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The Policy Gap: How Dhaka's Rapid Urbanization Challenges Energy Security in an Import-Dependent Bangladesh

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comment

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Abstract

Dhaka, a hyper-dense megacity and the economic powerhouse of Bangladesh, is facing a major energy security crisis that is aggravated by the high rate of spatial growth and the growing reliance on imported primary fuels. The exact formulation of the policy gap between urban development and the regulation of energy is not studied thoroughly in the institutional perspective. Based on Qualitative Document Analysis (QDA) of statutory annual reports (2023–2025) and visual spatial analysis of historical satellite images (2020 & 2025), this study concludes that utilities do not consider urbanization as an integrated planning variable. Rather, urbanization is viewed as a risk that is spatialized and an issue of institutional friction. The thematic framework of Braun and Clarke makes it quite clear that an ontological gap is deep-rooted in the system, and there is an underpinning of historical discourses of "macroeconomic helplessness" in utility discourse, which makes the effects of global fuel price volatility on local operations clear. Based on these results, the research suggests three combined governance models (Zonal Energy Budgeting, Vertical Prosumer Cooperatives, and Metabolic Infrastructure Synchronization) as a way of solving these problems. The findings argue that it is only through disaggregation of siloed governance and the incorporation of energy generation into the urban structure of Dhaka that the city can decouple megacity development and the energy trap of imports.

1. Introduction

Dhaka is a hyper-dense megacity that has a population of about 36.6 million people. It is the economic and demographic powerhouse of Bangladesh which is the epicentre of a deep energy security crisis (Emon & Khan, 2023). In 2022, the country rejoiced in universal access to electricity, however, the infrastructure is loosely connected to an unstable, import-based model (Mahbub, 2024). The change to liquefied natural gas and imported coal is the most apparent sign of this dependency, where the aim of these imports is to offset the domestic gas shortage, but has served to make the economy more vulnerable to fiscal pressures and susceptible to global price shocks (Chowdhury et al., 2025; Siddiky, 2021). The city's population is growing fast, and the **graying** of the previously green canopies in such regions like Purbachal and Keraniganj takes monstrous proportions. In certain cities, energy consumption has increased by more than 60 percent in the last 5 years, exceeding the sustainable supply of the country (Dhaka Power Distribution Company Limited, 2025; Emon and Khan, 2023).

But, the **policy gap** in the energy security in Dhaka is more of discursive and institutional than merely technical or financial nature. The existing practices, like the 4As model, tend to consider energy security as a supply chain problem and not as a dynamic performance of urban governance. It is becoming more understood that the city is not well coordinated in its growth and energy infrastructure, with the **unplanned** urbanization resulting in an uneasily coordinated and fragmented utility practice. This study re-emphasizes the institutional discourses and histories that make policy, where the question is: How do institutional differences in the stories and communication gaps between urban planners and energy utilities in Dhaka contribute to the policy gap and exacerbate energy insecurity in an import-dependent regime?

This study is new as it explicitly explores the **ontological divide** and **institutional friction** based on qualitative document analysis of utility discourse (thematic framework of Braun and Clarke) and triangulation with

longitudinal satellite data (2020 & 2025). The gist of the findings is that utilities explain their operational issues, including **residential load escalation** and **import traps**, in a manner that supports fragmented energy governance. The results highlight the criticality of revolutionary, decentralized, and integrated models, namely vertical consumer cooperatives, zonal energy budgeting, and metabolic infrastructure synchronization, that refocus urbanization in Dhaka on a more resilient and domestic-oriented energy future.

2. Literature Review

The recent research in the field of the energy sector in Bangladesh has no longer concentrated on the idea of **access** but on the notions of **security** and **fiscal sustainability** (Chowdhury et al., 2025; Mahbub, 2024). The 4As framework indicates that accessibility and availability of energy has been enhanced through huge growth of the grids (Amin et al., 2021). Nevertheless, the affordability and acceptability of the existing mix of imports-heavy are under threat (Amin et al., 2021). The shift to imported LNG is a threat to domestic energy security. It puts financial strain on the grid and puts the grid at risk of international volatility (Amin et al., 2023; Siddiky, 2021). This forms a sustainable supply-demand gap in Dhaka. The huge peak loads are on residential demand, particularly the cooling demand. Existing infrastructure is only able to survive by rolling blackouts (Emon & Khan, 2023).

