Japan America Society of Chicago

“Japan: Road to Recovery - Challenges and Opportunities"

Federal Reserve Bank of Chicago

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"Japan: Road to Recovery - Challenges and Opportunities"

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• The Great East Japan Earthquake: Impact on Japan’s Economy

• Japan’s Competitive Strengths

• The Japanese Market: Trends & Opportunities
The Great East Japan Earthquake: Impact on Japan’s Economy
(1) The Great East Earthquake, March 11
   (a) Magnitude 9.0
       Fifth largest earthquake on record following the 1960 earthquake in Chile (M9.5) and the 1964 earthquake in Alaska (M9.2).
   (b) Tsunami: 46 feet and higher
       Tsunami reached a height of 118 feet.
   (c) Nuclear Accident Occurred in the
       Fukushima Dai-ichi Nuclear Power Plant

(2) More than 22,000 fatalities or missing
   (a) Fatalities: 15,534
   (b) Missing: 7,092
   (c) Injured: 5,685
       As of July 5
   (d) Evacuated: 112,405
       As of June 16

Fatalities of the Great Hanshin-Awaji Earthquake in 1995: 6,436
Support for Japan

(1) International Support
More than 150 countries, nearly 40 international organizations, and 1,500 NGOs have offered assistance

(2) U.S. Support
(a) As Japan’s most important ally, the U.S. has sent
- Ships and aircraft for search and rescue
- Needed items such as food, water, blankets, and medical supplies
- Nuclear experts

(b) US Troops in Japan are conducting “Operation Tomodachi” or “Friendship” and engaging in the above mentioned activities.

(c) Many U.S companies, organizations, and individuals have also donated to Japan.

Ongoing Efforts in the Affected Area

(1) Search for missing and debris removal
- 28 countries, regions, and institutions sent rescue teams
- U.S. Army conducts "Operation Tomodachi"
- Over 100,000 troops from Self Defense Forces

(2) Support for evacuated people
- 112,405 evacuated (as of June 16)
- Completion of more than 33,000 emergency temporary housing, and nearly 11,000 other housing began reconstruction (as of June 28)
- Helping people to find jobs

(3) Rebuilding essential services
Electricity
Blackout: 2.7 million homes (March 11) → 300 (May 27)

Gas
No gas: 420,000 homes (March 11) → Zero (May 6)

Water
No water: 56,000 homes in 3 prefectures (June 24)
The Tohoku Expressway is a transport and commercial artery which connects Tohoku and Kanto regions. Numerous factories are located along this route. 347 km out of 675 km of the expressway were destroyed in the earthquake on March 11, but traffic restrictions were lifted on March 24th, following the completion of emergency restoration measures.
Reconstruction and Recovery: (2) Railroads

- None of the 26 trains operating at the time of the earthquake derailed, nor was there any serious damage to elevated bridges and stations, or collapse of tunnels.
- The entire Tohoku Shinkansen resumed operation on April 29th.
Quays of all major Pacific ports that were hit during the quake from Aomori to Ibaraki became useable by May 24th.

The sea ports damaged by the tsunami are gradually recovering functionality.
Reconstruction and Recovery: (4) Airports

- The reconstruction of Sendai Airport which was badly damaged by the tsunami showed surprisingly rapid progress thanks to the cooperation between the US Armed Forces and Japanese Self-Defense Forces. The entire runway was restored and back in service by March 28th.
- Passenger flights from Haneda - Sendai and Osaka (Itami) - Miyagi resumed operations on April 13th, one month after the earthquake.

Sendai airport damaged by the tsunami as of March 13th.  
The first landing at Sendai airport since the earthquake on April 13th.
Fukushima Daiichi Nuclear Power Plant

Top Priority: Bringing the Crisis Under Control

(1) Cool down four reactors and spent fuel pools
(2) Prevent the spread of radioactive material
(3) Monitoring and decontamination of radioactive material

The Fukushima event is temporarily rated at Level 7 on the International Nuclear and Radiological Event Scale (INES).

However, the amount of discharged radioactive material is approximately 10 percent of the Chernobyl accident, which was assessed at the same level.

