

### **The Geography of Energy Security: International Investments in the Afghan Ring Road**

How do global energy security concerns influence transportation infrastructure investment? This paper demonstrates that the role of the Afghan Ring Road in international energy security strategies has played a role in determining whether international governments invest in the Ring Road, and in determining the location of their investments. The paper begins with information on the importance of Central Asian oil and gas resources to the world market and on the Afghan Ring Road project. Three “case studies” then display the competing interests of the regional powers: “Bloc 1” (China and Pakistan), “Bloc 2” (India and Iran), and Russia. Though the major two sets of goals cited for Afghan Ring Road development are security and state-building, energy security and energy transportation have clearly been a factor in the Ring Road’s ability to attract investment from other countries in the region.

### **Central Asian Oil and Gas: Underdeveloped in a World of Increasing Scarcity**

Central Asia is composed of five former Soviet countries: Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan. Central Asian oil and gas resources are concentrated around the Caspian Sea in Turkmenistan, Kazakhstan, and Uzbekistan. The development of these resources has been a controversial geopolitical issue since the first deposits were discovered in the 1950s; the competing interests of the Cold War-era Soviet and U.S. blocs and today’s regional

forces of Russia, China, Iran, and India have produced a highly contested battle for political and economic power in the region.

Oil production levels in Central Asia are expected to rise to four million barrels per day by 2015, and large natural gas fields in the region are concentrated in Turkmenistan, Kyrgyzstan and Uzbekistan (Cohen 2006). While Central Asian oil



**Figure 1: Central Asia, Afghanistan, and the region.**

production cannot compare with OPEC production capacity (the 4 million barrels predicted for Central Asia as of 2015 are a mere 11% of the total OPEC production predicted in that year), it remains one of the largest regions (besides Russia) with oil and gas fields that are not close to peak production (Energy Watch Group 2007). If Hubbert and Deffeyes are correct that peak global oil production has occurred or will soon occur (Deffeyes 2003), then regions like Central Asia will soon attract even more intense interest from the global markets and from major geopolitical powers like the U.S., Russia, and Europe.

One major reason for foreign powers' intense interest in Central Asian oil, then, is the energy security implications for major powers that want to keep prices low and diversify their sources of energy commodities. As Yergin (2006) argues, diversification of supply is one of the most important factors for a country that wishes to avoid major supply shocks. Central Asian oil thus represents an appealing

alternative to the OPEC sources that hold 35% of the world's oil supply (Economic Times 2009).

Another reason that Central Asia is an attractive area for energy investment is its status as an emerging market with low technical capacity. Central Asian countries are often unable to increase oil production without aid from larger multinational corporations and national governments. Though state-owned enterprises (SOEs) play a significant role in exploiting the oil and gas fields in Kazakhstan, Uzbekistan, and Turkmenistan, these SOEs generally keep at least a 51% interest in the fields and sell the rest to a partnering private or public-sector enterprise such as ExxonMobil, Chevron, LukArco, or CNPC (a Chinese state-owned energy company) (Energy Information Agency 2008).

Despite the intense international interest in Central Asia's energy resources, many of the Central Asian deposits are not fully exploited. A major reason for this underdevelopment is the endemic corruption and lack of capacity in Central Asian governments and the financial sectors in these countries. The failings of these two sectors tend to feed on one another because many of the national-scale banks in Central Asia are also partially government-owned (Blank 2007). Investments based on the strength of the energy sector in Central Asia have been therefore been plagued by defaults, and the relevant national governments have done little to make these investments more secure. This tendency toward corruption and blame-shifting was illustrated most recently when, in April 2009, the Kazakh bank BTA defaulted on more than \$8 billion of loans from European and U.S. banks (Thomas 2009). The president of Kazakhstan subsequently blamed the bank's owner – who

also happens to be a major political opponent of the president's party – and used the debacle as an excuse for a government takeover of BTA without restructuring BTA's debt (Reuters 2009).

