

**ENERGY SECURITY AS A PILLAR OF NATIONAL SECURITY:
STRATEGIC, LEGAL AND POLICY DIMENSIONS IN THE
INDIAN CONTEXT**

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Abstract

Energy security has become a crucial component of national security in the modern world, as the availability of reliable and affordable energy directly affects economic development, political stability, and strategic power. For a rapidly growing economy like India, ensuring secure access to energy resources is a major challenge due to increasing demand, high dependence on energy imports, and geopolitical uncertainties in global energy markets. This paper examines the relationship between energy security and national security in the Indian context. It analyses India's current energy landscape, major vulnerabilities, and the strategic role of energy in shaping India's foreign policy and economic stability. The study also evaluates the institutional and policy framework governing India's energy sector, along with the country's transition toward renewable energy and sustainable development. By critically analysing these dimensions, the paper highlights the need for diversified energy sources, stronger institutional coordination, and enhanced regional cooperation to strengthen India's long-term energy security. The paper concludes that a balanced and resilient energy strategy is essential for safeguarding India's national security and supporting its future growth.

Introduction

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Energy is really important for countries to be strong and stable. We need energy to keep our factories running our cars moving and our homes warm. So it is very important that we have access to energy that's safe, reliable and affordable. This is a part of what makes a country secure.

For a time people have known that energy is connected to how powerful a country is. A good example of this is when Winston Churchill decided to switch the navy from coal to oil. This was a deal because it made the navy stronger but it also meant that Britain had to rely on other countries for oil. This made energy a big part of the country's strategy.²

Since then energy and national security have been closely linked. Recently things have gotten more complicated. Many countries in Asia are growing really fast and need a lot of energy. This has caused problems like price fights over oil and concerns about the environment.

India is an example of a country that is struggling with energy security. The country is growing fast and needs a lot of energy to keep up. India does not produce enough energy to meet its own needs so it has to import a lot of energy from other countries. This makes India vulnerable to things like price changes fights over oil and supply disruptions.³

Energy security is not an economic issue it also affects India's relationships with other countries. India needs to make⁴ friends with countries that have a lot of energy like those in the Middle East Central Asia and Africa. India also needs to be part of groups that make decisions about energy.

This research paper is about energy security and how it fits into the picture of national security especially for India. It looks at how people think about energy security what is happening with energy around the world and how India is doing in terms of energy. It also talks about the decisions and policies that India needs to make to be more energy secure.⁵

² Daniel Yergin, Ensuring Energy Security, 85 Foreign Affs. 69, 69–70 (2006).

³ Id. at 71.

⁴ Talmiz Ahmad, India's Energy Security Challenges, 9 Indian Foreign Aff. J. 351, 352 (2014).

⁵ Girijesh Pant, Energy Security and the Indian Foreign Policy, 1 Indian Foreign Aff. J. 58, 60 (2006).

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The paper will look at the energy landscape. It will examine India's energy situation. It will discuss what India can do to be energy secure. Overall energy security is a big deal for India and for the world. We need to think about how to make sure we have enough energy to meet our needs without making ourselves vulnerable, to problems.

Review of literature

Energy security has received significant attention in academic and policy discussions, particularly in relation to national security and economic stability. Early studies primarily defined energy security as the reliable and affordable availability of energy resources necessary for economic development. The *World Energy Assessment* describes energy security as the continuous availability of energy in adequate quantities and at reasonable prices, while emphasising factors such as diversification of supply, strategic reserves, technological advancement, and energy efficiency as essential for reducing vulnerability to supply disruptions.⁶

Scholars focusing on India highlight the growing challenges associated with rising energy demand. Talmiz Ahmad notes that rapid economic growth and industrialisation have significantly increased India's energy consumption, making the country one of the largest energy consumers globally, while its per capita energy use remains relatively low. The study further suggests that India's energy demand is expected to rise substantially in the coming decades, increasing pressure on domestic resources and dependence on imports.⁷ Similarly, Sayoni Choudhuri emphasises that energy security has become a key concern in India's domestic and foreign policy, particularly as the country's energy requirements are projected to increase significantly due to economic expansion and industrial development.⁸

The geopolitical dimension of energy security has also been widely discussed. Girijesh Pant argues that access to energy resources increasingly influences India's foreign policy and diplomatic engagements, especially with energy-rich regions such

⁶ *World Energy Assessment: Energy and the Challenge of Sustainability* (United Nations Dev. Programme 2000).

