

Just Gas? Smart Power and Koizumi's Anti-Nuclear Challenge ただの ちゃらかし？ 高性能電源と小泉純一郎の原発への挑み

Andrew DeWit

Japan's former Prime Minister Koizumi Junichiro has repeatedly called for current Prime Minister Abe Shinzo to make an explicit decision to get out of nuclear power. Koizumi's full-scale press conference on this matter, held on November 12 in front of 350 journalists, shook up the Abe cabinet. It continues to do so, judging by the tendentious commentary it continues to attract. Koizumi forced the cabinet to address an item they clearly wanted to finesse for the time being.¹ But the substance of Koizumi's over hour-long event has not yet received the attention it merits. This article puts Koizumi's talk in context, showing that his position is shared by all the former Japanese prime ministers, including Nakasone Yasuhiro. Most important, contrary to the claim that Japan's choice is either gas or nuclear, Koizumi highlighted the ongoing deployment of radical efficiency and renewable energy as the proper path forward. And the accelerating rollout of smart cities across Japan suggests that Koizumi and his colleagues are standing on the right side of history.



Former Prime Minister Koizumi at his press conference

Koizumi's motives for speaking out continue to be the subject of speculation in the Japanese media, including a paranoid claim that he must be in hock to the US shale gas lobby.² But one of Koizumi's most fervent supporters is PM Abe's own wife, Abe Akie, a significant political figure in her own right and one very knowledgeable about energy alternatives.³ Koizumi's anti-nuclear position is also not a sudden development or apparently one driven by pecuniary self-interest. Koizumi has been publicly mooting his concerns about nuclear power since at least 2012, and during early August of 2013 went on a fact-finding mission (with the nuclear engineers of Hitachi, Toshiba and Mitsubishi) to Germany and Finland.⁴

Koizumi also alienated the 80 establishment firms, including prominent members from the nuclear village, grouped in the Centre for International Public Policy Studies set up in March of 2007 with YEN 1.8 billion of their funding and Koizumi as chairman.⁵

Nor is Koizumi the odd-man-out, at least in the league of present and former PMs. Rather, Abe is: former Prime Ministers Nakasone Yasuhiro, Hatoyama Yukio, Noda Yoshihiko, and Kan Naoto have all also expressed opposition to nuclear power and declared that that Japan must pursue alternatives. Nakasone's statement was especially surprising, because he was one of the father's of Japan's nuclear effort. Yet at a June 26, 2011 "Solar Economy Kanagawa" conference held in Yokohama, Nakasone declared that "nuclear power damages humankind" and called for a large-scale cultural shift to harvesting energy while co-existing with nature.⁶

So Koizumi's opposition to the nuclear village's agenda is consistent with the mindset of other former prime ministers once they were out of the bubble of policymaking dominated by vested interests and concerns about their income streams. What makes Koizumi's position stand out is the fact that he is enormously popular, even though he left the office of Prime Minister seven years ago. PM Abe is indeed Koizumi's protégé, and leads a party in which there are already widespread misgivings about the commitment to restarts and talk of new reactor

construction.⁷

One core argument of the narrative that would dismiss Koizumi's intervention as "emotional" is that it offered no alternatives. This assertion is nonsense. Koizumi's talk included considerable detail on advanced LED lighting and other aspects of the ongoing efficiency and renewable revolution. Indeed, Koizumi made a point of citing Amory Lovins' 2012 book *Reinventing Fire* as an illustration of how Japan can and should get out of oil, coal, gas and nuclear before the Americans beat them to it.⁸ Watching Koizumi's presser made this observer wish that the current PM would talk such sense, rather than send his Minister of the Environment to Poland with a feeble 3.8% proposal for CO2 reductions by 2020.⁹

Japan's Revolution in Smart Power and Cities

Koizumi is addressing Japan's post-3.11 reality far better than his critics and the sitting PM. The shock of 3.11 has given Japan a chance to be a leader in the global transition from centralized to distributed power in the context of a rollout of smart cities. Japan's public and private sectors are both taking enormous advantage of the opportunities, as we shall see, even as the Abe cabinet and much of the commentariat remain committed to the old paradigm.

