



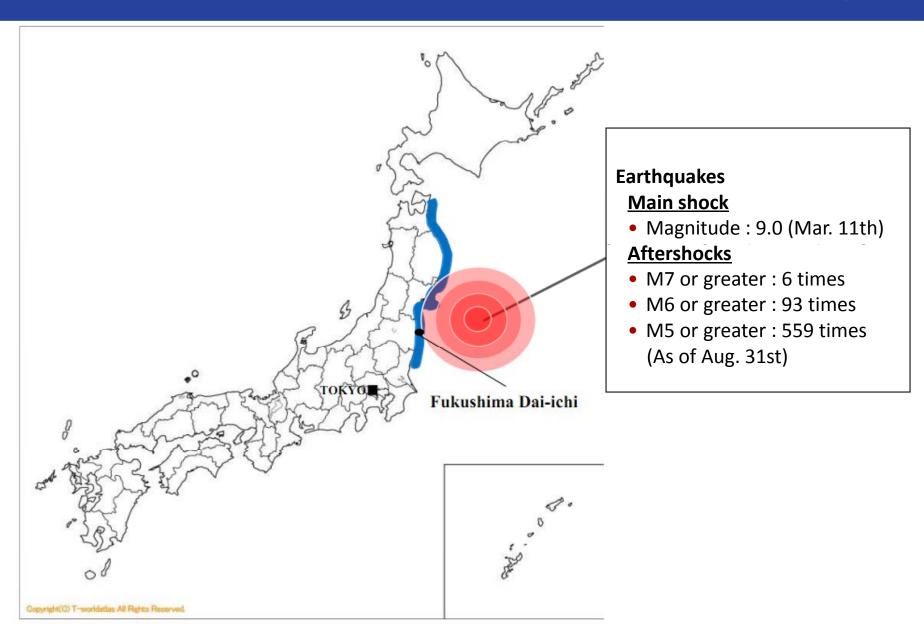
"The Future of Nuclear Power in a Post-Fukushima World"

Life After Fukushima: What is the Impact on Japan's Economy

October 19, 2011
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JETRO New York

Japan Faces an Unprecedented Challenge





Quick Facts on the Speed of Recovery



A road in the town of Naka was returned to normal in 6 days



None of the 26 Bullet trains operated by JR East at the time of the earthquake derailed nor was there any serious damages





April 29th – All Tohoku Shinkansen resumed operation



June 13th – All Tohoku, Yamagata, and Akita Shinkansen service has been restored



Quick Facts on the Speed of Recovery



Rebuild of Sendai Airport affected by Tsunami



2.5 weeks later





Building of temporary housings



2 weeks later

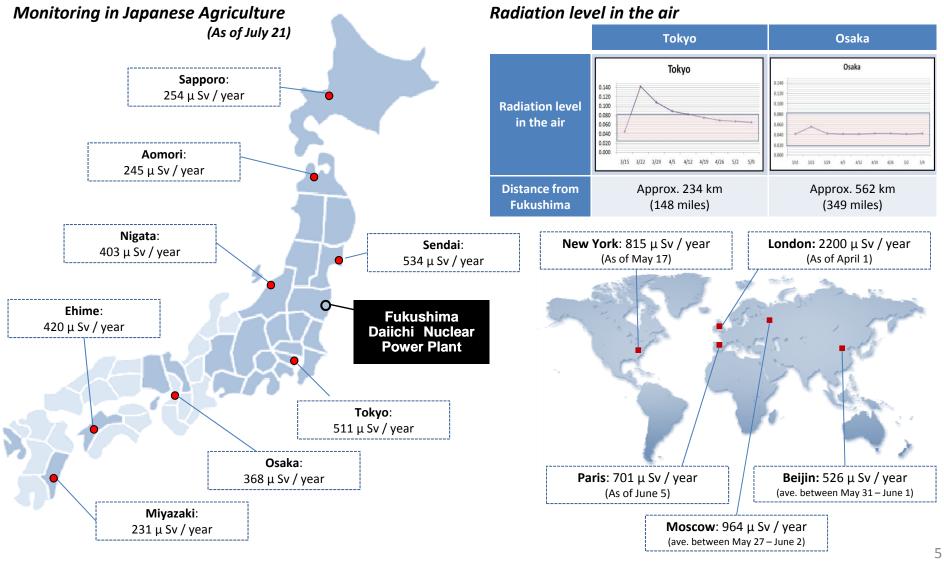






Radioactivity Monitoring





Impact on the Supply Chains Caused by the Earthquake and Rolling Blackouts (Examples)



Raw materials

Goods

Intermediate

End-products

The coastal industrial region (The stricken area)

Ethylene

O Vcompany (v factory) etc. OA company expects to resume

its operations in

middle of May

- Hvdrogen peroxide solution
- O C company (c factory) etc. OA company expects to get over by
 - using inventory sources and resume its material factory immediately.