These unstable conditions may make private-sector investors wary of entering the Central Asian energy business for a few years, which will likely make Central Asian governments more vulnerable to geopolitical pressures from other national governments that offer financial support. The BTA case again provides an illustrative example: as BTA was in the process of defaulting on its foreign debt in April 2009, China finalized a \$10 billion (U.S.) loan agreement to Kazakhstan, a full 50% of which was dedicated to investment in a subsidiary of the Kazakhstan state-owned energy company KazMunaiGas. This investment will ultimately give China partial control over approximately 15% of total crude oil production in Kazakhstan (Reuters 2009).

As international pressure from both the private sector and from national governments opens up the Central Asian energy market, the need for new supply routes will increase (International Crisis Group 2007). The Afghan Ring Road, a highway in Afghanistan that connects to Turkmenistan, Tajikistan, and Uzbekistan, may therefore become an important geographical component of the world energy supply chain.

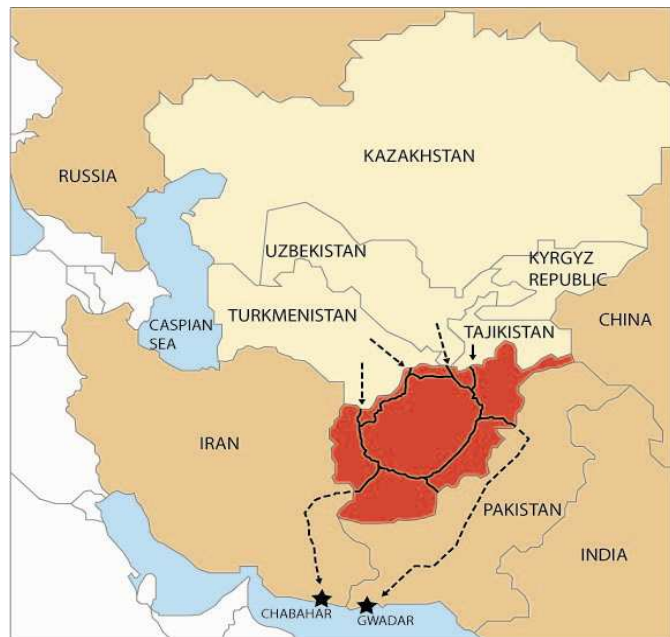
### **The Afghan Ring Road: Connecting Central Asian Energy With South Asian Seaports**

As Ariel Cohen puts it, "U.S. interests in Central Asia can be summarized in three simple words: security, energy, and democracy" (Cohen 2006). While

Afghanistan is not nominally part of Central Asia, the Afghan Ring Road plays a crucial role in U.S. and international strategic thinking on energy security.

Documents produced by the Afghan government on Afghan investment opportunities claim that Afghanistan is a “strategic transit hub” poised to connect the landlocked countries of Central Asia – and their energy resources – with the seaports of Iran and Pakistan (AISA 2007).

Afghanistan lies just to the south of the five Central Asian countries (see Fig. 2) and is considered part of the South Asian region, though its cultural history has much more in common with the pastoral tribes of Central Asia than the settled agricultural ethnic groups of South Asia. The cultural and historical connections between



**Figure 2. The Afghan Ring Road, Central Asia, and the seaports of Iran and Pakistan.**

Source: Alexandra Miller.

Central Asia and Afghanistan have created a de facto corridor for transportation: the “Silk Road” caravan-trade route wound its way from China through Central Asia and Afghanistan on its way to the coastal seaports of present-day Pakistan and Iran. It is no coincidence that the Afghan government calls Afghanistan “The Silk Road to Opportunities” on its series of Foreign Investor Guides (AISA 2006; AISA 2007).

The Afghan Ring Road provides the modern-day version of this caravan connection; it allows traffic to flow from Turkmenistan, Kyrgyzstan, and Tajikistan in the north, to Pakistan and Iran in the south. Although the current security situation has restricted trade, the Road remains one of Afghanistan's most valuable assets.