But first, a couple of definitions: Centralized and distributed power are distinguished by the geographical concentration of electrical generating capacity versus its dispersal. The

former is characterized by nuclear and large-scale fossil fuel power plant as well as an extensive, one-way grid. The paradigm is vulnerable to systemic failure (as was seen at Fukushima Daiichi), climate change, and increasing costs.¹⁰ By contrast, distributed power sees much smaller scale generation distributed over a much wider area. Distributed power thus opens the door to flexibility, falling costs and increasing equity through renewables, radical efficiency, interactive "smart" grids, and broader participation in the power economy. Specialists at the Brookings Institute have with good reason deemed the accelerating rollout of distributed power an "electricity revolution."¹¹

As for smart cities, the Japanese have recognized them as an important growth sector for several years. In September of 2010 Nikkei BP Cleantech Institute, based on a survey of 100 selected global projects then underway, projected the broad range of smart infrastructure (i.e, water, housing and other areas) to be worth in excess of a cumulative 5000 trillion yen between 2011 and 2013.¹² Enabled by the rapid diffusion of increasingly inexpensive ICT, distributed energy, smart public policy, and such vendors as Hitachi, Toshiba, Mitsubishi, Toyota, IBM, GE, Bechtel, Siemens, AT&T and others desperate to deploy the most competitive business models, there are now thousands of projects and a market whose scale and growth defy calculation.¹³

As Anthony Townsend, Research Director at the

Institute for the Future and Senior Research Fellow at New York University's Rudin Center for Transportation, illustrates very well in his *Smart Cities: Big Data, Civic Hackers, and the Quest for a new Utopia*¹⁴ the fact that these profound trends are already reshaping urbanization. They are driven by concern over many of the factors that contributed to the tragedy of 3.11: susceptibility to increasingly frequent and intense natural disasters, the weakness of large-scale and centralized infrastructure such as power systems, the lamentable record of national governments dominated by well-organized status-quo interests, and the mounting costs of conventional resources.

Cry Me an Income Stream

Monopolized utilities and nuclear plant do not fit into these developments, which is one major reason for the frenzied politicking of Japan's nuclear village utilities and their allies in finance. Centralized power's income streams are drying up, and they are desperate to defend their privilege. In the EU, for example, the 20 largest utilities have lost half their value over the past few years due specifically to the growth of distributed (and especially renewable) power.¹⁵ That is a major reason the German energy shift is so often misrepresented even in ordinarily careful mainstream publications.¹⁶

Before 3.11, Japan's YEN 16 trillion yen power market – the world's 3rd largest – was locked up

by the developed world's most profound degree of monopolization. But after a long period of chaos, Japan shows strong signs of abandoning its Galapagos power-paradigm and flowing into the global mainstream. Deregulation is now official policy, but local governments-such as the 36 prefectures and 17 designated cities (those with populations over 500,000) grouped in their respective Natural Energy Councils-are advocating an accelerated time frame and greater institutional transparency.¹⁷ In addition, on September 2013, Japan had over 100 independent power producers, including such new entrants as Toyota.¹⁸ And Japan's "feed in tariff" policy support for diffusing renewables, and effective from July 2012, saw over four gigawatts (roughly equivalent to four large nuclear reactors) of new renewable capacity deployed in the first year. Japan's domestic shipments of solar cells and modules during July to September of 2013 jumped to 2.075 gigawatts, over triple the 627-megawatt level of a year earlier.¹⁹ Most of Japan's local governments have more or less ambitious measures to spur solar, wind, small hydro, geothermal, biomass, and other renewable energy initiatives, together with power cuts through advanced LED lighting and other efficiencies. Japanese local governments' emphasis on "local production-local consumption" (*chisan chisho*), and determination to bolster their resilience, is backed up by collaboration with central agencies. The evolving new paradigm is working to distribute effective

authority in energy policymaking by diffusing power generation, conservation, and storage. In conjunction with local government leadership, consumer cooperatives, credit unions, and other networks, the Japanese public too is becoming a key player in building distributed energy.²⁰ These programmes and projects are expanding local employment and business activity, and seem unstoppable.