Graphite [90%]

- (For battery's negative electrode)
- O Dcompany (d factory) 4 8%1 etc.
- O A company has resumed its operations immediately.

Ultra-slim copper foil [100%]

- OG company (gafactory)[2 **0%**], *H* company (h factory) [18%] etc.
- O A company reduced its production by more than 80%. However, full-scare operation would resume in early

[%]:global market share

ITO targets

- OG company (gb factory) [40%] etc.
- O A company resumes its operations one by one, and full-scare operation would resume in end of July.

Speciality elastomer (EPDM)

OE company (e factory)etc. OA company had already recovered its damaged machineries, and expects to resume operations in May.

Silicon wafers [66%]

- OA company (a factory) [3 3% (whole company)]. B company (b factory)[2 9% (whole company)] etc.
- O Though a company reduced its production by about 40%. it resumes its operations one by one.

Synthetic quartzs

[100%]

- OI company (i factory) [5 0% (whole company) 1. J company (ifactory) [22% (whole company)] etc.
- O A company resumes its operations one by one.

Lithium-ion batteries

- OW company (wa factory, wb factory, wc factory)[20%], Xcompany (x factory) etc.
- O A company resumes its operations one by one.

Semiconductors

- OL company (I factory) MCU 30% (whole company), M company (m factory) Chip for NC 50% etc.
- OL company(I factory) expects to resume operations in middle of June. It is considerably early compared with the previous schedule.

Liquid crystal panels

- < Medium and small size of liquid crystal panels > [For smartphone 約70%]
- OP company (p factory), Q company (q factory) etc.
- O A company expects to resume its operation in end of April.
- < Large size of liquid crystal panels >
- OR company (r factory)
- O A company resumes its operations one by one from end of April.

Automobiles

OAt present, companies reduce their production level to 50~60%, but from July, they would increase its productions one by one, and the production rates is expected to get back to normal in November or December.

Flat panel TVs • Smartphones

OThough some of parts companies were damaged, there is no impact on the productions.

Comsumer electronics Electronics

OMost of factories has resumed their operations.

Industrial machineries

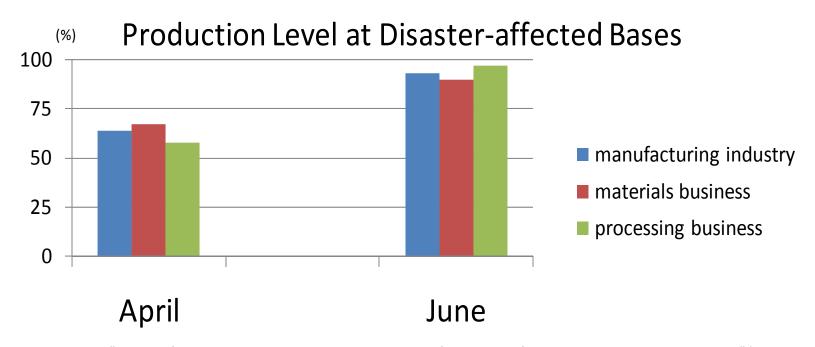
OMost of factories has resumed their operations.



Production bases in the affected area have been restored rapidly



- As of April 2011, more than 60% of disaster-affected production bases in the manufacturing industry had been completed restored.
- ➤ As of end of June, 93% have been restored.



Source: METI "Results of an Emergency Survey on the Actual Status of Industries after the Great East Japan Earthquake" (April 2011), "The Second Emergency Survey on the Actual Status of Industries after the Great East Japan Earthquake" (August 2011)

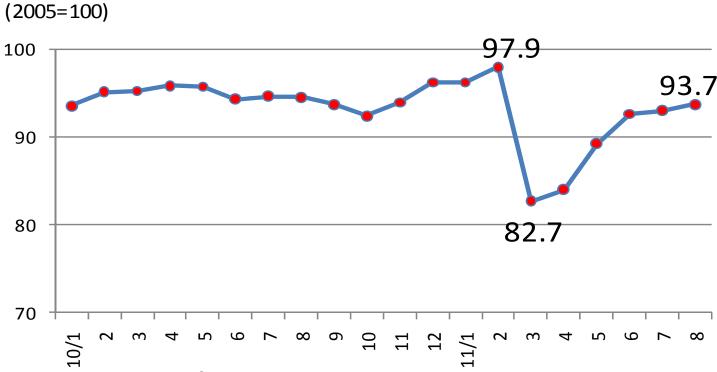


Industrial Production of Japan



In August, industrial production recovered to 96% of pre-earthquake level.





