, batteries can still be deployed more quickly than competing options for boosting system flexibility, such as pumped hydro or gas-fired power plants – giving them a competitive advantage in systems that require additional flexibility within short timeframes.

Batteries are playing a bigger role in balancing electricity demand and supply

As battery deployment has scaled and the duration of batteries has extended, it is changing how the technology interacts with broader electricity system operations, particularly in systems with higher solar and wind penetration. By charging during periods of surplus generation and discharging during periods when demand increases rapidly, batteries are progressively taking on a greater share of short-term ramping and balancing needs.

Some of the clearest examples of this can be found in the United States. In California, solar capacity has grown to over 55 GW. This is greater than the state's peak load and means that on sunny days, its net load is close to zero – and at times even below it. At the same time, California's battery capacity has grown from less than 1 GW in 2019 to over 17 GW today. As a result, batteries have been able to discharge more power than ever before – at one point covering more than 40% of the state's power load on the evening of 29 March 2026, for example. At the same time, batteries are increasingly helping to balance power systems: in the last five years, battery storage has gone from contributing less than 1% of hour-to-hour ramping needs to above 60% in the first quarter of 2026. A similar pattern has emerged in recent years in Texas; in April, batteries contributed to more than 40% of ramping in the ERCOT market.

In South Australia, where wind and solar penetration are among the highest in the world, batteries already provide a prominent share of ramping needs. As one of the earliest movers in large-scale battery deployment, the region saw batteries contribute more than 30% of hourly ramping in February and March.

In Great Britain, where wind is the primary driver of changes in net load, batteries are expanding their role within an increasingly diversified power mix, complementing gas-fired generation, hydropower, and increased electricity trade. They are also playing a growing role in the region's balancing mechanism, where speed is particularly valuable for meeting short-term ramping needs.

Removing barriers could further accelerate deployment

While momentum in battery storage deployment continues to build, some remaining barriers could still slow further progress. Regulatory frameworks play a central role in shaping deployment in both regulated and liberalized power systems. Grid connection and permitting remain key bottlenecks, with non-construction phases often accounting for more than half of total timelines. At the same time, while safety risks remain low relative to the scale of deployment, maintaining public confidence through robust safety standards, transparent communication, and active stakeholder engagement is essential.

To unlock the full potential of battery storage, policymakers and regulators need to ensure that regulatory systems recognize the full value of the services the technology offers, while enabling market access and establishing price signals that accurately reflect its various contributions. EP

World Environment Day 2026

Climate Crisis Nearing Point Of No Return

Qazi Kholiquzzaman Ahmad

How far away is the looming natural catastrophe? The concentration of carbon dioxide in the atmosphere reached 427.35 parts per million (ppm) in 2025. Scientists had already considered crossing the 400 ppm threshold to be extremely alarming, and that limit was exceeded as early as 2015. It should also be noted that, besides carbon dioxide, there are other greenhouse gases. Altogether, carbon dioxide accounts for about 80 percent of the total greenhouse gases in the atmosphere. Therefore, the actual situation is even more alarming. The Earth is becoming progressively warmer, and as a result, human civilization and the planet's biodiversity are already facing an existential crisis.

Moreover, global greenhouse gas emissions continue to rise, along with global temperatures. In other words, climate change is advancing rapidly along a worsening trajectory. Its impacts are now intensifying across the world. Irregular rainfall, floods, cyclones, droughts, storm surges, river erosion, and internal displacement of people are increasing globally. However, climate-vulnerable countries such as Bangladesh are being affected disproportionately and are suffering extensive losses and damages.

Meanwhile, the United States has not only withdrawn from the Paris Agreement, but the government and its followers generally continue to deny the reality of climate change and encourage the use of fossil fuels. The 30th COP (COP30) in 2025 also failed to present any hopeful commitment regarding the rapid and drastic reduction of greenhouse gas emissions necessary to keep the planet habitable in the future.

Adaptation, assessment, and mitigation of loss and damage, climate finance, capacity building, and technology transfer are, of course, extremely important. However, the need for these measures has arisen because of climate change, and the root cause of climate change is the continuous warming of the Earth, driven primarily by increasing greenhouse gas emissions. Therefore, the highest priority must be placed on rapidly reducing global greenhouse gas emissions. At the same time, due importance must also be given to other related issues. But unless strong measures are taken against the root cause in accordance with scientific imperatives—that is, unless emissions are reduced rapidly and at the necessary scale—the situation may reach a point where adaptation and other measures become exceedingly difficult, even impossible in specific cases, to implement effectively.

If the current trajectory of climate change continues, Bangladesh will become extremely vulnerable. Our task must be to make planned and effective use of the resources and capacities available to us, and, together with like-minded countries, exert pressure on the global community so that effective initiatives are undertaken to reduce greenhouse gas emissions rapidly in line with scientific requirements. EP

Qazi Kholiquzzaman Ahmad, *Economist and Expert on Environment and Climate Change*

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Parliamentary Committee Recommends 3-Month Strategic Fuel Reserve

A parliamentary special committee has proposed expanding strategic fuel reserves to cover a minimum of three months of demand, while urging diversified import sources and stronger measures to curb hoarding and smuggling.

The committee's chief Energy Minister Iqbal Hassan Mahmood presented the report on the opening day of the FY2026-27 budget session in parliament recently.