Tokyo Electric Power Company (TEPCO) expects that it will take 6-9 months to bring the reactors into cool shutdown.
Radiation level has been decreasing and the level outside of the restricted area is low. (Green box indicates normal range of radioactivity)

Example of Radiation
-Air Travel between Tokyo and NY: 200 μSv / round trip
-Gastrointestinal X-ray examination: 50 μSv / x-ray
Dose of radiation in the world’s major cities

The recent environmental radioactivity level of Tokyo is lower than the level in other major cities

<table>
<thead>
<tr>
<th>City</th>
<th>Dose of Radiation (uSv/h)</th>
<th>Date of measurement</th>
<th>Referring Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paris</td>
<td>0.04-0.09</td>
<td>6/10</td>
<td><a href="http://www.irsn.fr/FR/Documents/france.htm">http://www.irsn.fr/FR/Documents/france.htm</a></td>
</tr>
<tr>
<td>Berlin</td>
<td>0.069-0.084</td>
<td>6/10</td>
<td><a href="http://odlnfo.bfs.de/">http://odlnfo.bfs.de/</a></td>
</tr>
<tr>
<td>Singapore</td>
<td>0.08</td>
<td>6/10</td>
<td><a href="http://app2.nea.gov.sg/index.aspx">http://app2.nea.gov.sg/index.aspx</a></td>
</tr>
<tr>
<td>HongKong</td>
<td>0.07-0.14</td>
<td>6/10</td>
<td><a href="http://www.hko.gov.hk/radiation/ermr/rmn/applet/map/rmn_hourly_e.htm">http://www.hko.gov.hk/radiation/ermr/rmn/applet/map/rmn_hourly_e.htm</a></td>
</tr>
<tr>
<td>Beijing</td>
<td>0.065</td>
<td>6/10</td>
<td><a href="http://haq.mep.gov.cn/gzdt/">http://haq.mep.gov.cn/gzdt/</a></td>
</tr>
<tr>
<td>Seoul</td>
<td>0.110</td>
<td>6/10</td>
<td><a href="http://www.mest.go.kr/web/42083/iernt/list.do">http://www.mest.go.kr/web/42083/iernt/list.do</a></td>
</tr>
</tbody>
</table>

Source: Japan National Tourism Organization (JNTO)
(1) **Risks for other countries**
There are no risks so far to people living in other countries from radioactive material released into the atmosphere from the Japanese nuclear power plants (WHO)

(2) **Ports and Airports**
- Government announces radioactivity level at major ports and airports twice a day

- Japanese government has set areas within a radius of thirty km of Fukushima Daiichi nuclear complex as restricted flight areas

(3) **Food from Japan**
- Japanese Government inspects radiation dosages every day, and prohibits the distribution and consumption of food that fails to meet stringent criteria

- U.S. CBP and FDA have increased surveillance of regulated products from Japan

(4) **Water**
WHO has determined that drinking tap water in Japan poses no immediate health risk. (WHO, March 25, 2011)

(5) **Embassies of the United States, France, Russia all returned their personnel to Japan.**
Ensuring Safety of Foods from Japan
Three Measures Taken

1. Crop harvest/production is not conducted in affected areas
   (1) Japan has set 20 km (12.5 miles) radius of the plant and other designated areas → no-entry zone, planned evacuation zone.
   (2) Other areas of the 30km (18.75 miles) radius of the plant (as a general rule) → emergency evacuation preparation area.
   (3) All fishing within 30km radius of the plant is prohibited.

2. Intense sampling of food/beverages in Japan
   → the Japanese government immediately ordered food not to be distributed if the food fails to meet provisional regulation.

3. US CBP and FDA are intensively monitoring food/beverages from Japan
Japan, to prevent contamination, inspects radioactivity in food every day, and restricts distribution of food that fails to meet provisional regulation values.

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**Not to Distribute (as of July 1, 2011)**

* **Fukushima Prefecture**
  - Example:
    - Raw milk
    - Non-head type leafy vegetables (e.g. spinach)
    - Head type leafy vegetables (e.g. cabbage)

* **Ibaraki, Tochigi, Chiba, Kanagawa Prefecture**
  - Tea
  - Spinach, Parsley, Celery

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* **Restricts Have Already Lifted**
  - **Ibaraki Prefecture**
    - Spinach
  - **Tochigi / Gunma Prefecture**
    - Non-head type leafy vegetables (e.g. spinach)
  - **Chiba Prefecture**
    - Spinach, Parsley, Celery

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Source: Ministry of Health, Labour and Welfare
Safety of Marine Products

- Over provisional regulation values: 59 samples
  - Below provisional regulation values: 853 samples (As of July 1)

All 59 samples over provisional regulation values are found in Fukushima or the north part of Ibaraki prefecture. (Sandlance, Landlocked Salmon etc.)

Fishing of these marine species is not conducted in Fukushima prefecture and Ibaraki prefecture

No fishing is conducted in Fukushima prefecture
Safeguarding Measures Taken by US CBP and FDA

CBP (Customs & Border Protection) is intensively monitoring goods from Japan

- FDA is conducting the following measures.
  1. Prohibits any food from importation if the distribution of the food is prohibited by the Japanese government (unlikely to appear at US ports)
  2. Automatically detain certain foods from certain areas around nuclear plant. FDA will not release unless the food has proven to be in compliance.
     - e.g. leafy vegetables from Fukushima, Ibaraki and Tochigi will be detained automatically.
  3. Intensive sampling and monitoring of food from Japan

- FDA has found no samples inspected that contains unsafe levels of radionuclides so far. (as of June 29)

“FDA recognizes that the government of Japan is taking steps to address this issue and FDA will continue to provide support to their efforts.”

