

## ▶ Operating and Financial Data

### Operating Data

- 52 ▶ Company Data
  - ▶ Electric Power Generation
- 53 ▶ Electric Power Consumption
  - ▶ Energy Sales by the EPCos
  - ▶ Number of Customers by Type of Contract
  - ▶ Energy Sales by the EPCos by Industrial Category
- 54 ▶ Installed Generating Capacity
  - ▶ Installed Generating Capacity and Electric Power Generation by Electric Utilities
- 55 ▶ Fossil Fuel Consumed for Power Generation by Electric Utilities
  - ▶ Transmission, Transformation and Distribution Facilities of the EPCos
  - ▶ Network Loss, Total Loss and Thermal Efficiency
- 56 ▶ Principal Thermal Power Plants Owned by Electric Utilities
- 58 ▶ Geothermal Power Plants
- 59 ▶ Nuclear Power Plants
- 60 ▶ Principal Hydroelectric Power Plants Owned by Electric Utilities
- 61 ▶ Peak Capacity, Peak Load, Energy Requirement, Reserve Margin and Load Factor
  - ▶ Balance of Electricity Supply and Demand

### Financial Data

- 62 ▶ Revenues and Expenditures for the EPCos
  - ▶ Balance Sheet for the EPCos
- 63 ▶ Uses and Sources of Funds for the EPCos
  
- 63 **Summarized Comparative Table Classified by Country for the Year 2014**

Note: Current year data unavailable. Data shown is from previous fiscal years.

# Operating Data

## Company Data (As of March 31, 2016)

Company	Capital Stock (Million yen)	Energy Sales for the Year* (GWh)				Revenues from Energy Sales for the Year* (Million yen)	Installed Generating Capacity (MW)	Service Area (km <sup>2</sup> )	Employees
		Residential	Commercial & Industrial	Deregulated Customers	Total				
Hokkaido EPCo	114,291	11,070	2,373	15,148	28,592	695,219	7,957	78,421	5,680
Tohoku EPCo	251,441	23,706	3,555	47,796	75,057	1,857,249	17,956	79,531	12,542
Tokyo EPCo	1,400,975	89,421	9,598	148,057	247,075	5,791,368	66,802	39,575	33,463
Chubu EPCo	430,777	32,802	5,417	83,748	121,966	2,572,453	33,168	39,272	17,525
Hokuriku EPCo	117,641	8,102	1,154	18,262	27,518	493,043	8,074	12,301	4,869
Kansai EPCo	489,320	44,053	5,232	78,231	127,516	2,806,454	36,573	28,712	21,164
Chugoku EPCo	185,527	17,710	2,129	36,880	56,719	1,116,837	11,536	32,282	9,637
Shikoku EPCo	145,551	8,932	1,539	15,284	25,755	575,416	6,617	18,451	5,760
Kyushu EPCo	237,304	28,100	4,744	46,366	79,210	1,692,316	18,701	42,231	13,111
Okinawa EPCo	7,586	2,953	3,411	1,285	7,649	173,211	2,155	2,281	1,606
<b>Subtotal</b>	<b>3,380,413</b>	<b>266,850</b>	<b>39,149</b>	<b>491,057</b>	<b>797,057</b>	<b>17,773,566</b>	<b>209,537</b>	<b>373,057</b>	<b>125,357</b>
J-POWER	180,502						16,959		2,360
JAPC	120,000						2,260		1,147
Others							2,728		
<b>Total</b>	<b>3,680,915</b>	<b>266,850</b>	<b>39,149</b>	<b>491,057</b>	<b>797,057</b>	<b>17,773,566</b>	<b>231,484</b>	<b>373,057</b>	<b>128,864</b>

\* Figures are for fiscal 2015  
Source: FEPC

## Electric Power Generation

(TWh)

FY	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<b>Thermal</b>	755.0	839.0	798.9	742.5	771.3	906.9	986.8	987.3	955.3	908.8
Electric Utilities	577.6	661.0	621.3	568.4	553.3	678.5	735.9	743.1	717.8	675.7
Industry-owned	177.5	180.2	177.6	174.1	218.1	228.4	250.8	244.2	237.6	233.1
<b>Nuclear</b>	303.4	263.8	258.1	279.8	288.2	101.8	15.9	9.3	–	9.4
Electric Utilities	303.4	263.8	258.1	279.8	288.2	101.8	15.9	9.3	–	9.4
Industry-owned	–	–	–	–	–	–	–	–	–	–
<b>Hydroelectric</b>	97.3	84.2	83.5	83.9	90.7	91.7	83.7	84.9	86.9	91.4
Electric Utilities	89.0	76.8	75.9	74.5	74.2	74.4	67.4	68.6	70.3	74.9
Industry-owned	8.3	7.3	7.6	9.3	16.5	17.3	16.3	16.3	16.7	16.5
<b>Wind Power</b>	2.2	2.6	2.9	3.6	4.0	4.7	4.8	5.2	5.0	5.2
Electric Utilities	0.0*	0.0*	0.0*	0.0*	0.0*	0.2	0.2	0.2	0.0*	0.1
Industry-owned	2.2	2.6	2.9	3.6	3.9	4.5	4.7	5.0	5.0	5.1
<b>Solar</b>	0.0*	0.0*	0.0*	0.0*	0.0*	0.0*	0.2	1.2	3.8	6.8
Electric Utilities	0.0*	0.0*	0.0*	0.0*	0.0*	0.0*	0.1	0.1	0.1	0.1
Industry-owned	0.0*	0.0*	0.0*	0.0*	0.0*	0.0*	0.1	1.1	3.7	6.7
<b>Geothermal</b>	3.1	3.0	2.8	2.9	2.6	2.7	2.6	2.6	2.6	2.6
Electric Utilities	2.9	2.8	2.6	2.7	2.4	2.5	2.5	2.4	2.4	2.4
Industry-owned	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2
<b>Fuel Cell</b>	0.0*	0.0*	0.0*	0.0*	0.0*	0.0*	0.0*	0.0*	0.0*	0.0*
Electric Utilities	–	–	–	–	–	–	–	–	–	–
Industry-owned	0.0*	0.0*	0.0*	0.0*	0.0*	0.0*	0.0*	0.0*	0.0*	0.0*
<b>Total</b>	<b>1,161.1</b>	<b>1,195.0</b>	<b>1,146.3</b>	<b>1,112.6</b>	<b>1,156.9</b>	<b>1,107.8</b>	<b>1,094.0</b>	<b>1,090.5</b>	<b>1,053.7</b>	<b>1,024.2</b>
Electric Utilities	972.9	1,004.6	957.9	925.4	918.2	857.4	822.0	823.9	790.6	762.6
Industry-owned	188.2	190.4	188.4	187.2	238.7	250.4	272.0	266.8	263.1	261.6

