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China–Myanmar Energy Cooperation and Its Regional Implications

ZHAO Hong

Abstract: Although Myanmar is among the world's oldest oil-producing countries, Chinese oil and gas companies did not start their oil and gas exploration projects there until recently. The most recent and significant China–Myanmar energy cooperation project is the oil and gas pipelines which got started in 2009. This paper will discuss the reasons and driving forces for this pipeline project and its broader objectives, and testify whether pipelines can deepen regional economic integration and strengthen bilateral relations. This paper concludes by saying that China might use the China–Myanmar pipeline construction as an opportunity to play a more constructive role in Myanmar's domestic reforms, thus improving its image in Southeast Asia and strengthening its relations with Myanmar.

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Keywords: China, Myanmar, economy, energy cooperation, pipeline projects

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1 Introduction

China's rapid economic growth has led to a huge increase in its domestic energy needs. Its oil demand grew from 2.3 million barrels per day (mb/d) in 1990 to 8.1 mb/d in 2009 (IEA 2010). China's economic boom and its stagnating domestic oil production led Chinese NOCs (national oil companies) to quest energy resources overseas in the early 1990s. Although China's "going out" strategy for oil and gas has made some achievements in the past years, China's overseas projects have been facing potential constrains and rising costs. This is mainly because of a higher oil dependence on some politically unstable African and Middle East countries. This has impelled China to diversify its sources of imported energy resources, and place a higher priority on getting oil and natural gas from as closer to home as possible, and Southeast Asia has thus become an important player (see Zhao 2012: 112-131). The most recent and significant energy cooperation project is the China–Myanmar energy oil and gas pipelines which got started in 2009. In addition to ensuring energy security, a broader objective of this pipeline project is to make it as a catalyst for economic development and strengthen China–Myanmar bilateral relations by deepening regional economic integration.

It is still debatable that whether pipelines can promote regional economic integration and strengthen bilateral relations, especially when the supply country is facing dynamic political and economic changes. Paul Stevens believes that cross-border pipelines can generate conflicts and local resentments, as parties with different interests and motivations are involved, and land use can not be compensated properly. "This invites disagreement because of the benefits to be shared and mechanisms exist to encourage both parties to seek a greater share" (Stevens 2010). While Saleem H. Ali believes that due to the permanence of their infrastructures in strengthening interstate relation, pipelines are likely to have a more lasting impact and create greater incentives for cooperation over time (Ali 2010). For the supply countries, pipelines can provide much-needed employment and revenue, in the process quelling some of the domestic resentment that fuels extremism. More importantly, Saleem H. Ali also believes that related countries can utilize pipeline construction project as both an engine of cooperation and a toll of diplomacy. Pipelines open up regions for development and have spillover effects into downstream industries such as factories, chemical and fertilizer facilities, and refineries that have incentives to locate themselves close to sources natural gas supply. "Rather than being a source of conflict, energy has the capacity to become an integrative force, creating a large sense of shared interests and stakes in cooperation" (Sovacool 2009).

This paper mainly uses official figures released by Chinese and Myanmar governments, and focuses on field-work findings and interviews in Yunnan and Myanmar. It will discuss the reasons and driving forces for China–Myanmar pipeline project and its broader objectives, and testify whether pipelines can strengthen bilateral relations or not. This paper will discuss what impacts this pipeline project will create on both countries' energy security, and what impacts it will create for energy cooperation and competition in this region. It will then analyze what risks and challenges China has been facing in building this pipeline project, and what implications for China–India energy competition in Myanmar. Finally the article concludes by saying that China can use the China–Myanmar pipeline construction as an opportunity to play a more constructive role in Myanmar's domestic reforms, thus strengthening its relations with Myanmar.

2 China–Myanmar Oil and Gas Pipelines Project

Although Myanmar is a natural resources rich country, from a global perspective, it does not have particularly notable hydrocarbon reserves. It has proven reserves of natural gas of 300 bcm by 2010, accounting for only 0.2 per cent of the total world gas reserves (*BP Statistical Review of World Energy* 2011), and the country is a net importer of oil because of the lack of its oil-refinery facilities. However, from a regional perspective Myanmar's gas reserves and strategic position are significant in terms of energy security and regional cooperation. For China, Myanmar is geopolitically significant given its access to the Indian Ocean and the Andaman Sea, especially at a time when China's long-standing ally, Pakistan, has been struggling to contain Islamic extremism and domestic political unrest, and India, China's potential competitor, is working hard to push forward its "eastward expansion".

Before the State Law and Order Restoration Council (SLORC) took power in September 1988, all Myanmar governments had prohibited foreign participation in oil and gas exploration and production. In 1988, the SLORC opened up the opportunity for foreign companies to explore for oil and gas, and its gas production increased from 3.4 bcm to 12.1 bcm in 2010 (*BP Statistical Review of World Energy* 2011). Myanmar's current contribution to the region's gas supply is relatively modest. Its total gas exports of 9.9 bcm in 2007 were less than a third of either Indonesia (33.1 bct) or Malaysia (31.6 bcm). These natural gas exports are currently produced from the offshore Yadana and Yetagun fields in the Gulf of Martaban. Additional production in the Bay of Bengal, including from the prospective Shwe fields, is set to come on stream soon.

Although Myanmar is among the world's oldest oil-producing countries, Chinese oil and gas companies did not start their oil and gas exploration projects there until recently. Though Myanmar is not a major energy supplier to China, Chinese NOCs and government have demonstrated increasing interest in this country's energy resources in recent years. China National Petroleum Corporation (CNPC), Sinopec and China National Offshore Oil Corporation (CNOOC) have all started oil exploration projects there, and competed with other countries including India and South Korea to secure access to new gas fields and potential reserves of gas off the west coast.[1] In November 2008, CNPC and the Ministry of Energy Myanmar signed an agreement to build a USD 2.3 billion crude oil pipeline and USD 2 billion natural gas pipeline, and the construction started in October 2009.