2.1 Institutional Discourse and Siloed Governance in the Global South

Another problem in the energy transition of the Global South that is often ignored is the disjointed communication and coordination between government agencies. Numerous fast-growing cities use technical energy delivery schemes that do not fit the urban planning rules. This has forced agencies like the Bangladesh Power Development Board and Titas Gas Company to work in reaction towards the urban growth instead of being proactive in planning.

Legacy is often a focus of institutional discourse, but it is centralized energy systems, not innovative and flexible alternatives. Dhaka has a sharp schism between urban planners who focus on land use and building and utilities that focus on quantitative growth measures. There is, however, limited coordination between these entities. Such continued absence of cooperation makes the energy network always fall behind the spatial growth of the city, leading to energy wastage and putting the major utilities in Dhaka under financial burden.

2.2 Theoretical Grounding: Urban Metabolism and Prosumer Cooperatives

This paper proposes the concept of **urban metabolism** to solve these problems, which views the city as a network of resource flows. A study of the flow of electricity, gas and information in Dhaka shows that there is inefficiency and wastage of resources which is a symptom of the poorly integrated systems. By looking at how the changes in climate and the rapid urban expansion are affecting these flows, new solutions can be identified that do not only focus on the supply but also go further.

Also, energy cooperatives, where individuals both generate and use energy, offer a way to have localized energy control and less reliance on imports. These cooperatives use cooperative ownership and decision-making to enable the adoption of renewable energy which may reduce the dependence of Dhaka on foreign sources. Considering the overcrowding of Dhaka and the scarcity of space, such cooperatives would allow people to own and share the common energy resources, including rooftop solar systems. This strategy supports the policy recommendations pursued in this paper such as encouraging the formation of local energy cooperatives and the coordination of infrastructure to enable active residents in improving energy security.

2.3 Summary of Literature Review and Policy Gaps

Theme	Objectives	Matrices Studied	Key Findings	Policy Gaps	Citations
Sustainability Pathways	Analyze power sector transformation	Fossil Fuel vs. Renewables	Universal access has been achieved, but fuel imports and exchange rate volatility threaten it	Lack of clear roadmaps for de-risking import-dependent models	(Chowdhury et al., 2025)
Urban Energy Matrix	Assess the Renewable Energy feasibility in Dhaka	Natural Gas & Electricity	85% of Dhaka's power comes from gas, leading to recurrent load shedding	Failure to integrate Renewable Energy into building codes in dense urban areas	(Emon & Khan, 2023)
4As Framework	Evaluate energy security policies	Availability/ Affordability	Current policies focus on availability but neglect the affordability of imported fuels	Fragmented institutional settings for energy advancement	(Amin et al., 2021)
Energy Insecurity	Analyze energy security challenges	LNG Dependency	Shift toward imported LNG creates long-term fiscal and supply insecurity	Lack of a strategic buffer against global fuel price shocks	(Siddiky, 2021)
Urban Innovation	Reframe energy as foundational development	Sector Coupling / Siloed Governance	Technocratic models and siloed governance hinder energy innovation in informal cities	Absence of co-produced, inter-infra solutions (sector coupling)	(Caprotti et al., 2025)
Urban Metabolism	Analyze resource flows in the Global South	Urban Metabolism	Urban metabolism is a holistic framework for identifying deficiencies in urban systems	Lack of Urban Metabolism studies in the Global South to guide mitigation	(Khalifa et al., 2021)
Energy Communities	Evaluate the democratization of Renewable Energy	Prosumer Cooperatives	Cooperatives offer a path to energy democratization and to reducing throughput	Absence of legal frameworks for shared energy ownership in high-rises	(Nolden, 2023; Petrovics & Savini, 2025)

