# Outline of Supply Plan for FY2013

**March 2013**

**Kyushu Electric Power Company Inc.**

For the FY2013 supply plan, due to the reasons set out below, “TBD” (to be decided) was listed in those areas of planning for which it was not possible to develop detailed plans regarding the balance of estimated demand and supply, etc.

- The lack of clarity regarding national energy policy as such matters also relate to a response to global warming.
- The lack of clarity regarding the resumption of operations at nuclear power stations.

**[Actual electricity sales and Forecast]**

| FY | 2011 (Actual) | 2012 (Estimate) | 2013 | 2014 | 2015 | 2016 | 2017 | 2022 | annual average growth rate 2022/2011 (%) |
|---|---|---|---|---|---|---|---|---|---|
| Electric power sold (100 million kWh) | 854 (843) | 841 (838) | 847 | 851 | 859 (856) | 863 | 869 | 901 | 0.5 (0.6) |
| Peak demand (10,000 kW) | 1,495 (1,551) | 1,481 (1,487) | 1,548 | 1,558 | 1.568 | 1,581 | 1,592 | 1,650 | 0.9 (0.6) |

Note1: ( ) after compensation for air temperature and a leap day
Note2: Maximum 3 days average peak demand at transmission end during summer

**[Peak demand and supply balance]**

O Plans for FY2013 or later are “TBD” (to be decided).

| FY | | 2011 (Actual) | 2012 (Estimate) |
|---|---|---|---|
| Demand | (10,000kW) | 1,495 | 1,481 |
| Supply capacity | (10,000kW) | 1,685 | 1,640 |
| Reserve capacity | (10,000kW) | 190 | 159 |
| Reserve margin | (%) | 12.7 | 10.8 |

Note: Maximum 3 days average peak demand at transmission end during summer

**[Development Plan]**

| Classification | Type | Power plant & unit | Output | Construction schedule | |
|---|---|---|---|---|---|
| | | | | Commencement of work | Commencement of commercial operation |
| Under construction | Hydro power | Hitotsuse※1 | 330 kW | May 2012 | October 2013 |
| | | Shin-Kosa※2 | 7,200 kW | May 2012 | TBD |
| | Thermal power (coal) | Matsuura unit 2 | 1,000,000 kW | March 2001 | FY2023 or later |
| In preparation for construction | Hydro power | Ryugudaki | 190 kW | May 2013 | March 2015 |
| | | Shin-Naongawa※3 | 370 kW | September 2014 | June 2016 |
| | Thermal power (LNG) | Shin-Oita unit 3-4 | 480,000 kW | July 2013 | July 2016 |
| | Nuclear | Sendai unit 3 | 1,590,000 kW | TBD | TBD |
| | Geothermal power | Otake※4 | 14,500 kW [+2,000kW] | September 2017 | December 2019 |

※1. River dam maintenance flows
※2. Existing Kosa power station is planned to be discontinued (3,900 kW) with the new construction of Shin-Kosa power station (date is TBD)
※3. Existing Naongawa power station is planned to be discontinued (65 kW) with the new construction of Shin-Naongawa power station (October 2014)
※4 Electric power facilities at Otake Geothermal power will be renewal ([ ]is the increase of output)

## (Reference) Plans under suspension

| Type | Power plant & unit | Output | Schedule |
|---|---|---|---|
| Thermal power (petroleum) | Karatsu unit 2 & 3 | 375,000 kW / 500,000 kW | FY2004-2022 |