The report, titled Actions Required to Mitigate the Recent Fuel Situation, outlines strategies to safeguard national energy security.

The report said recent pressure on the country's fuel supply system was driven by rising international oil prices, conflict in West Asia, disruptions in shipping through the Strait of Hormuz, global supply chain instability, and domestic factors including panic buying, illegal stockpiling and black market activity.

It added that the impact was felt across transport, agriculture, industrial production and the daily lives of citizens.

Bangladesh Targets 35,000MW Power Generation Capacity by 2030: Khosru

The government has set a target to raise Bangladesh's electricity generation capacity to 35,000 megawatts (MW) by 2030, alongside expanding the national transmission network to 25,000 circuit kilometers, Finance Minister Amir Khosru Mahmud Chowdhury announced while presenting the FY2026-27 national budget in Parliament on June 11.

The finance minister said the government is implementing a comprehensive strategy to strengthen the country's energy security through intensified oil and gas exploration, increased domestic energy production, expansion of petroleum refining capacity, and diversification of fuel import sources.

"Our government is committed to building a self-reliant, affordable, uninterrupted, environmentally sustainable and modern power system," he told the Jatiya Sangsad.

Rezaul Karim Reappointed as BPDB Chairman

The government has reappointed Engineer Md. Rezaul Karim as Chairman of the Bangladesh Power Development Board (BPDB) on a contractual basis for another year.

A notification to this effect was issued recently by the Contract and Foreign Recruitment Wing of the Ministry of Public Administration.

According to the notification, the appointment has been made under Section 49 of the Government Service Act, 2018. His post-retirement leave (PRL) and related benefits will remain suspended during the one-year contractual tenure, effective from the date of joining.

Rezaul Karim is currently serving as the Chairman of BPDB. He assumed the role as the organization's 39th chairman on September 1, 2024.

Before taking charge as chairman, he served as a Member (Distribution) of BPDB and held several key positions within the country's power sector.

Speaker Cautions Energy Minister over Missed Ashuganj Gas Supply Deadline

Speaker Hafiz Uddin Ahmad cautioned the power, energy and mineral resources minister, Iqbal Hassan Mahmood, recently to thoroughly assess all relevant factors before making commitments in the Jatiya Sangsad.

The speaker's remarks followed a missed deadline regarding the supply of gas to the Ashuganj Fertilizer Factory.

During the second session of the 13th Jatiya Sangsad, independent lawmaker Rumeen Farhana raised a supplementary question, noting that the minister had previously pledged to ensure gas supply to the factory by May 1.

Farhana pointed out that more than a month had passed since the promised date without the supply being restored and requested a specific timeline for when the plant would receive gas.

JICA, Bangladesh Sign Tk3,800cr Loan Agreement

The Bangladesh government and the Japan International Cooperation Agency (JICA) signed a loan agreement for the "Emergency Support Loan for Enhancing Economic Resilience and Stable Energy Supply" recently, marking a significant step toward strengthening the country's economic stability and energy security amid evolving global and regional challenges.

Under the agreement, JICA will provide a Development Policy Loan of JPY 50 billion (approximately Tk 3,800 crore) to support Bangladesh in building its economic and energy resilience in the face of evolving regional and international challenges, said a press release.

The program is the first Official Development Assistance (ODA) loan initiative under the Partnership on Wide Energy and Resources Resilience Asia (POWERR Asia), an initiative introduced by the Japan government to address energy supply vulnerabilities and supply-chain disruptions across the region.

Bangladesh, Russia Seek to Expand Energy and Economic Cooperation

Bangladesh and Russia have reaffirmed their commitment to strengthening cooperation in energy, trade, investment, and education during talks between Foreign Minister Dr. Khalilur Rahman and Russian Foreign Minister Sergey Lavrov in Moscow.

The discussions reviewed the current state of bilateral relations and explored new opportunities for collaboration, particularly in the energy sector, which remains a cornerstone of the partnership. The two sides also exchanged views on regional and international developments.

Dr. Khalilur is visiting Russia on a three-day official trip at the invitation of his Russian counterpart, marking his first visit to Moscow since assuming office earlier this year. Following their meeting, the two foreign ministers addressed a joint media briefing.

BPC Moves to Appoint Consultant for ERL-2 Refinery Expansion

The Bangladesh Petroleum Corporation (BPC) has begun the process of hiring an international project management consultant to supervise the construction of the Eastern Refinery Limited (ERL-2) expansion project in Chattogram, aimed at reducing reliance on imported refined petroleum products.

The state-owned corporation has invited global consulting firms through an Expression of Interest to oversee engineering, procurement, and construction works for the refinery's major upgrade at North Patenga. The project is planned to modernize and expand the existing refinery, increasing its crude processing capacity from around 15 lakh tonnes to about 45 lakh tonnes per year.

The expansion project, fully financed by BPC, is scheduled for implementation between December 2026 and November 2030.

LPG Market Contracts as Price Hikes Reduce Demand

Bangladesh's LPG market is witnessing a sharp decline in demand as rising prices—driven by higher import costs and supply disruptions in the Middle East—continue to pressure consumers.

The price of a 12kg cylinder has increased to Tk 1,940, prompting households to cut usage or shift to alternative cooking methods such as electric stoves.

Industry operators report that LPG sales have dropped significantly in both urban and rural areas. In some cases, daily sales have fallen by nearly half as consumers struggle with rising living costs and inflation.

