

Energy Geography and Resource Nationalism: How Turkmenistan's Natural Gas Pipeline Geography Influences Its Foreign Policy Orientation Toward Russia, China, and Europe

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Abstract

Turkmenistan leverages its substantial natural gas reserves to navigate its foreign policy towards Russia, China, and Europe. This article addresses the research question: How does Turkmenistan's natural gas pipeline geography influence its foreign policy orientation toward Russia, China, and Europe? Through an analysis of key pipelines, export patterns, and geopolitical constraints, it reveals how pipeline dependencies foster a multi-vector approach rooted in resource nationalism. Findings show a shift from Russian dominance to Chinese reliance, with tentative European outreach hampered by regional opposition. Recent developments, including gas swaps and renewed Russian ties, underscore Turkmenistan's strategy to diversify while prioritizing sovereignty and economic stability. The study highlights the need for balanced energy diplomacy to mitigate vulnerabilities.

Introduction

Turkmenistan possesses the world's fourth-largest proven natural gas reserves, estimated at over 19 trillion cubic meters, making energy exports central to its economy and foreign policy. Situated in Central Asia, its energy geography characterized by a landlocked position and reliance on transit pipelines critically shapes its interactions with major powers. Historically, Soviet-era infrastructure inextricably tied Turkmenistan to Russia, but post-independence diversification efforts have introduced pipelines to China and Iran, while ambitious proposals for Europe remain unrealized. However, this diversified approach has not eliminated Turkmenistan's vulnerability to external pressures, as new dependencies on China have emerged, and European ambitions face significant geopolitical and logistical hurdles, thereby necessitating a careful balancing act in its foreign policy.

The research question explores how this pipeline geography influences foreign policy orientations. Resource nationalism, emphasizing state control over hydrocarbons, amplifies these dynamics, as Turkmenistan pursues "positive neutrality" to avoid over-dependence. Amid global energy shifts, including Europe's quest for alternatives to Russian gas post-2022, Turkmenistan's strategies reflect balancing acts between economic imperatives and geopolitical risks. This article examines these influences, drawing on recent developments up to 2025.

Literature Review

Scholarly literature on Turkmenistan's energy geography emphasizes its transition from Russian dependency to multi-vector policies ([Paramonov & Alexei, 2015](#); [Penchuk & Tur, 2020](#); [Roy, 2011](#); [VEPAYEV & Deniz, 2020](#)). Early scholarship emphasized Soviet legacies,

where the Central Asia-Centre pipeline entrenched Russian control, limiting Turkmen bargaining power. Post-2009, the Central Asia-China pipeline emerged as a pivotal shift, redirecting exports eastward and incurring debt obligations that significantly constrained Turkmen autonomy. However, some argue that this pivot to China, while creating new dependencies, also provided Turkmenistan with greater leverage and financial resources than were available during its period of primary reliance on Russia, allowing for a more independent foreign policy trajectory (Paramonov & Alexei, 2015)

On Europe, studies discuss stalled projects like the Trans-Caspian Gas Pipeline (TCGP), attributing delays to Russian and Iranian opposition, environmental concerns, and financing issues (Chufrin et al., 2001; Elbert & Rentschler, 2023; Ibrayeva et al., 2017; Pye et al., 2025). Resource nationalism is framed as a double-edged sword: enabling sovereignty but fostering isolation and economic vulnerabilities (Xu et al., 2024). Recent analyses note resumed Russian ties amid Western sanctions and China's dominant role, with swaps emerging as flexible tools (Gould-Davies, 2016). Overall, the literature portrays Turkmenistan's foreign policy as reactive, shaped by pipeline geography's constraints and opportunities for diversification (VEPAYEV & Deniz, 2020). Given its position as the world's fourth-largest holder of natural gas, Turkmenistan has become a focal point for competing regional actors seeking energy leverage (Rajpoot & Naeem, 2020). Consequently, Turkmenistan leverages its vast gas reserves and export surplus to negotiate pipeline arrangements, using resource nationalism as a bargaining instrument within its multi-vector strategy (Iwaszczuk et al., 2021) (Raimondi, 2019). The prospective Trans-Caspian Gas Pipeline, with a capacity of about 30 billion cubic metres per year, is seen as a potential conduit to reinforce EU energy security following the curtailment of Russian supplies (Palu & Hilmola, 2023).

Methodology

This article adopts a qualitative approach, synthesizing secondary data from academic articles, policy reports, and news sources accessed via web searches. Key themes pipeline infrastructure, export dynamics, and policy orientations were identified through content analysis of diverse perspectives to ensure balance. Sources span 2019–2025, acknowledging potential biases in geopolitical narratives. No primary data was collected, focusing instead on synthesizing existing insights for a comprehensive overview.