\* Less than a unit  
Source: FEPC

**Electric Power Consumption**

(TWh)

FY	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Residential	278.3	289.7	285.3	285.0	304.2	289.0	286.2	284.3	273.1	266.9
Commercial and Industrial	49.4	49.7	46.8	45.2	47.5	44.9	43.7	42.8	40.5	39.2
Deregulated Customers	575.5	595.5	571.7	544.0	574.9	545.6	541.0	544.4	537.8	531.5
Customers in Designated Service Districts	16.3	16.8	12.1	9.9	0.0	0.0	0.0	0.0	0.0	0.0
Consumption of Power for Station Operation	7.7	7.8	9.6	12.6	4.4	4.3	4.4	4.5	3.9	4.0
<b>Supplied by Electric Utilities</b>	<b>927.1</b>	<b>959.7</b>	<b>925.5</b>	<b>896.7</b>	<b>931.1</b>	<b>883.8</b>	<b>875.2</b>	<b>876.0</b>	<b>855.4</b>	<b>841.5</b>
Consumption of Independently Generated Power	121.2	117.8	110.0	106.2	125.4	118.7	116.3	116.6	114.0	113.7
<b>Total Consumption</b>	<b>1,048.3</b>	<b>1,077.5</b>	<b>1,035.5</b>	<b>1,008.8</b>	<b>1,056.4</b>	<b>1,002.4</b>	<b>991.6</b>	<b>992.6</b>	<b>969.4</b>	<b>955.2</b>

Source: FEPC

**Energy Sales by the EPCOs**

(TWh)

FY	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Customers in Regulated Fields	327.7	339.5	332.0	330.1	351.7	333.9	329.9	327.1	313.6	306.0
Residential	278.3	289.7	285.3	285.0	304.2	288.9	286.2	284.3	273.1	266.9
Commercial and Industrial	49.4	49.7	46.8	45.1	47.5	44.9	43.7	42.8	40.5	39.1
Deregulated Customers	561.7	580.1	556.9	528.4	554.7	525.9	521.7	521.4	509.4	491.1
<b>Total</b>	<b>889.4</b>	<b>919.5</b>	<b>888.9</b>	<b>858.5</b>	<b>906.4</b>	<b>859.8</b>	<b>851.6</b>	<b>848.5</b>	<b>823.0</b>	<b>797.1</b>

Source: FEPC

**Number of Customers by Type of Contract** (10 EPCOs)

(1,000 customers)

FY	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Residential	74,228	74,772	75,240	75,629	75,765	76,320	76,785	77,372	77,950	78,567
Commercial and Industrial	8,365	8,212	8,044	7,885	7,714	7,571	7,419	7,291	7,184	7,087
<b>Total</b>	<b>82,592</b>	<b>82,983</b>	<b>83,284</b>	<b>83,514</b>	<b>83,479</b>	<b>83,891</b>	<b>84,204</b>	<b>84,663</b>	<b>85,134</b>	<b>85,654</b>

Note: All figures exclude demand in deregulated fields.

Source: FEPC

**Energy Sales by the EPCOs by Industrial Category**

(TWh)

FY	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Mining	1.0	0.9	0.9	0.8	0.9	0.9	0.9	0.9	1.0	0.9
Foodstuffs	16.1	17.2	17.3	17.2	17.7	17.4	17.5	17.9	17.8	17.9
Textiles	3.2	3.2	2.8	4.0	4.5	4.3	4.0	4.0	4.0	3.8
Pulp and Paper	10.5	11.0	10.6	9.4	9.9	9.2	8.5	8.5	8.1	7.5
Chemicals	29.3	31.3	29.4	26.1	27.9	27.0	26.2	26.4	26.1	25.3
Oil and Coal Products	1.6	1.7	1.9	1.8	2.1	2.1	2.2	2.2	2.3	2.2
Rubber	3.3	3.3	3.1	2.8	3.1	3.0	2.9	2.9	2.9	2.7
Clay and Stone	11.8	12.1	11.4	10.3	11.5	11.5	11.1	10.7	10.4	9.9
Iron and Steel	38.9	39.6	35.4	29.7	36.3	36.4	35.9	37.3	36.6	34.1
Nonferrous Metals	15.1	16.8	15.7	14.7	16.0	15.7	15.1	14.3	14.6	14.4
Machinery	78.6	82.6	75.7	69.0	74.0	71.1	68.5	68.8	68.5	67.3
Other Manufacturing	29.3	30.5	28.7	27.4	29.0	27.9	27.1	27.5	26.8	25.9
Railways	18.7	18.7	18.7	18.1	18.1	17.2	17.3	17.3	17.1	17.2
Others	29.7	30.3	30.0	29.6	29.4	27.9	28.0	27.8	27.1	26.7
<b>Total</b>	<b>287.2</b>	<b>299.3</b>	<b>281.6</b>	<b>260.9</b>	<b>280.4</b>	<b>271.5</b>	<b>265.1</b>	<b>266.5</b>	<b>263.2</b>	<b>255.9</b>

Note: "Industrial" refers to customers with a contracted demand of 500kW or above.