>>> Please visit www.fda.gov for more information.
Japan Cosmetic Industry Association announced that cosmetic products manufactured in Japan are safe based on available data as shown below.

1. Cosmetics are manufactured in indoor environments highly controlling extraneous substances and particles. The possibility that radioactive substances in the atmosphere would affect the production process is extremely low.

2. Provided that the water with acceptable standard level of radioactive substances applied to drinking water designated by the Ministry of Health, Labor and Welfare is used in all manufacturing processes, and that the product is used every day for one year, the total amount of radiation exposure from the cosmetic product would be no more than 7.8 microsieverts per year, which has no effect on human health.

3. The Japanese Government states the present level of radioactive substances in water supply does not pose any problem when used in contact with human skin by hand washing, shampooing, bathing, etc. The same can be said for cosmetic products, which are mainly applied to the skin. Thus we believe cosmetic products, even if they are manufactured by using said water are safe when used under normal and foreseeable conditions. As it is well known, we are exposed to 2,400 microsieverts of naturally occurring radiation per year on average.
(1) Coverage
• Prefectures Covered: Hokkaido, Aomori, Iwate, Miyagi, Fukushima, Ibaraki, and Chiba
• Period Covered: FY2011- FY2013

(2) Impact on Capital Stock (Social Capital, Housing, Private Plant & Equipment): Direct Damages
• Estimate Damages done to Stocks in the Disaster Area Buildings, Social Infrastructure (such as Roads, Harbors, Airports) etc.

(3) Impact on Flows (GDP): Indirect Damage and Reconstruction of Stocks
A. Impact on GDP in the Disaster Area
⇒ Decline in Production due to Damages done to Private Plant & Equipment
B. Impact on GDP in the Non-Disaster Area
⇒ 1) via Supply-Chain Connections
   2) via Constraint on Electric Power Supply
C. Reconstruction of the Damaged Stocks
⇒ Impact of the Reconstruction of the Damaged Stocks over a number of years
Impact on Japanese Economy

Damaged Capital Stock in Disaster Areas

16~25 trillion Yen (US$195~305 billion)

(Reference1)
Japan’s GDP: 500 trillion Yen (US$5.9 trillion)

(Reference2)
Damaged stock in the Great Hanshin-Awaji Earthquake:
9.6 ~ 9.9 trillion yen
(Total stocks in Hyogo prefecture is estimated to be around 64 trillion yen)

Source: Cabinet Office of Japan

Reconstruction of Damaged Capital Stock

Case1 (Damaged stocks: 16 trillion yen (US$195B))
FY2011: 5 trillion yen (US$61B)
(1st half 2 trillion yen, 2nd half 3 trillion yen)
FY2012: 6 trillion yen (US$73B)
FY2013: 5 trillion yen (US$61B)

Case2 (Damaged stocks: 25 trillion yen (US$305B))
FY2011: 7¾ trillion yen (US$94.5B)
(1st half 3 trillion yen, 2nd half 5 trillion yen)
FY2012: 9½ trillion yen (US$116B)
FY2013: 7¾ trillion yen (US$94.5B)

The Case of Great Hanshin-Awaji Earthquake
In Hyogo prefecture, investment was made intensively during the three years following the earthquake. As a result, total net fixed capital formation during the three years amounted to more than 10 trillion yen, which was equivalent to the amount of stock damaged by the earthquake.

Source: Cabinet Office of Japan
Impact on Japanese Economy

Decline in Production Due to Damages Done to Private Plant & Equipment

Result of Estimation

Total private plant & equipment in Japan before the earthquake: around 1,200 trillion yen

Damages to private plant & equipment by the earthquake: around 9 ~ 16 trillion yen

\[
\text{Ratio to total private plant & equipment} = \frac{3}{4} \sim \frac{5}{4}
\]

\[
\left( \frac{\text{Capital’s share in income}}{\text{Capital-output ratio}} \right)
\]

Impact on GDP (per year): 
\[
-1\frac{1}{4} \sim -2\frac{1}{4} \text{ trillion yen}
\]

Source: Cabinet Office of Japan
Impact on Japanese Economy

Recovery and Plan for Reconstruction

【Short-Term】
Clearing Debris, Erecting Temporary Housing, Rehabilitating Industrial Facilities

【Mid and Long-Term】
Disaster-Resilient, Eco-Friendly, and Welfare-Oriented City Planning

- Establishing “Reconstruction Design Council”
  In drafting a plan for reconstruction we must call upon the opinions of experts and those with a stake in the future of the region.
  • Delivered blueprint on June 25

Supplementary Budgets
- The first supplementary budgets bill passed through the Diet on May 2
- The second has submitted to the Diet on July 5

The First Supplementary Budgets

Amount: 4 trillion yen (US$49B)
Example:
- 1.2 trillion yen
  Public works projects, including restoration of roads and ports.
- 483 billion yen
  Disaster relief, including building 100,000 temporary houses and condolence money
- 500 billion yen
  Financial assistance for SMEs

The Second Supplementary Budgets

Amount: 2 trillion yen (US$24B)
Example:
- 1.2 trillion yen
  Radionuclide damage compensation.
- 377 billion yen
  Additional financial assistance for SMEs.
More than 60% of the affected production base of respondents had already been restored by mid April.

