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CARPEC – Wakhan Tunnel Corridor: A New Framework for Eurasian Connectivity and Collaborative Security

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Abstract

The evolving international order is increasingly shaped by geo-economics and strategic connectivity rather than military power alone. Despite its strategic location at the crossroads of South Asia, Central Asia, Western China and the Middle East, Pakistan lacks direct, all-weather connectivity with the resource-rich Eurasian heartland.

This paper proposes the Central Asia–Russia–Pakistan Economic Corridor (CARPEC), anchored by a 22 km Wakhan Tunnel Corridor, as a transformative initiative linking Pakistan with Tajikistan, Central Asia and Russia through Afghanistan's Wakhan Corridor. Building upon CPEC, CARPEC is presented as a framework for regional connectivity, trade, energy security and collaborative security. The paper introduces the concept of Pakistan as the Strategic Funnel of Eurasia and advances the CARPEC Doctrine, founded on sovereign equality, beneficiary-funded development and shared prosperity.

To ensure financial sustainability, the paper recommends a Build–Own–Operate–Transfer (BOOT) model supported by beneficiary countries, multilateral institutions and private investors. By leveraging its geography, ports and security architecture, Pakistan can transform itself into the principal gateway between the Eurasian Heartland and the Arabian Sea, fostering regional integration, economic resilience and collaborative security.

Keywords: CARPEC; Wakhan Tunnel Corridor; Pakistan; Eurasian Connectivity; Collaborative Security; Strategic Funnel of Eurasia; CPEC; BOOT Model.



Fig-1 Illustrates the conceptual framework of CARPEC, depicting Pakistan as the Strategic Funnel of Eurasia, where trade corridors from Russia, Central Asia and Western China converge before reaching Karachi, Port Qasim and Gwadar. The proposed Wakhan Tunnel Corridor provides the shortest all-weather gateway to Central Asia, strengthening regional connectivity, economic integration and collaborative security.

Source: Author's conceptual illustration.

The New Eurasian Century

Introduction

The international strategic environment is increasingly shaped by geo-economics, resilient supply chains and regional connectivity rather than military power alone. As the center of global economic activity shifts towards Eurasia, transport corridors, logistics networks and multimodal infrastructure have become key instruments of national influence, economic competitiveness and

strategic resilience. Major initiatives such as China's Belt and Road Initiative (BRI), the International North–South Transport Corridor (INSTC), the Trans-Caspian (Middle) Corridor, and the India–Middle East–Europe Economic Corridor (IMEC) reflect the growing importance of connectivity in shaping the emerging international order.

Situated at the crossroads of South Asia, Central Asia, Western China and the Arabian Sea, Pakistan occupies one of the world's most strategic geographical locations. Yet, despite this advantage, the country remains disconnected from the resource-rich Eurasian heartland by the absence of a direct, reliable and all-weather land corridor to Central Asia. While the China–Pakistan Economic Corridor (CPEC) has strengthened Pakistan's connectivity with Western China, the northern dimension linking Pakistan with Afghanistan, Central Asia and Russia remains largely underdeveloped.

This paper proposes the Central Asia–Russia–Pakistan Economic Corridor (CARPEC), anchored by a 22 km Wakhan Tunnel Corridor, as a transformative initiative to bridge this strategic gap. The proposed corridor would establish year-round multimodal connectivity between Pakistan and Tajikistan through Afghanistan's Wakhan Corridor, creating the shortest and most direct land route linking Central Asia and Russia with Pakistan's ports on the Arabian Sea. Beyond improving transportation, CARPEC seeks to integrate road, rail, energy, digital infrastructure, logistics and industrial development into a comprehensive regional connectivity framework.

The paper argues that Pakistan's greatest strategic asset is its geography. Properly leveraged, Pakistan can evolve from a geopolitical frontier into the Strategic Funnel of Eurasia, where continental trade flows from Central Asia, Russia and Western China converge before reaching global maritime markets. In doing so, Pakistan would transition from a transit state to a

regional logistics, industrial and commercial hub, generating long-term economic growth, export-led industrialization and enhanced strategic relevance.

Ultimately, CARPEC is presented not merely as another transport corridor, but as a comprehensive framework for Eurasian connectivity, collaborative security and regional development. By combining strategic geography, modern infrastructure and economic interdependence, the proposed corridor offers Pakistan a historic opportunity to become the principal gateway between the Eurasian Heartland and the Arabian Sea, contributing to regional prosperity, stability and long-term strategic cooperation.

The Evolution of Eurasian Connectivity: From the Silk Road to CARPEC

The Return of Eurasia.

For centuries, Eurasia has remained the principal arena of world politics. Stretching from the Atlantic coast of Europe to the Pacific shores of East Asia, it contains nearly three-quarters of the world's population, the largest concentration of industrial production, abundant reserves of hydrocarbons and critical minerals, and several of the world's fastest-growing economies. Throughout history, nations that succeeded in connecting Eurasia accumulated extraordinary economic and political influence, while those isolated from its trade networks experienced relative decline.

The rise of globalization during the late twentieth century shifted international commerce towards maritime transportation. Advances in containerization, larger cargo vessels and integrated port infrastructure transformed sea routes into the dominant arteries of global trade. Approximately ninety percent of international merchandise trade continues to move by sea, reinforcing the

strategic importance of maritime chokepoints such as the Strait of Hormuz, Bab el-Mandeb, the Suez Canal and the Strait of Malacca.

Yet the first quarter of the twenty-first century has exposed the vulnerabilities of excessive dependence upon maritime supply chains. The COVID-19 pandemic, the temporary blockage of the Suez Canal by Ever Given in 2021, disruptions in the Red Sea caused by regional conflict, sanctions arising from the Russia–Ukraine war, and increasing geopolitical competition have collectively demonstrated the need for diversified trade routes. As a result, governments and investors alike have renewed their interest in continental connectivity across Eurasia.

This renewed focus has revived an ancient geographical reality. Long before container ships dominated global commerce, Eurasia was connected by overland trade routes that linked civilizations across thousands of kilometers. Modern technology now offers an opportunity to recreate these continental connections through high-speed railways, expressways, energy pipelines, fiber-optic networks and multimodal logistics systems. The question is no longer whether Eurasian connectivity will expand, but which routes will emerge as the principal arteries of twenty-first century commerce.

Within this evolving landscape, Pakistan occupies a geographical position of unique strategic value. Situated between the resource-rich Eurasian interior and the Arabian Sea, it possesses the natural attributes required to become one of the principal gateways linking continental Asia with global maritime trade. However, realizing this potential requires overcoming one of the last remaining geographical barriers separating Pakistan from Central Asia—the rugged mountain system surrounding the Wakhan Corridor.

The Ancient Silk Road: Connectivity before Modern States.

The concept of Eurasian connectivity is not new. More than two thousand years ago, the Silk Road emerged as one of history's greatest commercial networks, linking China with Central Asia, Persia, the Middle East and Europe. Rather than a single road, it comprised an extensive network of caravan routes traversing deserts, mountains and fertile valleys. Goods such as silk, spices, precious metals, horses and textiles moved alongside ideas, religions, technologies and cultures, creating an unprecedented level of interaction among distant civilizations.

The decline of the Silk Road did not occur because geography changed. Instead, it resulted from the fragmentation of political authority, the emergence of competing maritime routes following the European Age of Discovery, and recurring conflicts across Central Asia. This historical experience offers an enduring lesson: trade corridors require both physical infrastructure and political stability. Geography creates opportunity, but institutions transform opportunity into prosperity.

The Great Game and the Creation of the Wakhan Buffer.

During the 19th century, Eurasian connectivity became subordinate to geopolitical competition. The expanding Russian Empire advanced southward through Central Asia, while the British Empire sought to secure India, the crown jewel of its colonial possessions. The resulting strategic rivalry, popularly known as the Great Game, transformed Central Asia into a theatre of imperial competition rather than commercial integration.

It was during this period that the Wakhan Corridor assumed its modern geopolitical significance. Instead of functioning as a trade route, the narrow strip of Afghan territory separating

British India from the Russian Empire was deliberately preserved as a buffer zone. British and Russian policymakers preferred a thin corridor of Afghan territory between their respective spheres of influence rather than a direct frontier that might increase the risk of military confrontation.

Consequently, one of the world's most strategically significant geographical corridors remained economically isolated for more than a century. Infrastructure development was deliberately discouraged, while difficult terrain reinforced its isolation. The Wakhan Corridor thus became a symbol of geopolitical division rather than regional connectivity.

