

GEOPOLITICAL CONFLICT, ENERGY SHOCKS, AND GLOBAL SUSTAINABILITY: DEVELOPMENT IMPLICATIONS OF THE IRAN–ISRAEL CONFLICT

MUHAMMAD MEHEDI MASUD

Faculty of Islamic Economics and Finance, Sultan Sharif Ali Islamic University,
Brunei Darussalam

Received: 28/04/2026

Accepted: 03/05/2026

Published: 15/05/2026

ABSTRACT

This article presents a cohesive framework explaining how international tensions can cause major disruptions to the entire world's energy, economic, and environmental systems, with subsequent effects on global development outcomes. The author conceptualizes conflict as a 'structural shock' transmitted through 'critical nodes' of the global energy system. They analyse how disruptions at 'strategic checkpoints' can trigger energy supply shocks and price volatility across global economies, thereby increasing inflation, creating supply chain challenges, and slowing economic growth. The authors demonstrate that these disruptions typically concentrate on the part of the world dependent on importing energy and/or on relatively underdeveloped countries that have less ability to adapt to changing conditions than other countries. In addition, these disruptions will generate environmental consequences: carbon emissions increase, natural ecosystems degrade, and the timing of the transition from fossil-fuel-based to renewable energy systems is delayed due to these energy challenges. The article's biggest contribution is theorizing the economy-environment relationship as a mutually reinforcing loop: economic instability translates into increased environmental degradation and environmental stress translates into longer-term economic vulnerability. This framework offers important new insights into how international tensions will influence the evolution of development patterns across an increasingly interrelated and potentially less stable global community.

Keywords: Geopolitical Conflict; Energy Shocks; Development Vulnerability; Energy Security; and Environmental Sustainability

1.0 INTRODUCTION

The Middle East, where a significant share of global energy production is concentrated of the world's energy production occurs, is critical to maintaining geopolitical stability and has a direct impact on the global economy. The Strait of Hormuz is the most important maritime trade route, supplying close to 20% of total world oil usage and a large volume of LNG, making it a chokepoint for international trade (U.S. Department of Energy, 2023; International Energy Agency, 2026). This structural reliance makes the global economy highly vulnerable to

regional disruptions, where localized tensions may create cascades throughout the world's financial markets.

The ongoing Iran-Israel conflict has demonstrated this vulnerability, resulting in the largest oil supply disruption in history (IEA, 2026). Oil and refined products flowing through the Strait of Hormuz have decreased from approximately 20 million barrels per day to less than 10% (IEA, 2026). To address this issue IEA member countries released a total of 400 million barrels from emergency reserves, resulting in the largest coordinated stock release in the agency's history (IEA, 2026; Reuters, 2026). Gulf countries have cut production by at least 10 million barrels per day following extensive disruptions to Iraqi, Qatari, Kuwaiti, UAE, and Saudi Arabian production (IEA, 2026).

Extreme volatility has been evident in global energy markets. For instance, from the beginning of 2026, Brent crude oil prices were reported to be above \$100 per barrel, with an increase of more than 50% since the previous month (International Monetary Fund, 2026). An increase in global energy prices over 10% sustained for 1 year will add 40 basis points to overall inflation and will reduce total world output by 0.1 to 0.2% (Kozack, 2026). The extended impact of oil prices remaining above \$100 per barrel could be significant (International Monetary Fund, 2026).

There has been a rapid response regarding possible macroeconomic effects. The rise in oil and gas prices has increased production and transportation costs within the global economy, creating persistent inflationary pressure and reducing real purchasing power for all household incomes. The IMF lowered its global growth forecast to around 2.9% for 2026 because of these developments—a 0.7% adjustment from previous estimates (International Monetary Fund, 2026). As a part of the overall impact of the oil price conditions, concerns over stagflation similar to that seen after the 1970 oil shocks have returned (Barnett, 2026). The disruption from increased oil prices has also affected fertilizer shipments, leading to significant potential food price increases, as well as transport disruptions to global industrial material supply chains (International Monetary Fund, 2026).

The impact of conflicts on the environment is just as strong as their economic impacts. When energy security is disrupted, countries tend to return to fossil fuels (e.g., coal), which cancels out progress made over the years toward reducing the effects of climate change. Studies show that disruptions of maritime shipping choke points cause higher emissions associated with shipping – as much as 30-35% higher emissions due to stopping and taking longer routes (Otu-Larbi et al., 2024; Peng et al., 2024). Continuing conflicts in the Gulf region increase the risk of oil spills and possibly expose people to harmful pollutants from damage to energy-related infrastructure.

The Iran-Israel conflict is especially notable because it has a significant regional impact and can create systemic disruptions that cross borders, affecting every part of multiple interrelated

global systems. Because the vast majority of energy infrastructure is located in geopolitically vulnerable areas, the global economy is vulnerable to shocks that can affect multiple markets and supply chains simultaneously, creating significant impacts on both the environment and the economy. This means that when a geopolitical disturbance occurs it affects all aspects of the economy and causes environmental damage related to climate change mitigation efforts.

The existing literature has documented both the negative economic consequences of energy supply shocks and the negative environmental consequences of conflict, but has primarily done so in isolation of one another (Arezki et al., 2022; Baffes et al., 2023; Sovacool et al., 2023). This paper is designed to fill this gap by proposing an integrated conceptual framework for understanding how geopolitical conflict results in cascading economic and environmental impacts via energy market transmission channels. The main contribution of this study is to theoretically link the economy-environment nexus together in terms of mutual reinforcement as feedback cycles where economic shocks create additional environmental degradation and environmental stress increases systemic vulnerability to economic shocks.

It is important to recognize that countries are differently affected by the impacts of conflict-induced energy shocks. Energy-import dependent developing countries are particularly vulnerable because they have limited fiscal capacity, weak institutional capacity, and greater exposure to food and energy price inflation. Recent research indicates that energy price shocks disproportionately affect developing countries via inflationary spill overs into the domestic economy and by causing fiscal strain on national budgets, resulting in significant increases in poverty (Baffes et al., 2023; Arezki et al., 2022). These distributional effects of geopolitical conflict on energy security show that conflict serves as a source of global—as well as local—snowballing effects of overdevelopment by perpetuating disparities both between and within countries. Therefore, a comprehensive understanding of the distributional impacts of conflict-induced systemic disruptions is necessary to assess the global development impacts of these disruptions.

2.0 BACKGROUND: GEOPOLITICAL CONFLICT AND GLOBAL ENERGY VULNERABILITY

Global energy systems rely too heavily on concentrated geographic areas of fossil fuel resource deposits and transit routes, putting them at great risk of disruption due to geopolitical events. Globally, the oil supply also travels through a limited number of key chokepoints, particularly the Strait of Hormuz, which serves as a vital pipeline for the world's energy flow (U.S. Energy Information Administration, 2023). This geographic concentration results in corresponding geographic exposure, meaning a disruption in one specific area has far-reaching effects across the globe. Historically, energy supply disruptions and price fluctuations resulted from geopolitical shocks (e.g. wars, civil conflicts, and unstable governments). However, today's energy markets operate with high levels of global integration among producers and consumers, tighter supply/demand balances, and increased interdependence across production,

transportation, and consumption networks. Therefore, due to these recent developments in energy markets, the ability of these markets to absorb shocks has become more limited, creating larger systemic impacts from any disruption.