Meanwhile, other production sectors are in a recovery phase, and in total about 90% are expected to be restored by summer.

(Reference) The ratio of the number of establishments located in the municipalities in 7 prefectures (Aomori, Iwate, Miyagi, Fukushima, Ibaraki, Tochigi, and Chiba) covered by the Disaster Relief Act in the total number of the manufacturing establishments for the entire country, is approximately 7%. (The figure was calculated based on a Census of Manufacturers in 2008, as of March 27th)
The expected timetable for settling procurement shortages of raw materials, components and parts

Time expected to secure sufficient amounts are:
- The materials industry: 8% have already secured sufficient amounts, a total of 54% expect to do so by July, and a total of 85% expect to do so by October.
- The processing industry: 6% have already secured sufficient amounts, a total of 29% expect to do so by July, and a total 71% expect to do so by October.

※ Because some companies replied that expected timing are different by item, the total of percentages exceeds 100.

※Survey period: April 8 - 15
Impact on the Supply Chains Caused by the Earthquake and Rolling Blackouts (Examples)

Coastal Industrial Area (Affected by the earthquake)
- Ethylene
  - Company V (Factory V) etc.
  - Planned to resume in the middle of May.
- Hydrogen peroxide solution
  - Company C (Plant C) etc.
  - Managed by supply from inventory and early raw material plant restoration
- Black lead [94%]
  Material for negative pole of batteries
  - Company D (Factory d) [48%] etc.
  - Facilities were restored immediately after the earthquake. With raw materials procured, production was restored.
- Ultra-thin electrodeposited copper foil [100%]
  - Company G (Plant ga) [20%], Company H (Plant hi) [11%] etc.
  - Reduced by 60% or more at first. Full operation at the level before the earthquake will be restored at the beginning of May.
- ITO target materials (base material for transparent electrode)
  - Company G (Plant gb) [46%] etc.
  - Production lines are gradually resumed. Full operation at the end of July.

Materials

Intermediate Materials

Final Products

Special rubber (EPDM)
- Company E (Plant e) etc.
- Facilities restored
  Resumption of production planned in May.

Lithium ion batteries
- Company W (Plants wa, wb & wc) [20%]
  Company X (Plant x) etc.
  - Plants were partly damaged by the earthquake and operation was suspended under effects of rolling blackouts; Production will resume gradually.

Semiconductors
- Company L (Plant l) [30% of microcomputers (company total)], Company M (Plant m) [50% of NC chips] etc.
- Company L (Plant l) will largely move up the schedule from the initial plan. It is expected to resume in the beginning of June.

Synthetic quartz crystal [100%]
- Company I (Plant i) [50% (Company total)], Company J (Plant j) [22% (Company total)] etc.
- Upstream processes will be gradually resumed. Downstream processes will gradually proceed to full operation.

Automobiles
- Domestic production: about ¥57 trillion
- One million employees in Japan
- Production is reduced to 50% to 80% at present. It will start to recover from June and will be restored to the regular production scale around October to December.

Electrical appliances and electronics
- Domestic production: about ¥31 trillion
- About 750,000 employees in Japan
- Many enterprises have resumed operation.

LCD TV and smartphones
- Some of the component manufacturers are affected by the earthquake, but have no particular problems regarding production.

LCD panels
- Small and medium LCD panel [About 70% of those for smartphones]
  - Company P (Plant p), Company Q (Plant q) etc.
  - Production suspended due to the earthquake. Full operation was resumed at the end of April.
- Large LCD panel
  - Company R (Plant r)
  - Operation resumed gradually from the end of April.

Industrial machinery
- Domestic production: ¥22 trillion
- About 800,000 employees in Japan
- Many factories have resumed production after the earthquake.
Effects on Specific Industries: (1) Steel

- Although Sumitomo Metal’s Kashima plant stopped production, other Japanese iron works produced enough crude steel to meet all demand.
- Sumitomo Metal’s Kashima plant resumed operations on April 30 and has already returned to full production.

