



# THE END OF JAPAN'S NUCLEAR RENAISSANCE? NOT JUST YET.

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*The 9.0 magnitude earthquake and subsequent tsunami that severely damaged the Fukushima nuclear plant have been described as ending the 'nuclear renaissance' in Japan. The government is in a hard place, trying to negotiate public opinion, rising distrust of the utility corporations and regulatory institutions, and now a self imposed energy crisis with the shutting down of all its nuclear power plants. As the energy-intensive summer approaches, the government's short-term, populist solution must quickly evolve into something more robust and sustainable.*

On May 5th, Japan turned off the last of its 50 nuclear reactors. For the first time in four decades the country is nuclear free. Although government officials assume reactors requiring scheduled inspections will be up and running again by late June, questions linger over whether we have seen the last of nuclear power in Japan. It is now clear that the economic fallout from the Fukushima meltdown will have not only pervasive, lasting effects on Japan, but also the global perception of nuclear power's viability and management. To fill the void, the most popular alternatives have been renewable recourses, including solar, wind, hydroelectric, geothermal, and biomass energy. Establishing any of these alternatives will take time – a decade for some, and longer for others.

But with summer approaching and its corresponding spike in energy usage, the government is in the hot seat to map out an energy strategy. Consequently, this July the Democratic Party of Japan (DPJ), lead by newly appointed Prime Minister Yoshihiko Noda, will unveil the government's first full, official energy plan since the Fukushima disaster. The plan itself has little legislative power, however it will act as a barometer to whom has the Prime Minister's ear, and just how serious the government is in shifting investment away from nuclear power and into renewables.

A recent Asahi Shimbun national survey showed that 66 percent of the Japanese public supports discontinuing nuclear power and transitioning towards renewables. How exactly did the public make such a shift in public opinion, when surveys as recently as 2009 revealed that nuclear energy received majority support? Part of this shift was in-

evitable in the wake of the Fukushima meltdown, however both TEPCO and the Japanese government did themselves little service by not only mishandling crisis control, but more importantly, lying about its severity, dragging their feet with financial compensation to those affected, and attempting to underplay the 'cozy' relationship between the two entities that allegedly lead to the initial disaster. It appears that TEPCO, along with other nuclear lobbyists collectively known as the "nuclear village", generated tremendous influence within the Japanese government - there are indications that politicians would often receive 'golden parachutes' via lucrative energy jobs after leaving public office. Alarming, these former politicians were often once the very regulators supervising nuclear plant safety.

As these and other accusations have moved into the fray of the national consciousness, the once-privileged trust and respect for both TEPCO and the Japanese government have been seriously called into question. In this context, many Japanese see renewables, particularly solar power, as liberating; the romanticized image of having a solar panel for each Japanese home, circumventing both government and big energy intrusion is inviting for those who have lost trust in these institutions. Further, these themes are complementary to larger, cultural motifs of Japanese self-perseverance, particularly with generations coming from a working class, post-WWII milieu.

## A Renewable Renaissance?

Given the public's interest in renewables, one can wager



that they will be a featured component of the Government's 2012 energy plan. This should come as no surprise given that the government already passed landmark legislation in renewable energy tariffs—called feed-in tariffs (FIT)—in November 2011, which are set to begin this July. FITs are designed to work in conjunction with traditional subsidies, creating a two-pronged economic incentive by making renewables cheaper to produce and more lucrative to sell.

Ideally, these economic incentives will help the renewable energy market expand to 20 percent of Japan's total energy supply by 2030. And several Japanese companies are poised to jump in; utilities giant Sumitomo Mitsui already has significant operations constructing photovoltaic (PV) solar panels, while Mitsubishi and the Marubeni Group are investing in offshore wind farms. Nevertheless, these are longer term projections, and the Japanese government needs to accept the sobering reality that with diminished nuclear power, an increase in oil and gas imports are a short and medium term certainty. According to the Breakthrough Institute, LNG, crude oil, and fuel oil are up 39, 174, and 165 percent respectively. Relative to Japan's energy expenses pre-Fukushima, these imports are costing the government over U.S.\$120 million a day.

Crude oil is coming primarily from Saudi Arabia and Iran, which presents a tricky diplomatic relationship vis-à-vis the U.S. As tensions continue to coalesce around Iran, Israel, and the U.S., Japan's energy dependence complicates its foreign policy; at best it forces the country to take a backseat in pressuring the Iranian government on nuclear weapons, and at worst Japan's energy reliance—currently importing nine percent of its total fuel from Iran—undermines UN economic sanctions and continues to empower a regime it has publicly denounced. To help mitigate this political quagmire, Foreign Minister Koichiro Gamba has visited several Gulf States for the purpose of securing Japan's energy needs should the Strait of Hormuz become a conflict zone - a supply route Japan heavily relies on.