The Iran–Israel conflict demonstrates this susceptibility to disruption. Increased tensions near the most important shipping routes in the world have increased the risks for shipping security and energy infrastructure, creating uncertainty in global oil and gas markets (International Energy Agency, 2026a). These risks are not just from disruptions to supply alone, as precautionary measures, including rerouting vessels and increased insurance rates, restrict effective supply and add to market volatility. At the same time, there are still significant levels of dependence on fossil fuels worldwide, and there are few short-term alternatives to fossil fuels available in the event of supply disruptions. This structural dependence creates difficulty for economies attempting to rapidly adjust, so that energy market shocks are communicated more effectively to large economic systems (Mitchell & Mitchell, 2017; IEA, 2026b). This continued dependence on fossil fuels also reflects technology failure, but it is also a function of the slow pace of energy transition (particularly regarding transportation and heavy industry). Therefore, these trends indicate the tension that exists between energy security and system vulnerability. Global markets have been created with a focus on achieving the most efficient allocation of resources in stable conditions, but they are very sensitive to disruptions that originate in areas of geopolitical contention. Therefore, conflicts relating to strategically important energy resources create effects that will propagate across the globe and impact global economic stability and environmental conditions.

3.0 METHODOLOGY: A CONCEPTUAL APPROACH

This research takes a conceptual and theoretical perspective. Instead of collecting data to test hypotheses, the purpose of conceptual papers is to build theoretical frameworks that explain phenomena and inform future research (Gilson & Goldberg, 2015; Jaakkola, 2020). Methodological procedures follow standard conventions for developing conceptual papers in international political economy and sustainability studies.

3.1 Research Approach

Utilizing an integrative conceptual approach that combines different theory sets to create an overarching framework enhances the understanding of conflicts in terms of their ability to disrupt systems. Because no established theories currently explain what happens when geopolitically based conflict intersects with energy markets and environmental issues—due to the concept's complexity—an umbrella model will provide a clearer explanation of how these three theories are connected (Cornelissen, 2017).

3.2 Literature Selection

The literature review focused on the following disciplines: international political economy, energy security, environmental sustainability, and conflict study. The databases searched included Scopus, Web of Science, and Google Scholar for the years 1990 through 2026. The keywords searched included the following combination of terms: "geopolitical conflict," "energy shocks," "oil price volatility," "Strait of Hormuz," "carbon emissions," "energy transition," and "environmental security." The preferred sources of these articles were peer-reviewed journals, books from academic publishers, and reports produced by international organisations (e.g., IMF, IEA, and World Bank). For the time frame of each source type, recent citations from 2023 through 2026 were given priority to ensure relevance to the current policy environment.

3.3 Theoretical Integration

Four theoretical frameworks were chosen because they represent a particular aspect or dimension of the research problem: Geopolitical Economy Theory (geography, power and economy); Resource Curse and Energy Dependency Theory (structural vulnerabilities of fossil fuel reliance); Environmental Security Theory (links between conflict and the environment); and Institutional Theory (governance failure). We joined these theories using a conceptual synthesis process where we identified gaps between theories and created causal pathways (Jaakkola, 2020).

3.4 Framework Development

This conceptual framework was developed in an iterative and collaborative manner. It consists of four stages of development including the identification of a problem as a result of the long-term impacts of the Iran–Israel conflict on the global community; the development of a theoretical synthesis identifying pathways from conflict to economic and environmental consequences; the identification of the economy–environment nexus as a mutually-reinforcing system; and expert review and historical comparisons (the 1973 oil embargo and 1979 Iranian Revolution). The framework illustrates the sequential chain from conflict to energy shock to economic and environmental effects to global sustainability while paying particular attention to feedback mechanisms in the model.

4.0 THEORETICAL FOUNDATIONS

A comprehensive understanding of how the Iran–Israel conflict interacts systemically with global energy markets and the environment requires many different theoretical perspectives. This study uses a multi-theoretical approach that integrates geopolitical, economic, environmental, and institutional perspectives to consider how conflict at strategic chokepoints causes cascading disruptions across all interconnected global systems. Geopolitical Economy Theory provides the primary structure for analyzing these impacts due to the economic system's embeddedness within geopolitical power relations. Geopolitical Economy Theory originated

with the work of Susan Strange (1988) and subsequent developments by Radhika Desai (2013) and Adam Tooze (2018). The theory provides evidence of states' shaping of markets through territorial control, military capacity and strategic intervention as their primary mechanisms for economic interaction. A key aspect of this framework is the notion of strategic chokepoints—in particular, the Strait of Hormuz, a critical geographic node through which roughly 20% of the total global oil consumption flows (U.S. Energy Information Administration, 2023). Consequently, because strategic chokepoints are the organising principles of the global economy, conflict within these regions will produce systemic disruption in all interconnected systems (Rodrigue, 2020; Kassim & Osman, 2026; Bradshaw, 2026).

The ideas presented by Resource Curse Theory and Energy Dependency Theory expand upon this idea regarding the structural vulnerability of societies based on their reliance on concentrated energy resources. Specifically, Resource Curse Theory (Auty, 1993; Karl, 1997) explains how economies relying on resource rents experience volatility, governance challenges, and conflicts as a result of that dependence. A similar pattern can also be observed at the global level; for instance, fossil fuels remain a primary input for energy systems and supply disruptions lack immediate substitutes, which can create price shocks for fossil fuel users (Mitchell and Mitchell, 2017; IEA, 2026b). Finally, Energy Dependency Theory (Yergin, 1991; BP, 2022; World Bank, 2026) illustrates how a concentration of oil reserves (i.e., approximately 48% of all world oil reserves are in the Middle East) creates systemic risks for economies relying on imported oil and emphasizes energy security as reliable access to an energy source at stable prices.

Environmental Security Theory, an analysis of the relationship between environmental changes and conflict, was developed by Thomas Homer-Dixon (1991, 1999), Jon Barnett (2001), and Oli Brown (2005). This theory outlines a two-way relationship: environmental scarcity can cause conflict and conflict can produce environmental degradation. Regarding the conflict between Iran and Israel, competition for energy resources has direct environmental effects, such as increased risk of oil spills, damage or destruction of critical infrastructure and increased emissions from redirected shipping (Machlis and Hanson, 2008; Ide, 2025; Linden, 2014; SIPRI, 2026; Otu-Larbi et al, 2024; Peng et al, 2024). In addition, energy insecurity contributes to carbon-intensive consumption patterns, which concurrently undermine the ability to effectively mitigate potential negative effects of climate change (Leung, 2026; IEA, 2025).

