

Geopolitical Shocks, Aviation Fuel Volatility, And Tourism Policy Resilience: Evidence From Indonesia's Vulnerability to Global Energy Disruption

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Article Info	ABSTRAK
Article history: Received Sep 3, 2019 Revised May 17, 2020 Accepted June 28, 2020 Kata Kunci: First keyword Second keyword Third keyword Fourth keyword Fifth keyword	Instabilitas geopolitik di kawasan Timur Tengah, khususnya ketegangan berulang di Selat Hormuz dan ancaman terhadap jalur energi global, menghasilkan volatilitas harga minyak yang merambat ke sektor penerbangan melalui lonjakan harga avtur. Indonesia, sebagai negara kepulauan dengan dependensi tinggi pada konektivitas udara, menghadapi risiko struktural yang belum tercermin dalam kerangka kebijakan pariwisata nasional. Artikel ini menganalisis kesenjangan antara kapasitas respons kebijakan yang ada dengan tuntutan resiliensi sektor pariwisata akibat guncangan energi berlatar geopolitik, menggunakan Multiple Streams Framework Kingdon dan Policy Resilience Framework Beland-Howlett. Temuan menunjukkan absensi sistematis risiko transmisi geopolitik-energi dari agenda kebijakan pariwisata Indonesia. Penelitian ini merekomendasikan integrasi early warning system berbasis harga energi, hedging avtur untuk rute wisata strategis, serta diversifikasi transportasi wisata sebagai respons adaptif jangka menengah ABSTRACT Recurrent geopolitical instability in the Middle East, particularly threats to the Strait of Hormuz and adjacent energy corridors, generates oil price volatility that propagates into the aviation sector through aviation turbine fuel (avtur/jet fuel) price spikes. Indonesia, as an archipelagic state with structural dependence on air connectivity for both domestic and international tourist flows, faces systematic vulnerability that has not been adequately reflected in national tourism policy frameworks. This article analyzes the gap between existing policy response capacity and the resilience demands facing the tourism sector from geopolitically driven energy shocks. Drawing on systematic literature review and policy document analysis, the study operationalizes Kingdon's Multiple Streams Framework to map agenda-setting dynamics and the Beland-Howlett Policy Resilience Framework to assess policy capacity across absorptive, adaptive, and transformative dimensions. Findings reveal that Indonesian



tourism policy is reactively configured toward endogenous crises while remaining systematically absent in anticipating geopolitical-energy transmission risks. A structural policy gap exposes the tourism sector to recurring vulnerability. The study recommends integrating an energy-price-based early warning system into tourism planning, institutionalizing aviation fuel hedging for strategic tourism routes, and accelerating transport diversification toward low-emission modes as medium-term adaptive responses.

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1. INTRODUCTION

In April 2024, the military escalation between Iran and Israel pushed Brent crude oil prices past \$90 per barrel within days. Months earlier, Houthi attacks on Red Sea shipping lanes forced tanker fleets to reroute around the Cape of Good Hope, substantially increasing global energy logistics costs. These two episodes are not isolated disruptions; they represent the latest iteration of a recurring pattern in which geopolitical instability around the Hormuz-Persian Gulf corridor generates measurable, cross-sectoral oil price volatility.

For the aviation industry, jet fuel constitutes between 20 and 30 percent of total airline operating costs under normal price conditions (IATA, 2024). When crude oil prices shift sharply, fuel costs follow with high elasticity, and carriers respond through fuel surcharges or fare adjustments. Indonesian domestic airlines are no exception: the avtur price surge in 2022-2023 contributed to domestic ticket prices far exceeding the regulatory floor on several routes (YLKI, 2023), with immediate consequences for tourism demand.