⁷ Talmiz Ahmad, *India's Energy Security* (2014).

⁸ Sayoni Choudhuri, *India's Energy Security* (2015).

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as the Middle East and Central Asia.⁹Ramakrushna Pradhan further highlights that energy resources play an important role in shaping global political and economic power, and India's engagement with Central Asia is partly driven by the need to diversify its energy supply sources.¹⁰

Scholars have also examined institutional and policy challenges within India's energy sector. Nandakumar Janardhanan observes that India's energy governance structure is fragmented across multiple ministries and institutions, often creating coordination challenges in implementing comprehensive energy policies.¹¹ At the same time, research by Sartori and Bianchi emphasises the importance of expanding renewable energy while reducing dependence on imported fossil fuels in order to strengthen India's long-term energy security and meet environmental commitments.¹²

Other studies have explored alternative energy sources and regional cooperation. Ramu C.M. highlights the potential role of natural gas as a transitional energy source that can help bridge the gap between conventional fossil fuels and renewable energy. In addition, research on regional energy cooperation suggests that collaborative frameworks among neighbouring countries can promote energy trade, infrastructure development, and policy coordination, thereby improving overall energy security.

Overall, existing literature demonstrates that energy security is a multidimensional issue involving economic, geopolitical, institutional, and environmental factors. While previous studies have explored several aspects of India's energy challenges, there remains a need for integrated analysis that connects energy security with broader national security and strategic policy considerations.

Concept and Evolution of Energy Security

Energy security broadly refers to the reliable availability of energy resources at affordable prices without significant disruption to supply.¹³ It ensures that a country has sufficient access to energy to support economic growth, industrial activity,

⁹ Girijesh Pant, *Energy Security and Indian Foreign Policy* (2006).

¹⁰ Ramakrushna Pradhan, *Energy Factor in India's Central Asia Policy* (2019).

¹¹ Nandakumar Janardhanan, *Challenges of Energy Transition in India* (2012).

¹² Marta Sartori & Francesco Bianchi, *India's Institutional Governance and Energy Transition* (2018).

¹³ Supra note 1

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transportation, and essential public services. In simple terms, energy security means maintaining a stable and continuous flow of energy resources that are necessary for the functioning of modern societies.

The concept of energy security began to gain global attention during the oil crises of the 1970s, particularly the 1973 oil embargo imposed by the Organization of Petroleum Exporting Countries (OPEC).¹⁴ The sudden rise in oil prices and supply shortages revealed how vulnerable many countries were to disruptions in energy supply. These events encouraged governments around the world to rethink their energy policies and focus on diversifying energy sources, developing domestic production, and creating strategic petroleum reserves.

Over time, the understanding of energy security expanded beyond merely ensuring the supply of oil and fossil fuels. With the growth of global energy demand, environmental concerns, and technological advancements, the concept began to include additional aspects such as energy affordability, sustainability, infrastructure protection, and diversification of energy sources.¹⁵ The transition toward renewable energy and the need to address climate change have further broadened the scope of energy security.

As energy became essential for economic development, industrial production, and military capability, policymakers increasingly began to view it through the lens of national security. Reliable energy supply is necessary for the operation of defense systems, communication networks, and critical infrastructure. Disruptions in energy supply whether caused by geopolitical conflicts, cyberattacks, or infrastructure failures can therefore threaten economic stability and national resilience. Consequently, energy security is now widely recognized as a key component of national security strategy in many countries.¹⁶

India's Energy Landscape

¹⁴ Benjamin K. Sovacool, *The Political Economy of Energy Security*, 14 *Energy Pol'y* 1, 3 (2011).