Japan's Proliferating Smart Cities

On top of that, the city of Kyoto brought out a new energy plan on November 15, 2013. Following Fukushima Prefecture's targeting of 100% renewables by 2040, Kyoto is the first among Japan's twenty designated cities to draft a roadmap to eliminate its dependence on nuclear power. Stressing the role of information and communications technology (ICT), Kyoto's plan relies on 15% conservation and a tripling of renewable power by 2020.

Kyoto and other Japanese cities are prominent agents in the country's smart-city programme. Kyoto will in fact host the 2014 Smart City Expo, during March 26th and 27th 2014. The smart-city approach integrates the increasingly miniature, versatile, and inexpensive ICT capacity held, for example, in a smartphone with such large-scale urban infrastructure as power and energy, administration, waterworks, transportation, healthcare, and waste treatment. Somewhat akin to sensory organs and a nervous system, ICT

sensors measure and monitor an increasing range of phenomena relevant to managing these resource- and energy-intensive infrastructures. The sensors deliver real-time information on the urban ecosystem, allowing for greatly enhanced efficiency, interactive power grids, and other facilities that seemed distant prospects even a few years ago.

Prior to 3.11, Japan's smart-city initiative centered on building a low-carbon and more efficient model in a few cities, with an eye to export opportunities rather than domestic deployment. Japanese policymakers were constrained by the monopoly utilities, the centralized and nuclear programme in the power economy, and other fetters. But facts are facts, and Fukushima's patent evidence of the vulnerability of centralized power has led to a shift to conservation and local resilience. Reality has massively boosted local governments' and other central agencies' incentives to take part in the accelerating fusion of ICT, distributed energy, efficiency, and other aspects of the smart-city model. Indeed, Japan's government-sponsored smart-city projects have since increased from 22 to well over 100. But as is the case globally, there is no reliable count. The number of projects is growing too rapidly and diversely, with many communities implementing a broad range of smart applications while others confine theirs to one or a few areas of infrastructure.

For example, Japan's official count of 82

"Environment Model Cities"²¹ overlooks numerous recent local-government projects as well as the growing number of private ventures. Among the former are several in the Tohoku region along with such examples as Tochigi Prefecture's Ashikaga City's smart-city project, which dates back at least to April of 2012.²² And among the business-led projects are Panasonic and 12 other firms' 60 billion yen "Fujisawa Sustainable Smart Town"²³ and Sekisui House's "smart towns" in 11 locations. One of the latter is the "local power plant" (i.e., more than self-sufficient) "Smart Common City Akaishidai" in the suburbs of Miyagi Prefecture's Sendai City.²⁴ Another standout case of a Japanese smart city is the Mitsubishi-led Funabashi Morino City project, in Chiba Prefecture, which was awarded the World Smart Cities Award in late November of 2013.²⁵

Prior to 3.11, even Japan's strongest proponents of an energy shift were not aware of the potential for very radical efficiency gains through ICT. Virtually no one was, whether in Japan or elsewhere, because this is an emergent paradigm. Though there was considerable talk about the "smart grid" and "smart cities," there was limited understanding of the scale of opportunity through the broader role of the so-called "industrial internet," "Internet of Everything," "big data," and the other manifestations of the capacity to match massive computing power with drastically cheapening and miniaturizing

sensors for monitoring the ambient environment. This ICT revolution was pioneered by General Electric, IBM, Cisco, and other major firms who have positioned themselves at the intersection of manufacturing and communications. They are now being eagerly joined by the likes of Mitsubishi, Hitachi and Toshiba, key players in the nuclear village that are "repositioning themselves."²⁶ Mitsubishi, for one, will set up an ICT Solutions Head Office from January 1 of 2014.²⁷

When Japan's reconstruction of the devastated Tohoku region was being debated in the spring and summer of 2011, just what a smart reconstruction might look like was still inchoate. But now it is blossoming into a clear vision, and an increasingly concrete reality, of ICT-centered smart cities with resilient and efficient energy, water, transportation, communications, public safety, healthcare, and other social infrastructures. These projects are diffusing nationwide, and the LDP's own intraparty committee on ICT-led growth has argued for an ICT strategy for the entire country based on the renewable and efficiency-centered model emerging from the devastated Tohoku region. Apparently unaware of what they were doing, the Abe cabinet itself assented, on June 14, to an ICT-led growth strategy.²⁸