The value of the Road to many of the regional powers lies in its ability to act as a distribution network for Central Asian energy products by bringing them to South Asian markets. Given the current security situation in Afghanistan and Pakistan, building pipelines for transporting oil and natural gas to the seaports of South Asia is not a viable alternative to road transportation at present. While future pipelines for both oil and gas, including the planned Central Asia Oil Pipeline and Trans-Afghan Pipeline that will connect Turkmenistan with Pakistani seaports through Afghanistan, may compete with the Ring Road, these pipelines may also serve as appealing targets for terrorism. Pipelines are difficult to protect because an attack at any point along the pipeline can severely damage the function of the entire enterprise (USDOT 2008).

The India-Iran-Pakistan natural gas pipeline project has been put on hold explicitly due to security concerns, although construction on the project was scheduled to begin in 2006. Indian officials argue that while energy security is a top issue for the country, "it will be impossible to keep the pipeline secure because of the instability in the region" (Dikshit 2009).

With pipelines out of the picture, the Afghan Ring Road has become the primary method for transporting Central Asian energy to the shipping lanes that

emerge from the Arabian Gulf in South Asia. (International Crisis Group 2007).The Ring Road's connections to other road networks and supply chains therefore helps to predict the proposed role of Afghanistan in energy transport in the future.

The implications for energy transportation, and the revenue that comes with it, indicates that regional powers may have a special interest in making investments that generate connections between the Ring Road and the surrounding areas. After the U.S. began military interventions in Afghanistan in 2001, the Ring Road became a priority investment for the U.S. and other international agencies that were helping with reconstruction efforts, including the World Bank, the Asian Development Bank, the Islamic Development Bank, and the governments of Japan and Saudi Arabia (Asian Development Bank 2005). The European Union and Italy concentrated their investments in and around the capital city of Kabul. The regional powers of India, Iran, and Pakistan, meanwhile, funded spurs off the Ring Road connecting it . Figure 1 displays the funding agencies and the geographical distribution of their projects within the Ring Road and the broader road system of Afghanistan.

### Figure 3. Post-2001 Afghan Road Investments by International Donors

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The following case studies examine the energy security goals of the regional powers and their relationship to investment in the Afghan Ring Road. The five countries included are the five regional powers that encircle Afghanistan and Central Asia: China, India, Iran, Pakistan, and Russia.

#### **“Bloc 1”: China and Pakistan’s Energy Security Goals and Relationship to Ring Road Investments**

The portion of the Ring Road funded by Pakistan is a 120-km section leading from the Ring Road toward Jalalabad and the Pakistani cities of Peshawar and Islamabad. The new asphalt road reduces travel time to Pakistan

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**Figure 4: Direction of Pakistan’s Ring Road investment.**

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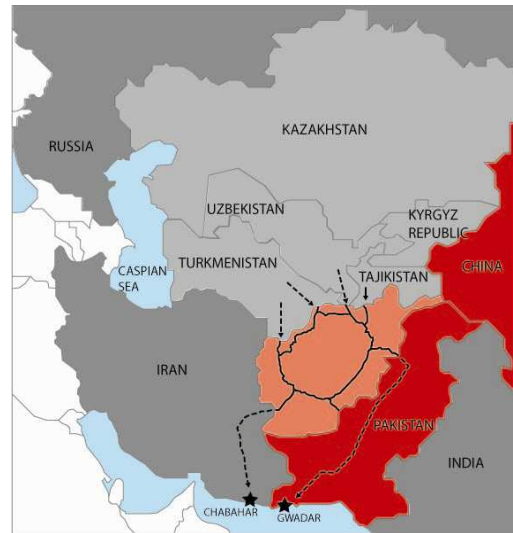
by over six hours. The road is part of an envisioned Pakistani-Chinese network of rail and road infrastructure that will link with a new Chinese port development in Pakistan. For example, Pakistan is also developing a road from the Arabian Sea coast to Saindak, a small village in northern Balochistan province in Pakistan. This road could ultimately be connected to the Afghan Ring Road along what Pakistanis officials call “the shortest route between Central Asia and the sea” (Niazi 2005). The road is ultimately envisioned as a means for increasing Pakistan’s trade revenues while giving China a link to Central Asian energy and markets to help with the development of Xinjiang, a western province which is one of the most underdeveloped in China (Chellaney 2009).