Dealers say repeated price hikes have reduced purchasing power, forcing many families—especially low and middle-income groups—to reduce consumption.

Bangladesh Plans 58 New Oil and Gas Well Projects to Boost Energy Security

Bangladesh plans to drill and rework 58 oil and gas wells between 2028 and 2031 as part of a long-term strategy to strengthen energy security, Power, Energy and Mineral Resources Minister Iqbal Hassan Mahmood told Parliament recently.

The minister said the program will support domestic energy exploration, while new drilling locations will be identified through ongoing seismic surveys.

The government will also procure a 1,500-horsepower drilling rig to enhance the capacity of state-owned BAPEX.

Bangladesh has already launched the Offshore Bidding Round 2026, covering 26 offshore blocks, including 15 deep-sea and 11 shallow-water blocks, to attract international investment in oil and gas exploration.

The government also plans to expand LNG infrastructure in Moheshkhali, build new gas transmission pipelines and diversify fuel import sources to ensure a stable energy supply.

Fresh LP Gas Celebrates World LPG Day 2026

Fresh LP Gas celebrated World LPG Day 2026, reaffirming its commitment to providing safe, trusted, and clean energy solutions to households across Bangladesh.

This year's World LPG Day is being observed globally under the theme "LPG: Pass it Forward", recognizing the role of LPG in promoting cleaner energy, better health, and a more sustainable future for generations to come.

To mark the occasion, Fresh LP Gas organized a tree plantation program at the MGI head office, demonstrating its commitment to environmental sustainability and the connection between clean energy and a greener environment.

Fresh LP Gas, a concern of Meghna Group of Industries (MGI), serves approximately 5 million customers across Bangladesh.

Tk 200cr Proposed for Research, Blue Economy Development

The government has proposed an allocation of Tk 200 crore in the national budget for the fiscal year 2026-27 to strengthen scientific research, promote innovation and advance the country's blue economy.

Finance Minister Amir Khosru Mahmud Chowdhury made the announcement while placing the proposed national budget in the Jatiya Sangsad recently.

He said research plays a vital role in driving technological progress and that there is no alternative to strengthening research capacity for innovation and development.

The minister noted that the government will continue providing financial support to researchers through the Science and Technology Fellowship Trust to ensure opportunities for high-quality research both at home and abroad.

Bangladesh, US Discuss Long-Term Energy Partnership

Bangladesh and the United States have reaffirmed their commitment to strengthening long-term cooperation in the energy sector, addressing global supply chain challenges, and expanding technology partnerships during a high-level bilateral meeting held in Washington on June 10.

The Bangladesh delegation was led by State Minister for Power, Energy and Mineral Resources Aninda Islam Amit, while the US side was headed by newly appointed Under Secretary of Energy Kyle Hausvit.

The meeting, held in a cordial atmosphere, focused on enhancing energy security, developing energy infrastructure, and promoting the exchange of advanced energy technologies between the two countries.

Both sides discussed opportunities for deeper collaboration in ensuring reliable energy supplies, supporting energy sector modernization, and exploring future areas of cooperation.

WORLD ENVIRONMENT DAY

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Green page

MetLife Bangladesh goes solar targeting 10pc renewable energy use

MetLife Bangladesh has installed a 104-kilowatt (kW) on-grid solar panel system at its Motijheel head office, aiming to generate up to 10 percent of its electricity demand from renewable energy sources.

The initiative marks a significant step in the company's sustainability journey as it seeks to reduce reliance on conventional power sources and promote environmentally responsible operations, said a press release issued recently.

The newly installed rooftop solar system will enable MetLife Bangladesh to meet a portion of its energy requirements through clean power generation, aligning with the country's growing emphasis on renewable energy adoption. Having served Bangladesh for more than 74 years, the company said it continues to modernize its workplace through energy-efficient and sustainable initiatives.

"Sustainability is integral to how we operate and how we serve Bangladesh," said Chief Executive Officer of MetLife Bangladesh Ala Ahmad.

CPD Urges Green Fiscal Reforms to Boost RE Development

The Centre for Policy Dialogue (CPD) has called for comprehensive fiscal reforms to remove policy biases favoring fossil fuels and accelerate Bangladesh's transition to renewable energy.

At a press briefing in the capital recently, CPD Research Director Dr Khondaker Golam Moazzem presented a study titled "Fiscal Discrimination between Fossil Fuel and Renewable Energy: Alternate Solutions to Address the Energy Crisis."

The study found that fossil fuel-based power projects have received more than 95 percent of development budget allocations over the years, while renewable energy initiatives have received less than five percent, discouraging investment in clean energy technologies.

According to the report, liquefied natural gas (LNG) imports enjoy significantly lower tax burdens than renewable energy technologies such as solar equipment, lithium-ion batteries, electric vehicles and grid infrastructure.

Solar Power Cuts Electricity Costs at Padma Bridge Service Area

A solar power system installed at Service Area-2 of the Padma Bridge has significantly reduced electricity costs while supporting the government's renewable energy transition efforts.

According to a recent press release issued by the Bangladesh Bridge Authority (BBA), the 2.49-megawatt peak (MWp) solar plant is operating under a net metering system connected to the national grid.

Electricity generated during the day is used to meet the service area's demand, while surplus power is supplied to the grid.