Theme	Objectives	Matrices Studied	Key Findings	Policy Gaps	Citations
Urban Governance	Link urbanization with health/environment	Unplanned Urbanization	Rapid expansion creates socioeconomic determinants that strain governance	Failure to synchronize urban expansion with utility infrastructure	(Akash et al., 2018; Rahaman et al., 2023)

3. Methodology

3.1 Research Design and Methodological Approach

This paper takes the form of a qualitative research design (Bowen, 2009), and a triangulation of qualitative research design and visual spatial analysis in order to explore the institutional discourse on energy security and urban development in Dhaka. Qualitative Document Analysis (QDA) is especially appropriate in the Global South policy research, as it can be used to critically assess printed and electronic documents in order to identify the **institutional logic** and organizational anxieties. This methodological decision is based on the discursive formulation of urbanization and energy dependency, unlike purely quantitative approaches that pay attention to financial measures. This study reveals the perception and explanation of the so-called **policy gap** between the spatial expansion of the city and the increasing dependence of the nation on imported primary energy by exploring the narratives of utility reports.

3.2 Data Collection and Addressing Institutional Opacity

The main sources of data of this study are the statutory Annual Reports (FY 2023–2025) of the three major energy distributors in Dhaka: the Dhaka Power Distribution Company Limited (DPDC), the Dhaka Electric Supply Company Limited (DESCO), the Titas Gas Transmission and Distribution Company Limited These reports will be a key cross-section of the energy value chain, including the fuel purchase and gas distribution to urban power supply, and Bangladesh Petroleum Corporation will offer the necessary additional macro-context about the national fuel import anxiety (Bangladesh Petroleum Corporation, 2025).

Another serious methodological issue in the Bangladeshi context is the extreme dearth of finer, transparent and open-source internal data of the government utility agencies. Institutional secrecies tend to protect data regarding grid vulnerabilities and fuel rationing. In an effort to overcome this weakness, this paper supports the use of annual reports as the unit of study. Statutory annual reports are the best, legally required, texts that are readable in the environment where the public has limited access to internal policy memos. These are a list of audited statements and official messages of chairmen and directors, which is the official version of the state (Dhaka Electric Supply Company Limited, 2024; Titas Gas Transmission and Distribution Company Limited, 2025). They offer a special glimpse through the strategic priorities and geopolitical fears of utility management, including the so-called **dollar crisis** and **unplanned urbanization**, which is otherwise not reflected in any official policy statement.

3.3 Analytical Procedure: Thematic and Spatial Triangulation

The textual data were interpreted through the six steps of thematic analysis framework (Braun & Clarke, 2006). This was a strict procedure that included:

- **Familiarization**: Immersive reading of the **Chairman's Message**, **Director's Report**, and **Risk Disclosure** of the 2023–2025 reports of the Dhaka Electric Supply Company Limited (2024), Dhaka Power Distribution Company Limited (2023), and Titas Gas Transmission and Distribution Company Limited (2025).
- **Initial Coding**: Creating shorthand labels of common narrative patterns like limited to **foreign exchange risk** and **unplanned city growth** (Bangladesh Petroleum Corporation, 2025; Dhaka Electric Supply Company Limited, 2024). Grouping codes into larger conceptual themes, e.g. discursive friction between resource scarcity and demand explosion.
- **Themes Reviewing**: Making sure that the themes were correct representations of the raw data of all the four utility providers.
- **Searching for Themes**: Coding the words together into larger conceptual topics, e.g. discursive friction between resource scarcity and demand explosion.
- **Defining and Naming**: Revising the scholarly nomenclature of the themes to effectively render the institutional speech (e.g. the narrative of disjointed planning as **"Institutional Friction: Infrastructure as Retrospective Correction"**).
- **Reporting**: Summarizing the results into a unified story to demonstrate the presence of a spatial energy policy gap.