Source: FEPC

## Installed Generating Capacity

(MW)

FY	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<b>Thermal</b>	176,339	176,412	179,324	181,736	182,381	185,309	188,903	191,258	193,356	190,805
Electric Utilities	138,890	138,127	140,023	142,574	135,070	136,132	139,794	141,901	143,777	143,040
Industry-owned	37,449	38,285	39,302	39,162	47,312	49,177	49,109	49,357	49,579	47,765
<b>Nuclear</b>	49,467	49,467	47,935	48,847	48,960	48,960	46,148	44,264	44,264	42,048
Electric Utilities	49,467	49,467	47,935	48,847	48,960	48,960	46,148	44,264	44,264	42,048
Industry-owned	–	–	–	–	–	–	–	–	–	–
<b>Hydroelectric</b>	47,375	47,637	47,949	47,966	48,111	48,419	48,934	48,932	49,597	50,035
Electric Utilities	45,685	45,977	46,252	45,221	43,849	44,168	44,651	44,676	45,403	45,786
Industry-owned	1,689	1,660	1,697	2,745	4,262	4,250	4,282	4,256	4,194	4,248
<b>Wind Power</b>	1,805	1,527	1,756	1,997	2,294	2,419	2,562	2,646	2,750	2,808
Electric Utilities	4	4	4	12	85	85	83	82	30	50
Industry-owned	1,801	1,523	1,752	1,985	2,209	2,334	2,479	2,563	2,720	2,758
<b>Solar</b>	9	10	13	16	32	85	267	1,559	4,085	5,624
Electric Utilities	0	0	0	0	13	61	65	67	81	87
Industry-owned	9	10	13	16	19	24	202	1,492	4,005	5,536
<b>Geothermal</b>	532	532	532	535	537	537	512	512	508	517
Electric Utilities	497	497	497	500	502	502	477	477	473	473
Industry-owned	35	35	35	35	35	35	35	35	35	43
<b>Fuel Cell</b>	3	3	1	1	–	–	–	–	–	–
Electric Utilities	–	–	–	–	–	–	–	–	–	–
Industry-owned	3	3	1	1	–	–	–	–	–	–
<b>Total</b>	275,529	275,588	277,511	281,099	282,315	285,729	287,327	289,171	294,560	291,836
Electric Utilities	234,544	234,073	234,711	237,153	228,479	229,908	231,219	231,468	234,028	231,484
Industry-owned	40,985	41,516	42,800	43,946	53,836	55,821	56,107	57,703	60,532	60,352

Note: Figures for industry-owned generation represent the total amount generated by power plants with a generating capacity of 1,000kW or above.

Source: FEPC

## Installed Generating Capacity and Electric Power Generation by Electric Utilities (As of March 31, 2016)

Company	Thermal		Nuclear		Hydroelectric		Wind		Solar		Geothermal		Total	
	MW	GWh	MW	GWh	MW	GWh	MW	GWh	MW	GWh	MW	GWh	MW	GWh
Hokkaido EPCo	4,214	22,158	2,070	–	1,647	3,502	–	–	1	1	25	129	7,957	25,791
Tohoku EPCo	12,025	57,211	3,274	–	2,428	7,921	–	–	5	6	224	925	17,956	66,064
Tokyo EPCo	44,279	198,179	12,612	–	9,859	10,868	18	19	30	35	3	11	66,802	209,113
Chubu EPCo	24,015	111,220	3,617	–	5,497	9,445	22	42	17	23	–	–	33,168	120,730
Hokuriku EPCo	4,400	22,330	1,746	–	1,921	6,561	4	1	4	5	–	–	8,074	28,896
Kansai EPCo	19,408	86,631	8,928	805	8,225	14,849	–	–	11	12	–	–	36,573	102,297
Chugoku EPCo	7,801	36,612	820	–	2,909	3,448	–	1	6	8	–	–	11,536	40,069
Shikoku EPCo	3,447	15,143	2,022	–	1,146	2,511	–	–	2	3	–	–	6,617	17,657
Kyushu EPCo	10,206	47,516	4,699	8,632	3,584	4,804	3	2	3	4	206	1,296	18,701	62,253
Okinawa EPCo	2,153	6,806	–	–	–	–	2	2	–	–	–	–	2,155	6,808
<b>Subtotal</b>	<b>131,948</b>	<b>603,806</b>	<b>39,788</b>	<b>9,437</b>	<b>37,215</b>	<b>63,910</b>	<b>50</b>	<b>67</b>	<b>78</b>	<b>96</b>	<b>458</b>	<b>2,361</b>	<b>209,537</b>	<b>679,678</b>
J-POWER	8,374	58,822	–	–	8,570	10,997	–	–	–	–	15	23	16,959	69,842
JAPC	–	–	2,260	–	–	–	–	–	–	–	–	–	2,260	–
Others	2,718	13,023	–	–	1	6	–	–	9	3	–	–	2,728	13,032
<b>Total</b>	<b>143,040</b>	<b>675,650</b>	<b>42,048</b>	<b>9,437</b>	<b>45,786</b>	<b>74,914</b>	<b>50</b>	<b>67</b>	<b>87</b>	<b>99</b>	<b>473</b>	<b>2,384</b>	<b>231,484</b>	<b>762,551</b>

\* Less than a unit

Source: FEPC

### Fossil Fuel Consumed for Power Generation by Electric Utilities

FY	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Heavy Oil (thousand kl)	8,978	14,239	12,566	721	6,318	11,846	16,090	12,697	9,434	7,095
Crude Oil (thousand kl)	6,120	11,301	7,978	3,643	4,759	11,567	13,477	11,576	6,758	5,700
Naphtha (thousand kl)	—	—	—	—	—	—	—	—	—	—
LNG (thousand t)	38,178	42,105	41,034	40,671	41,743	52,870	55,709	56,092	56,610	52,306
Coal* (thousand t)	79,523	84,205	80,992	76,805	72,153	69,934	71,084	80,884	80,230	80,285
<b>Total</b> (thousand kl heavy oil equivalent)**	<b>122,753</b>	<b>140,503</b>	<b>131,112</b>	<b>118,577</b>	<b>113,573</b>	<b>139,925</b>	<b>151,676</b>	<b>151,993</b>	<b>145,334</b>	<b>136,190</b>

\*Coal refers to wet coal.