Secretary of the Bridges Division and Executive Director of the BBA Mohammad Abdur Rouf said the successful use of renewable energy at a major national infrastructure project like the Padma Bridge is an important step toward sustainable development.

Civil Society Calls for Higher RE Allocation in FY27 Budget

Environmental and consumer rights organizations have urged the government to give top priority to renewable energy in the upcoming FY2026-27 national budget, citing growing global energy market volatility, rising fossil fuel costs, and Bangladesh's long-term energy security needs.

The demand was made at a pre-budget press conference titled "Global Energy Crisis and Renewable Energy: Pre-Budget Dialogue for FY2026-27", organized by the Centre for Natural Resource Studies and Advocacy (CLEAN), ISDE Bangladesh, and the Bangladesh Working Group on Ecology and Development (BWGED) in Chattogram recently.

The event was chaired by Prof. Dr. Khaled Misbahuzzaman, President of Poribesh Protibesh Forum-Chattogram and Professor at the Institute of Forestry and Environmental Sciences, University of Chittagong.

The keynote presentation was delivered by SM Nazer Hossain, Vice President of the Consumers Association of Bangladesh (CAB) and Executive Director of ISDE Bangladesh.

Speakers warned that Bangladesh's heavy dependence on imported fossil fuels has increased the country's vulnerability to international price fluctuations and geopolitical uncertainties.

They noted that rising costs of oil, LNG and coal have increased electricity generation costs, subsidy burdens and overall living expenses.

Addressing the conference, Prof. Khaled Misbahuzzaman emphasized that renewable energy is essential for ensuring both climate resilience and long-term energy security.

He called for increased budgetary allocations for renewable energy research, innovation, technology development and capacity building.

Finnish Startup Raises €1.0m for Renewable Supercapacitor Technology

Finland-based energy startup Granarium Technologies has secured more than €1.0 million in pre-seed funding to commercialize a breakthrough renewable supercapacitor technology designed to support grid stability and industrial power reliability.

The funding round was led by BSV Ventures, with participation from Beamline, FiBAN, EstBAN, and LatBAN.

The company, a spin-off from VTT Technical Research Centre of Finland, has also received the transfer of the underlying technology and intellectual property from VTT. Granarium's patented technology uses nanocellulose and biocarbon derived from waste wood and agricultural residues to produce renewable supercapacitors that can store and release electricity rapidly.

The company says the technology offers a safer, more sustainable alternative to conventional energy storage systems while reducing production costs by up to 80%.

Green page

Adani Commissions World's 2nd-Largest BES Project

India's leading renewable energy company, Adani Green Energy Limited (AGEL), has commissioned a 3,370 MWh Battery Energy Storage System (BESS), making it the world's second-largest battery storage network and the largest single-location battery storage project outside China.

The battery system, located at AGEL's Khavda renewable energy park in Gujarat, will be charged using solar power and can deliver 3,370 MW of electricity for one hour, even when solar generation is unavailable.

The stored energy is sufficient to power nearly one million homes for a day or keep more than 12 million LED bulbs illuminated for 10 hours.

The project combines AGEL's previously operational 2,000 MWh battery storage facility with a newly commissioned 1,370 MWh system, bringing the total storage capacity to 3,370 MWh.

The company completed the expansion in just 10 months, setting a new benchmark for utility-scale battery deployment.

Battery storage is increasingly becoming a critical component of renewable energy systems worldwide, enabling solar power generated during the day to be used at night and improving grid stability.

Philippines Tightens Solar and Battery Certification Rules

The Philippines' Department of Trade and Industry (DTI) has proposed mandatory certification rules for solar and energy storage products to strengthen safety, quality, and technical standards across the sector.

Under a draft Administrative Order issued on 25 May 2026, key solar components—including PV modules, inverters, batteries, energy storage systems, and related equipment—would require certification before being sold in the country.

The rules apply to both locally produced and imported products.

The proposal comes amid concerns over safety incidents linked to solar systems, such as electrical fires, battery failures, overheating panels, and installation-related hazards.

It aims to ensure compliance with Philippine National Standards enforced by the Bureau of Philippine Standards (BPS). Only products carrying the PS Safety Mark and ICC certification would be allowed in the market. The draft also introduces recall procedures, requiring non-compliant products to be withdrawn within 15 days of notification.

Manufacturers and importers would face inspection, testing, and licensing fees, with penalties including suspension or cancellation of operating licenses.

Türkiye Cuts Grid Fees for 800 Solar Plants After Feed-in Tariff Expiry

Türkiye's Energy Market Regulatory Authority (EPDK) has reduced grid fees by 68% for approximately 800 first-generation unlicensed solar power plants that have completed their ten-year feed-in tariff (FIT) support period.

Under the new regulation, the grid fee has been lowered from TRY 2.081/kWh to TRY 0.656/kWh (about $0.014/kWh). The measure applies to solar facilities commissioned before 2019 and is intended to ease financial pressure on plant operators following the expiration of government-backed purchase guarantees.

According to state-run Anadolu Agency, the affected facilities have a combined capacity of around 500 MW to 550 MW. Industry stakeholders say the high grid fees had forced some plants to suspend operations when electricity market prices fell below distribution costs.

Unlicensed solar installations, typically developed for self-consumption projects of up to 5 MW, dominate Türkiye's solar market. Data from transmission system operator TEİAS show that unlicensed projects account for more than 22 GW of the country's nearly 25 GW of installed solar capacity.

