

# Abenomics Needs a Reboot Rather than Nuclear Restarts アベノミックスが必要とするのは再稼働ではなく再起動

Andrew DeWit

## Introduction

A June 2 article in Bloomberg by the deservedly respected University of California at San Diego Professor of Japanese Business, Ulrike Schaede, makes the argument that Abenomics requires nuclear restarts in order to work.<sup>1</sup> Professor Schaede presents an overview of Japan's present circumstances on energy, and concludes that "Japan has only one viable course of action: It cannot afford not to turn its nuclear-power plants back on." In the present article, I suggest that Japan cannot restart its nuclear capacity in the time-frame suggested by Professor Schaede. And drawing on recent research by Japanese and American experts, I shall argue that Japan's best bet is in accelerating its efficiency and conservation programmes.

## The Case for Restarts

Professor Schaede correctly notes that the yen has depreciated over recent months, driving up the cost of imports and especially of imported fuels for power generation. The article declares that Japan has 50 nuclear reactors, which would "provide about 30% of electricity, and 11% of total energy consumption" if they were all restarted and running at full capacity. Professor Schaede warns that shutdowns mean that the contribution of nuclear power is now only 2% of electricity, "with oil and gas filling the gap," and suggests that efficiency and

conservation are not in the cards because "people are already cheating on their 28° thermostat settings while complaining about rising energy costs." She further adds that restarting the "50 reactors up and down the country" is not a "cold-blooded" ambition and suggests it is not about getting the nuclear industry revived. The author insists that it is "inconceivable that Japan will ever design a new nuclear power plant, and highly unlikely that the two under consideration will ever be fully operational." The argument is rather "economic-rational: Until Japan has alternative domestic energy sources tied into its grid, there is no choice. Without nuclear energy, Abenomics will fail."

## Some Points to Consider

There appear to be a number of problems with the above argument. First, Japan does not have 50 reactors ready and waiting to be restarted. Fully six of its nuclear plants (meaning sites with multiple reactors) are under investigation because there is concern that lax regulation saw them built on or too close to active seismic faults. The most recent example is the Tsuruga number 2 reactor in Fukui Prefecture. The previous and now defunct regulator (the Nuclear and Industrial Safety Agency of the METI) assented to its construction after a "shoddy" safety check, but on May 22 the new regulator (the "Nuclear Regulatory Agency," or NRA) accepted the advice of its five-member expert panel and ruled that the plant is built on an active seismic fault.<sup>2</sup>



**Fault under the Tsuruga reactor**

Professor Schaede argues that “we don’t know about disposing of unused nuclear power plants. So we might as well turn them back on.” But the NRA is a new regulatory institution, one put in place after Fukushima and the exposure of how compromised its predecessor was. The NRA is charged with ensuring nuclear safety, and is seeking credibility both domestically and internationally. So it is compelled to be careful to do as thorough a job as possible, notwithstanding its limited staffing levels and some of its members’ ties to the nuclear industry.<sup>3</sup>

Second, it is unclear why Professor Schaede argues that it is “inconceivable” that Japan will ever design or build another reactor. To give just one example, the Japanese government is in fact funding research on small-scale nuclear reactors, including Mitsubishi Heavy Industry’s “Integrated Modular Reactor.”<sup>4</sup> Moreover, the current head of the LDP Committee on Resources and Energy Strategy, Yamamoto Taku, declares that Japan must pursue nuclear technology and that he looks forward to new nuclear construction, at least underground.<sup>5</sup>

Third, Professor Schaede’s article insists, citing

a poll by the pro-nuclear Institute for Energy Economics, that “52 percent of Japanese were in favor of nuclear energy before Fukushima, and 39 percent were still in favor immediately after the disaster.” But the polls in fact show that opposition to nuclear power strengthened in the months after Fukushima, as it became clear that TEPCO and the larger nuclear village were quite deliberately concealing information pertinent to public safety.<sup>6</sup> Indeed, the nuclear village even concealed crucial information from the Japanese Prime Minister, leading the American Embassy (among others) to express its concerns in very strong terms.<sup>7</sup> Distrust of the authorities, and especially the utilities, remains very high. For example, in response to the most recent poll on nuclear-related opinion (a Kyodo opinion poll, released on May 19, 2013), 54.3% residents of Shizuoka Prefecture opposed restarts of reactors even after safety checks, whereas only 37.2% supported restarts.<sup>8</sup>

### **Are Quick Restarts in The Cards?**

But perhaps the most pertinent point is that there simply will not be restarts by August, contrary to what Professor Schaede suggests in writing that “[t]he government recently announced that after new regulation takes effect in July, several power plants could go back online – presumably in time for August’s summer heat wave.” In fact, it is almost certain – barring the Abe Shinzo regime’s removal of authority from the NRA – that any restarts will take several months and will be rather limited in number.