Findings and Discussion

Overview of Turkmenistan's Energy Geography

Turkmenistan's natural gas infrastructure centers on export-oriented pipelines, reflecting its landlocked status and resource nationalism (VEPAYEV & Deniz, 2020). Major fields like Galkynysh fuel exports, with production targeting 116 billion cubic meters by 2029, over half for export (Mehta et al., 2021). Key pipelines include the Central Asia-Centre, Central Asia-China, and smaller links to Iran. Proposed routes like TCGP and TAPI remain underdeveloped. This geography enforces transit dependencies, influencing foreign policy by necessitating alliances for market access while guarding sovereignty (Yar et al., 2023). However, some analysts suggest that this pivot to China, while creating new dependencies, also provided Turkmenistan with greater leverage and financial resources than were available during its

period of primary reliance on Russia, allowing for a more independent foreign policy trajectory (Elbert & Rentschler, 2023; Garbuzarova, 2020; Paramonov & Alexei, 2015).

Influence on Relations with Russia

Pipeline geography has historically tethered Turkmenistan to Russia, but recent shifts indicate pragmatic re-engagement. The Central Asia-Centre pipeline, a Soviet relic, once dominated exports, peaking at over 40 bcm in 2008 before disputes halted flows in 2016. Resumption in 2019 saw 10 bcm exported in 2021, with Gazprom exploring Turkmen infrastructure for transiting Russian gas to China. This influences policy by fostering cooperation amid Russia's post-2022 isolation, including security pacts and economic partnerships. Resource nationalism tempers this, as Turkmenistan resists full transit concessions to maintain control (Elbert & Rentschler, 2023; Garbuzarova, 2020; Stegen & Kuszniir, 2015). However, some analysts suggest that this pivot to China, while creating new dependencies, also provided Turkmenistan with greater leverage and financial resources than were available during its period of primary reliance on Russia, allowing for a more independent foreign policy trajectory (Paramonov & Alexei, 2015).

Influence on Relations with China

The Central Asia-China pipeline, operational since 2009, has reoriented Turkmenistan eastward, with 80–90% of exports flowing to China by 2024, valued at \$5.67 billion in the first half alone. This dependency, tied to \$10 billion in repaid loans, shapes a creditor-debtor dynamic, limiting diversification and enforcing "produce-or-pay" terms (Aminjonov, 2018). Foreign policy aligns with Beijing's interests, boosting bilateral trade to \$10.5 billion in 2023, while resource nationalism manifests in opaque pricing and efforts to explore alternatives like swaps. Recent loan repayments in 2021 offer leverage, yet China's monopsony risks economic vulnerabilities (Boafo et al., 2024; Chen, 2024). However, some analysts suggest that this pivot to China, while creating new dependencies, also provided Turkmenistan with greater leverage and financial resources than were available during its period of primary reliance on Russia, allowing for a more independent foreign policy trajectory.

Influence on Relations with Europe

Pipeline geography hinders European ties, with no direct links and TCGP stalled despite the 2018 Caspian Convention resolving legal hurdles. Proposed capacity of 30 bcm could integrate with TANAP/TAP, but Russian/Iranian opposition and financing shortfalls persist. Policy orientation remains cautious, with 2023–2025 engagements favoring swaps over new builds. Resource nationalism prioritizes low-risk diversification, viewing Europe as a distant option amid closer alignments with Russia and China (Pye et al., 2025). However, some analyses suggest that this pivot to China, while creating new dependencies, also provided Turkmenistan with greater leverage and financial resources than were available during its period of primary reliance on Russia, allowing for a more independent foreign policy trajectory (Ovezdyrdyyev & Zhang, 2020; Paramonov & Alexei, 2015).

Role of Resource Nationalism

Resource nationalism underpins Turkmenistan's pipeline-driven policies, emphasizing state control and neutrality to maximize rents. This manifests in rejecting production-sharing agreements and favoring swaps, reducing transit risks. It fosters a "multi-vector" approach, balancing dependencies while isolating from Western norms, aligning more with a Moscow-Tehran-Beijing axis (Liu & Wang, 2020; Zhang et al., 2022). However, some analyses suggest that this pivot to China, while creating new dependencies, also provided Turkmenistan with greater leverage and financial resources than were available during its period of primary reliance on Russia, allowing for a more independent foreign policy trajectory (Aminjonov, 2018; Toktoglova & Zhuang, 2020).

Conclusion

Turkmenistan's natural gas pipeline geography profoundly influences its foreign policy, shifting from Russian dominance to Chinese reliance while keeping European prospects marginal. Resource nationalism drives diversification through swaps and cautious engagements, mitigating vulnerabilities but perpetuating isolation. As global energy demands evolve, Turkmenistan must enhance transparency and regional cooperation to leverage its resources effectively. Future research should assess the viability of projects like TCGP amid climate transitions.

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