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REGIONAL ENERGY GRID OF CARS, CHINA, IRAN, PAKISTAN, RUSSIA, AND TURKEY

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Abstract.

In this paper, the current energy needs and available resources of China, Iran, Pakistan, Russia, Turkey, and Central Asian Region countries have been examined. Also, the geostrategic location of the afore-mentioned countries is analyzed. Based on their energy needs, available resources, and their geographic location, an energy corridor between these countries has been proposed, which is given the name of “Golden Ring Energy Corridor”. This corridor will connect these Golden Ring countries and hence an Energy trade would be made possible through pipeline, land, and sea routes between these countries. At the end, SWOT analysis of this proposed corridor has been presented so that the strengths and advantages of this corridor can be highlighted and the weaknesses and the possible threats in the implementation of this proposed corridor can be analyzed also. Some countermeasures have also been suggested so that the implementation of this Corridor can be realized.

Keywords: *Golden Ring Energy Corridor, Pakistan-China-Iran-Turkey and Russia Energy Corridor, Geopolitics, SWOT, Geopolitics, Energy Strategy, Strategic Value.*

1. INTRODUCTION.

According to (Douma et al., 2003), a transportation corridor is a physical area between two defined points, that links up different centers and helps in moving people, vehicles, and freights. A corridor is made up of one or more routes that connect economic activity centers. These routes will be connected to the same endpoints and will have different alignments but share transfer points (World Bank, 2005). The term "energy corridor" does not have a clear definition. The concept of the ‘‘energy corridor" was defined by (MacPherson, 2013) as a corridor that could move oil, gas, and other commodities. According to the Statistical Analysis of World Energy (BP, 2018), energy included oil, gas, coal, and electricity. As a result, an energy corridor can be described as a transportation corridor that connects energy supply and consumption regions by transporting oil, natural gas, coal, and electricity.

1.1. Historical Overview.

Central Asian countries like Turkmenistan, Azerbaijan, Uzbekistan, and Kazakhstan, and Central Asian Caspian (CAC) countries have an abundance of natural energy resources. Particularly, Turkmenistan and Uzbekistan are affluent in natural gas, while Azerbaijan is rich in oil, and Kazakhstan has an abundance of oil, uranium, and coal. In 2009, the area's average output was about 145 million tons (Mt) of crude oil versus 35.3 Mt of consumption, and around 150 billion cubic meters (Bcm) of natural gas versus 100 Bcm of consumption. In 2009, about 110 million tons of oil equivalent (Mtoe) and 40 million tons of natural gas were exported, mostly to or from Russia. If current trends continue, CAC countries will be unable to fully use their energy supplies, which may be consistent with a significant rise in both domestic demand and exports. (De Miglio et al, 2014). If this area's total production potential is fully utilized, it will become a "central player" in the fossil fuels export market for the next few decades. This necessitates immediate commitment and consensus on a collective energy export plan aimed at both external markets and the Caspian countries themselves According to the National Bureau of Asian Research's special report (Chow et al.2010), “What we have yet to see is cooperation among the different players in Central Asia pipelines in pursuit of convergent objectives, as opposed to competition for divergent interests.”

Central Asia–China energy corridor addresses China's majority of gas import needs, as well as Central Asian countries' diversification plan for energy exports. (Fazilov et al., 2013); (Higashi,2009); (Kulkarni et al, 2016). (Kubicek, 2013) examined the strategic goals of the important players in the 'Caspian Sea Energy Corridor'. He concluded that Russia's mission was to retain supremacy, the US' goal was to diversify, China's target was to get a piece of the pie, and EU members were very keen on diversifying their own energy supplies, as they depended on Russia for roughly 30% of their oil and gas at the moment. In conclusion, the energy corridor is critical to the realization of the goals.

China is the leading electricity producer and net importer in the world (Cao and Bluth, 2013); (EIA, 2014); (BP, 2018). New considerations for China's energy strategic security include seeking international energy cooperation, developing new energy corridors and supply chains and diversifying energy corridors and energy import regions (Chen, 2009).

Pakistan is bordered on the West with Iran, in South with the Middle East through Persian Gulf, in the North with China and via Afghanistan to Central Asia and in the East with India. Pakistan is a ''energy corridor crossroads" nation since many large sea routes from Africa, Europe, via the Red Sea, the Hormuz Strait, and the Persian Gulf, to the Asia-Pacific area pass through its southern coast. However, Pakistan's own energy reserves, on the other hand, have been depleted. To ease the domestic energy crisis, it hopes to import oil and gas through pipelines from the Gulf, Iran, Central Asia, and Western Asia. However, due to the high pressure to develop an energy corridor to satisfy domestic energy demand of its own, Pakistan must pursue foreign energy cooperation. (Economic and Commercial Counselor's Office, 2014).

Iran is situated in the "heart" of the Middle East which is the most convenient route for connecting Eurasian maritime traffic and serves as a link between the Middle East and Central Asian oil regions. Iran has an abundance of proven gas and oil reserves. Iran controls the Hormuz Strait, a significant oil and gas import corridor in the Asia-Pacific region. Iran is currently attempting to breach the Western economic and political blockade by constructing a cross-border oil corridor to achieve diversified energy exports and ensure the stability of its energy exports. (Zhang, 2007).

Turkey has an oil shortage, and its natural gas usage is largely reliant on imports. Turkey, though, is geographically competitive in terms of the oil supply since it is situated between the world's biggest energy producer, Europe, and the energy-rich countries of Central Asia and the Middle East (Cetin et al., 2007). Turkey intends to become an energy hub, which fits in well with the region's strategic framework (Correlje et al., 2006). Turkey's energy strategic priorities include encouraging the diversification of energy supplies and working to establish energy hubs.

As a result, China is both an energy importer and a consumer of energy; Pakistan is both an energy importer and a consumer of energy; Iran is both an energy producer and a transit country, and Turkey is both an energy importer and a transit country. Similarly, Russia is an importer and exporter as well. Therefore, the energy corridor of China–Pakistan–Turkey–Iran-Russia can be a strategic energy corridor. The construction of this corridor fits well with the energy goals of the countries along the corridor.

2. AN OVERVIEW OF THE EXISTING ENERGY MARKETS IN CHINA, IRAN, PAKISTAN, RUSSIA AND TURKEY.

2.1. China Energy Market.

In 2020, the total energy consumption per capita in China was estimated to be at 2.4 toe/cap (3.5 times that of India's)

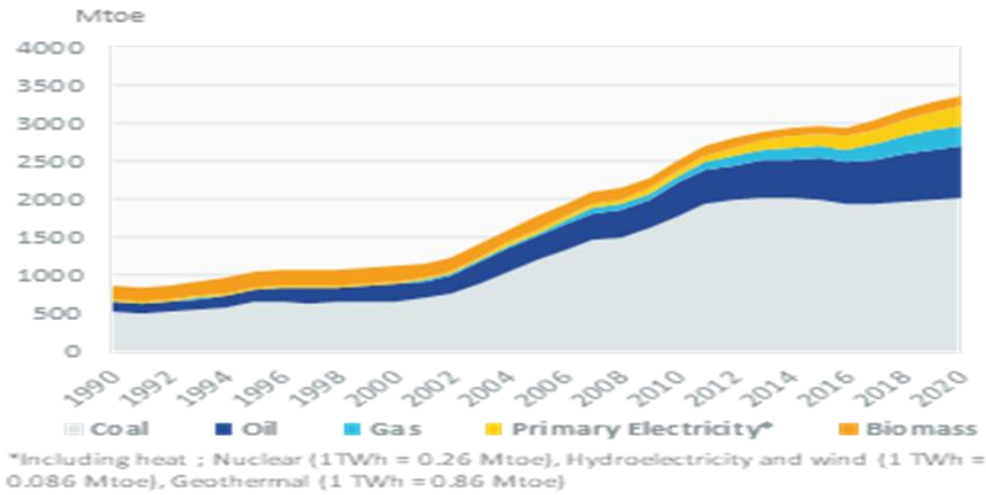

Figure 1: Energy Consumption Patterns BY Energy Source (Mtoe)
Source: www.enerdata.net/estore/energy-market/China/

Since 2017, total energy consumption has increased at a significantly higher rate (3.3 percent per year vs. 1.7 percent per year from 2012 to 2017). Despite the Covid-outbreak, energy consumption increased at a slower pace of 2.2 percent in 2020, which is much lower than historical levels (7 percent per year between 2000 and 2012). Between 2000 and 2015, oil output rose by an average of 2% per year, but then fell by 10% between 2015 and 2018. In 2019 and 2020, it recovered somewhat, reaching 201 Mt in 2020. (6th largest worldwide).