Green page

France's Solar Capacity Tops 33 GW

France added 1,495 MW of new solar capacity in the first quarter of 2026, bringing its cumulative installed solar capacity to 33 GW, according to the French statistics agency SDES.

Although slightly lower than the 1,571 MW added during the same period in 2025, solar deployment remained robust.

Solar power generation reached 6.6 TWh in metropolitan France during the quarter, up from 5.9 TWh a year earlier. Excluding self-consumption, solar electricity accounted for 4.6% of national electricity demand, an increase of 0.7 percentage points year-on-year.

Self-consumption continued to expand, with 62% of photovoltaic installations generating electricity for full or partial on-site use.

A total of 481 GWh of solar electricity was self-consumed during the quarter, representing 7% of total solar output.

Meanwhile, France's solar project pipeline stood at 36.1 GW, despite a slight decline from the previous quarter.

PM Calls for Region-Specific Tree Plantation to Boost Climate Resilience

Prime Minister Tarique Rahman has emphasized the importance of planting tree species suited to local soil and environmental conditions to ensure higher survival rates and strengthen ecological balance.

Speaking at a meeting on the government's nationwide tree plantation programme at the Prime Minister's Office in Tejgaon on June 6, the premier said soil characteristics vary across different regions of the country and tree plantation efforts should reflect those differences. He noted that climate change is increasingly affecting seasonal patterns, citing changes in rainfall trends and declining forest cover as growing environmental concerns.

"Ttree plantation must be given the highest priority to protect the environment, mitigate the impacts of climate change and ensure a safer future for coming generations," he said.

Films Can Be Powerful Weapon Against Climate Crisis: Information Minister

Information and Broadcasting Minister Zahir Uddin Swapon has emphasized the vital role of films in raising public awareness about climate change and environmental protection, describing cinema as a powerful medium for inspiring social change.

"Films can play a highly effective role in creating awareness about climate change and environmental conservation," he said while addressing the closing session of the daylong Global Trend and Climate Change Film Festival (GTCF) 2026 at the National Library auditorium in Agargaon, Dhaka, on June 5.

The minister said the government prioritizes films carrying messages of social transformation under its grant programme and assured that projects focusing on environmental and climate issues would receive serious consideration from the ministry.

Bangladesh Promotes Migration as a Strategic Response to Climate Change

Bangladesh has underscored migration as an important climate adaptation strategy for addressing the growing challenges of climate-induced displacement, while calling for stronger international cooperation to enhance resilience and protect human dignity.

The issue was highlighted during a recent meeting between Bangladesh Ambassador and Permanent Representative to the United Nations Office in Geneva, Nahida Sobhan, and Amy Pope, Director General of the International Organization for Migration (IOM).

The discussions focused on the interconnected challenges of climate change, migration, and sustainable development. Climate-induced displacement continues to be a major driver of human mobility, particularly in countries that are highly vulnerable to the impacts of climate change.

Bangladesh emphasized that well-managed migration can serve as a practical and effective adaptation measure, helping affected communities build resilience and access new opportunities.

Bangladesh Seeks Turkish Support for Climate Adaptation

Bangladesh has sought Türkiye's support in strengthening climate resilience and expanding educational opportunities for homeless street children as part of efforts to address key social and environmental challenges.

The request was made by State Minister for Foreign Affairs Shama Obaed Islam during a meeting with a delegation from the Turkish Cooperation and Coordination Agency (TIKA), led by Vice President Dr. Ali Ercan, at the Ministry of Foreign Affairs in Dhaka recently.

During the discussions, the state minister highlighted the need for specialized cooperation in implementing education programs for vulnerable street children and supporting sustainable climate adaptation initiatives in regions most exposed to the impacts of climate change.

UN Warns of Deepening Ocean Crisis, Urges Stronger Global Action

The United Nations has warned that the world's oceans are facing an escalating crisis driven by climate change, pollution, overfishing and biodiversity loss, calling for urgent global cooperation to protect marine ecosystems.

The warning came with the release of the Third World Ocean Assessment on World Oceans Day, a comprehensive report prepared by nearly 600 experts from 86 countries.

According to the report, ocean temperatures and sea levels are rising at an accelerating pace, while an estimated 52 million tonnes of plastic waste enter the oceans every year. Scientists also noted that only 27.3% of the ocean floor has been mapped, leaving major knowledge gaps about deep-sea ecosystems.

UN Secretary-General António Guterres said the world must build a new relationship with the ocean based on science, international law and shared responsibility.

Environment Minister, EU Ambassador Discuss Climate Finance and Green Energy Transition

Environment, Forest and Climate Change Minister Abdul Awal Mintoo held a courtesy meeting with Michael Miller, Ambassador of the European Union to Bangladesh, at the Bangladesh Secretariat recently.

The meeting focused on strengthening cooperation between Bangladesh and the European Union in addressing climate change, advancing the green energy transition, and promoting environmental sustainability.

The two sides exchanged views on a wide range of issues, including the Green Climate Fund (GCF), climate finance, expansion of renewable energy, carbon credit mechanisms, the circular economy, green energy transition initiatives, and preparations for the upcoming COP31.

EU Ambassador Michael Miller praised Bangladesh's initiatives in environmental protection and climate action. He expressed the European Union's interest in expanding cooperation with Bangladesh on green energy transition and climate adaptation programs.