Source: Ministry of Economy, Trade and Industry seasonally adjusted



Case of RENESAS







- ➤ RENESAS is a semi-conductor maker, ranked 3rd in the world market.
- ➤ RENESAS produces.

 30% of micro computer in the global market
- ➤ One of the plants (NAKA Plant in IBARAKI Prefecture) is located in the affected area.
- ➤ Initially, it was expected to resume operation in September, but actually resumed in June.

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Case of RENESAS



- ➤ A banner on the plant "Show Renesas's inner strength and unite our hearts to restart production in June. Customers world wide are waiting for Renesas's recovery."
- > 24/7 work to restoration
- ➤80,000 engineers gathered to NAKA plant; from auto makers, electronics companies, construction companies, semiconductor companies even competitors, to support recovery.
- ➤ Had meeting twice a day. Visualize all the process and progress of recovery by putting large pieces of paper on the wall, which enabled share issues and led healthy competition and coordination among teams.
- ➤ Speedy alternated production in another Renesas plants. This scheme had been built since M&A in 2010. "FAB Network" is to enhance flexibility of production in response to sudden acceleration of demand or in emergency.

Source: "Renesas, Recovery" (video uploaded on youtube by Renesas)



Case of RENESAS



"I witnessed very strong GENBA (field site). You are the symbol of recovery of JAPAN not only of Nissan." (Carlos Ghosn, CEO of Nissan-Renault, at Iwaki Nissan plant)

Source: Nikkei (September 11, 2011)

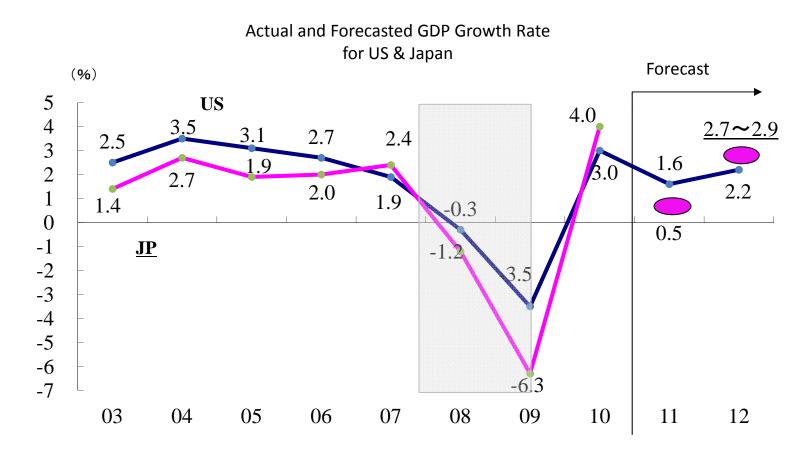
- high morale toward recovery;
 - All Hands on Deck
 - Customers all over the world are waiting for our products
 - Support and cooperation from business partners or beyond rivalry
- high responsibility and leadership shown by each division's leaders
 - Sharing issues, making decision quickly
- exceeding technological capability

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Economic Trends in US & Japan



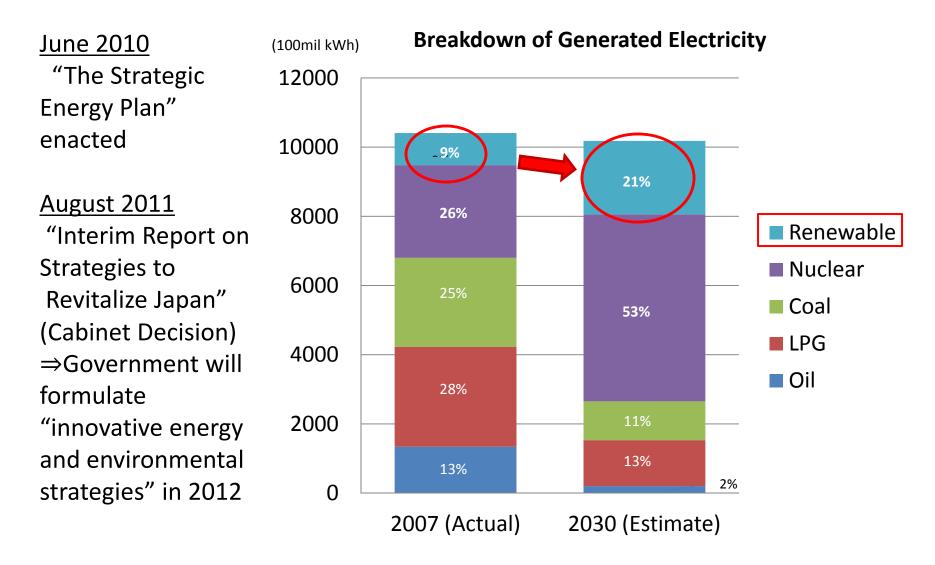
- **>**<u>US</u>: Decreased pace of economic recovery in the first half of 2011
- ➤ <u>Japan</u>: Severe economic slowdown due to the large impact of the earthquake in the first half of 2011