The Gwadar Port development on the southern coast of Pakistan is one of two new ports near the Arabian Gulf that have been constructed by regional powers during the aftermath of the 2001 U.S. invasion of Afghanistan. Gwadar is located along the major oil shipping lanes that lead into the Arabian Sea. It is also located on one of the two possible routes that Central Asian oil shipments can take when they pass out of Afghanistan into South Asia: the eastern route through Pakistan. The “Bloc 1” countries responsible for Gwadar’s development are China and Pakistan.

Gwadar lies on the Arabian Sea in the Pakistani province of Balochistan. The city is located 50 miles from the Iranian border and approximately 275 miles from Balochistan’s border with Afghanistan. The strategic value of Gwadar’s location is its proximity to the Persian Gulf, which has oil reserves of approximately 728 billion barrels, or 55% of world oil reserves (Strauss Center 2006). The Persian Gulf exports approximately 18.2 million barrels of oil per day, and 17 million of these are

shipped in tankers through the Strait of Hormuz (*ibid*). Gwadar Port is only 250 miles from the Strait of Hormuz.

Gwadar Port lies within Pakistan, yet its construction was basically the responsibility of the Chinese government; China delivered the project on a “turnkey” basis, meaning that China performed the dredging and construction needed to make the port operational before turning the port over to the Pakistani government. The cost of developing the port was approximately \$1.2 billion, of which China contributed over \$900 million, or 75% of the total project cost (Chellaney 2009). This



**Figure 5. Location of “Bloc 1” countries and Gwadar Port.**  
Source: Alexandra Miller.

investment funded the development of twelve ship berths, an approach channel, storage terminals for goods, and a highway connecting Gwadar Port with Pakistan’s main port of Karachi.

The Gwadar development reflects increasing cooperation between China and Pakistan in trade and economic development. In 2004, China and Pakistan had a total bilateral trade balance of \$2.4 billion, which is nearly half the total trade between China and India in that same year. Though China maintains a significant advantage over Pakistan in terms of the trade balance, with China exporting \$1.8 billion and Pakistan only \$575 million, both China and Pakistan paint the Gwadar development as a mutual economic opportunity (Niazi 2009).

### *China's Energy Security Concerns*

As Lieberthal and Herberg point out, China currently imports the third-largest amount of oil in the world, and energy security is a major strategic concern for China's leadership. Energy is a major factor in maintaining China's growth and therefore its government's stability:

China's leaders fear that domestic energy shortages and rising energy costs could undermine the country's economic growth and thus seriously jeopardize job creation. For a regime that increasingly stakes its political right to rule on economic performance and rising standards of living, the threat of economic stagnation raises real risks of social instability, which could in turn threaten the continued political monopoly of the Chinese Communist Party (CCP). Hence, energy security is a strategic domestic political concern for the leadership (Lieberthal and Herberg 2006: 7).

China's goal in developing Gwadar Port is to gain an additional supply route for energy shipments. The U.S. presence in Afghanistan, as well as the enhanced U.S. and NATO presence in Central, South, and West Asia resulting from the wars in Afghanistan and Iraq, have made China concerned about the security of its energy supply lines from military interventions (Ramachandan 2005). The large concentration of U.S. troops in the Persian Gulf, from which China receives 60% of its energy supplies, was also of strong concern to the Chinese government (Chellaney 2009). Without any kind of significant naval power, China's energy supply lines from the Persian Gulf are highly vulnerable to hostile action.

Gwadar is part of what analysts describe as China's "string of pearls" strategy for increasing its presence along the oil shipping lanes in the South China Sea and the Indian Ocean in response to these perceived security threats (Ramachandran 2005). The "pearls" are nodes of influence that China creates through "investment, port development and diplomacy" (Devonshire-Ellis 2009: n.p.), while the "string" is the oil shipping lanes through the South China Sea and Indian Ocean that connect these investments. Devonshire-Ellis (2009) gives a short summary of these investments' extent:

To date, China's investments extend from Hainan Island in the South China Sea, through the littorals of the Straits of Malacca, including port developments in Chittagong in Bangladesh; Sittwe, Coco, Hianggyi, Khaukphyu, Mergui and ZadetkyiKyun in Myanmar; LaemChabang in Thailand; and Sihanoukville in Cambodia. They extend across the Indian Ocean, Sri Lanka, the Maldives, Pakistan's Gwadar Port, and in islands within the Arabian Sea and into the Persian Gulf (Devonshire-Ellis 2009: n.p.).