The qualitative results were triangulated with a visual spatial analysis to achieve methodological rigour and validity through the use of Google Earth Pro historical imagery of 2020 to 2025. This space element was applied to the visual confirmation of the discursive arguments of utilities towards the **unplanned sprawl** and **high density** (Dhaka Power Distribution Company Limited, 2023). As an example, the story of **spatialized risk** that was found in the reports of Titas Gas Transmission and Distribution Company Limited and Dhaka Power Distribution Company Limited (DPDC) was cross-linked with satellite images of residential buildings invading utility corridors (Dhaka Power Distribution Company Limited, 2025; Titas Gas Transmission and Distribution Company Limited, 2025). This triangulation fills the divide between the internal realities of the utilities and the material reality of the rapid urbanization of Dhaka.

4. Spatial Triangulation: Visualizing Dhaka's Urban Sprawl

In order to contextualize the institutional anxieties that have been revealed in the sequential thematic analysis, visual spatial triangulation of Google Earth historical imaging between 2020 and 2025 was performed. This five-year base describes a fundamental demographic and structural shift in the Dhaka metropolitan region, which is visually supported by the discourse of the utilities related to **unplanned urbanization**. As of 2020, peripheral areas, including Purbachal and Keraniganj, still had visible green canopies, water bodies, and disjointed road networks. By 2025, though, the process of **graying** of the map became almost total, with hyper-dense infill of the concrete and blistering development of residential buildings along utility corridors. This physical testimony is the material ground of the **policy gap** which is examined in this paper; it is the physical manifestation of the aggressive, horizontal geographical extension which has crippled the centralized, reactive models of infrastructure of the energy utilities in Dhaka.

5. Thematic Analysis

This thematic analysis implements the framework of Braun and Clarke on the annual reports of the three main energy utilities of Dhaka **(Dhaka Power Distribution Company Limited (DPDC), Dhaka Electric Supply Company Limited (DESCO), and Titas Gas Transmission and Distribution Company Limited)** in the period of 2023 to 2025. This analysis reflects systemic policy gap where urbanization is viewed as a disruptive force, instead of planned variable by synthesizing their internal discourses.

Theme 1: "Spatialized Risk": Urbanization as an Operational Hazard

Qualitative Description:

This theme presents the growth of Dhaka not as growth, but a **high density** that poses a threat to the stability of utility. The discussion in all three utilities describes the city structure as **unplanned** and **risky**, and turns the story of service delivery to the defense of mitigation. Urbanization is referred to as a spatial limitation that actively impedes safety and efficiency.

Direct Quotations/Paraphrased Discourse

- **Dhaka Power Distribution Company Limited (DPDC)**: The article frames Dhaka as the **"most densely populated city in the world**," and claims that providing power in such **"unplanned cities is always risky"** (Dhaka Power Distribution Company Limited, 2023).
- **Dhaka Electric Supply Company Limited (DESCO)**: The company is concerned about the **"increasing load demand"** in **"densely populated"** areas as the complexity of the urban environment dictates that the load forecasting should be revised continuously (Dhaka Electric Supply Company Limited, 2024).
- **Titas Gas Transmission and Distribution Company Limited**: Makes it clear that the expansion of Dhaka is an **"unplanned and uncontrolled urbanization,"** directly contributing to the **"illegal gas connections"** and the increased threat of safety (Titas Gas Transmission and Distribution Company Limited, 2025).

Analytical Insight:

The utilities shift responsibility of the inefficiencies of the system by referring to the city as **unplanned**. This exposes an energy **policy gap**: energy providers consider themselves **victims** of urban sprawl and not participants in urban planning, creating a reactive and not proactive approach to infrastructure planning.

Theme 2: "Macroeconomic Helplessness": The Geopolitical Import Trap

Qualitative Description:

A common discourse of **financial vulnerability** is observed in all three utilities in relation to external shocks in the world. The reports move away from operational metrics to focus on the **dollar crisis** and **forex volatility**. It is a feeling of helplessness where utility survival does not depend on management anymore but on the changing prices of the international LNG and fuel markets (Bangladesh Petroleum Corporation, 2025).