\*\* Total includes small amounts of NGL, gas oil, LPG, natural gas and other gases.

Source: FEPC

### Transmission, Transformation and Distribution Facilities of the EPCOs (As of March 31, 2016)

Voltage (kV)	Transmission Lines (km)				Transformers	
	Route length		Circuit length		Number	Maximum Output (MVA)
	Overhead	Underground	Overhead	Underground		
500	7,811	89	15,237	177	82	221,350
275	7,438	623	14,713	1,584	154	170,065
220	2,694	61	5,105	133	61	38,660
187	2,736	15	5,230	35	39	16,705
110–154	15,615	985	28,397	1,926	672	154,192
66–77	38,227	7,301	68,351	13,194	4,445	222,508
<55	13,310	6,083	14,604	10,018	1,265	9,632

  

	Distribution Lines (km)				Distribution Transformers	
	Route length		Circuit length		Maximum Output [MVA]	
	Overhead	Underground	Overhead	Underground	Overhead	Underground
	942,716	42,477	4,005,974	70,733	326,075	33,833

Source: FEPC

### Network Loss, Total Loss and Thermal Efficiency (10 EPCOs)

FY	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Network Loss (%)	5.0	4.9	5.1	5.2	4.8	5.0	4.7	5.0	4.9	4.7
Total Loss (%)	8.5	8.4	8.5	8.6	8.2	8.3	7.8	8.1	7.9	7.8
Thermal Efficiency (Gross, %)*	41.09	41.01	41.35	41.78	41.86	41.74	41.81	42.20	42.80	42.93

\* Principal Thermal Power Plants Owned by Electric Utilities.

Source: FEPC

**Principal Thermal Power Plants Owned by Electric Utilities (1,500 MW or Above) (As of March 31, 2016)**

Name of Plant (A-Z)	Company	Installed Capacity (MW)	Unit Capacity (MW) × No. of Units	Fuel	Commencement of Operation
Akita	Tohoku EPCo	1,633	350 × 2	Heavy, crude oil	1972-74
			600 × 1	Heavy, crude oil	1980
			333 × 1	Light oil (Gas turbine)	2012
Anegasaki	Tokyo EPCo	3,600	600 × 2	LNG, heavy, crude oil	1967-69
			600 × 2	LNG, LPG, heavy, crude oil	1971-72
			600 × 2	LNG, LPG	1977-79
Atsumi	Chubu EPCo	1,900	500 × 1	Heavy, crude oil	1971
			700 × 2	Heavy, crude oil	1981
Chiba	Tokyo EPCo	4,380	1,440 × 2	LNG (Combined-cycle)	2000
			1,500 × 1	LNG (Combined-cycle)	2014
Chita	Chubu EPCo	3,966	375 × 2	LNG	1966-67
			500 × 1	LNG, Heavy, crude oil	1968
			700 × 1	LNG, Heavy, crude oil	1974
			700 × 2	LNG	1978
			154 × 4	LNG (Gas turbine)	1994-96
Chita No. 2	Chubu EPCo	1,708	700 × 2	LNG	1983
			154 × 2	LNG (Gas turbine)	1994-96
Futtsu	Tokyo EPCo	5,040	1,000 × 2	LNG (Combined-cycle)	1986-88
			1,520 × 2	LNG (Combined-cycle)	2003-2010
Gobo	Kansai EPCo	1,800	600 × 3	Heavy, crude oil	1984-85
Goi	Tokyo EPCo	1,886	265 × 4	LNG	1963-66
			350 × 2	LNG	1968
			126 × 1	LNG (Gas turbine)	1994
Haramachi	Tohoku EPCo	2,000	1,000 × 2	Coal, Biomass	1997-98
Hekinan	Chubu EPCo	4,100	700 × 3	Coal	1991-93
			1,000 × 2	Coal	2001-02
Higashi Ohgishima	Tokyo EPCo	2,000	1,000 × 2	LNG	1987-91
Higashi-Niigata	Tohoku EPCo	5,149	600 × 2	LNG, NG, heavy, crude oil	1977-83
			1,210 × 1	LNG (Combined-cycle)	1985
			1,700 × 1	LNG (Combined-cycle)	2006
			350 × 2	LNG, heavy oil	1972-75
			339 × 1	LNG (Gas turbine)	2012
Himeji No. 1	Kansai EPCo	1,507.4	729 × 1	LNG (Combined-cycle)	1995
			713 × 1	LNG (Combined-cycle)	1996
			32.7 × 2	LNG (Gas turbine)	2012
Himeji No. 2	Kansai EPCo	4,086	481 × 6	LNG(Combined-cycle)	2013-15
			600 × 2	LNG	1973
Hirono	Tokyo EPCo	4,400	600 × 2	Heavy, crude oil	1980
			1,000 × 2	Heavy, crude oil	1989-93
			600 × 2	Coal	2004-13
Hitachinaka	Tokyo EPCo	2,000	1,000 × 2	Coal	2003-13
Joetsu	Chubu EPCo	2,361	1190 × 1	LNG(Combined-cycle)	2012-2013
			1171 × 1	LNG(Combined-cycle)	2013-2014
Kainan	Kansai EPCo	2,100	450 × 2	Heavy, crude oil	1970
			600 × 2	Heavy, crude oil	1973-74
Kashima	Tokyo EPCo	5,660	600 × 4	Heavy, crude oil	1971-72
			1,000 × 2	Heavy, crude oil	1974-75
			1,260 × 1	City gas(Combined-cycle)	2014