Institutional Theory, a framework created by Douglass North in 1990, establishes a dimension of governance by explaining how the availability or lack thereof of institutional capacity determines system stability. Stability occurs within effective institutions because they lower uncertainty and create cooperative efforts; however, institutional breakdown puts system stability at risk. The lack of effective global and regional institutions, including the United Nations Security Council and the International Energy Agency, has failed to properly contain disruptions caused by conflict (IEA, 2026a; Maruf and Singh, 2025). These institutions have

also failed to provide structural solutions to the vulnerabilities created by the lack of support for emergency assistance (Oxford Institute for Energy Studies, 2026). The lack of regional governance in the Gulf increases the reliance on military responses, which in turn increases the potential for systemic risk (Ulrichsen, 2016; International Crisis Group, 2026; Kassim and Osman, 2026).

These theories, when used together, create an interconnected framework whereby geopolitical conflict occurring at strategic chokepoints interacts with structural resource dependence, environmental feedback mechanisms and institutional deficiencies—resulting in a series of cascading disruptions throughout global energy, trade and environmental systems. The Iran-Israel conflict is a perfect example of this layering dynamic; geopolitical tensions present at a critical chokepoint lead to energy instability, environmental degradation and increased institutional vulnerability (Tooze, 2018; Bridge & Le Billon, 2017; Atlantic Council, 2026). An integrated view provides an overall basis for analysing how localized conflicts produce systemic global impacts.

5.0 CONCEPTUAL FRAMEWORK

This study formulates an all-encompassing conceptual scheme to clarify how geopolitical conflict causes systemic upheavals within worldwide interdependent energy, economic, and environmental systems. The framework more explicitly defines conflict as being generated by systemic shocks from global interconnected structures rather than as an isolated geopolitical incident. Moreover, it emphasises that systemic disruptions travel through important nodes such as energy chokepoints and are intensified by the actions of others in different systems through a multi-stage, non-linear, causal architectural system. Also important to this contribution is the inclusion of feedback mechanisms, significantly between economic instability and environmental degradation, working mutually. The framework combines these four elements to present a coherent analytical basis for comprehending how localised conflict impacts an entire global market system, including energy markets, macroeconomic stability, and sustainability.

This diagram shows how geopolitical conflict causes multi-stage disruptions on a global scale to energy, economic and environmental systems. At key strategically important nodes, the introduction of systemic risk from the conflict affects energy markets (through supply disruptions and price volatility). The shocks associated with key nodes propagate through the various interconnected channels of the economy and environment, resulting in inflation, disrupted supply chains, environmental degradation, and increased emissions. The economy–environment feedback loop is one of the key elements of this framework. Economic instability will further cause additional environmental degradation. Environmental stress will also increase the vulnerability of the economy. The combined and interrelated effects of these processes occur at a global level and result in sustainability outcomes that include: macroeconomic instability, lack of progress on climate issues, and weakened governance.

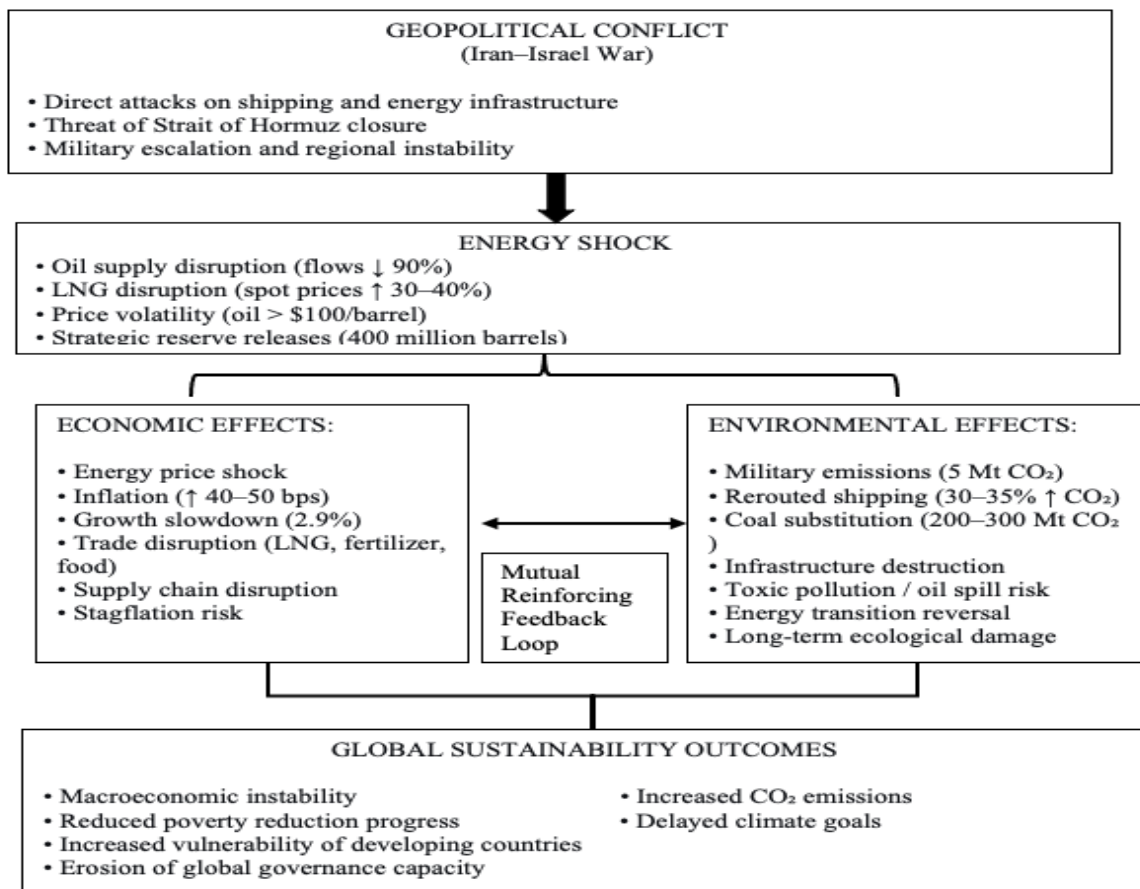


Figure 1. Conceptual Framework of Conflict-Induced Systemic Disruption

Source: Author’s own work

5.1 Causal Pathways from Conflict to Systemic Disruption

This framework establishes a causal chain that connects geopolitical conflict with global sustainability outcomes by outlining a series of interconnected transmission mechanisms. This process occurs in four separate but dynamically linked stages. The first stage involves a threat to critical infrastructure and resource flows arising from a conflict in an area with significant strategic global energy resources. In the second stage, the systemic risk associated with the original conflict materializes as an energy shock (i.e., disruptions to energy supply and price volatility in the global energy markets). In the third stage, these shocks propagate through interconnected systems, resulting in both environmental and economic effects through multiple transmission paths. The fourth stage results in the cumulative and interactive effects of shocks, which generate macroeconomic instability, increased emissions, and diminished governance capacity for achieving sustainable outcomes. A noteworthy aspect of the framework is the inclusion of an economic and environmental feedback loop, as initial shocks to one system

amplify over time through their impact on both systems. The feedback loop, therefore, transforms short-term disruptions into long-lasting structural vulnerabilities.