¹⁵ Arunabha Ghosh, *India's Energy Security: Challenges and Opportunities*, 8 *Energy Pol'y* 159, 162 (2013)

¹⁶ R.S. Yadav, *India's Energy Security Policy*, 64 *India Q.* 1, 2–3 (2008)

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India's energy system reflects the complex challenges faced by rapidly developing economies. Economic growth, urbanization and rising living standards have increased energy consumption significantly over the past few decades.

India relies on a diverse mix of energy sources including:

- Coal
- Oil and petroleum products
- Natural gas
- Nuclear energy
- Renewable energy sources such as solar and wind.

Despite this diversity, India remains heavily dependent on imported fossil fuels. A substantial share of the country's crude oil consumption is met through imports, primarily from the Middle East.¹⁷ This reliance on external suppliers creates significant vulnerabilities, particularly in regions experiencing political instability.

To address these challenges, the Indian government has implemented several strategies aimed at strengthening energy security. These include diversification of import sources, development of strategic petroleum reserves and expansion of renewable energy capacity.¹⁸

However, structural challenges such as infrastructure limitations, regulatory fragmentation and technological dependence continue to affect the country's energy security.

Types of Energy and Their National Security Implications

India's energy security depends on a diversified energy mix. Each energy source contributes to the overall energy system but also presents specific vulnerabilities that may affect national security.¹⁹

- Oil and Petroleum

¹⁷ Id note15

¹⁸ Supra note 1

¹⁹ International Energy Agency, India Energy Outlook 2021 17–18 (2021)

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Oil remains the most strategically important energy resource for India. Petroleum fuels power transportation networks, aviation, industrial machinery and military operations.

India imports a large share of its crude oil requirements, making it highly sensitive to geopolitical developments in oil-producing regions. One major strategic vulnerability is the Strait of Hormuz, through which a significant portion of global oil shipments pass.

Political instability in this region could disrupt tanker routes and affect India's energy supply. To mitigate such risks, the government has established strategic petroleum reserves at locations such as Visakhapatnam, Mangaluru and Padur.²⁰

- Natural Gas

Natural gas plays an important role in electricity generation, fertilizer production and industrial processes. However, domestic gas production is insufficient to meet demand, requiring imports of liquefied natural gas (LNG).

Geopolitical tensions and supply disruptions in LNG-exporting countries can therefore affect India's industrial production and energy supply.

A notable example is the Iran–Pakistan–India (IPI) pipeline project, which faced political and security challenges due to regional tensions. The project illustrates how geopolitical conflicts can influence energy infrastructure development.²¹

- Coal

Coal remains the primary fuel for electricity generation in India. Despite possessing large domestic reserves, the country has faced periodic coal shortages due to mining inefficiencies and supply chain disruptions.²²

For example, in 2021 several Indian power plants reported critically low coal stocks, raising fears of electricity shortages across multiple states. Such disruptions highlight the vulnerability of domestic energy supply chains.²³

²⁰ Ministry of Petroleum & Natural Gas, Gov't of India, Indian Strategic Petroleum Reserves Programme (2022).

²¹ Supra note 15

²² Ministry of Coal, Gov't of India, Coal Sector at a Glance 2022–23, at 5–7.

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- Electricity Infrastructure

Electricity infrastructure forms the backbone of modern economies. Disruptions in electricity supply can have cascading effects on transportation systems, healthcare facilities and communication networks.

The 2012 India blackout, which affected approximately 600 million people, demonstrated the vulnerability of power grid systems. From a national security perspective, prolonged electricity outages could disrupt defense operations and emergency services.²⁴

- Renewable Energy

Renewable energy sources such as solar and wind power are increasingly important for India's energy strategy. These sources reduce dependence on imported fossil fuels and contribute to environmental sustainability.