Reexamination of the current Strategic Energy Plan





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Movement of Non-Japanese Companies to Japan



Smart Grid

Company Name	Country	Movements
General Electric	USA	Joint Venture with Fuji Electric in February
IBM	USA	Initiated R&D in Kita-Kyushu City
Hewlett Packard, SAP	USA	Working on a smart grid system in Chiba Prefecture

Solar Power

Company Name	Country	Movements
SunPower	USA	Toshiba has made a distribution agreement
Canadian Solar	Canada	Selling there solar panels to Japanese companies
Q-Cells	Germany	Established a sales office in Japan
Yingli Green Energy	China	Collaborated on sales with Japanese companies
Trina Solar	China	Sales distributors have increased to 10,000
Suntech Power	China	Acquired 2 Japanese companies
JA Solar	China	Plans to establish an office by September 2011
Hanwha Group	Korea	Plans to distribute to Japan in August 2011
Motech	Taiwan	Manufacture solar panels in Hokkaido region

Wind Power

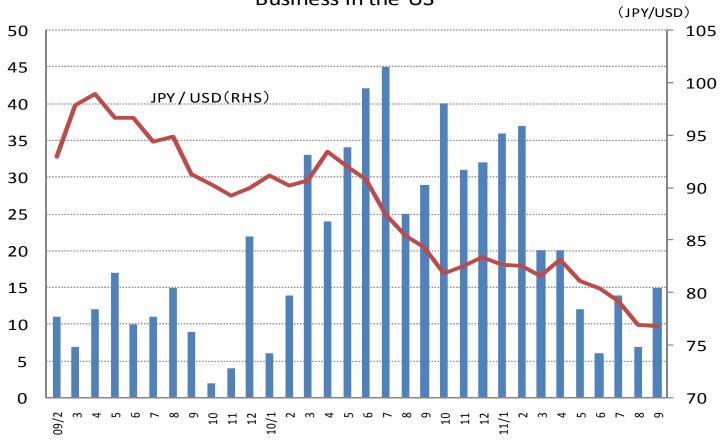
Company Name	Country	Movements
Gold Wind		Collaborate with Japanese company to create a low cost wind generator
<u> </u>	•	-



Japanese Companies Newly Opened Business in the US



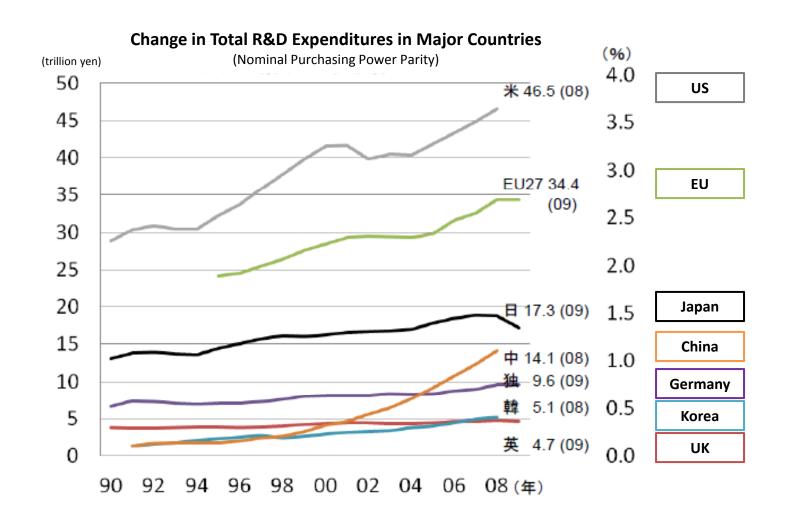
Number of Japanese Companies that Newly Opened Business in the US



Numbers are based on Reports from News Agency

Trend In R&D Expenditures in Major Countries







THANK YOU

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