Most of the production takes place on land, in farms along the north-eastern coast (Daqing and Shanghai). Offshore oil and gas production is booming, with the Bohai basin being one of the most active locations. Oil usage is rapidly growing (at a rate of 4.7 percent each year since 2010). Due to the pandemic, the transportation sector's share of total energy consumption fell sharply to 42 percent (-5 points) in 2020; industry (including non-energy uses) accounted for around 34 percent. Since 2009, natural gas usage has increased dramatically (+12.5 percent per year from 2009 to 2020). Natural gas usage increased by 7% in 2020, despite the epidemic.

Industry accounts for roughly a third of total consumption. The electricity sector's proportion is currently modest (21%) but is rising (+14 points) since 2005. Since 2016, consumption of coal and lignite has increased steadily (0.7 percent per year), with a target of 3.8 Gt in 2020. Between 2000 and 2013, it rose at a high rate of 8.3% per year, before declining (-2% per year) between 2013 and 2016.

With 61 percent, the electricity sector is the major user of coal and lignite, followed by industry (30 percent). The electricity sector's market share has been steadily growing (around 50 percent in 2010). Electricity consumption has been rising at a high pace (6.8% per year from 2010 to 2019), with growth slowing in 2020. (3.1 percent). The largest consumer (59 percent in 2020) is industry, followed by services and residential (17 percent and 16 percent, respectively). The electricity prices in China have been shown in Table-1.

Table-1

	Household, kWh	Business, kWh
Chinese Renminbi	0.547	0.669
U.S. Dollar	0.085	0.103

Source: www.globalpetrolprices.com/China/electricity_prices/

China currently has energy corridors in the northeast, northwest, southwest, and sea lanes, which include Central Asian gas pipelines, the China–Russia gas and oil pipeline, the China–Myanmar gas and oil pipeline, and a maritime energy corridor.

On January 1, 2011, first Russia–China crude oil pipeline (RCOP) was launched, with a capacity of 15 million tons of oil per year. On January 1, 2018, the second RCOP went into effect. It is also capable of transporting 15 million tons of oil each year. Meanwhile, both the western and eastern lines are part of the Russia–China gas pipeline (RCGP). The Altai gas pipeline, also known as the western line, is planned to transport 30 billion cubic meters of natural gas each year. The line is currently being negotiated. The eastern route, dubbed the Siberia power pipeline, is planned to transport 38 billion cubic meters of natural gas per year. The pipeline is currently being built and is scheduled to be completed in December 2019. Since Northwest China is not a natural gas-consuming market, and Xinjiang still has a lot of natural gas, the western line is a drawback for China relative to the eastern line. Natural gas from the western line will be exported to the southeast after entering Xinjiang. When China consumes natural gas from this corridor, this results in comparatively high total costs.

The sea lane has been crucial in shipping oil and gas from Africa and the Middle East to China's economy. There are currently four shipping routes for importing crude oil and natural gas from other countries. To access China, routes from the Middle East and Africa would cross the Malacca Strait into the South China Sea. Southeast Asia ships to mainland China via the Straits of Malacca and the Taiwan Strait, while South America ships to China via the Panama Canal and the Pacific. China's sole oil import route by sea is currently reliant on the straits of Hormuz, Cape of Good Hope, and Malacca, especially the straits of Hormuz and Malacca, which are geostrategic hotspots.

The cumulative crude oil transportation capacity of China– Kazakhstan crude oil pipeline just surpassed 50 million tons by the end of 2012, even though the pipeline's initial planned transportation capacity was 20 million tons per year. Since then, the Central Asian natural gas pipeline and the China–Russia oil pipeline have both struggled to meet the planned full-load operation. China imported 36.2 billion cubic meters of natural gas via the Central Asian pipeline in 2015, slightly less than the pipeline's designed transportation ability. (Guo et al., 2019).

2.2. Energy Market of Iran:

In 2019, per capita, energy consumption was estimated to be 3.2 toe (comparable to the Middle East or the EU average), with around 3 200 kWh consumed. Due to US sanctions, energy consumption has been rising more slowly since 2018 (1.2 percent per year following 3.1 percent from 2010 to 2017), reaching 269 Mtoe in 2019. Natural gas share was 68% of overall energy use (2019). Since 2000, oil's proportion of overall consumption had decreased by half, from 56 percent to 30 percent in 2019. Hydro accounts for 1.5 percent of overall energy consumption, whereas coal and biomass both account for less than 1%.

Between 2017 and 2019, oil output decreased by 33% to 146 Mt as a result of new US sanctions (of which 30 percent in 2019). This downward trend continued in 2020, but

at a slower pace, with a 16 percent drop in the first semester. Due to international sanctions, it had already decreased by 25% between 2010 and 2015, to 161 Mt. Following the removal of these restrictions in 2016, it grew by 37% from 2015 to 2017, peaking at 220 Mt, much above the 2003-2010 average (around 215 Mt). Oil usage has climbed somewhat since 2016, following a sharp drop (5.7 percent per year) between 2013 and 2016 due to rising motor fuel prices and slowing economic development. In 2019, it was 77 Mt. Electricity consumption has remained relatively steady since 2018, and between 2010 and 2018, it rose by 4.3 percent each year, reaching 263 TWh in 2019. The majority of the population has access to electricity (99.5 percent).

Industry accounts for 34% of power usage, followed by the residential sector (32%), and services (18%). The oil and gas industry consumes the remaining 16 percent.

Table-2

	Household, kWh
Iranian Rial	**1,310.000**
US Dollar	**0.005**

Table 2: Electricity Price in Iran
Source: www.globalpetrolprices.com/Iran/electricity_prices/

Iran's proven oil reserves surpassed 157.2 billion barrels by the end of 2017, placing it fourth in the world, accounting for 9.3% of global reserves and an 86.5-year reserve-production ratio. It has the world's second-largest natural gas reserves, accounting for 17.2% of global reserves and totaling 33.2 trillion cubic meters (BP, 2018). Iran's economy is heavily reliant on foreign trade. It is the world's fourth-largest oil producer and OPEC's second-largest exporter. Iran's economy is characterized by crude oil exports and imports of consumer products. Iran currently has three major transnational oil and gas pipelines. The majority of energy exports are exported by sea. In Iran's foreign relations and economy, maritime transportation plays a significant role. The sea transports 93 percent of Iran's crude oil exports. Sea shipping accounts for more than 95% of non-crude oil exports (RMTO, 2014).

After Turkey and Iran signed a gas contract in 1996, work on the Tabriz–Erzurum–Ankara (TEA) gas pipeline began. It connects Tabriz in northern Iran with Ankara in Turkey. The South Caucasus pipeline is connected to the TEA pipeline in Erzurum. The pipeline became operational on July 26, 2001, but it was not a straightforward project to complete, as it faced both economic and political challenges. PKK guerillas and PJAK militants have blown it up many times (Reuters, 2007). Iran exported 450 billion cubic feet of natural gas and imported 170 billion cubic feet through pipelines in 2017, with Turkey accounting for roughly 73 percent of total natural gas exports. It is a major supplier of Turkish gas and will most likely export gas to southern Europe.