The strategic logic that created the Wakhan Corridor has now largely disappeared. Neither imperial Russia nor British India exists. Instead, independent states seek economic growth through regional integration rather than territorial expansion. The very geography that once separated empires can now connect sovereign nations. In this respect, CARPEC represents the inversion of nineteenth-century strategic thinking: transforming a buffer into a bridge.

Classical Geopolitics: Competing Schools of Thought.

Modern strategic thinking regarding Eurasia has been profoundly influenced by three classical geopolitical theories.

British geographer Sir Halford Mackinder, in his celebrated Heartland Theory, argued that control of the Eurasian interior would ultimately determine global power. His famous proposition, *"Who rules the Heartland commands the World Island; who rules the World Island commands the world"* highlighted the enduring strategic significance of continental Eurasia. Mackinder

viewed railways as instruments capable of overcoming the traditional advantages enjoyed by maritime powers.

In contrast, American naval strategist Alfred Thayer Mahan argued that sea power constituted the foundation of national greatness. According to Mahan, “*states possessing strong navies, overseas bases and control of maritime trade routes would dominate international politics*”. The subsequent rise of British and later American maritime power appeared to validate many of his arguments.

A third influential perspective emerged through Nicholas Spykman's Rimland Theory, which emphasized the strategic importance of the coastal regions surrounding the Eurasian Heartland. Spykman argued that neither the Heartland nor sea power alone determined global influence; instead, “*control of the Rimland, the densely populated and economically productive littoral zone, would shape the international balance of power*”.

Each of these theories reflected the technological realities of its time. Together, they continue to influence strategic thinking. However, they were formulated in eras when military competition dominated international politics. The twenty-first century demands an expanded perspective in which connectivity, infrastructure and economic interdependence complement rather than replace traditional geopolitical considerations.

Tianxia and the Contemporary Philosophy of Connectivity.

Alongside Western geopolitical theories, another intellectual tradition has gained increasing attention in discussions of regional integration: the Chinese concept of Tianxia (天下), literally meaning “**All under Heaven.**”

Historically, Tianxia described an idealized political order based on harmony, interconnectedness and hierarchical stability rather than permanent confrontation among sovereign states. While rooted in ancient Chinese political philosophy, aspects of Tianxia have re-emerged in contemporary discussions surrounding regional connectivity and economic integration, particularly in relation to the Belt and Road Initiative.

The practical relevance of Tianxia lies less in its historical political structure than in its emphasis on connectivity as a means of promoting stability and prosperity. Infrastructure, commerce and mutual dependence are viewed as instruments capable of reducing conflict while expanding opportunities for collective development.

CARPEC shares this practical appreciation of connectivity but differs fundamentally in its political foundations. It neither seeks to establish a civilizational order nor advocates hierarchical relationships among participating states. Instead, CARPEC is founded upon the principles of sovereign equality, mutual benefit, non-interference and shared investment. Connectivity is viewed not as an instrument of influence by one power over another, but as a platform through which sovereign nations pursue their respective national interests while contributing to regional stability.

Thus, Tianxia is relevant as an important intellectual reference in understanding contemporary connectivity strategies, but CARPEC advances an independent, Pakistan-centric framework grounded in strategic autonomy and collaborative security.

Contemporary Eurasian Connectivity Initiatives: Opportunities & Limitations.

The resurgence of Eurasian connectivity during the twenty-first century has given rise to several ambitious infrastructure initiatives aimed at strengthening trade, reducing transportation costs and enhancing regional integration. Although each initiative has achieved varying degrees of success, none provides a comprehensive north-south land bridge connecting Russia and Central Asia directly with Pakistan's ports on the Arabian Sea. This strategic gap provides the rationale for CARPEC.

The Belt and Road Initiative (BRI).

Announced by President Xi Jinping in 2013, the Belt and Road Initiative represents the most ambitious connectivity programme of the modern era. Comprising the Silk Road Economic Belt and the 21st Century Maritime Silk Road, BRI seeks to improve transport infrastructure, energy cooperation, industrial development and digital connectivity across Asia, Europe, Africa and Latin America. More than 150 countries and numerous international organizations have participated in varying capacities, making it one of the largest infrastructure initiatives ever undertaken.

For Pakistan, BRI's flagship component is the China-Pakistan Economic Corridor (CPEC), which has significantly improved transport infrastructure, energy generation and the development of Gwadar Port. CPEC demonstrated Pakistan's potential as a maritime gateway for Western China and established the country's credibility as a regional connectivity partner.

However, the principal orientation of CPEC remains east-west, linking Xinjiang with the Arabian Sea. It was never designed to provide direct connectivity between Pakistan and the Central Asian Republics or Russia. Consequently, while CPEC forms an essential foundation, it does not

fully exploit Pakistan's geographical potential as the principal gateway to the wider Eurasian interior.

The International North–South Transport Corridor (INSTC).

The International North–South Transport Corridor, jointly initiated by India, Iran and Russia in 2000, seeks to connect the Indian Ocean with Russia and Northern Europe through Iran and the Caspian region. The multimodal corridor combines maritime transport, railways and highways to reduce transportation costs and transit time between South Asia and Europe.

The INSTC has gained renewed momentum following geopolitical developments affecting traditional European trade routes. Nevertheless, the corridor primarily serves the commercial interests of its participating states and follows a western alignment through Iran. While strategically significant, it neither integrates Pakistan into Eurasian trade networks nor provides Central Asia with direct access to Pakistan's ports. Rather than competing with INSTC, CARPEC would diversify regional connectivity by creating an additional north-south axis, thereby enhancing resilience and offering alternative routes during periods of political or logistical disruption.

The Trans-Caspian International Transport Route (Middle Corridor).

The Middle Corridor connects China with Europe via Kazakhstan, the Caspian Sea, Azerbaijan, Georgia and Türkiye. Growing geopolitical tensions and sanctions affecting northern routes have substantially increased international interest in this corridor. The Middle Corridor offers valuable diversification but also faces structural challenges. Multiple border crossings, maritime transfers across the Caspian Sea, varying railway gauges and logistical bottlenecks

increase operational complexity and transportation costs. While ongoing improvements continue to enhance its competitiveness, its primary function remains the movement of trade between East Asia and Europe rather than facilitating north-south integration with South Asia.

The India–Middle East–Europe Economic Corridor (IMEC).

Announced during the G20 Summit in New Delhi in 2023, IMEC envisions linking India with Europe through the United Arab Emirates, Saudi Arabia, Jordan and Israel via integrated maritime and railway infrastructure. The initiative reflects growing international interest in developing alternative trade routes while strengthening economic cooperation across the Middle East. Although strategically significant, IMEC remains in its formative stages and is influenced by the political complexities of the Middle East. Moreover, it largely bypasses Central Asia and does not address the longstanding challenge of integrating the Eurasian heartland with the Arabian Sea through Pakistan.

The Strategic Gap.

Collectively, these initiatives demonstrate that Eurasia is experiencing an unprecedented expansion of connectivity infrastructure. Yet each remains designed primarily to serve specific geographical or political priorities. None directly connects Russia, the Central Asian Republics and Afghanistan with Pakistan through a dedicated all-weather corridor. Equally important, none fully integrates Pakistan into the continental transport architecture extending from the Eurasian heartland to the Arabian Sea. It is precisely this missing geographical link that CARPEC seeks to provide. Rather than replacing existing initiatives, CARPEC complements them by creating an

additional strategic axis capable of interconnecting multiple regional corridors into a more resilient Eurasian transport network.

Pakistan's Emerging Geo-economics Centrality.

For much of its modern history, Pakistan has been viewed primarily through the lens of regional security. International strategic discourse has largely focused on conventional military deterrence, counterterrorism, nuclear stability and South Asian geopolitics. While these dimensions remain important, they do not adequately capture Pakistan's expanding geo-economic significance. The emerging Eurasian economy requires efficient access to warm-water ports capable of supporting global maritime trade. Pakistan possesses three significant maritime gateways, Karachi, Port Qasim and Gwadar; all situated on one of the world's busiest maritime routes connecting the Middle East, Africa and Europe with Asia. Simultaneously, Pakistan shares borders with China, Afghanistan and Iran while remaining geographically proximate to the Central Asian Republics. Few states possess such favorable access to multiple geopolitical regions simultaneously.

This geographical convergence presents Pakistan with an opportunity to redefine its strategic identity. Instead of functioning primarily as a frontier state located between competing geopolitical blocs, Pakistan can evolve into a continental logistics hub linking several regional economic systems. Such a transformation requires more than infrastructure alone. It demands long-term strategic planning, institutional reforms, industrial expansion and regional diplomacy founded upon mutual economic interests rather than geopolitical rivalry. *CARPEC provides precisely such a framework.*

From Geopolitical Buffer to Geo-economic Bridge.