However, renewable energy systems also face challenges such as intermittent power generation and dependence on imported solar technology.²⁵

To address these challenges, India has launched initiatives such as the National Solar Mission and the International Solar Alliance, aimed at expanding renewable energy capacity and promoting technological cooperation.

Recent Indian Energy Security Strategy

India's recent energy security strategy focuses on diversification, self-reliance, clean energy transition, and infrastructure expansion in order to ensure stable and sustainable energy supply. With rising energy demand and global geopolitical uncertainties, the government has adopted a multi-layered strategy combining domestic production, renewable energy expansion, and international cooperation.

1. Expansion of Renewable Energy-India is rapidly increasing the share of renewable energy in its energy mix. The government aims to achieve 500 GW of non-fossil fuel

²³ Central Electricity Authority, Gov't of India, Daily Coal Report and Power Supply Position (2021).

²⁴ Central Electricity Authority, Gov't of India, Report on Grid Disturbance in Northern Region on 30 July 2012, at 1-3 (2012).

²⁵ Ministry of New & Renewable Energy, Gov't of India, Jawaharlal Nehru National Solar Mission Guidelines (2019).

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capacity by 2030, which includes solar, wind, hydro, and nuclear power. This strategy reduces dependence on imported fossil fuels and strengthens long-term energy security.

2. Green Hydrogen and Clean Energy Transition - India has launched the National Green Hydrogen Mission to promote hydrogen as a clean fuel for industry and transportation. This initiative aims to reduce reliance on imported oil and natural gas while supporting decarbonization of the energy sector.

3. Strengthening Strategic Petroleum Reserves - To address potential supply disruptions, India is expanding its strategic petroleum reserves (SPR) and plans to increase storage capacity to maintain emergency oil stocks for several weeks of national consumption.

4. Domestic Exploration and Production -India has launched initiatives such as the “Samudra Manthan” deep-water exploration mission to increase domestic oil and gas production and reduce import dependence.

5. Energy Infrastructure and Refining Hub Development -The government is also working to develop India as a global refining and energy hub, expanding refineries, pipelines, and storage facilities to strengthen supply resilience.

6. Energy Efficiency and Electrification -Programs such as PM Surya Ghar Muft Bijli Yojana promote rooftop solar and decentralized electricity generation, allowing households to generate their own power and reducing pressure on the national grid.

7. Long-Term Energy Independence Vision -India’s long-term policy vision aims for energy independence by 2047 while achieving net-zero emissions by 2070, balancing economic growth with environmental sustainability.

Geopolitical Challenges to India’s Energy Security

Energy resources are not evenly distributed across the world, and this uneven distribution often makes energy supply closely connected with geopolitics. Countries that do not have sufficient domestic energy resources frequently depend on international markets and diplomatic partnerships to secure stable supplies. For India,

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where energy demand has been rising steadily with economic growth and urbanization, developments in energy-producing regions can have a direct bearing on national security.²⁶

One of the major strategic concerns for India is its dependence on imported energy from politically sensitive regions. A considerable share of India's crude oil imports comes from the Middle East, particularly countries such as Saudi Arabia, Iraq and the United Arab Emirates. Any instability in this region whether due to armed conflict, sanctions or political tensions can disrupt supply chains and trigger fluctuations in global oil prices, ultimately affecting India's economy and energy availability.

Recent geopolitical developments have further demonstrated the close relationship between energy markets and international politics. The Russia-Ukraine war, for instance, significantly altered global energy flows. Sanctions imposed by Western countries on Russian oil exports led many nations to reduce their purchases from Russia. India, however, increased imports of discounted Russian crude in order to manage domestic fuel prices and ensure supply stability.²⁷ While this strategy helped cushion the impact of rising global oil prices, it also illustrated how geopolitical crises can reshape national energy policies and diplomatic priorities.