5.2 Conflict as Systemic Risk

Geopolitical disputes create systemic risk when they occur in critically important places that support the global economic structure. The location of strategic chokepoints makes them high-dependency nodes; any disruption there will propagate from the immediate conflict area and impact global resource movements. Geopolitically unstable regions housing the majority of the world's energy reserves and transit routes increase the aforementioned vulnerabilities of high dependency on a particular supply source, as those items will not have an easily available offset in the short term. Furthermore, ineffective or fragmented governance increases these risks by limiting the ability to settle disputes, secure infrastructure, and coordinate effective responses to localised events. In these high-risk environments, localised conflicts are more likely to escalate, spread through multiple interconnected systems, and create global-scale disruptions.

5.3 Energy Shock as Transmission Mechanism

Geopolitical conflict mainly translates into systemic disruption through global energy markets. Critical supply nodes can create asymmetric shocks due to inelasticity in energy demand, with limited short-term substitutes. Two interrelated mechanisms are associated with these shocks: (1) physical supply disruptions and (2) price volatility. Both supply constraints (and thus disruptions) arise from either damage to infrastructure (e.g., pipelines, ports, etc.), decreased availability of transit routes, or precautionary reductions in production/shipping. Additionally, uncertainty and risk perceptions create price volatility in global energy markets, which extends the effect of physical supply disruption well beyond what the immediate disruption of supply chains would normally cause. Because energy is critical for production, transportation, and consumption activities at all economic levels and in all countries, these physical supply shocks propagate rapidly across all economic sectors and contribute to establishing energy as a global system-wide mechanism for transmitting geopolitical conflict to other systemic disruptions (i.e., economic, social, and environmental).

5.4 Economic and Environmental Propagation

The global economy and environment are closely linked, and energy shocks transmit through both. High energy prices flow through the production and delivery systems, leading to inflation, supply chain disruptions, and lower economic growth. The effects are particularly strong for developing nations that import the majority of their energy due to structural differences in both exposure and resilience across the globe. Additionally, conflicts and disruption of energy supply both have direct and indirect environmental impacts. Military activity and infrastructure damage create pollutants and degrade the earth's ecosystems. Furthermore, the disruption of energy systems alters how people consume energy, thus causing additional strain on the

environment. Economic and environmental impacts are highly interrelated; therefore, together they create an interconnected system where disruptions in one create further vulnerabilities in the other. This interrelatedness forms the basis for the feedback dynamics described in the next section.

5.5 The Economy–Environment Feedback Loop (Core Contribution)

A critical issue in this structure is the conceptualisation of the exchanges between the economy and the environment as a mutual and cumulative effect feedback loop. The reinforcement of feedback occurs through many different channels, through which geopolitical shocks have an amplified initial impact. One of the pathways of feedback from a geopolitical shock is through energy price shocks that lead to substitution to higher carbon content fuels, resulting in increasing emissions and delaying the pathways for decarbonisation. Another pathway of feedback is the destruction of infrastructure from a conflict, which leads to the reconstruction of infrastructure, and this requires resources and subsequently creates emissions and adds pressure to the environment. The third pathway is that macroeconomic instability (e.g., inflation) reduces the capacity to create policies that would mitigate global warming, which results in delaying or weakening the commitments of the country in environmental policy. These three mechanisms create a self-perpetuating cycle where, when the economy is disrupted by geopolitical shocks, there is an increase in the degradation of the environment, and when there is stress on the environment, there is an increase in the vulnerability of the economy over the long-term. As a result of these dynamics, the geopolitical effects of conflict last for longer periods and become persistent forms of structural problems rather than just short-term shocks to the geopolitical structure.

5.6 Global Sustainability Outcomes

These processes will cumulatively lead to interconnected global sustainability. These interconnected, or co-evolving, outcomes include global economic instability, increased emissions, delayed achievement of climate goals, and decreased government ability to manage future systemic risks. These outcomes reflect geopolitical, economic, environmental, and institutional dynamics. Consequently, global sustainability will not necessarily be a fixed endpoint but will emerge through the ongoing interaction and feedback between all these systemic elements.

6.0 DISCUSSION: SYSTEMIC IMPLICATIONS OF CONFLICT-INDUCED ENERGY SHOCKS

The Iran–Israel conflict demonstrates how geopolitical shocks transmitted through energy markets generate systemic disruptions across both economic and environmental domains. Rather than isolated effects, these disruptions operate through interconnected transmission mechanisms, reflecting energy's structural centrality within the global economy.

6.1 Economic System Implications

Countries are affected differently by these impacts. Developing economies that import energy are the most vulnerable because increased energy prices cause inflation, fiscal stress, and a decreased ability to fund social programs. As a result of energy shocks in those economies, poverty rates can increase, food insecurity often rises, and current development discrepancies widen. Energy shocks to global and developing economies propagate through two major ways: the transmission of energy costs via higher prices, reduced real household income, and supply chain disruptions due to higher production and transport costs; and the consequent weakening of overall economic growth due to uncertain future investment and consumption.

Energy prices fluctuate based on changes within an economy and then become a catalyst, impacting other economies worldwide. The increased prices paid by importing countries will inevitably cause inflationary pressures through higher costs of imported food and energy supplies. The global nature of energy markets also ensures that localized (geographical) disruptions are felt across a wide area. The ability of energy-importing countries to absorb price increases will then produce inflation in low-income developing countries, where a large amount of food and energy is consumed. Thus, systemic links exist between energy used to facilitate international trade through natural resource wealth accumulation, the allocation of economic resources via market mechanisms, and the resulting differences between developing and developed economies. The findings presented herein are consistent with a plethora of evidence that the impacts of energy shocks are differentially distributed across the entire world economy, with lower-income and energy-importing countries being disproportionately impacted (World Bank, 2025; Baffes et al., 2023).

6.2 Environmental System Implications

Geopolitical instability has a measurable effect on global decarbonisation by solidifying reliance on fossil fuels and raising emissions intensity levels (Sovacool et al., 2023; Steckel et al., 2022). In addition to having a detrimental economic effect, disruption of energy systems due to conflict has serious environmental ramifications as well. Both military activity and the destruction of energy infrastructure are directly related to pollution/ ecological damage; in turn, disruption of energy systems causes people to consume in a manner that generates more emissions than if there were no disruption. A key driver of this disruption is that countries shift to using more carbon-intensive fuels due to supply insecurity. For example, when oil and gas supplies are compromised because of conflict, many countries will default to coal or other fuels that are readily accessible; doing this will create additional carbon emissions and extend the period required for transitioning their energy systems to zero-emission sources. Another way energy disruptions resulting from conflict will lead to long-term environmental damage is through damage to energy infrastructure and the increased risk of oil spills, both of which will result in long-term consequences that exceed the duration of the conflict. This makes it critical

to think of environmental consequences as part of conflict-related systemic breakdowns rather than as an afterthought or non-core component.