Indonesia's tourism sector depends structurally on air connectivity: over 60 percent of international tourist arrivals enter through airports, and inter-island domestic travel is overwhelmingly reliant on commercial aviation (BPS, 2024). This dependence is not uniform across the archipelago. The highest-value tourism destinations are concentrated in eastern regions where viable land or sea alternatives are absent or commercially uncompetitive for leisure travelers. Route distances to Labuan Bajo, Raja Ampat, or Wakatobi amplify fuel cost as a share of operating expenses, and the thin margins of carriers serving these corridors mean sustained avtur increases can rapidly convert viable routes into financially unserviceable ones — effectively disconnecting a destination from its demand base. A review of core national strategic documents, including RPJMN 2020-2024, RPJMN 2025-2029, and the Ministry of Tourism and Creative Economy's Strategic Plan, reveals that destination resilience is constructed almost exclusively around endogenous crises: pandemics, natural disasters, and localized security incidents. Geopolitical-energy transmission risk, as a category of structural external threat, is absent from planning discourse. This article addresses that conceptual and policy gap. The contribution operates on two levels. Conceptually, the study bridges two literatures that rarely engage directly: geopolitical risk transmission in tourism studies and policy resilience in public policy analysis. Normatively, it maps concrete policy gaps and articulates response options that are feasible within Indonesia's institutional context. The paper is organized as follows. Section 2 develops the theoretical framework. Section 3 outlines the methodology. Section 4 presents findings across four analytical dimensions: transmission patterns, policy mapping, resilience assessment, and policy window analysis. Section 5 draws conclusions and policy recommendations.

2. THEORETICAL FRAMEWORK

2.1 Geopolitical Risk Transmission in Tourism

The relationship between geopolitical instability and tourism performance is well-documented. Sonmez and Graefe (1998) established that tourist risk perceptions respond sensitively to armed conflict, generating deterrence effects that extend beyond the immediate conflict zone. Hall (2010) extended this to a structural dimension: geopolitics shapes the global mobility infrastructure that determines destination accessibility, a point directly relevant to fuel-dependent air transport.

The energy dimension within this nexus has received comparatively limited systematic attention. Becken (2011) was among the first to explicitly link oil prices to tourist movement patterns, arguing that tourism's vulnerability to energy price volatility is structural rather than cyclical. Becken and Carmignani (2016) demonstrated that demand elasticity with respect to fuel prices varies significantly by trip distance and availability of transport alternatives. Papatheodorou, Rossello, and Xiao (2010) established further that macroeconomic shocks primarily affect tourism demand through the price channel rather than through safety perceptions — a distinction significant for policy design, since price-channel effects are more amenable to policy intervention than perception-driven responses.

The synthesis of these literature streams produces the working concept of geopolitical energy transmission risk for tourism: the condition in which geopolitical instability in energy-producing or transit regions generates fuel price volatility that directly suppresses destination accessibility and competitiveness. This concept integrates transmission mechanisms from energy economics with vulnerability frameworks from tourism studies, and it positions the policy implications as primarily within the domain of public policy design rather than crisis communication or destination marketing.

2.2 Multiple Streams Framework

Kingdon (2003) argues that policy change occurs when three streams converge simultaneously: the problem stream (conditions constructed as requiring intervention), the policy stream (solution repertoire available to the policy community), and the politics stream (political conditions that open or close opportunities for change). Their convergence opens a policy window that is temporal and often unpredictable in its appearance. Applied here, the Multiple Streams Framework maps why geopolitical-energy transmission risk has not entered the national tourism policy agenda despite repeated empirical manifestations of its impact. A critical insight from Kingdon's framework is that the same objective condition can generate different policy outcomes depending on how it is framed within the problem stream. An avtur price shock framed as a consumer protection issue produces a different policy response than the same shock framed as a structural vulnerability in tourism policy architecture. The framework therefore directs analytical attention to the framing dynamics that determine whether a problem enters the policy agenda in a form that enables substantive change.