This on-going China–Myanmar pipeline project comprises multiple separate projects, each with distinct contracts ownership structures. The major components are a deep-water natural gas development project and onshore gas terminal; an onshore natural gas transport pipeline and an onshore oil transport pipeline from western Myanmar to China.

2.1 Shwe Natural Gas Fields

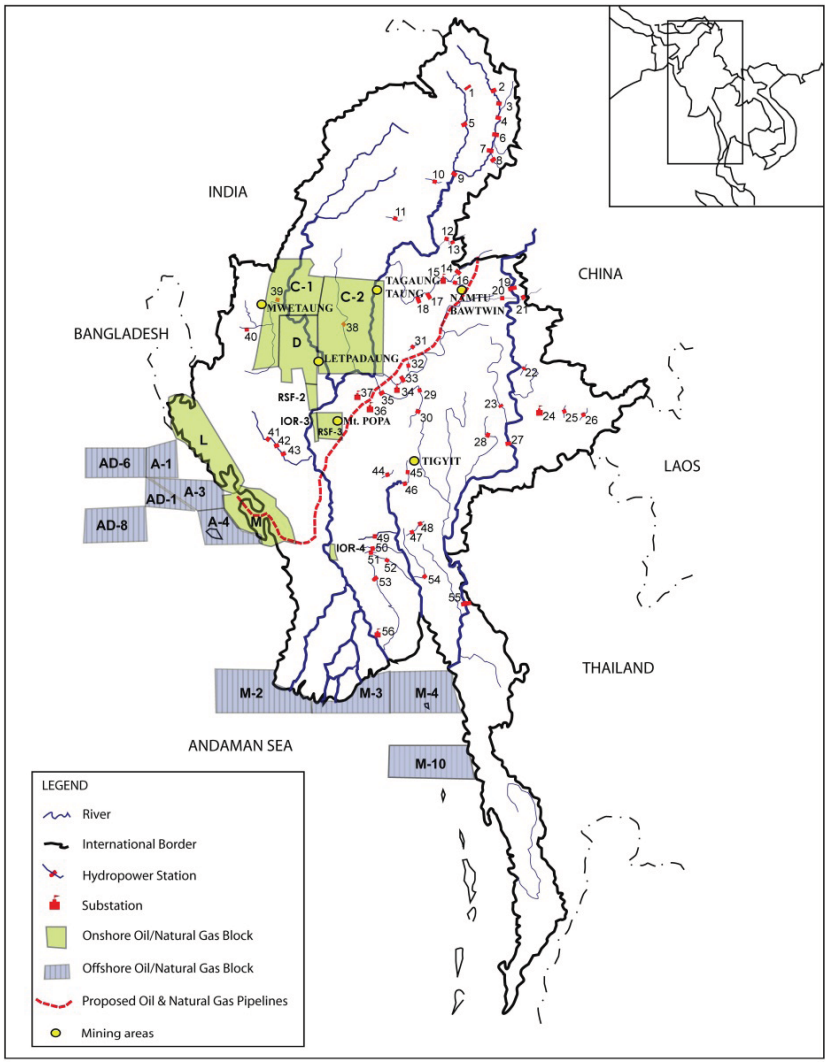
The Shwe natural gas fields consist of three independent gas discoveries, the Shwe, Shwe Phyu, and Mya fields (referred to collectively as the "Shwe fields"). The Shwe fields are in blocks A-1 and A-3 off of Myanmar's Arakan coast (see Figure 1). Daewoo is the majority owner and operator of both of these blocks. Daewoo has brought in a number of minority partners for the gas fields.[2] The consortium will also operate an offshore pipeline through the Shwe Offshore Pipeline Joint Venture Company. The consortium signed a USD billion contract with South Korea's Hyundai Heavy Industries for the construction of the 80 km/110 km subsea pipeline, as well as much of the offshore natural gas production facilities (Hyundai Heavy Industries Co. 2010). The pipeline is scheduled for completion by March 2013. The former Myanmar military government received numerous offers to purchase gas from the Shwe fields, but finally awarded purchasing rights

1 As illustrated on the map (Figure 1), CNPC had acquired three onshore blocks (L, M, and IOR-4) and three offshore blocks (AD-1, AD-6, and AD-8); CNOOC had acquired four offshore blocks (M-2, M-3, M-4, and M-10) and one onshore block (C-2); and Sinopec had acquired one onshore block (D).

2 The current ownership structure is: Daewoo International (Korea): 51 per cent, ONGC Videsh Ltd. (India): 17 per cent, MOGE (Myanmar): 15 per cent, GAIL (India): 9 per cent, and KOGS (Korea): 8 per cent.

to China in June 2008 in an agreement to export 6.5 tcf (trillion cubic feet) of natural gas to China over 30 years.

Figure 1: Oil and Gas Projects in Myanmar with Chinese Involvement



Source: *Earthrights International* 2008: 12.

2.2 Onshore Shwe Gas Pipeline

The overland Shwe gas pipeline begins at the offshore pipeline natural gas terminal and will extend 793 km running from Kyaukphu to Muse in Myanmar before entering China at the border city of Ruili in Yunnan Province (CNPC 2010). This onshore gas pipeline is scheduled for completion in March 2013 at a cost of approximately USD 1.04 billion. South-East Asia Pipeline Company Limited (SEAP), a Hong Kong-registered entity created by CNPC, and the Shwe Consortium members are in charge of constructing and operating this onshore pipeline.[3]

2.3 Onshore Crude Oil Pipeline

For almost the entire distance across Myanmar, a crude oil pipeline will run parallel to the gas pipeline. The crude oil pipeline will be 771 kilometres and will stretch its way into Yunnan and eventually to Chongqing in China. China's CNPC is building the pipeline, which will transport oil from the Middle East and Africa to southwestern China. The project also involves construction of a new deep-water crude unloading port and oil storage facilities on Myanmar's Maday Island (*Xinhua Economic News* 2009). CNPC controls a 50.9 per cent stake in the oil pipeline through its wholly owned subsidiary South-East Asia Pipeline Company Limited (SEAP). Myanmar's state-owned Myanmar Oil and Gas Enterprise (MOGE) controls the remaining 49.1 per cent (CNPC 2009). SEACOP will be responsible for the construction and operation of the pipeline, while Myanmar's government will provide security for the pipeline.