Name of Plant (A-Z)	Company	Installed Capacity (MW)	Unit Capacity (MW) × No. of Units	Fuel	Commencement of Operation
Kawagoe	Chubu EPCo	4,802	700 × 2	LNG	1989-90
			1,701 × 2	LNG (Combined-cycle)	1996-97
Kawasaki	Tokyo EPCo	2,710	1,500 × 1	LNG (Combined-cycle)	2009
			500 × 1	LNG (Combined-cycle)	2013
			710 × 1	LNG (Combined-cycle)	2016
Maizuru	Kansai EPCo	1,800	900 × 2	Coal, Biomass	2004-10
Matsuura	J-POWER	2,000	1,000 × 2	Coal, Biomass	1990-97
Nakoso	Joban Joint Power Co., Ltd.	1,700	250 × 1	Coal, Biomass	1970
			600 × 1	Coal, Biomass	1983
			600 × 1	Coal, heavy oil, Biomass	1983
			250 × 1	Coal(IGCC)	2013
Nanko	Kansai EPCo	1,800	600 × 3	LNG	1990-91
Sakaiko	Kansai EPCo	2,000	400 × 5	LNG Combined-cycle)	2009-10
Shin Kokura	Kyushu EPCo	1,800	600 × 3	LNG	1978-83
Shin Nagoya	Chubu EPCo	3,058	1,458 × 1	LNG (Combined-cycle)	1998
			1,600 × 1	LNG (Combined-cycle)	2008
Shin Oita	Kyushu EPCo	2,295	690 × 1	LNG (Combined-cycle)	1991
			870 × 1	LNG (Combined-cycle)	1995
			735 × 1	LNG (Combined-cycle)	1998
Shinchi	Soma Joint Power Co.	2,000	1,000 × 2	Coal	1994-95
Sodegaura	Tokyo EPCo	3,600	600 × 1	LNG	1974
			1,000 × 3	LNG	1975-79
Tachibanawan	J-POWER	2,100	1,050 × 2	Coal	2000
Tomatou-Atsuma	Hokkaido EPCo	1,650	350 × 1	Coal	1980
			600 × 1	Coal	1985
			700 × 1	Coal	2002
Toyama Shinko	Hokuriku EPCo	1,500	500 × 2	Heavy, crude oil	1974-81
			250 × 2	Coal, heavy oil	1971-72
Yokohama	Tokyo EPCo	3,379	175 × 1	LNG, heavy, crude oil	1964
			350 × 1	LNG, heavy, crude oil	1968
			1,427 × 2	LNG (Combined-cycle)	1998
Yokosuka	Tokyo EPCo	2,274	350 × 6	Heavy, crude oil	1964-70
			30 × 1	Light oil (Gas turbine)	1971
			144 × 1	Light oil, city gas (Gas turbine)	2007

Note1: Plants are listed in alphabetic order

Note2: Commencement of Operation refers to the date operation began with the installed capacity indicated in the chart.

Source: FEPC, 10 EPCOs, METI

### Under Construction (500MW or Above) (As of March 31, 2016)

Name of Plant	Company	Fuel	Unit Capacity (MW)	Commencement of Operation (Planned)
Shin Sendai Unit3	Tohoku EPCo	LNG (Combined-cycle)	980 (490×2)	2016
Kawasaki Unit2-3T	Tokyo EPCo	LNG (Combined-cycle)	710	2016
Nishi Nagoya Unit7-1T	Chubu EPCo	LNG (Combined-cycle)	1,188	2017
Nishi Nagoya Unit7-2T	Chubu EPCo	LNG (Combined-cycle)	1,188	2018
Ishikariwan Shinko Unit1	Hokkaido EPCo	LNG (Combined-cycle)	569.4	2019
Noshiro Unit3	Tohoku EPCo	Coal	600	2020
Matsuura Unit2	Kyushu EPCo	Coal	1,000	2020
Takehara Unit1	J-POWER	Coal	600	2020

Note: Plants are listed in order of the year that the first generator will commence operatio.

Source: 10 EPCOs, J-POWER

## Geothermal Power Plants (5 MW or Above) (As of March 31, 2016)

Name of Plant	Unit Number	Company	Installed Capacity (MW)	Generation Type (MW)	Commencement of Operation
Hatchoubaru	1	Kyushu EPCo	55.0	Double-flash	1977
	2	Kyushu EPCo	55.0	Double-falsh	1990
Kakkonda	1	Tohoku EPCo Tohoku Sustainable & Renewable Energy Co.	50.0	Single-flash	1978
	2	Tohoku EPCo Tohoku Sustainable & Renewable Energy Energy Co.	30.0	Single-flash	1996
Matsukawa		Tohoku Sustainable & Renewable Energy Co.	23.5	Dry-steam	1966
Mori		Hokkaido EPCo	25.0	Double-flash	1982
Ogiri		Kyushu EPCo	30.0	Single-flash	1996
		Nittetsu Kagoshima Geothermal Co.			
Onikobe		J-POWER	15.0	Single-flash	1975
Onuma		Mitsubishi Material Co.	9.5	Single-flash	1974
Otake		Kyushu EPCo	12.5	Single-flssh	1967
Sumikawa		Tohoku EPCo	50.0	Single-flash	1995
		Mitsubishi Material Co.			
Takigami		Kyushu EPCo	27.5	Single-flash	1996
		Idemitsu Oita Geothermal Co.			
Uenotai		Tohoku EPCo	28.8	Single-flash	1994
		Tohoku Sustainable & Renewable Energy Co.			
Yamagawa		Kyushu EPCo	30.0	Single-flash	1995
Yanaizu-Nishiyama		Tohoku EPCo	65.0	Single-flash	1995
		Okuaizu Geothermal Co.			

