



EASTWEST INSTITUTE

***ENERGY INTERESTS AND
ALLIANCES:
CHINA, AMERICA AND
AFRICA***

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EXECUTIVE SUMMARY

In the strategic policy communities of both the United States and China, there has been a knee-jerk blurring between competition in commerce between U.S. and Chinese energy firms and the potential for strategic competition by one country to deny resources to the other. A senior State Department official has described this sort of reaction as “exaggerated”. But the suspicion is there and it is ill-founded. It serves the interests of neither country. On the contrary, as this EWI Policy Paper suggests, energy security can become a rallying point in an otherwise difficult relationship. The two countries are now intensifying their interest and activities not just in each other’s domestic energy sector but also in each other’s role in a system of global energy security.

The characterization of the competition for scarce resources as a geopolitical phenomenon is seriously out of date. It harks back to the era of colonial empires when the bulk of trade of each of the great powers was with its own colonies and not with each other. It is based also in part on anxiety in the United States (as in China and many countries) about the need for energy self-sufficiency. In the interdependent world of the 21st century, in which cross-ownership of investments and highly integrated trade are normal, the competition for resources such as oil should be characterized fundamentally as a business and pricing problem.

Another important source of the suspicion on a geopolitical level is the conflict over values. This has been particularly evident over Darfur, where China’s political and economic relationship with the government of Sudan, charged by the United States and the International Criminal Court with active complicity in genocide, has colored U.S. perceptions of China’s energy interests in that country. Further complicating the picture, but also springing from the conflict between the United States and China over political values, has been a concern about the corporate behavior of Chinese firms in Africa. This has involved charges about poor corporate social responsibility and lack of transparency. China’s oil firms can hardly be singled out in this sort of way however.

The commercial, non-strategic side of the energy relationship between China and the United States is fairly new. Its beginning can be traced back to 1978 when Deng Xiaoping met with representatives of U.S. oil companies and China began to develop its first joint venture law to allow foreign investment in offshore energy exploration and development. Thirty years later, some leading policy makers in both countries – and some constituencies to whom they owe

their power – still have a way to travel to reach acceptance of the current realities of economic interdependence.

Most strategic analysts are coming to see that the “scramble” over hydrocarbon resources can be explained by purely business rather than political reasons. As discussed in this paper, some U.S. energy analysts suggest that “Chinese efforts to lock up oil supplies with long-term contracts may even be advantageous” to the United States despite anxious talks about the alleged ‘Chinese threat’ to U.S. energy security.¹

The last decade has seen fairly normal interaction between Chinese and U.S. commercial interests in each other’s energy sectors, while by contrast the government in each country still preserves old-fashioned sovereign security perspectives on energy policy. The unease in China-United States relations around issues of energy security is occurring against a background of global nervousness about sharp rises in oil prices (or at least high volatility), Russia’s energy power, Europe’s energy dependence, internal security threats in major oil exporting countries, and the economic threats posed by climate change. This anxiety is particularly serious in respect of development gains in Africa. The International Energy Agency (IEA) reported in 2004, ‘In the year following a \$10 oil-price increase ... the loss of GDP averages 0.8 per cent in Asia and 1.6 per cent in very poor highly indebted countries. The annual loss of GDP in the Sub-Saharan African countries would be more than 3 per cent’. And that was before the last year of price spikes when the price of oil has doubled.

The uneasiness of this situation is now being confronted by creative proposals for new joint initiatives that go the heart of global energy governance. One suggestion from a Chinese scholar in an off the record meeting that illustrates this is the proposal that the two countries send a joint fact-finding mission to Africa. The mission would serve to get each of them on the same page about the activities of the other, but it would also send a signal to producer countries about how far they can go in their policies of ‘divide and rule’ before the United States and China, as the world’s leading energy consumers, start coordinating a joint push-back.

This Policy Paper takes a fresh look at the interactions between the energy policies of two states, China and the United States, and this global energy and security picture. It focuses on the interests of the two states in Africa. By way of contrast, it offers some comment on two contrasting cases in the Middle East – Iraq and Iran. The contrasting case shows how little potential that

¹ Leon Hadar, ‘China’s energy policy is no threat’, *Business Time Singapore*, 24 May 2007.

region offers for cooperation between the United States and China in energy security compared with the potential for Africa in that regard.

Africa is not a passive partner here. The African Energy Commission (AFREC), as part of the rapidly developing architecture of the African Union (A.U.), is poised to serve as a vehicle for China and the United States, supported by the European Union (E.U.), to promote both African energy security and new global confidence in cooperative behavior on energy security.

Moves by China, the United States and others toward support for African energy security should be framed against the need to progressively develop global cooperative measures in energy security, as laid out in EWI's other Policy Papers.

RECOMMENDATIONS

1. China and the U.S., as the two leading coal producers, and as the two biggest consumers of energy globally, should immediately begin official bilateral talks on the creation of a truly global international energy organization. It should include major energy importers and major energy-producing countries. The new organization should take into account the vital interests of the key stakeholders (private sector, governments and civil society). Its mandate should be much broader than that of the current International Energy Agency (IEA) and it must provide binding rules for access and supply, and better regimes for emergency responses.

The ultimate goal has to be a global and inclusive set of negotiations involving all stakeholders, but an immediate jump to a multilateral negotiation in this area will almost certainly be less productive than sharply focused talks between the major players mentioned. The bilateral talks between the U.S and China should be conducted in parallel with similar new official talks between Russia and the United States, among the world's leading powers both for oil production (second and third after Saudi Arabia) and for nuclear power production (fourth and first in world ranking respectively). The European Union (E.U.) will be an important partner in this process but its inability to speak with one voice on energy security policies of a global and comprehensive character suggest that its inclusion in such talks at a later date might be more appropriate.

2. An urgent element of this revitalized U.S.-China push for new global energy security should be the establishment of an African Energy Security Consortium. Here the E.U. role alongside the United States and China will be vital since is the biggest aid donor to Africa. The three parties – China, U.S. and E.U. – should work with the embryonic African Energy Commission (AFREC) to negotiate and execute a “new deal” for the energy security of Africans. Such enhanced United States-China cooperation on African energy security has two advantages. First, it can show relatively quick results and thereby demonstrate the potential value of new global bargaining efforts. Second, it will become a rallying point in the geopolitical relationship of China and the U.S.

FOREWORD

This Policy Paper is one result of more than a year of consultations and research by the EastWest Institute (EWI) on practical measures for enhancing relations between the United States and China in advancing global energy security. Many people inside and outside EWI were involved in those discussions, and the conversations covered much more ground than has been reflected here.

EWI's work on energy security is part of our evolving initiative on Sustainable Human Safety, a multi-year effort to address new cross-boundary threats that have the potential to inflict previously unthinkable levels of disruption and destruction. They include most of the growing threats to globalization, including the heightened scale of natural disasters worldwide, crises over supply of water and food, dysfunctional or failing states, pandemics, energy and other resource shortages, and the forced migration of large numbers of people as the result of severe weather events or climate change. As a proven mobilizer, EWI is frequently asked by governments to make use of our experience, networks, and mobilizing strategies to counter these threats more effectively.

The recommendations presented in this policy paper in respect of joint United States-China approaches build on the consultations we have had in both countries, and with African diplomats and specialists in Brussels. The recommendations draw in part on work presented in earlier EWI Policy Papers (*Energy Sovereignty and Security*¹ and *Nuclear Fuel Banks*²), on a forthcoming working paper on United States-China cooperation on "clean coal" strategies, as well as on the two "chapters" presented here, and the policy statement from the African Union (A.U.) in September 2007 of their energy security needs.

This AU document, included here as Appendix 1, noted the following disparities:

¹ Greg Austin and Danila Bochkarev, *Energy Sovereignty and Security: Restoring Confidence in a Cooperative International System*, EastWest Institute, Brussels/New York/Moscow, 2007, <http://www.ewi.info/pdf/2007%200126%20Energy%20Policy%20Paper1.pdf>.

² Danila Bochkarev, *Nuclear Fuel Banks: Moscow, Washington to Lead on "Mergers"*, EastWest Institute, Brussels/New York/Moscow, 2008, http://www.ewi.info/pdf/Civil%20Nuclear%20Partnership_july26t1.pdf.

- ❑ Africa has the lowest *per capita* primary energy consumption level, which stands at around 500 KWh/year as against the global average of 2500 KWh/year.
- ❑ There is very wide disparity among countries which ranges from 60 KWh/inhabitant/year to 1100 KWh/year and to over 4000 KWh/year in South Africa
- ❑ The electrification rate stands at below 30 per cent for most countries. In rural areas in Sub-Saharan Africa, the electrification rate is only eight per cent. In some countries the rate is as low as two per cent.
- ❑ Only seven per cent of Africa's hydro-power potential is harnessed.

At the same time, "Africa is endowed with relatively abundant and diversified energy resources, especially fossil energy, which accounts for 7 per cent and 6 per cent of the global crude oil and coal reserves, respectively".

The first part sets some background on the energy interests of China and the United States with special reference to their interests that would underpin any joint work on promoting energy security for Africans. The second part has a proposal for creation of an African Energy Consortium, framed against the background of China's evolving position as an aid donor to developing countries. The Policy Paper is published to foster discussion and not as the final word. That has to be for the parties themselves.

This paper goes beyond recent narrative and analytical efforts by the Council on Foreign Relations³ and CSIS⁴ and presents a clear recommendation for joint action by the United States and China, in partnership with the African Energy Commission (AFREC) and the European Union. These studies provide the necessary background for this Policy Paper. They make plain that:

- ❑ Claims of strategic competition between the United States and China over energy are exaggerated
- ❑ There have been an increasing number of dialogues between Chinese, Americans and Africans on possible measures for trilateral cooperation

³ Stephanie Hanson, "China Africa and Oil", Council on Foreign Relations,, June 6, 2008, <http://www.cfr.org/publication/9557/>.

⁴ See David H. Shinn, "China, the United States, Africa and Oil", <http://forums.csis.org/africa/?p=34>; and Jennifer Cooke (ed), "US and Chinese Engagement in Africa", Report of a conference in December 2007 jointly sponsored by CSIS, the China Institute of International Studies, and the Stockholm International peace Research Institute, July 2008, http://www.csis.org/media/csis/pubs/080711_cooke_us_chineseengagement_web.pdf.

- “Official collaboration between the United States and China on Africa remains at an early point”.

A bilateral agenda for policy collaboration between China and the United States on global energy security was laid out by two Chinese specialists in the *Washington Quarterly* in late 2007.⁵

This Policy Paper proposes an additional concrete policy collaboration on energy that sits the new African Energy Commission (just one year old) at the centre and positions China, the United States and the European Union as “energy allies”.

⁵ Zha Daojiong and Hu Weixin, “Promoting Energy Partnership in Beijing and Washington”, *Washington Quarterly*, Fall 2007, pp. 105-115.

1. CHINA, THE UNITED STATES AND “AFREC”¹

Angelica Austin and Danila Bochkarev²

The increasing global presence of large Chinese state-controlled energy companies and China's share of world growth in oil consumption have enhanced misperceptions regarding the Chinese government's influence on world energy markets. These misperceptions have had a negative impact on United States-China relations, given the wider debate regarding the current account deficit between two countries as well as the revaluation of the yuan. There is a clear need for an enlightened co-operative approach regarding energy security and climate change, as well as better-informed media treatment of the energy relationship. Both parties need to promote the reduction of misperceptions about the benefits of increasing competition in world energy markets and ensuring resource security.

Traditionally, the resource security paradigm has underpinned the analysis of developments in energy markets, as there has been substantial government involvement in the sector. However, with energy markets becoming more liberalized, increasingly it is the business and investment cycles of economies that drive the overseas investment decisions of Chinese energy companies, not considerations of national security.

Global energy security has been enhanced by the International Energy Agency (IEA) with member countries participating in a number of practical measures such as developing technology sharing agreements, mutual investment frameworks and extension of pre-existing energy frameworks to encompass non-member countries. More recently other international co-operative forums such as the G8, G20, ASEAN, Asia Pacific Partnership on Climate and Development and APEC have also established a more comprehensive dialogue regarding energy security and climate change.

A newcomer to this multilateral effort is the African Energy Commission (AFREC). It was created by the 37th Summit Conference of OAU Heads of State and Government in Lusaka (Zambia) in July 2001, though a similar structure had first emerged in 1980.³ AFREC was launched in Algeria on the

¹ AFREC is a relatively unfamiliar acronym in global affairs. It is the name of the African Energy Commission.

² The authors would like to acknowledge EWI colleagues Stephen Sullivan and Claire Masseur for their support in preparing this paper.

³ In 1980, the AUO heads of States and Governments adopted during an Extraordinary Economic

15-17 February 2008. The First Constitutive Assembly of the Conference of the African Ministers of Energy (CAMEN) was held in Algiers on the 17th of February 2008. According to the Convention,⁴ the Commission should meet in ordinary session once every 2 years (so the next one will be in February 2010) at the headquarters (Algiers) or in any Member States on the recommendations of the Conference.

The main functions of AFREC are to:

- ❑ Elaborate policies, strategies and development plans related to energy
- ❑ Establish a data bank and enable exchange of energy information
- ❑ Promote inter-African energy projects of cooperation
- ❑ Encourage programs of human resources development
- ❑ Support of inter-African trade of energy products.

