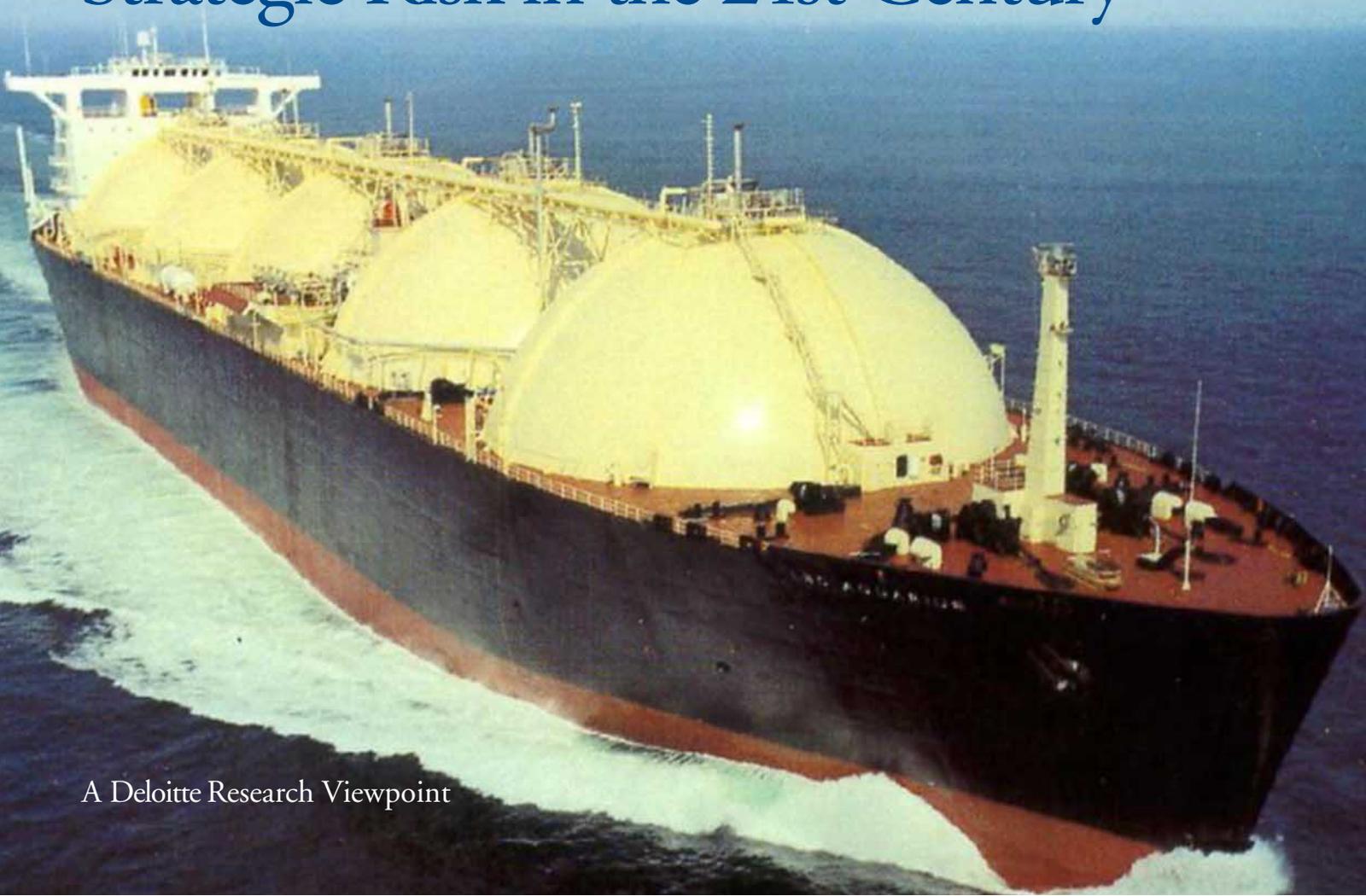


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Globalization and Energy Supply: Strategic Risk in the 21st Century



A Deloitte Research Viewpoint

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About the Viewpoint

Deloitte Research prepared this viewpoint for Deloitte Touche Tohmatsu's Global Energy & Resources Industry Group; practitioners from various Deloitte Touche Tohmatsu member firms participate in the Global Energy & Resources Industry Group.

About Deloitte Research

Deloitte Research, a part of Deloitte Services LP, identifies, analyzes, and explains the major issues driving today's business dynamics and shaping tomorrow's global marketplace. From provocative points of view about strategy and organizational change to straight talk about economics, regulation and technology. Deloitte Research delivers innovative, practical insights companies can use to improve their bottom line performance. Operating through a network of dedicated research professionals, senior consulting practitioners, and academic and technology partners, Deloitte Research exhibits deep industry knowledge, functional understanding and commitment to thought leadership. In boardrooms and business journals, Deloitte Research is known for bringing new perspective to real-world concerns.

Executive Summary

Supplying enough energy on a reliable basis at prices that won't hobble world economic growth is emerging as a challenge with repercussions that are hard to predict. For oil and gas companies, pipelines, generators, utilities, and others in the energy business this means new opportunities but also serious risks. Managements and boards need to ensure that their companies' plans and preparations are aligned with the strategic implications of what lies ahead.

What is the issue? An era of supply-demand mismatch is looming.

Inexorably, energy demand is growing – not only in the developed economies of Europe, Japan, and North America, but in developing nations as well. In fact, the fastest demand growth is in China and other emerging markets. From one side of the globe to the other, modern and modernizing societies need more fuel.

But the places with the greatest demand can't supply their own needs. Over the next few decades, oil and gas production in the North Sea, North America, and China are expected to fall, or rise too little to keep pace with demand. Only a few places have surplus reserves – chiefly the Middle East, Africa and Russia.

Meanwhile, massive infrastructure additions are required. New construction, repairs, and upgrades are imperative all along the energy supply chain, from oil and gas fields to pipelines and tankers to power plants and grids. The cost will be huge – the International Energy Agency estimates \$16 trillion between now and 2030. Among the most critical needs are new production and transport facilities in the Middle East, Africa, and Russia, none of which can muster the necessary capital on its own.

Decision-makers in the energy industry, government, and international agencies thus face difficult decisions. How will the supply-demand problem be resolved?

At one end of the spectrum of possibilities is an answer that involves a continuation of globalization. According to this vision, free markets will ensure that investment capital and fossil fuels alike are distributed efficiently and in an orderly manner. Shared values and an interest in keeping the wheels of commerce turning will promote the international stability needed to extract, trade, and ship vast quantities of fuels.

The world needs more globalization, not less.

– Martin Wolf, *Financial Times* chief economics commentator, in *Why Globalization Works* (2004)

In just a few short years, the prevailing atmosphere has shifted from belief in the near-inevitability of globalization to deep uncertainty about the very survival of our global order.

– Kofi Annan, Secretary-General of the United Nations, address to the World Economic Forum, Davos, Switzerland, 23 January 2004

A number of books proclaim that, whether we like it or not, global capitalism and economic globalization are here to stay... Yet, despite the huge benefits of free trade and other aspects of the global economy, an open and integrated global economy is neither as extensive and inexorable nor as irreversible as many assume.

– Robert Gilpin, professor, Princeton University, in *The Challenge of Global Capitalism: The World Economy in the 21st Century* (2002)

As the new millennium dawns, the same seeds of global disorder, even anarchy, that grew into the years 1914-45 are being sown. Racialism and ethnic nationalism are already on the rampage on a small scale. Bigger powers show signs of going their own way. America is disengaging from Europe and vice versa, Germany and Japan are becoming more politically assertive, and China is rearming.

– Robert Harvey, author, former Member of Parliament (UK), in *Global Disorder: America and the Threat of World Conflict* (2003)

Seen through the eyes of the vast majority of women and men, globalization has not met their simple and legitimate aspirations for decent jobs and a better future for their children.

– World Commission on the Social Dimension of Globalization, International Labour Organization, in *A Fair Globalization: Creating Opportunities for All* (2004)

The [Russian] government, and in particular, the Ministries for Industry and Energy and for Natural Resources, should prepare proposals to limit production and exports of oil.

– Sergei Grigoryev, Vice President, Transneft, quoted in “Monopoly Suggests Russian OPEC,” www.gazeta.ru, 3 April 2004

At the other extreme is a future that involves more regulation and confrontation. Rather than free markets, anxious governments will decide how capital and energy supplies are apportioned. Further, who gets how much access to the coveted resource-rich areas will be affected by political dynamics within those regions – and perhaps by aggressive energy have-not nations seeking to gain advantage through geopolitical maneuvering and even military might. Rather than globalization, this would be “deglobalization.”

In between these extremes are many variations and gradations. None would bring an easy time for energy companies.

The emergence of a true world energy market would mean fierce, borderless competition, more industry consolidation, and big price swings. If deglobalization emerges instead, energy companies will face a marketplace shaped by government fiat, political priorities, and geopolitical struggles. There will be impacts on key factors such as asset values, customer demand, financing, operating costs, and revenues.

Of course, it would help to know what path the future will take. Unfortunately there’s little agreement among experts. Some say globalization is here to stay, while others argue the world is seeing the onset of conditions resembling those in the early 20th century, when an earlier period of globalization was replaced by decades of nationalism, protectionism, and international conflict.

How can a company position itself to deal with such uncertainty?

Strategic Flexibility is the answer – a set of insights about effective planning developed by Deloitte Research. Applying this approach enables a company to deal with multiple contrasting versions of tomorrow’s world.

