



ISSN: 2350-0328

**International Journal of Advanced Research in Science,
Engineering and Technology**

Vol. 6, Issue 7, July 2019

The Future of the Usage of Geothermal Energies as Contrary Energy in the Territories of the World and Uzbekistan

Kambarov M.M.

Tashkent institute of architecture and civil engineering.

ABSTRACT: This article demonstrates to heat the buildings by using counter energy and geothermal waters in the republic of Uzbekistan. The main aim of the work is to save natural energetic resources, to use them rational and to achieve economizing of energy through this way, ecological prevent the environment from pollution, also to improve the energetic efficiency in buildings by using rational energy.

KEYWORDS: geothermal, energy, ecspulation, temperature, geophysical, radioactive, agricultural

I. INTRODUCTION

Geothermal energy is a heat energy that appears from the bottom of the ground for billion years. According to geophysical researches, the temperature in the nucleus of the ground is 3000-6000 Celsius. This temperature gets lower while coming up from the center of the planet to the surface of the earth. Thousands of volcanos the movement of blocks in the layer of ground and earthquakes show the evidence that there is high power of energies in the bottom of the ground. The scientists of the world regard that the heat arena in our planet appear the result of broken radioactive elements in the bottom of the ground and also, gravitation appearance nucleus substances.

The main sources that heat the bottom of our planet are uranium, torium and radioactive potassium. The process of being broken of radioactive elements happens in the main granite layers that are situated in the 20-30 or more kilometers depth of the continents and the surface mantles of the ground in oceans. It is supposed that the temperature at the 10-15 kilometers depth of the earth crust may be 600-800 Celsius in the continents and 150-200 Celsius in the oceans.

Nowadays the geothermal energetics is regarded much more developed and economical efficient. It is also three typed energetic heat power of the earth:

1. Steam hydrogen mixture- the temperature at the top is 200-300 Celsius. It is utilized for producing electro energy by using usual flawless system of piped products' generators. This type of geothermal energy was appeared in the territories that were appeared at the time with splitting of the earth crust (western and eastern edges of the Pacific ocean- the coasts of America, Central America, Chili, Chukotka, the Aleut islands, Kamchatka, the Kuril islands, Japan, New Zealand), the territories where new mountains appeared and deep sunk coverings of the ground are situated (Islands, southern Italy and Mexico).
2. Heat energetic waters- the temperature on the top is 80-120 Celsius. They can be used for producing electro energy at double stations that work with closed cycle gases which are boiling light. This technology gives a chance for producing electro energy from geothermal resources of the earth and heating buildings and providing them with hot water. Having got cold the liquid that transports heating is debased to the bottom of the ground again through drill well. The turn down water pass the hot territory in the layer of the earth and as a result it gets hot again. Through this way we can use the source of energy with loosing nothing.
3. Sub thermal waters-dedicated to heat building trough heat pumps and provide hot waters at 40-70 Celsius. If the temperature of water is low the F.I.K of the spring also will be low. Using sub thermal waters and pumps of hot waters lead to save electro energy. Nowadays most countries of Europe are using this method.

People used geothermal energy near the territories where has active volcanos and seismological places till the current time. These countries are the USA, Italy, Islands, Mexico, japan, New Zealand, Russia, the Philippines, Hungary and Salvador. In these territories the inside temperature of the earth is 300 Celsius



and hot water rise as water or steam. Then they expose as hot fountains or geysers. Yellowstone park in the USA and Kamchatka, Islands are famous for their geysers.

Nowadays geothermal energy is becoming a newborn in China. This country has not been working on this sphere for 40 years. After coming new leader Si Seinpinn the interest of this sphere has been improved. The city of Syanyan is regarded as the capital of ecologic energy's world. Under the reign of Seinpinn the expand of producing geothermal energy has grown from 28 to 100 MB.

The plan for developing the sphere in the country was submitted in thirteenth regulations plan for five years. The engineers of Island that were invited to Korean Democratic Republic are developing this field and making a great number of chances. The initial calculations illustrate that the potential of geothermal energy in China can be replaced with the energy that was made by firing coal that cost 853 billion.

The common affordability of petro thermal resources located in the 3km depth in the republic of Uzbekistan is 6billion and 700 million. In Uzbekistan artilleries that are full of geothermal waters were created. Some information about these artilleries are given in the following table.

| № | Location places of ponds | Territory thousand km square | The temperature of water in well °C |
|---|--------------------------|------------------------------|-------------------------------------|
| 1 | Surroundings of Tashkent | 20,0 | 35-70 |
| 2 | Fergana | 12,0 | 30-70 |
| 3 | Kizilkum | 50,0 | 35-45 |
| 4 | Zarafshan | 8,0-10,0 | 25-55 |
| 5 | Kashkadarya | 35,0 | 25-90 |
| 6 | Dekhanabad | 6,0-8,0 | 30-50 |
| 7 | Surkhandarya | 8,0-10,0 | 27-70 |
| 8 | The Usturt | 30,0 | 27-75 |

The balance of the common chance of invented hydrothermal waters is measured as 170,8 thousand per year.

In 60s and 70s last century several agricultural warm rooms that can be heated by hydrothermal water were built. However, using geothermal energy resources for providing heat and producing electro energy insist on much more researches. Geothermal waters that is 42 Celsius and appearing with high pressure at "Chinabad" sanatorium in Tashkent, and "Oltiariq" sanatorium in Fergana district can be used for heating buildings. This style can be helpful for heating the floors. Because specialists say that 40 Celsius water is suitable for heating the floors. Also this style cause for some positive results. Particularly, heating the floor help for spreading heat smoothly, and you can find no difference between the temperature of ceiling and the floor, and especially this system is regarded the most efficient way because the temperature is lower than the heating system with radiator. The period of ecspulation continue for 50 years, and there some possibilities to popularize the system.

REFERENCES

1. G. P Vasilyev "Heat and cooling of buldings and structures with the use of low potential thermal energy of the surface layers of the earth" monography G. P Vasilyev publishing house "Granitsa" 2006. - 176 p
2. Zakharov A V "Application of geothermal energy of soil for heating buildings in climatic and engineering conditions of the Perm territory" Zakharov A V Civil's house 2010. - № 2 (23). 85-89p
3. M.V Krotov "Study of the thermal charactetistics of vertical ground heat exchanges of heat supply systems. Krotov V M Famous educational apartment 2009. - № 8 608). -6165 p
4. K V Chernaya "Deep foundations for geothermal energy extraction" K V Chernaya House of geotechnology 2006. - № 1. 27-31p
5. V G Shapoval "Field temperature in soil fundamentals heat pumps" momography V G Shapoval 2011.- 123 p
6. Adam, D. "Dynamise and thermonise in Boden // Theoretiical and experimental researchs/ D. Adam ; Habilitationsschrift, Institut for Grundbau and Bodenmechanik, Technische Universität. Wien, 2002.