This paradigm shift has the capacity to reduce the global community's unsustainable, planetary-boundary-breaking level of consumption of

physical stuff while further accelerating the diffusion of renewable energy. The rollout of a distributed, resource-lite, and resilience-focused paradigm increases the sustainability options of the emerging economies that are going to add 2 billion new urban residents over the next 15 to 20 years. Against this larger backdrop, Koizumi appears to have his feet planted in reality. His critics, who would preserve an expensive and unsustainable paradigm, are the ones full of gas.

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Note

¹ The English-language coverage of the issue has been spotty at best, and largely dominated by observers sympathetic to the Abe cabinet and either inattentive to the content of Koizumi's press conference or simply unaware of . One example us Joji Harano, "The Impact of Koizumi's Call for Zero Nuclear Power (http://www.nippon.com/en/column/g00140/) ," Nippon.com, December 5, 2013.

² A recent recycling of this claim is at the site "Infoseekwoman." See TV Jorunal (sic) Editors (in Japanese) "Why This Timing on Former PM Koizumi Jun'ichiro's Call to 'Get Out of Nuclear (http://woman.infoseek.co.jp/news/entertainment/tocana_32279)""? December 1, 2013.

³ The Wall Street Journal's Yuka Hayashi has an excellent short article on Ms Abe in her "Japan's First Lady Isn't Shy About Criticizing Policy (http://online.wsj.com/news/articles/SB10001424052702303755504579207354013053522)," Wall

Street Journal, December 6, 2013.

⁴ A short blog post on Koizumi's fact-finding mission is available at Peter Durfee "Koizumi Comes Out Against Nukes (<http://www.nippon.com/en/nipponblog/z00011/>)," Nippon.com, August 26, 2013.

⁵ On this, see (in Japanese) "Behind the scene of the one-man fight for a nuclear pull-out: The corporate-supported 'Koizumi think tank' comes apart in mid-air (<http://dot.asahi.com/wa/2013112000055.html>)," Gendai Asahi, November 29, 2013.

⁶ On Nakasone's comments, see (in Japanese) Yokoyama Wataru "Former Prime Minister Nakasone Shifts to the Natural Energy Camp (<http://www.alterna.co.jp/6028>)," Alterna, June 27, 2011.

⁷ For example, the Asahi news service reported on December 12 that they had submitted a questionnaire on restarts to the 480 Diet members

⁸ Koizumi's press conference is viewable – in the original Japanese (no translation yet available) – at several YouTube sites (http://www.youtube.com/watch?v=YxVwp_Bk-eM). In the link cited in this footnote, Koizumi's discussion of renewable energy and advanced energy conservation options already being deployed in Japan are concentrated between 08:00-20:00. His discussion of Amory Lovins' *Reinventing Fire* whose Japanese translation

Koizumi got from LDP member Kohno Taro, is at 40:00-42:00.

⁹ See UPI "Japan lowers carbon dioxide emissions reduction target (http://www.upi.com/Business_News/Energy-Resources/2013/11/18/Japan-lowers-carbon-dioxide-emissions-reduction-target/UPI-72721384803220/)," November 18, 2013.

¹⁰ On this, see the US Department of Energy's "U.S. Energy Sector Vulnerabilities to Climate Change and Extreme Weather (<http://energy.gov/articles/climate-change-effects-our-energy>)," U.S. Department of Energy, DOE/PI-0013, July, 2013.

¹¹ See Charles K. Ebinger and John P. Banks, "The Electricity Revolution (<http://www.brookings.edu/research/reports/2013/11/06-electricity-revolution-ebinger-banks>)," Brookings Research Reports, November 8, 2013.

¹² See "The Smart City Market Will Be Worth a Cumulative Total of 3,100 trillion Yen for 2011-2030, (<http://www.nikkeibp.com/news/100927.html>)" Nikkei BP Press Release, September 27, 2010.