One of history's enduring ironies is that the Wakhan Corridor was deliberately created to prevent interaction between great powers. For more than a century it functioned as a geopolitical buffer, separating rather than connecting neighbouring regions. The twenty-first century presents an opportunity to reverse this historical legacy. Instead of serving as a frontier between competing empires, the Wakhan region can become the shortest and most strategically valuable land bridge connecting Pakistan with Central Asia and Russia. Modern engineering, including long-base tunnels, high-capacity railways, fibre-optic networks, energy pipelines and intelligent transport systems, now makes possible what nineteenth-century strategists considered impractical. This transformation reflects a broader shift in international politics. Geography no longer needs to be viewed exclusively through the prism of military competition. Properly managed, it can become an instrument of economic integration, regional resilience and collaborative security. For Pakistan, this transition represents more than an infrastructure project. It offers an opportunity to reposition the country within the emerging Eurasian order, not as a passive transit state but as an active facilitator of continental commerce.

Pakistan: The Strategic Funnel of Eurasia (SFE)¹

Geography: Pakistan's Greatest Strategic Asset.

History has repeatedly demonstrated that geography neither guarantees prosperity nor condemns nations to perpetual disadvantage. Rather, it provides opportunities whose value depends upon the vision, institutions and policies of those who govern. Throughout history, states that successfully transformed their geographical position into economic and strategic advantage emerged as centers of commerce and influence. Venice dominated Mediterranean trade because it

¹ The term "Strategic Funnel of Eurasia" is introduced by the author to describe Pakistan's unique geographical role as the principal convergence point for north-south and east-west continental connectivity between Eurasia and the Arabian Sea.

controlled maritime gateways; Singapore became a global logistics hub by leveraging its position along one of the world's busiest sea lanes; and Panama transformed itself into a strategic crossroads through the construction of a canal connecting two oceans.

The emergence of Eurasian connectivity initiatives offers Pakistan an opportunity to redefine its strategic identity. Rather than viewing geography solely as a defensive challenge, Pakistan can transform it into a national economic asset. This requires moving beyond the traditional concept of Pakistan as merely a "crossroads" or "bridge." Those terms, while frequently used, fail to capture Pakistan's unique geographical function within the Eurasian landmass. This paper therefore proposes a new strategic concept: ***Pakistan is the Strategic Funnel of Eurasia.***

Unlike a bridge, which simply links two points, a funnel gathers flows from multiple directions and channels them efficiently towards a common destination. This analogy more accurately reflects Pakistan's geographical reality.

The CARPEC Architecture: A Multi-Nodal Synergy.

The Central Asia–Russia–Pakistan Economic Corridor (CARPEC) should not be viewed as a single transportation corridor or an isolated infrastructure project. Rather, it represents an integrated multi-nodal connectivity architecture in which transport, energy, digital infrastructure, industrial development and maritime logistics operate as mutually reinforcing components of a unified geo-economic system. The strategic value of CARPEC lies not only in connecting two geographical points but in creating an interconnected network that facilitates the seamless movement of goods, energy, capital, information and people across Eurasia.

At its northern end, the proposed Wakhan Tunnel Corridor provides the critical land bridge linking Pakistan with Tajikistan through Afghanistan's Wakhan Corridor. This gateway connects

directly with the M41 Pamir Highway – **Fig 4.2**, providing onward access to Kyrgyzstan, Uzbekistan, Kazakhstan and Russia. Rather than functioning as a terminal route, the Wakhan Corridor becomes the entry point into the broader Eurasian transportation network.

Within Pakistan, CARPEC integrates with the country's existing motorway and highway system, connecting the northern corridor with Islamabad, Lahore, Faisalabad, Multan, Sukkur, Karachi and Gwadar. Existing CPEC infrastructure provides the backbone for this domestic integration, allowing freight originating in Central Asia and Russia to move efficiently towards Pakistan's ports on the Arabian Sea. In this way, CARPEC complements and expands CPEC rather than competing with it, transforming Pakistan into the principal junction where continental and maritime trade converge.

The corridor also incorporates a future standard-gauge railway, energy pipelines, high-capacity fiber-optic networks and digital logistics platforms. These components collectively create a multimodal transport ecosystem capable of supporting modern supply chains, industrial production and regional value addition. Dry ports, logistics parks, Special Economic Zones and industrial clusters strategically located along the route would encourage manufacturing, mineral processing, warehousing and export-oriented industries, ensuring that Pakistan captures value beyond transit revenues.

The architecture further extends to Pakistan's maritime gateways, Gwadar, Karachi and Port Qasim, which provide direct access to the Arabian Sea and global shipping lanes. These ports enable CARPEC to connect the Eurasian Heartland with markets in the Middle East, Africa and Europe, significantly reducing transit times for participating economies.

The true strength of CARPEC therefore lies in its multi-nodal synergy, where roads, railways, ports, energy infrastructure, digital connectivity and industrial development function as a single integrated system. By linking these complementary nodes, CARPEC transforms Pakistan from a transit corridor into a regional logistics, industrial and connectivity hub, reinforcing its role as the Strategic Funnel of Eurasia and providing the institutional and physical foundation for long-term regional prosperity, economic resilience and collaborative security.

From Transit State to Regional Logistics Hub.

Many countries possessing favourable geography fail to derive significant economic benefit because they remain passive transit states. Freight merely passes through their territory while value addition, manufacturing, financial services and logistics industries develop elsewhere. Pakistan must avoid this outcome. CARPEC should not be viewed simply as a railway or highway project. Instead, it should anchor a comprehensive programme of industrial transformation. Every major logistics node along the corridor should become a center for economic activity. These nodes should include:

- a. Dry ports.
- b. Inland container terminals.
- c. Special Economic Zones.
- d. Export Processing Zones.
- e. Cold-chain logistics facilities.
- f. Mineral processing industries.
- g. Petrochemical complexes.
- h. Railway maintenance workshops.
- i. Engineering industries.

- j. Warehousing and distribution centers.

The objective is to ensure that every ton of cargo entering Pakistan contributes to domestic industrial output before reaching international markets. In this way, geography becomes a catalyst for industrialization rather than merely transit revenue.

Gwadar: The Maritime Anchor of CARPEC.

No continental corridor can achieve its full strategic potential without reliable maritime access. Gwadar occupies a pivotal position near the entrance of the Persian Gulf and the Strait of Hormuz, through which a significant proportion of the world's energy trade passes. Unlike many regional ports constrained by urban congestion, Gwadar possesses considerable room for long-term expansion into a modern deep-sea logistics and industrial complex. Within the CARPEC framework, Gwadar should evolve beyond a commercial port. It should become:

- a. The southern maritime terminus of Eurasian trade.
- b. Regional transshipment hub.
- c. An energy import and export gateway.
- d. Petrochemical processing center.
- e. Logistics and warehousing hub.
- f. Headquarters of multimodal transport operations linking road, rail and maritime networks.

Gwadar's success, however, depends upon robust inland connectivity. A world-class port without efficient hinterland links cannot realize its full economic potential. CARPEC therefore complements CPEC by extending Pakistan's connectivity northwards, creating a seamless transport chain from the Eurasian interior to the Arabian Sea.

Pakistan's Geo-economic Transformation.

The Strategic Funnel concept is not limited to transport infrastructure. It envisions a broader transformation of Pakistan's economy. Instead of relying primarily upon agriculture, remittances and traditional manufacturing, Pakistan can position itself as a regional provider of logistics, finance, engineering, digital connectivity and industrial services. Such transformation requires investment in:

- a. Railway modernization.
- b. Customs digitization.
- c. Multimodal freight systems.
- d. Logistics education.
- e. Tunnel engineering.
- f. Artificial intelligence for supply-chain management.
- g. Financial services supporting regional trade.
- h. Advanced manufacturing linked to Special Economic Zones.

The objective is to build a knowledge-based logistics economy capable of supporting sustained industrial growth.

The Strategic Funnel and National Security.

Pakistan's strategic relevance has historically been measured through military considerations. While defence remains indispensable, economic resilience is increasingly recognized as an essential pillar of national security. A diversified economy integrated into regional supply chains is inherently more resilient than one dependent upon limited export sectors or external financial assistance. CARPEC therefore contributes directly to national security by strengthening:

- a. Economic resilience.
- b. Energy security.
- c. Food security through improved logistics.
- d. Export competitiveness.
- e. Strategic autonomy.
- f. Regional diplomatic influence.

Connectivity thus becomes a force multiplier for comprehensive national power.