Direct Quotations/Paraphrased Discourse

- **Dhaka Power Distribution Company Limited (DPDC)**: Confesses that the **"global energy crisis"** and **"dollar price hike"** have tightened the growth of systems and cost of operation (Dhaka Power Distribution Company Limited, 2025).
- **Dhaka Electricity Supply Company Limited (DESCO)**: Directly blames its financial stress and the **"forex loss"** on the **"Russo-Ukraine war"** and the consequent **"present hike in the dollar prices"** (Dhaka Electric Supply Company Limited, 2024).
- **Titas Gas Transmission and Distribution Company Limited**: Explains a **"staggering net loss"** of **TK 772.04 crore** in the year 2024-25, positioning such failure as an essential consequence of the **"increased gas purchase costs"** in the international market (Titas Gas Transmission and Distribution Company Limited, 2025).

Analytical Insight:

In this discussion, there is a loophole where the **monetary policy** (foreign exchange rates) has taken the place of **energy policy**. This situation **traps** the utilities in an import-dependent model that obliges them to take in global price shocks without the policy instruments to address them domestically, which is a demonstration of a deficiency of **energy sovereignty**.

Theme 3: "The Divergent Resource Narrative": Scarcity vs. Explosion

Qualitative Description:

This theme encompasses the discursive conflict between the **shrinking** gas sector and the **growing** power sector. Where Titas Gas Transmission and Distribution Company Limited use the rhetoric of **finitude and conservation**, the electricity companies Dhaka Power Distribution Company Limited (DPDC) / Dhaka Electric Supply Company Limited (DESCO) are ones that continue to use the rhetoric of **unending growth**. This generates a story of an imposed resource exchange, where gas is diverted to power plants and distribution utilities have to cope with the backlash of rationing.

Direct Quotations/Paraphrased Discourse

- **Titas Gas Transmission and Distribution Company Limited**: The company uses a warning slogan, **"Natural gas is not inexhaustible, stop wasting natural gas,"** and acknowledges a **"production deficit"** in the national fields (Titas Gas Transmission and Distribution Company Limited, 2024, 2025).
- **Dhaka Electric Supply Company Limited (DESCO)**: Compensates this unavailability with an enormous demand spike, a load of **2,468 MW by 2041**, and constant **"capacity building"** (Dhaka Electric Supply Company Limited, 2024, 2025).
- **Dhaka Power Distribution Company Limited (DPDC)**: It is geared towards satisfying the **"huge demand"** by the means of **"expansion and strengthening"** of the power system, which appears to have little in common with fuel deficits that bedevil the gas sector (Dhaka Power Distribution Company Limited, 2023).

Analytical Insight:

Here, the **policy gap** refers to **sectoral silos**. Titas Gas Transmission and Distribution Company Limited is dealing with a **deficit**, whereas Dhaka Power Distribution Company Limited (DPDC) and Dhaka Electric Supply Company Limited (DESCO) are operating under the anticipation of an explosion in demand. This is an implication that the urbanization of Dhaka is powered by electricity and the main underlying energy (gas) is in the process of being phased off and there is no concerted approach to this withdrawal.

Theme 4: "Institutional Friction": Infrastructure as Retrospective Correction

Qualitative Description:

The last theme determines the **coordination gap** between utilities and urban planning organizations (e.g., RAJUK, RHD). Each of the three utilities talks of their infrastructure being **trapped** or **displaced** by other development projects. This depicts a topography of **siloed governance** where the development of one agency (road widening) causes the crisis of another agency (pipe relocation).

Direct Quotations/Paraphrased Discourse

- **Titas Gas Transmission and Distribution Company Limited**: Documents the presence of a **"high-risk situation"** where widening of highways has caused existing distribution lines to be **"in the middle of the highway,"** requiring them to be replaced at high costs and with no planning (Titas Gas Transmission and Distribution Company Limited, 2025).
- **Dhaka Power Distribution Company Limited (DPDC)**: Notes how the placement of **"underground cables"** and maintenance of the grid is continuously stalled by the **"unplanned"** city structure and the inability to coordinate with other service providers (Dhaka Power Distribution Company Limited, 2025).
- **Dhaka Electricity Supply Company Limited (DESCO)**: Provides an insight into the **"hurdles"** to land acquisition in a congested city and the necessity to match the plans of the **"RAJUK-approved layout plans"** only after urban density has complicated the deployment of infrastructure (Dhaka Electric Supply Company Limited, 2024).