A company using Strategic Flexibility defines a set of scenarios capturing the full range of plausible futures, in this case scenarios depicting different situations involving globalization and energy supply. It then formulates a core strategy that will work in as many of the scenario worlds as possible. Regarding potential developments included in the scenarios but not addressed by the robust strategy, the company makes limited investments in the assets and capabilities needed to respond to those circumstances. In each instance it secures the right to increase or decrease its ownership. The company treats these investments as a portfolio of options, over time raising its stake in the ones relevant to the marketplace conditions that actually emerge, while disposing of the rest.

How is this different from conventional scenario-based planning? Using the conventional approach, a company holds off on preparing for scenario conditions the core strategy doesn’t address. Only when it becomes apparent which of these conditions is materializing does the company begin committing the money and effort necessary to deal with them. In effect the company applying the conventional approach counts on being fast out of the starting blocks when the starting gun sounds, whereas the company applying Strategic Flexibility begins running even before the shot is fired.

Strategic Flexibility thus provides an effective means for managing strategic risk. By definition this is a process for bounding the universe of challenges the company could face and developing a comprehensive portfolio of strategic responses. That provides an excellent framework for a dialog between board and management regarding the identification and mitigation of risks at the strategic level.

In summary, the questions about globalization and energy supply create a profound need for methods of making decisions and managing risk that allow companies to leverage uncertainty to their benefit rather than avoiding, ignoring, or denying it. This is a time of complex possibilities, and we contend the best approach is to embrace that reality.

Outlook: Energy Interdependence

A future is emerging in which energy demand and supply issues will make regions of the world much more dependent upon each other for their welfare and security.

In summary, energy-consuming nations need ever-growing quantities of oil, gas, and coal from abroad, and energy-producing nations need ever-growing amounts of foreign capital to develop the facilities necessary to extract more resources. Meanwhile, both sets of countries must build and maintain huge amounts of infrastructure to process, generate, transport, and deliver the energy their citizens and industries require. Under these circumstances, the actions of consuming nations could affect the ability of producing nations to achieve their goals, and vice versa.

Reports from the Paris-based International Energy Agency capture the four key trends that are at work. In its 2002 *World Energy Outlook*, and in a 2003 analysis entitled *World Energy Investment Outlook*, the IEA paints the following picture of energy demand and supply between 2001 and 2030:

- **Growing demand for energy.** Energy demand between 2001 and 2030 will grow by two-thirds, key factors being fuel for vehicles and electricity for home use. Power generators will favor natural gas as fuel, and the growth in transportation demand will increase the need for light and medium refined petroleum products. Further, while demand for energy resources will grow in Japan, Europe, and North America, it will soar in developing countries such as China, Brazil, and India.
- **Widening demand-supply mismatch.** The countries with the biggest appetites for energy will be able to supply less and less of their own annual energy consumption. By 2030 their oil deficit will rise from 45% to nearly 60% and their natural gas deficit will rise from 16% to nearly 30%. Some countries will need more foreign coal as well.
- **Increasing reliance on a few energy exporters.** The Middle East, Africa, and Russia will be increasingly dominant as suppliers to the energy have-nots of Asia, Europe, and North America.
- **Rising infrastructure tab.** About \$16 trillion will need to be spent on facilities to produce fuels, generate power, and deliver energy within consuming and producing nations, and to convey fuels and refined products from producing to consuming nations. Among the projects required will be the creation of a vast global network of liquefied natural gas (LNG) facilities, given the surge in natural gas demand and the fact that consuming nations will be unable to meet all of that demand from their own gasfields.

Mediterranean refiners are suffering big shortages of crude oil as Turkish security restrictions and bad weather cause a massive traffic jam of tankers carrying Russian oil through the narrow straits of the Bosphorus and Dardanelles.

– “Bosphorus Traffic Jam Leaves Europe Short of Crude Oil,” *Financial Times*, 12 January 2004

Twenty-two provinces, municipalities and autonomous regions in the Chinese mainland suffered electricity blackouts caused by electrical power shortages in 2003, 10 more than 2002, sources with the China Electricity Council show.

– “Most Chinese Provinces Suffer Electricity Blackouts in 2003,” *Xinhua News Agency*, 9 February 2004

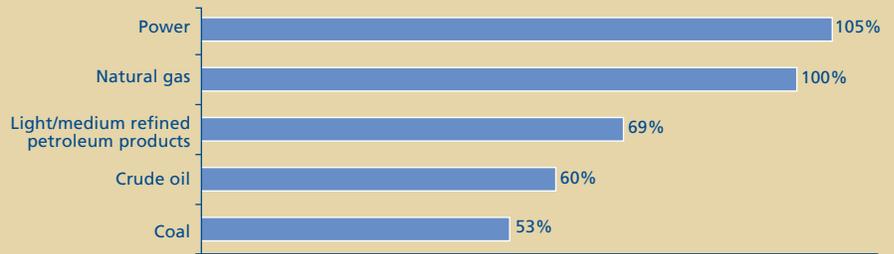
Japan and Iran have signed a landmark deal to jointly develop a massive Iranian oilfield despite opposition from the United States citing Tehran’s nuclear ambitions.

– “Japan, Iran Sign Huge Oilfield Deal Despite US Opposition,” *Mainichi Daily News*, 19 February 2004

The figures below capture some of the key projections from the IEA reports. Projections such as these rest on assumptions about future directions in a variety of areas including government policy, technology, economic conditions, and the environment. After the charts we turn to examining the conditions required if an increasingly energy-interdependent world is to function properly, and the impact of alternative scenarios.

Figure 1. According to the IEA, Demand Will Grow 2/3 by 2030

Key demand drivers: electricity for households and fuel for cars



Source: IEA WEO 2002

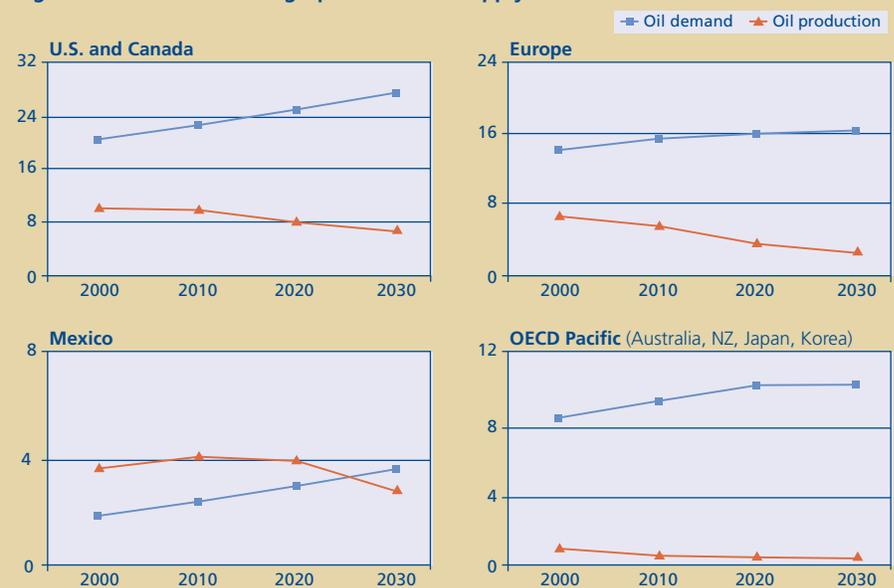
Figure 2. And Demand in the Developing World Is a Growing Factor

Industrial nations aren't the only ones who want electricity and cars – they must share energy resources with developing nations



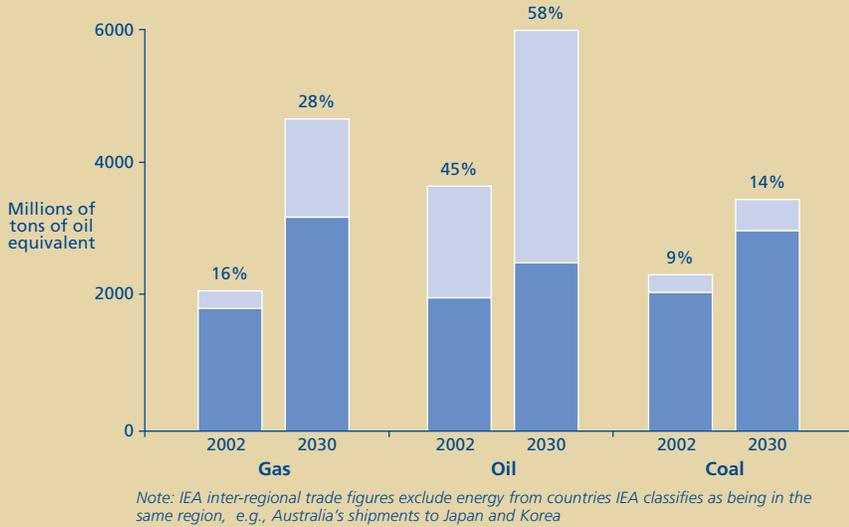
Source: IEA WEO 2002

Figure 3. But There's a Geographic Demand-Supply Mismatch



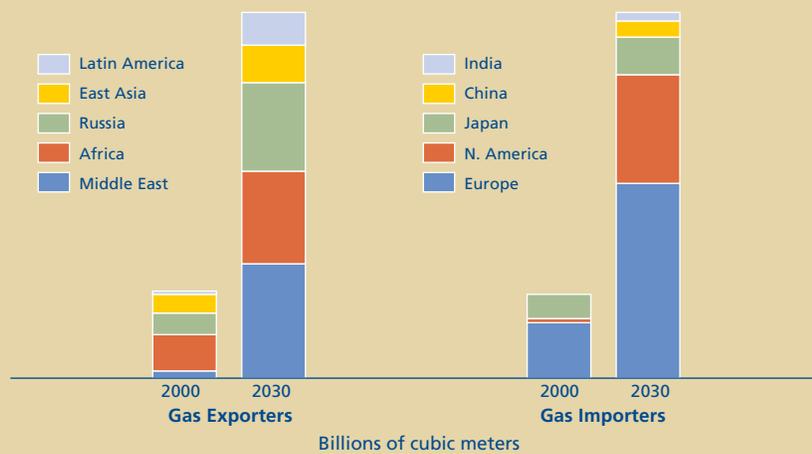
Source: IEA WEO 2002

Figure 4. Imported Fossil Fuels Will Be More Vital Than Ever Before
 Inter-regional Trade as a Share of Fossil Fuel Supply, 2000 vs. 2030



