“With the global flow of energy assuming ever-growing economic and strategic prominence, oil and gas pipelines in the world today have become the major focus of international geopolitical competition.”

Geopolitics Reborn: The Global Struggle over Oil and Gas Pipelines

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Until 1990, most violent conflict was assumed to reflect or embody the global rivalry between the United States and the Soviet Union. With the termination of this contest, it has become more difficult to explain the crises and wars that have erupted in various parts of the world. Many theories have been advanced to satisfy this need, most revolving around identity politics and the “clash of civilizations.” In some cases, these explanations have proved useful in identifying the sources of particular conflicts. But just as often they fail to provide an adequate explanation and it soon becomes evident that other sources are at work. Of these, the competitive pursuit of valuable resources—oil, water, land, minerals, diamonds, old-growth timber, deep-sea fisheries—is among the most powerful.

The pursuit of valuable resources, of course, has long been recognized as a major source of international conflict. Indeed, relations among the major European and Asian powers from 1400 to World War I were largely governed by the competitive drive for control over resource-laden colonial territories—a drive that led to periodic wars between these countries as well as to prodigious slaughter in the colonies themselves. World War II also entailed resource-driven struggle of this sort, particularly in the oil-rich Caucasus and Dutch East Indies—the first a major target of Germany’s 1941 invasion of the Soviet Union, the second the principal objective of Japan’s 1941 foray into Southeast Asia. But material interests of this sort were accorded second place to ideological struggle during the cold war era, when a nation’s alliance to Moscow or Washington was considered the major determinant of its role in world affairs. Now, with the cold war a memory, the tables have been turned once again, and resource competition has assumed its historic role as a major source of international friction and conflict.

This is not just a matter of déjà vu. With world population expected to expand by 3 billion people by the middle of the century and industrialization spreading, the global demand for resources of all types is growing at a torrid pace. Many of these resources are strictly limited in extent and rising demand will soon begin to push up against natural limits. For these and other reasons, international competition for access to vital materials—especially oil, water, natural gas, and land—is certain to become increasingly intense and conflictive.

The competition for access to critical materials has also emerged as a major source of friction within states. Many of the disputes identified in the Western press as ethnic or religious conflicts—such as those in Afghanistan, Angola, Congo, Indonesia, Liberia, Nigeria, Sierra Leone, and Sudan—are in fact struggles between competing warlords, militias, and government factions for control over mines, oil fields, timber stands, farmlands, and other resources. Outside powers and giant multinational corporations often become entangled in these struggles, usually when they side with one faction or another in an effort to maximize their extraction of valuable resources.

We are witnessing the emergence of an increasingly complex and volatile interplay of regional and domestic struggles over control of vital materials. On one side of this equation are the major powers—the United States, Russia, China, Japan, and
Western Europe—that seek dominion over critical resource-producing areas, such as the oil and natural gas fields of the Persian Gulf and Caspian Sea basins. On the other side are local factions—warlords, tribal chieftains, militia leaders—that aim to monopolize the revenues generated by particular resource deposits while enjoying the continued protection and support of their great power patrons. The result, all too often, is the accelerated intrusion of arms, advisers, troops, and mercenaries into areas that are already bedeviled by internecine conflict.

The Caspian Rush

Perhaps the best illustration of this trend is the Caspian Sea basin, which touches the former Soviet republics of Azerbaijan, Georgia, Kazakhstan, Turkmenistan, and Uzbekistan plus Iran and Russia. This region is thought to harbor vast reserves of oil and natural gas, but is also the site of numerous ethnic conflicts, religious antagonisms, and territorial disputes. To further complicate matters, the Caspian itself is land-locked, so any oil exiting the area for markets elsewhere must travel by pipeline through contested or war-torn areas before arriving at ports in stable countries. Within this region, for example, are the embattled ethnic enclaves of Chechnya, Ingushetia, South Ossetia, Abkhazia, and Nagorno-Karabakh. Despite this, the leaders of Russia, China, and the United States all seek to exercise a degree of control over developments in the region and thereby gain access to its valuable energy supplies.

Historically, international competition of this sort—aimed at the control or occupation of critical geographic features such as rivers, harbors, islands, and vital resource sites—has come under the heading of geopolitics. Once a respectable analytical term, geopolitics fell into disrepute when employed by Adolf Hitler and others to justify Germany’s pursuit of lebensraum in central and eastern Europe. The term further lost legitimacy during the cold war, when noble principle—and not material interest—allegedly governed the behavior of both superpowers. But it is geopolitics that best describes the policies and behavior of the United States, Russia, China, and other major powers in the Caspian basin and other areas of mutual interest.