3 Significance for Regional Energy Cooperation: A Catalyst for China–ASEAN Energy Cooperation?

China's continuous economic growth has fuelled a rapid rise in crude oil demand. In 2010, China imported over 239 million tons of crude oil. In the past years, China's oil quest expansion abroad has been part of Beijing's broader strategy of investing widely to diversify its sources of imported energy resources. Based on this "going out" strategy, "energy-strategic areas" have been formed, including the North African area centred on Sudan, the

3 The Onshore Gas Pipeline Company was formed and registered in Hong Kong. The shares of partners are SEAP: 50.9 per cent, Daewoo: 25.04 per cent, MOGE Myanmar: 7.365 per cent, GAIL and KOGAS: 4.1735 per cent each. ONGC n.y.

Central Asian area centred on Kazakhstan, South American area centred on Venezuela, and the Middle East area centred on Iran (Li 2008).

However, since 2003, frequent crisis have afflicted those countries that were considered China's overseas energy-strategic areas. China's overseas projects have been facing potential constraints and rising costs. The Asia Pacific Energy Research Centre (APERC) in Japan has created an index to compare the relative position of oil supply security in China, Japan, Korea, and the US with respect to four factors (equity oil ratio, self-sufficiency ratio, independence from oil ratio, and political stability of crude oil import sources). The result shows that China's political stability index for crude oil import sources represents the lowest level among these four countries.[4] More over, the vulnerability of Southeast Asia's sea lanes, namely the Strait of Malacca, Sunda and Lombok, and the passage into the South China Sea, give rise to concern as the oil-import dependence of China grows to 55 per cent, well above the critical level based on international standards (*china5e* n.y.). Thus, China's oil insecurity has been increasing because of the relatively high political risks in economies from which China imports crude oil. China, therefore, needs to place a high priority on getting as much future oil and gas as possible from as close to home as possible. Hence, Southeast Asia has become an important player, and the China–Myanmar pipelines are expected to be a catalyst for further China–ASEAN energy cooperation.

For China, this pipeline project will open a fourth route for China's oil and nature gas imports, after ocean shipping via Malacca strait, the Sino–Kazakhstan crude oil and natural gas pipelines, and the Sino–Russian oil pipeline. It is expected to transfer 22 million tons of crude oil annually, accounting for approximately 10 per cent of China's total oil import in 2010. Saudi Arabian Oil Co. has signed a Memorandum of Understanding (MoU) with CNPC to supply crude oil through Myanmar–China pipeline (Arabfinance 2011). For Myanmar, this project will assuage Myanmar's energy shortage as well. According to the contract, Myanmar is entitled to take up 2 million tons of the transported crude oil for domestic consumption. With China's assistance, an oil refinery factory with capacity of 56,000 barrels per day (b/d) is to be constructed in Mandalay. After it is finished, the expected double output of the refineries in Myanmar can meet domestic need of the country (Ministry of Commerce China 2011).

In terms of gas, China's gas cooperation with Myanmar can largely increase its gas output. Myanmar has proven reserves of natural gas of 300 bcm. In 2010, its gas production totalled 12.1 bcm. Export of gas from the

4 In 2008, China's political stability index for crude oil import sources represent the level at 29, while that of Japan, Korea and US represent the levels at 44, 45 and 33 respectively (APERC 2008).

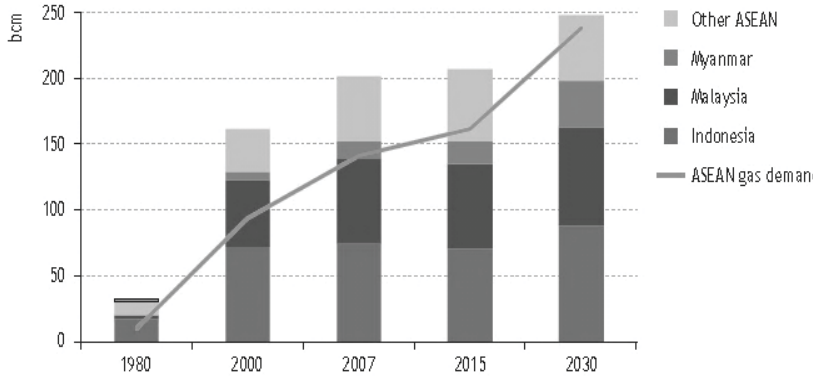
offshore Yadana and Yetagun fields in the Gulf of Martaban have been the main source of Myanmar's foreign earnings. When the China–Myanmar gas pipeline is in operation in 2013, Myanmar will supply 10 billion cubic metres of gas to China per year, and it is predicted that Myanmar's gas production will increase to around 24 bcm by 2019, and China will become its largest stable gas buyer.

From regional perspective, the pipeline project will undoubtedly enhance energy especially gas cooperation between China and Southeast Asia. Southeast Asia has large reserves of oil and natural gas, and has long played an important role as an exporter of oil and gas. But this historical pattern has changed as the region's demand grows ever more strongly. The region's oil output has been falling steadily, since peaking at around 2.9 million barrels per day (mb/d) in 1996. Oil production is projected to drop to 2.4 mb/d in 2015 and 1.4 mb/d in 2030. Southeast Asia as a whole is currently a net oil importer.