Bangladesh Marks World Environment Day with Renewed Commitment to Climate Action

Bangladesh observed World Environment Day 2026 on June 5 with a series of programs across the country, highlighting the importance of environmental protection, climate resilience and public awareness in addressing growing ecological challenges.

Government agencies, educational institutions, environmental organizations and development partners marked the day through rallies, discussions, tree plantation campaigns and awareness-building activities.

Observed under the theme "Inspired by Nature, For Climate, For Our Future," World Environment Day serves as the United Nations' leading platform for promoting environmental awareness and encouraging collective action for a sustainable future.

Emphasizing the role of creative media in climate advocacy, Information and Broadcasting Minister Zahir Uddin Swapon called on filmmakers to use cinema as a powerful tool for raising awareness about climate change and environmental conservation.

State Minister Calls for Stronger Global Cooperation to Build a Livable Planet for Future Generations

State Minister for Environment, Forest and Climate Change Sheikh Faridul Islam has called on member countries of the Global Environment Facility (GEF) to work collectively towards building a livable and sustainable planet for present and future generations.

He made the call while addressing the second-day session of the GEF Conference held in Samarkand, Uzbekistan, recently.

In his speech, the State Minister emphasized that environmental pollution could be significantly reduced through coordinated global efforts and by accurately identifying its sources.

He highlighted the importance of international cooperation in implementing environmental protection measures and climate-resilient development programmes to ensure sustainable growth.

Global Climate Finance Exceeds $100b Goal for 3rd Consecutive Year

Developed countries have exceeded the UN climate finance target of $100 billion per year for the third year in a row, according to the latest data released by the OECD.

The report shows that climate finance provided and mobilized for developing countries reached $132.8 billion in 2023 and $136.7 billion in 2024, following $115.9 billion in 2022. Despite the overall increase, the OECD found that most funding continued to flow to middle-income countries, while support for low-income nations remained below its 2022 peak of $11.1 billion.

Mitigation projects accounted for nearly two-thirds of total climate finance, while adaptation finance rose more slowly, making up about one-quarter of flows in 2023 and 2024.

Private finance also increased significantly, reaching $30.5 billion in 2024—its largest annual rise in nearly a decade—driven mainly by multilateral development banks and private investment instruments.

India Climate-Tech Funding Hits $12.8b Amid Energy Security Push

India's climate technology sector has attracted around $12.8 billion in cumulative funding across 1,583 companies, driven by rising energy security concerns, policy support and private capital, according to a Tracxn report.

Annual investment in the sector has grown sharply from about $315 million in 2020 to $2.6 billion in 2025, reflecting increasing alignment between climate goals and India's push for energy independence.

Renewable energy remains the largest segment, drawing about $1.5 billion in cumulative funding, followed by waste management, energy efficiency, air pollution control and water treatment technologies. The report notes that investment is increasingly concentrated in fewer but larger late-stage deals, signaling a maturing ecosystem focused on scale and deployment.

Key government initiatives such as EV adoption programmes, carbon trading mechanisms and rare earth supply chain support are also strengthening investor confidence in the sector.

Türkiye, Australia Outline "Implementation COP" Vision for COP31

Türkiye and Australia have set out a joint vision for COP31, describing the upcoming UN climate summit as an "Implementation COP" focused on turning global climate commitments into measurable action.

In a joint letter, COP31 President-designate Murat Kurum of Türkiye and COP31 President of Negotiations Chris Bowen of Australia pledged to strengthen international cooperation and accelerate delivery of the Paris Agreement goals, particularly by advancing Nationally Determined Contributions (NDCs) and National Adaptation Plans (NAPs).

The COP31 Presidency said the summit will prioritize climate action across mitigation, adaptation and finance, with additional focus on just transition, agriculture, transparency, clean energy transition and resilient infrastructure.

Both leaders stressed the need to translate existing climate pledges into concrete, trackable progress while strengthening global coordination on climate finance and investment flows.

UN Adopts Resolution to Advance ICJ Climate Ruling

The UN General Assembly (UNGA) has adopted a resolution to follow up on the landmark 2025 advisory opinion of the International Court of Justice (ICJ), reinforcing countries' responsibilities to address climate change and protect human rights.

The resolution recognizes the ICJ opinion as an authoritative interpretation of international law and calls on all countries to safeguard the climate system and the environment from human-induced greenhouse gas emissions by preventing significant harm, cooperating in good faith and protecting vulnerable populations.

Introduced by Vanuatu and a group of supporting nations, the resolution was approved by a vote of 141 in favor, with eight countries voting against and 28 abstaining.

The General Assembly also requested the UN Secretary-General to prepare a report in 2027 outlining ways to strengthen compliance and decided to revisit the issue during its 83rd session in 2028.

Tariffs Rose, But Consumer Protection Came First

The allegation that the Bangladesh Energy Regulatory Commission (BERC) does not place adequate importance on consumer interests is incorrect. Consumer welfare was given due consideration in the latest electricity tariff adjustment. That is why only a small portion of the gap between the Bangladesh Power Development Board's (BPDB) production cost and selling price has been adjusted. Several directives have been issued to reduce electricity generation costs, including lowering capacity charges and improving management efficiency.

BERC Chairman Jalal Ahmed made these remarks in an interview with Mollah Amzad Hossain, Editor, Energy & Power.