(Reference) Oita unit 1&2 are planned to be discontinued on March 31, 2013

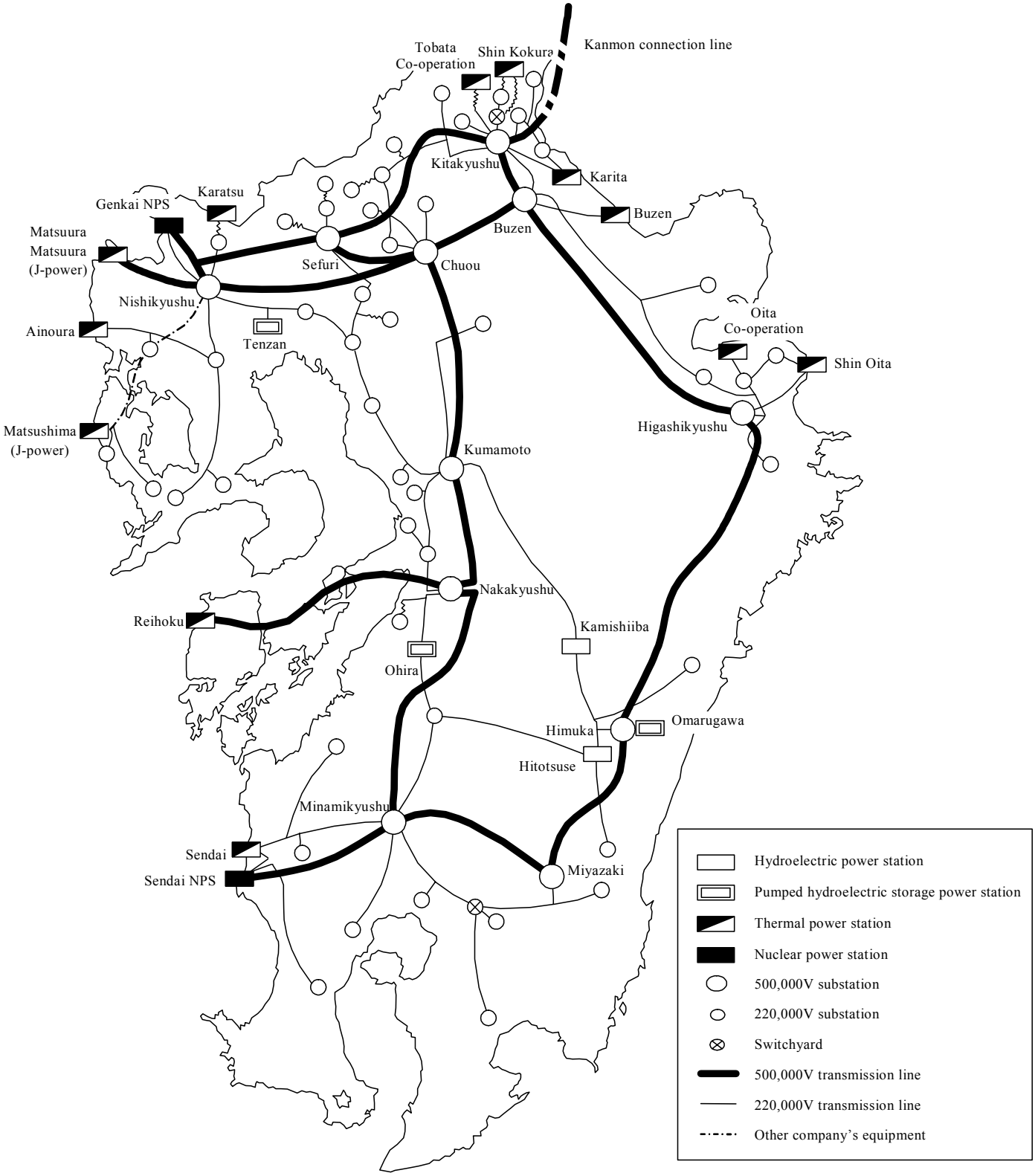
## [Main Transmission Facility Construction Plan]

| Classification | Line | Construction Outline | | Construction Schedule | | Construction Reason |
|---|---|---|---|---|---|---|
| | | Voltage (10,000V) | Length (㎞) | Commencement of work | Commencement of commercial operation | |
| Under construction | Hitotsuse main line<br>Himuka substation π pull-in line | 22 | 8 | May 2012 | June 2014 | Northern / Central Miyazaki demand measures 〔new〕 |
| | Sefuri-Ito line | 22 | 20 | June 2012 | June 2015 | Western Fukuoka / Itoshima area demand measures 〔new〕 |
| | Kagoshima main line | 22 | 44 | August 2012 | June 2016 | Anti-aging measures, Kagoshima area demand measures 〔expansion〕 |
| In preparation for construction | Hyuga main line | 50 | 124 | November 2014 | June 2019 | Northern Kyushu～Southern Kyushu 500,000V route accident countermeasures (making to 2 routes) 〔new〕 |
| | Yuge branch line | 22 | 1 | October 2014 | June 2016 | Anti-aging measures, Eastern Kumamoto demand measures 〔new〕 |
| | Shin-Kagoshima line<br>Sendai NPS π pull-in line | 22 | 5 | May 2017 | March 2020 | Measures for ensuring reliability of external power source at Sendai Nuclear Power Station unit 3 〔new〕 |