Southeast Asia is richer in natural gas than in oil. The region's proven reserves of natural gas stood at 6.6 tcm (trillion cubic metres) at the start of 2009, or 3.7 per cent of the world's total endowment. As for individual countries, Indonesia's output of gas in 2010 was 82 bcm (billion cubic metres), consumption was 40.3 bcm; Malaysia's output was 66.5 bcm, consumption was 35.7 bcm; and Brunei's output was 12.2 bcm (*BP Statistical Review of World Energy* 2011). They are the main gas exporters among ASEAN countries. However, while the region remains an important supplier of liquefied natural gas, gas is also increasingly sought to support power generation and industry in domestic markets. Although gas production in Southeast Asia as a whole is projected to increase from 203 bcm in 2008 to 248 bcm in 2030, if no more new investment is increased and no new gas field is found, the surplus of supply over demand is expected to narrow from 63 bcm in 2008 to just 10 bcm by 2030 (Figure 2). Thus it is greatly needed to enhance regional energy cooperation and increase investment in energy sectors.

An integral part of ASEAN's regional economic co-operation focuses on the energy sector where it is ASEAN's declared intention to ensure greater security and sustainability of regional energy supplies. In 2002, ASEAN member states adopted the ASEAN MoU on the Trans-ASEAN Gas Pipeline (TAGP). Once realised, the TAGP will have the potential of linking almost 80 per cent of the ASEAN region's total gas reserves and will embody a far-reaching expression of the region's energy interdependence (Roberts, Cull, and Day 2003).

Figure 2: ASEAN Gas Production by Country



Source: IEA 2009: 552.

The first cross-border gas pipeline in ASEAN exports gas from Malaysia to Singapore and was commissioned in 1991. Since then several regional gas pipelines have been completed and several more are in the process of design and construction. Full interconnection of these pipelines would see the creation of an interconnected gas grid and increasing gas trade throughout ASEAN ten countries. Given the ambitious magnitude of the Trans-ASEAN gas pipeline and the China–Myanmar pipelines, it is possible that the network may be extended into China and beyond, as some advocates of the TAGP argued in the 1990s that the network would eventually connect with gas markets in China, Japan, and India, making it the largest pipeline network in the world (Ohli 1994).

In addition to oil and gas trade, China's increasing investment in oil and gas exploration and production in Myanmar and other Southeast Asian countries is another important aspect of China–ASEAN energy cooperation. China's "going out" strategy and ASEAN's preferential policies for foreign investment have strengthened China–ASEAN cooperation efforts in oil and gas exploration and development efforts. On 30 August 2004 at the "Indonesia National Exhibition", Indonesia's Minister of Trade and Industry stressed that Indonesia would further strengthen energy cooperation with China. Given the importance of Southeast Asia in China's oil and gas supply, ASEAN will remain as China's major energy cooperation partner. The level of oil and gas cooperation between China and other ASEAN countries is much higher and important than that between China and Myanmar.

4 Broader Objectives: Deepening Regional Economic Integration?

Beyond its clear energy strategic value, this oil and gas pipelines project creates other opportunities for economic cooperation and integration between China and Myanmar, and Southeast Asia. The Chinese and Myanmar governments are negotiating to build a highway and a railway along the pipelines to connect Kunming with the new deep-sea port and the industrial zone which is under construction at Kyaukpyu. Plans for the rout were first announced in the *Myanmar Weekly Eleven News* magazine in October 2010 and is expected to be finished in 2015. This will inevitably fuel progress for the entire population in the pipeline region, further enhance connectivity and long-term economic links between Kunming and Kyaukpyu. It is expected that a corridor of economic development will be eventually formed along the pipelines.

It is believed that the pipeline project is a "win-win" for China and Myanmar in terms of regional economic development. For China, it will bring development opportunities to its economically underdeveloped southwestern provinces, in particular Yunnan and Sichuan Provinces. China's booming economic growth in the past decades has created lopsided economic development on the national level. Much of the interior has been left far behind and is vastly underserved by internal gas and oil distribution networks. Currently, southeast China is the only region in the country that lacks oil refineries. As such, it imports oil products from distant refineries in Guangdong and Gansu Provinces through the Maoming–Kunming and Lanzhou–Chengdu–Chongqing oil product pipelines. Because of the long-distances, oil product prices in Yunnan are 30 per cent higher than elsewhere in the country (Sun 2009). It is expected that the pipelines would not only alleviate Yunnan Province's oil shortages but also would diversify the province's economic structures. While the crude oil pipeline is to be extended to Kunming, a refinery and ethylene plant with an annual capacity of 20 million tons and 1 million tons respectively will also be built there (Wu 2005).

Using the crude oil from the Myanmar pipeline, this Yunnan refinery would meet the majority of demand from Southwest China for oil products. With more crude oil delivered through the pipeline in the future, the refinery is intended to be sufficient to provide oil products to other provinces and even Southeast Asia. More importantly, the building of the refinery and ethylene plant would help Yunnan to diversity its traditional economic structures and turn the province into the country's petroleum and petrochemical base in the southwest. This can help Yunnan Province receive favourable

policy support from the central government and attract more investments from Chinese SOEs and big international multilateral companies to build its petroleum and related sectors, thus earning more opportunities to further open up its economy. Hence, the province would eventually assume the strategic importance as China's southwest "bridge-head" to connect South-east Asia and South Asia for movement of capital, goods and labour services.[5]

In terms of bilateral trade, as the construction of the pipelines needs large amount of materials, such as cement, steel, transportation equipments, it has greatly promoted imports and exports between China and Myanmar these years, especially between Yunnan and Myanmar. For example, in spite of the global financial crisis, the China–Myanmar bilateral trade grew from USD 29.1 billion in 2009 to USD 44.4 billion in 2010, with a sharp increase of 53 per cent (Ministry of Commerce China 2011). The trade between Yunnan and Myanmar was the main driving force for the two countries' bilateral trade, as it reached USD 1.8 billion in 2010, accounting for above 40 per cent of total China–Myanmar trade. Myanmar is currently Yunnan's largest trading partner among the ASEAN countries.