After a 28-month gap, the Bangladesh Energy Regulatory Commission increased electricity tariffs on June 3. However, the Consumers Association of Bangladesh and several civil society groups have questioned its justification. Some have alleged that despite recommendations made during the public hearing to reduce the deficit without raising prices, the Commission did not accept those proposals. What is your response?

A public hearing is not an isolated event; it is part of a comprehensive process. The licensed utility companies first submit their revenue demand or tariff adjustment proposals. These proposals are then analyzed by a technical committee and presented to the Commission. Only after that is a public hearing held, where both supporting and opposing views are heard.

We analyze all available data, cost structures, and the financial conditions of the utilities before reaching a balanced decision, so that consumers are not subjected to excessive pressure while ensuring that the utilities remain financially viable.

This time, the electricity sector requires subsidies of around Tk 56,000 crore. Through the wholesale tariff adjustment, it has been possible to reduce a portion of that deficit. We estimate that BPDB's subsidy requirement will decrease by approximately Tk 12,000 crore. However, a substantial deficit remains, which the government will have to cover through subsidies.

SCAN THE QR CODE TO WATCH FULL INTERVIEW

Consumer rights groups, business associations, and others have questioned the rationale behind the tariff increase. What would you say to them?

It would not be appropriate to view this simply as a price increase. Electricity tariffs have been adjusted many times over the past 15 years. International fuel prices, exchange rate fluctuations, and inflation have all increased electricity generation costs.

We increased the wholesale tariff by an average of Tk 1.39 per unit. According to BPDB's proposal, a much larger increase was necessary to reduce the deficit. However, considering the burden on consumers, we adopted a middle-ground approach. Even then, an estimated deficit of around Tk 41,000 crore will remain, which the government will have to bear as subsidies.

Wholesale electricity tariffs have been increased by Tk 1.39 per unit, which will raise BPDB's annual revenue by Tk 14,000 crore. Yet, a deficit of Tk 41,000 crore will remain. Did the Commission recommend that the government increase subsidies to bridge this gap?

BPDB's proposal estimated an annual deficit of Tk 56,000 crore. However, it is not possible to transfer the entire burden onto consumers. Therefore, the wholesale tariff was increased by Tk 1.39 per unit, which is expected to generate an additional Tk 12,000 crore in annual revenue.

Alongside subsidies, BPDB must reduce electricity generation costs. Necessary directives have already been issued for that purpose.

Jalal Ahmed

At this stage, the Commission is not considering monthly adjustments for electricity and gas prices under a formula similar to LPG and petroleum products. This is because it is not possible to transfer the full burden of actual gas and electricity costs onto consumers. Instead, the sector must remain financially sustainable through limited price increases while continuing subsidies.

Has the Commission held any discussions with the government regarding subsidies?

There has been no separate policy-level discussion with the government. However, the utility companies' proposals clearly identified a substantial subsidy requirement.

Our tariff adjustment will reduce some of that burden, allowing the government to allocate resources to other productive and development sectors. Since the government has continuously provided subsidies to the power sector, it is expected to continue doing so to address the remaining deficit.

At the retail level, electricity tariffs were initially increased from Tk 9.11 to Tk 10.63 per unit. However, following requests from the utilities, the

increased rates for lifeline consumers using up to 50 units and consumers using up to 75 units were withdrawn the next day. As a result, the average retail tariff became Tk 10.40 per unit. How will the Commission address the resulting deficit for the distribution companies?

The first order increased retail tariffs in line with wholesale tariff adjustments and applied the increase to all categories of consumers.

However, following discussions with the utilities and considering their requests, tariffs for lifeline consumers and consumers using up to 75 units were kept unchanged. This will increase the financial deficit of the Rural Electrification Board (REB). Therefore, the Commission has asked BPDB to support REB by offering discounts on wholesale electricity prices to compensate for the shortfall.

It is well known that whenever electricity tariffs are increased, the Commission also issues directives to the utilities. BPDB's average generation cost is now over Tk 13 per unit. Many believe that the entire burden cannot be shifted onto consumers and that waste, irregularities, and corruption must be reduced. What kind of directives has the Commission given to BPDB?

Alongside the tariff order, we have issued directives to BPDB and other utilities specifying the actions they must undertake and requiring them to report their progress to the Commission.

Although capacity charges are an internationally recognized concept, in our case, they have become a major burden due to excessive installed capacity. To reduce this burden, utilities have been instructed not to renew power plants once their operational terms expire.

We have also instructed them to improve plant availability, heat rates, operational efficiency, fuel mix, and management practices to reduce overall costs. Regular monthly and quarterly reports on these matters will be submitted to the Commission.

Furthermore, directives have been issued to reassess power plants that have become obsolete or ineffective and to gradually retire them.

Protecting consumer interests is one of BERC's major responsibilities. However, there is a perception that the Commission has not taken effective initiatives in this regard since its establishment. How do you respond, and what is the current Commission doing?

The allegation is not accurate. We are working with the highest priority given to consumer interests, and the extent of the recent tariff increase itself demonstrates that.

There have been complaints regarding prepaid electricity meters. To verify these concerns, BERC is conducting a study in collaboration with BUET. Based on its findings, the Commission will take appropriate measures.

At the same time, to prevent unnecessary expenditures from being transferred to consumers in the future, we have issued an order requiring all licensees to obtain prior approval from the Commission before undertaking any projects.