## [Main Transformation Facility Construction Plan]

| Classification | Substation | Construction Outline | | Construction schedule | | Construction Reason |
|---|---|---|---|---|---|---|
| | | Voltage (10,000V) | Capacity (10,000kVA) | Commencement of work | Commencement of commercial operation | |
| Under construction | Himuka substation | 50/22 | 100 | July 2012 | June 2014 | Northern / Central Miyazaki demand measures 〔new〕 |
| | Yuge substation | 22/11/6.6 | 30/15/25 | September 2011 | June 2016 | Anti-aging measures, Eastern Kumamoto demand measures 〔pressure rising〕 |
| In preparation for construction | Higashi Kyushu substation | 50/22 | 150 | September 2014 | June 2016 | Shin-Oita Power Station Unit3-4 transportation measures 〔expansion〕 |
| | Ito substation | 22/6.6 | 60 | November 2013 | June 2015 | Western Fukuoka / Itoshima area demand measures 〔new〕 |
| | Oita substation | 22/6.6 | 30 | May 2014 | June 2015 | Anti-aging measures 〔expansion〕 |
| | Kagoshima substation | 22/6.6 | 30 | March 2018 | June 2019 | Kagoshima area demand measures 〔expansion〕 |
| | Higashi Sasebo substation | 22/6.6 | 30 | July 2019 | June 2020 | Sasebo area demand measures 〔expansion〕 |

## Trunk Electric Power System Plan (As of end of FY2022)



## （Reference）Initiatives for renewable energy

- We are actively developing and implementing renewable energy sources such as solar, wind, biomass, hydro and geothermal power generation because they can help us use domestic energy sources effectively and help to prevent global warming.
- Applying the power grid of solar power facilities have been increasing sharply because a feed-in tariff power purchase had started in July last year. Therefore we expanded the outlook in 2020 of solar and wind power installation capacity from 3 million kW to 7 million kW.

### [Renewable Energy Power Generation Facilities <Kyushu Electric Power and Group Facilities>]

**<Solar Power Generation>**

(kW)

| | Existing Facilities | | Plan | | | | Total |
|---|---|---|---|---|---|---|---|
| | Mega-solar Omuta | Installation at branch offices, sales offices etc | Omura Mega-solar※ | Sasebo Mega-solar※ | Others Mega-solar※ | Installation at branch offices, sales offices etc | |
| Output | 3,000 | Approx. 2,300 | 13,500 | 10,000 | 1,980 | Approx. 1,800 | Approx. 32,600 |

※ Developed by group companies

**<Wind Power Generation>**

(kW)

| | Existing Facilities | | | | | | Plan | Total |
|---|---|---|---|---|---|---|---|---|
| | Koshikijima | Nomamisaki | Kuroshima | Nagashima※ | Amami Oshima※ | Washiodake※ | Kushima | |
| Output | 250 | 3,000 | 10 | 50,400 | 1,990 | 12,000 | Approx. 60,000 | Approx. 128,000 |

※ Developed by group companies

**<Biomass and Waste Product Power Generation>**

(kW)

| | Existing Facilities | | | Plan | Total |
|---|---|---|---|---|---|
| | Miyazaki Biomass Recycling※1 | Fukuoka Clean Energy※1 | Reihoku※2 (1,400,000 kW) | Matsuura※3 (700,000 kW) | |
| Fuel | Biomass (Poultry manure) | Non-industrial waste | Biomass （Wood chips） | Biomass （Sewage sludge） | |
| Output | 11,350 | 29,200 | maximum co-firing ratio of 1% by weight | — | 40,550 |

※1 Developed by group companies
※2 Generating electric power with woody biomass mixed combustion at existing Reihoku Power Station (FY2010 - FY2014)
※3 Generating electric power with sewage sludge biomass mixed combustion at existing Matsuura Power Station (Start of operation in FY2013, approx.700t/year)

**<Hydro Power Generation (excluding pumped storage)>**

(kW)

| | Existing Facilities | Plan | | | | Total |
|---|---|---|---|---|---|---|
| | 139 locations | Hitotsuse※1 | Shin-Kosa※2 | Ryugudaki | Shin-Naongawa※3 | |
| Output | 1,282,136 | 330 | 7,200 (▲3,900) | 190 | 370 (▲65) | 1,286,261 |

※1 River dam maintenance flows
※2 Negative figure of 3,900 kW in Shin-Kosa refers to the discontinued Kosa power plant
※3 Negative figure of 65 kW in Shin-Naongawa refers to the discontinued Naongawa power plant

**<Geothermal Power Generation>**

(kW)

| | Existing Facilities | | | | | | Plan | Total |
|---|---|---|---|---|---|---|---|---|
| | Otake | Hatchoubaru | Yamakawa | Ogiri | Takigami | Hatchoubaru Binary | Otake※1 | |
| Output | 12,500 | 110,000 | 30,000 | 30,000 | 27,500 | 2,000 | +2,000 | 214,000 |

Note: Feasibility studies are under implementation on sites considered promising in terms of an abundance of geothermal resources for new development
※1 +2,000kW refers to the increase of output due to the renewal of electric power facilities at Otake Geothermal power(renewal schedule is in December 2019)