2.3 Policy Resilience Framework

Beland and Howlett (2016) define policy resilience as the capacity of a policy system to persist, adapt, and transform under external pressure without losing its core function. Capano and Woo (2017) operationalize this across three graduated capacities: absorptive (withstanding shocks without structural change), adaptive (adjusting policy instruments in response to changing conditions), and transformative (fundamental reconfiguration of policy paradigms and objectives). These capacities represent distinct modalities rather than sequential stages: a system may possess strong adaptive capacity while remaining weak in absorptive capacity, depending on the nature of the shock and the instruments available. For tourism policy systems facing geopolitical-energy shocks, absorptive capacity is relevant for short-duration price spikes; adaptive capacity is relevant for persistent shifts in energy cost levels; and transformative capacity is relevant for the paradigmatic incorporation of external risk variables into planning frameworks. Each requires different policy instruments

and institutional arrangements, which makes the diagnostic application of this framework especially useful for identifying where investment in resilience is most needed.

3. METHODOLOGY

This study employs a qualitative approach combining systematic literature review and policy document analysis. The systematic literature review covers publications from 2010-2025 examining the intersection of geopolitical risk, aviation fuel price volatility, and tourism policy. Searches were conducted through Scopus and Google Scholar using the keywords "geopolitical risk tourism," "aviation fuel price tourism," "oil price shock tourism demand," "tourism policy resilience," and cross-combinations thereof. From 234 articles identified in the initial search, 47 were selected through a staged screening procedure applying pre-defined inclusion and exclusion criteria based on direct relevance to the research question, recency, and theoretical or empirical contribution.

Policy document analysis covers RPJMN 2020-2024 and 2025-2029, Renstra Kemenparekraf 2020-2024, the National Energy Policy (KEN) 2014, Presidential Regulation No. 22 of 2017 on the National Energy General Plan, and IATA jet fuel price monitoring reports. Analysis employs deductive content analysis with analytical units comprising clauses and programs relating to: (a) external risk management; (b) air transport connectivity for tourism; and (c) crisis response mechanisms for the tourism sector. Triangulation between literature findings and policy document findings identifies policy gaps and potential policy windows within the Multiple Streams and Policy Resilience analytical frames.

4. RESULTS AND DISCUSSION

4.1 Transmission Pattern: From the Strait of Hormuz to Destinations

Historical data demonstrate consistent correlation between geopolitical escalation in the Persian Gulf region and avtur prices in Indonesia. During October 2023 through April 2024, as Iran-Israel tensions peaked, Brent crude traded between \$85 and \$92 per barrel with daily volatility directly reflected in Mean of Platts Singapore (MOPS) prices, the reference benchmark for avtur pricing in Indonesia. Domestic carriers adjusted fuel surcharges within weeks, not months, and the speed of transmission illustrated the limited buffering capacity between global commodity markets and domestic aviation costs. Transmission operates through three identifiable channels. The first is direct price transmission: Brent prices are reflected in MOPS with an average two-to-three-week lag, flowing into Pertamina's avtur pricing. The second is supply risk premium: threats to the Strait of Hormuz, through which approximately 20 percent of global oil supply transits, elevate risk premiums in futures markets even before physical disruption occurs. The third is currency transmission: geopolitical turbulence tends to strengthen the US dollar, amplifying the avtur cost burden for Indonesian carriers transacting in that currency.

What makes these three channels particularly consequential for Indonesia is that they do not activate in isolation. During periods of acute geopolitical tension, price transmission, supply risk premium, and currency effects tend to compound simultaneously, producing fuel cost movements that exceed what any single channel would generate independently. The October 2023 through April 2024 episode illustrated this compounding dynamic: as military tensions escalated, futures markets immediately priced in supply risk, the US dollar strengthened against the rupiah, and MOPS prices adjusted within weeks all three channels active within the same window. This compounding accelerates the timeline from geopolitical event to passenger fare adjustment and reduces the response window available to policymakers.