Analytical Insight:

This reinforces the **policy gap** by showing that infrastructure is never proactive. The presence of a gas line in the **middle of a highway** indicates that the Roads and Highways Department and Titas Gas Transmission and Distribution Company Limited are institutionally operating under different realities. Urbanization in Dhaka is therefore a retrospective correction process and not a coordinated plan.

6. Discussion and Policy Implications

6.1 The Disconnect Between Spatial Growth and Energy Governance

The thematic analysis of the utility discourse in Dhaka, through qualitative methods, demonstrates that there is an ontological gap between the spatial development and the energy management of the city. Although urbanization is a demographic and economic fact, the main utilities, Dhaka Power Distribution Company

Limited (DPDC), Dhaka Electric Supply Company Limited (DESCO) and Titas Gas Transmission and Distribution Company Limited, continue to conceptualize this expansion as a **reactive burden** and as a generator of the so-called **spatialized risk** (Dhaka Power Distribution Company Limited, 2023; Titas Gas Transmission & Distribution Company Limited, 2025). This paper reveals a radical **policy gap** whereby energy infrastructure is assumed as a retroactive remedy as opposed to an active urban design element. This is further complicated by the institutional discourse of the **macroeconomic helplessness** where utilities blame their financial instability on the geopolitical crisis of the **dollar and global fuel price variability** instead of internal planning problems (Dhaka Electric Supply Company Limited, 2024; Dhaka Power Distribution Company Limited, 2025). This framing permits agencies to shift the blame to the **unplanned** nature of the city or to **global price increases** (Dhaka Electric Supply Company Limited, 2024; Titas Gas Transmission and Distribution Company Limited, 2025). Accordingly, the present state of energy security in Dhaka is characterized by a model of **siloed governance** where spatial planning and energy dispatching (BPDB/Petrobangla) are isolated, leading to risky infrastructure locations, like gas lines being buried in the center of expanded highways, and a growing dependence on costly, imported LNG to serve an uncontrolled demand spiral (Dhaka Power Distribution Company Limited, 2023; Titas Gas Transmission & Distribution Company Limited, 2025).

6.2 Proposed Frameworks for Integrated Urban Energy Planning

The recommendation to address the **macroeconomic helplessness** and the **geopolitical import trap** suggested in Theme 2 is to implement **zonal energy budgeting**. Recent utility discourse presents a sense of financial victimization based on the increasing fuel importation costs; nevertheless, demand is mostly uncontrolled at the local level (Dhaka Electric Supply Company Limited, 2024; Titas Gas Transmission and Distribution Company Limited, 2025). The national dispatching model would be decentralized by the allocation of specific energy **quotas** or **energy budgets** to the administrative zones in Dhaka according to their density and economic output. It is possible to relocate the narratives of the production deficit to the utilities by substituting a model of **limitless supply** with that of **zonal allocation**, and by encouraging local efficiency instead of focusing on the **production deficit** (Titas Gas Transmission and Distribution Company Limited, 2024, 2025). This model would balance the energy supply with the spatial expansion where the urban developers would need to show that their new high-density projects can be built within the budgetary zoning limits, thus eliminating the systemic pressure to purchase expensive imported fuels in times of global uncertainty.

As a solution to the discourse on the **spatialized risk**, and **unplanned urbanization** (Theme 1), we propose **vertical prosumer cooperatives**. The vertical density of Dhaka is now explained by the utilities as a hazard in the functioning (Dhaka Power Distribution Company Limited, 2023). But even this model re-conceptualizes the high-rise residential and commercial towers in the city as dynamic energy resources instead of inert and **risky** loads. High-density developments would be necessary in **vertical prosumer cooperatives** to incorporate rooftop solar, building-integrated photovoltaics, and neighbourhood-scale battery storage. In a city like Dhaka, where land for utility-scale solar is non-existent, the **verticality** of the urban form becomes the primary resource. The described **exploding grid demand** that Dhaka Electric Supply Company Limited has referred to can be partly counterbalanced by localized generation by organizing these towers into

cooperatives, capable of trading excess energy locally (Dhaka Electric Supply Company Limited, 2024, 2025). This mechanism transforms the idea of **coping with a crisis** to the idea of **capitalizing on density**, which in essence closes the existing divide between the physical appearance of the city and its energy security requirements.