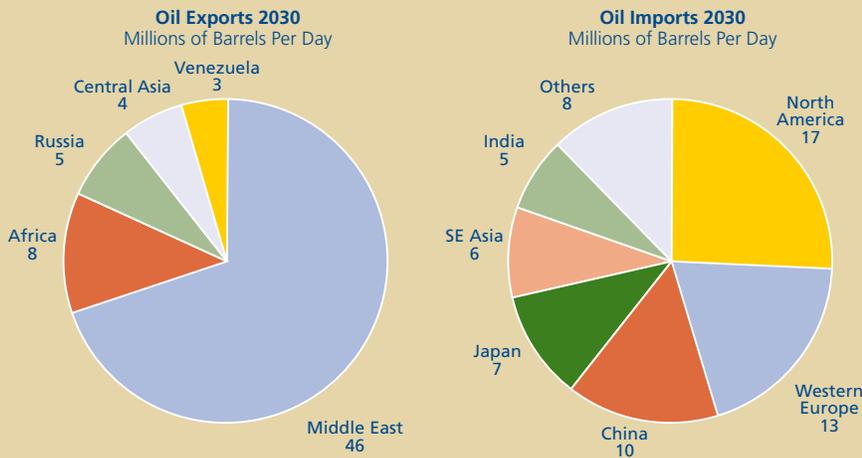
Source: IEA WEO 2002

Figure 5. Natural Gas Shipments Among Regions Will Quadruple



Source: IEA WEO 2002

Figure 6. Oil and Refined Products Shipments Will Rise 80%

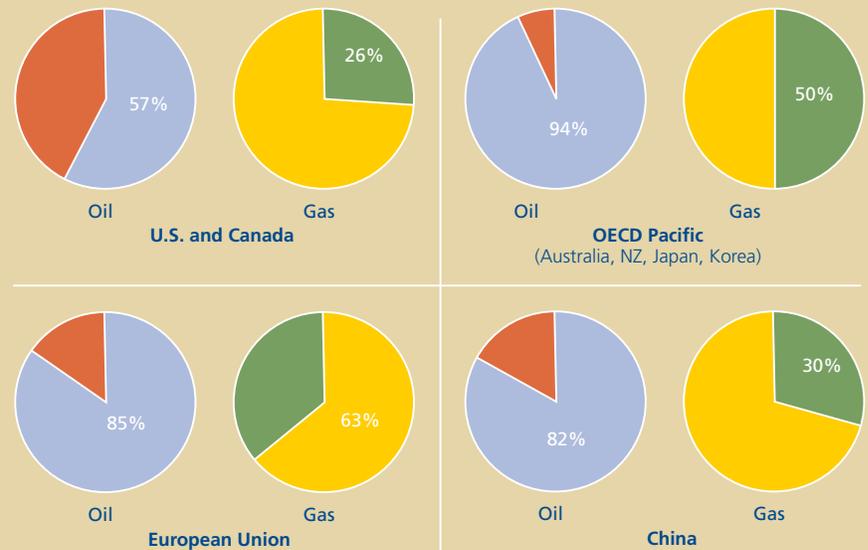


Source: IEA WEO 2002

Argentina's Energy Secretary Daniel Cameron held a meeting Tuesday with Chilean officials to discuss the impact on Chile of potential gas shortages in Argentina, with the two sides promising further talks at the beginning of next month.

– "Argentina, Chile Officials Meet to Discuss Energy Crisis," Dow Jones International News, 23 March 2004

Figure 7. Major Economies Will Depend Heavily on Imported Energy

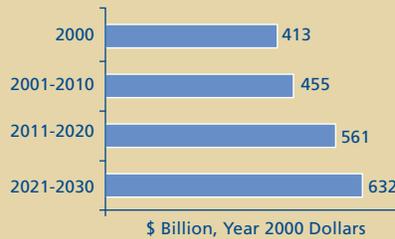


Source: IEA WEO 2002

Figure 8. Producing and Transporting All This Energy Will Be Costly

Rising demand for electricity and cars as existing energy sources dwindle means spending more to find and transport new resources – a total of \$16 trillion

Average Annual Spending Worldwide on Energy Infrastructure



- Power infrastructure spending: 60% of total
- Gas E&D annual spending in 2021-2030: \$68 B, up 55%
- LNG annual spending: double from \$4 B in past decade to \$9 B in 2021-2030
- LNG shipping fleet to grow 400%
- Length of gas transmission lines to grow 80%
- Oil tanker fleet to grow 90% – annual bill for new tankers to rise from under \$5 B to over \$6 B

Source: IEA WEIO 2003

Prerequisite: Globalization

In its recent reports on the energy outlook for the first three decades of the 21st century, the IEA cautions that governments around the world must behave in certain ways if the financial and institutional developments portrayed in its projections are to unfold.

The IEA's imperatives for government can be summarized as follows: Governments must open their borders to international trade and investment, they must refrain from meddlesome intervention in their domestic economies, and they must keep the peace internationally. Adherence to these policies will ensure that the \$16 trillion in energy investments materializes, the necessary infrastructure is built, and the lengthening worldwide energy supply chain operates without interruption.

The prerequisites the IEA cites align neatly with the phenomenon typically termed "globalization." Although definitions of globalization vary, they generally feature three elements, which in short-hand terms, and with poetic license, can be characterized as Welcome Mats (foreign trade and investment flow freely), Regulators Retire (governments maintain the fundamental conditions necessary for markets to function efficiently but otherwise limit their intervention in domestic economies), and Missiles in Mothballs (international relations are generally peaceful and cooperative).

This establishes an important connection. A world that meets its energy needs through extensive interdependence is a world that conforms to the tenets of globalization. But that does raise a question: How certain is it that globalization will prevail in the decades ahead?

A new reality is emerging ... a globality, a world economy in which the traditional and familiar boundaries are being surmounted ... the accelerating connections make national borders increasingly porous – and increasingly irrelevant.

– Daniel Yergin and Joseph Stanislaw, Cambridge Energy Research Associates, in *The Commanding Heights: The Battle Between Government and the Marketplace That is Remaking the Modern World* (1998)

Economic globalization constitutes integration of national economies into the international economy through trade, direct foreign investment, short-term capital flows, international flows of workers and humanity generally, and flows of technology.

– Jagdish Bhagwati, professor, Columbia University, *In Defense of Globalization* (2004)

Today's globalization system significantly raises the costs of countries using war as a means to pursue honor, react to fears, or advance their interests.

– Thomas Friedman, *New York Times* columnist, in *The Lexus and the Olive Tree* (1999)

How the Conditions Associated with Globalization Promote Reliable Energy Supply

Requirements to meet global energy needs, 2001-2030	Elements of Globalization		
	Free-flowing international trade and investment “Welcome Mats”	Market-driven domestic economies “Regulators Retire”	International peace and cooperation “Missiles in Mothballs”
Producing nations must extract large quantities of energy to meet foreign and domestic demand, and develop the internal infrastructure to service growing domestic energy demand	Foreign capital, technology, and expertise will be forthcoming if producing nations establish policies favorable to foreign investment, let workers enter and exit with minimal red tape, protect intellectual property, permit the repatriation of profits, etc.	Both foreign and local companies will be more likely to make costly, long-term commitments if producing nations promote private enterprise and protect private property via stable, transparent judicial, financial, and political systems, and maintain pro-market regulatory, tax, and fiscal policies.	Peaceful conditions will promote the infusion of foreign capital into producing nations and permit uninterrupted construction and operation of facilities for energy production, processing, generation, transmission, and distribution.
Energy available in producing nations must be transported to consuming nations	Energy trade will increase if producing and consuming nations adopt policies that promote energy exports and imports, and if producing nations adopt policies friendly to foreign investment that facilitate financing, building, and operating new ports, liquefaction plants, etc.	The construction and operation of ports, liquefaction plants, regasification terminals, tankers, etc., will be facilitated if both producing and consuming nations avoid unnecessarily restrictive policies in areas such as industry regulation, taxation, and environmental protection.	Peace and cooperation among nations will ensure that new international pipelines are built, and that energy shipments via pipelines and tankers proceed without interruption.
Consuming nations must build/fix infrastructure to service growing domestic energy demand	Low barriers to foreign ownership and investment will permit cross-border M&A transactions and other investments that could spur infrastructure spending and technology innovation.	Strong government commitment to limited intervention will elicit private investment in power plants, transmission systems, technology R&D, and other beneficial activities.	An absence of international tension and conflict will generally promote domestic investment because more capital is available for domestic energy projects, less must be spent on security precautions, and taxes are lower than they would be if national security expenditures dominate national budgets.

We should adhere to the policies that have worked for more than two centuries: Reduce the unnecessary intrusiveness of government in the choices people make, improve the effectiveness and reduce the costs of needed government services, fundamentally eliminate governmental price controls, and restore equity in our legal system.