Engineering the Strategic Gateway: The Wakhan Tunnel Corridor

Breaking the Last Geographical Barrier.

Throughout history, mountain ranges have shaped the rise and fall of civilizations. They have protected empires, delayed invasions, restricted commerce and isolated entire regions from economic development. The Himalayas, Karakoram, Hindu Kush and Pamir mountain systems collectively form one of the world's most formidable natural barriers, separating South Asia from Central Asia for centuries. While modern aviation has reduced the importance of distance, surface transport remains the foundation of regional trade, industrial supply chains and large-scale movement of goods. Consequently, geography continues to influence economic opportunity.

Among these mountain systems, the Wakhan Corridor represents one of Eurasia's last significant connectivity gaps. Stretching across northeastern Afghanistan between Tajikistan and Pakistan, the corridor was historically preserved as a geopolitical buffer during the nineteenth-century Great Game. Today, however, it has the potential to become one of the most strategically valuable transportation corridors on the Eurasian continent.

The principal obstacle is not political geography alone but physical geography. Existing routes through the Wakhan region traverse extreme altitudes, steep gradients, glaciated terrain and avalanche-prone valleys. Seasonal snow accumulation, landslides and freezing temperatures restrict reliable transportation for much of the year, making conventional surface roads unsuitable for sustaining modern freight volumes. For any corridor intended to operate throughout the year, dependence upon high mountain passes would inevitably reduce operational reliability and increase transportation costs.

The proposed Wakhan Tunnel Corridor addresses this challenge by replacing seasonal mountain crossings with an all-weather, deep-base tunnel alignment. Instead of climbing above 14,000 to 16,000 feet, where severe weather and low oxygen levels impose operational limitations, the proposed alignment would maintain a relatively constant elevation of approximately 7,800–8,000 feet above mean sea level. This approach, illustrated in the proposed elevation profile (Figure 4.1), substantially reduces engineering gradients while ensuring uninterrupted movement irrespective of seasonal climatic conditions.

The strategic significance of this proposal extends far beyond the tunnel itself. Historically, infrastructure has often transformed geography more profoundly than military conquest. The Suez Canal reshaped global maritime trade, the Panama Canal altered transoceanic commerce, and the Channel Tunnel physically integrated Great Britain with continental Europe. Likewise, the Wakhan Tunnel Corridor has the potential to redefine Pakistan's northern geography by converting one of Asia's most inaccessible frontiers into a permanent gateway linking the Eurasian heartland with the Arabian Sea.

Engineering Philosophy: Tunneling Through Mountains, Not Over Them.

Traditional mountain highways are constrained by topography. Roads must follow valleys, negotiate steep gradients and repeatedly ascend and descend high passes. Such alignments increase fuel consumption, limit freight capacity and expose transport networks to landslides, avalanches and severe weather. In contrast, modern long-base tunnels adopt a fundamentally different engineering philosophy: rather than adapting to mountainous terrain, they pass beneath it.

The proposed Wakhan Tunnel follows this modern approach. Instead of attempting to construct roads over peaks exceeding 14,000 feet, the alignment would penetrate the mountain mass at a stable elevation. As illustrated in **Figure 4.1 and 4.2**, while the surface terrain rises dramatically across the Pamir and Hindu Kush ranges, the tunnel itself would remain at a nearly constant operating level, thereby eliminating many of the operational challenges associated with high-altitude transportation.

Maintaining a consistent elevation (**7800-8000 ASL**) offers several strategic advantages. Freight trains can operate with heavier loads because they are not required to negotiate prolonged steep gradients. Fuel consumption for heavy road transport is reduced, journey times become more predictable, and maintenance costs associated with snow clearance and weather-related road closures are significantly diminished. Most importantly, the corridor remains operational throughout the year, ensuring uninterrupted movement of trade, energy supplies and strategic cargo.

This philosophy has been successfully demonstrated in several of the world's most advanced transport systems.

China's Tianshan Shengli Tunnel, the world's longest expressway tunnel (22.13 km), which officially opened to traffic on 26 December 2025 – **Fig 4.3**.

Gotthard Base Tunnel (Switzerland). The 57 km Gotthard Base Tunnel, inaugurated in 2016, is the world's longest railway tunnel. It provides year-round, high-speed rail connectivity through the Swiss Alps and serves as a global benchmark for base tunnel engineering – **Fig 4.4**.

The 53.85 km Seikan Tunnel, connecting the Japanese islands of Honshu and Hokkaido beneath the Tsugaru Strait, is one of the world's longest railway tunnels. Completed in 1988, it demonstrates the feasibility of constructing long tunnels in complex geological and seismic conditions. Illustrate how long-base tunnels can transform regional connectivity by bypassing mountainous terrain – **Fig 4.5**.

These projects demonstrate that modern tunnel engineering is no longer constrained by the limitations that shaped nineteenth-century transport networks. Pakistan's proposal should therefore be viewed not as an unprecedented engineering ambition but as the application of proven technologies to one of the last remaining geographical barriers in Eurasia.

A Multi-Utility Strategic Corridor.

The Wakhan Tunnel Corridor should not be conceived as merely a highway or railway project. Its greatest strategic value lies in its ability to accommodate multiple forms of critical infrastructure within a single protected corridor. By integrating transportation, energy and digital communications into one alignment, CARPEC maximizes economic returns while reducing environmental disturbance and long-term maintenance costs. The corridor should be planned as a multi-utility infrastructure system comprising:

- a. A dual-carriageway expressway for commercial freight and passenger vehicles.
- b. A double-track electrified railway designed for high-capacity freight and future passenger services.

- c. Oil and natural gas pipelines connecting Central Asian energy producers with Pakistan's refining and distribution network.
- d. High-voltage direct current (HVDC) transmission lines to facilitate regional electricity trade.
- e. Fiber-optic communication cables providing secure, high-capacity digital connectivity.
- f. Dedicated maintenance, emergency response and security facilities positioned at regular intervals throughout the alignment.

The integration of these utilities transforms the corridor into far more than a transportation route. It becomes a strategic infrastructure spine supporting trade, energy security, telecommunications and regional economic integration simultaneously. Such an approach reflects international best practice, where modern infrastructure increasingly serves multiple sectors rather than functioning as isolated projects.

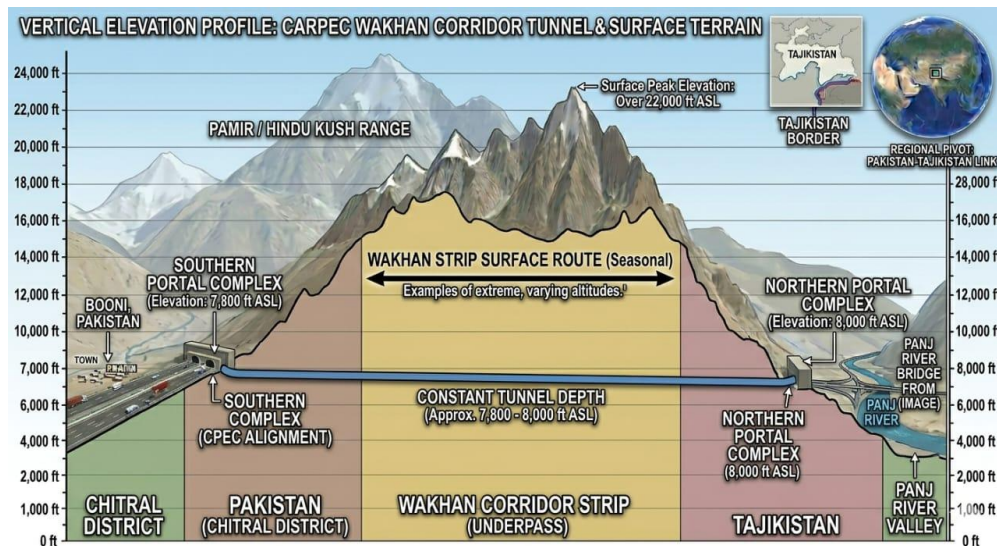


Figure 4.1: Vertical Elevation Profile of the Proposed Wakhan Tunnel Corridor

The conceptual elevation profile illustrates the engineering principle of maintaining a nearly constant tunnel elevation (approximately 7,800–8,000 ft ASL) beneath the Pamir–Hindu Kush mountain system. By avoiding seasonal mountain passes exceeding 14,000–22,000 ft, the proposed alignment provides uninterrupted, all-weather connectivity between Pakistan and Tajikistan while accommodating road, rail, energy and digital infrastructure within a single strategic corridor. **Source:** Conceptual illustration developed by the author.