Failure to comply with this order will constitute a violation of the law, and in such cases, the costs of those projects will not be allowed to be passed on through tariffs.

Moreover, the Commission has initiated financial, managerial, and technical audits for all licensees. Since BERC currently lacks adequate manpower to conduct these audits internally, third-party services will be engaged initially.

Once this process begins, it will create opportunities to identify financial irregularities and management weaknesses in the energy and power sectors and take corrective action. Ultimately, consumers will benefit from these measures.

Is there any opportunity to renegotiate or buy back old power purchase agreements?

The government formed two committees to examine this issue. Some reviews have already been conducted, although I am not aware of the final decisions.

However, if the government wishes, certain agreements can certainly be reconsidered. Decisions should be based on a comprehensive assessment of the costs and benefits associated with each contract.

What role will the Rooppur Nuclear Power Plant play? Will it help reduce generation costs?

The addition of 1,200 MW of electricity from Rooppur NPP to the national grid will provide significant relief to the system.

If its production costs remain comparatively low, it will help stabilize electricity tariffs in the future. It will also play an important role in strengthening Bangladesh's energy security.

What is BERC's position regarding renewable energy?

We attach great importance to renewable energy. The government also has clear targets to advance this sector.

Large areas of land, such as those in Moheshkhali and Matarbari, could be utilized for renewable energy projects. Utilities are also being encouraged to gradually increase their investments in renewable energy sources.

Bangladesh is heavily dependent on energy imports, with import dependency currently standing at around 65 percent. Prices of gas, electricity, oil, and LPG are therefore heavily influenced by international markets. Since LPG and fuel oil prices are adjusted monthly under a formula, should a similar formula-based mechanism be introduced for electricity and gas?

At this stage, the Commission is not considering monthly adjustments for electricity and gas prices under a formula similar to LPG and petroleum products.

This is because it is not possible to transfer the full burden of actual gas and electricity costs onto consumers. Instead, the sector must remain financially sustainable through limited price increases while continuing subsidies.

At the same time, the Commission has already issued directives aimed at reducing electricity generation costs. EP

TRANSITION TO RENEWABLES GETS ATTENTION IN NEW BUDGET

Reverse Swing

Farid Hossain

Energy security is what Bangladesh has long been striving to achieve for its steady and sustainable economic growth. For this the country needs to transition from dependence on imported fossil fuels to the renewables. Thanks to a special thrust Bangladesh has now an installed capacity to generate nearly 29,000 MW of electricity, almost double the amount it actually produces. It's an irony that the country has the luxury of keeping a substantial capacity idle while the factories, households, irrigation pumps and transports suffer frequent power setbacks. The shortage does not tell the entire story. Bangladesh has long been paying a handsome amount in the US dollars in the form of capacity payments to independent power producers and quick rental plants which use imported and costly fossil fuels. The government pays a huge amount of subsidies to the power sector and much of its goes to the idle power plants. In the national budget for FY2026-27 the new government of Prime Minister Tarique Rahman has proposed to raise the electricity subsidies to Tk37,000 crore, up from Tk3600 crore the previous year. The subsidy will primarily cover the capacity payments to fossil fuel-based quick rental power plants. Paying for the entities without any productive use is a luxury Bangladesh can no longer afford.

Green energy can offer a solution to the problem. The budget has offered incentives in the form of duty and tax cuts to promote production and use of solar energy in particular in the bid to ease dependence on imported fossil fuels in a global energy market of uncertainty and volatility. Currently, renewable energy makes up around 6.3% of the country's total installed power generation capacity of 28,919 MW. Solar energy leads the mix with over 83%, followed by over 12% contributed by hydro power and 3.4% coming from wind. The government has a plan to raise the contribution of renewable energy to at least 20% by 2030 and up to 40% by 2041 to reduce reliance on imported fuels such as gas, oil, petrol, diesel and octane.

Has the proposed national budget provided enough funds to the renewables? Not enough, experts have found. The budget has an allocation of Tk17,345 crore to the power, energy and mineral resources ministry. Unfortunately, only 2% of it has been set aside for the renewables – mainly solar -, while 98% of it goes for fossil fuels. The total allocation for the sector also sees a 23% reduction compared to the previous year. There are, however, some positive aspects. The budget proposals include zero income tax on commercial solar use and zero import duties on import of key solar equipment. The budget has provision for tax and duty exemptions. Import duties, regulatory duties and advance tax on essential solar power components have been made 0% and this will remain effective until 2030. Additionally, commercial solar energy is likely to get 0% income tax benefits. Also, imports of raw materials used for manufacturing lillium-ion, sodium-ion and associated battery packs are under consideration for such duty and tax incentives until 2030. These are welcome steps. But much more needs to be done. The incentives, according to some experts, benefit a small group of producers and companies. The incentives should be extended to encourage farmers to transition from fuel-run irrigation pumps to solar-powered pumps. The country has an estimated 12 lakh diesel-powered irrigation pumps. Experts want the government to take steps to free the farmers from the heavy reliance on diesel, which is again an imported fuel. The use of solar energy in the operation of irrigation pump can save dollars now being spent on import of fossil fuels. It can prove a great relief for the farmers.

Another recommendation from energy experts has been the establishment of a dedicated fund of Tk25,000 crore to help bridge the gaps in financing the green energy transition. EP

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