– Harvey Golub, retired Chairman and CEO of American Express, Chairman of TH Lee Putnam Ventures and ClientLogic, “We Are the World,” *Wall Street Journal*, 7 January 2004

Conflicting Signals on Globalization's Future

It could be good news if meeting the energy needs of the next three decades depends upon globalization. Many executives, government officials, and other decision-makers around the world maintain globalization is irreversible. However, certain trends and developments raise questions about the basis for such confidence, and suggest the path to the future may go in a different direction.

Factors Suggesting Globalization is Here to Stay

The idea that globalization is an established reality took hold during the last decade when international integration accelerated so dramatically. In his 1999 best-seller, *The Lexus and the Olive Tree*, New York Times columnist Thomas Friedman described globalization as “inexorable,” and said he regarded globalization as like the sun rising in the morning, since “even if I didn’t much care for the dawn there isn’t much I could do about it.”

A variety of reasons are advanced as to why globalization is so unstoppable:

- Experience shows that capitalism and open markets perform far better at achieving economic well-being than alternatives such as socialism and communism.
- As global market forces gain momentum, national governments become less significant in international affairs and are therefore less likely to interfere with international commerce.
- Technology advances – particularly those involving media and communications – foster cross-border linkages.
- War is unlikely because nobody wants to unleash the destructive power of modern weapons, conflict would disrupt valuable international commerce, and the spread of democracy allows the peoples of the world to curb belligerent leaders.
- Globalization serves the purposes of powerful Western political and economic interests, notably those of the US.

Globalization has become, quite simply, the most important economic, political, and cultural phenomenon of our time.

– John Micklethwait and Adrian Wooldridge, Economist correspondents, in *A Future Perfect: The Challenge and Hidden Promise of Globalization* (2000)

It’s not just a trend, because it can’t be stopped. In the last two years, we’ve seen horrible terrorism, a war and various health threats. And none of it has stopped world commerce. Global trade has kept moving forward.

– Mike Eskew, Chairman and CEO, UPS Speech, May 2003

Majorities in 33 of the 44 nations surveyed feel that people are better off in a free-market economy, even if that leads to disparities in wealth and income. Despite the protests in recent years against globalization and America’s role in fostering it, people are surprisingly accepting of the increased interconnectedness that defines globalization.

– Pew Research Center, “Views of a Changing World 2003,” 3 June 2003

Protectionism is at best a finger in the dike - a short-term strategy. It is not a long-term solution because globalization is inevitable and inexorable.

– Carly Fiorina, Chairman and CEO, HP
Speech, October 2003

The collapse of Cancun will soon be forgotten, overshadowed by the successes that still should come.

Jagdish Bhagwati, professor, Columbia University, in “Don’t Cry for Cancun,” *Foreign Affairs*, January/February 2004

The seriousness of the trans-Atlantic clash over Iraq ... strongly suggests that the ills of the Atlantic Alliance, broadly defined, preexisted the Iraqi crisis and will unfortunately survive it.

Laurent Cohen-Tanugi, Paris-based international lawyer and columnist, in *An Alliance at Risk: The United States and Europe Since September 11* (2003)

The European Union’s ruling against Microsoft on Wednesday dealt a blow to one of the planet’s most powerful forces: globalization ... the threat of different legal environments forcing shifts in basic strategy makes acting globally a lot more challenging.

– EU Ruling ‘Could Be Troubling’ for Firms: Precedent May Slow Globalization Efforts by US Companies, *USA Today*, 25 March 2004.

These arguments would seem to justify confidence that globalization has staying power. And some recent developments arguably do show that globalization is moving forward, for example China’s membership in the WTO, initiatives to gain wider acceptance of international accounting and auditing standards, Europe’s progress on power-sector liberalization, increases in international telecommunications traffic and Internet connections, and the reduction in tensions between India and Pakistan.

Additionally, some cite the proliferation of bilateral and regional free trade agreements as positive on the grounds that such pacts create precedents that pave the way for broader market-opening agreements later.

Meanwhile, many respected figures in business, government, and academe continue to affirm that globalization isn’t going away.

Developments Raising Questions About Globalization’s Momentum

Although there is thus evidence that events are moving the world in the direction of greater unity and openness, some trends and developments seem to point in the opposite direction. These include the following:

- The failure of the Cancun WTO meeting, the flare-up of trade disputes between Europe and the US and between the US and China, and the emergence of trade-related job losses as an issue in the US presidential campaign. Moreover, some see the flourishing of bilateral and regional free trade agreements as retarding rather than promoting agreements at the global level.
- The economic crises and political upheavals in Latin America that followed a decade when many governments in the region embraced liberalization, and now the election of leftist and populist leaders who are adopting measures that reinstate government intervention.
- Trade imbalances, high consumer and government debt, growing deficits, stubborn unemployment, and shaky banking systems in Asia, all factors implying the world is vulnerable to slumps or turmoil that could roil financial markets and produce a backlash against globalization.
- The continuing disparity between the US and European approaches to corporate governance, as illustrated by the adverse reaction to the Sarbanes-Oxley Act compliance requirements on the part of European companies subject to the rules because they are listed on US exchanges.
- The rift over the war in Iraq and the failure by major powers to bridge differences on treaties covering everything from land mines and arms control to global warming and the International Criminal Court.
- Conflicts, close calls, and new tensions in hot spots such as the Mideast, the Balkans, the Taiwan Strait, Kashmir, and the Korean peninsula.

These by no means prove that globalization is losing momentum. They could turn out to be bumps in the road leading to a more open and united world community. However, the litany of negative developments does highlight the need to think about the assumptions that underlie strategic planning.

Alternative Futures: Globalization vs. Deglobalization

Divergent Expectations

For some observers the developments that run counter to the premises underlying globalization appear neither isolated nor temporary, but instead highlight the possibility that the world is on a course decidedly different from that conceived by globalists.

These more pessimistic observers are political scientists, economists, policy analysts, and pundits. Some have always been skeptical about globalization, while others have only recently become doubtful. Their views often differ on where the world is headed, but in general they foresee conditions that are the antithesis of those associated with globalization. The discrepancies between expectations about the future can be summarized, again with poetic license, as follows:

- **Foreign trade and investment.** While globalists anticipate conditions so positive as to warrant the label Welcome Mats (doors are open to foreign trade and investment), pessimists fear a future of Walled Gardens (protectionism and barriers to foreign investment).
- **Domestic economic policy.** Though globalists expect a future that could be called Regulators Retire (governments maintain the fundamental conditions necessary for markets to function efficiently but otherwise limit their intervention in domestic economies), pessimists worry it will be more like Regulators Rule (competition and investment are curtailed by heavy-handed government intervention and/or a failure to maintain basic prerequisites such as the rule of law and transparency).
- **International relations.** Instead of a serene future of Missiles in Mothballs (international relations are generally peaceful and cooperative), pessimists are concerned tomorrow will be better described as Battle Stations (chronic turmoil, confrontations, and conflict).

In short, these inconsistent expectations suggest a disagreement as to whether the future will be one of globalization or deglobalization – a world united and harmonious in which competition is fierce and global, or a world fractured and confrontational in which government limits the discretion of private-sector decision-makers.

It is often said that globalization is irreversible. But history shows that it is highly reversible. After reaching a peak in the late 19th century, it retreated until after World War II.

– Paul Streeten, Chairman, Board of World Development, in *Globalisation: Opportunity or Threat?* (2001)

Whether or not the United States likes it, Europe is becoming a new center of global power. America's sway will shrink accordingly ... The unstoppable locomotive of globalization will run off its tracks as soon as Washington is no longer at the controls.

– Charles Kupchan, professor, Georgetown University, and Senior Fellow, Council on Foreign Relations, in *The End of the American Era: U.S. Foreign Policy and the Geopolitics of the 21st Century* (2002)

The danger is that the United States and Europe could become positively estranged. Europeans could become more and more shrill in their attacks on the United States. The United States could become less inclined to listen, or perhaps even to care.

– Robert Kagan, Senior Associate at the Carnegie Endowment for International Peace, in *Of Paradise and Power: America and Europe in the New World Order* (2003)

At present there is the beginning of an antiglobalist coalition, based on hostility to immigration (because of concerns about the labor market), a belief in capital controls (in order to prevent shocks emanating from the financial sector), and skepticism about global trade.

– Harold James, professor, Princeton University, in *The End of Globalization: Lessons from the Great Depression* (2001)

Negotiating bilateral and regional agreements can divert attention and effort from the Doha round. This in turn can create a vicious circle, whereby a lack of progress at the WTO spurs a greater emphasis on bilateralism and regionalism – which in turn further hampers efforts in Geneva.

– Renato Ruggiero, former WTO Director General, now Chairman, Citigroup Switzerland, in “Regionalism vs. Globalism?” www.theglobalist.com, 20 June 2003

Of course, these are extremes, and there are many variations and gradations in between. But it’s worth noting that none of these possibilities suggests a business environment that would be tranquil – whether the future is more toward the globalization end of the spectrum or more toward the deglobalization end of the spectrum, there will be difficult challenges for companies in all segments of the energy business.

What follows is a further look at how the visions of alternative futures we group under the headings of globalization and deglobalization contrast, and how they relate to the job of surmounting the energy supply challenges that loom ahead. Because globalization generally commands more support, we emphasize the opposing possibilities.

Cross-Border Trade and Investment: Welcome Mats or Walled Gardens?

In a truly global economy there would be a free flow of goods, services, capital, and people across national borders. This openness would be aided by adherence to widely-recognized principles and practices that provide investors and industry players with needed information and predictability. This is the Welcome Mats conception of how events will unfold.