In addition to regional instability, global competition for energy resources has also intensified. Major powers such as the United States and China actively pursue access to oil and gas reserves in resource-rich regions including Africa and Central Asia. This competition influences global energy prices and can affect the bargaining power of energy-importing countries such as India in international markets.²⁸

Maritime Energy Routes and Strategic Chokepoints

A large share of global energy trade moves through maritime routes, making sea lanes an essential component of international energy security. Narrow sea passages, commonly referred to as strategic chokepoints, carry a substantial portion of global oil and natural gas shipments. For energy-importing countries like India, these routes act

²⁶ Supra note 11

²⁷ S&P Global Commodity Insights, *India Emerges as Major Buyer of Russian Crude After Ukraine Conflict* (2023).

²⁸ Michael T. Klare, *Rising Powers, Shrinking Planet: The New Geopolitics of Energy* 87-90 (2008).

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as vital lifelines because any disruption in maritime transport can directly affect energy availability and economic stability.

One of the most critical chokepoints is the Strait of Hormuz, located between Iran and Oman. This narrow passage connects the Persian Gulf with the Gulf of Oman and the Arabian Sea. Nearly one-fifth of the world's oil supply passes through this route, making it one of the most important energy transit corridors globally.²⁹ Since a significant share of India's crude oil imports comes from the Gulf region, any political tension or military conflict affecting this route could disrupt tanker traffic and threaten India's energy supply.

Another strategically important maritime route is the Strait of Malacca, which links the Indian Ocean with the Pacific Ocean. This passage serves as a key transit point for energy shipments coming from Southeast Asia and Australia to Asian markets, including India.³⁰ Growing geopolitical competition in the Indo-Pacific region, particularly among major powers, has raised concerns about the security of this route and the potential impact of disruptions on regional energy flows.

Recognizing these vulnerabilities, India has increasingly emphasized the protection of sea lanes of communication in the Indian Ocean region. Through expanded naval patrols, maritime cooperation with regional partners, and initiatives such as SAGAR (Security and Growth for All in the Region), India has sought to safeguard energy transport routes and ensure uninterrupted access to vital energy supplies.³¹

Energy Infrastructure as Critical National Infrastructure

Energy infrastructure forms the backbone of a country's economic and social systems. Facilities such as power plants, oil refineries, pipelines, and electricity transmission networks are essential for ensuring a steady supply of energy to industries, transportation networks, and public services. Because of this central role, energy infrastructure is widely regarded as a key component of a nation's critical national

²⁹ U.S. Energy Information Administration, *The Strait of Hormuz Is the World's Most Important Oil Transit Chokepoint* (2023).

³⁰ Geoffrey Till, *Seapower: A Guide for the Twenty-First Century* 312–15 (3d ed. 2013).

³¹ David Brewster, *India's Ocean: The Story of India's Bid for Regional Leadership* 167–70 (2014).

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infrastructure, where any disruption can trigger serious consequences across multiple sectors of the economy.

The strategic importance of protecting such infrastructure became particularly evident during the 2012 nationwide power blackout in India, one of the largest electricity failures in history. The collapse of interconnected electricity grids left nearly 600 million people without power, disrupting railway services, industrial operations, and essential public utilities across several states. The incident demonstrated how weaknesses in energy infrastructure can quickly escalate into broader economic and social crises.

Energy infrastructure is also exposed to a range of risks, including natural disasters, technological failures, cyber threats, and deliberate acts of sabotage. Because of these vulnerabilities, governments across the world increasingly treat energy systems as critical infrastructure that requires strong regulatory oversight and security protection.³²

Ensuring the security of energy infrastructure is therefore vital for national security. Prolonged disruptions in electricity or fuel supply could weaken defense operations, interrupt communication networks, and affect emergency response services. Protecting these systems has consequently become an important priority in national security planning and infrastructure policy.

Cyber Warfare and Energy Systems

With the increasing digitization of energy systems, cyber threats have emerged as a new dimension of energy security. Modern electricity grids rely on digital control systems and communication networks that can be targeted by cyberattacks.