Geographical locations of damaged iron works

Production capacity for crude steel (As of March, 2010)

※ in thousands of tons per year

Kashima accounts for approx. 7%

※ The blast furnaces of Kashima Steelworks of Sumitomo Metal Industries, Ltd operated normally on April 30. Kashima Steel works of Sumitomo Metal Industries, Ltd aimed increase pig iron output of the furnaces and achieve overall normal operation at Kashima by the end of May.
Several weeks after the earthquake, certain major factories producing core parts and materials temporarily ceased operations, but gradually resumed. For factories that need more time to recover, companies are seeking substitute production capacity from other factories. 
Most of the motor production companies have restarted production, depending on the supply level of core parts and materials.

<table>
<thead>
<tr>
<th>Company</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toyota Motor</td>
<td>All factories resumed production on April 18th.</td>
</tr>
<tr>
<td>Nissan</td>
<td>All factories, including a seismic-damaged engine factory in Iwaki-city, resumed production on April 18th.</td>
</tr>
<tr>
<td>Honda</td>
<td>After production resumed of finished automobiles at the Saitama factory and Suzuka factory, all factories resumed production on April 11th.</td>
</tr>
<tr>
<td>Hitachi Automotice Systems</td>
<td>Sawa and Fukushima Auto-parts manufacturing factories damaged in the earthquake partially resumed production on March 25th. Manufacturing facilities have been almost completely repaired.</td>
</tr>
<tr>
<td>Hitachi Vehicle Energy</td>
<td>Headquarter factory damaged in the earthquake at Hitachinaka-city resumed production of Lithium-ion batteries from March 28th.</td>
</tr>
<tr>
<td>Hitachi ltd.</td>
<td>Operations resumed at the end of March, 2011, and most facilities returned to full production after mid-April.</td>
</tr>
<tr>
<td>Renesas Electronics</td>
<td>6 of 7 factories damaged in the earthquake have already resumed production. The NAKA Factory damaged by the earthquake already resumed production on June 1st.</td>
</tr>
<tr>
<td>Shinetsu Chemicals</td>
<td>Shirakawa Factory damaged in the earthquake partially resumed production on April 20th. Right now, carrying out the restoration work with the aim of returning the production capacity at the plant to the level prior to the earthquake by the end of June or July of this year.</td>
</tr>
<tr>
<td>IHI</td>
<td>Soma Factory damaged in the earthquake which produces engines and gas turbines, resumed operation on March 29th.</td>
</tr>
</tbody>
</table>
Several weeks after the earthquake, certain major factories producing core parts and materials temporarily ceased operations, but gradually resumed. For factories that need more time to recover, companies are seeking substitute production capacity from other factories.

Food export industries pay extra effort to securing food safety. US FDA conducted intensive monitoring and sampling. Due to this procedure, import processes took an extra 2-3 weeks until May. After May, US FDA reduced sampling based on the previous test results, and the procedure became faster.

Fishery industries in Tohoku

Because of the severe damage to ports, fishing vessels, aquaculture and process facilities, recovery effort is ongoing. Some fishermen have restarted fisheries: Fishermen started fishing from Port of Hachinohe, Aomori from March 21.

Sake industries in Tohoku

Miyakanbai Brewery in Miyagi experienced severe damage to the brewery. But it resumed distribution on March 28.
Decreased Consumption causes “the Secondary Economic Damage” to the Japanese Economy. One brewer’s message changed the direction.

A message from Mr. Kosuke Kuji, a chief brewer of Nanbu-bijin-brewery, which was damaged by the earthquake

Mr. Kuji, from Nanbu-bijin Brewery, is broadcasting his message on Youtube to encourage consumers to drink sake from Tohoku area in northeast Japan where the earthquake hit most severely. His brewery was damaged by the 3.11 earthquake and is suffering from decreased consumption of sake during cherry blossom season because many Japanese do not think it appropriate to celebrate cherry blossom season. He argues this kind of restrained consumer behavior is causing "the secondary economic damage" to Tohoku and encourages celebrating cherry blossom season and drinking sake from the damaged area to revitalize their economy.

Mr. Kuji’s message in the Japanese version has been played over 520,000 times. See the message in English at: http://www.youtube.com/watch?v=hIVtIEvXtRI
Consulate General of Japan at Chicago and JETRO hosted the first Japanese Sake Export Promotion Event in the Midwest following The Great East Japan Earthquake at Kendall College. It attracted 147 food industry professionals on May 12, 2011.

9 Japanese brewers actually came to US. As John Gauntner, “the sake guy”, conveyed, the brewers from Japan sent the message "We are OK, we are still making good products, and we still value you as customers!".

Many of the brewers and distributors predict U.S. sake sales will grow this year, especially in the Midwest.
JETRO organized a large scale Japan pavilion at “Food Taipei 2011” from June 22 to 25 in Taiwan, which was the first large scale Japan pavilion after The Great East Japan Earthquake.