The reasons for this delay include the fact that the utilities have first to apply for restarts from the introduction of the new regulations, in July, and then have their facilities inspected. At present, there has not even been a decision on the order in which reactors might be inspected by the NRA’s limited inspection teams.<sup>9</sup> The near certainty of significant delay has caused a serious ruckus in Japanese politics. The utilities

and a roughly 90-member alliance of LDP Diet members (whose chair and vice-chair are from reactor-site communities) are attempting to apply pressure to the NRA for quick inspections and restarts. But this pressure appears to be having the contrary effect, with voices in the LDP openly worrying that it is a minus for them in the upcoming Upper House elections (likely to be held on July 27).<sup>10</sup> And given the NRA's concern to be seen as beyond bias, the greater the pressure placed on them, the more cautious they are likely to become. At the same time, the politicians acting at the behest of the utilities and their reactor-dependent communities presumably have a similarly difficult structure of incentives.<sup>11</sup> The utilities are in truly desperate straits, facing bankruptcy due to their high cost structures and abandonment by local-government and business clients, and hence perceive no option but frantic and open lobbying.

The upshot is that there will be no restarts over the next few months. In this regard, a comprehensive analysis of Japan's predicament and its choices was published on May 2 of 2013 by Deputy Senior Researcher Fujiyama Mitsuo of the decidedly mainstream Japan Research Institute (JRI).<sup>12</sup> The JRI's analysis reveals that Japan's situation is indeed dire: the trade deficit in 2012 was YEN 8.2 trillion, and total imports of fuels for thermal power generation in the same year were YEN 7.5 trillion. This cost was about YEN 3.7 trillion more than what Japan paid for total imports of thermal fuels in 2010. The JRI report also adds that at an exchange rate of YEN 100 to the US dollar total fuel costs for thermal generation are likely to be YEN 8.8 trillion in 2013. By the JRI accounting, this would involve a YEN 5 trillion increase over 2010.

The JRI's analysis therefore scrutinizes Japan's options, including the potential for nuclear restarts. Its assumption is that the earliest that restarts can be expected is mid-October, with Shikoku's Ikata number 3 and Kyushu's Sendai

numbers 1 and 2 likely candidates because they appear closest to having met safety standards. The report also discusses prospects for the diffusion of renewable energy and cheaper natural gas. Though Japan may become the world's largest market for solar in 2013, the report rightly concludes that there is no way to diffuse renewable power fast enough over the next few months to meet demand.

It also unpacks recent magical thinking that cheaper natural gas is in the offing. Though the United States has of late experienced a natural gas glut, through a hydraulic fracturing - or "fracking" - boom, the earliest Japan can expect imports from that source is 2017.<sup>13</sup> The METI is also working to set up a futures trading system for natural gas, to bring the price down. But the report notes that the earliest this system - whose potential effectiveness remains unknown - will come into effect is sometime in 2014.

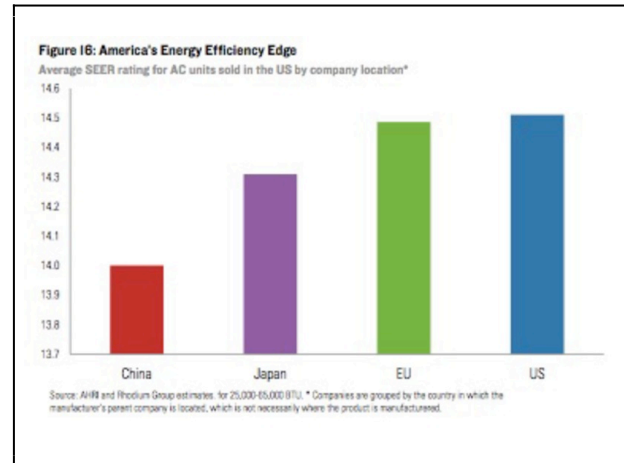
The JRI report therefore finds all of these options wanting, because they simply do not answer the need for power right now. As a result, the JRI comes down strongly in favour of accelerated conservation measures. The JRI stress that these measures should not only focus on cutting peak demand, but cutting demand overall. The mechanisms specified in the report's scenario of a full-on effort at demand reduction include visualization of consumption as well as accelerated deployment of energy management systems (such as smart meters, business energy management systems, home energy management systems, and others), as well as very high-efficiency appliances and other gear. The JRI argue for very aggressive policies to accelerate the deployment of these technologies.