Lastly, to eliminate the identified **institutional friction** and the **retrospective correction** cycle in Theme 4, this paper proposes Metabolic Infrastructure Synchronization. The thematic findings highlight a critical lack of coordination, in which road widening projects by the Roads and Highways Department physically endanger and displace existing gas and power networks (Titas Gas Transmission & Distribution Company Limited, 2025). **Metabolic Infrastructure Synchronization** would be a required governance layer that would facilitate the planning of the **metabolism** of the city, i.e. its water, energy, and transportation flows, via a unified GIS-based digital twin. Within this framework, any urban fabric change including the expansion of highways or the development of townships would necessitate a concurrently signed **infrastructure permit** by all utilities and RAJUK. This would help avoid **high-risk scenarios** when distribution lines are placed in the centre of the thoroughfares (Titas Gas Transmission & Distribution Company Limited, 2025). Taking infrastructure as a single, metabolic organism, not a series of independent silos, **Metabolic Infrastructure Synchronization** will see to it that energy security is inherently part of the spatial planning process, rather than an add-on.

6.3 Overcoming Institutional Inertia

The shift, between a reactive model and an integrated one, cannot be done with the sole adoption of technology, but it also needs to break the silos of bureaucracy that presently characterize the governance process in Dhaka. To break the **institutional inertia** reported in the annual reports of the utilities, it is necessary to constitute a **National Urban Energy Council** chaired by the Prime Minister office and endowed with the statutory authority to supersede the independent agenda of RAJUK, the Power Division, and the Energy Division. The qualitative data indicate that in the absence of a centralized mandate on coordination, the utilities will still consider the development of the city as a peripheral challenge instead of an internal mandate (Dhaka Power Distribution Company Limited, 2023; Titas Gas Transmission and Distribution Company Limited, 2025). A concerted policy mandate is the only way that Bangladesh can get out of the **trap of importation** and have the urbanization of Dhaka become an engine, not a menace, to energy security in the country.

7. Conclusion

This study reveals that the current energy crisis in Dhaka is not simply the result of a lack of supply or unpredictable world fuel prices, but a structural condition of fragmented governance and the continued disintegration between urban planning and energy management. The results indicate that rapid and unplanned urbanization has exceeded the resilience of the available infrastructure and supports the reactive policy context where utilities are continuously trying to keep pace with spatial expansion instead of predicting it. This mismatch has deepened the reliance of Dhaka on centralized and energy systems that are import intensive and thus exposing Dhaka to external shocks and eroding its long term energy security.

The analysis of qualitative documents of key utility reports and spatial evidence of urban growth empirically supports the argument that energy systems and urban form are inherently interdependent, as demonstrated

by the study. The findings highlight the shortfalls of traditional planning methods that see energy as a foreign input, instead of a natural part of urban metabolism.

The solution to this structural weakness would be a shift towards integrated and decentralized energy governance. The policy innovations like **zonal energy budgeting, vertical prosumer cooperatives, and metabolic infrastructure synchronization** provide some effective ways to match the energy provision with spatial development. This shift in paradigm would allow Dhaka to use the density to develop localized energy solutions and to decrease the need of imported fuels.

This research however has certain limitations because it uses institutional publications that might not represent informal processes or daily life to the full extent. Further studies ought to use primary data and techno-economic evaluations to confirm the viability of suggested structures. In general, the process of energy governance and urban planning should be combined to accomplish resilient and sustainable development.

Declarations

Data Availability Statement

The data supporting the findings of this study are derived from publicly available statutory annual reports published by the respective utility companies.

Conflict of Interest

The authors declare that they have no known competing financial interests or personal relationships that could have influenced the work reported in this paper.

