

Status of Geothermal Electric Power Generation in Japan

Potentiality23GW

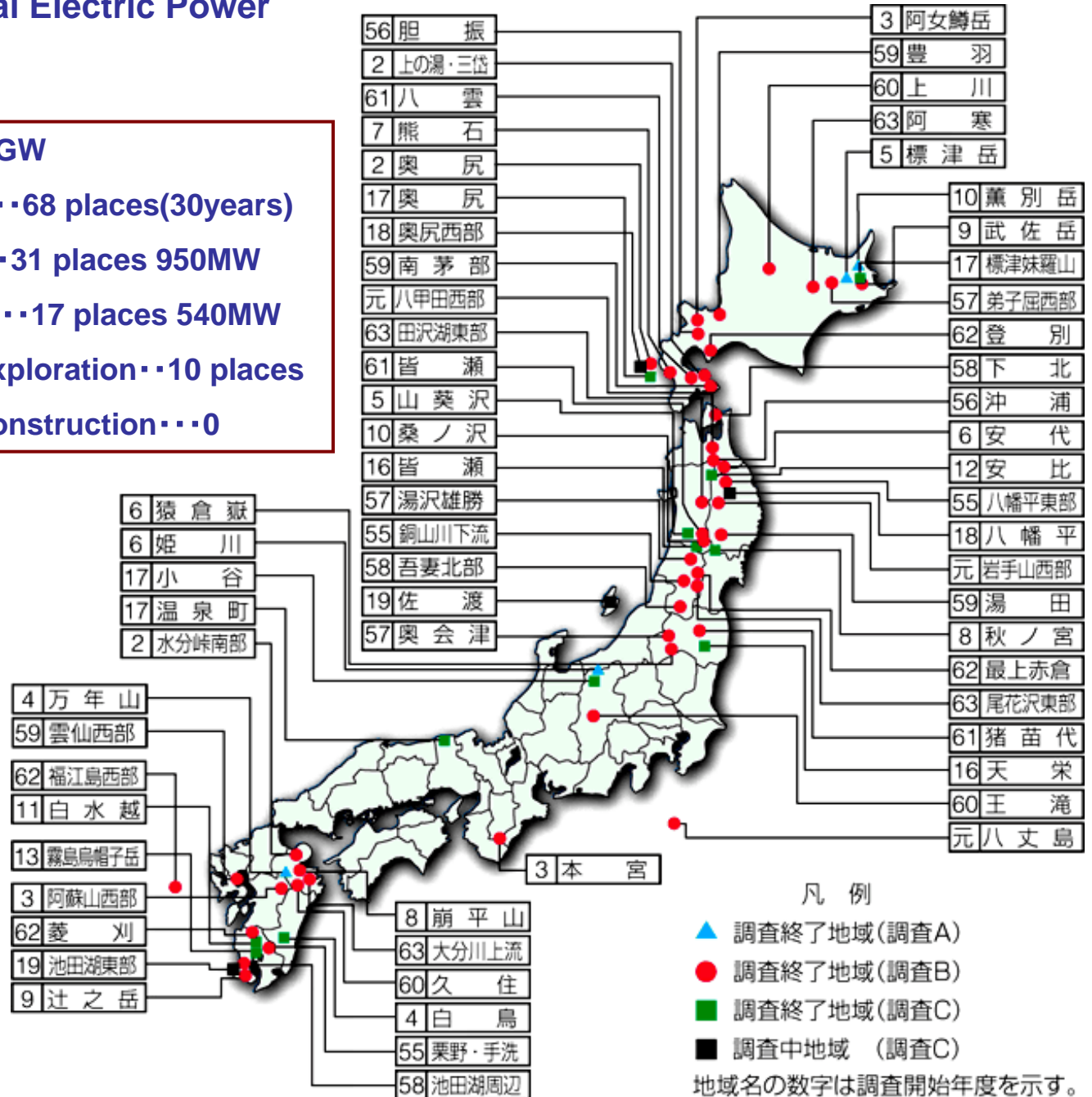
Explored by government...68 places(30years)

Focus places.....31 places 950MW

Geothermal power plants...17 places 540MW

Ongoing projects under exploration..10 places

Ongoing projects under construction...0



Issues

- Vapor suppliers have low motivation to re-invest in developing geothermal plants because it is an unprofitable business that has high-risk yet low return. In Japan, 5 of 17 plants have failed in the past 45 years.
- For electric enterprises it is beneficial that it brings a stable and low cost electric source, however, it lacks in merits for developing small and distributed electric source.
- Consensus with hot spring business operators is not achieved yet.
- Special areas within National Parks where it is expected to have dominant geothermal resources are not even being researched.
- It is not attractive for private companies because the lead time for development exceeds 10 years due to processes such as environmental effects evaluation that takes a maximum of 4 years.
- It requires complicated processes based on undeveloped laws and regulations. Japan lacks of geothermal law unlike foreign countries.
- In the late 90's, Japanese government changed policies for electric power development and as a result, they stopped the development of geothermal electricity and decreased its budget significantly.
- Therefore, there has not been any new construction of geothermal electric power plants since 21st century.

Demands for Policies

1. Economic potential:

- (1) Resume national exploration and technology development to decrease risks for underground resources**
- (2) Resume and expand exploration wells, subsidy for development and subsidy for electricity generation and transmission facilities**
- (3) Conduct Feed in tariff (FIT) at proper price**
- (4) Provide tax breaks and support for financing**

2. Hot springs:

Mediation, education and development of monitoring guideline by the government

3. National parks:

Promotion of exploration and development based on coexistence with nature

(Case studies: 6 national parks – Matsukawa, Ohnuma, Kakkonda, Onikoube, Ohtake and Hacchoubaru)

4. Relaxation of regulations:

Term reduction of EIA (Environmental Impact Assessment), relaxation of National Forests Act, On-demand permission of drilling by the local government, etc.

5. Legislative preparations:

Integration of regulations on laws such as hot springs and electricity and establishment of development rights and duty by the enactment of “Geothermal law.”