Japan's economic and diplomatic strains cannot be understated. The government, already on a short leash due to severe mistrust and anxiety from the public, must shepherd Japan into a new age of energy while pleasing renewable advocates, the nuclear village, the U.S., and its Middle East oil suppliers.

### Noda's Energy Plan

Given the layered and antithetical forces at play in Japan's energy crises, it is likely that Noda's energy plan will generate widespread dissatisfaction. Renewable energy advocates continue to worry that despite the passing of FIT and increased government subsidies, the nuclear village retains its vast influence in political affairs. The government has finally taken control of TEPCO via nationalization, however the nuclear village generated enough influence to force former Prime Minister Naoto Kan—a champion of FIT policy—to step down after its passage in parliament. According to Dr. Kingston, Director of Asian Studies at Temple University, energy executives pressured the opposition Liberal Democratic Party (LDP) to slow down economic recovery legislation in parliament's lower house, creating political gridlock and undermining Kan's productivity. This was buttressed with a deliberate media narrative labeling the Prime Minister as ineffective, ultimately forcing his resignation. Similar to the U.S.'s Wall Street during the financial bailouts, Japan's nuclear village is still able to strong arm the government even during a time of low public opinion and financial weakness.

Conversely, those who support nuclear power see the government as moving too swiftly and too recklessly into renewables. Much of this criticism is generated by the nuclear village that seeks to retain energy hegemony, however there is notable concern amongst citizens that the Japanese economy isn't capable of making a drastic transition in energy supply while staying financially competitive. Economists estimate that the current minimum cost per kilowatt (kWh) for nuclear energy is ¥8.9. Contrast this with wind and solar's current costs per kWh of approximately ¥13 and ¥35 respectively, and the financial gap becomes apparent. While acknowledging this disparity, many counter that cost trends are moving in a favorable direction for renewables. It has also been pointed out that although wind and solar require heavy subsidization, nuclear fission received similar—if not greater—support in its technological infancy. Nevertheless, for the time being renewables pose very real challenges in order to make them efficient – and profitable.

When Japan announced last year that it was powering down all of its active reactors for inspection, the international community braced for an inevitable 'energy squeeze' that would lead to rolling blackouts and skyrocketing gas



prices. A combination of aggressive government efforts to increase energy imports and a resilient civil society that has reduced its energy usage by 10 percent has kept the country's lights on and prices manageable. Japan, however, is still in doldrums and it is clear that no matter how persuasive the rhetoric from the renewable energy community may be, Japan cannot sever its dependence to nuclear energy cold turkey. With this in mind, Prime Minister Noda's energy plan must include nuclear power as a major component in the overall energy strategy for the next two decades, albeit to a lesser extent than pre-Fukushima levels. This will be tough sell to a Japanese public still reeling from the physical and psychological wounds of the disaster, however the government must accept a more appropriate transition out of nuclear power. An immediate reduction of nuclear power from its 2009 levels of 29 percent will be necessary, yet the government should consider levels as high as 20 percent for the next decade.

## A Balancing Act

Cutting Japan's nuclear energy consumption by one-third will take a heavy toll on its economy, but less so than shutting down the nuclear program entirely. It will allow both the government and utility corporations to reassess the safety of their nuclear plants and discontinue those that do not conform to the newer security standards announced this past April. By removing reactors most vulnerable to failure, the government is provided strong political cover by touting its role in reigning in outdated reactors and increasing the safety of the country. For the message to carry weight, however, the DPJ needs to demonstrate that they are not simply increasing nuclear safety, but phasing the industry out entirely; the global backlash against nuclear energy is pervasive, and although nuclear will remain in countries such as France and the UK—both of whom do not have reactors sitting on active fault lines—public aversion to this

type of energy is not mercurial.

The rate at which the government transitions into renewable energies can be gradual, so long as nuclear's decline is visible. With FIT and traditional subsidies already in place, Japan can focus on rapidly expanding its renewable energy base; estimates show a potential annual expansion at one percent of Japan's total power. As renewable energy develops, pressure will mount for the government to cut nuclear energy to a minimum. Given the economic and diplomatic pressures tethered to gas and oil imports, however, one hopes that Japan will prioritize decreasing its Middle East energy dependency rather than its domestic nuclear consumption. Until Japan's energy imports drops to a more manageable level the country will continue to be diplomatically restrained.

Prime Minister Noda and his administration must walk a nearly impossible political tightrope, but face much more navigable public policy. In many ways one can argue that the toughest legislative hurdles—FIT and increased subsidies—have already been cleared. The country's dogma on nuclear energy has thawed, and now the question is whether the government can withstand the influence of the nuclear village and continue to pressure utility companies to transition to cleaner, safer, and more sustainable resources. A balanced energy plan that acknowledges a short and medium term use of nuclear power, attempts to scale back foreign imports, and underscores renewable energies as the future of Japanese power is the clearest path to lead the country out of its current crisis.

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