Figure 4.2: Conceptual Layout of the Proposed Wakhan Tunnel Corridor

The illustration depicts the proposed 22 km Wakhan Tunnel Corridor linking Pakistan with Tajikistan via the Wakhan Corridor. The design integrates a Panj River bridge, tunnel portals, and connectivity with Tajikistan's M41 Highway, providing year-round access between Pakistan and Central Asia.

Source: Conceptual illustration developed by the author.



Figure 4.3: China's 22.13 km Tianshan Shengli Tunnel, Xinjiang

China's recently inaugurated **22.13 km Tianshan Shengli Tunnel** demonstrates the technical feasibility of long-base tunnels through high mountain terrain. The project provides a useful engineering reference for the proposed **22 km Wakhan Tunnel Corridor** under CARPEC.

Source: Adapted by the author from publicly available project imagery.



Figure 4.4: Switzerland's 57 km Gotthard Base Tunnel

The **57 km Gotthard Base Tunnel** in Switzerland, the world's longest railway tunnel, demonstrates how base tunnel engineering can provide year-round, high-capacity transport through mountainous terrain. It serves as an international benchmark for the proposed Wakhan Tunnel Corridor.

Source: Adapted by the author from publicly available project information.

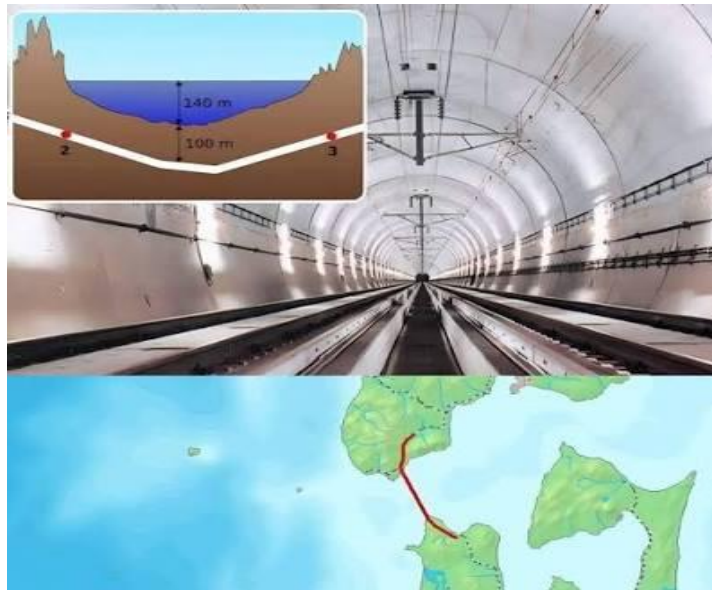


Figure 4.5: Japan's Seikan Tunnel

The **53.85 km Seikan Tunnel**, completed in 1988, connects the Japanese islands of Honshu and Hokkaido beneath the Tsugaru Strait. It demonstrates the feasibility of constructing long tunnels in challenging geological and subsea environments.

Source: Adapted by the author from publicly available project information.

The Geo-economics of CARPEC: From Transit State to Industrial Power

Beyond Transit: Rethinking the Purpose of Economic Corridors.

The success of an economic corridor should not be measured solely by its length, construction cost or annual cargo throughput. Such metrics fail to capture the true purpose of strategic infrastructure. History demonstrates that nations achieve lasting prosperity not by allowing goods to pass through their territory, but by transforming these flows into domestic production, technological advancement and industrial growth. Economic corridors become engines of national development only when they stimulate value addition within the host country.

This distinction is particularly relevant for Pakistan. CARPEC should therefore be conceived as more than a transportation network. It should serve as the backbone of Pakistan's industrial strategy for the twenty-first century, transforming the country from a transit state into a regional centre for manufacturing, processing, logistics and commercial services. The corridor's success should ultimately be measured by industries established, jobs created, exports generated and technologies absorbed rather than the volume of transit traffic alone.

Geography as an Economic Multiplier.

Pakistan's geography has traditionally been viewed through a strategic and military lens, yet it also represents a significant economic asset when supported by modern infrastructure and effective institutions. Countries located along major transport routes often develop logistics, finance, warehousing, manufacturing and commercial services that extend well beyond transit revenues.

Singapore transformed its location on the Strait of Malacca into one of the world's leading logistics and financial centres. The Netherlands leveraged the Port of Rotterdam to become Europe's principal distribution hub, while the United Arab Emirates integrated ports, aviation, free zones and financial services into a globally competitive logistics ecosystem. Similarly, by connecting Gwadar, Karachi and Port Qasim with Central Asia through CARPEC, Pakistan can transform its geography into a long-term engine of economic growth rather than merely a strategic advantage.

Energy Security as the Foundation of Industrial Growth.

Reliable, affordable and diversified energy supplies are essential for sustained industrialization. Pakistan's manufacturing sector has frequently been constrained by energy shortages, fluctuating fuel prices and dependence on imported hydrocarbons.

CARPEC offers an opportunity to strengthen Pakistan's energy security through improved connectivity with Central Asia's hydroelectric resources and natural gas reserves. Future oil and gas pipelines, electricity transmission lines and regional energy trade could reduce production costs, improve industrial competitiveness and support export-oriented manufacturing. Energy infrastructure should therefore be regarded as one of CARPEC's principal strategic dividends rather than a secondary component of the corridor.

Industrial Clusters, Special Economic Zones and Export-Led Growth.

Infrastructure alone cannot generate prosperity unless it is accompanied by industrialization and value addition. Pakistan should therefore adopt a corridor-based development strategy centred on Special Economic Zones (SEZs), industrial parks and export-oriented manufacturing clusters located along the CARPEC alignment.

These industrial zones should focus on sectors where Pakistan enjoys existing or emerging comparative advantages, including engineering goods, pharmaceuticals, agricultural processing, petrochemicals, renewable energy technologies, logistics services, information technology and halal food industries. Equally important, minerals imported from Afghanistan and Central Asia should increasingly be refined and processed within Pakistan instead of being exported in raw form. Such value addition would generate skilled employment, enhance technological capabilities and diversify Pakistan's export base.

By integrating domestic manufacturing with regional value chains, CARPEC can accelerate Pakistan's transition from a commodity-based economy to an export-driven industrial state, strengthening economic resilience while reducing dependence on external borrowing.

Pakistan's Three-Port Strategy.

The success of CARPEC depends upon an integrated maritime strategy rather than competition among Pakistan's ports. Gwadar should evolve as the principal deep-water gateway for transcontinental trade and energy logistics, Karachi should continue serving as the country's primary commercial and industrial port, while Port Qasim should specialize in industrial logistics, bulk cargo and energy imports.

Together, these ports can function as a coordinated maritime system supporting increased regional trade, improving operational efficiency and strengthening Pakistan's role as the principal gateway between Eurasia and the Arabian Sea.

Digital Logistics and Artificial Intelligence.

Modern trade corridors rely as much on digital connectivity as on physical infrastructure. CARPEC should therefore incorporate integrated customs systems, digital logistics platforms, AI-

enabled freight management and interoperable trade documentation to improve efficiency, transparency and border management.

Artificial Intelligence can enhance cargo scheduling, predictive maintenance, infrastructure monitoring and customs risk assessment, reducing operational costs while increasing corridor reliability. By combining physical and digital connectivity, CARPEC can position Pakistan as a competitive regional logistics hub for twenty-first-century trade.

Human Capital and Pakistan's Self-Reliance Strategy.

The long-term success of CARPEC ultimately depends on people as much as infrastructure. Pakistan should invest in specialized education and vocational training in logistics, railway engineering, tunnel engineering, geotechnical sciences, artificial intelligence, customs administration and international trade to develop the skilled workforce required for a modern industrial economy.

More importantly, CARPEC should become a national strategy for economic self-reliance rather than another debt-driven infrastructure project. Its defining principle should be beneficiary-funded connectivity, whereby countries, financial institutions and commercial entities benefiting from the corridor participate in its financing through equity investment, public-private partnerships and multilateral infrastructure funds. Pakistan's contribution would primarily be its strategic geography, ports, institutional support and security architecture.

By leveraging geography to expand domestic production, exports and industrial capacity, CARPEC can strengthen Pakistan's economic sovereignty and reduce long-term dependence on external financial assistance. CARPEC and the Emerging Eurasian Balance.

CARPEC and the Emerging Eurasian Balance

The Transition from Geopolitics to Geo-economics.

The international system is undergoing a profound transformation. While military power continues to influence global affairs, economic connectivity, technological innovation and control over supply chains increasingly shape national influence and strategic competition. States are no longer judged solely by the size of their armed forces but also by their ability to secure resilient trade routes, diversify energy supplies and integrate into regional production networks.