This "string of pearls" strategy results from China's sense of energy insecurity. The United States' significant military presence in the Gulf, especially its exercise of power over the Strait of Hormuz, has led Beijing to feel distinctly disadvantaged and vulnerable to a U.S. blockade on Chinese oil imports if any conflict were to arise over Taiwan.

Gwadar not only provides what Haider calls "a transit terminal for crude-oil imports from Iran and Africa to China's Xinjiang region" (Haider 2005), but also acts as a central station for monitoring the U.S. and Indian presence within the Arabian Gulf area. As Ghazi points out, "A Booz Allen Hamilton report for the Pentagon notes

that China has already set up electronic eavesdropping posts at Gwadar, which are monitoring maritime traffic through the Strait of Hormuz and the Arabian Sea” (Ghazi 2008).

### *Pakistan’s Energy Security Goals*

Pakistan’s goal for Gwadar Port, like China’s, is related both to energy security and broader national security goals. Pakistan’s major port currently lies just 120 km from the Pakistan-India border, at Karachi. Karachi, which is responsible for 90% of shipping trade through Pakistan, is highly vulnerable to Indian naval pressure and blockades. India has capitalized on this vulnerability during two wars: the 1971 India-Pakistan war, and the 1999 conflict over Kargil. During the 1971 war, India actually did perform a naval blockage of Karachi, with accompanying serious effects on the Pakistani economy. The 1999 blockade was never actually conducted, but the threat gave India an additional bargaining chip to use in negotiations. Gwadar, in contrast, is 725 km from the Indian border and far less vulnerable to blockades.

The energy security concerns of Pakistan are thus highly related to its overall economic and national security goals; this is symbolized by Gwadar Port’s dual designation as a “sensitive security zone” and a “free enterprise zone” (SOURCE). Sahir and Qureshi argue that Pakistan’s major energy security goal in the 21<sup>st</sup> century should be to preserve and promote the country’s ability to “provide a corridor for regional energy trade” (Sahir and Qureshi 2007: 2032). This means that Gwadar performs an important function in ensuring that the energy trade will not

be threatened, thereby assuring potential clients that Gwadar Port is competitive with other regional ports.

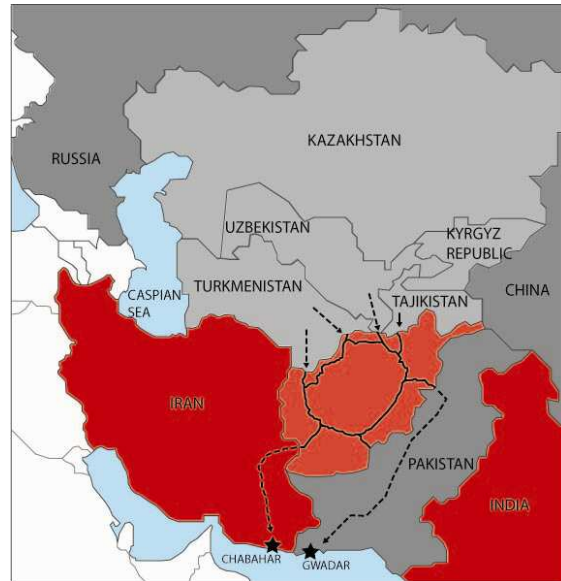
### **“Bloc 2”: India and Iran’s Energy Security Goals and Relationship to Ring Road Investments**

The investments that both India and Iran have made in the Afghan Ring Road are designed to promote a different orientation of the import-export pattern through Afghanistan. India and Iran would prefer that goods from Central Asia not be shipped through Pakistan, but through the seaports of southern Iran.