AFREC is therefore the natural partner of China and the United States if they are to undertake any joint efforts on energy security for Africans.

Formal bilateral cooperation between China and the United States on energy security in general has been gaining momentum. There are a number of formal cooperation channels that handle bilateral cooperation in this field:

The United States-China Energy Policy Dialogue (EPD) was established between the Department of Energy (DOE) and the National Development and Reform Commission in May 2004, to facilitate policy-

Summit the Lagos Plan of Action, which encompassed recommendations to solve energy problems. To implement these recommendations African countries recognized the need for the creation of an institutional framework. In 1984-85, the UNDP in collaboration with OAU and Economic Commission for Africa undertook a study, which recommended the creation of the AFREC. In 1996 and 1997, the 63rd Ordinary Session of the OAU Council of Ministers held in Addis Ababa and the 2nd regional conference on the development of mines and energy held in Durban have requested the OAU to commence and hasten the pre-feasibility studies related to the creation of AFREC. The General Secretariat of the OAU implemented the pre-feasibility study. It organized an inter-Agency meeting and adopted a report entitled: "Proposal of the OAU general secretariat on the Creation of the African Energy Commission". From the 22 to 25 May 2000, the OAU in collaboration with the Egyptian Government organized "The African Energy Experts Meeting" on the creation of the African Energy Commission. On 23-24 April 2001, a Conference of African Ministers for Energy was held in Algeria during which they adopted the recommendations that were to be submitted for ratification to the 37th OAU Summit Conference.

⁴ The countries that have ratified the Convention are: Libya, Algeria, Mozambique, Comoros, Rwanda, Senegal, Egypt, Ghana, Mali, Tanzania, Tunisia, Sudan, Zambia, Angola, Niger, Kenya, Burundi, Sahrawi and Namibia. Countries that have ratified it but did not deposit their instruments at the AU are: Gambia, Congo, Togo and Zimbabwe.

level bilateral exchanges of views on energy security and economic issues as well as energy technology options. The first Dialogue meeting was held in Washington DC on June 30, 2006 where China and the United States discussed such topics as the security of supply, domestic and international energy market forecasts, energy efficiency, renewable energy and electricity grid interconnections.

The United States-China Oil and Gas Industry Forum, launched in 1998, serves to facilitate opportunities for government and industry leaders from both countries to have candid discussions about their respective needs in the oil and gas sectors.

The United States-China Peaceful Uses of Nuclear Technology (PUNT) Agreement, signed in 1998 reaffirms the 1985 Peaceful Uses of Nuclear Energy (PUNE) agreement between the two countries. Intended cooperation covers nuclear technology and export control, nuclear emergency management and safety, and high level waste management.

In science and technology, the DOE and the Chinese government have also been cooperating in the area of 'future energies' such as high-energy physics and fusion energy (to support the international ITER partnership) and have created the joint Carbon Sequestration Leadership Forum (CSLF).

CHINA, AMERICA AND GLOBAL ENERGY MARKETS

China alone generated almost half of the world's energy consumption growth over the last 5 years.⁵ Mainly due to the surge in energy demand in China, coal has regained its earlier market share in that country, with consumption of coal outpacing other fuels for the five years to 2006. By contrast, the share of coal consumption in the energy fuel mix by the rest of world stabilized. The share of total energy taken by gas has also stabilized globally as natural gas prices in the United States increased due to domestic factors and higher global oil prices. Gas is still the fastest growing fuel in the world (outside China). But the surge in Chinese coal use has been so large, that it has more than offset the strength of gas globally. Oil meanwhile has begun to lose global share in the energy mix, even as China's use of oil surged in 2003,

⁵ Global consumption of all fuels (except nuclear) accelerated in the five years 2001-06 compared to the previous five years. According to the *BP Statistical Review of World Energy 2007*, the consumption growth rate from 1996-2001 was 1.2 per cent annually, compared with 3 per cent annually during the period 2001-06. Annual global consumption of energy excluding China also accelerated from 1.2 per cent from 1996 to 2001 to 1.9 per cent from 2001 to 2006.

reflecting higher motor vehicle sales, increasing urbanization, and rising incomes. Growth in electricity consumption consistently grows faster than primary energy consumption everywhere, and faster in developing countries than in developed countries. In the United States, high natural gas prices have weakened gas consumption and reduced its share. Oil has actually gained market share slightly in the United States as industrial energy consumption, especially of natural gas, declined.

Both the United States and China are 'big winners' from globalization. Whether this will continue will depend in part on the stability of key international economic and political institutions and in part on energy sector reform. The stability of energy institutions in the face of China's rise is a concern for the United States and this has prompted statements in Washington regarding China's energy policy. According to an official at the United States Department of Energy, "we [the United States] are committed to continue our efforts in illuminating China's path towards becoming a prosperous nation and a responsible stakeholder in the international system".⁶

Higher energy prices and increasingly volatile energy markets have contributed to growing concerns in large energy consuming countries, particularly the United States and China, about the security of supply. Increasing awareness by governments', industry, and consumers of environmental costs associated with energy consumption has also contributed to increasing unease in terms of the future implications of energy consumption and production.

Addicted to Coal: What Global Model Will Work?

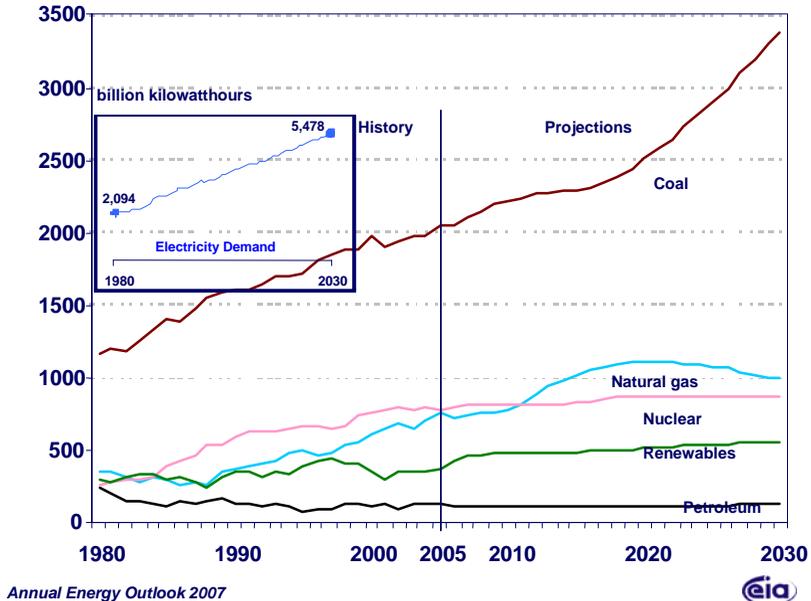
A new global model of energy production and consumption may have to be developed simply to allow for increasing economic growth and development in China. Yet the prominence of coal and its impact on the environment is an energy-related interest shared both by the United States -- with the world's biggest coal reserves. China has the world's second biggest coal reserves. Moreover, both countries share a similar development path for their power generation industries. In fact, "half of America's electricity is generated from coal, and three-quarters of China's. This inevitably means that clean coal and carbon sequestration loom large on any bilateral agenda."⁷ Figure 1 shows the

⁶ 'China's Role in the World: Is China a Responsible Stakeholder?' Statement by Katharine A. Fredriksen, Principal Deputy Assistant Secretary, Office of Policy and International Affairs, United States Department of Energy, August 4, 2006, see http://www.pi.energy.gov/documents/hearing_draft5.pdf.

⁷ Daniel Yergin, 'China and America need not be energy rivals', *Financial Times*, May 21, 2007. See

linkage between the estimated growth in global electricity demand to 2030 and the estimated growth in consumption of energy sources (coal, natural gas, nuclear, renewables and petroleum).

Figure 1 Electricity generation by fuel, 1980-2030 (billion kilowatt hours)⁸



This also means that technology sharing (and abolition of tariffs on trade in energy-efficient equipment and renewable power generation machinery) is destined to become one of the key pillars of the United States-China energy dialogue: stopping negative global climate change trends requires a more energy-efficient and less energy-hungry Chinese economy. Thus China and the United States share similar goals.

also a EWI Trialogue 21 Discussion Paper by David Wendt, *Clean Coal: United States-China Cooperation in Energy Security*.

⁸ The main graph is from Energy Information Administration, Annual Energy Outlook (2008), Early Release, cited in Claymore, Delta Global Advisors, *Delta Global Coal Portfolio, Series 1*, in <http://claymore.com/docs/Delta%20Global%20Coal%20Series%201%20Fact%20Card.pdf>.

CHINA'S PRIME DIRECTIVES

China's quest for foreign energy assets leaped to a new level after May 1997 when the serving Prime Minister Li Peng "blessed Chinese involvement in the exploration and development of the international oil and gas resources and tied such projects specifically to the objective of securing stable, long term supplies."⁹ The Chairman of Cambridge Energy Research Associates (CERA), Daniel Yergin, rightfully underlined that it is not surprising that "China – with a strong domestic industry on which to base a 'go out' strategy – would seek to acquire and develop production assets around the world. It would be more surprising were it not to do so."¹⁰ China's "going out" for hydrocarbon supplies is explained by economics and economics only: the booming national economy and the necessity of dealing with a migration flow of 20 million people a year coming from the countryside into urban areas.

The scramble over hydrocarbon resources can also be explained by purely business rather than political reasons: in Africa and Iraq. Some U.S. energy analysts suggest that "Chinese efforts to lock up oil supplies with long-term contracts may even be advantageous" to the United States despite anxious talks about the alleged "Chinese threat" to U.S. energy security.¹¹ Eugene Gholz (University of Texas) and Daryl Press (Dartmouth University) claim that "China's efforts to reach long-term purchase agreements merely change the patters of global oil trade but not the overall level of global consumption, and will therefore not have a major impact on oil prices... if China's [companies]... pump oil from their wells ... and then chooses to ship the crude to Chinese customers rather than to sell it on the open market, the Chinese action will just free up oil pumped by other companies so that they can sell it to non-Chinese consumers"¹²

Moreover, Chinese energy companies also invest in the places where Western 'super-majors' are generally reluctant to invest. For consumers in North America and Europe, "it is actually much better, at a time of growing demand, that China is investing to bring additional barrels to market than not."¹³ Furthermore, reducing the amount of freely traded oil may restrict speculation on the spot market. The ownership of extraction rights has a minor

⁹ Mehmet Ögütçü, 'Foreign Direct Investment and Importance of "Go West" Strategy in China's Energy Sector', OECD, March 2002, <http://www.oecd.org/dataoecd/1/35/2085596.pdf>.

¹⁰ Daniel Yergin, 'China and America need not be energy rivals', *Financial Times*, May 21, 2007.

¹¹ Leon Hadar, 'China's energy policy is no threat', *Business Time Singapore*, 24 May 2007.

¹² Ibid.

¹³ Daniel Yergin, op. cit.

impact on the flow of oil in many cases – rather, supply is more often determined by the domestic political situation in the producing state.

Chinese and Western energy companies are still able to have access to oil and gas reserves through concession or Product Sharing Agreements (PSA), contracts which normally allow parties to ‘book’ reserves (and therefore to raise market capitalization) and generate higher profits. It is especially important in a situation where governments all around the world seek to increase their control over the resource base.

China’s need to diversify has been underlined in positive terms for the global market by the U.S. Secretary of Energy, Samuel W. Bodman, who underlined that “diversification of energy supply toward alternate sources can greatly relieve pressures on markets for conventional energy sources over time while helping to cope with growing environmental concerns.”¹⁴ This is particularly important in the context of the growing perception in America, especially amongst the members of environmental community, that China places a premium on industrialization at the expense of the environment. However, we should note that, in this respect, China is no different from other developing countries (indeed, it is much more proactive with regard to the environment and climate change).

The Chinese leadership has strengthened laws regarding the environmental performance of energy producers and consumers and enhanced regulations to increase the energy efficiency of industrial, commercial, and residential energy consumers. There are a number of legislative instruments that promote the increasing use of renewables in the energy mix, energy conservation, and enhance environmental protection. These include:

- ❑ Renewable Energy Law (2005)
- ❑ Energy Conservation Law (1997)
- ❑ Coal Law (1996) and
- ❑ Electric Power Law (1995).

Specific legislation aimed at increasing energy efficiency and promoting overall economies in steel and iron ore production; aluminium smelting; and cement industries, have also been a modest attempt to avoid the traditional – energy-intensive modernization path. Currently, the government is reviewing all legislation pertaining to the regulation of the energy sector in a broader

¹⁴ US Department of Energy Strategic Plan, Secretary’s Message, <http://www.energy.gov/media/2006StrategicPlanSection2.pdf> , p. 5.

review to develop a more comprehensive domestic and international energy policy.

Another major legislative review that may have significant impact on the energy sector is the review of the mineral and resources law. The Mineral Resources Law is the primary piece of legislation regulating mining in China and is administered by the Ministry of Land and Resources. This law was introduced in 1986 and revisited in 1996. The current law is extremely obtuse and limits investment in the mining sector by foreign investors, the proposed amendments are aimed at improving this law to encourage and facilitate foreign investment in the industry.