¹³ See the Smart Cities publication "Smart Cities Readiness Guide (<http://smartcitiescouncil.com/resources/smart-cities-readiness-guide>)," November 17, 2013.

¹⁴ An excerpt from this important and timely book can be found here (http://www.ssireview.org/articles/entry/smart_cities_big_data_civic_hackers_and_the_quest_for_a_new_utopia).

¹⁵ See "How to lose half a trillion euros: Europe's electricity providers face an existential threat (<http://www.economist.com/news/briefing/21587782-europes-electricity-providers-face-existential-threat-how-lose-half-trillion-euros>)," The Economist, October 12, 2013.

¹⁶ On this, see Amory Lovins "Separating Fact from Fiction In Accounts of Germany's Renewables Revolution (http://blog.rmi.org/separating_fact_from_fiction_in_accounts_of_germanys_renewables_revolution)," Rocky Mountain Institute, August 15, 2013.

¹⁷ For the prefectures, see (in Japanese) Enekyo "Driving Japan Towards a Natural Energy Future (http://www.enekyo.jp/pdf/press_release/20131108_01.pdf)," Natural Energy Council (Shizen Enerugii Kyougikai), November 8, 2013.

¹⁸ See Aaron Sheldrick, "In a sign of reforms to come, newcomers snap at heels of Japanese utilities (<http://www.reuters.com/article/2013/09/14/us-japan-utilities-idUSBRE98D0DJ20130914>)," Reuters, September 14, 2013.

¹⁹ See (in Japanese) Ishida Masaya "Solar Cell Shipments Thrice Previous Year, Utility-Use Up

10 Times to 750,000 Kilowatts (<http://www.itmedia.co.jp/smartjapan/articles/1312/05/news026.html>)," Smart Japan, December 5, 2013.

²⁰ See for example (in Japanese) Ishida Masaya "Energy Islands 2013 Edition: Tokushima, Planning to Break Out of 40th Place Nationwide, In the Midst of Expanding Citizen-Participation Power (<http://www.itmedia.co.jp/smartjapan/articles/1312/03/news011.html>)," Smart Japan, December 3, 2013.

²¹ See (in Japanese) Kantei "Environment Model City, List of Proposals (<http://www.kantei.go.jp/jp/singi/tiiki/teiannaiyou.html>)," Japanese Government Cabinet Office (no date).

²² See (in Japanese) Ishida Masaya "Ashikaga City Advances Towards a Triad Smart City Model of Creating, Conserving and Storing Energy (<http://www.itmedia.co.jp/smartjapan/articles/1204/17/news077.html>)," Smart Japan, April 17, 2012.

²³ See (in Japanese) Hata Yoichiro "Construction Starts on a Large-Scale Smart Town: Panasonic and Mitsui Real Estate Collaborate on 100 Homes (<http://www.itmedia.co.jp/smartjapan/articles/1309/24/news084.html>)," Smart Japan, September 24, 2013.

²⁴ See "Sekisui House Sustainability Report 2013

(http://www.sekisuihouse.co.jp/english/sr/detail/_icsFiles/afieldfile/2013/08/26/19-34.pdf)," August 26, 2013, pp 23-5.

²⁵ See "FUNABASHI MORINO CITY Wins World Smart Cities Award (<http://www.mitsubishicorp.com/jp/en/pr/archive/2013/html/0000023139.html>)," Mitsubishi Corporation Press Release, December 13, 2013.

²⁶ One of the first observers to see this happening was Richard Samuels, in his *3.11: Disaster and Change in Japan* (Cornell: 2013, p 139).

²⁷ See (in Japanese) "Mitsubishi Heavy to set up 'ICT Solutions Head Office' and expand smart community projects (<http://business.nikkeibp.co.jp/article/emf/20131213/257030/?bpnet>)," Nikkei BP Environmental Management Forum, December 13, 2013.

²⁸ On these points, see Andrew DeWit "Abe, Big Data and Bad Dreams: Japan's ICT Future? (<http://www.japanfocus.org/-Andrew-DeWit/3972#sthash.yltkiZaw.dpuf>)" *The Asia-Pacific Journal*, Vol. 11, Issue 29, No. 2, July 29, 2013.