The twenty-first century has therefore witnessed a gradual shift from traditional geopolitics towards geo-economics, where infrastructure, logistics and economic interdependence have become central instruments of statecraft. Major powers continue to compete, but they increasingly do so through competing connectivity initiatives, investment strategies and technological ecosystems rather than direct military confrontation.

Within this evolving environment, Eurasia has re-emerged as the world's principal geostrategic arena. The continent contains abundant energy resources, rapidly expanding consumer markets, advanced manufacturing centers and several of the world's fastest-growing economies. Consequently, the development of reliable continental transport corridors has become a strategic priority for many states.

CARPEC should be understood within this broader transformation. Rather than serving as a military alliance or geopolitical bloc, it represents a geo-economic framework designed to strengthen regional connectivity while reducing the structural vulnerabilities associated with overdependence on limited transport routes.

Russia: Diversifying Access to Warm-Water Ports.

For Russia, access to warm-water ports has remained a persistent strategic consideration throughout its modern history. While the country possesses extensive coastlines, much of its maritime access is constrained by seasonal ice, long distances or geopolitical chokepoints. Recent geopolitical developments have further highlighted the importance of diversified trade routes connecting Russia with Asian and Middle Eastern markets.

CARPEC offers Russia an additional southern corridor linking the Eurasian interior with Pakistan's ports on the Arabian Sea. Rather than replacing existing transport networks, it would complement routes through the Caspian region and Iran, increasing resilience and reducing dependence on any single corridor. Enhanced connectivity with Pakistan could also facilitate greater cooperation in energy, agriculture, engineering and industrial trade.

Importantly, CARPEC should not be viewed as an exclusive arrangement favouring one major power. Instead, it expands the range of commercial options available to all participating states while contributing to a more diversified Eurasian transport architecture.

Central Asia: From Landlocked to Land-Linked.

The five Central Asian Republics possess considerable reserves of hydrocarbons, strategic minerals and agricultural resources. Yet their economic development continues to be constrained by geography. As landlocked states, they depend heavily upon transit through neighbouring countries to access international markets, increasing transportation costs and reducing export competitiveness. CARPEC provides these states with a direct and reliable connection to the Arabian Sea through Pakistan. Such connectivity would shorten transport distances for many exports, diversify market access and reduce vulnerability to disruptions affecting alternative routes. More significantly, improved connectivity encourages economic diversification. Lower

transportation costs enhance the competitiveness of manufacturing, agricultural exports and mineral processing while attracting greater foreign investment into regional industries. For Central Asia, CARPEC therefore represents more than a transport project. It offers an opportunity to strengthen economic sovereignty by expanding strategic options and reducing excessive dependence upon any single transit corridor.

China: Expanding the Strategic Logic of CPEC.

China's Belt and Road Initiative has significantly expanded regional infrastructure across Eurasia, with CPEC serving as one of its flagship components. By connecting Xinjiang with Gwadar Port, CPEC demonstrated the strategic value of Pakistan as a maritime gateway for Western China. CARPEC builds upon this foundation without altering CPEC's original objectives. Instead, it extends the corridor's strategic logic northward by connecting Central Asia and, potentially, Russia to Pakistan's transport network. In doing so, it transforms CPEC from a primarily bilateral initiative into part of a broader, multi-directional Eurasian connectivity system. Such integration would enhance the commercial viability of existing infrastructure by increasing cargo volumes, expanding market access and improving network resilience. At the same time, CARPEC remains open to participation by all interested regional partners, ensuring that connectivity is driven by mutual economic benefit rather than exclusive geopolitical alignment.

Afghanistan: From Buffer Zone to Bridge.

For more than a century, Afghanistan has often been viewed through the lens of conflict and geopolitical competition. Yet its geographical position also offers significant opportunities for regional integration. Situated at the intersection of South Asia, Central Asia and the Middle East, Afghanistan has historically served as a crossroads of commerce and cultural exchange.

CARPEC presents an opportunity to restore this historical role by transforming Afghanistan from a geopolitical buffer into a geo-economic bridge. Transit revenues, infrastructure investment, employment opportunities and improved regional trade could contribute to long-term economic stabilization while strengthening incentives for regional cooperation. The proposed Wakhan Tunnel Corridor is particularly significant in this regard. By traversing the narrow Wakhan Corridor rather than more densely populated regions, it minimizes social disruption while providing Afghanistan with an opportunity to participate in a major international infrastructure initiative.

Sustainable connectivity, however, depends upon peace and effective governance. The long-term success of CARPEC therefore requires continued regional engagement aimed at supporting stability, economic development and respect for the sovereignty of all participating states.

The Middle East and the Arabian Sea.

The Arabian Sea occupies a central position within global maritime commerce, connecting the energy-producing states of the Gulf with markets across Asia, Africa and Europe. Pakistan's ports therefore possess significance extending well beyond South Asia. By linking Central Asia directly with the Arabian Sea, CARPEC would strengthen commercial interaction between Eurasia and the Middle East while creating additional opportunities for energy trade, industrial investment and logistics cooperation. Gulf countries seeking to diversify their economies beyond hydrocarbons may also find opportunities to invest in logistics infrastructure, industrial zones and port development associated with the corridor. Such cooperation should be guided by commercial viability and mutual benefit rather than geopolitical competition, reinforcing Pakistan's role as a facilitator of regional economic integration.

Europe, Indo-Pacific Dynamics and Strategic Resilience.

Europe remains an important trading partner for many Eurasian economies and continues to seek diversified supply chains following recent geopolitical disruptions. Additional land-based corridors linking Asia with maritime routes can contribute to greater resilience by reducing dependence upon any single transport network. Similarly, the broader Indo-Pacific region increasingly recognizes that resilient connectivity is essential for sustaining economic growth and strategic stability. CARPEC contributes to this objective by expanding transport options without undermining existing maritime trade. The corridor should therefore be viewed as a complementary component of a more diversified global logistics system rather than an alternative designed to replace established routes.

India and the Logic of Economic Pragmatism.

Despite enduring political differences, geography dictates that South Asia's long-term prosperity depends upon greater regional connectivity. While current bilateral relations between Pakistan and India remain constrained by unresolved disputes and mutual distrust, economic geography continues to favour expanded regional trade wherever political conditions permit.

CARPEC is not conceived as an exclusionary framework. Should political circumstances improve in the future, regional connectivity could provide opportunities for wider commercial interaction benefiting all South Asian economies. Infrastructure, once constructed, possesses strategic value that extends beyond contemporary political circumstances. Accordingly, CARPEC should remain open, inclusive and adaptable rather than being defined by present geopolitical divisions.

Collaborative Security through Economic Interdependence.

Traditional security frameworks have often emphasized military alliances, deterrence and balance-of-power politics. While these concepts remain relevant, they are increasingly complemented by a broader understanding of security rooted in economic resilience and regional interdependence.

CARPEC advances the concept of collaborative security, whereby shared economic interests reduce incentives for conflict while encouraging sustained political dialogue and institutional cooperation. States investing jointly in transport infrastructure, energy networks and industrial development acquire a collective interest in preserving regional stability because conflict directly threatens shared economic gains. This approach does not eliminate geopolitical competition, nor does it replace national defense. Rather, it supplements traditional security by strengthening the economic foundations upon which durable peace ultimately depends.

For Pakistan, collaborative security aligns with the objective of maintaining strategic autonomy while fostering constructive relations with all regional partners. Connectivity becomes an instrument of stability rather than strategic dependence.

The CARPEC Doctrine: Collaborative Security through Shared Prosperity

Beyond Connectivity: Towards a New Strategic Framework.

Throughout modern history, major infrastructure initiatives have frequently been interpreted through the lens of geopolitical competition. Railways, ports, pipelines and maritime routes have often been viewed as instruments for expanding strategic influence or projecting national power. As a result, many regional connectivity initiatives have become entangled in geopolitical rivalries, limiting their ability to realize their full economic potential.

CARPEC seeks to advance a different strategic paradigm. While recognizing that infrastructure inevitably possesses geopolitical implications, it argues that connectivity should primarily serve as an instrument of economic cooperation, regional resilience and collaborative security. The objective is not to create exclusive spheres of influence or military alliances, but to establish a framework in which sovereign states pursue their national interests through mutually beneficial economic interdependence.

The CARPEC Doctrine therefore represents a Pakistan-centric strategic framework that integrates geography, connectivity, economic development and security into a coherent regional vision. It recognizes that in the twenty-first century, prosperity and security are increasingly interdependent. States that are economically connected through shared infrastructure, integrated supply chains and long-term investment acquire stronger incentives to preserve regional stability than those linked only by temporary political arrangements.