Note: Plants are listed in alphabetical order  
Sources: FEPC, METI, J-POWER



## Nuclear Power Plants (As of March 31, 2016)

Name of Plant	Company	Installed Capacity (MW)	Unit Number	Type of Reactor	Unit Capacity (MW)	Commencement of Operation
Fukushima No. 2	Tokyo EPCo	4,400	1	BWR	1,100	1982
			2	BWR	1,100	1984
			3	BWR	1,100	1985
			4	BWR	1,100	1987
Genkai	Kyushu EPCo	2,919	2	PWR	559	1981
			3	PWR	1,180	1994
			4	PWR	1,180	1997
Hamaoka	Chubu EPCo	3,617	3	BWR	1,100	1987
			4	BWR	1,137	1993
			5	ABWR	1,380	2005
Higashi-dori	Tohoku EPCo	1,100	1	BWR	1,100	2005
Ikata	Shikoku EPCo	2,022	1*	PWR	566	1977
			2	PWR	566	1982
			3	PWR	890	1994
Kashiwazaki Kariwa	Tokyo EPCo	8,212	1	BWR	1,100	1985
			2	BWR	1,100	1990
			3	BWR	1,100	1993
			4	BWR	1,100	1994
			5	BWR	1,100	1990
			6	ABWR	1,356	1996
			7	ABWR	1,356	1997
Mihama	Kansai EPCo	826	3	PWR	826	1976
Ohi	Kansai EPCo	4,710	1	PWR	1,175	1979
			2	PWR	1,175	1979
			3	PWR	1,180	1991
			4	PWR	1,180	1993
Onagawa	Tohoku EPCo	2,174	1	BWR	524	1984
			2	BWR	825	1995
			3	BWR	825	2002
Sendai	Kyushu EPCo	1,780	1	PWR	890	1984
			2	PWR	890	1985
Shika	Hokuriku EPCo	1,746	1	BWR	540	1993
			2	ABWR	1,206	2006
Shimane	Chugoku EPCo	820	2	BWR	820	1989
Takahama	Kansai EPCo	3,392	1	PWR	826	1974
			2	PWR	826	1975
			3	PWR	870	1985
			4	PWR	870	1985
Tokai No. 2	JAPC	1,100		BWR	1,100	1978
Tomari	Hokkaido EPCo	2,070	1	PWR	579	1989
			2	PWR	579	1991
			3	PWR	912	2009
Tsuruga	JAPC	1,160	2	PWR	1,160	1987

\* Closed in May 2016.

Note: Plants are listed in alphabetical order.

Source: 10EPCOs, JAPC, J-POWER

## Under Construction (As of March 31, 2016)

Name of Plant	Company	Unit Number	Type of Reactor	Unit Capacity (MW)	Commencement of Operation (Planned)
Shimane	Chugoku EPCo	3	ABWR	1,373	Undecided
Oma	J-POWER	1	ABWR	1,383	Undecided
Higashi-dori	Tokyo EPCo	1	ABWR	1,385	Undecided

Note: Plants are listed in order of the year that the first generator will commence operation.

Source: 10EPCOs, JAPC, J-POWER

## Principal Hydroelectric Power Plants Owned by Electric Utilities (400 MW or Above) (As of March 31, 2016)

Name of Plant	Company	Type	Installed Capacity (MW)	Maximum Discharge (m <sup>3</sup> /sec)	Effective Head (m)	Commencement of Operation
Azumi	Tokyo EPCo	Pumped-storage	623	540	136	1970
Hongawa	Shikoku EPCo	Pumped-storage	615	140	528	2003
Imaichi	Tokyo EPCo	Pumped-storage	1,050	240	524	1991
Kannagawa	Tokyo EPCo	Pumped-storage	940	510	653	2012
Kazunogawa	Tokyo EPCo	Pumped-storage	1,200	210	714	2014
Kisenyama	Kansai EPCo	Pumped-storage	466	248	219	1970
Kyogoku	Hokkaido EpCo	Pumped-storage	400	190.5	369	2015
Matanogawa	Chugoku EPCo	Pumped-storage	1,200	300	489	1996
Nabara	Chugoku EPCo	Pumped-storage	620	254	294	1976
Numappara	J-POWER	Pumped-storage	675	172.5	478	1973
Numazawa No. 2	Tohoku EPCo	Pumped-storage	460	250	214	1982
Ohira	Kyushu EPCo	Pumped-storage	500	118	508	1975
Okawachi	Kansai EPCo	Pumped-storage	1,280	382	395	1995
Okukiyotsu	J-POWER	Pumped-storage	1,000	260	470	1982
Okukiyotsu No. 2	J-POWER	Pumped-storage	600	154	470	1996
Okumino	Chubu EPCo	Pumped-storage	1,500	375	486	1995
Okutadami	J-POWER	Conventional	560	387	170	2003
Okutataragi	Kansai EPCo	Pumped-storage	1,932	594	388	1998
Okuyahagi No. 2	Chubu EPCo	Pumped-storage	780	234	404	1981
Okuyoshino	Kansai EPCo	Pumped-storage	1,206	288	505	1980
Omarugawa	Kyushu EPCo	Pumped-storage	1,200	211	672	2011
Shimogo	J-POWER	Pumped-storage	1,000	314	387	1991
Shin Takasegawa	Tokyo EPCo	Pumped-storage	1,280	644	229	1981
Shin Toyone	J-POWER	Pumped-storage	1,125	645	203	1973
Shiobara	Tokyo EPCo	Pumped-storage	900	324	338	1995
Tagokura	J-POWER	Conventional	400	420	105	2012
Tanbara	Tokyo EPCo	Pumped-storage	1,200	276	518	1986
Tenzan	Kyushu EPCo	Pumped-storage	600	129	560	1987

Notes: 1. Plants are listed in alphabetical order.