6.3 The Economy–Environment Nexus

The dynamic nature of feedback loops has received increased attention in the literature on energy transitions, particularly concerning economics and the environment. Evidence from this paper suggests two key ideas about the interconnectedness of these two domains: (1) they are mutually reinforcing (rather than independent) and (2) energy price shocks can result in cascading effects across the domains. For example, as illustrated by the conflict in Iran and Israel, when a country suffers a shock in one area (e.g., energy prices), it can create a cascading effect that leads to increased physical damage and/or increased emissions in another area (e.g., displaced persons being forced to use carbon-intensive fuels). Three key mechanisms connect these processes. First, energy price shocks result in a move toward greater use of carbon-based materials, leading to greater greenhouse gas emissions and delaying the elimination of carbon from global economies. Second, when a country is involved in conflict, the consequent destruction of infrastructure requires rebuilding, resulting in increased use of resources and increased carbon emissions during the rebuilding process, thus adding additional pressure to the environment. Third, macroeconomic instability (such as inflation and fiscal constraint) diminishes the ability of governments to develop and implement climate policies. Thus, through these mechanisms, the relationship between economic and environmental stress causes economic disruption and increased environmental destruction, which in turn increases the long-term economic vulnerability of nations. Therefore, this paper extends how we view the long-term effects of conflict by using a temporal and geographic approach to reframe the short-term impact of conflict on the world's economies.

7.0 ENVIRONMENTAL SUSTAINABILITY IMPLICATIONS

The environmental impacts of the Iran-Israel conflict are greater than simply causing short-term effects; the broader implications are much longer-term. The long-term effects of emissions (and hence climate change) have multiple mechanisms affected by the Iran-Israel conflict (i.e., direct emissions sources such as military activity; indirect sources such as interruption of shipping routes; and significant impacts on the types of energy consumed). The additional environmental impacts associated with damage to energy infrastructure and increased potential for release of toxic pollutants (from the military-associated activities) will also create long-term environmental degradation of environmentally vulnerable areas. Additionally, energy security issues impact a government's policy priority; therefore, governments have increased their reliance on the consumption of fossil fuels due to energy security concerns rather than investing in the renewable energy sector. These trends illustrate a fundamental tension between energy security and environmental sustainability. In contrast to the short-term response to disruptions in supplies, the long-term impacts of the disruptions may undermine long-term climate objectives. Additionally, since the impacts of the Iran-Israel conflict on the

environment are likely to be long-term, these long-term impacts act as significant impediments for implementation of global sustainability goals. Finally, the environmental impacts of the Iran-Israel conflict have significant implications for development. Decreased agricultural output and increased risk of health impacts and increased risk of climate-related shocks from environmental degradation disproportionately affect vulnerable populations and therefore exacerbate the existing inequity.

8.0 THE ECONOMY–ENVIRONMENT NEXUS: MECHANISMS OF REINFORCEMENT

This part of the document details how economic and environmental effects create feedback loops and presents an analytical framework for understanding these loops as described above. The feedback loop described here is also consistent with new research highlighting how energy systems, economic shocks, and environmental effects interact and shape each other's future (Ide, 2025; Cherp et al., 2023).

8.1 Energy Shock → Carbon Intensity Increase

Positive energy shocks lead to switching to more carbon-intensive fuels such as coal, both of which are abundant and affordable in the short term; however, this switch reduces energy security and further delays the shift to cleaner energy sources. As a result, over time, we create a "carbon lock-in" as we develop infrastructure dependent on fossil fuels.

8.2 Conflict → Reconstruction → Carbon Emissions

The destruction of infrastructure caused by conflict creates substantial demand for reconstruction, which is inherently carbon-intensive because it uses materials such as concrete and steel. The amount and structure of the reconstruction will affect long-term carbon emissions; for example, high-carbon emissions from rebuilds will increase global warming, while low-carbon reconstruction will not occur due to limited access to both money and government.

8.3 Inflation → Weakening of Climate Policy

When inflation leads to macroeconomic instability, the political and fiscal conditions for climate action soften. Higher energy costs make it politically less attractive to develop carbon pricing and regulation, while fiscal pressure limits the amount of money spent on renewable energy investment and climate mitigation. These further limits the government's ability to invest in long-term sustainability options which will create continued vulnerabilities to future shocks in the economy.

8.4 Cumulative Effects

The combined effects of all the above mechanisms create a collective environmental burden that goes beyond direct emissions; however, the long-term consequences of carbon lock-in, delayed actions from policymakers, and loss of institutional capacity create new challenges for global climate governance. These cumulative dynamics illustrate how conflicts that cause shocks can transform the trajectory of sustainability over the longer term.

9.0 DIRECTIONS FOR FUTURE RESEARCH

This study's conceptual framework offers a basis on which future empirical investigations of the systemic effects of geopolitical conflict can be built. Numerous possibilities for future research arise from the development of this framework. The first is to use time series methods to examine the connection between conflict intensity and energy price volatility to determine how geopolitical conflict events affect market stability. The second is to study the macroeconomic ramifications of energy shocks (particularly inflation and economic growth) to determine differences in vulnerability to energy shocks between developed and developing nations. The third is to determine the environmental effects of conflicts (emissions and ecological degradation) using satellite imaging and spatial analysis. The fourth is to examine the influence of energy insecurity on the speed and direction of energy transition, such as the influence of conflict on the rate of renewable energy uptake in a country. The fifth avenue for future study is to conduct comparative analyses of how differences in institutional capacity and governance among countries and by region affect nations' ability to minimize the economic and environmental consequences of conflict. Each of these avenues of future research will allow for the empirical examination of the proposed mechanisms of change outlined in this study and should provide a more complete understanding of how geopolitical conflict affects global development trajectories—both separately and as a whole.

10.0 POLICY IMPLICATIONS

Geopolitical instability in energy-producing regions creates systemic shocks throughout interconnected systems of economics and environment; thus, shocks must be dealt with on a coordinated basis across the three policy domains of global economics, global environment, and global geopolitics. Recent literature also recognises that greater resilience against geopolitical uncertainty can be developed through integrating energy security and climate policy (Cherp et al., 2026; Overland, 2026).