Unlike traditional geopolitical doctrines centered on military alliances or ideological competition, the CARPEC Doctrine emphasizes connectivity as a strategic stabilizer. It seeks to convert geographical proximity into economic opportunity and economic opportunity into durable regional cooperation.

The Intellectual Foundations of the CARPEC Doctrine.

The CARPEC Doctrine draws upon several established schools of strategic thought while adapting them to the realities of the twenty-first century. From classical geopolitics, it acknowledges Mackinder's recognition of Eurasia's enduring strategic importance, Mahan's appreciation of maritime access, and Spykman's emphasis on the significance of the Eurasian Rimland. It also recognizes that modern connectivity initiatives, including the Belt and Road

Initiative, the International North-South Transport Corridor and the Middle Corridor, reflect the growing strategic value of infrastructure in international relations.

However, CARPEC departs from earlier theories by rejecting the assumption that geography must inevitably produce rivalry. Instead, it argues that geography can also become a foundation for cooperation when supported by equitable institutions, mutually beneficial investment and respect for sovereignty.

The doctrine also reflects the practical lesson embedded in concepts such as Tianxia, namely that interconnectedness can contribute to stability. Yet CARPEC deliberately avoids hierarchical political models or civilizational frameworks. It is founded upon sovereign equality, voluntary participation and reciprocal benefit. No participating state is expected to subordinate its national interests to another; rather, each contributes according to its comparative advantages while retaining full political independence.

Accordingly, CARPEC should be understood not as an ideological project but as a strategic framework grounded in realism, economic pragmatism and cooperative regionalism.

The Seven Principles of the CARPEC Doctrine.

The CARPEC Doctrine rests upon seven interrelated principles that collectively define its strategic philosophy.

First: Sovereign Equality.

All participating states retain complete sovereignty over their territory, infrastructure and policy decisions. Participation in CARPEC neither diminishes national independence nor creates supranational authority. Cooperation remains entirely voluntary and mutually agreed.

Second: Collaborative Security.

Security is strengthened not only through military preparedness but also through expanding economic interdependence. Shared investments in infrastructure, trade and energy create common interests that encourage peaceful dispute management and long-term regional stability.

Third: Beneficiary-Funded Development.

Infrastructure financing should primarily involve those states, institutions and commercial entities deriving direct economic benefit from the corridor. Pakistan contributes its strategic geography, ports, institutional facilitation and security framework while minimizing unsustainable sovereign debt.

Fourth: Shared Prosperity.

Economic growth generated by CARPEC should be broadly distributed through industrial development, employment generation, technology transfer and regional value chains rather than concentrated solely in transit revenues.

Fifth: Open Regionalism.

CARPEC is not directed against any country or geopolitical bloc. It remains open to all states willing to participate on the basis of sovereignty, transparency, mutual respect and international law.

Sixth: Sustainable Connectivity.

Infrastructure should incorporate environmental responsibility, climate resilience, modern engineering standards and long-term operational sustainability. Economic development and environmental stewardship should reinforce rather than undermine one another.

Seventh: Strategic Autonomy.

Participation in CARPEC should strengthen, rather than compromise, Pakistan's independent foreign policy. The corridor should expand strategic options by diversifying economic partnerships and reducing dependence upon any single external actor.

Collectively, these principles distinguish CARPEC from purely commercial infrastructure projects by providing an integrated strategic philosophy linking economic development with regional stability.

Collaborative Security: A Twenty-First Century Security Paradigm.

Traditional security thinking has often emphasized deterrence, military alliances and balance-of-power politics. While these concepts remain relevant, they are increasingly insufficient to address the interconnected challenges of the contemporary international system. Economic disruption, supply chain instability, energy insecurity, cyber threats and climate-related risks cannot be managed through military instruments alone.

Collaborative security recognizes that many modern security challenges are transnational in nature and require cooperative responses. Under the CARPEC framework, infrastructure becomes a strategic asset shared by participating states. Railways, pipelines, digital networks and ports generate mutual economic dependence, creating incentives for sustained dialogue, crisis management and conflict prevention.

This concept does not imply the absence of competition. States will continue to pursue their respective national interests. However, where economic interdependence is substantial, the costs of prolonged confrontation increase significantly. Consequently, collaborative security supplements traditional deterrence by strengthening the economic foundations of peace.

Pakistan's Role: Facilitator, Not Hegemon.

A defining feature of the CARPEC Doctrine is its rejection of hegemonic ambition. Pakistan neither possesses nor seeks the capacity to dominate Eurasia politically or economically. Instead, its comparative advantage lies in facilitating connectivity between regions that would otherwise remain less efficiently connected. Pakistan's principal contributions include:

- a. Strategic geography linking Eurasia with the Arabian Sea.
- b. Maritime infrastructure through Gwadar, Karachi and Port Qasim.
- c. A secure and reliable transport corridor.
- d. Institutional coordination among participating stakeholders.
- e. Diplomatic facilitation and confidence-building.

By positioning itself as a facilitator rather than a dominant actor, Pakistan enhances its credibility as an honest broker capable of encouraging inclusive regional cooperation.

From Competitive Corridors to Complementary Corridors.

One of the central assumptions underlying contemporary geopolitical discourse is that major connectivity initiatives inevitably compete with one another. This zero-sum perspective risks fragmenting Eurasian infrastructure into competing blocs. CARPEC proposes an alternative approach. Rather than viewing BRI, CPEC, INSTC, the Middle Corridor and IMEC as mutually exclusive projects, it seeks to enhance interoperability wherever commercially and politically feasible. Multiple corridors increase resilience by providing redundancy during periods of crisis, natural disasters or geopolitical disruption. The objective is therefore not to replace existing initiatives but to integrate them into a broader Eurasian connectivity architecture based on complementarity rather than exclusivity.

Institutionalizing the CARPEC Doctrine.

Strategic concepts require institutional mechanisms if they are to influence policy. Accordingly, implementation of the CARPEC Doctrine should be supported through a dedicated institutional framework. Potential mechanisms include:

- a. A CARPEC Council comprising participating governments.
- b. A CARPEC Infrastructure Investment Forum bringing together sovereign wealth funds, multilateral development banks and private investors.
- c. A Regional Security Coordination Mechanism focused on infrastructure protection and disaster response.
- d. A Trade and Customs Facilitation Commission to harmonize border procedures.
- e. A Research and Policy Centre to undertake strategic assessments, technical studies and long-term planning.

These institutions would facilitate cooperation while respecting the sovereignty of participating states.

From Corridor to Community: Institutional Architecture for CARPEC

Beyond Infrastructure: Building Institutions for Sustainable Connectivity.

History demonstrates that infrastructure alone does not guarantee regional integration. Roads, railways, ports and pipelines may facilitate commerce, but without effective institutional arrangements their economic potential often remains underutilized. Successful connectivity initiatives depend upon common standards, coordinated policies, efficient customs procedures, dispute-resolution mechanisms and sustained political dialogue. Consequently, the long-term

success of CARPEC will depend as much upon institutional cooperation as upon engineering excellence.

CARPEC should therefore evolve beyond a transport corridor into a cooperative regional framework founded upon shared economic interests and sovereign equality. This evolution does not require the creation of a supranational authority or a military alliance. Rather, it requires practical institutions that facilitate coordination while fully respecting the independence of participating states. Unlike traditional regional organizations that often become encumbered by political disagreements, CARPEC should remain focused on functional cooperation. Its primary purpose is to improve connectivity, facilitate trade, coordinate infrastructure development and encourage collaborative security through economic interdependence.

Principles of the CARPEC Community. The proposed CARPEC Community should be guided by five fundamental principles.

First, Sovereign Equality. Every participating state retains complete authority over its territory, infrastructure and domestic policies. No institution created under CARPEC should possess supranational powers or override national decision-making.

Second, Mutual Benefit. Participation should be based upon clearly identifiable economic gains for all stakeholders. Infrastructure investment, trade facilitation and industrial cooperation should generate shared prosperity rather than asymmetric dependence.

Third, Open Regionalism. CARPEC should remain open to all countries, international financial institutions and private investors willing to participate in accordance with international law, transparency and mutual respect.

Fourth, Consensus-Based Decision-Making. Major strategic decisions should be adopted through consensus, ensuring that smaller states enjoy equal voice alongside larger economies.

Fifth, Functional Cooperation. Institutions should remain focused upon practical objectives such as logistics, customs harmonization, infrastructure financing, technology transfer and corridor security rather than becoming platforms for geopolitical competition.