The competitive pursuit of geopolitical advantage by the major powers and its interplay with local power dynamics can take many forms and generate myriad repercussions. While cataloguing all of these would prove a nearly impossible task, it is possible to glimpse the larger picture by examining one of the most striking features of current and emerging geopolitical rivalry: the global race to devise, build, and operate oil and natural gas pipelines.

Where Rivals Converge

In many ways, energy pipelines have come to assume the role once played by other key geographical features in world affairs. At one time, the great powers fought over access to strategically located ports, canals, straits, and other waterways considered vital to international shipping and naval operations. Later, as technology advanced, well-placed airfields and radar stations came to assume an equally significant role. Some of these waterways and facilities still possess considerable importance; but now, with the global flow of energy assuming ever-growing economic and strategic prominence, oil and gas pipelines have become the major focus of international geopolitical competition.

The heightened importance of oil and gas pipelines is indicated by the major powers’ extraordinary efforts to exert control over them or to determine where they are built. From the president of the United States to the supreme leaders of Russia, China, and Japan, key figures have engaged in personal diplomacy to influence the outcome of nominally commercial decisions regarding pipeline length, type, and direction. In some cases, billions of dollars in infrastructure development and other inducements have been promised to potential energy suppliers to secure a favored outcome with respect to pipeline construction. Oil and gas pipelines have also assumed a critical role in international security affairs: American soldiers are now helping to defend such conduits against terrorist attack in Iraq, Colombia, and Georgia; and pipeline protection has become a major concern for Saudi Arabia, Sudan, Algeria, Nigeria, Burma, and other strife-torn producers.

While most governments and international organizations favor the construction of new pipelines in order to help serve the world’s growing requirements for affordable supplies of energy, many NGOs and local constituencies decry such endeavors on environmental, human rights, and political grounds. Strong opposition has been voiced, for

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Much of the future demand for energy will come from China, India, and other newly industrialized countries in Asia.
PIPELINE POLITICS

The political, military, and economic significance of oil and gas pipeline construction is clearly evident in a number of prominent examples:

BTC pipeline. President Bill Clinton personally intervened in the campaign to persuade the leaders of Azerbaijan, Georgia, and Turkey to permit construction of an oil pipeline from Baku on the Caspian Sea to Ceyhan on Turkey’s Mediterranean coast through Tbilisi in Georgia, thus bypassing Russia. Clinton not only called the leaders involved to inform them of his personal interest in the project, but also ordered the State and Energy departments to help remove any impediments to the proposed Baku-Tbilisi-Ceyhan (BTC) conduit. The November 1999 signing of a legal document permitting construction of the pipeline by leaders of the three nations involved was hailed by Energy Secretary Bill Richardson as “a major foreign policy victory” for the United States and was witnessed by the president himself. While critical of many of Clinton’s other foreign policy initiatives, President George W. Bush has been a strong supporter of the BTC project and, like his predecessor, has intervened personally to ensure its success. Bush has also authorized the deployment of US military personnel in Georgia to help train the Georgian troops that will be responsible for protecting the BTC line (which is scheduled to commence operation in late 2005).

Angarsk-Nakhodka pipeline. Top government officials have also intervened in another major contest over the routing of pipelines: the struggle between China and Japan over access to newly developed oil fields in the Angarsk region of eastern Siberia. Beijing favors a route from Angarsk to Daqing in China’s northeast; Tokyo favors a route that would terminate at the port of Nakhodka in Russia’s Far East, a short distance from Japan by sea. Because the Angarsk field is not expected to produce sufficient petroleum to satisfy both China and Japan, the two countries have engaged in an intense bidding war to win Moscow’s favor. China is proposing a shorter (1,400 mile) and cheaper route plus a guaranteed market for Angarsk’s entire output; Japan is offering $7 billion in construction grants to compensate for the longer (2,300 mile) route to Nakhodka. China’s bid was entered earlier in the game, and elicited early Russian interest, but Tokyo responded by sending Prime Minister Junichiro Koizumi himself to Moscow with additional financial incentives. Russia, for its part, is seeking geopolitical as well as financial advantage from the project: because the Nakhodka option will help stimulate the development of Russia’s sparsely populated Far East region and permit sales to a wider base of customers, including the United States, President Vladimir Putin appears to favor the Japanese proposal.