The impact of fare increases is asymmetric across destinations, a point that aggregate tourism statistics obscure. A carrier serving the Jakarta-Denpasar corridor can adjust seat density, rationalize schedules, or redistribute capacity across time slots. A carrier serving Labuan Bajo or Wakatobi operates with far fewer degrees of freedom: route frequency is already low, no competitive alternatives exist, and fare increases reduce accessible demand rather than divert it. Nationally calibrated policy responses built around aggregate tourism

indicators will therefore systematically underprovide protection to the destinations most exposed to geopolitical-energy shocks — protecting high-frequency trunk routes while leaving remote destinations without an institutional buffer.

4.2 Policy Mapping: What Exists and What Is Absent

Analysis of national policy documents reveals a paradoxical picture. On one level, Indonesia possesses a formally comprehensive tourism policy ecosystem: Tourism Law No. 10 of 2009, regulations governing Special Economic Zones for Tourism, and downstream regulations on priority destination development. Destination resilience received explicit attention post-COVID-19, reflected in the "tourism sector resilience strengthening" clauses within Renstra Kemenparekraf 2020-2024. At the same time, the construction of resilience within these documents is endogenous and reactive: defined as a response to crises that have already occurred, not as an anticipatory system for structural external risks. Not a single national tourism policy document explicitly identifies global energy price volatility from geopolitical factors as a risk variable requiring management. This reflects a deeper conceptual gap: tourism and energy are managed as separate policy domains without inter-sectoral coordination mechanisms bridging them.

The institutional explanation for this gap is as analytically significant as the empirical observation. The Ministry of Energy and Mineral Resources operates with a mandate centered on supply security and the energy transition. The Ministry of Tourism and Creative Economy operates with a mandate centered on visitor arrivals and destination competitiveness. Neither mandate naturally generates the question of how geopolitical disruptions to global energy supply chains affect tourism demand. The gap is structural rather than attitudinal: it is built into Indonesia's institutional architecture rather than into any individual ministry's capacity or willingness.

Content analysis of RPJMN 2025-2029 confirms this finding. Of 47 programs and activities related to tourism in that document, none explicitly incorporates energy price indicators or geopolitical risk as monitored variables. Meanwhile, the KEN 2014 contains no clauses linking energy policy to tourism sector resilience. Closing this gap does not require either ministry to expand its substantive mandate; it requires a coordination mechanism that routinely translates energy risk intelligence into tourism planning implications. Precedents for such cross-domain coordination exist within Indonesian public administration, including the Coordinating Ministry for Maritime Affairs and Investment, which already performs an analogous bridging function across overlapping sectoral domains.

4.3 Resilience Assessment: Indonesia's Policy Position

Applying the Beland-Howlett framework, Indonesia's tourism policy capacity against geopolitical-energy shocks can be characterized across three graduated levels. Absorptive capacity is low to moderate. No policy instruments automatically activate protective mechanisms when avtur prices spike sharply: no stabilization fund exists, no institutionalized hedging covers carriers serving strategic tourism routes, and no binding price protection applies to tourism-related fares. Adequate absorptive capacity would require at minimum a trigger-based instrument activating when MOPS-derived avtur prices cross a defined threshold on priority tourism routes. Several ASEAN states operate fuel levy mechanisms with precisely this architecture for specific route categories. Indonesia's instrument set contains no analogous mechanism, meaning every geopolitical-energy shock is absorbed entirely by market actors with no institutional cushioning in place.

Adaptive capacity is better but ad hoc in character. The government has periodically deployed avtur subsidies for pioneer flights to remote regions, but these instruments target basic connectivity objectives rather than tourism competitiveness under energy price shocks. The ad hoc character of adaptive responses carries a secondary cost beyond policy ineffectiveness: it generates strategic uncertainty for private sector actors. Airlines, accommodation providers, and tour operators that cannot anticipate whether or how the government will respond to a given avtur spike are rationally incentivized to build advance price buffers, which further dampens tourism demand during normal periods. A transparent,

rule-based adaptive mechanism would reduce this uncertainty premium and improve coordination between public and private responses to energy shocks.