Due to the Middle East's instability, particularly in Syria, the Iran-Iraq-Syria gas pipeline project has remained stalled. The Iran-Iraq oil pipeline project, which had a capacity of 100,000 barrels per day, is also no longer in use for similar reasons.

2.3. Energy Market of Pakistan.

The average per capita usage is 0.51 toe, which includes 550 kWh of electricity (2019). After a period of considerable growth between 2013 and 2018 (4.5 percent/year), overall consumption in the country fell by 1% in 2019, to 110 Mtoe, after a period of moderate growth between 2008 and 2013 (1.5 percent/year).

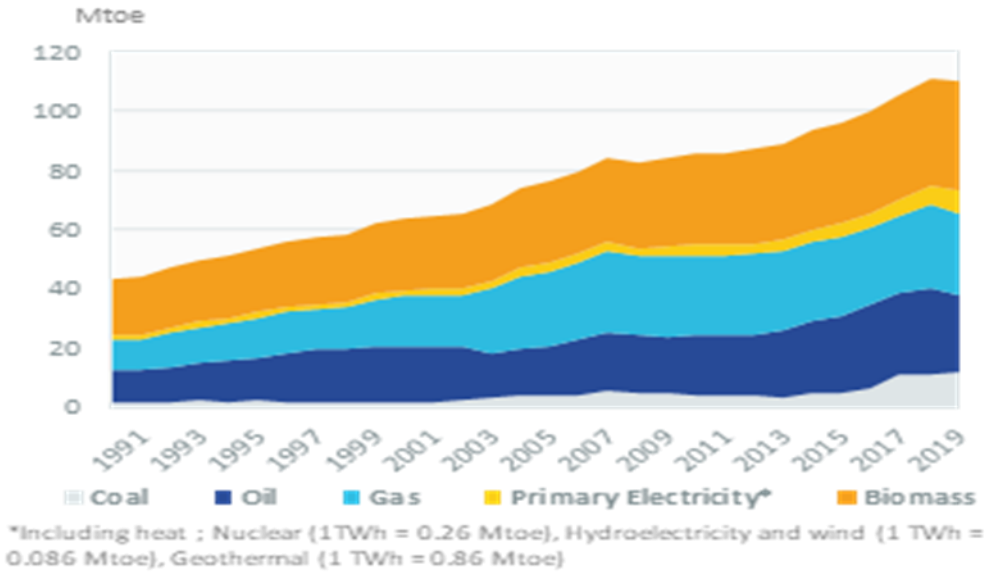

Figure 3: Energy Consumption Patterns by Energy Source (Mtoe)
Source: www.enerdata.net/estore/energy-market/pakistan

Since 2014, oil production has varied between 4-5 Mt. (4.8 Mt in 2019). Just over 20% of the country's demands are met through production. Crude oil imports totaled 8.5 million tonnes in 2019, a 20 percent decrease following years of steady growth (+8% each year from 2011 to 2018). Table-3 presents electricity prices in Pakistan.

Table-3

Pakistan electricity prices	Household, kWh	Business, kWh
Pakistan Rupee	**9.150**	**24.926**
U.S. Dollar	**0.058**	**0.157**

Table 3: Presents Electricity Price in Pakistan
Source: www.globalpetrolprices.com/Pakistan/electricity_prices/

Since 1990s, Pakistan has promoted the development of transnational oil and gas pipelines. Pakistan plans to develop the three energy pipelines, as seen in **Figure 4**, to ease the domestic energy crisis by importing oil and gas through pipelines from the Gulf, Western Asia, and Central Asia, but they have yet to materialize. The Turkmenistan–Afghanistan–Pakistan–India (TAPI) natural gas pipeline runs from a vast gas field in Turkmenistan to Pakistan and India, passing through war-torn Afghanistan to meet the energy demands of the two countries. There are several strategic roadblocks, including pipeline stability in Afghanistan and Russian issues. To protect TAPI, an estimated 15,000 to 18,000 security personnel will be needed (Munir et al., 2013). Construction on the TAPI pipeline was to begin in December 2015 and is expected to be completed in December 2019. But it has not been started yet.

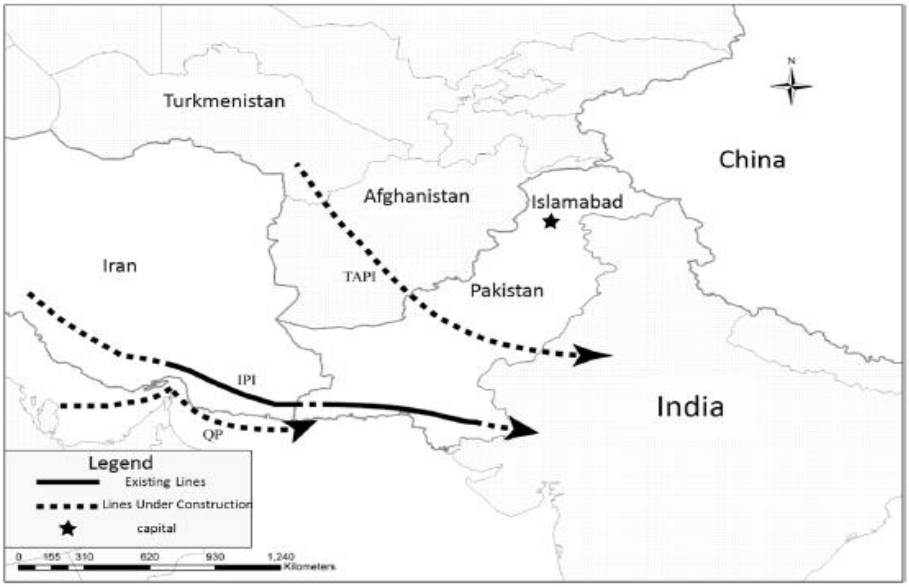

Figure 4: Pakistan's Plan to develop 3 strategic corridors (Source: Guo et al., 2019)

It would have a diameter of 56 inches and a length of 1814 kilometers, and when fully operational, it will transport 33 billion cubic meters each year, with India receiving roughly 15 billion cubic meters (PetroMin Pipeliner, 2011); (ADB, 2012); (Nathan et al., 2013). It was supposed to meet one-sixth of India's gas demand and 60% of its gas imports by 2020. (IEA, 2013). The Iran–Pakistan (IP) pipeline (Originally Iran-Pakistan-India Pipeline) is approximately 2700 kilometers long. Iran will export 2.8 million tons of liquefied natural gas (LNG) a year until the project is completed. The pipeline's Iran section was finished in 2013, but work on the Pakistan section is yet to begin. Divergent priorities exist among the countries involved in the gas pipeline project. India's economic goals are at odds with Iran's and Pakistan's diplomatic, economic, and strategic goals (Verma, 2007). Meanwhile, the Iranian nuclear crisis has come to a halt due to sanctions levied by Western countries. The pipeline has been resurrected as a result of Pakistan's economic development, rising energy demand, and improved ties between the two countries.

A viable IP gas pipeline project, it is proposed, would necessitate clear government funding from all participating countries. However, the fate of the Iran pipeline remained in limbo but now with China's entry in Iran's energy arena the Project will see light. There are also disagreements on gas prices which need resolution.

To meet domestic energy demand, Pakistan currently relies primarily on shipping to import LNG from Qatar, Yemen, and other nations, as well as crude oil from the United Arab Emirates and Saudi Arabia. In 1991, the Qatar–Pakistan (QP) pipeline was proposed. Qatar has the fourth-largest gas reserves and LNG export capability in the world. After some rounds of consultation, the two sides decided that this plan would not succeed, and Qatar was not involved. The interstate rivalry may be sparked by a Qatar gas pipeline to Pakistan that passes through Iranian waters or passes through Iran on land. As a result, rather than building a pipeline, importing LNG from Qatar is a better choice (Munir et al., 2013).