2. "Commencement of Operation" refers to the date operation began with the installed capacity indicated in the chart.

Sources: FEPC,10 EPCos, J-POWER

## Under Construction (As of March 31, 2014)

Name of Plant	Company	Type	Expected Capacity (MW)	Maximum Discharge (m <sup>3</sup> /sec)	Effective Head (m)	Commencement of Operation (Planned)
Kannagawa Unit No. 3-6	Tokyo EPCo	Pumped-storage	1,880	510	653	2024-
Kazunogawa unit No.3	Tokyo EPCo	Pumped-storage	400	280	714	2024-
Kyogoku unit No.3	Hokkaido EPCo	Pumped-storage	200	190.5	369	2024-

Note: Plants are listed in order of the year that the first generator will commence operation.

Source: METI

### Peak Capacity, Peak Load, Energy Requirement, Reserve Margin and Load Factor

	FY	2006	2007	2008	2009	2010	2011	2012	2013	2014
Peak Capacity (GW)*		198.6	194.5	199.5	201.5	199.0	175.9	176.9	179.5	179.8
Peak Load (GW)*		175.5	181.3	181.0	160.8	178.9	156.4	157.2	161.6	154.3
Energy Requirement (TWh)**		970.8	1,004.5	971.4	941.8	974.3	926.8	914.7	917.5	898.9
Reserve (GW)***		23.2	13.2	18.5	40.7	20.1	19.5	19.7	17.9	25.6
Reserve Margin (%)***		13.2	7.3	10.2	25.3	11.2	12.5	12.6	11.1	16.6
Load Factor (%)****		63.2	63.1	61.3	66.9	62.2	67.4	66.4	64.8	66.5

\* Peak capacity and peak load are for all electric utilities in Japan.

Peak capacity is the largest possible supply capacity; peak load is the average value of the three highest daily loads at the transmission end occurring during the month in which the annual peak is recorded.

\*\* Energy requirement is the total annual demand for electric utilities in Japan.

\*\*\* Reserve = Peak Capacity – Peak Load

Reserve Margin =  $\frac{\text{Reserve} \times 100}{\text{Peak Load}}$

\*\*\*\* Load Factor =  $\frac{\text{Energy Requirement} \times 100}{\text{Peak Load} \times 365 (366) \times 24 \text{hours}}$

Source: Japan Electric Power Survey Committee

### Balance of Electricity Supply and Demand (Electric Utilities)

	FY	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>Electric Energy Requirement (TWh)</b>											
At Transmission End		961.9	970.8	1,004.5	971.4	941.8	974.3	926.8	914.7	917.5	898.9
At Customer End		913.3	922.3	955.2	921.8	892.9	926.4	879.2	870.7	871.3	853.3
<b>Annual Peak Balance (GW)</b>											
<b>Peak Capability</b>											
Thermal Power Plants		124.4	123.9	124.9	127.7	129.6	126.1	123.8	133.3	134.6	131.7
Nuclear Power Plants		35.0	35.5	31.3	33.2	32.5	33.6	12.3	2.3	2.3	0.0
Hydroelectric Power Plants		36.3	35.9	34.9	34.3	35.4	35.3	34.0	33.7	34.1	35.6
Others		3.0	3.4	3.4	4.3	4.0	4.0	5.8	7.6	8.5	12.4
Total Peak Capacity		198.7	198.6	194.5	199.5	201.5	199.0	176.0	176.9	179.5	179.8
Peak Load		174.9	175.5	181.3	181.0	160.8	178.9	156.4	157.2	161.6	154.3
Reserve		23.8	23.2	13.2	18.5	40.7	20.1	19.5	19.7	17.9	25.6
Reserve Margin (%)		13.6	13.2	7.3	10.2	25.3	11.2	12.5	12.6	11.1	16.6
<b>Total Generating Capacity</b>											
Thermal Power Plants*		148.1	147.9	147.5	149.9	152.3	151.2	153.3	157.1	159.4	163.6
Nuclear Power Plants		49.6	49.5	49.5	47.9	48.8	49.0	49.0	46.1	44.3	44.3
Hydroelectric Power Plants		45.9	45.9	46.2	46.5	46.7	46.7	47.0	47.5	47.5	48.0
Total		243.6	243.3	243.2	244.4	247.6	247.8	249.2	250.7	251.1	255.8

\* Includes geothermal power plants.

Source: Japan Electric Power Survey Committee

## Financial Data

### Revenues and Expenditures for the EPCOs

(Billion yen)

	FY	2010	2011	2012	2013	2014	2015
<b>Revenues</b>							
Residential		6,197	6,143	6,393	6,919	6,967	6,460
Commercial and Industrial		8,218	8,330	8,892	9,888	10,373	9,356
Intercompany Power Sales		459	521	501	490	462	381
Power Sales to Other Utilities		77	96	106	194	262	215
Others		670	3,318	1,843	3,146	2,471	2,683
<b>Total</b>		<b>15,621</b>	<b>18,408</b>	<b>17,735</b>	<b>20,694</b>	<b>20,545</b>	<b>19,093</b>
<b>Expenditures</b>							
Personnel		1,512	1,434	1,339	1,257	1,213	1,257
Fuel		3,662	5,949	7,080	7,731	7,292	4,521
Maintenance		1,574	1,422	1,354	1,151	1,369	1,423
Interest Charges		349	345	350	356	358	301
Depreciation		2,075	2,026	1,890	1,928	1,861	1,839
Taxes and Public Charges		966	922	923	934	947	923
Intercompany Power Purchases		460	521	501	490	462	380
Power Purchases		1,666	1,976	2,260	2,504	2,763	2,834
Provision for (Reversal of) Reserve for Fluctuations in Water Levels		17	32	-14	-7	-6	46
Income Taxes		583	-106	-183	-47	183	243
Others		3,798	5,473	3,828	4,373	3,825	4,706
<b>Total</b>		<b>16,662</b>	<b>19,993</b>	<b>19,327</b>	<b>20,560</b>	<b>20,269</b>	<b>18,473</b>
<b>Net Income</b>		<b>-1,041</b>	<b>-1,585</b>	<b>-1,592</b>	<b>134</b>	<b>276</b>	<b>621</b>