The domestic regulatory framework for China's power sector "may be a more urgent and important subject for foreign policy specialists than China's growing oil imports from the Middle East."¹⁵ In 2003, China had 239 gigawatts (Gwt) of coal-fired capacity in operation. If China were to meet the electricity demand that is expected to "accompany its growth, an additional 546 Gwt of coal-fired capacity (net of retirement) is projected to be brought on line by 2030."¹⁶ The potential efficiency savings in China could be achieved on both the supply side and the demand side. Coal fired power stations typically have a lower thermal efficiency than world's best practice (on average, only 33.8 per cent of the energy contained in coal is converted into electricity). Currently 1300 tons of coal equivalent is required to make \$1m GDP, 2.4 times greater than the world average. In addition, "energy consumption for space heating per building area in China is 2-3 times higher than in developed countries with similar conditions."¹⁷

The Chinese government is drafting a new nuclear energy law, which will allow for partial private and foreign investment in nuclear power projects. However, foreign investors would not be able to hold a controlling stake in any project. China currently has ten commercial nuclear reactors, with a combined installed capacity of 8 million kilowatts.¹⁸ Other reactors include "Qinshan, Dayawan, and Phase 2 and Phase 3 of Qinshan and Lingao. Four units are being built for the second phase of the Lingao project in southern

¹⁵ Angie Austin, *Energy and Power in China: Domestic Regulation and Foreign Policy*, London, Foreign Policy Centre, April 2005, p. xii, <http://www.fpc.org.uk/fsblob/448.pdf>.

¹⁶ 'China's Role in the World: Is China a Responsible Stakeholder?' Statement by Katharine A. Fredriksen, Principal Deputy Assistant Secretary, Office of Policy and International Affairs, United States Department of Energy, August 4, 2006, http://www.uscc.gov/hearings/2006hearings/transcripts/aug_3_4/testimony_kathy_fredriksen.pdf.

¹⁷ Ibid.

¹⁸ *Asia Times Online*, June 7 2007 http://www.atimes.com/atimes/China_Business/IF07Cb03.html.

China's Guangdong province and the second phase of the Qinshan project in Eastern China's Zhejiang province."¹⁹ In total, the Chinese civil nuclear industry generated 54.8 billion kilowatt-hours of electricity in 2006.²⁰

On December 16, 2006, the Chinese government awarded United States-based Westinghouse Electric Corporation an \$8 billion contract to supply China with its next generation of nuclear reactors. The contract, which represents the single largest commercial nuclear power deal in history, provides for the construction of four AP-1000 nuclear plants, which will contribute to China's plans to quadruple its nuclear energy production by 2020 to 40,000 megawatts. In total, China plans to spend \$50 billion on 30 additional reactors within next 14-15 years. Chinese policy makers claim they chose the U.S. system rather than the competing offers from Russia's AtomStroyExport and France's Areva because Westinghouse promised to transfer substantial nuclear power technology to China's energy industry. To secure the contract, Westinghouse agreed to expend 50 percent of the value of the contract on goods and services produced in China.

The United States' energy industry is also present in China's conventional power generation sector through AES Corporation and GE amongst others. AES joined with Chinese partners in the power sector to "build the first 'coal by wire' power plant in China, the Yangcheng power plant located in the coal-rich Shanxi Province. Located within 30 kilometers of two coal suppliers, the plant has the capacity to provide eastern China with 2,100 MW of critically needed power over a 755 kilometer, 500 kilovolt transmission line."²¹ GE has invested more than \$5 billion in China where the company employs more than 13,000 people. GE plans to double its investment by 2010 and invest up to \$186 billion in the next 25 years.²²

Both the United States and Chinese power generation sectors have their own peculiarities. Both countries are obsessed with energy self-sufficiency, an obsession that predetermines the structure of power generation capacities in both countries. In 2003 in China almost all electricity was produced from home-extracted fuels (mostly coal – 74.1 per cent and hydropower – 24.3 per cent). In 2020, the situation will remain more or less the same (coal – 60 per cent, hydro - 20 per cent, renewables –10 per cent, natural gas - 6 per cent and nuclear – 4 per cent). The United States' power generation balance is currently much the same as in China, according to the U.S. Department of

¹⁹ Ibid.

²⁰ Ibid.

²¹ www.aes.com.

²² <http://www.zibb.nl/web/industrienuwsbericht/generalelectricinvesteertinduurzaamchina.htm>.

Energy, and by 2020, will change little (taking into account North America's possession of the world's biggest reserves of coal, large deposits of natural gas, uranium and enormous wind, solar and hydro power potential).

In late 2007 and early 2008, China took several important steps toward significant reform of its energy sector:

- ❑ Publication of a draft new energy law on December 1 2007
- ❑ publication of its first ever energy white paper on December 26 2007
- ❑ announcement on January 10 2008 of plans for a radical overhaul of the resource taxation system.²³

In line with the level recommended by the International Energy Agency, China is expected to have strategic oil reserves equivalent to one month of imports by 2010. China aims to increase its strategic oil reserve to from 2-3 million tons currently to 12 million tons by 2010 and oil reserves will be equivalent to three months of crude imports by 2020. According to Hu Weiping, Director of the oil and gas department under the NDRC's Energy Bureau, China will use its strategic oil reserve only for emergencies, with no intention to influence market prices.²⁴

US INVESTMENT IN CHINA'S ENERGY SECTOR

In 1978, Deng Xiaoping held talks in China with the representatives of United States oil companies to discuss China's first foreign investment after the Cultural Revolution. This was for investment in offshore oil, since China then, as now, regarded onshore oil as too strategic and sensitive to allow significant foreign investment, though that picture is changing as the information below suggests.

Now, China is an even more open economy allowing substantial foreign direct investment (FDI) in its energy sector and opening the capital of its national oil companies to portfolio investments through Initial Public Offerings (IPO). These IPOs were principally aimed at "easing financial constraints for new investments and promoting the reform process."²⁵

²³ See Herbert Smith, "Update on Chinese Energy Policy", 25 January 2008, <http://www.herbertsmith.com/NR/rdonlyres/90569C09-3BC7-4E0B-A15C-942AF450391B/5467/Energypolicy01.htm>.

²⁴ Forbes.com, AFX News Limited 'China targets strategic oil reserve of 12 mln tons by 2010 - report 09.12.07, 10:47 PM ET <http://www.forbes.com/markets/feeds/afx/2007/09/12/afx4112470.html>

²⁵ Mehmet Ögütçü, 'Foreign Direct Investment and Importance of "Go West" Strategy in China's Energy Sector', OECD, March 2002, <http://www.oecd.org/dataoecd/1/35/2085596.pdf>

Beijing also tries to use energy FDI in its 'Go West' strategy – the Chinese government's plan proposed by former President Jiang aimed at the development of the country's eleven Western provinces and autonomous regions. Thus, for commercially attractive hydrocarbon discoveries made by a foreign energy company, China made an 'exception rule', "contemplating taking a 25 to 35 per cent stake in joint development, rather than the 51 per cent set by previous contracts."²⁶ The Chinese government also allowed foreign investment in the region's strategic and distribution infrastructure.

One issue being considered is whether foreign ownership of mining tenements should be allowed once the foreign investor has completed exploration. Under the Mineral Resources Law, foreign investors are, in the main, prohibited from owning a 100per cent interest in mining tenements. The government was aiming to have the review process and the new amendments completed in 2008.²⁷

The Chinese government has not released any details about the proposed amendments. The government is seeking submissions from some of the world's leading resources companies such as Rio Tinto and BHP Billiton on how the current mining laws should be amended to bring them in line with worldwide industry practice.²⁸

It is likely that bilateral energy cooperation can be quickly transferred to a strategic dialogue as China is rapidly becoming the world number one energy consumer. Zhang Guobao, vice chairman of the NDRC, underlined the importance of opposing 'cold war' mentality and of "work[ing] together to guarantee stable world oil supplies and prices."²⁹ The same official claimed that U.S. oil companies had already invested \$5 billion in 20 China-based hydrocarbon exploration and production projects. It is estimated that "the crude oil output of China's offshore oil projects, in which U.S. companies are taking part, reached 15.53 million tons in 2005, accounting for 53 per cent of CNOOC's total crude output."³⁰

²⁶ Ibid.

²⁷ Deacons law firm, Legal Update July 2006, Georgette Leader, <http://www.deacons.com.au/UploadedContent/NewsPDFs/LU-200706-china-plans-tochange-mining-law.pdf>.

²⁸ Ibid.

²⁹ Shai Oster, 'Chinese Official Calls on US To Jointly Develop Oil Fields', *The Wall Street Journal*, September 12, 2006.

³⁰ 'US oil companies are active in exploring China's oil market', *Xinhua News Agency*, September 25, 2006.

In spite of a certain degree of mistrust of China's policy, U.S. energy businesses are definitely interested in Chinese oil and gas projects, as the following brief sketch shows.

ConocoPhillips³¹ is one of the largest offshore oil producers in China, and has operated there for 27 years.³² Its operations in China produced 34 mbd oil equivalent per day in 2006. Its assets include shares in the Xijiang and Panyu oil fields in the South China Sea, the Peng Lai (PL) 19-3 oil field in China's Bohai Bay, and the Ba Jiao Chang (BJC) gas field located onshore in Sichuan province. Interests in the Panyu and BJC fields were attained through ConocoPhillips' acquisition of Burlington Resources in March 2006. ConocoPhillips has a 49 per cent stake in the Bozhong 11/05 block and has produced 30,000 bbl/d of crude oil from its Peng Lai 19-3 field since 2002, which it expects will eventually produce 140,000 bbl/d.

Chevron proudly claims a start date for its operations in China beginning 1913, with the sale of highly popular kerosene lamps. Its more recent presence dates from 1979, when it was one of the first Western oil firms to enter China.³³ Other highlights of its presence there are:

- ❑ total daily production in China: 100,000 barrels of oil and condensate and 65 million cubic meters of gas.
- ❑ Chevron is a partner in one of the first offshore oil production projects in the Pearl River Mouth Basin of the South China Sea (32.7 per cent interest in the CACT Operators Group, total group production – 110,000 b/d). In Bohai Bay Chevron has a 24.5 percent interest in the QHD 32 6 oil field, the first CNOOC-operated development involving foreign participation.
- ❑ Chevron has four onshore production sharing contracts with coal bed methane and conventional natural gas potential.
- ❑ Under the Caltex name, Chevron has 85 service stations and an expanding lubricant business (through Caltex subsidiary).

ExxonMobil Corporation, which took part in the first offshore tender round in China, currently has no upstream oil assets in the country. In July 2005, Sinopec reached an agreement with ExxonMobil and Saudi Aramco to

³¹ For more information, see www.conocophillips.com.

³² See ConocoPhillips China Business Unit, "Sustainable Business Report 2006", http://www.conocophillips.com/NR/rdonlyres/C71EB09E-3CAA-49A1-95E1-3E3DD436C4B0/0/China_SD.pdf.

³³ For more information on Chevron operations in China, see "China Fact Sheet", May 2008, <http://www.chevron.com/documents/pdf/chinafactsheet.pdf>.

expand the capacity at its Quongang refinery in Fujian from 80,000 bbl/d to 240,000 bbl/d.

Smaller U.S. players are also present in China:

- ❑ **Primeline** (almost exclusively focused on China) is the only foreign company that has made a gas discovery in the East China Sea basin and it owns the rights to the Petroleum Contract for Block 25/34, P. R. China. The current focus is to commercialize the gas discovery.
- ❑ **Devon** has interest in 3 offshore blocks (2 as the operator). In 2006 the company's oil reserves in China amounted to 17 million barrels (production 4 million).
- ❑ **Newfield** produces from two oil fields in Bohay Bay (12 per cent interest). Newfield also obtained two new blocks in the Pearl River Mouth Basin in 2005 and in 2006.
- ❑ **Noble Energy** is jointly developing resources within the Sheng Li oil field, southeast of Beijing. In January 2003, Noble Energy commenced crude oil production from the Cheng Dao Xi (CDX) field (57 per cent interest), located in southern Bohai Bay off the coast of China (production 9,000 b/d).

CHINA'S INVESTMENT IN THE U.S. ENERGY SECTOR

In strong contrast with United States energy investment in China, there is no major Chinese FDI in the U.S. energy sector. The most significant effort to date to make such investment was the aborted bid for Unocal. China's National Offshore Oil Company (CNOOC) made a vigorous approach with an \$18.5 billion bid for Unocal, including potential natural gas assets in central Asia and Burma, apparently supported by the Chinese government. The U.S. House of Representatives overwhelmingly passed a non-binding bill to 'review' the bid, citing national security concerns. In the event, CNOOC soon dropped the offer allowing its competitor Chevron to take a controlling stake in the company. However, CNOOC is once again looking strategically at U.S. energy assets together with China's leading oil trader, Sinochem Corp. The two Chinese corporations are currently preparing a \$1.5-2 billion bid for Devon Energy's assets in West Africa and Egypt. The fact that this offer is relatively small makes China's energy businessmen and decision-makers believe that they "may avoid a backlash from U.S.

politicians similar to the negative attention it attracted during the Unocal campaign".³⁴

AFRICA: COMPETITION OR COOPERATION?