10.1 Global Policy Implications

The world economy has become too reliant on oil and natural gas from the Gulf region, with the Strait of Hormuz (see map below) being an area of significant vulnerability. The geolocation of where energy is produced can help lessen the impact of price shocks by developing geographically diverse sources (i.e., outside of the Gulf region); however, while geographic diversification of production will relieve some pressure, developing production

from new sources takes many years and does not reduce the volatility of global prices caused by shocks in the Gulf region (Oxford Institute for Energy Studies, 2026). A more durable solution may involve speeding up the transition from fossil fuels to renewable forms of energy; as renewable resources are more geographically dispersed, countries that have invested heavily in them have been able to diminish their exposure to price shocks (International Energy Agency, 2026b; European Commission, 2026). Policy recommendation: frame policies on renewables (i.e., Feed-in Tariffs, Portfolio Standards, Transmission Investments) as Energy Security policies rather than simply climate policies (Leung, 2026; IEA, 2026b).

Advance Maritime Chokepoint Governance. National laws & bilateral treaties are inadequate governance for maritime chokepoints under threat of conflict-induced disruptions (Awan, Abdullah, & Shahab, (2025); Kassim, & Osman, 2026). The International Maritime Organization (IMO) should develop binding standards for the protection of chokepoints at the international level (e.g., escort services, monitoring protocols, emergency response). The United Nations (UN) Security Council needs to develop clearly defined protocols regarding chokepoint security in times of conflict (Awan, Abdullah, & Shahab, (2025); IMO, 2026). Gulf states should create joint mechanisms for managing security around emergency protocols established by the Gulf Cooperation Council (GCC) (Ulrichsen, 2016; International Crisis Group, 2026).

Restructure/Modernize International Energy Institutions. While the release of 400 million barrels of oil from strategic reserves held by IEA-member countries temporarily relieved oil prices in response to the recent pandemic & Ukraine-Russia conflict, there is no sustainable solution to the risks posed by this and other structural deficiencies (IEA, 2026a; Oxford Institute for Energy Studies, 2026). These reforms include: enlarging IEA's membership to include countries like China & India; providing countries greater flexibility in responding to emergencies; improving IEA's capacity to coordinate diversifying sources of energy & providing assistance for developing renewable energy. More fundamentally, there must be a new model of international institutions capable of managing the transition to a low-carbon energy system while supporting & securing energy needs—this traditional IEA-OPEC system was not designed to meet these challenges (Young, 2010; Maruf & Singh, 2025).

10.2 Economic Policy Implications

Management of Strategic Reserves. The coordinated release of reserves by the IEA provided stability in the global market (IEA, 2026a). However, due to increased volatility and greater concentrations of supplies, reserves established in the 1970s at a level of 90-days may not remain a sufficient reserve level in the future (IEA, 2026b; World Bank, 2026). Thus, higher reserve levels may be justified. Furthermore, the discretionary nature of decisions on reserve releases results in considerable delays and contentious discussions. Therefore, an automatic mechanism for releases based on pre-agreed price thresholds or supply disruption levels may provide more prompt and reliable reactions (Oxford Institute for Energy Studies, 2026).

Management of Inflation. Energy price shocks can challenge the use of monetary policy and create trade-offs between price and quantity levels in administering monetary policies (Hamilton, 2009; Kozack, 2026). Nevertheless, since supply inflation arises from supply fuel rather than demand, various alternative tools should be available for managing inflation resulting from an energy price shock (IMF 2026; Barnett 2026). Coordination between fiscal and monetary authorities will be critical to providing price stability during inflation shocks, especially in Europe where fiscal and monetary policies are separated (World Bank, 2026).

Supply chain resilience was tested during the conflict, disrupting fertilizer, food, and other industrial supply chains and highlighting the potential for geopolitical events to disrupt the flow of goods under a Just-In-Time System (FAO 2025, IEA 2026a). As part of a longer-term strategy to combat future disruptions to the global supply chain, these policies should promote supply diversity, stockpiles, and manufacturing capabilities in nations for essential goods (World Bank 2026, Oxford Institute for Energy Studies 2026). Governments and international organizations should also develop capability maps of critical supply chains, including identifying choke points (IMF 2026).

10.3 Environmental Policy Implications

Conflict-Related Emissions. Conflict-related emissions (including those from military operations, modifications to shipping routes, reconstruction projects, and substituting for coal) are currently not accounted for in international climate governance frameworks. Military emissions are not specifically included in the Paris Agreement (CEOBS, 2026; SIPRI, 2026). All military emissions should be reported to the UNFCCC, and mechanisms need to be established to ensure that conflict-related emissions will be included in national inventories and assessments of climate progress (IEA, 2026b; Leung, 2026). As climate change governance evolves, determining accountability for emissions produced by parties involved in conflict must be addressed (Ide, 2025).

Protection of Environmental Governance During Conflict. The conflict has damaged environmental governance in the Gulf, with regulatory bodies redirected, decreased enforcement capability, and stopped monitoring, which increases the likelihood of pollution and long-term health effects (Machlis and Hanson, 2008; Sheppard et al., 2020). International organizations must develop protocols to safeguard access to environmental governance institutions and personnel during international conflicts. Remote sensing technology must be enhanced to allow for monitoring of environmental conditions without needing personnel on the ground (SIPRI, 2026; WHO, 2026). Environmental and economic development objectives (i.e., renewable energy, energy efficiency, remediation of pollution) achieved through reconstruction and aid provided by international financial institutions should be contingent on environmental performance (World Bank, 2026; European Commission, 2026).

Accelerate Energy Transition. Uncertainty from geopolitical tension caused by reliance on fossil fuels = vulnerability; renewable resources have a lower vulnerability (Leung, 2026; IEA, 2026b). Renewable energy policy should be viewed/viewed as an energy security and climate change measure which will help build political support (European Commission, 2026; Oxford Institute for Energy Studies, 2026). Distributed systems, such as off-site solar energy production, provide lower disruption compared to centralized fossil fuel systems, so they should be prioritized in vulnerable areas (IEA, 2026b; Leung, 2026).

10.4 Development Policy Implications

The effects of energy supply disruptions caused by geopolitical tensions are a key factor to consider in devising development policy, especially for low- and middle-income nations, as these disruptions can create energy price volatility that adds to poverty through higher prices for essential goods such as food and transportation, while simultaneously decreasing the real incomes of households. Due to fiscal constraints, governments in low- and middle-income nations have impaired capacity to support subsidies or provide social protection mechanisms, which increases the level of insecurity for low-income households.

In order to reduce the negative consequences of energy supply disruptions caused by geopolitical tensions, development strategies should focus on the following:

- Reducing reliance on imported fossil fuels through the adoption of a diverse energy supply
- Implementing a variety of social protection mechanisms, including cash transfer programs and food aid, to support low-income families
- Investing in renewable energy, thereby increasing both sustainability and resilience
- Strengthening institutional capacity to deal with external shocks.

Taken together, these strategies will help to reduce vulnerability to geopolitical shocks and enable the establishment of more resilient and equitable pathways for development.