Collectively, these principles ensure that CARPEC remains an instrument of cooperation rather than an arena for strategic rivalry.

The CARPEC Council.

At the centre of the institutional framework should be the CARPEC Council, comprising ministerial-level representatives from participating countries. The Council would provide strategic direction, approve major infrastructure initiatives and coordinate regional policy. Decisions should be reached through consensus, reflecting the doctrine's commitment to sovereign equality. The Council's responsibilities would include:

- a. Approving long-term connectivity strategies.
- b. Coordinating transport and infrastructure policies.
- c. Encouraging harmonization of customs and transit regulations.
- d. Facilitating regional investment.
- e. Monitoring implementation of agreed projects.
- f. Promoting confidence-building among participating states.

The Council should meet annually, supported by regular consultations among technical working groups throughout the year.

The CARPEC Development and Investment Forum.

Large-scale infrastructure requires sustained financial resources. Rather than relying predominantly on sovereign borrowing, CARPEC should establish a Development and Investment Forum bringing together governments, sovereign wealth funds, multilateral development banks, development finance institutions and private investors.

Consistent with the principle of beneficiary-funded connectivity, investment should be encouraged from countries and commercial entities that directly benefit from the corridor's operation. Financing mechanisms may include public-private partnerships, equity participation, infrastructure investment funds and long-term concession agreements.

Pakistan's principal contribution would be its strategic geography, maritime gateways, institutional facilitation and security arrangements. This approach reduces fiscal pressure while promoting shared ownership of the corridor.

The Forum would also serve as a platform for identifying investment opportunities in logistics parks, industrial zones, energy infrastructure, digital connectivity and value-added manufacturing along the CARPEC route.

Trade, Customs and Digital Connectivity.

Efficient border management is essential for the success of any international corridor. Physical infrastructure alone cannot reduce transport costs if customs procedures remain slow, fragmented or inconsistent. Accordingly, participating states should work towards harmonized customs documentation, electronic cargo tracking and integrated border management systems.

A CARPEC Trade Facilitation Commission could coordinate efforts to simplify transit procedures, encourage interoperability of digital customs systems and promote mutual recognition of standards where appropriate. The adoption of electronic documentation, single-window customs platforms and real-time cargo monitoring would significantly improve efficiency while reducing opportunities for corruption and administrative delays.

Digital connectivity should be regarded as an integral component of CARPEC rather than a separate sector. Fiber-optic infrastructure, secure data transmission and interoperable digital payment systems will increasingly determine the competitiveness of regional trade.

Collaborative Security Mechanism.

The success of CARPEC depends upon reliable and secure infrastructure. However, security should not be understood solely in military terms. Protection of transport corridors also requires coordinated responses to terrorism, organized crime, cyber threats, natural disasters and infrastructure accidents.

To support these objectives, participating states could establish a CARPEC Collaborative Security Mechanism. Its mandate would remain limited to protecting corridor infrastructure, facilitating information sharing, coordinating emergency response and supporting disaster resilience. It would not constitute a collective defense arrangement or military alliance. Areas of cooperation may include:

- a. Infrastructure protection.
- b. Counter-sabotage coordination.
- c. Cybersecurity for digital infrastructure.
- d. Emergency response planning.

- e. Disaster risk reduction.
- f. Search and rescue cooperation.
- g. Environmental emergency management.

By limiting its mandate to corridor security, the mechanism reinforces confidence without compromising national sovereignty.

Knowledge, Innovation and Human Capital.

Long-term regional integration depends upon knowledge sharing as much as physical infrastructure. CARPEC should therefore encourage cooperation among universities, research institutions, think tanks and professional organizations. A CARPEC Centre for Strategic Connectivity Studies, headquartered in Pakistan, could undertake policy research, technical studies and strategic assessments related to transport, logistics, infrastructure financing and regional integration. Complementing this, annual forums involving academia, industry and policymakers would facilitate the exchange of ideas and best practices.

Educational partnerships, scholarship programmes and technical training initiatives would contribute to developing the skilled workforce required for managing increasingly sophisticated transport and logistics systems. Investment in knowledge institutions ensures that CARPEC remains adaptive, innovative and capable of responding to future technological and geopolitical developments.

The CARPEC Framework for Regional Development and Collaborative Security

CARPEC is more than a transport corridor; it is a strategic framework for regional development, economic integration and collaborative security. Its success depends on sustainable financing, effective governance and long-term regional cooperation. Rather than relying on

sovereign borrowing, CARPEC should adopt a beneficiary-funded model, whereby countries and commercial entities benefiting from the corridor contribute proportionately to its development. Pakistan's principal contribution would be its strategic geography, ports, regulatory facilitation and security architecture.

BOOT Model for the Wakhan Tunnel Corridor.

The proposed 22 km Wakhan Tunnel Corridor should be implemented under a Build–Own–Operate–Transfer (BOOT) model. An international consortium comprising infrastructure developers, sovereign wealth funds, multilateral development banks and private investors would finance, construct and operate the tunnel under a 30–40-year concession before transferring ownership to the participating governments.

Pakistan would provide connectivity with CPEC, port access, security and regulatory support, while Tajikistan would integrate the corridor with the M41 Highway. Afghanistan would facilitate right-of-way arrangements through the Wakhan Corridor. This model minimizes sovereign debt, distributes commercial risk and encourages regional ownership.

Major Projects under CARPEC.

CARPEC should be developed as an integrated connectivity network comprising:

- a. Wakhan Tunnel Corridor with border terminals and future rail compatibility.
- b. Pakistan–Tajikistan Expressway linking Chitral with Tajikistan.
- c. CARPEC Railway connecting Gwadar, Karachi, Islamabad, Chitral and Central Asia.
- d. Energy Corridors for oil, gas and electricity transmission.
- e. Digital Corridor including fibre-optic networks and AI-enabled logistics.
- f. Industrial Zones, Dry Ports and Logistics Parks supporting export-oriented industries.

Together, these projects create a multimodal transport and industrial ecosystem linking the Eurasian Heartland with the Arabian Sea.

Institutional and Financing Framework.

Pakistan should establish a National CARPEC Authority to coordinate planning, implementation and investment, while participating countries should create a CARPEC Council to harmonize policies and oversee regional cooperation.

Financing should combine BOOT, Public-Private Partnerships (PPPs), multilateral development banks, sovereign wealth funds, infrastructure bonds, Islamic Sukuk and private investment. The guiding principle should remain beneficiary-funded development, ensuring shared ownership while minimizing Pakistan's fiscal burden.

Collaborative Security Framework.

CARPEC promotes collaborative security through cooperation rather than military alliances. Participating countries should coordinate infrastructure protection, intelligence sharing, cybersecurity, customs cooperation, disaster response and emergency management to ensure uninterrupted corridor operations while fully respecting national sovereignty.

Pakistan's Strategic Dividend.

CARPEC has the potential to transform Pakistan into the Strategic Funnel of Eurasia, generating transit revenues, export-led industrialization, foreign investment, employment and energy security. By leveraging its geography, Pakistan can evolve from a geopolitical frontier into a regional logistics, industrial and connectivity hub.

Phased Implementation Roadmap. Implementation should proceed in four phases:

- a. 2027–2030: Feasibility studies, legal agreements and investment mobilization.
- b. 2030–2036: Construction of the Wakhan Tunnel Corridor and Pakistan–Tajikistan Expressway.
- c. 2036–2040: Railway development, industrial zones and digital infrastructure.
- d. 2040–2045: Expansion into a fully integrated Eurasian connectivity network.

Conclusion.

CARPEC is more than an infrastructure project; it is a strategic framework for regional development, economic integration and collaborative security. Anchored by the Wakhan Tunnel Corridor, it offers Pakistan an opportunity to transform its geography into a lasting geo-economic advantage. Through the CARPEC Doctrine, BOOT financing and beneficiary-funded investment, Pakistan can strengthen regional connectivity while preserving strategic autonomy. If implemented with sustained political commitment and regional cooperation, CARPEC can establish Pakistan as the principal gateway between the Eurasian Heartland and the Arabian Sea, fostering shared prosperity, economic resilience and long-term regional stability.

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Author's Note. The CARPEC framework, Wakhan Tunnel Corridor proposal, Strategic Funnel of Eurasia concept, CARPEC Doctrine, corridor architecture and policy recommendations presented in this paper are the original analytical work of the author. Artificial Intelligence (AI) tools were used solely to assist with language refinement and the preparation of illustrative figures. The research concept, strategic analysis, arguments and conclusions are the independent intellectual work of the author.