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Will Escalating LNG Imports Really Ruin Japan?□□液化天然ガス輸入はほんとうに日本を滅ぼすか

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Between 2012 and 2014 we posted a number of articles on contemporary affairs without giving them volume and issue numbers or dates. Often the date can be determined from internal evidence in the article, but sometimes not. We have decided retrospectively to list all of them as Volume 12 Number 30 with a date of 2012 with the understanding that all were published between 2012 and 2014.

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In Ian Morris's book on energy and civilization, *Why the West Rules–For Now*, he writes that "greedy, lazy, frightened people" develop institutions that express "their own preferred balance among being comfortable, working as little as possible, and being safe." But under conditions of crisis, they often innovate very rapidly. And, as is often noted, energy policy is not driven by elections but rather by crises.

This is hardly to insinuate that the Japanese are especially greedy and lazy or that they really do not like to work. But as in every human community, their political processes tend to be dominated by vested interests that keep alternatives off the agenda until the last possible moment. Yet since March 2011, the Japanese political community has found it impossible to ignore energy precisely because of the ongoing and spectacular failure of energy policy. The general public, for good reason frightened by the health, fiscal, livelihood and even survival implications of the meltdown of several reactors at Fukushima, has come to stand firm against the restart of nuclear capacity. This has been repeatedly displayed both in political demonstrations and public opinion polls.

The political difficulty of restarting reactors, combined with the adverse economic results following the world recession of 2008-09, national indebtedness, and the setbacks associated with the 3.11 earthquake-tsunami-nuclear power meltdown, has led much of the international community to declare Japan on the edge of the precipice. There's a Greek chorus chanting that Japan's faces ruin as a result of high gas and oil prices, because about 90% of its electricity is presently from thermal generation rather than about 60% before Fukushima (nuclear provided just under 30% of Japan's power prior to last year's disaster). The doom-criers marshal seemingly convincing statistics. Among other things, they show that Japan's LNG (liquid natural gas) imports rose a whopping 52% to YEN 5.4 trillion yen between March 2011 and March 2012.

But step back for a moment and recall that many market analysts were telling us a few years ago, when oil was at USD 140 and above, that Japan was made of the right stuff and would just get more efficient. So it is useful to go to the Japanese customs data page (http://www.customs.go.jp/toukei/shinbun/happ

you.htm) and see if these price increases are as unprecedented as some suggest. It is also probably best not to compare with dates during the past few years, because we have been in an historic "great recession" that has depressed economic activity in various spheres. So instead let us compare March 2008 and March 2012, to assess the relative burdens on Japan's economy.

The comparison reveals that, as we see below, despite the loss of nuclear power, the volumes and prices for oil and natural gas are now roughly equal overall if you sum up the total cost and note that less oil and more LNG is being used:

March 2012: LNG: 8.126 million tons, YEN 570 billion; LPG 1.296 million tons YEN 120 billion; oil 18.83 million kiloliters YEN 1.165 trillion

Grand total for fossil fuels in March 2012: YEN 2.276 trillion

March 2008: LNG 6.318 million tons, YEN 374.85 billion; LPG 1.258 million tons, YEN 111.3 billion; oil 22.25 million kiloliters, YEN 1.395 trillion

Grand total for fossil fuels in March 2008: YEN 2.233 trillion

Moreover, those who argue that LNG and other fossil-fuel prices will crush Japan also forget that Japan's ramped up burden of fossil-fuel prices, compared to last year, is almost certainly not going to last long. The peak volumes may already have been reached depending on how rapidly efficiency, renewables, conservation and storage get diffused.

As part of its response to the power and price crisis, Japan will almost certainly accelerate the non-nuclear targets in the 2010 energy basic plan, the plan that committed Japan to 53% nukes in electrical power by 2030. Several other targets in that plan have not received adequate attention. One is the goal of making LEDs 100% of all lights by 2030, increasing renewables to 21% of all power by 2030, diffusing electric and other second-generation cars to 50% of new-cars sales by 2020 (70% by 2030), making all new homes net-zero energy by 2030, and so forth (http://www.enecho.meti.go.jp/info/committee/kihonmondai/1st/sanko1_1.pdf). Another of Japan's targets - this time in its New Growth Strategy of 2010 - was to build a green-innovation economy totaling 1.4 million new jobs and YEN 50 trillion in new business by 2020 (http://www.meti.go.jp/topic/data/growth_strategy/index.html).

The LED target is an interesting and useful example because lighting accounts for about 20% of household power use and LEDs can cut power use by 3/4. Japan's domestic market for LEDs is now the biggest in the world, in part because LED ceiling lighting for households went from about 2% of sales last February to over 50% in recent weeks. At the same time, LED prices dropped by over half through diffusion. Globally, LEDs still only represent 5% of sales, so Japan might also increase its share in a promising export market thanks to its mushrooming domestic market. A similar story may be emerging in home and business-energy management systems, smart windows, and a range of other products.

Keep in mind that Japan's 2010 energy plan was not especially ambitious in its targets, because the nuclear village dominated policymaking. The nuclear village, in protecting its monopolies and the role of nuclear power, handicapped the country's advance on smart grids, dynamic pricing, adoption of renewables and a range of other items that would have reduced power consumption from the grid. But Japanese local governments are now spending heavily on renewables and efficiency, supporting a robust feed-in tariff that is attracting an increasing flow of renewable investment and projects, and corporate actors have become very keen to invest in efficiency in order to cut their costs and strengthen their position in new markets. These and other factors are likely to pressure the central government. Indeed, now that nuclear generation is completely off-line and not likely to be restarted in the near future, the central government's normally complacent policymakers seem likely to become more aggressive in promoting efficiency and renewables targets.

To sum up: 1) Japan is not in unknown territory on fossil-energy costs for the economy; 2) high prices will act like a "carbon tax" and drive Japan to sprint along an efficiency/renewables track that it had already been looking to walk down; 3) and Japan will almost certainly, therefore, achieve momentum in pursuit of renewables, efficiency, storage, and smart grids. Many countries are already working hard to compete and seek dominance in the ongoing green revolution, while encumbered by vested interests, political dysfunction, poor capacity, insufficient incentives, and the like. Japan now has certain advantages—including the advantage of adversity created by the 3.11 disaster—that could enable it to become a leader in alternative energy development. This green market has been assessed as a YEN 350 trillion market by international strategist Roland Berger, in a February 2012 Japanese publication(http://www.rolandberger.co.jp/press/publications/green_business/2012-01-31-green_business.html).

The same publication highlights the market advantages Japan can gain from using efficiency and renewables to ramp down reliance on nuclear power. In having its nuclear lobby severely weakened and its generating capacity taken offline, Japan may have lucked out, just as it did in the 1970s when its incentives to ramp up efficiency, cut oil use in electrical production, build smaller cars and the like helped it to emerge from the oil shock faster than other countries. Now it has, as it were, a nuke shock incentivizing it to drive forward much faster than planned towards efficiency and renewables.

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