Chad-Cameroon pipeline. Construction of the Chad-Cameroon pipeline—a 650-mile conduit stretching from the Doba basin in southwestern Chad to the Atlantic port of Kribi in Cameroon—has drawn intense criticism from human rights activists, environmentalists, and others. They argue that revenues generated by the export of oil will be used to prop up Chad’s corrupt, authoritarian regime—ruled since 1990 by President Idriss Déby—and that the pipeline itself will damage fragile tropical forests in Cameroon inhabited by indigenous Bakola (“pygmy”) people. Fearing that such criticism would impede their efforts to obtain financing and political support for the $3.5 billion undertaking, the pipeline’s three sponsors—ExxonMobil, Chevron, and Malaysia’s Petronas—persuaded the World Bank to endorse the project by providing a substantial loan, its largest single investment in sub-Saharan Africa. The World Bank, in turn, has demanded an unprecedented degree of accountability and transparency from the Déby government, including a pledge that all oil-export revenues will be dispersed by an independent civic body and used for social and economic development only. These assurances notwithstanding, many critics believe that Déby will find ways to bend the process to his own purposes, making a mockery of the bank’s high-minded endeavors.

Caño Límon-Coveñas pipeline. Another key aspect of the pipeline equation—the vulnerability of such conduits to sabotage and insurgent attack—is vividly demonstrated by the Caño Límon-Coveñas pipeline in Colombia, a 490-mile conduit connecting Occidental Petroleum’s Caño Límon field in the northeast with refineries and ports at Coveñas, on the Caribbean coast. Long a favorite target for leftist insurgents—it was bombed a record 170 times in 2001—the pipeline has become a pivotal factor in US efforts to help the government overcome stubborn guerrilla resistance. Although not a major font of oil in global terms, the Caño Límon field is an important source of income for the cash-starved Colombian government. Ensuring the pipeline’s safety is therefore viewed in Washington as a critical step in boosting Bogotá’s capacity to expand its military and restore vital services in the countryside. To this end, the Bush administration requested $98 million from Congress in 2003 and another $147 million in 2004 to improve pipeline security. These funds are now being used to train and equip special brigades of the Colombia army, whose sole task is to guard the pipeline and battle insurgents along its length; a contingent of US Special Forces advisers is supervising the training and use of American-provided equipment. While still small in size, this contingent represents an important precedent for both US military involvement in Colombia’s ongoing civil war and a growing American role in pipeline protection worldwide.

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example, by ethnic minorities and indigenous people who inhabit the right-of-way of proposed pipelines but can expect few if any benefits from their construction. Military force has sometimes been used to silence or remove such groups, often with the loss of considerable human life. This, in turn, has led to legal action against the energy companies involved and has become a conspicuous factor in international diplomacy.

What explains the increasing importance of major pipeline projects? Three factors, in particular, appear to be at work: the growing worldwide demand for oil and natural gas; a shift in the center of gravity of oil production from easily accessible coastal regions to remote interior reservoirs; and the growing politicization of energy production and transport.

**Feeding The Energy Appetite**

The symptoms of rising world energy demand are evident to all at the local service station in the form of higher gasoline prices. With the demand for oil and natural gas climbing at a steady pace in the United States and other established markets, and voracious new markets arising in China and other newly industrialized countries, the US Department of Energy projects that the combined global requirement for oil will grow by approximately 1.9 percent per year for the next 20 years, and for natural gas by 2.2 percent. Compounded over a quarter-century, this means that total world oil consumption will rise from approximately 77 million barrels per day in 2001 to 121 million barrels in 2025, while gas consumption will jump from 90 trillion to 151 trillion cubic feet annually.

Producing all of this additional oil and gas will be a Herculean task. Some energy experts contend that the planet's oil and gas supplies have been so thoroughly exploited over the past 50 years that production increases on this scale will prove almost impossible to achieve; others insist that the earth possesses sufficient untapped reserves to sustain a much higher level of output. All analysts agree, however, that any significant increase in production will require mammoth investments in new drilling, refining, and transportation infrastructure. According to the International Energy Agency, as much as $4 trillion will have to be spent over the next 20 years to ensure that an adequate energy supply will be available in 2025 to satisfy anticipated world demand.

This $4 trillion will be needed to finance a wide range of costly systems, including lengthy oil and gas pipelines. Already, several huge pipeline projects are under consideration. Among the most significant of the new or proposed pipeline projects are a $10 billion, 3,700-mile oil pipeline from western Kazakhstan to coastal China; a natural gas pipeline from Turkmenistan to northern Pakistan (and possibly India) through western Afghanistan; oil and gas pipelines from Russia's Sakhalin Island to Japan; and a natural gas pipeline from Siberia to northeastern China and South Korea, possibly traversing North Korea. Which of these and other such conduits will actually be built in the years ahead remains to be seen. What is not in doubt is that energy-hungry states around the world will invest very substantial sums in projects of this sort to satisfy growing demand.