Pakistan has a severe oil shortage and an unbalanced energy demand system. Pakistan's reliance on oil and natural gas goods is as high as 79 percent, and annual production is expected to increase by 5.7 percent and 7.5 percent, respectively. The government of Pakistan stated in Pakistan's Vision 2030 (Economic and Commercial Counselor's Office, 2014) that by 2030, demand for petroleum and natural gas products in Pakistan will exceed 6.84 billion tons and 162.58 billion tons of oil equivalent, respectively. The production of oil and gas infrastructure, as well as supply security,

have a major effect on Pakistan's social and economic development. However, international considerations have hampered the development of the country's transnational gas pipeline. Pakistan is yet to build a cross-border oil pipeline. However, resolving the underlying issue of energy scarcity remains a challenge. Pakistan also has a long way to go in terms of diversifying its electricity supplies and transportation routes.

2.4. Energy Markets of Russia.

In 2020, total per capita consumption was 5.1 toe. Electricity consumption per capita was around 6 250 kWh. Total energy usage increased fast (2.6 percent per year) between 2015 and 2019, then declined by 5% in 2020, returning to 2018 levels. Gas had the highest proportion of consumption (54%) in 2020, followed by coal (15%), hydro (2%), oil (20%), biomass (1%), and nuclear (8%). Figure-4 shows the energy consumption pattern.

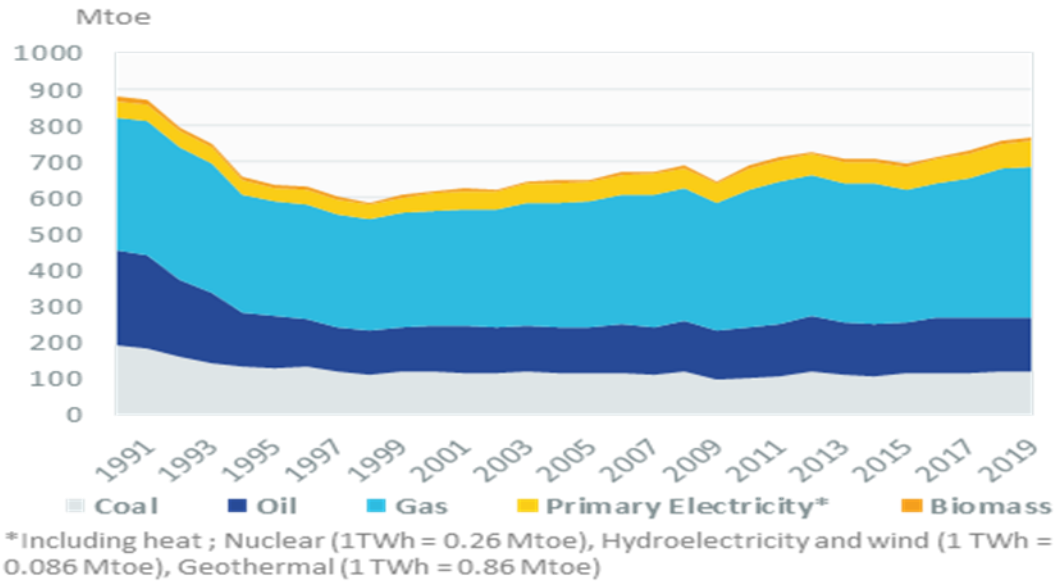

Figure 4: Energy Consumption Patterns By Energy Source (Mtoe)
Source: www.enerdata.net/estore/energy-market/russia/

Since 2004, oil production has increased by 1.4 percent each year, from 456 Mt in 2004 to 561 Mt in 2019. In 2020, production fell to 512 Mt. (-8.6 percent). After the United States and Saudi Arabia, Russia is the world's third-largest crude oil production. With 39 percent of all oil products consumed (44 percent in 2019), transportation is the most oil-consuming sector, followed by industry (32 percent, including non-energy uses), the petrochemical sector, and the residential-tertiary-agriculture sector (13 percent each). Between 2017 and 2019, gas usage increased by 12.8 percent each year, before falling by about 3% to 485 billion cubic meters in 2020. The electrical industry consumes most of the gas (38 percent). Industry accounts for 23% of the total, while household services account for 18%. Between 2014 and 2019, coal and lignite usage increased by 2.8 percent per year, then fell by 10% in 2020, to 205 Mt. Most of the coal and lignite is used in power plants (55 percent in 2020). Total power usage grew modestly (0.9 percent each year) from 2010 and 2019, then fell by 2.5 percent to 906 TWh in 2020.

Industry consumes the most power, accounting for 37% of total consumption (a decrease of 9% since 2000), followed by the residential sector with 19% (20% in 2000) and services with 16%. (Doubling since 2000). Because of the widespread use of public transportation, transportation accounts for 6% of total electricity consumption, a significant share when compared to other countries. Table-4 shows electricity prices in Russia.

Table – 4

	Household, kWh	Business, kWh
Russian Ruble	4.617	6.894
US Dollar	0.062	0.093

Source: www.globalpetrolprices.com/Russia/electricity_prices/

The strategic goal of Russian international energy policy is to improve productivity to fully integrate into the global energy market, strengthen its status, and increase business profitability. By the end of that time, according to Russia's 2009 Energy Strategy through 2030 (ES-2030), Russia will have become the focal point of the joint Eurasian energy system connecting European and Asian energy markets. Turkey and Iran are crucial players in this process.

Turkey is a major transit country and one of the main users of Russian energy products. Iran is seen as a highly attractive future partner in the exploration and processing of hydrocarbons by Russian firms (mainly natural gas).

From 2016 to 2023, Russia's energy policy will include a redoubled effort to extend its transmission infrastructure, linking major gas-producing countries like Iran and Central Asian nations, as well as integrating the Eurasian transport grid to speed up production and transit flows between Europe and Asia. Russia will concentrate on finishing the "South Stream" gas pipeline project in particular.

The following are the two keys to a reliable Russian energy supply to Central and Western Europe:

1) ensuring that Russian energy supplies pass through Ukraine and Belarus without being obstructed; and
2) the defense of Russia's place in the European gas market against competition from other Caspian producers

Turkmenistan, Uzbekistan, Kazakhstan, and Azerbaijan are among the Caspian countries with the ability to become serious competitors for Russian gas exports to Europe. Gazprom has implemented a scheme of gas procurement from Caspian suppliers and eventual resale in international markets as a result of Russia's dual interests over the last decade to block direct European access to Central Asian gas while still maintaining full leverage over gas production. This mechanism was partly destroyed in 2009 due to a drop in gas demand, and while Russia remains the region's largest buyer of gas, the need of Caspian countries to diversify has resulted in a transition in the entire system of foreign oil exchange.

Russia, Iran, and China want to reduce the presence of the United States and the European Union in the area because they see the export of Caspian gas to the West as a challenge to their interests. Turkey, which is sandwiched between Europe, the Caspian region, the Middle East, and Russia, aspires to dominate oil and transportation networks as well as a monopoly on Caspian hydrocarbon transit. The United States strongly supports Turkey. Russia and Turkey will now negotiate the formation and implementation of a strategic alliance in politics, defense, economics, and oil. The Joint Strategic Partnership Group, which is headed by the foreign ministers of the two countries, is the framework for putting this partnership into action.

Coal, gasoline, refined goods, and natural gas are among the Russian energy sources to Turkey (Turkey is third among the major importers of Russian gas). Turkey is not only one of Russia's major energy users, but also a participant in the execution of proposals for energy infrastructure growth to ensure that Russian hydrocarbons are effectively exported to international markets, especially in Europe.