For Myanmar, it also stands to gain from the project strategically and economically. Firstly, it will help Myanmar reduce its over dependence on Thailand for Foreign Direct Investment (FDI) and the export market. For a long time, Thailand has been Myanmar's largest foreign investor and trade partner. In 2010, the total value of Thailand's FDI in Myanmar was USD 10.4 billion, ranking the largest foreign investor in Myanmar. In the same year, Myanmar–Thailand bilateral trade reached USD 4.9 billion, accounting for 41 per cent of Myanmar's total imports and exports (MMNPED n.y.). Since the construction of the Yadana gas pipeline to Thailand in the mid-1990's, all of the Myanmar's gas exports have gone to Thailand. The China–Myanmar gas pipeline will provide Myanmar an alternative export market for its natural gas and other commercial goods.

Secondly, it will increase Myanmar's foreign exchange earnings and reduce Myanmar's trade deficit with China. Myanmar is short of international reserves. In 2006, Myanmar had only foreign exchange reserves of USD 1.3 billion, largely from the sale of gas to Thailand. Although Myanmar's total trade with China grew from USD 1.2 billion in 2005 to USD 4.5 in 2010, but at the same time, its trade deficit with China also increased from USD 0.7 billion to USD 2.5 billion in 2010 (Ministry of Commerce China 2011). The oil and gas pipeline project will create great financial earnings for Myanmar to cover this deficit. In accordance to international practice, the crude

5 Author interview with Chinese scholars in Yunnan in August 2011.

oil transported from Myanmar–China pipeline will be charged with 16 per cent value added tax based on landed costs. The current landed costs of crude oil in Myanmar are about USD 280 per ton. Calculated on 20 million tons of crude oil transported via this pipeline, the Myanmar government will be able to obtain foreign exchange earning of about USD 900 million every year, and this does not include the transport tariff (about USD 1 billion annually) (Wu 2005). In addition, China will purchase natural gas from Myanmar for the next 30 years. If calculated on USD 4 per 1,000 cubic feet, the Myanmar government will be able to gain USD 900 million from its sale of natural gas to China each year (Shwe Gas Movement 2009). Therefore, from the oil and gas pipeline project alone, Myanmar will be able to earn at least USD 1.8 billion foreign exchange per year.

Thirdly, Myanmar will be more attractive to FDI. According to Myanmar's statistics, in 2007, China's FDI in Myanmar was only USD 92 million. With the pipelines project started in 2009, China's capital keeps flowing in. In 2010, China's approved FDI in Myanmar increased dramatically to USD 8.3 billion, with accumulated value of USD 9.6 billion (by March 2011). Plus Hong Kong's FDI, China has been the largest foreign investor in Myanmar (Table 1).[6]

Table 1: Cumulated Approved FDI to Myanmar by Country

As of 31 March 2010			
Rank	**Country**	**Amount (USD Million)**	**No. of projects**
1	Thailand	7,422.1	60
4	China	1,333.9	30
6	Hong Kong	510.2	32
13	Others	1,090.5	58
2	United Kingdom	1,861.0	50
3	Singapore	1,520.2	71
5	Macau	660.8	33
7	France	469.0	2
8	U.S.A.	243.6	15
9	Panama	243.3	37
10	Indonesia	241.5	12
11	India	219.6	7
12	Japan	213.0	23
	Total	16,028.6	430

6 China's investments in Myanmar are difficult to assess as many of them have been local or indirect ventures that do not go to the official statistics.

As of 31 March 2011			
Rank	**Country**	**Amount (USD Million)**	**No. of projects**
1	Thailand	10,367.1	62
2	China	9,603.2	34
3	Hong Kong	6,308.5	38
4	Others	3,842.7	70
5	United Kingdom	1,861.0	50
6	Singapore	1,746.4	72
7	Macau	660.8	33
8	France	469.0	2
9	U.S.A.	243.6	15
10	Panama	243.4	37
11	Indonesia	241.5	12
12	India	219.6	7
13	Japan	220.1	23
	Total	36,026.6	455

Source: MMNPED n.y.

In June 2010, when Chinese Premier Wen Jiabao visited Myanmar, the two countries' prime ministers jointly launched the pipeline project. They also signed 15 cooperative agreements to further enhance bilateral trade and investment. In addition, the China Development Bank and the Import-Export Bank agreed to provide USD 4.2 billion of interest-free loans to Myanmar for the construction of the pipelines and other major infrastructures (including logistic systems). China intends to extend these infrastructures to whole Southeast Asia, thus promoting regional economic integration between China and Southeast Asia.

5 Potential Risks and Challenges

Nevertheless, the China–Myanmar oil and gas pipelines project comes with many potential risks and challenges, especially when Myanmar's new government is experiencing political and economic changes. While the present situation still gives China a comparative advantage over other competitors, its policies and approaches pose political, social and economic risks, including high cost of the pipelines, increasing resentment towards Chinese businessmen among local Myanmar people, concerns and worries from other neighbouring countries.

Firstly, the pipelines bear high cost and potential risks. It is estimated that the entire project (including a refinery and ethylene plant in Yunnan) would cost approximately USD 5 billion (Wu 2005). More over, the pipelines would have to travel across a set of complex and diverse terrains, in-

cluding transverse mountains, surging rivers and virgin forest. More importantly, as the route passes close to areas controlled by ethnic militias. There have been continuous conflicts between Naypyidaw and these ceasefire groups, following previous government demanded that they disarm or be integrated into Myanmar's armed forces. Although it is yet to be seen whether the new government will continue pressuring non-compliant groups to transform into Border Guard Forces, if the government continues to push the issue, armed conflicts could resume across much of the north and east. Such scuffles have made Beijing concerned and nervous about the security of the pipelines.

