

JAPAN'S ENERGY ANGST:
ASIA'S CHANGING ENERGY PROSPECTS
AND
THE VIEW FROM TOKYO

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Tokyo looks at energy security differently than does Washington, D.C. This persistent and deepening reality—so incongruously at odds with the continual affirmations of solidarity and alliance in the broader US-Japan relationship—has substantial grounding in economics. Yet the contrast in mind-set between the two capitals is sharply amplified by differences in domestic institutions and politics. This trans-Pacific perceptual gap has major implications for East Asia's energy future, and for global geo-politics as well.

Japan's notion of energy security can be considered “energy angst”, to distinguish it from the common Western understanding.¹ Japan's angst is amplified, and transformed into a consciousness distinct from that of the

¹ For a more extended description and discussion of this concept, see Kent E. Calder. Japan's Energy Angst and the Caspian Great Game. Seattle: NBR Analysis, Volume 12, No. 1, March, 2001, especially pp. 7-10.

West, by a host of institutional and political factors. Japan's bureaucratic structure, the organization of its private sector, the configuration of its elite politics, and the operation of its mass media all accentuate that nation's consciousness of energy vulnerability, and the urgency of proactive steps to deal with it through intensive development of energy resources.

An understanding of Japan's "energy angst" needs to start with a comparative appreciation of Japan's extremely low energy self-sufficiency. The country lacks even a single consequential oil or gas field. Among the major industrialized nations, Japan has, as indicated in Table I, by far the lowest ratio of domestic energy production to total consumption (4%). It is more dependent on oil as a share of total energy consumption (49%) than any G8 nation except Italy. It imports a higher share of its oil (99.7%) than any other G-8 member. And a higher share of Japan's precious oil comes from the Middle East than in any other major industrialized country.

Table I
Japan's Energy Vulnerabilities in Comparative Perspective (2003)

	Japan	France	Italy	Germany	U.S.	U.K.
Domestic Energy / Total Energy Supply	4	9	15	25	66	102
Oil Dependency / Total Energy Supply	49	35	50	38	40	35
Imports / Total Oil Supply	99.7	98	95	97	60	49
Imports from Middle East / Total Oil Supply	86	29	29	11	23	6

Source: METI

Institutional Dimensions

Japan's "energy angst" - its pronounced tendency to view energy security seriously and give it primacy on the national policy agenda— is intensified by the configuration of public and private institutions. Japan's Energy and Natural Resources Agency is a central component of the powerful Ministry of Economics, Trade, and Industry (METI), which rose sharply in stature through the 2001 re-organization of the Japanese government. The Energy and Resources Agency has also benefited during the Koizumi Administration from a number of strategic personnel decisions.²

In addition, the Energy Agency is probably the part of METI that has retained the greatest regulatory discretion, amidst the sweeping globalization and de-regulation of Japanese industry that has so vastly transformed most of Japanese policy-making over the past three decades. The two Oil Shocks of the 1970s, the perceived national-security imperatives that they generated, and the support of the politically influential electric-power industry shielded the Energy Agency from the sort of regulatory erosion that plagued virtually all other parts of the Japanese bureaucracy. And the energy bureaucracy –

² Yoriko Kawaguchi, Koizumi's second Foreign Minister (2002-2004), for example, was previously a career official of the Ministry of International Trade and Industry, with long-standing energy interests. One of her key assistants during her tenure as Director General of the Environmental Agency, Kazumasa Kusaka, and one of METI's principal senior energy specialists, became METI's Vice Minister for International Affairs in June, 2004.

as a heritage of Japan's turbulent history of Depression and war—has long been uncommonly cohesive and well-developed institutionally, as Chalmers Johnson points out.³

The institutional configuration of Japan's energy-related *private sector* also intensifies “energy angst.” The electric power industry, for example, is among Japan's most profitable and influential, reflecting the pronounced community spirited of the leading firms in the industry. Virtually all of Japan's regional business federations have power-company CEOs at their heads, who contribute liberally to both civic project and influential incumbent politicians. This pattern is commonly seen at the national Federation of Economic Organizations (Keidanren) as well, where power companies are among its most important supporters.⁴

Within the domestic political economy, general trading companies, steel, and banking are all politically powerful backers of the ruling Liberal Democratic Party. All have strong interests in energy-sector development. The general-trading companies--internationally distinctive in their ability to project from diverse export, import, and investment, transactions – are especially important as energy development-project catalysts. Their

³ Chalmers Johnson. *MITI and the Japanese Miracle*. Stanford: Stanford University Press, 1982.

⁴ Tokyo Electric Power chairman Gaishi Hiraiwa, for example, served as an influential chairman of Keidanren throughout the early 1990s, and TEPCO's current president Katsumata has served as Vice President of Keidanren since early 2004.

powerful incentives to generate trade flows out of developing regions from Siberia to the Amazon influence banks, manufacturers, and ultimately government in the same direction.

Japanese patterns of corporate governance also contribute to the resource-development bias of Japanese energy policy. Stockholders are dominant in most energy firms, with shareholders largely drawn from friendly, affiliated financial institutions. Combined with a stable, hospitable regulatory environment, this institutional pattern gives the Japanese energy sector a long time horizon and high risk-tolerance much more pronounced than in the Anglo-American tradition.

The “energy angst” of Japan’s elite institutions, both public and private has generated a distinct, embedded heritage that should powerfully dispose Japan’s energy policies in future, as it has in the past. Despite the rigidities and resource mis-allocations that it no doubt bequeaths to the uncertain future, that embedded “angst” has generated dramatic improvements in Japanese energy security since the Oil Shocks of the 1970s that deserve a brief review. As indicated in Table II, Japan has more than doubled its oil stockpile since 1973. It has sharply diversifies away from oil, with the inevitable dependence on a volatile Middle East which such

dependence implies. And Japanese policy has greatly reduced the energy intensity of the national economy.