Despite rich natural endowments, oil-rich countries in Africa have been unable to escape the 'curse of oil', which has fueled corruption, conflict, and environmental degradation across the region. Adding Sino-United States energy competition to this volatile mix could further destabilize the region. Countries rich in natural resources such as oil, gas, and mining have tended to under-perform economically, have a higher incidence of conflict, and suffer from poor governance. These effects are not inevitable and it is hoped that by encouraging greater transparency in countries rich in these resources, some of the negative impacts can be mitigated. The Extractive Industries Transparency Initiative³⁵ assists in strengthening accountability and good governance, as well as promoting greater economic and political stability. This, in turn, can contribute to the prevention of conflict based around the oil, mining and gas sectors.

Benefits of greater transparency in terms of investment and royalties of mining and energy projects provides a clear signal to investors and international financial institutions that a government is committed to maintaining a stable investment climate. Political instability caused by opaque governance is a clear threat to investments. In extractive industries, where investments are capital intensive and dependent on long-term stability to generate returns, reducing such instability is beneficial. Transparency of payments made to a government can also help to demonstrate the contribution that their investment makes to a country. Benefits to civil society come from increasing the amount of information in the public domain about those revenues that governments manage on behalf of citizens, thereby making governments more accountable.

Africa is fast emerging as one of the most volatile stages for business competition between Chinese and American firms. Africa has vast reserves of energy resources, and accounts for about 8 per cent of the world's known high quality oil reserves, mainly concentrated in the Gulf of Guinea. Table 1 shows the place of Africa in the import production:

³⁴ Andrew Pasek, 'China's CNOOC once again eyeing US energy assets', *Xinhua Financial Report*, 23 April 2007.

³⁵ <http://www.eitransparency.org/eiti/history>.

Table 1: Major destinations for African crude in 2005³⁶
Source location as % share of total imports by importer

	North Africa	Guinea Gulf	Chad Sudan
China	1	9	2
United States	8	34	1
Japan	0	1	2
EU	28	13	0

AFRICAN ENERGY: NUMBER TWO FOR U.S. FOREIGN INVESTMENT

According to David Shinn, Africa was the source of 22 per cent of U.S. crude imports in 2006; compared with 15 per cent in 2004.³⁷ Within the next ten years, the United States could be depending on Africa for a quarter of its oil supplies, according to the U.S. National Intelligence Council.³⁸ Five years ago the U.S. State Department declared West African oil a 'strategic national interest'. CERA's Daniel Yergin confirmed that West Africa is "only going to get hotter. It has the location and the resources; the technology is now there to develop them."³⁹ Since the September 11 attacks, the United States has also stepped up security cooperation with African states.

Available statistics on investment in African energy are somewhat out of date but still provide some picture. U.S. investment in Africa's raw materials and energy industry totaled \$15.305 billion in 2005, which was three times bigger than similar investment made in the Middle East. Indeed, Africa's oil production by the Financial Reporting System (FRS) companies (all U.S. 'oil majors') increased from 468 to 500 million barrels in 2005-06 (6.9per cent annual growth on 2004-2005), while gas production increased from 276 to 365 billion cubic feet in 2005-06 (32.1per cent annual growth on 2004-2005). With production climbing steadily since the late 1980s, Africa became the second-largest crude oil and natural gas liquids-producing region for the FRS companies in 2005.⁴⁰ (See Table 2.)

³⁶ Source: OECD (2005), cited in Christophe Perret, 'L'Afrique et la Chine', *Diplomatie* n° 24, janvier-février 2007, p. 40.

³⁷ See Shinn, "Africa, China, the United States and Oil".

³⁸ African Oil Policy Initiative Group, "African Oil: A Priority for US National Security and African Development", undated, <http://www.iasps.org/strategic/africanwhitepaper.pdf>.

³⁹ *Time Magazine*, June 1, 2007, cited on <http://www.cera.com/aspx/cda/public1/news/pressCoverage/pressCoverageDetails.aspx?CID=8797>.

⁴⁰ US Energy Information Administration, www.eia.doe.gov/emeu/perfpro/production.pdf

In a speech in 2006, Secretary of the United States Department of Energy, Samuel Bodman, reported that U.S. energy investment is heavily focused in several regions in Africa:

- ❑ In the Gulf of Guinea, U.S. energy investment is predominant in the oil and gas sector of Equatorial Guinea - over \$11 billion and growing - in Nigeria, and in Angola.
- ❑ In northern Africa, U.S. Anadarko is the largest foreign oil producer in Algeria and there is also significant U.S. oil and gas sector investment in Egypt.
- ❑ U.S. oil companies in the Oasis Group (ConocoPhillips, Marathon, and Hess) have returned to Libya for the first time since 1986. The lifting of sanctions there has also encouraged other U.S. companies to seek investment and be awarded oil blocks there (Occidental, Hess, Chevron, and ExxonMobil).
- ❑ U.S. oil companies also predominate in oil production in Chad and in the \$4 billion investment that was made in the Chad-Cameroon pipeline project. And there are U.S. independents producing and looking for oil and gas in South Africa.
- ❑ U.S. companies are interested in new areas, including in frontier regions such as Madagascar, Benin, Sao Tome and Principe and Guinea-Bissau. Other frontier countries possibly on the horizon include Liberia and Sierra Leone.⁴¹

According to PFC Energy, in 2003 U.S. energy companies' investment in Nigeria and Angola reached \$1.8 billion, while, in total, Western 'oil majors' have invested \$40 billion in Western Africa between 1994-2004.⁴²

⁴¹ Remarks for Energy Secretary Samuel Bodman, December 1, 2006 Corporate Council on Africa Oil & Gas Forum, <http://www.energy.gov/news/4498.htm>.

⁴² David I. Goldwyn and J. Stephen Morrison. *Promoting Transparency in the African Oil Sector*. A Report of the CSIS Task Force on Rising US energy Stakes in Africa, CSIS, Washington DC, March 2004, p. 8.

Table 2: U.S. oil production and imports (b/d)⁴³

	Production 2005	US imports 2005
US	6,830,000	12,960,000 total
Middle East	25,119,000	2,345,000
West Africa	4,850,000	1,943,000

ExxonMobil has interests in Angola and Congo. The company and its co-venturers have announced a total of 46 discoveries in Angola and the Republic of Congo in 2005, representing world-class development opportunities with a recoverable resource potential of more than 12 billion oil-equivalent barrels. For instance, only block 15 (40 per cent controlled by Esso Angola) is projected to produce 750,000 b/d by 2008.

ExxonMobil is the largest oil producer in Equatorial Guinea and operates two blocks including the offshore Zafiro field (ExxonMobil interest: 71 per cent) with an average production of 260,000 b/d (2005). ExxonMobil is active in Nigeria. In shallow water, ExxonMobil operates a joint venture with the Nigerian National Petroleum Corporation (ExxonMobil interest: 40 per cent for crude and condensate; 51 per cent for natural gas liquids) and has interests in deep water. In 2005, ExxonMobil operations and participation in Nigerian offshore activities produced 730,000 barrels of liquids per day. The Additional Oil Recovery (AOR) project will increase oil recovery and eliminate gas flaring. The project is expected to recover approximately 530 million oil-equivalent barrels and provides infrastructure to access additional resources. Exxon is engaged in development drilling in Chad and Madagascar.

Chevron is the largest producer in Angola and the first to produce in deepwater. The company has an interest in four concessions adding up to approximately 4,700 square miles. During 2003 average total oil production was 550,000 barrels per day. Chevron operates: i) Block 0 (39.2 per cent interest) in offshore Cabinda (production in 2006: 400,000 b/d); ii) Block 14 producing 105,000 b/d of crude oil from the adjacent Lobito fields and the \$3.8 billion Tombua-Landana project; iii) Angola 5 million tons-a-year LNG project (to be put into operation jointly with Angola's Sonangol by the end of 2007). Chevron is also a major player in Nigeria (amongst other African states) where the company has important LNG, oil production and refining interests and holds a 37.6 per cent interest in the West African Gas Pipeline.

⁴³ BP Statistical Review 2006.

U.S. energy companies in Africa clearly are ahead in the competition stakes. As a senior U.S. official noted, “In 2006, total output by all Chinese producers was approximately one-third of a single U.S. firm’s (ExxonMobil) African production”.⁴⁴

CHINA’S INVESTMENT IN AFRICA’S ENERGY SECTOR

China currently derives 27 per cent of its oil imports from Africa, with oil interests in Algeria, Angola, Chad and Sudan and increasing stakes in Equatorial Guinea, Gabon, and Nigeria. China's growing energy partnership with Sudan represents one of a number of areas where Sino-US energy interests diverge in Africa. China National Petroleum Corporation established oil exploration rights in Sudan in 1995. Two years later, when Washington cut ties with Sudan, China filled the vacuum, making Sudan China's largest overseas production base. More than half of Sudan's oil exports go to China, accounting for 5per cent of China's total oil imports.⁴⁵

China’s dependence on oil imports is growing and will reach 80 per cent in 2030. The share of African imports in China’s energy consumption will increase as well: in 1995, 9 per cent of China’s imported oil came from Africa; in 2005, 28 per cent. In 2004 China invested more than \$900 million in Africa (mostly in the oil, mining and cotton sectors).

CNPC, is present in eight African countries and dominates the Sudanese energy sector (through a major stake in the Muglad and Melut oilfields), Sinopec has E&P agreements in six countries, while CNOOC invested \$2.3 billion in the Nigerian offshore Akpo oil field, where it holds 45 per cent of the capital. For example, the CNPC is currently engaged in:

- ❑ Algeria’s ADRAR oilfield development and refinery construction
- ❑ reserve evaluation in Chad’s Mimosa and Kubla oil fields
- ❑ exploration and Production Sharing Agreement (EPSA) covering 5 years of exploration and 25 years of production for Block 17-4 with Libya’s National Oil Corporation (NOC)
- ❑ oil exploration and production activities in Mauritania, seismic acquisition of prospective oilfields in Niger
- ❑ partial ownership of Block NK and the SLK oilfield in Tunisia

⁴⁴ Thomas J. Christensen, Deputy Assistant Secretary for East Asian and Pacific Affairs, James Swan, Deputy Assistant Secretary for African Affairs, “China in Africa: Implications for U.S. Policy”, Statement Before the Subcommittee on African Affairs of the Senate Foreign Relations Committee Washington, DC, June 5, 2008, <http://www.state.gov/p/eap/rls/rm/2008/06/105556.htm>.

⁴⁵ Christophe Perret, ‘L’afrique et la Chine’, *Diplomatie* n° 24, janvier-février 2007, p. 41.

- ❑ major operations in Sudan, each year producing 16.38 million tons of oil, and holding 550 million barrels of proved reserves.
- ❑ after an agreement of August 30, 2005, partnering with Petronas, Nigerian Express, Sudapet and the Hi-tech Group in a consortium deal with the Sudanese Government to explore and develop oil and gas in Sudan's Block 15.

US AND CHINESE ENERGY INVESTMENT IN IRAN AND IRAQ: INCOMPATIBLE INTERESTS?

The United States and China are dependent on energy resources from the Middle East, both states offer models for international conduct, with the Chinese model becoming increasingly popular in the region. The more politicized and interventionist approach taken by the United States recently, sometimes at odds with U.S. business and industry interests, is in stark contrast to China's approach which is to stand back and get on with business.

China's major energy deals in the region often evoke opposition and suspicion in Washington. For example, in December 2006, the late Congressman Tom Lantos (CA) stated:

the International Relations Committee will closely examine the reported \$16 billion Memorandum of Understanding CNOOC signed to develop Iranian gas fields... Congress recently extended and strengthened the Iran Sanctions Act, as part of legislation which I co-sponsored, and China needs to be warned of the serious penalties it may incur if it pursues implementation of this agreement."⁴⁶

On March 7 2007, he reiterated:

if Dutch Shell moves forward, with its proposed \$10 billion deal with Iran, it will be sanctioned... The same treatment will be accorded to China and India should they finalize deals with Iran.⁴⁷

However, until now, the U.S. Administration – relying on its waiver authority -- has never sanctioned any foreign company that has invested in Iran. Moreover, U.S. Secretary of Energy Samuel W. Bodman confirmed on December 7, 2006 that the U.S. should further improve cooperation with China on energy security. "Our cooperative efforts to secure energy security will

⁴⁶ Quoted in 'US panel to review CNOOC-Iran gas field development deal'

⁴⁷ Statement of Chairman Tom Lantos at Full Committee Hearing, "The Iranian Challenge", March 7 2007, <http://foreignaffairs.house.gov/110/lantos030607.htm>

pave the way for economic growth so vital to our future prosperity,” he added⁴⁸.

