UZBEKISTAN 2026: THE TRANSITION TO A RESOURCE-EFFICIENT ECONOMIC MODEL — OBLIGATION OR OPPORTUNITY?

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ABSTRACT

As Uzbekistan enters the mid-point of its 2026 Development Strategy, the year 2026 represents a critical juncture for its macroeconomic stability. To sustain a projected GDP growth rate of 6.6%–7.2%, the nation must address the systemic inefficiency of its aging infrastructure. This paper evaluates the transition toward a resource-efficient model, specifically focusing on the modernization of 3.2 GW of legacy energy blocks and the reduction of energy intensity in heavy industry. Through a comparative analysis of energy-to-output ratios, the study argues that

resource efficiency is no longer a choice but a strategic imperative to ensure global export competitiveness and fiscal sustainability.

Keywords: Energy Efficiency, Uzbekistan 2026, Resource-Saving Model, Decoupling, ESG Integration, Industrial Modernization, Smart Grids.

INTRODUCTION

The global economic paradigm of 2026 is defined by "The Great Efficiency Race." For emerging economies like Uzbekistan, the era of extensive growth—fueled by high resource consumption—has reached its natural limit. With a population exceeding 38 million and a rapidly diversifying industrial base, the demand for electricity and water is outstripping legacy supply capacities.

The Macroeconomic Context Uzbekistan's target to reach an upper-middle-income status requires a consistent GDP growth of over 6%. However, the energy intensity of the Uzbek economy historically remained 2.5 to 3 times higher than the OECD average. In 2026, this "Efficiency Gap" poses a direct threat to the national budget and inflation targets.

Problem Statement The core research problem is the "Energy-Growth Bottleneck." Can Uzbekistan modernize 3.2 GW of Soviet-era thermal power blocks fast enough to prevent industrial stagnation? This paper investigates whether the transition to a resource-saving model acts as a financial burden (Obligation) or a catalyst for new industrial sectors (Opportunity).

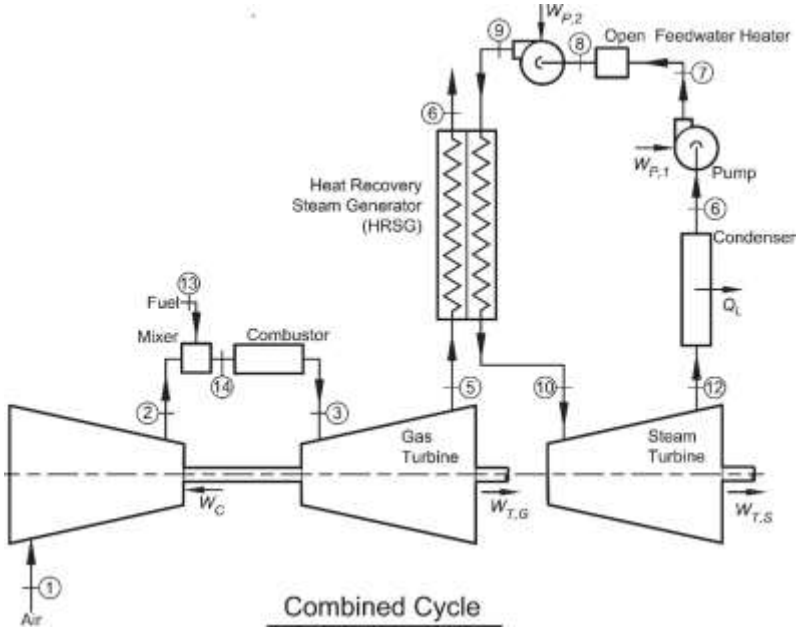
THEORETICAL FRAMEWORK AND LITERATURE REVIEW

The concept of "Decoupling"—breaking the link between economic growth and environmental pressure—serves as the foundation for this study.

Relative vs. Absolute Decoupling in Transition Economies In the 2020s, scholars like Acemoglu and Helpman argued that for developing nations, *Relative*

Decoupling is the first step toward technological sovereignty. This paper applies this theory to Uzbekistan's 2024-2026 reforms, where the "New Uzbekistan" strategy prioritizes a 20% reduction in energy intensity per unit of GDP.