To this end, India and Iran have invested in two strategic pieces of road infrastructure in Afghanistan. Iran has funded the construction of a 250-km

section of the Afghan Ring Road; this section connects the U.S.-built Kabul-Kandahar section of the road to the Afghan city of Delaram. At Delaram, a new Indian-built road branches off the main Ring Road and runs 190 km to the Afghan border town of Zaranj, where goods can cross into Iran (Dikshit 2009).

What are the energy security goals associated with this highway investment, and why would India be interested in building a road to Iran? India and Iran have designed this investment to compete with the threat to energy security and national



**Figure 6: “Bloc 2” countries and Chabahar Port.**

Source: Alexandra Miller

security posed by Gwadar Port. The construction of Gwadar Port, ongoing since 2001, has worried both India and Iran (IAGS 2008).

### *Indian Energy Security Concerns*

India's high dependence on oil imports has become a major factor in its foreign policy for the last two decades. Like China, India has a rapidly growing economy with a commensurately rapid increase in energy demands. India ranks as the sixth-largest oil-importing country in the world, and its economy is projected to grow 7-8% by 2025, causing additional increases in demand (IAGS 2008).

Approximately 70% of Indian oil is imported, a number that is likely to rise to 91.6% by 2020, according to the International Energy Agency. Approximately 65% of this oil comes from Persian Gulf sources (IAGS 2008).

In order to diversify oil supplies, India has already begun looking to Central Asian energy resources. Some of the diplomatic interactions that India has conducted include provision of troops and \$40 million in aid to Tajikistan, establishment of an air base in Kazakhstan, and diplomatic talks with Azerbaijan on the subject of energy cooperation. However, India sees this Central Asian project as threatened by China's increasing influence in Central Asia and the region, and by the lack of direct overland access to Central Asian resources (because Pakistan will not allow goods destined for India to move through Pakistani territory) (Guha 2009). Gwadar Port therefore acts as another manifestation of this Sino-Pakistani threat; the China-Pakistan collaboration at Gwadar simply adds to the circle of Chinese power that is rapidly forming around India in Myanmar, Tibet, and Pakistan.

### *Iran's Energy Security Concerns*

Iran, like Pakistan, is worried about the competitiveness of its ports and its ability to continue to supply energy resources to the world market. Unlike Pakistan, Iran possesses a large base of oil and gas resources within its territory; as of 2007, the Iranian government estimated that its reserves were 136 billion barrels of oil and 27 trillion cubic meters of gas. Though Iran is a major exporter of oil and gas, its port infrastructure has primarily been oriented toward the Caspian Sea and not the Persian Gulf. The Iranian government therefore foresaw heavy competition from Gwadar Port as a new energy transport route that could monopolize energy resources from Central Asia and Afghanistan (Guha 2009).

### *Countermove to Gwadar Port: Iran-India Collaboration on Chabahar Port*

The India-Iran strategic alliance surrounding Chabahar Port, in the Sistan-Baluchistan province of Iran, acts as an energy-security countermeasure for the Sino-Pakistani development of Gwadar Port (IAGS 2009). Chabahar Port is situated directly across the Iranian border from Gwadar Port; the two ports are separated by less than 200 km. India and Iran together have built the road infrastructure needed to connect Chabahar to Afghanistan and the Ring Road. A 200-km Indian built road connects Chabahar Port to the Afghan town of Zaranj. From Zaranj, this road connects to the previously described road infrastructure that the Indian and Iranian governments built inside Afghanistan (Guha 2009).

In November 2009, India and Iran held talks on closer cooperation in energy, transit routes to central Asia and cooperation to minimize the risks of insecurity in the Afghanistan-Pakistan arena (Dikshit 2009). In the first high-level talks after



elections in both countries, representatives from Iran and India reaffirmed their interest in a future Iran-Pakistan-India gas pipeline. India also highlighted its desire to create additional dialogue between India, Iran and Afghanistan on transit routes to central Asia, with the Iranian port of Chabahar acting as a staging point for goods. Though many of the articles on this subject emphasize India's desire to use Central Asia and Afghanistan as a market, Iran made clear that its interests also lay in the realm of energy exports by highlighting the relationships between the port and the Afghan Ring Road as an energy-related project (Dikshit 2009).

