

Geothermal energy

About geothermal energy

Geothermal energy is the power generation method which turns a turbine using steam of the groundwater warmed by the energy of the magma which exists and is on the ground like a character.

From 1500 below ground to 3000 m, the high-temperature water which flows with terrible vigor is pulled out to the ground, and it generates electricity using the steam which comes out from there.

Structure of geothermal energy

The high-temperature water which accumulates in a geothermal storage tub is pulled up through a steam well, and it is made to separate into steam and hot water by catch water. The separated hot water is returned underground and steam is sent to a turbine. After that, vapor is cooled by the steam condenser and emitted to a river etc.

The introductory situation of geothermal energy

The percentage that geothermal energy occupies among the total power generation equipments in the world in the 2005 time is only 0.3%, and although it has spread still more, it does not become precocious. Moreover, although the next page explains in detail, it is a cause which various problems, such as influence of the environment on the toxic substance contained in the groundwater used by geothermal energy, are pointed out, and those solutions are not following.

Geothermal energy and Japan

It is quake-prone Japan, so that it is called an earthquake power. Although it is said that there are many volcanoes and it is because it is located in a certain circum-Pacific orogenic zone, it is not only a fault that there are many volcanoes. One of the advantages may have many hot-springs resorts. If there are many volcanoes and there are, Japan has the third resources in the world by the reason also with many geothermal resources which accumulate underground.

However, the spread of geothermal energy equipment in Japan is seldom progressing. Why is it? One of big reasons has many geothermal resources, and 80 percent of a certain places are in a national nature park. It is in the ability not to exploit from it being distributed and being regulated severely. However, no less than 24 new plans have started taking advantage of regulation of the nature park having been eased last spring in the whole country. Excavation investigation of geothermal energy started in Yamanaka of the Yuzawa-shi, Akita Koyasu area located as an example in Kurikoma Quasi-National Park over northeast 4 prefectures at the end of July.

However, the subject also remains. the building program near for example, the hot-springs resort region -- people of the local hot spring persons concerned -- if its hot spring is affected, it is also important for there to be also many prudent opinions and to obtain an understanding to a local person with?"

Advantages and disadvantages of geothermal power generation

Geothermal power generation is a power generation method carbon dioxide emissions is small. However, constraints on power generation or many locations, impact on the environment is also a concern. Now we are going to look at the advantages and disadvantages.

Benefits of Geothermal Power

- Carbon dioxide emissions is less
- Renewable energy
- The unaffected seasons be varied

Disadvantages of geothermal power generation

- Air is contaminated by hydrogen sulfide
- Around is hard to see in the white smoke of the artificial construct
- It becomes prone to earthquakes by reduction of unnecessary water

Other

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- [日本地熱学会 - 日本の地熱エネルギー](#)
- 朝日新聞 - 2013年8月23日夕刊「地熱発電 動き出す」