The Walled Gardens alternative is a world compartmentalized by inward-looking priorities, protectionist barriers, and nonstandard policies. We have identified three somewhat different schools of thought as to how this could come about:

- **Parochialism prevails.** Countries, companies, workers, farmers, and others focus on their own interests at the expense of the global good. Globalization is undone by each group and nation looking out for Number One. Seeking to protect their constituencies and pursuing narrow conceptions of their national interests, governments limit trade and investment flows.
- **Financial contagion.** Regulatory controls and circuit breakers are unable to deal with one or more financial disasters (stock market crash, bank failure, currency devaluation, etc.) and the global financial infrastructure helps spread rather than contain the damage. The result is a retreat from global financial markets.
- **Doctrinal differences.** The Asian, European, and US versions of capitalism increasingly diverge. Differences persist on matters such as corporate governance, accounting and financial reporting, auditing, taxation, and competition policy. The global system fragments as constant disagreements over how the game of capitalism is played snarl trade and investment.

How might this affect the energy sector? In an environment of this type, the movement of funds and fuels would be constrained. Bilateral or regional alliances might encourage energy investments and facilitate energy trade between or among friendly countries, and some members of such “clubs” might well be better off than they would be in a global system. However, the lack of support for open borders generally would rule out the kind of free-flowing exchanges globalization assumes, and in the absence of a global market some countries would be likely to find themselves blocked from getting all the capital or energy they need.

Domestic Economic Policy: Regulators Retire or Regulators Rule?

The subject here is the vigor of market forces “behind the border.” Market-driven, capitalist domestic economies figure prominently in most descriptions of globalization, and they are likewise a key factor in the IEA’s definition of the conditions needed for massive energy investments. With respect to the big consuming nations that need to build facilities such as LNG regasification terminals, power plants, and transmission lines, the IEA *World Energy Outlook* base scenario assumes that liberalization efforts underway at the start of the new century will continue without interruption. Regarding developing nations, the IEA calls for

establishing a comprehensive, fair, and transparent regulatory framework for their energy sectors, stamping out corruption, and enforcing laws and contracts.

Were the future to resemble the Regulators Retire alternative, these prerequisites would be met. Under Regulators Rule, though, domestic economies would not fulfill the IEA's prescriptions. Rather than liberalization, the world would see a turn toward government that is inclined to intervene in the workings of the domestic economy. We have identified two views as to how this might happen.

- **Indignation.** Liberalization is discredited as something that victimizes workers, the poor, the non-West, the environment, and indigenous cultures. It is rejected as exploitative, unjust, and hypocritical.
- **Disillusionment.** Liberalization's support unravels because more and more people decide it isn't delivering promised improvements in living standards, and in fact brings instability and hardship. Rather than rejecting capitalism as unfair and illegitimate, people spurn it on the more pragmatic grounds that it doesn't live up to its billing.

In the more developed countries the stifling of market forces would occur as a return to or intensification of government control over economic activity. In the less developed countries there would also be a loss of momentum behind, or failure to initiate, efforts aimed at establishing the basic prerequisites for a market-driven economy.

Within the energy sector, investors would not find the kind of firm, sustained commitment to liberalization they would prefer. There would be a tendency toward more regulation and taxation and, especially in the developing world, a lack of transparency and protection of property rights. It would typically be difficult to obtain government approvals for facilities such as LNG terminals, power plants, and transmission lines except after long delays and with burdensome conditions attached. Nationalization – or re-nationalization – could occur in some places.

International Relations: Missiles in Mothballs or Battle Stations?

As noted, a low probability of international conflict is arguably inherent in globalization. Proponents contend conflict between nations participating in the global community would be unlikely when people are familiar with their counterparts around the world, share the same values, understand the benefits of commercial relations, and have the opportunity through democratic government to weigh in on the side of peaceful resolution of differences. This is the basis for the expectation we've called Missiles in Mothballs.

The IEA notes that war and "geopolitical factors" can dampen investor interest in energy projects and could disrupt the extensive energy trade the organization's reference scenario anticipates. In the *World Energy Outlook*, the IEA says the governments of energy importing countries "will need to take a more proactive role in dealing with the energy security risks inherent in fossil-fuel trade. They will need to pay more attention to maintaining the security of international sealanes and pipelines."

Among those who are bearish on globalization, a key reason is the perception that international frictions are growing. The pessimists tend to believe there are limits on the extent to which international conflict can be avoided, and they see an ample supply of factors that could stir trouble. Hence the concern that Battle Stations is a more apt description of what lies ahead. We have identified six variations on this theme:

- **US unilateralism.** The US exploits its hyperpower status in ways that alienate other nations and undercut global trade and security agreements. Globalization gives way to global domination by the US.

Although most countries have opened (at least partially) their oil sectors, foreign investment – particularly in Russia, China and Iran – has proved difficult because of regulatory and administrative barriers and delays. Moreover, two major producing countries – Mexico and Saudi Arabia – remain completely closed. These countries are convinced they can respond appropriately to market needs on their own. Others are not so sure.

– Claude Mandil, Executive Director, International Energy Agency, in "Surprises Await," *Petroleum Economist*, February 2004

[Brazil's] apparently independent regulatory agencies created during the privatizations of the 1990s to oversee the power, telecoms and oil industries are now being systematically deranged and their powers transferred to the government.

– "Still a Heavy Hand," *LatinFinance*, 1 March 2004

What is misleadingly called "globalization" is merely the imposition on the entire world of the neo-liberal tyranny of the market and the undisputed rule of the economy and of economic powers, within which the United States occupies a dominant position.

– Pierre Bourdieu, professor, College de France, in *Firing Back: Against the Tyranny of the Market 2* (2001)

It is becoming increasingly difficult to privatize electricity in developed countries such as Australia, France, and Canada because of voter opposition. In many developing countries, privatization proposals are being greeted with mass protests, and leftist candidates are being elected to office. It is unlikely that the trend toward electricity “liberalization” can be sustained much longer.

– Sharon Beder, professor, University of Wollongong, Australia, in *Power Play: The Fight to Control the World's Electricity* (2003)

People forget quickly. Should liberal democracy fail to deliver on its political overreach, then arguments for regulation, protection, and control (of markets and people alike) will be heard once again.

– Tony Judt, Director, Remarque Institute, New York University, in “America and the World,” *New York Review of Books*, 10 April 2003

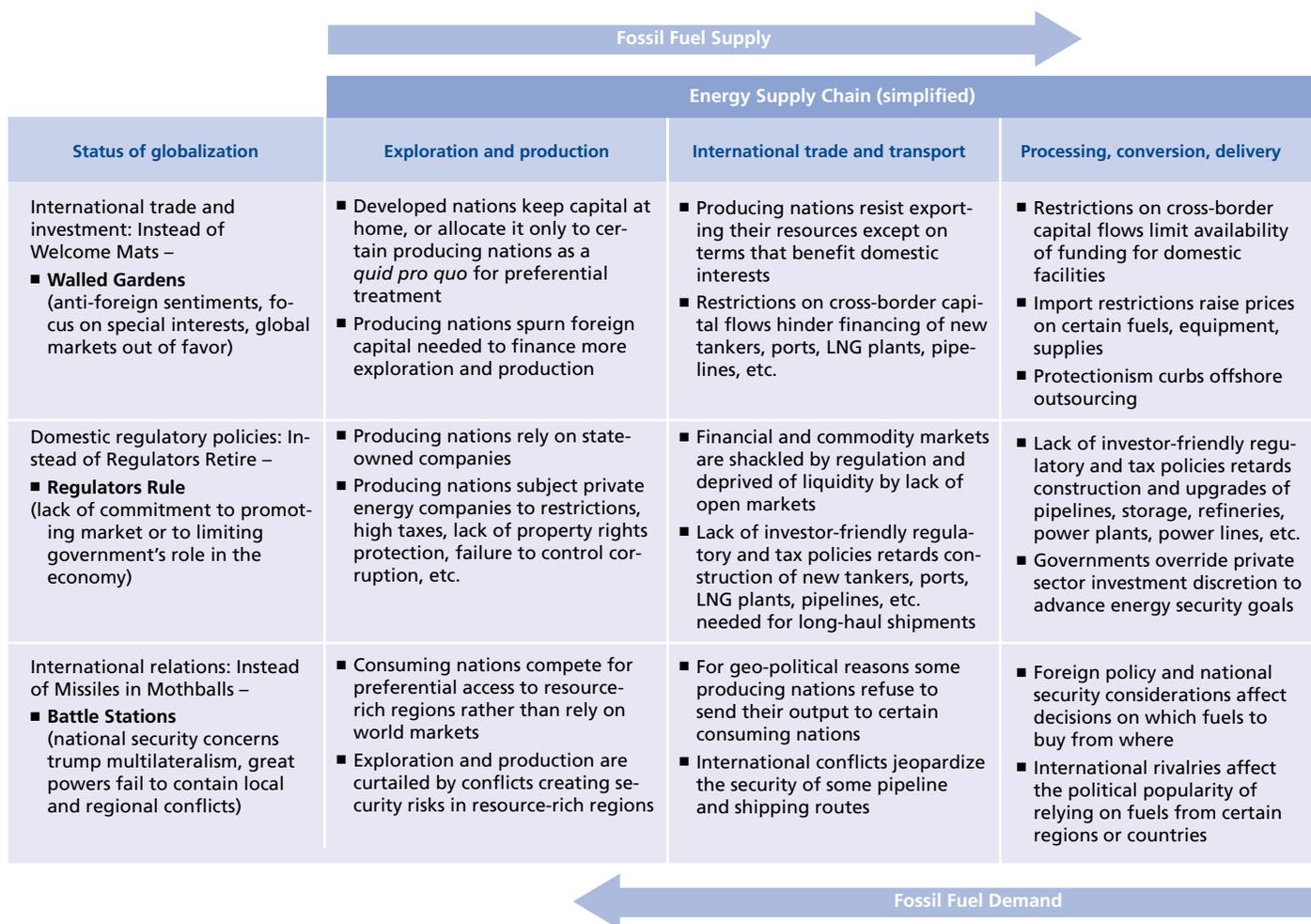
The optimists’ claim that security competition and war among the great powers has been burned out of the system is wrong ... There is substantial evidence that the major states in Europe and Northeast Asia still fear each other and continue to worry about how much relative power they control. Moreover, sitting below the surface in both regions is significant potential for intense security competition and possibly even war among the leading states.