JETRO NY will exhibit at “2011 Summer Fancy Food Show” in Washington D.C. from July 10 to 12.

JETRO will exhibit not only foods but also fully explain how Japan is ensuring food safety of foods from Japan.

Food Taipei had 959 exhibitors and about 45,000 attendees in 2010. Japan Pavilion exhibited vegetables, processed foods, alcoholic beverages, tea, meat & milk products, etc. from 50 producers, associations and local governments.

Fancy Food Show had 2,400 exhibitors and 23,000 attendees in 2010. JETRO will exhibit miso, vinegar and various kinds of food from Ishikawa and Kanagawa.
Websites providing Information about Japan after the Earthquake


Useful Links
- Prime Minister's Office of Japan
- Public Relations Office, Cabinet Office
- Ministry of Economy, Trade and Industry (METI)
- Ministry of Foreign Affairs of Japan
- Ministry of Agriculture, Forestry and Fisheries
- Ministry of Health, Labour and Welfare
- Ministry of Land, Infrastructure, Transport and Tourism
- Ministry of Education, Culture, Sports, Science and Technology (MEXT)
- Tokyo Electric Power Co.
- Japan National Tourism Organization: Japan Travel Updates after the 3.11 Earthquake
Japan’s Competitive Strengths
**QUICK COMPARISON**

<table>
<thead>
<tr>
<th></th>
<th><strong>JAPAN</strong></th>
<th><strong>USA</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Land Area</strong></td>
<td>145,925 sq mi</td>
<td>3,794,101 sq mi</td>
</tr>
<tr>
<td><strong>Population Density</strong></td>
<td>873.9 people sq mi</td>
<td>83 people sq mi</td>
</tr>
<tr>
<td><strong>2008 Population</strong></td>
<td>127 million people</td>
<td>310 million people</td>
</tr>
<tr>
<td><strong>2030 Estimated Population</strong></td>
<td>117 million people</td>
<td>323 million people</td>
</tr>
</tbody>
</table>

- Japan is approximately the size of California and stretches from Maine to Florida.
- It has 13 cities with more than 1 million people, compared to the USA’s 9 cities.

<table>
<thead>
<tr>
<th>City</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tokyo</td>
<td>8.5 mil</td>
</tr>
<tr>
<td>Yokohama</td>
<td>3.6 mil</td>
</tr>
<tr>
<td>Osaka</td>
<td>2.6 mil</td>
</tr>
<tr>
<td>Nagoya</td>
<td>2.2 mil</td>
</tr>
<tr>
<td>Sapporo</td>
<td>1.9 mil</td>
</tr>
<tr>
<td>Kobe</td>
<td>1.5 mil</td>
</tr>
<tr>
<td>Kyoto</td>
<td>1.4 mil</td>
</tr>
<tr>
<td>Fukuoka</td>
<td>1.3 mil</td>
</tr>
<tr>
<td>Kawasaki</td>
<td>1.3 mil</td>
</tr>
<tr>
<td>Saitama</td>
<td>1.2 mil</td>
</tr>
<tr>
<td>Hiroshima</td>
<td>1.1 mil</td>
</tr>
<tr>
<td>Sendai</td>
<td>1.0 mil</td>
</tr>
<tr>
<td>Kitakyushu</td>
<td>1.0 mil</td>
</tr>
</tbody>
</table>

(Japan Marketing Data 2008-09)
## QUICK COMPARISON

<table>
<thead>
<tr>
<th></th>
<th>Japan</th>
<th>USA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Life Expectancy (2009 est.)</strong></td>
<td>male: 78.8 years</td>
<td>male: 75.65 years</td>
</tr>
<tr>
<td></td>
<td>female: 85.62 years</td>
<td>female: 80.69 years</td>
</tr>
<tr>
<td><strong>Population Density (2009 est.)</strong></td>
<td>1.21 children born/woman</td>
<td>2.05 children born/woman</td>
</tr>
<tr>
<td><strong>GDP PPP (2008 est.)</strong></td>
<td>$4.356 trillion (3rd)</td>
<td>$14.441 trillion (1st)</td>
</tr>
<tr>
<td><strong>Per Capita GDP (2008 est.)</strong></td>
<td>$34,115 (24th)</td>
<td>$47,440 (6th)</td>
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Source: 2009 CIA World Fact Book

- Japan has the world's longest life expectancy. At the same time, it also is the first industrialized nation to enter zero population growth.
- Seniors in Japan have more than $13 trillion in household savings.
Japan’s competitiveness remains high
In top 10 ranking since 2006

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21 Japan

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Source: World Economic Forum “The Global Competitiveness Report” (various years)
Japanese Manufacturing Companies in the U.S. (Total 2,153 Plants)