South Stream is scheduled to begin construction in December 2012 and be finished by the end of 2015, with a pipeline capacity of 63 billion cubic meters per year. Gazprom (50 percent), Eni (20 percent), winter shall (15 percent), and EDF are among the project's participants (15 percent). A deal authorizing Russian gas to pass via the Trans-Balkan pipeline was also extended. The deal, in its original form, called for the supply of 6 billion cubic meters of gas to Turkey, and it was set to expire on December 31, 2011. The Turkish firm BOTAS declared in September 2011 that it would not extend the deal, but Russia and Turkey reached an agreement on the pact in December 2011, agreeing to raise Russian gas exports by 2 billion cubic meters in 2012, bringing the total to 28 billion cubic meters at a reduced price. In the field of nuclear technology, Russian-Turkish cooperation has become more fruitful. In the Mediterranean province of Mersin, Russia and Turkey decided to create Turkey's first nuclear power station, "Akkuyu." The project entails the design of four 1.2-gigawatt power units based on the Russian project "NPP-2006" with a water-water power reactor. Turkey's first nuclear power plant would cost $20 billion in all.

Since Iran is Russia's largest trade partner in the Middle East, a huge market for Russian machinery, supplies, trucks, steel, and timber, and a neighboring nation with a variety of significant transit routes, Russian economic relations with Iran are strategic. Interaction with Iran in the oil and gas sector, including the formation of hydrocarbon transportation corridors, will boost Russian foreign policy by bolstering Moscow's role in Central and South Asia and the Middle East, while also adding to these regions' energy stability. Russia and Iran decided in September 2011 to establish a joint Iranian-Russian energy commission, which established and signed the "Road Map for Energy Cooperation." The Road Map allows for the sharing of technological know-how, technologies, and experience in the oil, gas, and petrochemical industries, with an emphasis on areas like oil and gas extraction, hydrocarbon refining, maritime exploration, and oil and gas development. However, due to the US and other countries' sanctions against Iran, Russian companies had to be careful when trading with Iran, especially when trading Russian oil products. (Likhachev, 2012).

2.5. Energy Market of Turkey.

Total consumption per capita in 2020 is estimated to be approximately 1.7 toe (including 3 080 kWh from electricity), compared to around 3.1 toe in the EU. With crude oil production of 4.0 Mt, Turkey barely meets 9% of its entire oil demand (2020). The entire refining capacity of 0.8 mb/d is split amongst six refineries, including two major Tupras refineries in Izmir and Izmit (0.22 mb/d each). Socar completed the STAR refinery (0.2 mb/d) in 2018. Net crude and oil product imports in 2020 were 40 Mt, down around 4 Mt from the 2016-2019 average. Due to the start of operations at the STAR refinery, the percentage of crude in that amount has risen to over 70% in 2019, up from 50% in 2018.

Following a period of strong expansion between 2010 and 2017 (4.5 percent per year), led by the transportation industry, oil consumption has been gradually declining over the previous three years (40 Mt in 2020). The transportation sector's proportion of overall oil consumption grew from 47% in 2010 to about 61 percent in 2020. Similarly, industry, including non-energy uses, utilizes around 26%, and buildings (services and residential) consume almost 10%. Following a significant decline in 2018-2019 (-17 percent) as a result of repeated gas price rises throughout 2018-2019 and lesser

demand for power generation, gas consumption somewhat rebounded to 48 bcm in 2020, led by the power sector.

Gas usage increased at a high rate (9 percent per year) between 2000 and 2014 but began to decline in 2015 and 2016, owing to the power industry. Due to lower demand from power plants, coal and lignite usage fell by 13% to 109 Mt in 2020. This is in stark contrast to recent patterns, which saw coal and lignite usage rise by 8% each year from 2015 to 2019.

The production of electricity consumes 76 percent of overall demand, while industry consumes 16 percent and buildings utilize the rest. Following a period of strong increase (above 5%/year) from 2010 to 2018, electricity consumption has remained steady at 259 TWh (2020). Buildings consume the most energy, accounting for 51 percent (with services accounting for 29 percent and residential for 22 percent), followed by industries accounting for 44 percent.

A graph of Energy Consumption over the years in Turkey has been given in Figure 5.

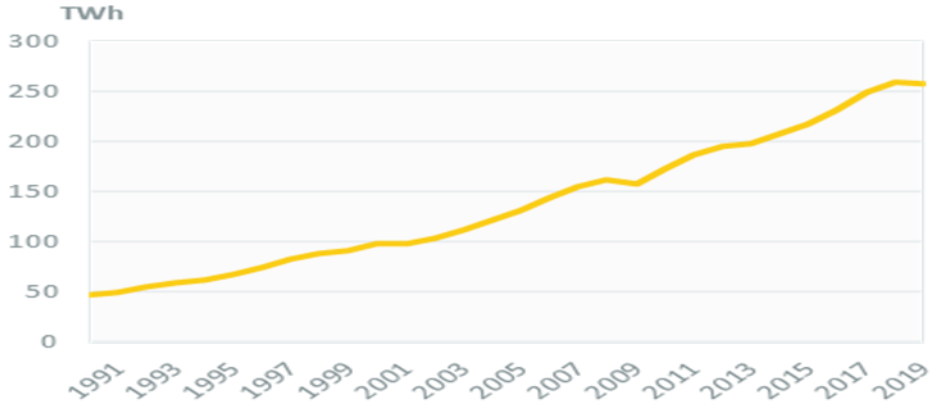

Figure 5: Energy Consumption over the years (TWh)
Source: www.enerdata.net/estore/energy-market/turkey

Similarly, the electricity price in Turkey is given in **Table 4.**

Table-5

	Household, kWh	Business, kWh
Turkish Lira	0.686	0.765
US Dollar	0.079	0.089

Source: www.globalpetrolprices.com/Turkey/electricity_prices/

Turkey is strategically located between 47 percent of world energy supplies from Russia, Central Asia, and the Middle East and 17 percent of global natural gas demand in Europe, making it significant from both a geopolitical and geoeconomics standpoint (BP, 2015); (Bilgin, 2009). As a result, Turkey aspires to serve as the Eurasian Energy Corridor, connecting Eastern supply with Western demand (Cetin et al., 2007). Turkey now has several oil and gas pipelines, and it is gradually becoming an important transshipment center for major oil and gas producing regions around the world, such as Russia, Middle East Asia, and Central Asia, to the EU and other international energy markets. Turkey plays a critical role in ensuring that international energy demand is met.

The Baku–Tbilisi–Ceyhan oil pipeline (BTC), which passes through Turkey, is the main artery for Caspian oil exports and is crucial for oil deliveries from Azerbaijan, Turkmenistan, and Kazakhstan. The pipeline diversifies global oil supply and, to some

extent, protects against supply disruptions elsewhere (Novosti, 2005). Although some have hailed the pipeline as reducing the United States and other Western nations' reliance on Middle Eastern oil, it only met 1% of global demand during its first phase (Skarbo et al., 2008); (Farid et al., 2009).

The Kirkuk–Ceyhan oil pipeline, also known as the Iraq–Turkey crude pipeline, is a pipeline that runs across Iraq and Turkey. Iraq became Turkey's main oil provider because of this pipeline, which also provided a crucial alternate path for the country's oil exports. Following the Gulf War of 1991, it was one of the two major paths for the export of Iraqi oil under the Oil-for-Food Program. This complied with the UN directive that at least half of all oil exports would travel through Turkey. At one time, it was also the Middle East's biggest pipeline system (Bowlus et al., 2017). Militants are said to have struck or sabotaged the pipeline 20 times between 2003 and 2008, seriously restricting their export capability (IAGS., 2008). Since the so-called Islamic State took over vast swaths of northern Iraq in 2014, the pipeline was targeted and destroyed once more, blocking the pipeline on the Iraq side of the border (U.S. EIA, 2016).