**Geographical pivots**

The second key factor—a geographic shift in the locus of oil and gas production—requires a bit more explanation. Petroleum and natural gas reservoirs are highly concentrated in a few areas where ancient geological processes favored the manufacture of hydrocarbons. In seeking to tap into these valuable reservoirs, the major energy companies have naturally developed those supplies that lie closest to markets or are easily accessible by sea, thus allowing for intercontinental shipment by tanker ships. As a result, the first fields to be developed on a large scale were those discovered within or near major consuming centers, including the United States, Mexico, Canada, Romania, and Russia, or they were located near major bodies of water, such as the Persian Gulf. Most of these key reservoirs remain in production today and continue to generate a large share of the world's oil and gas supplies.

But because they were among the first to enter commercial exploitation, these fields are also among the first to approach or reach their maximum production rate and to face subsequent decline. Some fields in this group may continue to yield greater amounts of oil and gas in the years ahead, but any effort to expand global output beyond current levels will require the development of new fields. And the most promising areas for future energy development are in deep offshore waters, the far North, or in remote inland areas like eastern Siberia and southern Chad that are not easily accessible by sea. Hence the need for additional long-distance pipelines.

The landlocked Caspian Sea area represents a significant case in point. Some oil and gas conduits were constructed in this area during the Soviet era, but all of these connect to internal lines in Russia and are considered inadequate to carry larger amounts of energy. Additional pipelines will be
needed to exploit the Caspian’s surging output. One such conduit, operated by the Caspian Pipeline Consortium (CPC) and extending from the Tengiz field in Kazakhstan to Russia’s Black Sea port of Novorossiysk, opened in 2002. The Baku-Tbilisi-Ceyhan (BTC) conduit from Baku on the Caspian Sea to Ceyhan on the Mediterranean is now under construction and could begin carrying oil in 2005. But even these new lines may not suffice to carry all of the Caspian’s future output, so additional lines are under consideration.

Geopolitics, more than market forces, will play a decisive role in determining the routing of these additional pipelines. The CPC and BTC pipelines both travel westward and are largely aimed at supplying markets in Europe and the United States. However, much of the future demand for energy will come from China, India, and other newly industrialized countries in Asia, and these consumers seek pipelines that travel eastward, toward their own industrial and urban centers. China also appears to want a direct Caspian connection for national security reasons: to reduce its dependence on imported oil from the Persian Gulf, which many Chinese strategists view as an “American lake” under Washington’s hegemonic control. The construction of eastward-flowing conduits—thousands of miles in length—will prove enormously difficult and costly, and so cannot be justified on purely economic grounds. Some may be built anyway for reasons of perceived national interest.

A similar picture emerges in eastern Siberia and the Russian Far East, where the most promising oil and gas fields are located far from likely markets in Asia. Here, too, a complex mix of economics, geography, and national interest come together. The most practical line from oil fields in the Angarsk region of eastern Siberia would lead to Daqing in China’s northeast. Nevertheless, Russian officials appear to favor a route that skirts China altogether and extends another thousand miles to the Far East port of Nadhodka, thus helping to develop remote areas of Siberia and endowing Moscow with greater flexibility in selecting customers for its energy exports. The delivery of Siberian energy to South Korea presents a similar conundrum: whether to ship the oil and gas via North Korea—the most practical route, but one that raises obvious national security considerations for Seoul—or through costly underwater conduits in the Yellow Sea.

**THROUGH TROUBLED LANDS**

Because so many of the world’s most promising new sources of oil and gas lie in remote inland areas or the far north, increasingly lengthy and costly pipelines will be needed to satisfy rising worldwide energy demand. These projects are likely to generate a wide assortment of political, economic, and military concerns. And herein lies the significance of the third factor: the growing politicization of oil and gas pipelines. With major conduits typically passing through two or more countries before reaching their destination—and the intervening areas often inhabited by indigenous peoples, ethnic minorities, and endangered plants and animals—disputes over pipeline routing and ownership are becoming increasingly widespread and strained. In some cases, these disputes will be resolved through political dialogue by senior officials of the nations involved; in other cases the conduits themselves may come to be viewed as instruments of exploitation and oppression, leading to attacks on the pipeline infrastructure and on those who build and guard them.