The implications of China-United States energy “competition” in the Middle East extend beyond the region and include a mix of both commercial and security impacts. At present, China has to depend on the United States and its allies to guarantee security of the main international shipping lanes and major ‘choke points’ from the Middle East through which so much of its imported oil comes. Beijing is attempting to reduce this dependence on United States military power by increasing access to oil and gas imports from other regions, developing alternative routes and increasing its naval capacity. Right now, China’s naval capacities are mainly focused on possible conflict over Taiwan rather than defending major maritime energy routes and key ‘choke points’ such as Malacca Strait. Beijing is also concerned over its “gradually weakening position in the Indian Ocean as New Delhi develops new generations of weapons systems with U.S. support.”⁴⁹

Yet these concerns may be somewhat exaggerated. Blockage of major maritime routes would almost certainly mean “directly attacking China, directly attacking other nations, interfering with the peacetime passage of third-country tankers at sea, or all of the above,” warned Bernard Cole of the U.S. National War College.⁵⁰ The United States and its allies have always shown a firm response to any threat to shipping. The most recent example of this was the war on shipping in the Persian Gulf in 1987, when mining of the area by Iran and Iraq, and other forms of direct attack, including missile attack, posed serious threats. The Pentagon has also identified a “Chinese response” (“string of pearls” strategy) intended to imply creation of a number of naval bases along major “energy routes.”

Iran

The United States embargoed strategic energy investments in Iran after the Islamic Revolution of 1979.⁵¹ In strong contrast, China is currently present on the ground as an investor in Iran, with a number of medium sized projects. Based on six months data from the first half of 2006 from the U.S. Department of Energy, Iran was one of China’s top three sources of imported oil. Angola

⁴⁸ Quoted by Xinhua News Agency, December 7, 2006.

⁴⁹ ‘US, China, India flex muscle over energy-critical sea lanes,’ *Agence France Press*, October 4, 2006.

⁵⁰ *Ibid.*

⁵¹ Through so called “D’Amato law”

was the most important, ahead of Saudi Arabia. (Such statistics are quite variable depending on the source and date span of data but Iran is in the top suppliers of oil to China.)

China's key investments in Iran:

- ❑ In total, China's 'energy trio' -- China National Petroleum Company (CNPC), China National Offshore Oil Company (CNOOC) and SINOPEC -- have entered Iran with \$100 billion.
- ❑ CNOOC signed a \$16 billion deal with the National Iranian Oil Company (NIOC) to develop the Northern Pars gas field and build LNG plants. Reserves: 80 trillion cubic feet (cf); planned production: 431 million cf/day.
- ❑ SINOPEC 50 per cent stake in Yadavaran oil field agreed on November 2004. Reserves: 3bn barrels; planned production: 300,000 bpd. SINOPEC initially agreed to buy 10 million tons of LNG a year from Iran for 25 years as part of the deal, but no purchase agreement has been signed. Total cost including oilfield development and LNG purchase was estimated at about \$70 billion in late 2004.
- ❑ CNPC's PetroChina involvement in South Pars LNG II project (first agreed in November 2006). Purchase volume: 3 million tons/year, 25 years from 2011.
- ❑ China Power Investment Corp's \$1.8 billion involvement in 3-GW gas-fired power generation capacity.
- ❑ Presence on the oil services market: by 2001, China had signed almost 3,000 contracts in the Gulf worth \$2.7 billion.
- ❑ Engagement in a number of infrastructure projects, including possible connection of the Iranian pipeline system to Kazakhstan's 'East-West' energy corridor, and construction of tankers. Dalian Shipbuilding Industry Corp has delivered to Iran a fourth 300,000-ton oil tanker.

Iraq

Iraq's poor security environment deters large-scale FDI. U.S. companies have won a number of licenses. A major U.S. energy actor in Iraq is Halliburton's engineering branch, KBR, which has contracts in Iraq worth up to \$18 billion, including a single no-bid contract known as 'Restore Iraqi Oil' (RIO) which has an estimated worth of \$7 billion. China's companies are still cautious while planning to invest in Iraq. The main priority for the CNPC in Iraq is to regain its \$700 million development rights to the medium-sized Ahdab oil field.

Poor Prospects for Joint Action on Energy Security

By looking briefly at U.S. and Chinese energy interests in the Persian Gulf, the political background, local wealth and resource endowments suggest that this is not a good region for joint action by the United States and China on the ground in providing energy security to local states. While the two countries have a shared interest in the continued production of oil and gas, and in the security of shipping that carries oil exports, there are significant barriers to joint action in the major oil exporters of the Middle East. These include:

- ❑ sharp political differences over commercial relations with Iran that promote the Iranian government's stability
- ❑ sharp political differences over U.S. and allied military forces in Iraq
- ❑ absence of a regional organization that can provide neutral cover.

CONCLUSION

Official and public commentary in the West by academics, government officials, and the media have sometimes over-accentuated the division between the United States and China on issues relating to energy security. China has been criticized for securing long-term, locked in supply agreements for oil. China has been accused of not respecting environmental threats in development of its energy policy as well as supporting the humanitarian catastrophe in Sudan. These same criticisms have also been made of the traditional multinational oil companies' involvement in other African states in the past. The experience of these companies may provide an important starting point for Chinese companies investing in Africa in order not only to protect the return on the initial investment, but to ensure a more sustainable investment climate well into the future.

The United States and China are naturally skeptical of the intentions of each other's energy policy as both are competing commercially for limited global resources and this competition evokes broader national security concerns. This was evident in the U.S. opposition to the attempted purchase by CNOOC of the U.S. energy company Unocal.

There is clearly a need for confidence building between the two sides. This is the main argument in article by Chinese scholar who called on both countries to pursue a policy of 'strategic reassurance' with each other on energy security.⁵² The essence of these proposals is that the United States and China

⁵² Zha Daojiong, 'Energy in Sino-American Relations: Putting Mutual Anxiety in Context', *Strategic*

together have the purchasing power to redress the asymmetrical relationship between energy supplier countries and energy consumer countries. One suggestion in an off-the-record session from a Chinese scholar that illustrates this is the proposal that the two countries send a joint fact-finding mission to Africa, not just as an effort to get them on the same page about the activities of the other, but also to send a signal to producer countries about how far they can go in their policies of 'divide and rule' before the United States and China start coordinating a joint push-back. Yet it is quite clear that the United States and China are not even on the same page when it comes to the facts of each other's energy policy, particularly in Africa.

Yet the ground is shifting rapidly. China and the United States are moving closer together on issues of energy security. Since they are the two top energy consumers in the world, they share a common challenge on price issues. Even more importantly, they share leadership roles (unwanted in both cases) in the fight to reconcile energy security policies with climate security.

The two countries are in fact 'natural allies' in energy security,⁵³ and that alliance is providing something of a rallying point for a fast improving bilateral relationship still dogged by divisions about Taiwan, arms sales and proliferation, trade deficits and human rights. The energy security relationship is providing this rallying point because both sides are now intensifying rapidly their interest and activities both in each other's domestic energy sector and in each other's role in the global energy security system. A decade or more of a fairly predictable and traditional set of interactions by China and the United States in each other's energy sectors is being transformed by creative proposals for new joint initiatives that go the heart of global energy governance.

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⁵³ This term has been used by General James L. Jones, the CEO of the new Institute for 21st Century Energy in the US Chamber of Commerce.

2. CHINA'S APPROACH TO ENERGY SECURITY AND DEVELOPMENT ASSISTANCE IN AFRICA

Dr Willem van der Geest

INTRODUCTION

The Chinese approach to its energy security has three major strands: self-sufficiency, efficiency and diversification. Chinese forays into resource-rich African countries, including Sudan, are part of achieving the third objective. However, as this part of the paper will argue, the China-Africa engagement is by no means only or primarily determined by the thirst for oil and mineral resources. Global political aims and trade expansion objectives play a major role and sometimes are even more important.

Chinese energy security is driven first and foremost by the aim to achieve an acceptable degree of self-sufficiency, that is, to ensure that a very substantial share of its domestic energy consumption will be met from its own domestic supplies, through reliance on coal, hydro and nuclear power. Second is efficiency, that is the stated aim to invest in realizing greater energy efficiency and optimizing of its energy use. Third, is to ensure diversification of the geographical sources of supply as well as of the routes of supply.

Hence, the importance of the link between energy security and Chinese development assistance in Africa is vastly overstated. The myth to discard is that China at present does or in the foreseeable future would substantially depend on energy supplies from Sub-Saharan Africa (e.g. Sudan, Angola or Nigeria). This is simply incorrect – if China were to discontinue importing from Sudan, it could quite easily substitute supplies from other sources, including Russia, the Middle East as well as South East Asia. Of course, China has invested significantly in sub-Saharan African oil supplies and would be keen to ensure that its investments will pay off. However, the Chinese state-owned enterprises have also invested extensively in oil and gas across Asia (e.g. Indonesia, Myanmar, and Kazakhstan) and these sources of supply are *de facto* much more important than the African links.¹

¹ On January 15 2007, CNPC and the Government of Myanmar signed contracts for the Chinese to explore for oil and gas in an off-shore area of approximately 10000 square kilometres (3 blocks), adding to the agreement reached in October 2004 for exploration rights in a block near the port of Kyauk Phyu, which is to be connected to Yunnan province through a 900 mile pipeline. In the same area India's ONGC as well as Korea's DAEWOO hold concessions.

The Economist's front page of March 15th, 2008 on 'The new Colonialists' offers a neat example of the illusionary power of modern photography.² While the guide leading the camel caravan is a Chinese looking male, dressed in a military outfit and waving the Chinese flag, his followers are evidently western tourists, wearing jeans and sneakers, entirely inappropriate for the sub-Saharan desert. The 14-page special report does not either convincingly substantiate its sub-title 'A ravenous dragon' – rather it seems as if the final editing and lay-out has charged the front page presentation way beyond the well-researched content of the report.

The article's caption refers to Chinese 'hunger' for fuels, metals and grains, but goes on to conclude that 'Western mining firms are enjoying a sustained boom'. In the introductory pages it states clearly that the report 'will argue that concerns about the dire consequences of China's quest for natural resources are overblown'. *The Economist* aptly argues that 'markets for commodities are global' and hence there is no chance of any single consumer cornering supplies.

With respect to oil and fuel consumption within China, the number of cars sold is growing steadily, at about 37 per cent per year. However, cars in China are 50 per cent more efficient in China than in America. Indeed, subsidies on energy consumption have been halved in a single year from 2005 to 2006 and the fuel price for consumers has increased very substantially in recent years, notwithstanding serious concerns over inflation and a public commitment of Prime Minister Jiabao to keep price levels stable. Rebates on energy intensive exports were reduced, sometimes abolished.³ Hence, the policy framework is wholly consistent with the stated aim of energy efficiency.⁴

² *The Economist*, March 15-21st, 2008.

³ Environmental protection is increasingly stringently enforced in major urban areas, particularly Beijing, to address the emission of sulphur dioxide, the cause of acid rain.

⁴ In the context of the fast rising crude prices, and faced with the fact that Chinese refineries were making losses⁴, the government increased fuel prices levels in Nov 2007 by 8.5 percent (0.46 yuan). From a low in Feb 2001 of 2.82 yuan per litre, when crude prices were approximately \$ 25 per barrel, the state-regulated prices were increased to yuan 5.34 per litre from Nov. 1, as crude prices were hovering close to \$100 per barrel. The result was a price at \$2.70 per gallon, close to the US retail price level which stood at about \$3.00.

INSTRUMENTS OF CHINESE ENGAGEMENT

The Chinese government engages with the rest of the world through its trade linkages, attracting inward investment and supporting outward investment as well as through extensive diplomatic and political engagement. On the trade side, the Chinese producers have been hugely successful and in 2007 the country realized a trade surplus of €159 billion with the European Union alone and even more with the United States. According to their own figures, the Chinese foreign exchanges reserves had grown to a level of \$1.333 billion by the end of 2007 – up by \$ 392 billion in a single year, reflecting the current account surplus (approx. \$ 220 billion) as well as effects of the appreciation of gold holdings and other non-dollar assets, including the Euro. The Chinese government is thus in an extremely strong position to engage in international acquisitions in support of its energy security objectives as well as to effectively support its other foreign policy objectives with cash and grants.

Investment

The Chinese government directs the economy through state-owned enterprises in all key-sectors of the economy, supported by a tight regulatory regime which in many instances falls short of the international principle of 'national treatment' -- that is, it favors domestic enterprises more than foreign enterprises.

Chinese Foreign Outward investment has grown substantially in recent years and is part of the internationalization of the Chinese economy. China is presently investing through a variety of mechanisms in the United States, Latin America, Africa and Europe.

Development Assistance

The Chinese government does not have a Minister or Department for International Development. Within China, the cooperation and assistance with developing countries presently is *and is likely to remain* under the purview of the powerful Ministry of Commerce (MOFCOM).⁵ In effect, Chinese aid is an integral part of trade promotion. MOFCOM has a foreign aid department and there is an executive bureau of international economic cooperation, the implementing agency for foreign aid projects.

⁵ As an example to illustrate this, the visit of E.U. Commissioner Louis Michel to China raised the question on the Chinese side as to who would receive him – the Minister of Foreign Affairs or the Minister of Commerce. The question was resolved in favour of the latter.

In accordance with the Millennium Development Goals (MDGs), China has helped about 100 other developing countries and established about 2000 projects concerned with industry, agriculture, communication, electrical power, energy and transport, and aim to improve the capacity for development. China has provided materials, training and small amounts of cash aid. Training programmes teach technical expertise and have been extended to officials and economic and political issues. 19,000 administration officials and technology specialists have been trained in China. China has signed debt relief agreements with 45 countries and provided humanitarian aid in cases such as the tsunami in Indonesia, the earthquake in Pakistan, hurricanes in Madagascar and the train explosion in North Korea.⁶

China's aid policy is based on the principles of (i) cooperation for peace and (ii) cooperation for development. Foreign Aid is not normally provided in cash but through projects on the ground or economic projects to help local people. Chinese interlocutors maintain that their strategy is well-received by beneficiaries.