Table II

Japanese Energy Policy Since 1973 – Three Key Achievements

	1973	2003
A: Oil Stockpiling	56 days	168 days
B: Diversification*		
(1) Oil	77.4%	49.4%
(2) Nuclear	0.6%	12.6%
(3) Natural Gas	1.5%	13.1%
C: Energy Intensively (Manufacturing)	100%	63.6%

Note: Diversification figures are for 2001.

Source: METI.

Japan has also made impressive technical advances in its electric-power management system. These have prevented the dramatic blackouts and brownouts that have plagued the United States, China, Italy and other major nations in recent years. Decentralized power generation, cutbacks in peak loads, and systematic electric trade among utilities have all helped in this effort. To be sure, there has been marginal electric-utility liberalization since the Asian financial crisis (1997-99), with the gradual and limited emergence of independent power producers (IPPs). Yet this innovative development has not produced the Enron-type chaos that has sometimes accompanied more ambitious deregulation schemes in the United States.

Japan's advances in energy security have not been without cost. As noted in Table II, Japan has sharply increased its commitment to nuclear power since the first Oil Shock. More an eighth of total energy supply, and thirty percent of electric power, is now nuclear. In the past two years, both Tokyo Power (2003) and Kansai Power (2004) – Japan's two largest utilities – have experienced difficulties with their nuclear plants. METI has sharply curtailed its projections and encouragement for future nuclear plant construction. There have also been massive cost over-runs, and minor yet worrisome technical malfunctions in Japan's ambitious closed nuclear fuel cycle program.

Japan has also committed heavily to natural gas, as Table II indicated, with a powerful emphasis on LNG. This has had major merits in terms of environmental impact and energy efficiency. Yet the heavy capital commitment involved in committing to liquifaction has constrained the prospects for piped gas. The sunk costs of expensive nuclear and LNG programs make it difficult for Japan to move rapidly in new directions – toward the sort of national gas grid that Korea is adopting, for example.

Japan's Prospective International Energy Role

Although its energy demand growth has been stagnant for over a decade, Japan remains an energy-consumption superpower, third in the world after the United States and China. Japan also has an efficient, strategic, and powerful energy bureaucracy – much more cohesive than that of China – and the largest overseas development program and capital exports in the world. It also has one of the world's most technically advanced fusion-research programs. Clearly Japan could be an international leader along many dimensions of global energy security. And it has the inclination and the incentive structure to do so– both nationally and at the corporate level also.

Japan's international energy contribution seems likely to move among the following six lines:

- (1) Northeast Asia. Within the context of a Korean nuclear settlement, perhaps related to the on-going six-party talks, Japan could ultimately contribute \$5-10 billion. Much such assistance could relate to electric power grids, power-generation equipment, or natural gas pipelines, such as the Nakhodka project. A regional energy agreement through the six-party talks could also produce a multinational context for finessing the dangerous Japan-China bilateral conflict in the East China Sea.
- (2) Coordinated Stockpile Policy. Japan's technical expertise, financial resources, and storage capacity give it a potentially catalytic role in deepening Japan/Korea/China stockpile coordination and in reducing the Asian Premium.
- (3) Central Asia. Japan is the largest ODA donor to all of Central Asia's energy producers, including Kazakhstan, Uzbekistan, and Azerbaijan. Japanese firms such as C. Itoh are significant participants in regional energy consortia.
- (4) China. Japan, with its well-organized energy programs, and efficient bureaucracy, could render important assistance to China in improving

energy efficiency, and in reducing environmental pollution. To elicit active Japanese cooperation, however, China also needs to be more responsive to Japanese concerns, in the East China Sea and elsewhere.

(5) Iran. Japan has a century-long history of cooperative relations with Iran, dating back to the Russo-Japanese War of 1904-1905.⁵ Since the hostage crisis of 1979-1980, Japan has deferred to U.S. security concerns regarding Iran more than many European nations, but continues to see a strong, long-term complementarity of interests with those of Iran. In 2003, Japan and Iran concluded a major agreement to develop the massive Azadegan natural-gas fields. Yet this agreement is unlikely to be implemented anytime soon, in deference to continuing U.S. concerns about the Iranian nuclear program

Implications for American Policy

Japan's "energy angst", to reiterate, differs fundamentally from American conceptions of energy security. The differences are not simply intellectual, or even solely economic. They are rooted in basic differences of political-economic *structure*, giving rise to differing national incentives and priorities.

⁵ On the details, see Kent E. Calder. Japan's Energy Angst and the Caspian Great Game, pp. 20-24.

This trans-Pacific difference could be both good and bad. It could mean that the two countries might, especially in tight energy markets, come into political conflict over energy. They did so in 1979, following the Iranian Revolution, and in 1973, during the Arab Oil Embargo. They did so even more seriously, of course, following the 1940 U.S. oil embargo, when US-Japan relations spiraled downward toward Pearl Harbor and World War II.

The actual dangers today are obviously more subtle, although still quite real. They center on the potential tragedy of fruitful bilateral cooperation foregone. As the two largest economies in the world, with nearly 40 percent of global GDP between them, the US and Japan have the scale to make a decisive difference in multiple areas of energy research. Their cooperation in dissuading Iran and North Korea could first inhibit proliferation, and then contribute productively, through conditional assistance, to regional development. Japan's longer-term, if more rigid, perspective could nicely complement the greater flexibility, yet shorter-term orientation, of the United States. U.S.-Japan energy cooperation could clearly strengthen the broader trans-Pacific alliance, by giving it more mutuality and symmetry than at present. The crucial precondition is that the two countries—with such different perspectives—truly work to understand one another.