– John Mearsheimer, professor, University of Chicago, in *The Tragedy of Great Power Politics* (2001)

- **Great power rivalries.** The world is rocked by confrontations between large nations stemming from perceptions that economic or military imbalances jeopardize their national security. The clashes could occur between countries within a region or between countries in different regions. For example, countries in Europe or Northeast Asia face off against each other, or the US and China come to blows over Taiwan. A variation is a situation in which the EU, having become united and powerful, declines to follow the US lead in world affairs, and joins with Asian powers to counter US influence. Or Russia allies with the US, or with Europe, or with China, or it tries to be a lone superpower that plays off competitors against each other.
- **Resource wars.** Conflicts over vital natural resources preclude international unity. Oil and gas are prime examples of resources that could stimulate conflict, but water, minerals, and food are others. If conventional oil production peaks sometime in the next decade, as predicted by some geologists, the potential for energy-driven confrontations would rise. Altercations over access to resources could blend with other causes of conflict, such as US unilateralism, great-power rivalries, or failing states. Alternatively, those types of hostility could lead to confrontations over access to resources.
- **Demographic destabilization.** Growing elderly populations strain social and economic systems in places such as Russia, Japan, China, and Italy, creating instabilities that undermine international relations. Another possibility: instability results from rising youth populations in places such as the Middle East, Caspian, and Pakistan.
- **Failing states.** Global stability is imperiled by the meltdown of developing nations beset by poverty, overpopulation, feuds, disease, and resource shortages. Disputes break out as great powers and world bodies intervene to deal with the domestic and international consequences. Some experts argue Russia is a candidate for meltdown, characterizing it as a country beset by a contracting population, internal ethnic rivalries, growing AIDS problem, and rampant alcoholism.
- **Clash of civilizations.** Enmity between cultural and religious groups fans international conflict as nations in rival civilizations spar and/or nations fracture due to feuding between antagonistic communities. This prospect has gained credence with the turmoil in the Middle East and the escalating violence between Muslim extremists against Western powers.

For the energy industry, the implications of international animosity rather than amity include difficulty in securing and retaining access to assets in areas that are embroiled in conflict, operating facilities such as wells, refineries, and liquefaction plants in insecure areas, and completing the delivery of energy and refined products via pipelines and ships that are subject to attack.

How Deglobalization Could Affect the Energy Sector



There is no coalescence around a strategy for North Korea, either in the United States or among its partners in Northeast Asia. The situation is tilting by the day in an incalculable direction ... The fear is that we may already be teetering on the edge of a dark precipice whose abyss is too horrible to contemplate.

– Joseph Ferguson, National Bureau of Asian Research, and Nicholas Eberstadt, American Enterprise Institute (Washington, D.C.), in “A New Twenty Years’ Crisis?” *North Korea Review*, 1 March 2004

No highly industrialized society can survive at present without substantial supplies of oil, and so any significant threat to the continued availability of this resource will prove a cause of crisis, and, in extreme cases, provoke the use of military force ... That conflict over oil will erupt in the years ahead is almost a foregone conclusion.

– Michael Klare, director of the Five College Program in Peace and World Security, Hampshire College, in *Resource Wars: The New Landscape of Global Conflict* (2001)

The world’s nonproliferation regime for WMD and their delivery systems is in crisis ... nuclear verification is inadequate, and there is no agreed verification at all for biological weapons and chemical weapons.

– Henning Riecke, resident fellow, German Council on Foreign Relations (Berlin), in “The Crisis in Halting WMD Proliferation,” *Internationale Politik*, spring 2004

Henceforth, Gazprom, Lukoil, and Yukos must primarily serve state interests rather than corporate interests, especially in foreign policy.

– Alexander Rahr, Director of Russia and CIS Programs at the Foreign Policy Council (Berlin), “Putin Remains a Man of Mystery to the West,” *Nezavisimaya Gazeta*, 10 November 2003

Implications for Corporate Strategy

There are an increasing number of countries in which full-scale trade liberalization has been applied and then failed to deliver economic growth while allowing domestic markets to be dominated by imports. This often has devastating effects.

– Stephen Byer, Member of Parliament and former UK Trade and Industry Secretary, in “I Was Wrong. Free-Market Trade Policies Hurt the Poor,” *The Guardian*, 19 May 2003

There is an enormous amount of surplus capital in the world for which there is no productive investment. The supply greatly exceeds the demand. So there is a very jittery body of excess money that is desperately in need of returns, and it could become panic-prone. We have no economic theory or model for this.

– Peter Drucker, professor, Peter F. Drucker Graduate School of Management, Claremont Graduate University, quoted in “Peter Drucker Sets Us Straight,” *Fortune*, 12 January 2004

Strategic Dilemma: Uncertainty About the Future

Much is uncertain about the business environment facing energy companies in the early part of the 21st century. Opportunities and threats are inherent in the division of the world into energy haves and have-nots, yet how the situation will play out is hard to say. Experts predict contradictory futures with equal certitude, some envisioning a global economy in which markets and multilateralism dominate, others warning of regulation and confrontation in a context that seems more like deglobalization.

Significance for Energy Companies

The implications for energy companies are extensive, reaching across a wide array of key factors. The following reviews some of the ways business plans could be impacted:

- **Asset costs and values.** The value of stakes in overseas gas fields, LNG terminals, gas pipelines, and gas-fired power plants could be altered positively or negatively by government policy in gas-producing regions (receptivity to foreign participation, or to participation by firms from particular countries) or at home (rate regulation, permitting). Geopolitical developments could make nuclear plants that are out of favor today viable tomorrow, or vice versa.
- **Demand.** Government policies on trade and investment, industry regulation, and international relations could have economic consequences that promote or suppress demand growth. For example, restrictive trade policies could cause economic activity to decline in ways that undermine a utility's growth assumptions, while boosting sales for an energy equipment vendor whose foreign competitors are barred from the market.
- **Financing.** Whether it's a pipeline in Argentina or a power plant in Italy, the ability of projects to attract capital and at what price could be affected by new directions in policy on foreign investment or the pricing of electric power. Tax incentives or penalties could be a factor. Likewise, the credit-worthiness of a company involved in oil exploration could be impacted by a decision to exclude Western firms from a section of the Caspian Basin, or to welcome them.

- **Mergers and acquisitions.** Opportunities for consolidation could be impacted by the role governments assume when transactions are proposed, and the criteria they apply. Reviews could be lenient or stringent, and could turn on issues such as openness to foreign investment, or the state of relations between the countries involved in a cross-border deal.
- **Operating costs.** New developments could change the cost of one fuel relative to another – for example, for US utilities an increasing reliance upon LNG would cause natural gas prices to be more dependent upon international markets, and more linked to international oil prices. The opportunity to outsource abroad could be affected by the political clout of unions and others who dispute the proposition that free trade creates more jobs than it exports. Also, the degree to which borders are open could influence some companies’ cost of equipment, fuels, services, and other inputs.
- **People.** If the world evolves in the direction of globalization, then it will be increasingly feasible to move key managers, engineers, and skilled workers across borders. If the trend is in the other direction, companies will be hampered by the delays and difficulties involved in bringing expertise to bear where it’s needed.
- **Revenues.** The extent to which governments allow markets to drive fuel choices will influence the revenue calculations of companies up and down the energy supply chain. For example, government decisions on permits for LNG regasification terminals, wind power subsidies, motor fuel taxes, or electricity rates will affect, among others, exploration and production companies, transport firms, power generators, and gasoline retailers.

The impacts are so numerous and so fundamental that in addition to being addressed as discrete financial, operational, or regulatory risks, they should be viewed as falling within the strategic realm. Energy companies face uncertainties of a magnitude that call into question the ability to craft a winning strategy and see it through. There is a high probability that key assumptions supporting any strategy will be undermined by coming events, but it is impossible to know which ones and when.

Search for Solutions

Energy companies are thus vulnerable to being caught unprepared for developments that render their strategy obsolete. Corporate strategy requires a foundation of assumptions about how the marketplace will evolve in coming months and years, and yet uncertainty obscures what lies ahead.

One way to handle this problem is by trying to cover all plausible eventualities. Another is doing a superior job of anticipating how the marketplace will evolve. Still another is by pushing ahead with the expectation that change will be required, but betting that the company will be sufficiently agile to react to whatever surprises emerge.

None of these approaches provides an entirely satisfactory solution. Even if a company does amass a strategic arsenal that includes provision for every future, its response to any one future is likely to be thin. So far as superior prediction is concerned, studies show that even the most thoroughly supported forecasts usually turn out to be somewhat off, and they can be woefully wrong. Being truly agile is easier said than done for most organizations, and even an adroit improviser sacrifices the advantages associated with timely preparation. Furthermore, the opportunities for using agility in an industry such as energy are typically limited, given the scale and timelines associated with investments such as oilfields, power plants, pipelines, and so on.

Of all the dangers, perhaps the greatest threat to the new consensus, and the confidence that underlies it, would arise from massive disruption of the international financial system ... The consequence could be a protracted period of poor economic performance, even deflation, inviting a return to protectionism. Recrimination and bitterness would abound. The result: a wholesale retreat from confidence in markets themselves.