At the EU-China summits in Helsinki 2006 and Beijing 2007, statements were included that development policy would be part of EU-China relations. However, there can be no doubt that China would put the 'non-interference' principle central in its development assistance. Hence, it is bound to remain highly adverse to any 'political' conditionality.

However, questions have been raised around the issues of trust, approach, scope and the practical realities of any possible collaboration. It is clear that development policy is a potentially controversial area of cooperation between China and the EU.

Hu Jintao, President of China, said the most pressing task that countries faced was the strengthening of international cooperation on development, narrowing of the North-South gap, and ensuring the realization of the Millennium Development Goals. Speaking about the plight of developing countries, he stressed that the key to successful development "lies in a country's independent choice of the path and mode of development suited to its national conditions". He also called on the international community, especially developed countries, to forgive the heavy debt burdens of the least developed countries, which prevented them from achieving economic growth. The United

⁶ Statement by Yu Yungtang, Director European Affairs, Ministry of Commerce, KAS-EIAS conference on EU-China Cooperation with Developing Countries, July 2006.

Nations, for its part, must be empowered to play a stronger role in promoting international cooperation.

Turning to China's role in promoting development, he said his country was working hard to raise its standards of living by "opening up to the outside world", through the building of a more open market system and keeping its WTO commitments by continuing to lower tariffs. He cited specifically China's efforts to support developing countries through the lowering of tariffs for 30 LDCs while reducing or cancelling some of their debts. Looking ahead, he said that China planned a number of new measures to improve the lot of developing countries including more tariff reduction, expanding aid and debt forgiveness.

The Ministry of Commerce does hold a specific position on its relations with African countries, but this is part of its general stance on its position vis-à-vis developing countries. Although China is not a member of the OECD, it is a signatory to the important 2005 Paris Declaration on Aid Effectiveness, which projects the key-principles of, inter alia, national ownership of development assistance and the need for alignment with national priorities. China is quite comfortable with these principles and it is reviewing the possibility of following up its endorsement of the Paris Declaration.⁷

China has been involved in Africa and other developing countries for more than fifty years. Its foreign aid policy has similar activities to that of the E.U. or its member states, but is less based on cash and more on technical assistance to develop capabilities, debt relief in the high debt countries and work in fields like public health. An example given was the large numbers of medical doctors operating in Africa.

Political Influence

Chinese perspectives on global governance include four pillars: first, reliance on 'soft power'; second, the global implications of China's peaceful rise; third, the search for a harmonious world; and fourth, China's own view of its international and global responsibilities.⁸

⁷ China's statement at the 60th General Assembly, 14th Sept 2005, reviewing the Monterey Financing for Development Conference, United Nations. The 2006 Helsinki summit noted that 'both the E.U. and China are signatories of the Paris Declaration on aid effectiveness. The two parties will continue to promote the effectiveness principles contained in the Paris Declaration.'

⁸ This subsection is based on a presentation by a leading analyst, Prof Shi Yin Hong of Renmin University, at the Europe-East Asia Think Tank Dialogue as reported by van der Geest (2007).

1. China's strategic positioning overwhelmingly relies on its projection of 'soft power'. One core element lies in its economic and trade diplomacy. This is complemented by public diplomacy, where China is trying to explain its role and position to a broader international audience, stimulating and supporting research about China. Furthermore, the Chinese government is trying to promote its skills, amongst others in business and trade, to the rest of the world. Finally, there is an effort to promote a better appreciation of Chinese culture and perceptions in the form of cultural exchanges, especially through the Confucius Institutes. The Chinese soft power projection has gained a lot of credibility in developing countries because of the country's rapid domestic development.
2. China's doctrine of its 'peaceful rise' is part of its wish to communicate its intention to accomplish the rise to global power status through non-violent means. It argues, not always convincingly, that its peaceful rise will offer a win-win situation for other global players, including the United States, the E.U. and Japan. The cutting-edge problem for China is its lack of mineral and energy resources. The rise of China as a global trader will require great patience from the side of the Chinese people. The transformation of the global economic system will require economic restructuring at the international level. This will take time and an international agreement will need to be worked out. In this sense, the reliance on soft power and the doctrine of China's peaceful rise are complementary. However, today Beijing lacks that greatest asset of soft power, which is a normative consensus on the desirability of its rise and agreement on the major steps and milestones for such a rise to be accomplished. The Washington consensus does not (yet) have a Chinese counterpart, notwithstanding efforts to construct a Beijing Consensus.
3. The doctrine of a harmonious world is the third pillar to the Chinese view on global governance. The concept was informed by the changing global landscape which prompted China to adopt a 'new internationalism'. The hallmark of this is the notion that all countries are equal and that leadership needs to be manifested in a consensual way. To settle international disputes will require the involvement of all actors concerned. Hence, China is now participating in finding multilateral solutions for international problems. Chinese ideologues are keen to note the contrast with the present U.S. administration, which has pursued unilateralist actions.

4. The fourth pillar of China's perception on global governance was its changing recognition of its global responsibilities. The second generation of the Chinese leaders, in particular Deng Xiao Ping, urged China to keep a low profile in international issues, but instead, to concentrate on its responsibility towards its own people. Foreign observers had charged that China was not doing enough and that it was behaving like a free-rider in international affairs and global governance. The present generation of Chinese leaders had responded to this charge and they are now increasingly willing to discuss and engage with global civil society, with the purported aim of contributing to a harmonious world.

The allure of the Forum on China-Africa Cooperation (FOCAC) held in November 2006 in Beijing may well be compared with the historic Bandung conference on Asia-Africa cooperation, held in 1955. African leaders of some 50 countries were in attendance and large aid-packages were committed. The main difference is, however, that the Non-Aligned Movement of the 1950s was an attempt to move into a post-colonialism world, sponsored by an array of newly-independent countries including China, India, Pakistan and the host country Indonesia. In contrast, the Forum on China-Africa relations was solely about bi-lateral relations with China and its foreign policy.

It is also important to emphasize that one key-element of the political agenda of the FOCAC was to win support by African nations to discontinue their diplomatic support and recognition of Taiwan, using carrot and stick approaches. Chinese offers of support would not be extended to countries that have diplomatic relations with Taiwan, except as part of a bid to have them switch the recognition to China.

CHINA'S APPROACH TO AFRICA: THE CASE OF SUDAN

The Chinese position is that sanctions on Sudan would only complicate the issue. The Chinese Special Representative on the Darfur issue, Ambassador Liu Guijin, has restated this in June 2007, noting that some progress had been made with the Darfur issue.⁹ The Special Representative expressed at that time the views that:

⁹ In particular, he referred to (i) the Addis Ababa Consensus, mediated by Kofi Annan and accepted by U.N.S.C and the international community; (ii) the Sudanese willingness to talk with rebels to convince to join the Darfur Peace Agreement.

- ❑ deployment of hybrid peacekeeping forces in Darfur should be promoted;
- ❑ a U.N. resolution on sanctions would not be timely; and
- ❑ the sovereignty and territorial integrity of Sudan should be respected.

The latter position implied that U.N. or hybrid peace-keeping forces should 'seek the consent of the Sudanese government before entering Sudan'.

On March 7, 2008 the Chinese Special Envoy offered a further press-briefing in Beijing at the Ministry of Foreign Affairs after his return from his fourth visit to Sudan. At that occasion Mr. Liu said 'China was pressing Sudan to do more to end the violence', but he also added that 'rebel groups also shared responsibility'.¹⁰ He said that Sudanese officials had told him that the recent government attacks were an effort to reclaim land taken 'by insurgent fighters' last December and he acknowledged that 'the reality is [that] the clashes there are not yet concluded and the situation is still quite tense'. Hence, the Chinese position, since 2007, seeks to endorse and re-enforce the multi-lateral viewpoint, including active support for the mediation efforts and recommendations of former U.N. Secretary-General Kofi Annan. Furthermore, China does no longer deny the seriousness of the problem, nor the importance role of the international community including itself.

Most independent observers would agree with Mr. Spielberg when he argued that 'China's economic, military and diplomatic ties to the government of Sudan continue to provide it with the opportunity and obligation to press for change'. Indeed, few would be willing to go along all the way with Chinese Special representative who argued that the Chinese position on Darfur is essentially the same as that of the United States and other Western powers. On arms sales, Mr. Liu said China was 'one of several countries' that sold weapons to Sudan and it is "by no means the biggest exporter."

However, there can be little doubt that China has addressed to a considerable extent the criticism leveled against it from U.S.-sponsored NGOs such as Human Rights Watch (HRW), which published a stinging critique of Chinese involvement in Sudan in November 2003. This was a follow-up to an earlier HRW publication of 1998, which had observed that the Chinese were supplying arms to both sides, that is, the Sudanese government and their opponents, indicating that the motives were primarily mercantilist, rather than political.

¹⁰ Report by New York Times, March 8, 2008 'China defends Sudan Policy and Criticizes Olympic Tie-in'.

Chinese Investment in Sudan

According to an article published in December 2004 in the Washington Post Sudan was at that time “China’s largest overseas oil project”. The Post wrote that

“China National Petroleum Corp. (CNPC) bought into the Sudan consortium in 1996. It joined with Sudan’s Energy Ministry to build the country’s largest refinery, then [in 2003] invested in a \$300 million expansion that nearly doubled production. By 2004 the Heglig and Unity oil fields produce 350,000 barrels per day, according to the U.S. Energy Department. Separately, CNPC owns most of a field in southern Darfur, which began trial production in 2004 and a 41 percent stake of a field in the Melut Basin, which is expected to produce as much as 300,000 barrels per day by the end of 2006.” (*Washington Post*, December 23, 2004).

The estimated total investment by the CNPC in Sudan’s oil sector stands at \$ 8 billion according to the Financial Times. Sudanese and Canadian companies raised the investment for a 994-mile long pipeline from the Heglig and Unity fields which led to a dramatic increase of Sudanese oil production, mainly for exports as the attached figure illustrates. A second pipeline was brought online in November 2005 which added to the increased export level of Sudan. Estimated oil exports amounted by the end of 2006 to approximately 320000 barrels per day (bpd), whereas the proven oil reserves of Sudan amount to 5 billion barrels.¹¹ Official estimates for 2006 put the level of total production for Sudan at 414000 barrels per day, which is a 14 per cent increase over the previous year.

The main reported destinations for 2006 were Japan (124000), China (99000) with the remaining 97000 for India, Indonesia/Malaysia and South Korea together. Preliminary estimates for production during 2007 put the figure well above 500000bbl/d. It is likely that the level of exports from Sudan to the rest of the world will increase substantially, although the statement of the Minister of State for Mines and Energy, Ms Angelina Tany, that Sudan’s production would reach 1 million bbl/d by the end of 2008 needs to be taken with considerable caution.

¹¹ This puts Sudan at the 5th place of African oil reserve holders, measured in billion barrels, following Libya (41.5), Nigeria (36.2), Algeria (12.3) and Angola (8).

It is important to emphasize that, although China's CNPC is presently the largest foreign oil investor in Sudan, other Asian companies are present in a big way too. Table 1 below indicates the shares of the other investors in the Heglig and Unity blocks.

**Table 1: Sudan Oil Field Production And Concessions
Heglig and Unity Fields**

	blocks 1,2,4	blocks 3,7	block 5a	block 6
<i>Proven reserves</i>	600m-1.2b	460m		
<i>Production bbl/d latest estimate</i>	260000	165000	38000	40000
<i>Company</i>	GNPOC	PETRODAR	WNOPC	CNPC
<i>Shareholders</i>	CNPC 40%	CNPC 41%	Petronas 68.875%	
	Petronas 30%	Petronas 40%	ONGC 23.125%	
	ONGC 25%	Sudapet 8%	Sudapet 8%	
	Sudapet 5%	Gulf Oil 6%		
		Al-Thani 5%		

The presence of the Indian state company ONGC as well as of the Malaysian Petronas are very pronounced indeed. In the case of the Thar Jath and Mala fields (block 5a) the lead operator of the consortium WNOPC is Petronas, in cooperation with the Indian ONGC, but without the Chinese CNPC. At a meeting in New Delhi (17 January 2007) between the Indian and Sudanese oil ministers, the Indian minister expressed satisfaction over the cooperation, with the stated intention of deepening and extending the cooperation.

CNPC is said to have secured a valuable concession in the contract for renovation the Sudanese refinery: if debt service on the refinery is not met, CNPC has the right to lift the equivalent of crude oil in kind. The IMF has commented that regarding the debt to CNPC for the refinery, "nonpayment thus is not a realistic option." Debt service payments for the Khartoum refinery, amounting to U.S. \$ 60 million, would have priority over all other debt service payments, such as to the IMF, the World Bank, and other creditors. However, the assertion of a U.S. NGO that this would 'leave Sudan without its domestic fuel to refine' does not cut much ice and is simply not backed by the facts.¹² Quite plainly, the Sudanese state-owned petroleum company Sudapet has a share in several of the oilfields alongside CNPC and thus would always be able to supply the refinery from its own wells.