Two major corridors transport natural gas to Europe through Turkey, the North-South corridor and the East-West corridor. The Blue Stream pipeline from Russia to Turkey and the TEA pipeline are part of the North-South corridor while the Baku–Tbilisi–Erzurum (BTE) and Turkey–Greece interconnector (ITG) are part of the East-West corridor. Since 2003, the Blue Stream pipeline has been transporting Russian gas to Turkey. It was supposed to achieve a maximum capacity of 16 billion cubic meters of gas in 2010, but it never did (Barysch, 2007). When the flow of Russian gas to Ukraine was stopped in January 2009, the Turkish government was able to compensate for the lack of supply by raising the capacity of the Blue Stream pipeline (Meltem et al., 2011).

The BTE pipeline is the first segment of the Trans-Caspian Natural Gas Project, which will transport natural gas from Turkmenistan, Kazakhstan, and Azerbaijan to Europe via Turkish territory. It's close to the BTC oil pipeline, which transports oil from Azerbaijan's Gunash oil field to Ceyhan, Turkey's Mediterranean port, and has become an important part of Turkey's position as an energy hub. Similarly, the BTE natural gas pipeline is critical for shifting Turkey's role in European energy stability (Meltem et al., 2011). In 2004, the ITG pipeline was authorized, and the first delivery was made in 2007. It plays a critical strategic role in transporting gas to Europe from Azerbaijan, Iran, Iraq, and other countries. The first shipment of Azerbaijani natural gas to Europe was shipped via this pipeline (Austvik et al., 2017). There are proposals to expand the project to Italy, but no concrete plans have been made yet (Ozan et al., 2015).

Turkey is currently neither an oil and gas corridor nor a center, but it can become one (Ozan et al., 2015). Turkey has every incentive to construct new pipelines. The country's natural gas supply is largely reliant on Russia, and it needs an alternative. In the meantime, Turkey has played a crucial role in energy transport to the EU. To maintain its hub position, all energy sources and export markets must be diversified.

3. THE GOLDEN RING ENERGY CORRIDOR.

3.1. Golden Ring of Security:

The Road Map allows for the sharing of technological know-how, technologies, and experience in the oil, gas, and petrochemical industries, with an emphasis on areas like oil and gas extraction, hydrocarbon refining, maritime exploration, and oil and gas well development, to build on each country's knowledge in these areas. However, due to the US and other countries' sanctions against Iran, Russian companies had to be careful when trading with Iran, especially when trading Russian oil products. (Salik et al., 2018)

New global integrated power blocs are challenging US domination in the Eurasian region. "Weaker states tend to mobilize against stronger opponents because the latter can instinctively take hold of something through coercion when capturing the essence of bandwagoning," according to the reasoning. Consequently, joining the bandwagon is seen to prevent an aggressor state from disrupting the power balance. In this respect, China and Russia have started to apply the balance of power theory, with more and more alliances in the field.

Furthermore, in the contest between the East and the West, some countries' natural gravitation towards the Eastern bloc is a source of concern in Iran, Turkey, and Pakistan, resulting in a complex "Golden Ring of Security. "China, Iran, Pakistan, Russia and Turkey are among the countries that make up the 'Golden Ring of Security. They are also part of China's BRI.

Figure 6: Belt and Road initiative with 6 corridors (Source: Geopolitical Intelligence Services)

3.2. Importance of 'Golden Ring of Security' Energy Corridor.

The Golden Ring of Security encircled the various and intertwined power alliances with newly emerging security arrangements (Koryobkov, 2018). In turn, the new security agreement establishes an increasing bilateral strategic relationship between China and Russia as "waxing forces" in opposition to the United States as a "waning force." Beijing, Russia, and Pakistan established multi-polar trilateral relations in 2016 as a response to the United States' inability to combat terrorism in Afghanistan.

Iran, Russia, and Turkey established a multilateral partnership of Mideast major powers in late 2016, which later formalized into several bilateral alliances in 2018. Furthermore, these alliances have included the world's most troubled spot, Afghanistan, as well as energy-rich areas of Central Asian states, Eurasia's heartland, and to a lesser extent, the Middle East. Moreover, these two transnational institutions that occupy the most important place in security alliances are Economic Cooperation Organization (ECO) and Shanghai Cooperation Organization (SCO).

Pakistan, on the other hand, will serve as a link between them as the 'Zipper of Eurasia' (Report of Russian Strategic Institute, 2015) concept, thanks to the Chinese-built infrastructure of the China-Pakistan Economic Corridor (CPEC), which is part of the Belt and Road Initiative (BRI). This term applies to the extensions of the CPEC as well as the New Eurasian Land Transport Initiative (NELTI) and Central Asia Regional Economic Cooperation (CAREC). Kashgar, the Xinjiang border port in Western China, is also the domestic entry port for the China–Pakistan economic corridor's oil and gas pipelines. Pipelines for oil and gas were built by the Central Asian countries and China

to access Xinjiang through Khorgos and travel through Kashgar. Along with other oil pipelines in China, these lines make up a massive energy transmission network in Western China. They lay the groundwork for China's energy imports from the sea and land to be integrated.

The China–Pakistan oil and gas pipeline passes through Gwadar Port in Pakistan. It is about 400 kilometers from the Strait of Hormuz and is a deep-water port capable of berthing oil tankers weighing 80–100,000 tons. The overland route for Middle Eastern oil into China's Xinjiang area will be 85 percent faster and less expensive than the Malacca Strait route. The Iranian portion of the Pakistan-Iran peace pipeline has been finished. Oil and gas resources from Iran to China can be transported by land via Gwadar Port; on the other hand, they can be transported to the Iran–Pakistan border through Iranian domestic oil and gas pipelines, and then to China via Pakistan's domestic oil and gas pipelines. As a result, pipeline transportation is the primary mode of oil and gas transportation, with railway and water transportation as backups.

Turkey has a built gas and oil pipeline network that connects it to Central Asia, Russia, and the Middle East's main energy-producing regions. Turkey will play a key role in transporting oil and gas supplies from other regions to China and Pakistan through cross-border energy pipelines.

Pakistan, Russia, and China are the top energy importers and consumers, respectively; Iran is the top energy producer, and Turkey is the top energy transit region. Iran, a major energy-producing city in the Middle East, is part of the corridor. At the same time, it is linked to the major oil-producing regions in Central Asia, Russia, and the Middle East through a cross-border energy pipeline connecting China, Pakistan, Turkey, and Iran.

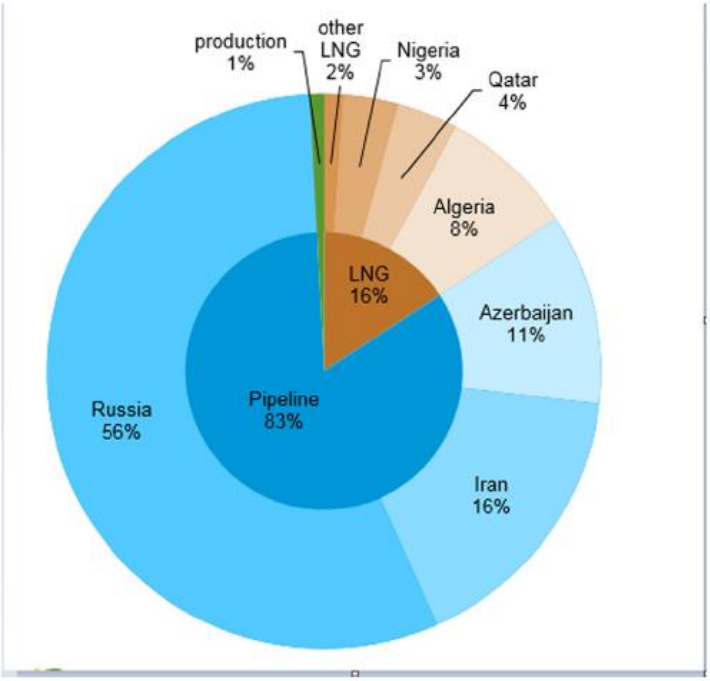

Figure 7: Description of the gas supply of Turkey in 2015.