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Figures

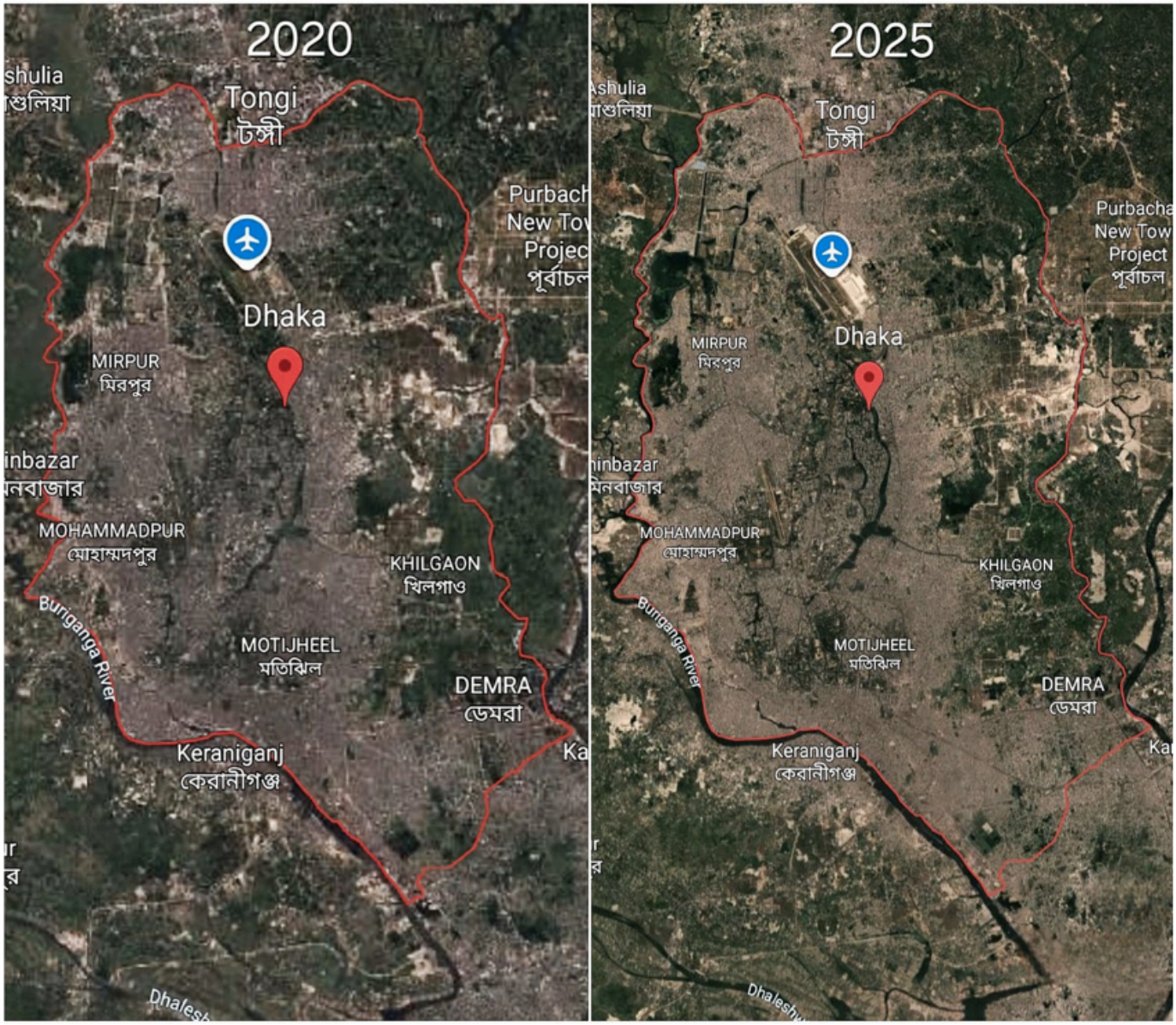


Figure 1

Satellite imagery showing rapid spatial expansion and concrete infill in the Dhaka metropolitan area (2020–2025). Imagery ©2025 Google.