Source: JETRO’s Annual Survey on Business Conditions of Japanese Companies in the U.S. & Canada – Nov. 2010
# JAPANESE MANUFACTURING FACILITIES IN THE USA

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<td><strong>TOTAL</strong></td>
<td><strong>157</strong></td>
<td><strong>636</strong></td>
<td><strong>864</strong></td>
<td><strong>809</strong></td>
<td><strong>826</strong></td>
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<td><strong>U.S. Total</strong></td>
<td><strong>550</strong></td>
<td><strong>1724</strong></td>
<td><strong>2126</strong></td>
<td><strong>1961</strong></td>
<td><strong>1918</strong></td>
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Source: JETRO’s Annual Survey on Business Conditions of Japanese Companies in the U.S. & Canada – Nov. 2010 & past years
Japan Opens “3 Windows” to the World

1st Window: Innovation Hub

- Japan boasts large numbers of leading global companies and SMEs with proprietary technologies which support global firms.
- Japanese firms rank high for the number of international patent applications (PCT applications). Japan comes in top for the number of environment-related patent application publications.
- With their high level technologies and R&D capabilities, Japanese firms create diverse added-value and intellectual properties.

2nd Window: Business Platform

- Japan plays an important role as a “bridge nation” for countries interested in doing business with Asian countries, which contributes to Asia’s growth.
- Japan has some of the best infrastructure in terms of both advanced infrastructure (ICT infrastructure) as well as basic infrastructure (electricity, gas and water).
- Japan promises a safe, secure and comfortable living environment.

3rd Window: Trendsetter

- Japan is one of the world’s largest economies. The economic size of each region within Japan is comparable to an entire nation’s economy.
- Japan offers a market for test marketing before entering Asian markets. It is also a country with “soft power,” which sets trends.
- Sectors with large growth potential exist including health and tourism markets.

Number of Researchers per 10,000 People

Source: Ministry of Internal Affairs and Communications, “The Results of 2009 Survey on Science and Technology Research (Summary)”
The Japanese Market:
Trends & Opportunities
TRENDS & OPPORTUNITIES

• Trends
  - Restrictions on electricity due to the destruction of power plants
  - Aging society

• Opportunities
  o Green & Clean Technologies
  o Medical & Biotechnology
  o Service Robotics
**Trend:** Restrictions on electricity due to the destruction of power plants

The Japanese government aims to reduce the demand of electricity by 15% in the area of Tohoku EPCO and TEPCO (Tokyo Electric Power Company) due to the limited supply.

Each facility with an electricity supply contract above 500kW must limit its usage to 85% of the hourly maximum amount of usage of 2010. This must be conducted on weekdays from July 1 to September 22 (September 9 in Tohoku EPCO area), between the hours of 9 a.m. to 8 p.m.

Other facilities and general consumers are strongly encouraged to reduce electricity consumption.

As of May 25, Source: Ministry of Economy, Trade and Industry

<table>
<thead>
<tr>
<th></th>
<th>Tohoku EPCO (end of August)</th>
<th>TEPCO (end of July)</th>
<th>Chubu EPCO (August)</th>
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<td>Supply capacity</td>
<td>1,370</td>
<td>5,380</td>
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<tr>
<td>Maximum demand</td>
<td>1,480</td>
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<tr>
<td>Reserve power</td>
<td>-110</td>
<td>-620</td>
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<tr>
<td>Reserve power rate</td>
<td>-7.4</td>
<td>-10.3</td>
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</table>

Note 1: The peak at the same level as last summer’s (H1) is used for the expected demand.
Note 2: The figures include power interchange from other electric companies.

Source: METI Economic Impact of the Great East Japan Earthquake and Current Status of Recovery
(2) Basic Policies for Economic and Fiscal Management for the Immediate Future, Short-Term, and Medium to Long-Term

2) Short-Term (About Three Years From Now): Lay the Foundations for Self-Sustaining Growth

- We will create a virtuous cycle for fostering new seeds of growth (including the construction of compact cities and Eco-Towns; energy conservation and new energy businesses; the development of distributed energy systems; social security services suited to regional needs; and turning agricultural, forestry, and fishery industries into value-added sextic industries, integrating processing and retailing functions, etc.) and expanding capital demands (promoting private investment through funds and encouraging the use of private finance initiatives and public-private partnerships, etc.).
Opportunities: Green & Clean Technologies

Large Japanese companies are required to reduce the energy usage by 15% this summer. The Japanese government also needs to re-consider its energy strategy.

**【Short term】**
- Energy efficient technology
- Energy Storage
- LED
- Solar Panel
- Green Building
- Fuel Cell
- Secondary Battery

**【Long term】**
- Renewable Energy
- Wind Power
- LNG
- Solar Power
- Smart Grid
Opportunities: Green & Clean Technologies

With the expansion of the Japanese EV market, more business opportunities for market entry are expected to surface in the EV peripheral business, e.g. infrastructure development. 5,000 charging stations will be installed in Japan by 2020 at convenience stores, gas stations and pay-by-the-hour parking lots.
JETRO Invitation Program for
SMART CITY WEEK 2011

If your company has an interest in setting up an office in Japan, or is currently seeking Japanese partners to develop business in the Japanese market, we invite you to apply for JETRO's Invitation Program.