– Daniel Yergin and Joseph Stanislaw, Cambridge Energy Research Associates, in *Commanding Heights: The Battle Between Government and the Marketplace That is Remaking the Modern World* (1998)

In the past, we have supported free trade policies. But if the case for free trade is undermined by changes in the global economy, our policies should reflect the new realities.

– Charles Schumer, Senator, New York, and Paul Craig Roberts, former Assistant Secretary of the Treasury, in “Second Thoughts on Free Trade,” *New York Times*, 6 January 2004

Gazprom is a powerful political and economic lever over the rest of the world.

– Russian President Vladimir Putin, quoted in “Putin Says Gazprom Too Powerful to Break Up,” *Moscow Times*, 17 February 2003

The Northeast and Midwest blackout of 2003 calls attention to the chaos that deregulation has wrought on the continent’s power grid. Deregulation, which precipitated the blackout, has failed in every regard.

– Joan Claybrook, President, Public Citizen, in *The Big Blackout and Amnesia in Congress*, September 2003

For a surprising number of Saudis, including some members of the royal family, taking the kingdom’s oil off the world market – even for years, and at the risk of destroying their own economy – is an acceptable alternative to the status quo.

– Robert Baer, former CIA Middle East field officer, in “The Fall of the House of Saud,” *Atlantic Monthly*, May 2003

Strategic Flexibility: Framework for Action

Deloitte Research has developed a framework we call Strategic Flexibility to cope with and exploit exactly this type of dilemma. This approach enables a company to compete effectively today while preparing for an uncertain tomorrow, without either over-committing to one vision of the future or simply hoping for the best.

In terms of process, Strategic Flexibility involves using scenarios to anticipate alternative future business environments, defining a strategy that includes actions that will be appropriate regardless of which scenario the future most resembles, but also applying real options concepts to make contingent arrangements for elements of the strategy that may or may not be needed. It is applying real options thinking to the less definite responses to scenario worlds that makes Strategic Flexibility both truly strategic and truly flexible.

In traditional scenario-based planning, a company defines a set of scenarios that capture the full range of plausible futures. Rather than prepare for everything that might happen, the company adopts a core strategy that will work in as many of the scenario worlds as possible. With respect to the potential developments that are included in the scenarios but not addressed by the robust strategy, the company holds off. It waits until unfolding events signal which, if any, of these other scenario conditions are materializing before committing the extra money and effort needed to deal with them.

In effect the company applying the conventional approach counts on being fast out of the starting blocks when the starting gun sounds, whereas the company applying Strategic Flexibility begins running even before the shot is fired. A novel application of real options theory provides this advantage.

A financial option is a contract that gives its holder the right, but not the obligation, to purchase an underlying financial asset at a predetermined price at some point in the future. A contract of this sort provides a low-cost, high-leverage way to gain exposure to significant upside while mitigating possible downside.

- For example, assume a share of stock trades at \$27. Investing in the company will therefore cost at least \$27, and all of this is at risk. In contrast, assume it’s possible to buy an option contract on a share of the stock for about \$1.20, and the option has a “strike price” of \$30 and an expiration date of January 2005. The holder of this contract has purchased the right, but not the obligation, to buy the stock for \$30 any time between now and January 2005.
- If the stock were to rise to \$35, the holder of the stock would realize a gain of \$7 on a \$27 investment, or 26% – a healthy jump. But the option holder would realize a gain of \$5 on an investment of \$1.20, or 417% – a truly phenomenal jump. Additionally, if the stock were to fall to \$15, the stockholder would have lost \$12, but the option holder would have lost only \$1.20. (As a percentage, of course, the option holder loses 100% of the investment, while the stockholder loses 45%, and retains the possibility of recovery.)

This basic structure can be applied to the cash flows generated by *real* assets – hence the name “real options.” Rather than committing to specific investments (as in buying the stock) companies can make partial investments and stage their commitments in ways that guarantee them the ability to deploy certain assets if needed, yet walk away with far less downside if those assets are not needed.

Acquiring a real option can involve leasing a piece of property, buying a piece of another company, funding an R&D project, or including a standby capability in an IT system. The option price is the cost of acquiring the asset. The “strike price” is the incremental cost associated with activation – buying the property, gaining control of the other company, commercializing the new technology, or scaling up the IT system. The option would be exercised when the cash flow from doing so exceeds that cost.

It's important to note that in the context of Strategic Flexibility the idea is to build a portfolio of real options that provide coverage of contrasting possibilities regarding the future business environment. Many discussions of real options focus on a single limited investment that gives a company an "out" if the right circumstances fail to emerge. Here a company makes multiple limited investments, each of which represents a contingent preparation for a different version of the future. The alternative versions of the future differ from each other and at least in some cases from today's thinking on what's likely to happen. Thus it is the collection of options and the span of possibilities they cover that provides the strategic edge.

Four-Stage Strategy Process

Managing strategic risk according to the Strategic Flexibility approach involves four stages – Anticipate, Formulate, Accumulate, and Operate:

- **Anticipate:** Identify the drivers of change and define different ways they might evolve and interact over a period of time such as five to 10 years. That usually results in four or five scenarios that capture the range of most-plausible futures.
- **Formulate:** Define an optimum strategy for winning within the specific business environment of each scenario. Then merge these plans into a single strategy with two components – "core" elements (initiatives that show up on the "to-do lists" for most or all of the scenarios), and "contingent" elements (initiatives that are needed under the circumstances of just one or two scenarios).
- **Accumulate:** Acquire any assets and capabilities needed to execute the core elements of the strategy. Conventional scenario-based strategy methods often stop with that. But here there is more. The next step is to make limited commitments with regard to those assets and capabilities that will be essential if but only if certain circumstances emerge. This may also involve converting fixed commitments the company has previously made to more flexible arrangements that provide more leeway. These flexible commitments are the "real options" that provide the right but not the obligation to move in a particular direction.
- **Operate:** Implement the strategy. Put the core elements of the strategy fully into effect immediately. With respect to contingent elements, monitor the business environment and either preserve, exercise, or abandon the real options depending on whether unfolding events make it more or less likely the conditions that would make them valuable will materialize.

By adopting the Strategic Flexibility approach a company can go forward with those aspects of its strategy that are likely to pay off under any scenario regarding globalization and energy supply, while holding a portfolio of options on initiatives that become useful if specific developments occur in the international arena. Some of the options will be abandoned at a modest loss, but others will confer important advantages in the competition for customers and investors – and those benefits will more than offset the cost of the options that could have become valuable but didn't.

It should be emphasized that, although the social, economic, political, and natural forces that shape the future are beyond the control of any one organization or government, this does not mean that no company has any influence at all. Indeed, many companies in the energy industry can and do promote movement towards or away from specific scenarios through their participation in the marketplace, in policy development, and in public debate.

21st century wars will be resource wars, made more dangerous and intractable by being intertwined with ethnic and religious enmities.

– John Gray, professor, London School of Economics, in *Al Qaeda and What It Means to be Modern* (2003)

A major war involving the West and the core states of other civilizations is not inevitable, but it could happen ... In the coming era, the avoidance of major intercivilizational wars requires core states to refrain from intervening in conflicts in other civilizations. This is a truth which some states, particularly the United States, will undoubtedly find difficult to accept.

– Samuel Huntington, professor, Harvard University, in *The Clash of Civilizations and the Remaking of the World Order* (1996)

Some sort of US-European Cold War is a distinct possibility ... Tensions between America and its old friends in South Korea, Europe, Japan, SE Asia, and Latin America are rising to dangerous levels.

– Clyde Prestowitz, president, Economic Strategy Institute, Washington, D.C., in *Rogue Nation: American Unilateralism and the Failure of Good Intentions* (2003)

Despite signs that China accepts the prevailing world order – including U.S. primacy – there are signs that it remains cautious and tentative, ready to shift its position and possibly reverse course if circumstances change.

– Robert Sutter, visiting professor, Georgetown University, in “China Remains Wary of the U.S.-Led World Order,” on YaleGlobal at www.yaleglobal.yale.edu (18 June 2003)

If Japan, oblivious of its bitter past, sets out again on overseas aggression, toeing the US line, it will bring such fatal consequences as the disappearance of Japan, a country of islands, from this earth.

– Korean Central News Agency of the Democratic People’s Republic of [North] Korea, in “Japan’s Hostile Policy Toward DPRK Condemned,” www.kcno.co.jp, 3 March 2004

Figure 9. Managing a Real Options Portfolio



Putting Strategic Flexibility into Practice

How does this look in real life – if an energy company adopts the Strategic Flexibility approach, what might it include in its plan? The specifics will vary depending on a company’s role within the energy industry, where it does business, and so on, but the following provides some illustrative examples.

Scenario building. To provide a manageable set of future conditions as the context for strategic thinking, the company would delineate scenarios that capture the broadest possible range of potential developments involving globalization and energy supply. These four are far simpler than actual scenarios would be, but they give the general idea. The timeframe for each is 2005-2015.

- **Market Forces.** Liberalization flourishes, terrorism subsides, and nations are at peace. Producing nations permit sufficient foreign participation to promote a worldwide surge of infrastructure expansion. Russian and Caspian oil erodes Saudi control over prices, and OPEC disbands. Upgrading energy infrastructure is expensive and slow, but robust world financial and commodity markets ensure that capital is available and energy supplies are distributed efficiently.
- **Hot Spot.** Liberalization is alive and well, but international relations are unsettled. As in the first scenario, there is widespread belief in the efficacy of free markets, which translates into extensive infrastructure investment and brisk energy trading. However, contention over access to Sakhalin’s resources breaks out among Beijing, Tokyo, and Moscow. The trouble in Northeast Asia constantly threatens to embroil European powers and the US.
- **Tight Leash.** Terrorism is vanquished and peace prevails, but free markets fade. Producers such as Saudi Arabia, Russia, Mexico, and Venezuela view their energy resources as strategic assets. They keep foreign energy companies at bay despite the deterioration of their infrastructure, while exploiting their leverage over a world that lacks ready alternatives for their product. Governments in consuming nations become more interventionist due to concerns about high energy prices and growing energy infrastructure problems within their own borders.