Secondly, the spread of economic effect of the boom created by China's investment in Myanmar is less than it might seem. These years witnessed increasing Chinese enterprises (including CNPC) invest in Myanmar building pipelines and infrastructures. Due to different cultures and lifestyles, these Chinese companies can not find enough qualified local workers to get involved in these projects,[7] neither can they create many related downstream industries. Hence, the job opportunities and direct benefits that accrue to the local people by Chinese companies are limited. Moreover, as some foreign analysts observed that most of Chinese loans and investments were government-led and mainly flew to Myanmar's state-owned factories and major infrastructure projects which were launched between the two government levels, they failed to bring more benefits to ordinary people.[8]

For example, many Myanmar people believe that although China has build many hydropower stations in Myanmar, they do not feel enough benefits as most of the electricity generated was sent to China or Thailand.

> There are 25 mega-dam projects in place or being planned to Myanmar's ethnic minority borderlands. But 90 per cent of the electricity generated in this way will be sold abroad, earning the Myanmar government an estimated USD 4 billion per annum (Roughneen 2011).

Thus the benefits it creates for the local residents are limited. Though in the long term, this sort of cooperation will benefit the future development of Myanmar, the current reality is that Myanmar still faces serious power shortage. The public discontent still exists.[9] In this regard, the fact that Chinese companies have increasingly won bids for big projects in key sectors across Myanmar can not help but reinforce worries and anti-Chinese feeling among Myanmar people. For the construction of oil and gas pipelines, some local

7 Interview in Mandalay, 2 July 2011.
8 Crisis Group interview in Ruili, China, 7 March 2009.
9 Interview in Mandalay, 2 July 2011.

villagers are concerned that these projects might lead to demolition, land erosion, deforestation and other related problems.

6 India Is to Compete with China in Myanmar

India is one of the major external forces affecting Myanmar's situation. In its strategic thinking, Myanmar's location is central to strengthening India's "look east" policy, energy security, and counter-balancing China's increasing influence in Southeast Asia. In addition, New Delhi wants to ensure that northeastern insurgents are deprived of sanctuaries and supply lines through its eastern neighbour. In the long-term scenario, India hopes Myanmar will remain an independent market as well as a conduit between South and Southeast Asia.

India had been clearly aware that China's extensive penetration of Myanmar was not in its national interest. As early as in 1993, India reversed its highly negative policy toward the military regime in Myanmar both to ameliorate Chinese influence and also to foster through Myanmar transport route bringing economic assistance to support the tranquility and development of its rebellious Northeast India region, which borders Myanmar and parts of which are still disputed with China. In the face of China's recent growing influence in Southeast Asia, the major concern of India is that the close relations between Myanmar and China might change Myanmar's traditional policy of neutrality.

Strategically, India is afraid that China will attempt to form a "strategic encirclement" against India, using Myanmar as a point to contain India (Ma 2009). The Indian government was particularly worried about the China–Myanmar strategic links and the prospects of the Chinese Navy gaining a foothold in the Bay of Bengal. India sees China which has close relations with Pakistan and Myanmar as a potential threat. China's involvement in Myanmar could mean that India would be surrounded on three sides by Beijing and its area of influence, leaving no buffer states. India feels that it badly needs to improve its strategic relations with Myanmar so as to break down China's encircling strategy (Sinha 2009).

Yet another important concern is energy security. Energy has become a bottleneck restricting India's economic development. India has only 0.5 per cent of the world's proven oil reserves, its oil production accounted for only 0.9 per cent of the world oil production, but it consumed 3 per cent of the world's total oil consumption. India has also limited gas resources, it has only 0.6 per cent of the world's gas reserve, and its gas production accounted for 1.1 per cent of the world's total production, while its consumption accounted for 1.3 per cent (*BP Statistical Review of World Energy* 2011). Cur-

rently India's 70 per cent of domestic oil consumption and 25 per cent of natural gas consumption rely on imports. It is predicted that these proportions will increase to 90 per cent and 40 per cent respectively by the year 2030.

As two emerging economies, both China and India are making global search for energy as part of their energy strategy. Common needs for energy resources make China–India relations more competitive. Therefore, India has been very concerned over China–Myanmar energy cooperation and the building of China–Myanmar oil and gas pipelines, especially when Myanmar turned to cooperation with China after its negotiations on several projects with India failed (Sinha 2009). These years witnessed that India is working hard to increase its stronger presence in Myanmar. Military ties with Myanmar and bilateral high-level visits have increased significantly these years. From 2003-2009, India's exports to Myanmar had increased from USD 86 million to USD 210 million; imports increased from USD 390 million to USD 12 billion (IMF 2010). In terms of investment, as of March 2011, India's accumulated direct investments in Myanmar reached USD 220 million.

In terms of energy cooperation with Myanmar, although India failed in its competition with China for the pipelines, its energy cooperation with Myanmar is in continuation. India is the main shareholder of several oil and gas projects which are under construction in Myanmar. India also holds shares in China–Myanmar pipeline projects and is negotiating with Myanmar on building further oil and gas pipelines to western and eastern India. In February 2010, the Indian Cabinet Committee on Economic Affairs approved requests by ONGC (Onshore Gas Pipeline Company Videsh) and GAIL (India) Ltd. to invest USD 1.35 billion on Myanmar, with the two companies increasing their stakes in Blocks A-1 and A-3 to 20 per cent and 10 per cent respectively, and acquiring 8.4 per cent and 4.1 per cent equity respectively in the Myanmar–China gas pipeline (Kong 2010). This suggests that the Indian government will enlarge its support to Indian NOCs to expand their business in Myanmar.

The external environment changes (including the India factor) have led Myanmar's foreign policy gradually change, especially in its relations with China. For example, Myanmar has expressed its support for India to become a permanent member of UN Security Council; Myanmar has improved its relations with the US and its allies, and is ready to accept Western capital; its leaders suspended the construction of a China-backed dam that had been a sore point among its opposition groups. All this raises serious challenges to Myanmar's relations with China.