Transformative capacity is effectively absent from current planning documents. There are no signals of a paradigm shift toward proactively integrating tourism planning with geopolitical-energy risk management. This is the most critical long-term deficit identified by this analysis: without paradigm change, absorptive and adaptive instruments remain reactive additions to an architecture that was not designed to handle this category of risk. Genuine transformative capacity would require reframing the tourism policy mandate to include external energy risk as a planning variable on equal standing with endogenous risks such as natural disasters and public health events.

4.4 Policy Window Analysis

Multiple Streams analysis helps explain why this gap persists despite repeated public manifestations of avtur volatility's impact on tourism. The problem stream has formed: rising ticket prices from expensive avtur repeatedly became media issues and generated consumer protests. However, the problem has been consistently framed as an airline tariff issue or consumer protection problem rather than as structural tourism policy vulnerability to geopolitical risk. This framing difference is consequential: a consumer protection framing generates regulatory responses targeting carrier pricing behavior, while a structural vulnerability framing generates responses targeting policy architecture and inter-sectoral coordination. The two solution sets address different aspects of the problem, and only the latter addresses the root cause.

The policy stream exists partially and in dispersed form: renewable energy policy operates on its own track, transport electrification planning runs separately, and discussions on sustainable aviation fuel (SAF) remain at the global level without concrete entry into domestic policy agendas. The energy transition agenda offers a particularly promising vehicle for reconfiguring these dispersed elements into a coherent package. Indonesia's commitment to net-zero emissions by 2060, combined with IATA's industry-wide SAF adoption target, creates substantive overlap between the decarbonization agenda and the energy security agenda for aviation. A policy framework positioning SAF adoption and green transport diversification as simultaneously a climate strategy and a tourism resilience strategy could attract politics stream support that neither agenda would generate in isolation precisely the kind of stream coupling that Multiple Streams theory identifies as the mechanism for durable policy change.

The most productive policy window is open at present: energy transition has become a national and global agenda, and Indonesia is currently formulating long-term policies across sectors. This convergence creates a rare alignment of all three streams. The window will not remain open indefinitely policy attention is finite and competing priorities are substantial but the current moment offers an actionable opportunity to institutionalize geopolitical energy risk within tourism resilience planning in a way that previous moments have not.

5. CONCLUSION

This study argues that Indonesia's tourism sector vulnerability to avtur price volatility from geopolitical shocks is not merely a market problem; it is a policy architecture problem. As long as geopolitical-energy risk remains absent from the construction of national tourism policy, the sector will continue facing recurring shocks without adequate anticipatory capacity. The geopolitical instability around the Strait of Hormuz and adjacent energy corridors is not a temporary condition; the structural dependence of Indonesian tourism on air connectivity is not one that can be resolved in the short term. The gap between these two realities must be addressed at the level of policy design.

Three policy recommendations warrant priority attention, each requiring elaboration on implementation rather than just intent. On cross-sectoral integration: the formal coordination mechanism between the Ministry of Tourism, Ministry of Energy and Mineral

Resources, and Ministry of Transportation should include a shared monitoring function tracking MOPS price movements, avtur cost shares on strategic tourism routes, and early demand indicators for air-dependent destinations. This evidence base serves both as an early warning system and as the empirical foundation for calibrating adaptive responses. On aviation fuel hedging: exploration should be informed by documented ASEAN precedents and adapted to Indonesia's existing regulatory architecture for aviation pricing, with a focus on routes serving the ten priority tourism destinations identified in national development planning. On transport diversification: priority should be given to corridors where non-air alternatives are viable — specifically high-speed maritime connections for eastern island destinations and rail connectivity for Java-Bali tourism corridors — reducing long-run structural exposure without requiring near-term elimination of air dependence.

This study has limitations in its focus on national-level analysis and the absence of primary field data. Future research incorporating sub-national perspectives, structured interviews with industry stakeholders and policymakers, and comparative analysis with other ASEAN states facing analogous geographies would strengthen the generalizability of these findings and provide empirical grounding for the implementation design of the recommended policy instruments.

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