Reference: The United States Energy Information Administration, 2016.

On one hand, the corridor caters to a diverse demand for energy imports in energy-importing countries while also changing the global energy strategic trend. But on the other hand, energy transportation networks are complex. In addition to traditional shipping, energy transportation to Pakistan and China can be combined by sea and

land transportation, rail, and pipeline. Finally, it would assist oil exporters and transit countries in diversifying their petroleum export markets and meeting their diversification goals. Turkish and Iranian energy can be transported to markets in South Asia, Southeast Asia, and East Asia, as well as Iranian energy to Europe via Turkey.

4. SWOT ANALYSIS OF GOLDEN RING ENERGY CORRIDOR.

The SWOT analysis will help to recognize the strengths, weaknesses, threats, and opportunities of the Golden Ring Energy Corridor using literature review and available statistics.

4.1. The Strengths

4.1.1. Same Goals and Objectives:

At the inauguration of the Chinese Belt and Road initiative, the Chinese Vice Premier Zhang Gaoli revealed 6 different economic corridors. (Fulton, 2016).

- The China-Mongolia-Russia Economic Corridor
- The New Eurasian Land Bridge Economic Corridor
- The China-Central and West Asia Economic Corridor
- The China-Indochina Peninsula Economic Corridor
- The China-Pakistan Economic Corridor (CPEC)
- The China-Myanmar-Bangladesh-India Economic Corridor

As previously mentioned, the Belt and Road Initiative (BRI) prioritizes the interconnection of energy, transportation, and telecommunications networks. The China-Pakistan Economic Corridor is a network of highways, bridges, gas and oil pipelines, and fiber optic cable networks. CPEC is a key component of China's Belt and Road Initiative (BRI). Iran, on the other hand, is a major supporter of China's Belt and Road Initiative (BRI), with strong momentum in the "five links" of politics, trade, banking, infrastructure, and public opinion (Wang, 2016).

China and Turkey also signed a memorandum of understanding on the development of the Belt and Road Initiative (BRI) on November 15, 2015. With the existing routes under the Belt and Road initiative as defined in figure 6, it is such a great opportunity for the Golden Ring of Security countries to make use of these developing and existing energy and transportation infrastructure of BRI to achieve common goals, and objectives.

4.1.2. Rich in Energy Resources.

The Countries involved in Golden Ring of Energy Security are rich in energy resources. All the member countries have an abundance of natural resources as well as they enjoy their important geographical location.

Iran serves as a link between the oil and gas sector of the Middle East and Central Asia. It has a large amount of oil and gas reserves. It is the world's second-largest oil producer and the world's largest gas exporter. Iran controls the Hormuz Strait, which is a significant route for oil and gas imports into the Asia-Pacific region. Every day, hundreds of oil tankers travel through it on their way out of the Middle East by sea. In the Middle East, the Hormuz Strait is known as the "absolute value of the oil depot." Turkey, as the world's energy center, has a vast network of oil and gas pipelines linking Russia, Central Asia, the Caspian Rim, the Middle East, and other major oil and gas producing regions.

Pakistan has the advantage of an important geo-strategic location which helps as a bridge for this corridor.

The oil and gas deposits of the Middle East, Central Asia, the Caspian Sea Rim, and Russia, which are the world's largest oil and gas production regions, can be exported to other countries along the CPIT strategic corridor via the cross-border energy corridor of the countries along the corridor.

4.1.3. Edge of Geo-Strategic Location.

The Golden Ring energy corridor will aid in the construction of an international economic corridor connecting China with South Asia, West Asia, Europe, and Africa, as well as the opening of the New Silk Road's international strategic corridor. Pakistan is a ‘‘crossroads of energy passages" in terms of geography, since it is bordered on the west by the Middle East, on the north by Central Asia, and on the east by India and China. Several important sea routes connect Africa and Europe with the Asia-Pacific region, all of which pass through Pakistan's south coast. Iran is situated in the Middle East's "heart pocket," the most convenient route for linking Eurasian maritime traffic and the connecting point between the Middle East and Central Asia oil and gas regions. The managed Hormuz Strait is a vital passage for oil and gas imports and a major transportation center in the Asia-Pacific region. Since Turkey is situated in the heart of Eurasia, it has a unique geographical and strategic location. It serves as a ground, sea, and air transportation hub in the Middle East, as well as a vital stop on the ancient Silk Road.

Similarly, Pakistan has a strategic geographic position, running parallel to the Middle East to the west, and central Asia to the north, with India to the east and China to the north. Since Pakistan's Southern Coast is home to some of the world's most significant sea routes, which connect Europe and Africa through the Hormuz Strait, the Red Sea, and the Gulf of Persia, Arabian Sea and Indian Ocean, as well as the Asia-Pacific region, the country is referred to as an "oil corridor crossroads." (Mirza, 2018).

4.1.4. Ability to Complement Each Other’s Energy Needs.

China is both the biggest electricity producer and net importer in the world. In 2017, it imported 92 billion cubic meters of natural gas, raising its external dependency to 39%. Similarly, Oil dependency has increased to 68 percent, and net oil imports have increased to 453.8 million tons, raising demand for international resources (BP, 2018). Pakistan's own energy supply has been limited for years, and the country hopes to alleviate the problem by importing oil and gas through pipelines from the Gulf, West Asia, and Central Asia. However, constructing energy corridors to satisfy domestic demand on its own puts Pakistan under strain, so it must pursue foreign collaboration in the energy field. (Economic and Commercial Counselor’s Office, 2014). Iran's economy is heavily reliant on foreign nations. Iran's economy is characterized by the export of crude oil and the import of manufactured products. Iran's economy has been seriously harmed by the United States' oil and financial sanctions, which have been in place since 2003. Iran is now attempting to grow its economy by increasing its energy exports (Hou, 2016). In 2015, imports accounted for 89 percent of Turkey's oil consumption and 98 percent of its natural gas consumption (BP, 2016). Turkey's favorable geographic location prompted it to work on establishing an East-West energy center. It necessitates a reliable energy supply and export demand.

4.2. THE WEAKNESSES.

4.2.1. Poor Infrastructure.

The overall infrastructure in many of the Golden Ring countries needs to be revamped, as shown in table-6.

Table-6

Infrastructure Type	Indicators	Pakistan (2014)	Turkey (2013)	Iran (2014)	China (2015)
Highway	Total Mileage The density of Road Network Total expressway mileage	264,000 km 0.32 km/km^2 710 km	389,000 km 0.49 km/ km^2 2127 km	200,000 km 0.15 km/ km^2 1957 km	4.577 million km 0.48 km/ km^2 123,500 km
Railway	Total Mileage The density of Railway Network Technical grade	7791 km 0.98 km/100 km^2 Double-track rate: 15% Electrification rate: 3.8%	9718 km 1.24 km/100 km^2 Double-track rate: 10% Electrification rate: 25%	13,000 km 0.79 km/100 km^2 Double-track rate: 7% Electrification rate: 2%	121,000 km 1.26 km/100 km^2 Double-track rate: 52.9% Electrification rate: 60.8%

Table 6: Current state of transportation infrastructure in Turkey, Iran Pakistan, and China.