7 Conclusion: Will the Pipelines Strengthen China–Myanmar Relations?

The on-going China–Myanmar oil and gas pipeline project is to link up the logistics system between China and Myanmar. The states and provinces in Myanmar the rout will pass include Rakhine, Ayeyarwady, Bago, Magway, Mandalay and Shan state. Once completed, a prosperous economic corridor is expected to be formed along this route, and this corridor will strengthen China's already substantial economic ties with Myanmar and extend its economic influence to Southeast Asia. But China should be aware that Myanmar's new government is not the old military dictatorship, and China can not continue to rely on its previous business model of working through cronies to guarantee commercial success and new investment opportunities. Although China has planned to stake a long-term strategic energy investment in this country, it does not necessarily mean that China has free rein over the outcomes. Considering that Myanmar is an independent country and the newly elected government will continue the "hedging strategy" in dealing with other countries, China can not take it for granted that as its FDI in Myanmar increases and the pipeline project develops, its leverage on this country is set to increase.

Myanmar's foreign policy during the first fourteen years of independence under the parliamentary regime had been described as "neutralism". With the advent of military rule after 1962, Myanmar's foreign policy has been summarized by its diplomats as "independent" and "non-aligned" up to 1971 and as "independent" and "active" thereafter. As such, "Myanmar will not align with any bloc on international issues except to consistently stand on the side that is right" while it "actively participates in activities for world peace; opposes war, imperialism and colonialism; and maintains friendly relations with all countries" (Ministry of Foreign Affairs n.y.). The newly elected government will undoubtedly continue to uphold these principles and policies, as President Thein Sein pointed out in his inauguration speech in March 2011 that

> although Myanmar's successive governments had differences in economic and political policies and concepts, they all insisted on the Five Principles of Peaceful Coexistence, never coming under the influence of any big powers and never permitting any foreign troops to deploy within its borders. Our government will also adhere to this honorable foreign policy and continue the relations will all the countries (*The New Light of Myanmar* 2011).

Directed by this foreign policy, Myanmar's leaders are fully aware of the potential danger of being too close to China. While the coming years could see deeper interaction between Myanmar and the West, Myanmar is likely to see its old friends stream in too. China, India, Singapore and Thailand can be expected to step up their engagement as they will be anxious to protect their interests and influence ahead of the arrival of American and European business. The entry of more global players will provide Myanmar with a larger pool of option, facilitating its attempts at loosing itself from the Chinese grip.

However, although China needs Myanmar for a variety of reasons, such mutual dependence is hardly symmetrical. China has much to lose if the bilateral relationship turns sour, but Myanmar has even more at stake considering its earnings from the pipelines and China's overwhelming economic importance to the country. Currently, neither the ten ASEAN member countries, nor India generate as large or steady a cash flow into Myanmar. Although pleased by the changes inside Myanmar and disturbed by China's dominance and controversial projects there, the West (including EU and US) seems to be in no hurry to remove those sanctions and recover official relations with Myanmar (Sun 2011). Under the current investment, trade and financial restrictions imposed by the West, Myanmar is yet to find a realistic alternative to China to meet its economic needs.

China's advantage is its outward FDI. China has become one of the major investors in Southeast Asia. China's FDI in ASEAN had increased from USD 1 million in 2000 to USD 2.8 billion in 2009. Having the financial power, China has established a USD 10 billion China–ASEAN Investment Cooperation Fund for infrastructure, energy and construction in the ASEAN member countries. China also set up another USD 15 billion China–ASEAN Loan Program which can be used for the construction of the logistical highway network of the ASEAN member countries (ASEAN 2009).

However, in order to reduce potential risks and mitigate conflicts with Myanmar, China might want to diversify its FDI in Myanmar and broaden cooperation areas. China might intensify its efforts to help Myanmar implement some needed economic reforms. The Myanmar new government has intention to practice market economy but lacks experience and qualified human resources. Evidence shows that Myanmar has a growing interest in China's economic development models and is looking to share the expertise in opening up its economy. Various sources also suggest that Chinese advisers are suggesting the regime to privatise the country's state-owned enterprises and undertake other structural economic reforms, including liberalisation of trade, abolition of interest rate and exchange rate controls. These

reforms in financial and trade systems will not only benefit Myanmar's own economic development, but also is conducive to the future expansion of economic cooperation between China and Myanmar.

In sum, China can use the China–Myanmar pipelines project as an opportunity to play a more constructive role in assisting Myanmar at its critical economic transitional phase. Over the past decade, China mainly focused on energy and economic cooperation in its interaction with Myanmar. China now needs to broaden this engagement to include cooperation and capacity building in economic system reform, agriculture and education development. If China can focus on those projects which truly benefit the grassroots level and help the country get better integrated into the international society, the results would definitely stretch beyond energy and economic cooperation, thus greatly improving its image in Southeast Asia and enhancing China–Myanmar relations.

References

Ali, Saleem H. (2010), *The Strategic Logic of Pipelines: Toward "Rational Regionalism"*, Doha: The Brookings Institution paper.

APERC see Asia Pacific Energy Research Centre

Arabfinance (2011), *Saudi Aramco to supply crude to new PetroChina refinery*, 20 March, online: <https://www.arabfinance.com/news/newsdetail.aspx?Id=190465> (13 December 2011).

ASEAN (2009), *ASEAN-China investment cooperation fund for infrastructure and energy launched*, Press Release, 24 October, online: <www.aseansec.org/23633.htm> (13 December 2011).

Asia Pacific Energy Research Centre (2008), *APEC Energy Review 2008*, Tokyo: APERC, online: <www.ieej.or.jp/aperc/2008pdf/Overview2008.pdf> (13 December 2011).