The situation in Iraq is particularly volatile. Attacks on pipelines, pumping stations, and other elements of Iraq’s far-flung and highly exposed oil infrastructure have become a central feature of the ongoing insurgency, severely hampering efforts to rebuild the economy. Because oil is the country’s sole source of export revenue, any cessation or slowdown in output translates into diminished state income; reduced output from Iraq is also contributing to the recent rise in oil prices. In an effort to deter attacks, US military authorities have assigned more American soldiers to pipeline-protection duties and hired tens of thousands of private security personnel to guard vital infrastructure. But even these efforts did not succeed in preventing a series of costly pipeline explosions in August and September 2004, leading Ambassador John Negroponte, the top American official in Iraq, to seek the transfer of $1.8 billion in reconstruction funds to the protection of oil infrastructure and other vital assets.

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A somewhat different but equally precarious situation prevails in Nigeria. Although that country is not now threatened by an organized insurgency like that found in Iraq, it is torn by a hodgepodge of ethnic, religious, tribal, and regional rivalries. Not all of these contests involve oil. But in the southern delta region, where most of the petroleum fields are located, anger at central government authorities in Abuja—who have long appropriated the bulk of Nigeria’s energy revenues for their own benefit or to finance political patronage in non-producing areas—has often led to attacks on pipelines and pumping stations. In some cases, disputes between local ethnic communities and groups over the allocation of federal patronage have also triggered such attacks. This violence and associated vandalism are believed to cost Nigeria some $2 billion per year in foregone revenues—a painful loss for a country so deeply mired in poverty. Here, too, instability in the oil fields is leading to diminished output and an accompanying rise in petroleum prices.

As more and more pipelines are built in or near areas of instability, attacks on conduits are certain to increase. The BTC pipeline, for example, passes through or within a few hundred miles of seven areas of ethnic and insurgent unrest: Armenian-populated Nagorno-Karabakh in Azerbaijan; Chechnya and Ingushetia in Russia; South Ossetia, Abkhazia, and Adjaria in Georgia; and Kurdish-occupied areas of Turkey. Fearing that completion of the pipeline will invite attacks by militants from some or all of these areas, authorities in all three affected countries have taken steps to improve security along the pipeline route. The United States has also contributed to such efforts by providing specialized training and arms assistance to internal security forces in Georgia. Russia, with interests of its own in the Caspian region, is also worried about pipeline security; the fact that several of its own key conduits lie adjacent to Chechnya is no doubt a critical factor in Moscow’s determined and brutal drive to subdue that region. And Chinese authorities clearly worry about the potential for pipeline sabotage by Turkic-speaking insurgents in Xinjiang, China’s westernmost region and a major way-station for any new conduits carrying oil and gas from the Caspian basin to coastal China.

Violence associated with oil and gas pipelines will prove a significant feature of the emerging world security environment. In all likelihood, troops from the United States, Russia, China, and other major powers will be committed to pipeline protection duties for years to come, often facing attack or deadly explosions. These endeavors could prove extremely costly, both in human terms and through loss of revenue—an unseen tax on the price of imported oil and gas that rarely figures in day-to-day calculations of these products’ utility.

**The New Geopolitics**

Growing energy demand, a geographic shift in the locus of oil and gas production, and the increasing politicization of pipeline construction are boosting the significance of global pipeline politics. No major power is likely to remain aloof from these three trends, and most will become even more deeply involved. For the oil- and gas-producing countries, moreover, all three concerns will have a great bearing on their future prosperity and geopolitical importance. In these and other ways, pipeline politics mirror the international controversies that once swirled around major waterway projects, such as the Suez and Panama Canals, when seas were considered the most critical arena of geopolitical competition.

How all of this will play itself out cannot be foreseen. In some cases, demand for oil and gas supplies will lead to new and unexpected alliances between former adversaries, thus enhancing the prospects for international peace and reconciliation. India and Pakistan, for example, have agreed to examine the possibility of building new oil and gas pipelines between them, which will provide an incentive for cooperation in more sensitive areas. In other cases the competitive pursuit of critical resources will generate friction and crisis, prompting new rivalries and arms races. And even when the major powers choose to avoid conflict over competing projects, local forces and factions with their own interests at stake may not be so easily mollified, leading to recurring violence aimed at the pipelines themselves.

Clearly, oil and gas pipelines are significant in and of themselves as major features of the emerging global landscape. Some, like the proposed Caspian-to-China pipeline and a proposed natural gas line from northern Alaska to the American Midwest, could prove to be among the most costly and ambitious engineering endeavors ever attempted. Others, such as the BTC conduit in the Caucasus and the Caño Limón-Coveñas pipeline in Colombia, are likely to invite recurring attack by ethnic insurgents and terrorists. But aside from their intrinsic importance, these ventures also represent a vivid expression of the new global geopolitics—a giant arena in which the intensifying international struggle over access to vital resources occupies center stage.