- **Dark Days.** International trade and investment falter, governments intervene in the energy sector, and international tensions run high. Three blocs strive for dominance and clash repeatedly – Europe (allied with Russia and the Caspian), China (allied with Saudi Arabia and Iran), and the Americas (allied with Japan, Iraq, and Nigeria). Energy trade occurs mainly within the blocs. Tankers and pipelines face the danger of military action and terrorist attacks.

Having outlined scenarios such as these, the company would flesh them out with detailed data regarding the marketplace characteristics associated with each, typically using a model. The focus would depend upon the nature of the company's interest, i.e., whether it is a North America-based exploration and production company, a European refinery, an Asian energy exchange, or a South American utility. In general the modeling would produce cash flow projections for the relevant lines of business.

Strategy formulation. Upon analyzing the scenarios and going through the formulation process, differently-situated companies will emerge with different strategies containing a wide variety of core and contingent elements. Again with the caveat that these are very high-level examples for the purpose of illustration, individual companies' results might include the following:

- **North Africa E&P.** An oil and gas company might find that gas exploration and production in a North African nation constitutes a "no regrets" move because even under the Market Forces scenario gas prices would be reasonably strong, plus in all three of the other scenarios Europe would have special reasons for wanting new sources of supply (problems with Russia in Hot Spot and Tight Leash, and Saudi Arabia's turn toward China in Dark Days).
- **Downstream facilities.** A company contemplating investments in a certain type of downstream facility (LNG terminals, pipelines, storage facilities, power plants) might decide that its contingent preparations should include buying tracts of land suitable for building facilities that would be profitable under the conditions of the Market Forces scenario after 2010, but unprofitable otherwise. It would figure that nominal outlays for acquisition and development would position it to move ahead with construction should the market evolve in the direction anticipated by the Market Forces scenario while its competitors were just arriving to scout for sites (which might not be available then). On the other hand, if it became apparent that nothing similar to the Market Forces scenario was likely to emerge, the company could sell the property with at most a small loss.
- **Oil and gas alternatives.** Energy companies of different kinds (upstream, generator, utility) might conclude that the contingent portion of their strategy ought to include more emphasis on coal, nuclear, synthetics, and/or renewables, given that in the Dark Days scenario the mega-producers Saudi Arabia and Russia become attached to particular customers rather than supplying the world at large. Also, Russia's reliability is questionable in Hot Spot. Existing strategies may not anticipate price shocks as dramatic or prolonged as those implied by such developments, and therefore could underestimate the potential value of alternative fuels. Of course, such ventures might be very bad ideas under other scenarios, which is why limited investments that can be ratcheted up or down are worth investigating.

The North is unlikely to give up its nuclear weapons whatever the deal. Because the four parties most closely involved with North Korea – United States, South Korea, Japan, China – have different objectives, a neat solution is not obvious.

– Lee Kuan Yew, Senior Minister of Singapore, keynote address at the International Institute of Strategic Studies Asia Security Conference, Singapore, May 2003

Population trends and demographic characteristics in Russia today are severely – and adversely – altering the realm of the possible for that country and its people. Russian social conditions, economic potential, military power and international influence are all affected, and the situation stands only to worsen.

– Nicholas Eberstadt, American Enterprise Institute (Washington, D.C.), in "The Emptying of Russia," *The Washington Post*, 13 February 2004

However the current Iraq crisis is resolved, it will mark the rebirth of balance of power politics – where the lesser powers are moved into active cooperation to contain US aggression. Joining France and Germany in what is emerging as this era’s version of the pre-World War I Triple Alliance, are China and Russia. The more weighty emerging market countries – like Brazil and perhaps even South Korea – may eventually hop on board.

– Walden Bello, in “The Reemergence of Balance of Power Politics,”
www.theglobalist.com, 12 August 2003

The [Saudi] economy appears to be slowly evolving away from its traditionally strong economic ties to the United States, several analysts said. In a symbolically significant move this month, Saudi Arabia signed gas exploration agreements with Chinese, Russian, Italian, and Spanish companies. No American energy companies were awarded contracts.

– “Saudi Economy Defies Terrorism Fears,”
The New York Times, 18 March 2004

■ **Supplier management.** A contingent element of an international energy company’s strategy might be to develop an electronic trading network to standardize dealings with suppliers, which among other things would smooth shifts in procurement from one supplier to another should upheavals in international relations make this necessary. This platform wouldn’t be essential if the Market Forces scenario transpired, since in that case the company could simply work on a one-to-one basis with a few favored suppliers. However, the extra investment in the trading network, and the cultivation of additional suppliers in certain regions on a “just in case” basis, would represent options on futures such as Hot Spot and Dark Days. In those futures commercial ties to some countries become untenable due to diplomatic frictions or political instability, and switching to alternative sources is therefore necessary.

These vignettes demonstrate the application of the Strategic Flexibility approach in the energy context, albeit in a way that is limited and general. They also provide a contrast with approaches that involve trying to cover every future (and having a thin response to the one that appears), predict the right future (with a guess that could be wrong), dealing with inflections as they occur (agility is easier said than done), and postponing certain preparations pending evidence that the requisite future is in fact materializing (a variation on the agility method that risks a tardy response).

Strategic Flexibility and Risk Management

This discussion highlights the usefulness of Strategic Flexibility for managing strategic risk. Because Strategic Flexibility furnishes a process for bounding the universe of challenges a company could face and developing a comprehensive portfolio of strategic responses, it offers an excellent framework for a dialog between board and management regarding the identification and mitigation of risks at the strategic level. Management surfaces the threats and opportunities that could present strategic challenges when identifying the key drivers, defining the scenarios, and formulating a strategy. Management and board together review and refine the strategy, ensuring that the relevant issues have been vetted and that the core and contingent responses are sufficiently resilient. In this process management contributes its detailed knowledge of the business, while the board brings a broader perspective and additional business judgment. Finally, the board decides if the risk/reward trade-off reflected in the strategy is appropriate for the company.

Conclusion

The world appears to be heading toward more energy interdependence. For the future to work according to projections such as those developed by the IEA, trillions of dollars of investments must be made in both exporting and importing nations, and vast networks of facilities, ships, and trading arrangements must function smoothly. Governments will need to follow a script that calls for openness, reliance on private enterprise, and peaceful resolution of disputes.

So long as globalization remains on track, the prospects look favorable. However, the idea that globalization represents the tide of history, which gained such credence in the 1990s, requires a second look today.

It could still turn out that the global business environment will become more open and integrated as this decade progresses, but the signs of fraying consensus and decreasing cooperation among major countries indicate energy companies should be sure they are properly prepared to deal with a world that is divided and disorderly instead.

Adjusting corporate strategy to allow for alternate possibilities regarding the global energy supply situation presents challenges, since it is not feasible to fully prepare for all possible futures, nor to make quick changes in ventures that require major investments and long lead times.

However, by applying the Strategic Flexibility approach a company can develop corporate strategy and manage strategic risks in order to avoid being disadvantaged by developments concerning international trade, industry regulation, and geopolitics.

Strategic Flexibility permits a company to proceed with certain international initiatives confident that they will be sustainable under a broad range of future scenarios, including those in which globalization unravels. This approach also provides a means for limiting dependence on international ventures whose future is not so assured. A stake in them can be intensified, reduced, or abandoned as ongoing events provide better insights as to which way things are moving in the global arena.

Globalization like democracy is irreversible and unavoidable, so Africans must do everything possible to embrace and benefit from the trend.

– Communique issued by the Nigerian People's Democratic Party, September 2003

What will be the energy mix in Germany in 2020 if we abandon nuclear energy at the same time that some one-third of the country's coal-fired plants have to be replaced because of age? Are German electricity customers ready to bear the far-reaching price risks along with the political risks of being dependent upon gas for fuel?

– Harry Roels, President and CEO, RWE AG, press conference, 26 February 2004

A rise in anti-European annoyance among Russia's political establishment is very likely. Contrary to expectations, the objectively increasing interdependence between Russia and Europe has thus far led to a rise in tension rather than a reduction.

– Fedor Lukianov, Chief Editor, *Rossiya v Globalnoy Politike (Russia in Global Politics)* magazine, "That Forgotten Word – Compromise," in *Trud*, 25 February 2004

Just as the European Coal and Steel Community was a catalyst for the European Union, so a new American energy community joining public and private sectors can fuel the building of Greater America.

– L. Ronald Scheman, Director-General, Inter-American Agency for Cooperation and Development, in *Greater America: A New Partnership for the Americas in the 21st Century* (2003)

Most people believe that the political earth since 1989 has undergone immense change. But it is minor compared with what is yet to come. The breaking apart and remaking of the atlas is only now beginning.

– Robert Kaplan, author, in *The Coming Anarchy: Shattering the Dreams of the Post Cold War* (2000)

Very different corporate strategies are needed to succeed in a global business environment that is divided and disorderly as opposed to one that is integrated and harmonious. The fact that it is impossible to know for certain which sort of world lies ahead creates perplexing problems for energy companies that are active in the international realm, or that are affected by international developments even though their operations may be entirely local.

This situation calls for methods of making decisions and managing organizations that allow companies to leverage uncertainty to their benefit rather than ignoring or denying it. We face a time of complex possibilities, and we contend the best approach is to embrace that reality.

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