### **Russian Energy Security Goals and Relationship to the Ring Road**

Russian energy security goals, unlike those of the Bloc1 and Bloc 2 countries, are focused on maintaining the status quo in Central Asian energy distribution. Currently, Russia has a near-monopsony relationship with Central Asian countries in that the Russian state-owned enterprise, Gazprom, is the major consumer and distributor of Central Asian natural gas through its network of pipelines (International Crisis Group 2007). Many of China's recent moves in the Central Asian region, including the Kazakh gas pipeline discussed in the first section of this paper, threaten the Russian monopsony and thereby a major source of Russian revenue.

Over the past decades, Russia has taken numerous steps to stifle energy trade between Central Asia and surrounding countries. The Russian government has refused to acknowledge or ratify the Energy Charter Treaty and Transit Protocol, which has caused serious contention over the supply of Turkmenistan's natural gas to other countries (Milov and Olcott 2007). Russia has also "blocked Central Asia's

attempts to get access to European markets, has been reluctant to expand the Caspian Pipeline Consortium (CPC), and just recently reneged on a 10 year agreement with Kazakhstan to ship its oil to a refinery in Lithuania” (Blank 2005: 16).

New transportation routes for Central Asian energy resources therefore constitute a serious threat to Russia’s goal of maintaining its monopoly on distribution of Central Asia’s energy resources (Milov and Olcott 2007). The Afghan Ring Road, as one such route, works against the interests of the Russian government. Therefore, despite (or perhaps due to) Russia’s intense prior involvement in Afghanistan, Russia has had no involvement in financing the Afghan Ring Road. Another reason for this lack of involvement is that Afghanistan’s reconstruction has been primarily a U.S.-NATO effort, and Russia has therefore been left out of the loop (Blank 2007). Yet Iran and Pakistan, neither of which belong to these organizations, were still enthusiastic investors in the project; Russia’s lack of interest likely does relate to the Russian government’s lack of additional energy security goals for the South Asian region.

## **Conclusion**

Pakistan, Iran, and India have all made investments in the Afghan Ring Road, while China and Russia have not. Why is this the case? Table 1 summarizes several of the key factors related to the geography of energy security that surrounds the Ring Road: the initiating country, the country’s goals for Central Asian energy, whether the country has direct overland access to Central Asia without going through Afghanistan first, and whether the country invested in the Ring Road.

**Table 1. The Geopolitical Perspective: Correlating Energy Goals and Investments in the Afghan Ring Road**

Country	Goals for Central Asian Energy	Impact of Ring Road	Direct Overland Access to C.A.?	Investor in Ring Road?
<b>Bloc 1</b>				
China	Expand influence on production of energy resources through FDI in Central Asia; secure energy transportation routes	Positive	Yes	No
Pakistan	Enhance role in goods and energy transshipment from Central Asia; gain overland access to Central Asian resources	Positive	No	Yes
<b>Bloc 2</b>				
India	Increase energy security by gaining overland access to Central Asian resources	Positive	No	Yes
Iran	Enhance role in goods and energy transshipment from Central Asia	Positive	No	Yes
Russia	Preserve a monopoly on Central Asian resource transportation and extract fees for this transportation.	Negative	Yes	No

The three countries that invested in the Afghan Ring Road – Pakistan, Iran, and India – have two things in common. For all three countries, the Ring Road’s completion has a positive impact on their energy security goals. All three countries also lack direct overland access to the energy resources of Central Asia.

The conclusion to draw from this correlation is not that energy security was the only factor that motivated regional powers to invest, or not invest, in the Afghan Ring Road. However, the geopolitical maneuvers surrounding port development in

South Asia after the Afghan Ring Road became a reality strongly suggest that the war in Afghanistan motivated a strong re-consideration about how energy trade could be redistributed within the Central and South Asian regions. The locations of Indian, Iranian, and Pakistani investments in Afghanistan's infrastructure bear this conclusion out: all three countries invested in the roads that would give them an advantage in terms of trade. The Afghan Ring Road has therefore helped to fuel a regional competition to become the terminus of the new Silk Road – a Silk Road that carries energy resources rather than silks and spices.

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