

## Will Japan Be The Big Story In Solar In 2012?

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*Quaheed Motiwala, managing director at DFJ JAIC Venture Partners, has travel advice for anyone going to Japan in the near future.*



Bring a towel.

Japan has shut down 52 of its 54 nuclear reactors for maintenance and safety checks in wake of the Fukushima disaster, reducing the country's power production by close to 30 percent. The remaining two reactors will shut in the spring.

As a result, many things powered by electricity are running only occasionally or not at all. Escalators are halted. Fewer neon lights burn in the Shinjuku district.

And the ubiquitous electric hand dryers in public restrooms are in deep sleep. Paper towels, because the pulp needs to be imported, aren't universal.

So if you don't have a towel, you either have to wipe your hands on your suit or give someone the cold fish, he told an audience during a panel on Japan's energy future sponsored by Agrion last week. (I moderated.)

Although some reactors will likely come back online, many are already nearly 40 years old, meaning they won't return. Public skepticism about the nuclear mafia that has also begun to grow, noted Zen Kishimoto of AltaTerra Research.

What can a country do that needs a quick surge of power capacity? Invest in efficiency is typically the first step. But Japan is already one of the more efficient nations when it comes to energy use in the world?

Fuel cells? Panasonic and Osaka Gas have been deploying fuel cells in homes for the last few years. Consumers can qualify for subsidies and gas companies love them.

Gas, unfortunately, must be imported. Japan already imports 96 percent of the raw material—oil, uranium, coal, etc.—for its energy infrastructure. Australian gas producers are already reaping high prices by exporting to Japan. And, like coal, to expand natural gas consumption would require capital investment and construction projects?

Wind? Wind farms take years.

That leaves solar. Although critics complain that photovoltaic panels cost more than regular power, solar has the advantage in speed. You can put solar on a house in a few days. Japan also still remains—despite losing ground to the U.S. and China—one of the leaders in panel production. Solar panels don't generate power at night, but Japan also remains a leader in lithium ion batteries. Buying local is still a big deal, and local manufacturers love serving the local market, often to a fault.

Again, a PV system coupled with a battery pack won't be cheap, but it beats sitting in the dark. (Besides, solar panels not coupled with batteries would help with daytime capacity, which remains a problem.)

Honda is putting solar panels on dealerships in Japan.

Clearly, solar won't work everywhere. The available roof space on a condominium town in downtown Tokyo would probably only be large enough for a few residents.

Mitsui, Toshiba, Softbank and others have unfurled plans to build utility-scale solar plants that cumulatively could generate tens of gigawatts of power. Land, however, remains expensive in

Japan, which could make the economics challenging. The Diet has also yet to fully flesh out its renewable energy policies. Still, panel prices are falling. Few alternatives are palatable. And a lot of people have wet hands.

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