Several countries have experienced cyberattacks targeting energy infrastructure. In India, reports have indicated attempted cyber intrusions into power grid systems. Such attacks could disrupt electricity supply or damage critical infrastructure.

³² Paul D. Williams & Matt McDonald, *Critical Infrastructure Protection and National Security*, 46 J. Strategic Stud. 1043, 1047–49 (2013).

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Cybersecurity therefore represents a crucial component of modern energy security strategies. Governments must develop robust cyber defense mechanisms to protect energy infrastructure from digital threats.

Mumbai Power Outage (India, 2020): A major power outage disrupted transport, hospitals, and financial services in Mumbai. Later reports suggested that a China-linked hacking group (RedEcho) had attempted to infiltrate Indian power grid systems around the same period.³³

Legal and Institutional Framework Governing Energy Security in India

India's energy sector is regulated through multiple statutes that govern exploration, production, distribution and consumption of energy resources. Although there is no single comprehensive energy security law, several statutes collectively regulate the country's energy system.

- Electricity Act, 2003

The Electricity Act, 2003 is the primary legislation governing the electricity sector in India. The Act provides the legal framework for electricity generation, transmission, distribution and trading.³⁴

Section 3 of the Act mandates the central government to prepare a National Electricity Policy and National Electricity Plan to ensure adequate electricity supply and infrastructure development.

The Act also establishes regulatory bodies such as the Central Electricity Regulatory Commission (CERC) and State Electricity Regulatory Commissions (SERCs) to oversee electricity markets and ensure grid stability.

- Petroleum Act, 1934

³³ Recorded Future, China-Linked Group RedEcho Targeting the Indian Power Sector (2021).

³⁴ The Electricity Act, No. 36 of 2003, s 2, India Code (2003).

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The Petroleum Act, 1934 regulates the import, transport, storage and distribution of petroleum products. The Act empowers the government to establish safety standards and licensing requirements for petroleum infrastructure.³⁵

- Oilfields (Regulation and Development) Act, 1948

The Oilfields (Regulation and Development) Act, 1948 governs the exploration and production of oil resources in India. It authorizes the central government to grant licenses for oil exploration and regulate petroleum extraction activities.³⁶

- Coal Mines (Nationalisation) Act, 1973

Coal production is regulated under the Coal Mines (Nationalisation) Act, 1973, which placed coal mining under government control to ensure systematic development of coal resources.³⁷

- Atomic Energy Act, 1962

The Atomic Energy Act, 1962 provides the legal framework for nuclear energy development in India. The Act grants the central government exclusive authority over nuclear power generation and research.³⁸

- Energy Conservation Act, 2001

The Energy Conservation Act, 2001 promotes efficient use of energy resources. The Act established the Bureau of Energy Efficiency (BEE) to develop policies aimed at reducing energy consumption and improving efficiency.³⁹

- Institutional mechanisms-

India's energy security is supported by several key governmental and regulatory institutions that oversee different sectors of the energy system. The Ministry of Power manages policies related to electricity generation, transmission, and distribution, assisted by bodies such as the Central Electricity Authority (CEA) and the Central Electricity Regulatory Commission (CERC). The Ministry of Petroleum and Natural

³⁵ The Petroleum Act, No. 30 of 1934, s 3–4, India Code (1934).

³⁶ The Oilfields (Regulation and Development) Act, No. 53 of 1948, ss 5–6, India Code (1948).

³⁷ The Coal Mines (Nationalisation) Act, No. 26 of 1973, s 3, India Code (1973).

³⁸ The Atomic Energy Act, No. 33 of 1962, s 3–4, India Code (1962).

³⁹ The Energy Conservation Act, No. 52 of 2001, s 13–14, India Code (2001)

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Gas supervises the exploration, production, and distribution of oil and natural gas, while the Ministry of Coal regulates coal production through agencies like Coal India Limited. In addition, the Ministry of New and Renewable Energy (MNRE) promotes renewable energy development, and the Bureau of Energy Efficiency (BEE) works to improve energy efficiency. Together, these institutions form the core administrative framework responsible for ensuring stable and secure energy supply in India.