Note: The figures may not add up to the totals shown due to rounding.  
Source: FEPC

### Balance Sheet for the EPCOs

(Billion yen)

	FY	2010	2011	2012	2013	2014	2015
<b>Assets</b>							
Electric Utility Fixed Assets		24,443	23,934	23,893	23,329	23,253	22,859
Investment and Other Fixed Assets		11,804	13,781	13,094	13,279	12,849	12,788
Current Assets		4,340	4,751	5,604	5,924	5,652	5,001
<b>Total</b>		<b>40,587</b>	<b>42,466</b>	<b>42,591</b>	<b>42,531</b>	<b>41,753</b>	<b>40,649</b>
<b>Liability and Net Assets</b>							
Long-Term Liabilities		26,647	29,854	30,689	30,602	118,699	26,100
Current Liabilities		6,267	6,654	6,622	6,545	7,272	8,205
Reserves		98	139	128	125	122	173
<b>Total Liabilities</b>		<b>33,012</b>	<b>36,648</b>	<b>37,439</b>	<b>37,272</b>	<b>36,093</b>	<b>34,479</b>
Shareholders' Equity		7,542	5,759	5,048	5,154	5,513	6,074
Valuation, Translation Adjustments and Others		34	59	103	105	146	95
<b>Total Net Assets</b>		<b>7,576</b>	<b>5,818</b>	<b>5,151</b>	<b>5,259</b>	<b>5,660</b>	<b>6,170</b>
<b>Total</b>		<b>40,587</b>	<b>42,466</b>	<b>42,591</b>	<b>42,531</b>	<b>41,753</b>	<b>40,649</b>

Note: The figures may not add up to the totals shown due to rounding.  
Source: FEPC

## Uses and Sources of Funds for the EPCos

(Billion yen)

	FY	2010	2011	2012	2013	2014	2015
Investments*		2,123	2,123	2,087	1,961	2,016	2,260
Debt Redemption		7,426	6,321	6,118	4,351	4,799	5,276
<b>Total Required Funds</b>		<b>9,550</b>	<b>8,444</b>	<b>8,204</b>	<b>6,312</b>	<b>6,816</b>	<b>7,536</b>
<b>Source of Funds</b>							
Bonds		1,002	70	1,434	1,302	877	637
Loans		8,000	7,511	5,957	3,484	2,958	3,310
<b>Total Source of Funds</b>		<b>9,001</b>	<b>7,581</b>	<b>7,392</b>	<b>4,786</b>	<b>3,836</b>	<b>3,947</b>

\* Includes nuclear fuel.

Note: The figures may not add up to the total shown due to rounding.

Source: FEPC

## Summarized Comparative Table Classified by Country for the Year 2014

	Canada	USA	UK	France	Germany	Italy	Russia	China	Korea
<b>Total Installed Capacity (MW)</b>	132,698	1,176,985	83,543	128,462	202,715	121,762	259,000	1,370,180	97,289
Hydroelectric	78,317	100,846	4,313	25,416	10,320	22,098	50,800	304,860	6,467
Thermal	33,830	883,271	58,842	23,751	87,466	71,604	182,500	923,630	65,632
Nuclear	14,033	103,860	9,937	63,130	12,696	–	25,300	20,080	20,716
Renewables and others	6,518	89,008	10,451	16,165	84,529	28,060	–	121,610	4,474
<b>Total Energy Production (GWh)</b>	627,684	4,093,606	338,175	540,188	627,791	279,828	1,064,210	5,572,500	542,145
Hydroelectric	378,786	253,193	8,776	68,018	25,444	60,256	177,140	1,060,100	7,820
Thermal	133,411	2,831,011	206,959	51,667	341,198	170,171	702,500	4,195,500	363,224
Nuclear	101,583	797,166	63,748	415,857	97,129	–	180,760	133,200	156,406
Renewables and others	13,904	212,236	58,692	30,479	136,758	43,401	3,820	183,700	14,695
<b>Capacity Factor (%)</b>	52.8	40.9	39.9	48.1	35.4	26.2	–	49.3	63.6
<b>Total Energy Production per Capita (kWh)</b>	17,661	12,736	5,259	8,433	7,773	4,603	7,407	4,074	10,573
<b>Domestic Energy Supplies (GWh)</b>	580,350	4,146,818	319,879	465,047	420,900	310,535	1,065,000	4,867,600	515,244
<b>Energy Sales (GWh)</b>	575,721	3,764,700	291,353	–	447,228	260,088	–	4,544,200	477,592
<b>Number of Customers (At year-end; thousand)</b>	–	147,373	30,047	–	–	37,379	–	–	21,532
<b>Maximum Demand (MW)</b>	75,542	777,386	53,858	91,600	81,541	51,550	154,700	797,290	80,154
<b>Annual Load Factor (%)</b>	61.4	59.3	67.3	58.0	58.9	59.1	74.8	78.9	70.8
<b>Thermal Efficiency (%)</b>	–	–	35.9	–	41.5	43.6	38.4	38.5	41.3
<b>Loss Factor (Transmission and Distribution) (%)</b>	5.8	5.9	8.9	7.4	5.7	6.3	–	6.6	3.7
<b>Total Consumption per capita (kWh)</b>	15,518	–	4,767	6,719	6,333	4,798	6,670	4,122	9,698

Source: JEPIC