### Abenomics and Energy

This critical area is where Abenomics clearly needs a reboot. The Abe Cabinet showed limited interest in efficiency and conservation last January, when they devoted only a small

amount of their over YEN 10 trillion “arrow” of public works spending to efficiency and included no serious conditions on the use of the funds.<sup>14</sup> Many observers of Japanese politics have suggested the stimulus arrow was aimed more at the upcoming Upper House election than the economy’s needs per se. But surely it is not too late to reconsider deployment of funds and setting targets, given the gravity of Japan’s energy crisis. Japan’s local government and many of the central agencies are already devoting significant fiscal and regulatory attention to efficiency, and the Abe regime could provide a very welcome helping hand in helping to coordinate action through the Cabinet as well as the equivalent of the American President’s “Bully Pulpit.”

In addressing its own needs for reduced consumption in a hurry, Japan could also grow a very robust business sector. The size of the efficiency and conservation opportunity is far larger, and Japan’s relative energy efficiency a good deal lower, than many people think. I discussed these matters at length in an earlier article.<sup>15</sup> Rather than going over that ground again, it might be more useful to turn to a May, 2013 survey, on behalf of United Technologies, by the policy and economic advisory firm Rhodium Group. The report is titled “Unlocking American Efficiency: The Economic and Commercial Power of Investing in Energy Efficiency Buildings.” The report is not only concerned with the United States, though its focus is the massive opportunity for efficiency in the building sector in the US using off-the-shelf technologies and policy options. The Rhodium Group represent the internal rate of return (IRR) on investments in efficiency as 28.6% over a 10 year period. They argue that this IRR “is four times better than average corporate bond yields or average equity performance and more than double the returns even high-performing venture-capital firms enjoy.”



The data charts in the report are persuasive and valuable. For example, their figure 16 (above) compares the efficiency of air conditioning units. The result provides yet another indicator that Japan is not in fact the global leader on efficiency, its air-conditioning units having a noticeably lower level of efficiency than the Americans and EU.

Because of Japan's greater urban density and greater reliance on rail transport as well as its more moderate climate and other factors, it surely cannot expect the same return from investments in efficiency as can the Americans. But the Rhodium Group's study builds on a very important 2009 study by the World Business Council for Sustainable Development (one sadly ignored in large part). These analyses centre on the building sector and the gear deployed within structures, as opposed to the waste of fuel and other resources through sprawl and other lamentable elements associated with the American Dream. Both of them suggest Japan has plenty of work to do. And the Rhodium Group's very reader-friendly study presents a convincing case that this efficiency market has the potential to grow to USD 1.6 trillion globally.

### Why Isn't the IEA Telling Us About This?

It is interesting that the International Energy Agency (IEA) have been very blunt in their advice for nuclear restarts in Japan.<sup>16</sup> To their



credit, the IEA rightly warns that the global community has only a few years in which to ramp down emissions in order not to blow through two degrees celsius of temperature increase and risk runaway global warming. The IEA's reasoning on carbon appears central to its advice that Japan needs to restart as many nuclear reactors as possible. But the core of their argument is that the key area for cutting emissions is via efficiency and conservation, because there simply is not enough time to deploy low-carbon generation of any type in the time-frame required to avoid catastrophe.<sup>17</sup>

Well, restarts in Japan are not in the offing, in a short time frame and in significant numbers. The realities of Japanese power politics as well as the potentials for renewables and efficiency and conservation are in a very rapidly changing dynamic. However, the IEA has not rethought its advice, at least publicly. To be specific, we have yet to see admonitions from the IEA urging the Abe Government to put a real arrow in Abenomics via aggressive efficiency, real power market reform as well as for investments in linking the balkanized transmission grid into a truly national grid (something that could be achieved very quickly through undersea cables). In place of the call for nuclear restarts – or at least in tandem with it – we see no evidence of significant IEA advice to Japan to upgrade its standards on energy efficiency for buildings, to adopting robust zero net energy targets in the national government, and raising standards for air-conditioners, electric motors, and in other areas. Japan has excellent technical potential on these fronts, and through fiscal and other supports of a full-on efficiency drive could make significant headway to overcome the disadvantage of having a very high cost power economy.<sup>18</sup>

## Conclusion

We have seen that the ostensibly commonsense decision of restarting nuclear reactors is simply not a viable option in the near future. Because

of that, other options have to be considered. Compelling research indicates that efficiency would be the right choice with significant returns for the Japanese political economy. And the evolving assessments of opportunity in the global green economy give added support to this argument. Because the IEA is at the centre, or certainly should be at the centre, of these evolving assessments, it is simply incredible that its advice to the Japanese government on the public stage has not changed to suit the changing circumstances of power politics and policy options. The IEA should be telling all scholars of Japanese business and observers of Abenomics where the real opportunity lies.