SMART CITY WEEK 2011
October 26-28th, 2011
Pacifico Yokohama  Yokohama, Japan
Smart City Week 2011 is designed for component technologies, materials, and manufacturing machinery related to constituent elements of Smart Cities, which includes:

Energy Solutions (photovoltaic systems, battery systems, smart grid & micro-grid systems, heat pumps)
Smart Home & Building Solutions (smart meters, home & building energy management systems)
Next-Generation Mobility Systems (EV, EV infrastructure, other related technologies)
Electronic Devices & Solutions (Power semiconductors, energy-conserving electronic devices, device manufacturing equipment, component materials, parts)

POTENTIAL INVITEES
• Companies having an interest in investing in Japan, or currently seeking Japanese partners to establish business in Japan.

BENEFITS TO PARTICIPATION
• Booth space and a dedicated interpreter will be provided by JETRO.
• JETRO will arrange one-on-one business meetings for your company during the event.
• Your participation will be promoted on the JETRO website and by local governments to local companies in Japan.
• Your company’s profile will be listed in the JETRO Zone Exhibitors Booklet, which will be distributed before the event and on-site.
• Participation costs for the show will be paid in part by JETRO.
**Trend: Aging Society**

Data: Ministry of Health, Labor and Welfare, Government of Japan
Opportunities: Service Robotics

Japan is leading the world in the development of service robots. Companies like Toyota, Honda and Mitsubishi are all aggressively developing robots that will be used in the home, office and healthcare. These machines will complement the human work force and help lessen the impact of Japan’s declining birthrate.
Opportunities: Service Robotics

After the earthquake and nuclear power plant problem, robots are expected to assist with difficult tasks in severe environments.
Japan - SME Innovation
MEET PARO: A Therapeutic Robot

PARO is an interactive robot created by Dr. Takanori Shibata at Japan’s National Institute of Advanced Industrial Science and Technology (AIST). Manufactured in Toyama, Japan.

Designed to look like a baby harp seal, PARO takes the place of therapy animals for patients with Alzheimer's, Autism and other cognitive disorders.

PARO has been shown to reduce patient stress, aid in memory recall, stimulate interaction between patients and caregivers and improve patient socialization.

PARO has five kinds of sensors: tactile, light, audition, temperature, and posture sensors, with which it can perceive people and its environment.

JETRO Chicago worked with Dr. Shibata and helped him to establish PARO USA in Itasca, Illinois.
How JETRO can help you?

JETRO is an integrative one stop service center, ready to assist companies with all of their Japan needs.
JETRO SERVICES

BUSINESS CONSULTATION
JETRO can provide information on types of corporate structures, company registration, visa applications and tax and labor procedures.

MARKET RESEARCH
JETRO can provide data on a range of products, services, business and industrial environments, regional enterprises, current market trends and case studies. JETRO can also provide estimates on the cost of establishing an office in Japan and cost reports on different geographic regions.

BUSINESS MATCHING
Companies interested in finding a business partner in Japan can enroll in JETRO’s Health Care Partnering and Information & Communication Technology (ICT) Partnering programs, providing direct access to leaders and innovators in Japan’s health care and ICT industries.

JAPAN TRADE MISSIONS
Each year, JETRO sends select companies to Japan to exhibit at large tradeshows. Companies exhibit in a special JETRO Zone and participate in business matching sessions to meet potential partners and clients.

TEMPORARY OFFICE SPACE
Companies establishing an office in Japan can make use of free office space at one of JETRO’s six Invest Japan Business Support Centers (IBSCs).

HUMAN RESOURCE ASSISTANCE
JETRO staff can search for specific candidates, including representatives in Japan, sales people, accountants and engineers, through recruitment and job-placement companies and present the candidates to companies.

SITE SELECTION ASSISTANCE
JETRO can help companies find possible locations for your permanent office using real estate companies. JETRO can also provide information on incentives and subsidies from local governments.
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Umicore (headquarter: Belgium) is the second largest company for cathode materials of lithium ion batteries in the world.

Production facilities are currently located in Korea and its materials exported to Japan. Umicore has decided to move to Japan to take advantage of government subsidies. An R&D base will be located in Kobe.

ProLogis (headquarter: USA): Immediately after the earthquake and tsunami, ProLogis’s engineering staff started repair work on its damaged ProLogis Parc Iwanuma I, by cooperating with a construction company.
Thank you!

For more information, please visit www.jetro.org