11.0 THEORETICAL AND PRACTICAL CONTRIBUTIONS

This research has three primary outcomes. The first is the creation of a unified analytical framework for understanding how conflict-induced systemic interruptions can be modelled through the integration of insights from geopolitical economy, resource dependence, environmental security, and institutional frameworks, as well as the theories of different disciplines. Second, it develops an explanatory model of the economy-environment nexus as a dynamic feedback system, demonstrating how the economic and environmental impacts of geopolitical events are interrelated and compound over time. Third, it lays the foundation for further research into the economic and environmental impacts of geopolitical conflict. From a policy perspective, these effects underlie a call for integrated policy approaches for energy

security, economic stability, and environmental sustainability - all simultaneously. To achieve strengthened resilience, there will also be a need to diversify energy supply systems and improve governance of key strategic chokepoints, as well as incorporate environmental considerations into the response to and recovery from conflict.

12.0 CONCLUSION

The relationship between energy markets, economic growth, environmental sustainability, and instability in geopolitics is illustrated by this conflict. Through the application of a conceptual framework developed in this study to assess energy shocks because of conflict, which flowed through the economic system and then caused cascading negative environmental effects. First, the first thing that the conflict caused was the disruption of the global economic system. As a result of this conflict, oil prices skyrocketed to over one hundred US dollars per barrel, and with worst-case scenarios predicting more than 150 dollars per barrel (The IEA, 2026a; The IMF, 2026). Rising oil prices contributed to a resurgence in global inflation and the potential for a return to stagflation reminiscent of the 1970s. The IMF downgraded its forecast for global growth for 2026 to be 2.9% — 0.7 percentage points lower than pre-conflict projections (The IMF, 2026; The World Bank, 2026). Second, by causing increased levels of CO₂ emissions from military operations, the conflict has caused tremendous environmental damage. Military operations emitted approximately five million metric tonnes of carbon dioxide from military operations in the first two weeks of the conflict (CEOBS, 2026); on top of that, rerouting shipping due to the conflict led to an increase in CO₂ emissions per vessel due to increased mileage of approximately 30 to 35% (Otu-Larbi et al., 2024; Peng et al., 2024); and lastly, energy insecurity as a result of the conflict has caused the increased use of coal resulting in the addition of an estimated 200 to 300 million metric tonnes of carbon dioxide by 2026, setting back the transition to cleaner forms of energy by many years (IEA, 2025; IEA, 2026b). The conflict has also further increased the potential for oil spills, toxic pollution, and long-term damage to the stressed ecological systems in the Gulf (Linden, 2014; Sheppard et al., 2020; SIPRI, 2026). Thirdly, the importance of the study's central contribution is implementing theoretical frameworks for connecting the economy-environment nexus as a feedback system, which mutually applies action in a strengthening circular manner. The first of these is through oil shocks, which increase coal consumption; the second is through war, which yields increased CO₂ emissions for reconstruction; and the third is inflation, which has weakened climate policies (see Leung, 2026; Seto et al., 2016; IEA, 2026b). Furthermore, there is a cyclical reaction whereby the costs of the economy create a cost to the environment that increases the economy's vulnerability in the future. Also, the conflict highlighted that the current governance system had deteriorated, as evidenced by the temporary relief that was provided by the International Energy Agency's (IEA) 400-million-barrel release to the market, which did not fix underlying structural problems (IEA 2026a, Oxford Institute for Energy Studies 2026). For example, the Strait of Hormuz is governed by a patchwork of national and bilateral laws that are entirely unsuitable to manage disruptions caused by conflict (Awan, Abdullah, & Shahab,

2025; Kassim, & Osman, 2026), thus continuously exposing one of the ") most valuable chokepoints to threats (Ulrichsen, 2016; International Crisis Group, 2026). In a broader view, this study demonstrates that geopolitical conflict in the context of intense global interdependence needs to be viewed not only as a source of economic and environmental disruption but as a root driver of uneven development outcomes. The ability to endure and recover from these types of shocks to an economy is highly uneven and necessitates a coordinated approach to policy development in order to simultaneously consider energy security, environmental sustainability, and development resilience.

REFERENCES

1. Aman, A., Khalid, F., & Ara, R. (2025). The Iran-Israel Conflict: A Struggle for Oil, Missiles, and Power-The Geopolitical Battle Unfolds. *Journal of Politics and International Studies*, 11(1), 55-64.
2. Arezki, R., Fan, R. Y., & Nguyen, H. (2022). Oil price shocks and global imbalances. *World Development*, 151, 105741.
3. Atlantic Council. (2026). The Strait of Hormuz: Economic consequences of closure. Atlantic Council Global Energy Center.
4. Auty, R. M. (1993). *Sustaining development in mineral economies: The resource curse thesis*. Routledge.
5. Awan, G. F., Abdullah, W., & Shahab, K. S. U. D. (2025). Iran's Naval Strategy in the Strait of Hormuz: Implications for Global Maritime Security. *Social Science Review Archives*, 3(3), 525-535.
6. Baffes, J., Kose, M. A., Ohnsorge, F., & Stocker, M. (2023). The global economy: Commodity markets outlook and development implications. *World Development*, 161, 106099.
7. Barnett, J. (2001). *The meaning of environmental security: Ecological politics and policy in the new security era*. Zed Books.
8. Barnett, S. (2026). Global economic outlook: Gloomy and more uncertain. *The Asian Banker*. <https://live.theasianbanker.com/video/imfs-steven-barnett-global-economy-is-nowhere-near-stagflation-despite-weaker-momentum>
9. Barsky, R. B., & Kilian, L. (2004). Oil and the macroeconomy since the 1970s. *Journal of Economic Perspectives*, 18(4), 115–134.
10. Bergman, R. (2018). *Rise and kill first: The secret history of Israel's targeted assassinations*. Random House.
11. BP. (2022). *BP statistical review of world energy 2022*. BP p.l.c.
12. Bradshaw, M. J. (2026). Energy Futures, Geopolitics, and the Messy Mix. In *The Geopolitics of Energy System Transformation* (pp. 19-44). Bristol University Press.
13. Bridge, G., & Dodge, A. (2022). From exploration to consumption: understanding the materialities of oil. In *Handbook on Oil and International Relations* (pp. 16-32). Edward Elgar Publishing.