¹² Human Right Watch, (2003), 'China's Involvement in Sudan: Arms and Oil', (New York, Nov 2003).

CHINA'S RESPONSES TO INTERNATIONAL PRESSURES ON DARFUR CRISIS AND THE PEACE AGREEMENT

The above narrative indicates the following: China does respond to pressure although in a slow and cautious way.

In particular, China has indeed responded to the international pressure on it over the Darfur crisis and its involvement in Sudan. The responses included the appointment of an Ambassador as Special Envoy for Darfur, who by March 2008 had undertaken four missions to the country and who is in regular contact with the U.N. and the E.U. envoys. Moreover, China has publicly endorsed the mediation effort of Annan and is publicly on record to support joint approaches to work towards resolution. Hence, China now plays within the concert of nations with respect to Darfur. It would be unrealistic and unreasonable to expect that China would be able – just overnight – to resolve an intractable conflict issue which has been unsettled for several decades.

Second, China has been highly exercised by attempts to 'leverage the Beijing Olympics' by linking its role as a host of the games to its role in the Darfur genocide, the Tibet unrest, etc. The usual pattern of Chinese responses to pressure is to seek counter-leverage, through carrots and sticks.¹³ However, this mercantilist approach was unlikely to be effective in the case of the Olympics, because this is a prestige and reputation project, rather than a trade proposition.

ENGAGING CHINA ON AFRICAN DEVELOPMENT

The 2006 Helsinki and the 2007 Beijing EU-China summits include references to cooperation with developing countries. At the Helsinki summit, in addition to important references about Darfur, there was also a reference to a 'structured dialogue on Africa' and exploring avenues for 'practical cooperation on the ground in partnership with the African side, including with the support of NEPAD initiatives'. Hence, the mutual recognition of Chinese and European interests in Africa has been reflected at the Summit. In Beijing in 2007, there was agreement on continued dialogue on African issues to 'actively explore effective ways and channels of cooperation among China, the E.U. and Africa in appropriate areas.'

¹³ For example, when U.S. law makers and human right campaigners attacked a float of CNPC on the New York Stock Exchange, the response was to (i) restructure the bid and (ii) ensure that BP Amoco would take a substantial part of the flotation through offering them distribution concessions for gas distribution in China.

Nevertheless, to date, most if not all interventions in the African energy sector appear to have been driven by the need to secure energy for the EU, the United States and East Asia. It is proposed here that an African Energy Security Consortium is formed, with the support of the European Union, the United States and China.¹⁴

The consortium's primary aim would be to develop a comprehensive energy security strategy for Sub-Saharan Africa. It would develop long-term strategic insights into the scope for 'new' issues such as the:

- ❑ development of renewable energy sources (solar, hydro, bio-mass, etc.) for domestic consumption as well as for exports;
- ❑ use of new and energy efficient technology in key energy-intensive sectors such as steel, cement, brick making, etc.
- ❑ framework for exploration and production-sharing contracts;
- ❑ outline for trade in energy products within Sub-Saharan Africa
- ❑ development of efficient refining capacity within Africa;
- ❑ agenda for financing of new energy production facilities.

The Chinese may point to some effective interventions in support of *Africa's* energy security. Such examples may indeed even be found in Sudan, where the renovation of the Sudanese refinery contributes to Sudan's own energy security and efficiency. Its output is primarily for the domestic market. Similarly, China's support for the development of hydro-electricity in Sudan helps to reduce the latter's excessive dependence on oil-reserves which at present supply 93 per cent of the country's energy needs.¹⁵

The Consortium could be formed through a Trust Fund, managed by a competent organization such as the World Bank. Private Foundations such as Rockefeller, Gates, etc. could also provide resources and may be involved in the implementation. The Consortium would have a secretariat in one of Africa's capitals, possibly Khartoum. It would report to African governments and interact with African civil society; it would recruit African expertise, along side with international experts, to facilitate capacity building in Africa.

¹⁴ Inclusion of Japan and India should also receive careful consideration.

¹⁵ Estimate of EIA for 2006; it disregards traditional energy supplies from bio-mass and charcoal, often with disastrous environmental implications.

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APPENDIX 1: POWERING INDUSTRIAL GROWTH: THE CHALLENGE OF ENERGY SECURITY FOR AFRICA¹

I. INTRODUCTION

At the World Millennium Summit held in Johannesburg, South Africa, from 26 August to 4 September 2002, energy was unequivocally recognized as a key element for attaining the Millennium Development Goals (MDGs) and as the corner stone of sustainable development by virtue of its integrated – economic, social and environmental – objectives.

Energy, indeed, constitutes an essential element of life and a necessary component of economic and social development, especially industrial development. It has direct impact on the best conditions of life particularly education, health, access to drinking water and on basic income generating activities.

Industrial development has proved to be more demanding in this regard, and consequently, needs to be sustained by abundant and safe energy supply.

Furthermore, it is impossible to win the war of development without availability of quality energy, in sufficient volume and at competitive cost. More than anywhere else in the world, energy is one of the problems that affect the Continent's development.

An analysis of this sector shows that energy consumption is very low in Africa, the overall primary energy consumption being 3% for a population representing 13% of the world total. Africa has the lowest *per capita* primary energy consumption level, which stands at around 500 KWh/year as against the global average of 2500 KWh/year. There is however very wide disparity among countries which ranges from 60 KWh/inhabitant/year to 1100 KWh/year and to over 4000 KWh/year in South Africa, these figures resulting, for the most part, from energy consumption by industry.

Additionally, electrification rate stands at below 30% for most countries. The rural areas in Sub-Saharan Africa account for only 8%, a figure that even stands as low as 2% in some countries.

¹ African Union, *Powering Industrial Growth: The Challenge Of Energy Security For Africa*, adopted on 24 – 27 September 2007 at the conference of Ministers of Industry, 1st extraordinary session, South Africa, retrieved from <http://www.africa-union.org/root/AU/Conferences/2007/september/TI/cami/doc/Doc.9.doc> on 18 August 2008.

The primary causes of this under-performance are high dependence on traditional energy notably biomass, the low level of trade among the countries due to inadequate infrastructure and the lack of purposeful political will.

Despite all that, the fact remains that Africa is endowed with relatively abundant and diversified energy resources especially fossil energy, which account for 7% and 6% of the global crude oil and coal reserves, respectively. The Continent is also rich in hydroelectric potentials which stand at over 2000 TWh/year. These potentials have however been harnessed only to the tune of 7%. Although abundant, these resources are quite unevenly distributed across the Continent in terms of geographical location. The situation may be presented as follows:

- ❑ Oil is concentrated mainly in North Africa (Algeria and Libya), and in the countries bordering the Atlantic coast (Nigeria, Angola, Equatorial Guinea, Gabon, Congo Brazzaville, etc.);
- ❑ Gas is available mainly in three countries, namely: Algeria, Nigeria and Libya;
- ❑ Coal is found primarily in South Africa;
- ❑ Hydroelectricity is abundant in Central Africa, with the Democratic Republic of Congo (DRC) alone accounting for 774 TWh/year, or 41% of the 1888 TWh/year exploitable capacity; and in East Africa, with Ethiopia claiming 260 TWh/year;
- ❑ Uranium reserves are concentrated mainly in South Africa and Niger; and
- ❑ Geo-thermal energy resources are more abundant in East Africa especially in the Eastern Rift Valley Region (Kenya, Ethiopia, etc.).

Furthermore, there are significant imbalances between energy supply and demand, with demand greater in parts of the Continent that have meagre energy resources.

The energy resource disparity calls for strategies to develop energy projects with special focus on regional and sub-regional levels, the objective being to enhance economic development in the less endowed regions and provide sufficient energy to enhance industrial development in the Continent.

II PROBLEMS OF ENERGY SECURITY IN AFRICA

The issue of energy security for the African Continent involves:

- ❑ Availability of quality energy in sufficient volume for all users, particularly industries;
- ❑ Access to modern energy for the majority of African populations; and
- ❑ Security of supply of energy products, especially oil.

Electricity supply in the African Continent is generally inadequate in relation to needs. This state of affairs is reflected by the fact that a high percentage of the Continent's population has no access to electricity, with Sub-Saharan Africa accounting for over 70%. Electricity production infrastructure is relatively underdeveloped and the Continent's total installed capacity is only 103,000 MW, the North and Southern Africa regions being the most endowed with 33% and 51% of the production facilities, respectively. The reason for this resides in the fact there has not been any significant investment in energy production in Sub-Saharan Africa in the past 10 years.

Electricity installations are generally obsolete in many countries, and this impacts negatively on the quality of the service on offer (power cuts, huge losses, etc.). Electric network interconnections are yet to attain a significant level of development. As a matter of fact, 14 countries (excluding the island countries) are yet to be interconnected with the others - a situation that has translated into a serious handicap.

Consequently, the challenges to be addressed in this sector are multiple. In the first place, the high dependence on biomass as source of domestic energy for over 90% of the African population is characterized by inefficient and irrational use of resources and by considerable negative impact on human health and the environment. Thus, the issue at stake here is that of food security, human health and energy security.

It has therefore become urgent to devise a policy to modernize the traditional biomass sector with a view to blunting all these negative impacts, and to create propitious conditions for harnessing other energy resources. *Such a policy should focus on the building of electricity production and distribution infrastructure not only across national territories but also at regional level, and on rehabilitation of existing infrastructure.*

On the other hand, the recent hikes in the price of oil on the international market have made the cost of supply of these energy resources unbearable for the balance of payment of African countries, inevitably paving the way for measures to be instituted to diversify the sources and forms of energy for all the countries that are highly dependent on petroleum products to meet their energy needs.

With respect to hydrocarbons, the oil importing countries particularly poor African countries are faced with acute energy security problems. As for African oil producing countries, the problem of energy security is viewed in terms of depletion of resources in more or less short timeframe.

In many African countries that are producers of black gold, oil wealth has become a source of political rivalry and competition. In such cases, oil exploitation as well as national stability and security are sometimes disrupted by armed groups. Recriminations are often expressed in terms of lack of transparency in the management of oil revenue and the negative impact of oil exploitation carried out without much concern for protection of the environment and the local population.

Furthermore, international terrorism which also targets oil production, storage and distribution facilities has increased sharply, leading to disruption of supply of these vital energy products across the world. Unfortunately, the African Continent is not immune from this menace.

Consequently, the Continent needs to address two major concerns:

- ❑ For oil producing countries, the concern is how to guarantee and ensure the security of oil and gas production and export, and face up to the problem of eventual depletion of these resources; while
- ❑ For importing countries, the concern is how to ensure availability of petroleum products at affordable cost, and reduce the negative effects of petroleum shocks arising from the spiraling price of oil and gas.

In the circumstances, the African Union encourages its Member States to take concrete regional and international cooperation measures to:

- ❑ Arrest the harmful and destructive activities of international terrorism, source of serious concern for everyone;

- ❑ Put a stop to the internal tensions and violence prevalent in some African oil producing countries through peaceful conflict resolution mechanisms, greater transparency and equity in the management of oil revenue, and measures that take into account the social and environmental impact of oil exploitation;
- ❑ Establish mechanisms for training and capacity building within and among States for surveillance and control of offshore and onshore installations for hydrocarbon production and transportation; and
- ❑ Diversify the sources of supply.

Lastly, we can improve energy security in the Continent only by pooling our energy resources and through the combined efforts of all the stakeholders in Africa's development.

Thus, the challenge that the African Union intends to address in conjunction with the sector's major players and the development partners is to *establish an integrated energy infrastructure capable of developing the energy resources of the Continent and providing reliable and affordable energy capable of stimulating economic development in general and industrial development in particular, and improving the living standards of our populations, while ensuring sustainable protection of the environment.*

III AFRICAN UNION COMMISSION STRATEGIES AND ACTIONS IN THE FIELD OF ENERGY

III.1 Vision of the African Union in the Area of Energy Infrastructure

The African Union Vision in the area of energy is encapsulated in the following terms: **“an Africa endowed with integrated energy infrastructure systems that are reliable, efficient and affordable, and capable of promoting regional integration and ensuring the Continent's participation in globalization.”**

This Vision is in line with the Treaty Establishing the African Economic Community (1991) which, in Article 54, stipulates that Member States shall coordinate and harmonize their policies and programmes in the field of energy. To this end, they shall:

- ❑ ensure the effective development of the Continent's energy and natural resources;

- ❑ establish appropriate cooperation mechanisms with a view to ensuring regular supply of hydrocarbons;
- ❑ promote the development of renewable energy within the framework of the policy of diversification of sources of energy;
- ❑ harmonize their national energy development plans;
- ❑ articulate a common energy policy, particularly in the field of research, exploitation, production and distribution;
- ❑ establish an adequate mechanism for concerted action and coordination for collective solution to energy development problems within the community, especially those relating to energy transmission, the shortage of skilled technicians and financial resources for implementation of their energy projects; and
- ❑ promote continuous training of skilled manpower.