Source: People's Republic of China Ministry of Transport and Ministry of Commerce websites; Regulations for Countries (Regions) of International Trade Cooperation (Iran 2015); Guidelines for Countries (Regions) of Overseas Investment Cooperation (Turkey, 2015).

In Pakistan and Iran, the density of highway and railway networks is comparatively low. Around the same time, the current railway system is being upgraded. The electrification and double-track rates are insufficient. Most of the tracks are single-track railways that have not been electrified, which has a significant impact on transportation quality. Turkish railways are lagging in terms of growth. Turkey's overall railway length is currently less than 10,000 kilometers, indicating that there is already much need for improvement in terms of being an East-West transport hub. As a result, all countries in the corridor would focus on developing and upgrading their transportation infrastructure systems.

4.2.2. Poor Regulatory Policies for Cross-Border Power Trade.

Regulatory policies play a significant role in international electricity and energy exchange. For regional coordination and commerce, national regulators must harmonize and align their regulatory activities. For streamlined and reliable transmission system operations, technical issues such as specifications, regulations, and procedures concerning transmission access, pricing templates, congestion management, operating codes and protocols for system service, energy accounting, and payment structure, and transmission protocols must be increasingly "Regionalized." (Mirza, 2018).

In most Asian countries, capacity shortages, high transmission and distribution (T&D) losses, ineffective pricing structures, expensive and futile subsidies, electricity theft, governance issues, circular debts, and an ineffective mix of generating resources are still present (Kessides, 2013), (Malik, 2012), (Malik et al., 2009) and (Munir & Khalid, 2012).

4.2.3. Market Barriers.

Power trading, including other goods and services, is hampered by export, import, and transit duties/taxes. The introduction of international arrangements and mechanisms for free trade is required to increase regional power trade. Similarly, policy flaws in the domestic sector include the fiscal strain of price discounts, poor tax collection rates, and other issues.

4.3. OPPORTUNITIES.

4.3.1. Use of Barter Trade for Increasing Cooperation.

As mentioned in the earlier section, that the Golden Ring countries can complement each other energy needs. Therefore, it is a great opportunity for them to deal with each other in the Barter trade. Therefore, if one country needs to trade with another country within the Golden Ring region, this trade can take place in the pro-rata energy resources, depending on the Energy needs of one another.

4.3.2. Defining and Achieving National Energy Strategic Objectives.

China's energy demand is currently growing. Seeking international energy cooperation, building new energy transport networks, and expanding energy import areas are all new considerations for China's energy strategic stability (Chen, 2009); (Lang et al., 2012). On the one side, China will diversify its energy supplies by building the CPIT strategic energy corridor. It can import oil and natural gas from Caspian Sea countries including Azerbaijan and Georgia through Turkey, which serves as an energy transport hub. It will, on the other hand, diversify its energy transport routes and create several corridors:

Land accessibility exists within Pakistan-Iran-China- Russia, and Turkey where they can have the opportunity to trade with one another. Especially, China, with its growing needs, can import through the Energy hub Turkey, via Azerbaijan and Georgia. Similarly, the sea route is accessible via the Hormuz Strait and Pakistan-Gwadar port-China.

It is a golden opportunity for Pakistan also to fulfill its energy needs, especially for oil and gas. Similarly, Iran can export to other countries within the Golden Ring region and Turkey can also meet their energy needs.

4.3.3. Opportunity to Re-start the Unfinished/Stalled Energy Projects as Part of Golden Ring Energy Corridor.

As discussed in the previous sections, that some of the energy projects were remained stalled due to political instability especially in the Middle East, terrorism, and political tensions between the Governments. Some of these projects include the Iran-Iraq-Syria gas pipeline, the Tabriz-Erzurum-Ankara pipeline, and the Turkmenistan-Afghanistan-Pakistan-India (TAPI) pipeline.

Therefore, it is a great opportunity for the Golden Ring countries to re-utilize these halted projects and re-structure them as part of the Golden Ring Energy Corridor. For example, the TAPI gas pipeline can be re-utilized as the Turkmenistan-Afghanistan-Pakistan-China (TAPC) pipeline, which will help to serve the need of China’s energy and strengthen the cooperation between the Golden Ring Countries as well.

Similarly, by making better policies and increasing cooperation among the Golden Ring Countries, the security of Tabriz-Erzurum-Ankara can be enhanced, and hence the trade through this pipeline can be reinstituted.

4.4. THREATS.

4.4.1. Arab-Israel Pact.

The Arab-Israel pact may turn out to be a blockade in the implementation of the Golden Ring Energy Corridor as it will not only amputate the interest of Middle Eastern countries to trade with Golden Ring countries, but it may also result in blocking the trade route through the Middle Eastern countries due to conflict in their trade interests.

4.4.2. Political Situation in the Golden Ring Region is Uncertain.

One of the challenges in implementing this Energy Corridor is the uncertain political situation in the region. As mentioned above, that the US has put sanctions on Iran, hence hindering them to do any sort of trade. Similarly, there is a challenge of trusting each other in the region as Pakistan and Russia relations had not been very pleasant in the past.

Similarly, internal conflicts, the absence of a platform to do cross-border power trade, and delays in the implementation of projects add to the vows for such regional collaboration.

5. RECOMMENDATIONS.

In the light of above stated this paper suggests the following recommendations for the implementation of the Golden Ring Energy Corridor.

5.1. Building a Strong Policy for Cooperation, Improving Design and Infrastructure, and Defining Costs for Cross-Border Transmission.

If the countries in the proposed Golden Ring Energy Corridor, need a successful implementation of the Golden Ring Energy Corridor, then there is a dire need to develop a strong Macro-policy and effective communication, which can smoothen the cross-border power trade and increase cooperation among these countries. If that happens, then the design at the higher hierarchy can be improved and the energy and transportation infrastructures can be reinforced.

Countries in the GREF should improve government-to-government coordination and communication, actively build a multilevel inter-governmental macro-policy communication and exchange mechanism, fully exchange and dock development strategies and countermeasures for the construction of an energy corridor, jointly formulate plans and measures for promoting regional cooperation, and seize key nodes and projects. To accomplish international transport facilitation, the four nations must work together to develop a single transport coordination system, enhance international customs clearing, transshipment, and multimodal transport organic links.

5.2. System of Regional Cooperation and Security.

Due to political instability in the region of the proposed Golden Ring Energy Corridor, there is always a peril for security which can sabotage such cooperation in the longer run. Therefore, if there is a system of cooperation like the Shanghai Cooperation Organization (SHO) for security and economic alliance, it will protect the interest of all the member countries of the proposed Golden Ring Energy Corridor.

5.3. Stick to the Standards and Formalize International Energy Strategic Partnerships.

After defining standards and formalizing international energy strategic partnership, all the member countries of the proposed Golden Ring Energy Corridor must stick to these standards and safeguard the common interest of all the member countries.

6. CONCLUSION.

This paper started with the countries profile of China, Pakistan, Iran, Turkey, and Russia and discussed the energy potential and needs of these countries. Later, an Energy Corridor for Cooperation and trade among these countries was proposed too, which would make these countries self-sufficient and hence these countries would meet their energy demands without compromising on their national interests, which is the usual scenario otherwise. Then, the importance and advantages of such a corridor were also discussed and, in the end, a SWOT analysis was presented which projected the strengths, weaknesses, opportunities, and threats for such a corridor. Due to the changing political environment in Asia, like the Arab-Israel pact and some Asian countries showing their inclination towards the West, it will be a great opportunity for the member countries of the proposed Golden Ring Energy Corridor to use systems like Barter trade to make full use of the resources each country has to offer and to fulfill their needs, without depending on those countries which may, in turn, ask them to compromise the national interest of these countries. However, this can be achieved through formalizing a strategic policy, increasing cooperation, making principles, and sticking to them, through effective dialogues and by respecting and safeguarding the common interests of each member state.

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