The Economics of Infrastructure Obsolescence Legacy systems, particularly those exceeding 40 years of service, operate at a Thermal Efficiency (FE) of less than 30%. Modern CCGT (Combined Cycle Gas Turbine) units achieve upwards of 60%. The literature suggests that the "Opportunity Cost" of not upgrading exceeds the "Capital Expenditure" (CAPEX) of the upgrade within a 5-year window.



METHODOLOGY

This study employs a multi-sectoral economic analysis based on 2026 Q1 data from the Ministry of Energy and the Agency of Statistics of Uzbekistan.

The Resource Intensity Formula We utilize the Energy Intensity Index

A declining EII during a period of rising GDP indicates the success of the resource-saving model.

Simulation of 3.2 GW Modernization The research simulates the replacement of 3.2 GW of low-efficiency thermal blocks with modern high-efficiency units, measuring the projected savings in natural gas (in billion m^3) and the subsequent impact on the current account balance.

RESULTS: THE 2026 ENERGY REVOLUTION

Modernizing the 3.2 GW Legacy Infrastructure

As of early 2026, the phased decommissioning of the oldest units at the Syrdarya and Tashkent Thermal Power Plants has begun.

- Specific Fuel Consumption: Under the new model, fuel consumption has dropped from 380 grams per kWh to 230 grams per kWh.
- Fiscal Impact: This transition is projected to save 2.2 billion cubic meters of natural gas annually, which can be redirected toward high-value chemical production (GTL/MTO) or stored for peak winter demand.

Industrial Energy Efficiency and "Green" Manufacturing

The industrial sector, responsible for 40% of energy consumption, has seen a mandatory shift toward ISO 50001 (Energy Management).

- Textile Industry: Integration of heat-recovery systems has reduced unit costs by 12%.
- Metallurgy: Navoi Mining (NMMC) has integrated 500 MW of dedicated solar capacity, reducing its grid dependence and lowering the "Carbon Border Adjustment Mechanism" (CBAM) risk for future exports to the EU.

Sector	Metric	2024 Baseline	2026 Current	Change (%)
National Grid	Losses in Distribution	14.2%	9.8%	-31%
Heavy Industry	Energy Intensity (MJ/$ GDP)	12.5	9.4	-24.8%
Renewables	Share in Mix	12%	28%	+133%

DISCUSSION: OBLIGATION VS. OPPORTUNITY

The Financial Obligation (The Burden) The transition requires an estimated 15–18 billion in total investment by 2030. For a developing economy, this creates a short-term fiscal strain. However, the rise of Public-Private Partnerships (PPPs) in 2025-2026 has successfully shifted 60% of this CAPEX to international IPPs (Independent Power Producers).

The Economic Opportunity (The Catalyst) The move toward resource efficiency is creating a new industrial sub-sector in Uzbekistan:

- Local Manufacturing of Green Tech: 2026 saw the opening of two major factories for solar PV components and lithium-storage systems in the Angren SEZ.

- Export Competitiveness: Lower energy costs allow Uzbek products to bypass high-energy surcharges, making them the most price-competitive in the Central Asian and CIS markets.

CONCLUSION AND POLICY RECOMMENDATIONS

The "Uzbekistan Model" of 2026 demonstrates that resource efficiency is the ultimate form of economic sovereignty. By modernizing 3.2 GW of esurient infrastructure, the nation is not just saving fuel; it is "buying" its future growth.

Strategic Recommendations for 2027-2030: 1. Dynamic Pricing: Fully transition to a market-based energy tariff system to incentivize private efficiency.

"Green Sukuk" Issuance: Alfraganus University economists suggest the issuance of Green Islamic Bonds to fund the final phase of thermal block modernization.

3. Regional Energy Ledger: Establish a unified digital energy market with Kyrgyzstan and Tajikistan to optimize the Water-Energy Nexus.

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