Judicial Decisions Influencing Energy Governance

Judicial decisions have played a crucial role in shaping energy governance in India. Courts have clarified the legal principles governing natural resources and energy regulation.⁴⁰

In *Reliance Natural Resources Ltd. v. Reliance Industries Ltd.*,⁴¹ the Supreme Court held that natural gas is a national resource belonging to the people of India and must be regulated by government policy. This judgment reaffirmed the principle that energy resources are strategic assets that must be managed in the public interest.

Another important case is *Energy Watchdog v. Central Electricity Regulatory Commission*,⁴² where the Supreme Court examined the impact of rising coal prices on electricity tariffs. The Court recognized the role of regulatory authorities in maintaining stability in the electricity sector.

These decisions highlight the judiciary's role in ensuring transparency, regulatory stability and equitable management of energy resources.

Policy Recommendations

⁴⁰ Centre for Pub. Interest Litig. v. Union of India, (2014) 9 S.C.C. 516 (India).

⁴¹ Reliance Natural Res. Ltd. v. Reliance Indus. Ltd., (2010) 7 S.C.C. 1 (India)

⁴² Energy Watchdog v. Cent. Elec. Regulatory Comm'n, (2017) 14 S.C.C. 80 (India).

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Strengthening India's energy security requires a comprehensive strategy addressing both domestic and international challenges. Several policy measures can enhance the resilience of India's energy system.

First, India must diversify its energy supply sources to reduce dependence on any single region or supplier. Expanding energy partnerships with multiple countries can mitigate geopolitical risks.

Second, the government should invest in the development of renewable energy infrastructure. Renewable energy sources such as solar and wind power can reduce dependence on imported fossil fuels.

Third, protecting critical energy infrastructure must be a priority. Governments should strengthen cybersecurity systems and disaster preparedness mechanisms for energy infrastructure.

Fourth, India should expand its strategic petroleum reserves to ensure emergency supply during crises.

Finally, legal and institutional frameworks governing the energy sector should be strengthened to improve coordination among regulatory agencies.

Analysis

This research paper has analysed energy security from the perspective of national security and regional cooperation, with a particular focus on India. The study first examined the concept and evolution of energy security and highlighted how it has gradually become an important component of national security due to the growing dependence of modern economies on uninterrupted energy supply.

The paper further analysed India's energy landscape, including its diverse energy mix and increasing energy demand. It also identified India's heavy dependence on imported fossil fuels as a major vulnerability that exposes the country to geopolitical risks, global price fluctuations, and supply disruptions.

The research also explored the geopolitical dimensions of energy security, including strategic maritime routes, global competition for energy resources, and international

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conflicts that affect global energy markets. In addition, the study analysed the importance of protecting energy infrastructure and addressing emerging cyber threats, which can disrupt electricity supply and critical services.

Finally, the paper examined the legal and institutional framework governing energy resources in India and highlighted the role of laws and judicial decisions in regulating energy resources. Overall, the analysis shows that ensuring energy security requires a comprehensive approach involving strong policies, infrastructure protection, and regional cooperation.

Conclusion

Energy security has become an essential component of national security in the modern world. A stable and reliable supply of energy is necessary for economic growth, industrial development, and the functioning of defense and critical infrastructure. For a rapidly developing country like India, meeting the growing demand for energy while ensuring supply stability remains a significant challenge.

India's dependence on imported fossil fuels makes it vulnerable to geopolitical tensions, price fluctuations, and disruptions in global energy markets. Events such as oil price shocks, power outages, and international conflicts demonstrate how energy insecurity can affect economic stability and national resilience.

Addressing these challenges requires a comprehensive approach that includes diversification of energy sources, expansion of renewable energy, protection of critical infrastructure, and stronger international cooperation. In this sense, energy security must be viewed not merely as an economic concern but as an important strategic pillar of national security.