BP Statistical Review of World Energy (2011), June, online: <www.bp.com/assets/bp_internet/globalbp/globalbp_uk_english/reports_and_publications/statistical_energy_review_2011/STAGING/local_assets/pdf/statistical_review_of_world_energy_full_report_2011.pdf> (27 February 2012).

china5e (n.y.), Woguo 2020 nian zhanlüe shiyou chubei liang jiang da shijie di er (China's strategic oil reserves will reach the second largest in the world), online: <www.china5e.com/show.php?contentid=207204> (13 December 2011).

China National Petroleum Corporation (2010), *Myanmar-China oil and gas pipeline project commenced*, 4 June, online: <www.cnpc.com.cn/en/press/newsreleases> (13 December 2011).

China National Petroleum Corporation (2009), *Rights and obligation agreement signed of Myanmar-China crude pipeline*, 21 December, online: <www.cnpc.com.cn/en/press/newsreleases/> (13 December 2011).

CNPC see China National Petroleum Corporation

Earthrights International (2008), *China In Burma: The Increasing Investment of Chinese Multinational Corporations in Burma's Hydropower, Oil and Natural Gas and Mining Sectors*, September, online: <www.earthrights.org/sites/default/files/publications/China-in-Burma-update-2008-English.pdf> (13 December 2011).

Hyundai Heavy Industries Co., Ltd. (2010), *Hyundai Heavy Signs US$1.4 Billion Myanmar Gas Plant Deal*, 23 February, online: <http://english.hhi.co.kr/press/news_view.asp?idx=531> (13 December 2011).

IEA see International Energy Agency

IMF see International Monetary Fund

International Energy Agency (2010), *World Energy Outlook*, Paris: IEA.

International Energy Agency (2009), *World Energy Outlook*, Paris: IEA.

International Monetary Fund (2010), *Direction of Trade Statistics, Yearbook*, Washington: IMF.

Kong, Bo (2010), The geopolitics of Myanmar-China oil and gas pipelines, in: *Pipeline Politics in Asia*, NBR Special Report #23, September.

Li, Geqin (2008), Zhongguo nengyuan waijiao xin wenti jiqi duice (New problems of China's energy diplomacy and counter measures), in: *Contemporary World*, 3.

Ma, Yangbing (2009), Yinmian guanxi de fazhan ji dui zhongguo de yingxiang (Indian-Myanmar relations and the impact on China), in: *Asia & Africa Review* (Beijing), 6.

Ministry of Commerce China (2011), *Zhongmian hezuo jiang zai Mandele jian xin lianyouchang* (China and Myanmar will cooperate to build a new refinery factory in Mandalay), 23 February, online: <http://mm.mofcom.gov.en/article/jmxw/201102/2011027415056.html> (13 December 2011).

Ministry of Foreign Affairs (n.y.), *Foreign policy of the Union of Myanmar*, online: <www.myanmar.com/foreignpolicy/foreignpolicyview.html> (13 December 2011).

MMNPED see Myanmar Ministry of National Planning and Economic Development

Myanmar Ministry of National Planning and Economic Development (n.y.), *Central Statistical Organization*, online: <www.csostat.gov.mm/S07MA0202.asp> (13 December 2011).

Ohli, Patricia (1994), Trans-Asian gas network could cost $66 billion, in: *Pipeline & Gas Journal*, 221, 8, 1-2.

ONGC see Onshore Gas Pipeline Company Videsh

Onshore Gas Pipeline Company Videsh (n.y.), *Assets*, online: <www.ongcvidesh.com/Assets.aspx> (13 December 2011).

Roberts, Peter, Alex Cull, and Jones Day (2003), Building trans ASEAN gas pipeline, in: *Asia Pacific Review*, July, 15-20.

Roughneen, Simon (2011), War trumps investment in Myanmar, in: *Asia Times Online*, 26 July, online: <http://www.atimes.com/atimes/Southeast_Asia/MG26Ae01.html> (27 February 2012).

Shwe Gas Movement (2009), *Corridor of Power: China's Trans Burma Oil and Gas Pipelines*, September, 38.

Sinha, Tuli (2009), *Myanmar-China energy engagement: implications for India*, IPCS Issue Brief, December, New Delhi: Institute of Peace and Conflict Studies.

Sovacool, Benjamin K. (2009), Energy policy and cooperation in Southeast Asia: the history, challenges, and implications of the trans-ASEAN gas pipeline (TAGP) network, in: *Energy Policy*, 37, 6, (June), 2356-2367.

Stevens, Paul (2010), *Oil and Gas Pipelines: Prospects and Problems*, NBR Special Report #23, September.

Sun, Yanli (2009), Zhongmian guandao 'xin mingti' (The new 'proposition' of Myanmar-China pipeline), in: *Zhongguo Shiyou Shihua* (China Petroleum and Petrochemical), 8, 15 April.

Sun, Yun (2011), New balance in China, Myanmar ties, in: *Asia Times Online*, 13 October, online: <www.atimes.com/atimes/Southeast_Asia/MJ13Ae02.html> (13 December 2011).

The New Light of Myanmar (2011), Translated version of President Thein Sein's Inaugural Speech, XVIII, 344, 31 March, online: <www.burmalibrary.org/docs11/NLM2011-03-31.pef> (13 December 2011).

Wu, Lei (2005), *Xiujian zhongmian shiyou guandao: ba Yunnan jianshe cheng woguo zhongyao de shiyou chucun jidi* (China-Myanmar oil pipeline construction: building Yunnan into China's important oil storage base), Research Report, Kunming: Yunnan University, July.

Xinhua Economic News (2009), Sino-Myanmar Crude Pipeline Memo Signed, Downstream Today, 19 June, online: <www.downstreamtoday.com/News/article.aspx?a_id=16796> (10 July 2011).

Zhao, Hong (2012), *China and India: The quest for energy resources in the twenty-first century*, London/ New York: Routledge Press.