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## Notes

<sup>1</sup> The article is titled "Abenomics Needs Cheap Nuclear Power to Work - Bloomberg," Bloomberg News June 2, 2013: [here](#)

<sup>2</sup> On this, see "End of the Line for the Tsuruga Reactor," Japan Times editorial, May 28, 2013: [here](#).

<sup>3</sup> A cogent analysis of the background and pertinent issues can be found in Jeff Kingston, "Is it Safe? Ruling party pushes nuclear village agenda," Japan Times, May 26, 2013: [here](#). See also Charles D Ferguson and Mark Jansson, "Regulating Japanese Nuclear Power in the Wake of the Fukushima Daiichi Incident," Federation of Atomic Scientists, FAS Issue Brief, May 2013: [here](#)

<sup>4</sup> The World Nuclear Association notes that the reactor is being developed in conjunction with

"Kyoto University, the Central Institute of the Electric Power Industry (CRIEPI) and the Japan Atomic Power Company (JAPC), with funding from METI." See "Small Nuclear Power Reactors (Updated June 2013)," World Nuclear Association: [here](#)

<sup>5</sup> See the interview with Yamamoto (in Japanese) in the June 5 edition of the weekly newspaper, Decentralized Energy. Note that Yamamoto is also a representative from Fukui, home to many of Japan's reactors: [here](#)

<sup>6</sup> By Mid-March of 2012, 80% of Japanese were ready to agree to abandoning nuclear power. See (in Japanese) "80% Favour Abandoning Nuclear in a Nationwide Poll," Chugoku Shinbun, March 18, 2013.

<sup>7</sup> On this, see Richard Samuels 3-11: Disaster and Change in Japan, Cornell University Press, pp. 12-13.

<sup>8</sup> See, in Japanese, "Kyodo Poll: 54% Oppose Nuclear Restarts," 47 News, May 19, 2013: [here](#)

<sup>9</sup> (in Japanese) "At most there will be submission to the new regulations for 6 reactors restarts, and the order of inspection remains undecided," Sankei Shinbun, June 8, 2013: [here](#)

<sup>10</sup> (in Japanese) "The pro-restart faction's movements are accelerating, and there are LDP worries that they will negatively effect the Upper House elections," Jiji News, June 8, 2013: [here](#)

<sup>11</sup> In political science terms, we should also consider the possibility that the politicians know very well that the NRA has to establish its bona fides on the international and domestic fronts, and therefore cannot okay restarts in any significant number and in a short period of time. But at the same time, the more the politicians are seen to lobby, the more support they (presumably) get from the utilities, who

are desperate for restarts because they have spent so much money on upgrading their new care facilities to meet the new safety regulations and have the problem of a very bloated cost structure. In 2012, the monopoly utilities lost about YEN 1.6 trillion on a total of just under YEN 18 trillion in sales.

<sup>12</sup> See (in Japanese) Fujiyama Mitsuo, "Yen Devaluation and Concern Over Rising Thermal Fuel Prices," JRI paper No. 2013-003, May 2, 2013: [here](#)

<sup>13</sup> For a deeper analysis of the fracking boom per se, see Amory B Lovins and John Creyts, "Hot Air About Cheap Natural Gas," Rocky Mountain Institute, September 6, 2013: [here](#)

<sup>14</sup> On this, see Andrew DeWit "Abenomics and Energy Efficiency in Japan," The Asia-Pacific Journal, Vol 11, Issue 6, No. 2 February 11, 2013: [here](#)

<sup>15</sup> *ibid.*

<sup>16</sup> For example, see IEA Chief Economist Fatih Birol's arguments in Fen Montaigne "An Influential Global Voice Warns of Runaway Emissions," Yale Environment 360, June 11, 2012: [here](#)

<sup>17</sup> On the IEA's advice, see the post by Richard Van Noorden, "IEA calls for focus on energy efficiency," Nature Newsblog, November 12, 2012: [here](#)

<sup>18</sup> For example, the State of Hawaii, in collaboration with the US Department of Energy and the military, faced up to the constraints of its very expensive (even more expensive than Japan) power economy, including prices for natural gas and electricity that are in excess Japan's, by aggressive efficiency and renewable targets. Hawaii aims at 40% renewables and 30% efficiency by 2030.

One wonders why the IEA has not drawn parallels between the State of Hawaii and the island of Japan and their choices as high-cost power economies.