To ensure harmonious development in the Continent, the strategic priorities deriving from this Vision of infrastructure development focus primarily on **upscaling energy production through integration, improved access to modern energy, and diversification of sources of energy and energy supply.**

III.2 Action Undertaken

In pursuance of its 2004-2007 Strategic Plan, the African Union Commission has embarked upon the following priority actions:

- ❑ Elaboration of a continental policy and a master plan for development of Africa's electricity sector;
- ❑ Support to realization of the huge and integrating regional and continental hydroelectric projects;
- ❑ Formulation of a continental policy on hydrocarbons (oil and gas);
- ❑ Elaboration of a continental policy for development of new and renewable energies; and
- ❑ Support to establishment of new African institutions for the energy sector.

1. Elaboration of a Continental Policy and a Master Plan for Development of Africa's Electricity Sector;

Africa is currently mired in a situation characterized by lack of coherence and consistency in the formulation and implementation of sectoral policies and

strategies at both regional and continental levels, particularly in the electric energy sector.

Africa should, indeed, develop and implement coherent energy policy and strategies to scale up energy availability and the level of access by its populations to modern energy, and to meet the industrialization needs of the Continent.

The master plan will be an indispensable tool for evaluating the existing situation, the gaps as well as the state of the industries of the sector, and thereby highlight real needs and the priority actions capable of improving the situation.

Elaboration of a continental policy and a master plan for the African electricity sector will therefore bridge the existing gaps.

In this connection, with the completion of the study on the continental policy and the launch of tender advertisements for the technical study on the master plan for the African electricity sector, the African Union has, indeed, set this vital project in motion. A workshop to validate the outcomes of this stage of study will take place in Addis Ababa from 18 to 21 December 2007. Experts from Member States, the RECs, the regional power pools and African institutions involved in the development of this sector will be in attendance.

The continental policy and master plan will be developed in light of the policies and programmes put in place by, or in progress in, the RECs, the building blocks of the Continent's integration. The long-term objectives are:

- ❑ Step up electricity supply in the Continent by increasing the global level of electricity supply so as to cater for the needs of the greatest number of consumers;
- ❑ Optimize the use and sharing of available energy resources at continental level taking into account the imperative of protecting the environment;
- ❑ Reduce the cost of production and supply of electricity using network interconnections and by stepping up production capacities (economies of scale and large-scale projects) and energy exchange;
- ❑ Institute effective coordination of the various initiatives in the RECs and at continental level for electric energy production, distribution and exchange and for promotion of energy projects and power pools;

- Within the framework of AU/NEPAD programme, create a climate propitious to public and private investment to facilitate financing of integrating electric energy production and distribution projects; and
- In the long-term and like the other Continents, establish an electricity market at continental level.

2. Support to Realization of the Large-Scale and Integrating Regional and Continental Hydroelectric Projects

The strategy for development of the African electricity sector should be anchored on harnessing, in a climate safe and secure for all users, the immense hydroelectric potentials of the Continent and on organization of intra and inter-regional exchange channels through electric networks interconnection projects.

The First Conference of African Union Ministers in charge of Electric Energy held in Addis Ababa, Ethiopia, from 20 to 24 March 2006, endorsed this strategy and took the following decisions, among others:

- Work together to valorize Africa's energy resources, particularly hydroelectricity as a major source of renewable energy to foster sustainable development, regional integration, energy security and poverty alleviation;
- Set up, within the AU, a committee to coordinate development of major integrative hydroelectric projects.

To this end, the African Union plans to promote hydroelectric energy production for the rapid launch and actualization of development projects capable of changing the face of Africa, speeding up the integration process and serving as booster for the Continent's industrial take-off.

The huge Inga hydroelectric project in the Democratic Republic of Congo is one of the large-scale priority projects retained in the African Union/NEPAD flagship programme. Its implementation is expected to pave the way for distribution of electric energy to cover practically the whole of the Continent, thanks to a network of energy evacuation lines that would link the Inga with all the regions of the Continent. Notable in this regard are the WESTCOR Project for the Southern region of the Continent, the Inga-Calabar for the West Africa region and the Inga-Cairo Project for Eastern and Northern Africa.

The socio-economic and industrial development of the African Continent will require an ever-increasing volume of energy. In this connection, one could identify five hydroelectric development hubs from where interconnection lines could emanate and reach out to consumer countries:

- ❑ Hub A: for West Africa, Guinea Conakry, on River Niger;
- ❑ Hub B: for Central Africa, Democratic Republic of Congo, on River Congo;
- ❑ Hub C: for Southern Africa, Mozambique, on the Zambezi; and
- ❑ Hub D: for East Africa, Ethiopia, on the Nile.

Electric energy highways could then link up the zones of influence with these hubs. With respect to the regions where the cost of distribution renders hydroelectricity uncompetitive, development of the sector could be undertaken using gas (as in North Africa) or coal.

Establishing markets around huge hydroelectric sites, like the Grand Inga, will require that the concerned countries come together to jointly implement electrical works which will, by that token, be placed within a legal and institutional framework that safeguards the interest of all the stakeholders. What is involved here is the concept of *internationalization* that allows for risks to be shared among the countries and partners concerned by a specific project of regional or continental interest.

Furthermore, the Commission is presently conducting a legal and institutional study for establishment of a continental coordination structure for the huge integrating hydroelectric projects, with the mission to coordinate and harmonize all activities and mobilize the requisite financing. This structure will also have the responsibility to enlist the support and involvement of all the stakeholders in the development of such mega projects. A validation workshop for this study will be held in Aswan, Egypt, from 26 to 27 November 2007. In attendance will be experts from Member States of the African Union and African institutions involved in the development of the energy sector.

3. Formulation of a Continental Policy on Hydrocarbons (Oil and Gas)

The hydrocarbons (oil and gas) sector is characterized by high price of petroleum products which peaked at an unprecedented level on the world market, to the detriment of weak economies, mostly those of African countries. The issue of escalating oil price constitutes a major source of concern at the highest level of African Governments.

As a matter of fact, the Heads of State and Government of the African Union meeting in their 7th Assembly in Banjul, The Gambia, in July 2006, recognized the need to reduce the impact of the escalating price of petroleum on poor African countries, and reiterated the Decision they adopted in Khartoum in January 2006 for establishment within the African Union of a Fund to reduce the impact of increasing oil price on poor African countries and for coordination of African oil policies.

The Heads of State and Government also requested the African Union Commission to elaborate a comprehensive strategy for cooperation and solidarity between African oil producing and African non-oil producing countries, with a view to:

1. Attenuating the effects of high oil price on the economies of poor African countries which do not produce oil or gas;
2. Maximizing the oil revenues of African oil producing countries; and
3. Boosting the volume and up-grading the quality of petroleum products in Africa with a view to attaining the Continent's development goals.

The African Union Commission worked closely with the African Development Bank for the conduct of this crucial study, the outcomes of which were presented to the 1st AU Conference of Ministers responsible for Hydrocarbons (Oil and Gas) held in Cairo, Egypt, from 11 to 14 December 2006.

That Conference adopted a Declaration calling for this Fund to be lodged at the ADB and underscoring, among other things, Member States' commitment to work towards:

- a. establishing regional group storage facilities to improve the storage and delivery of petroleum products to the non-oil producing countries, particularly land locked countries; and
- b. promoting integrating regional gas and oil pipeline projects and regional refineries as well as joint exploration and exploitation of cross-border oil deposits, and ensuring that governments accord priority to such projects.

The conclusions of that Conference were adopted by the 8th Assembly of the Union held in Addis Ababa in January 2007, and the Fund is expected to become operational in the second half of 2008.

Finalization of the Joint AU/ADB study is under way, and is expected to be available at the end of this year.

Lastly, the African Union supports realization of the large-scale integrating projects in the hydrocarbons sector, especially the West African gas pipeline project which is nearing finalization and the trans-Saharan gas pipeline project still on the drawing board and which will link up Nigeria and Algeria.

4. Elaboration of a Continental Policy for Development of New and Renewable Energies

The African Union will also contribute to development of other alternative sources of energy such as bio-fuel and renewable energies (solar, wind, geo-thermal, etc.) as alternatives to petroleum products and, hence, one way to achieve long-term energy security.

These energies should be meaningfully taken into account, if access to modern energy for the rural population is to be improved.

The African Union will soon set in motion the elaboration of a continental policy for renewable energies such as solar energy, wind energy, geo-thermal energy, etc.

As for bio-fuel, the African Union is planning to formulate a continental policy for development of these new energy sources in accordance with the recommendations of the First Conference of African Ministers in charge of Hydrocarbons (Oil and Gas) held in Cairo, Egypt, from 11 to 14 December 2006.

In this regard, it is needful to mention the first high-level seminar organized jointly by the African Union with Brazil and UNIDO at the Headquarters of the African Union in Addis Ababa, from 30 July to 1 August 2007. It is recalled that that seminar recommended, among other things, the establishment of well thought out African policy on bio-fuel production and consumption that will be environment-friendly and will not compromise food security in African countries.

Lastly, the energy needs necessary for industrial development in the Continent require that we opt for the effective production and use of nuclear energy - an option to which some African countries are beginning to give serious thought.

5. Support to Establishment of New African Institutions for the Energy Sector

The African Union encouraged and supported the establishment of regional power pools whose objective is the creation of a regional electricity market and, in the long-term, an integrated continental market.

The African Union also supports the African Energy Commission (AFREC), official launch of which has been scheduled to take place in Algiers from 5 to 6 November 2007. The objective of this institution is, among other things, to formulate policies, strategies and development plans for the energy sector at sub-regional, regional and continental levels.

The African Union Commission similarly supports the soon to be established Africa Electro-technical Standards Commission (AFSEC), objective of which is to address issues concerning the norms and standards necessary for improved management of the electricity sector.

The African Union will further contribute to creation of a Fund in support of rural electrification (FADER) and of electricity sector regulatory institutions. This activity is crucial for private sector participation in the development of liberalized regional and continental markets.

IV FINANCIAL RESOURCE MOBILIZATION

The African Union Commission provides support and advocacy for financial resource mobilization towards infrastructure establishment as well as other resources, especially for capacity building, research and management of public services and of the sector's regional and continental institutions.

To this end, the Commission is actively working towards instituting a number of partnership initiatives with Africa for infrastructure development, notably: G8 Consortium for Infrastructure in Africa; European Union/Africa Partnership; India-Africa Conclave; China-Africa Forum; Africa-Latin America Dialogue and Millennium Challenge Corporation/*Account*.

In this connection, we welcome the upcoming inauguration of EU-Africa partnership for infrastructure which will take place in Addis Ababa from 24 to 25 October 2007 as well as the launch of the EU-Africa Energy Partnership due to be held on the occasion of the EU-Africa Summit in Lisbon, Portugal, in December 2007.

It is noteworthy that the objective of the EU-Africa Partnership for Energy is to institute permanent dialogue between the European Union and Africa on energy related matters and, by so doing, face up to the challenges of this sector in the 21st Century and come up with bankable projects.

V CONCLUSION

In conclusion, it is needful to underscore a vital element in Africa's development, namely: "**political will**" on the part of Member States to achieve regional and continental integration in Africa's energy sector.

Experience acquired in matters of cooperation shows that political will is critical for the take-off and sustainability of large-scale regional and continental integration projects and, better still, for ensuring energy security and sustained industrial development in the Continent. Experience also shows that this political will needs to be kept alive at all times.

African policy makers should therefore demonstrate resilient political will to devise a concerted and joint approach to pool their energy resources and thereby fast track the process of integration in the Continent.

Thus, the combined effort of all the partners is indispensable in achieving reliable, abundant and affordable energy supply, economically viable, environmentally friendly and capable of sustaining Africa's industrial development.

In this regard, hydroelectricity offers the best potential and the most plausible option in attaining this objective. In fact, hydroelectricity contributed significantly to sustainable development and increased access to electricity in most developed countries. Hydroelectricity should be made the foundation of economic and industrial development and of poverty reduction strategies in African countries.

Additionally, cooperation at all levels in the Continent and with external partners should be strengthened. To this end, special emphasis should be placed on partnership between Africa and the other continents.

The African Union will spare no effort to play its role; that is, leadership and advocacy role, the role of harmonization and coordination of all stakeholders in Africa's infrastructure development, the coordination mechanism of which was adopted only last year.

GLOSSARY

AFREC – African Energy Commission
AOR - Additional Oil Recovery
CERA - Cambridge Energy Research Associates
CSLF - Carbon Sequestration Leadership Forum
CNOOC - China National Offshore Oil Corporation
CNPC - China National Petroleum Corporation
SINOPEC - China Petroleum and Chemical Corporation
NDRC - China's National development and Reform Commission -
DOE – U.S. Department of Energy
E&P - Exploration and Production
EIA – U.S. Energy Information Administration
PSA - Production Sharing Agreement
FRS - Financial Reporting System
FDI - Foreign Direct Investment
HDPE pipe - High Density Polyethylene pipe
IPO - Initial Public Offerings
IAE - Institute of Applied Energy
ITER - International Thermonuclear Experimental Reactor
NOC - Libya's National Oil Corporation
LNG - Liquefied Natural Gas
NDRC – China's National development and Reform Commission
NIOC - National Iranian Oil Company
OECD - Organization for Economic Co-operation and Development
RIO - Restore Iraqi Oil
EPD - The U.S.-China Energy Policy Dialogue
UNOCAL - Union Oil Company of California
PUNT – China Peaceful Uses of Nuclear Technology

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