14. Brown, O. (2005). The environment and security. *International Affairs*, 81(2), 287–306.
15. Cherp, A., Vinichenko, V., Jewell, J., Suzuki, M., & Antal, M. (2023). Integrating energy security into sustainable energy transitions. *Energy Policy*, 172, 113324.
16. Conflict and Environment Observatory. (2026). Environmental impacts of the Iran-Israel conflict. CEOBS.
17. Council on Foreign Relations. (2025). Iran's seizure of a container ship in the Strait of Hormuz. CFR.org.
18. Desai, R. (2013). *Geopolitical economy: After US hegemony, globalization and empire*. Pluto Press.
19. European Commission. (2026). REPowerEU: Accelerating the clean energy transition. European Commission.
20. Food and Agriculture Organization. (2025). Global food price outlook. FAO.
21. Hamilton, J. D. (2009). Causes and consequences of the oil shock of 2007–08. *Brookings Papers on Economic Activity*, 40(1), 215–283.
22. Homer-Dixon, T. F. (1991). On the threshold: Environmental changes as causes of acute conflict. *International Security*, 16(2), 76–116.
23. Homer-Dixon, T. F. (1999). *Environment, scarcity, and violence*. Princeton University Press.
24. Ide, T. (2025). Rethinking climate conflicts: The role of climate action and inaction. *World development*, 186, 106845.
25. International Crisis Group. (2026). The Iran-Israel conflict: A dangerous new phase. Crisis Group Middle East Report No. 245.
26. International Energy Agency. (2021). *Oil security: Emergency response*. IEA Publications.
27. International Energy Agency. (2022). *The role of critical minerals in clean energy transitions*. IEA Publications.
28. International Energy Agency. (2024). *World energy outlook 2024*. IEA Publications.
29. International Energy Agency. (2025). *Coal in the energy transition: 2025 update*. IEA Publications.
30. International Energy Agency. (2026a). Middle East conflict triggers largest oil supply disruption in global history. TASS.
31. International Energy Agency. (2026b). *World energy outlook 2026*. IEA Publications.
32. International Energy Agency. (2026c). IEA members agree to release 400 million barrels from emergency reserves. Reuters.
33. International Fertilizer Association. (2025). *Global fertilizer market report*. IFA.
34. International Maritime Organization. (2026). Environmental impacts of rerouted shipping. IMO.
35. International Monetary Fund. (2026). IMF says prolonged increase in energy prices could boost inflation, lower growth. *The Manila Times*.
36. Karl, T. L. (1997). *The paradox of plenty: Oil booms and petro-states*. University of California Press.

37. Kassim, M. G., & Osman, A. I. (2026). The impact of Bab al-Mandab and the strait of Hormuz on Somalia's ports and maritime security. *Journal of Transportation Security*, 19(1), 7.
38. Klare, M. T. (2008). *Rising powers, shrinking planet: The new geopolitics of energy*. Metropolitan Books.
39. Koubi, V. (2019). Climate change and conflict. *Annual Review of Political Science*, 22, 343–360.
40. Kozack, J. (2026). IMF closely monitors Iran war, warns of higher inflation and slower global growth. *Nation Thailand*.
41. Kozhanov, N. (2026). *The Strait of Hormuz: Geopolitics and energy security*. Chatham House Report.
42. Lelieveld, J., et al. (2021). Air pollution and health in the Middle East. *Atmospheric Environment*, 245, 118–132.
43. Leung, C. K. (2026). Policy brief: Iran-related energy disruptions in 2026 and what they mean for sustainability investing. *Friends of the Earth (HK) Green Finance Blog*.
44. Linden, O. (2014). Oil spills in the Gulf: A review of the impacts on the marine environment. *Marine Pollution Bulletin*, 86(1–2), 9–16.
45. Mach, K. J., Kraan, C. M., Adger, W. N., Buhaug, H., Burke, M., Fearon, J. D., ... & Roessler, P. (2019). Climate as a risk factor for armed conflict. *Nature*, 571, 193–197.
46. Machlis, G. E., & Hanson, T. (2008). Warfare ecology. *BioScience*, 58(8), 729–736.
47. Maruf, A., & Singh, R. (2025). Multilateralism in crisis: Energy security governance after the Ukraine war. *Global Policy*, 16(2), 234–248.
48. Mitchell, J. V., & Mitchell, B. (2017). *Energy security and the Gulf: New challenges and opportunities*. Chatham House.
49. Mitchell, T. (2011). *Carbon democracy: Political power in the age of oil*. Verso.
50. North, D. C. (1990). *Institutions, institutional change and economic performance*. Cambridge University Press.
51. Otu-Larbi, F., et al. (2024). Environmental impacts of maritime chokepoint disruptions. In *Proceedings of the International Maritime Conference*.
52. Overland, I. (2022). The geopolitics of renewable energy: Debunking four emerging myths. *Energy Research & Social Science*, 89, 102532.
53. Oxford Institute for Energy Studies. (2026). *Reforming the IEA: Energy security in a fragmented world*. OIES Paper No. 167.
54. Peng, Y., et al. (2024). The environmental cost of rerouting: Carbon emissions from maritime trade diversions. *Marine Policy*, 162, 106–118.
55. Rabi, U., & Friedman, M. (2024). From shadow war to direct confrontation: The Iran-Israel escalation. *Middle East Policy*, 31(3), 45–62.
56. Reuters. (2026). IEA members agree to release 400 million barrels from emergency reserves.
57. Rodrigue, J. P. (2020). *The geography of transport systems (5th ed.)*. Routledge.

58. Seto, K. C., et al. (2016). Carbon lock-in: Types, causes, and policy implications. *Annual Review of Environment and Resources*, 41, 425–452.
59. Sheppard, C., et al. (2020). The Gulf: Environmental challenges and opportunities. *Marine Pollution Bulletin*, 150, 110–125.
60. Sovacool, B. K., Bazilian, M., & Griffiths, S. (2023). Decarbonization and its discontents: Energy security, climate policy, and geopolitical risks. *Energy Policy*, 177, 113540.
61. Steckel, J. C., Jakob, M., Flachsland, C., & Kornek, U. (2022). From climate finance toward sustainable development finance. *Nature Climate Change*, 12, 837–841.
62. Stockholm International Peace Research Institute. (2026). Conflict, energy, and climate: The environmental costs of geopolitical instability. *SIPRI Yearbook 2026*.
63. Strange, S. (1988). *States and markets*. Pinter Publishers.
64. Swatuk, L. A. (2014). Environmental security. In *Advances in international environmental politics* (pp. 211-244). London: Palgrave Macmillan UK.
65. Takeyh, R. (2009). *Guardians of the revolution: Iran and the world in the age of the Ayatollahs*. Oxford University Press.
66. Thompson, H. (2022). The geopolitics of fossil fuels and renewables reshape the world. *Nature*, 603(7901), 364.
67. Tooze, A. (2018). *Crashed: How a decade of financial crises changed the world*. Viking.
68. U.S. Energy Information Administration. (2023). Strait of Hormuz: World's most important oil transit chokepoint. EIA.
69. Ulrichsen, K. C. (2016). *The Gulf states in international political economy*. Palgrave Macmillan.
70. World Bank. (2023). Commodity price shocks and poverty outcomes in developing countries. *World Development*, 163, 106132.
71. World Bank. (2025). *Global economic prospects*. World Bank Group.
72. World Bank. (2026). *Global economic prospects: Energy markets and geopolitical risk*. World Bank Group.
73. World Health Organization. (2026). *Conflict and health in the Middle East*. WHO.
74. Yergin, D. (1991). *The prize: The epic quest for oil, money, and power*. Simon & Schuster.
75. Young, O. R. (2010). *Institutional dynamics: Emergent patterns in international environmental governance*. MIT Press.
76. Youvan, D. C. (2025). *Chokepoint of Empires: The Strategic History of Conflict and Trade in the Strait of Hormuz*.