PROSPECTS FOR USING GEOTHERMAL ENERGY SOURCES IN MANUFACTURING INDUSTRY

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Annotation. *Scientists said oil and gas of reserves ending, or if not another important resources: iron and copper ores, nickel, manganese, aluminum, chromium and of others ending about warns. Second the world from the war then 40 years during of humanity previous in history how much useful fossil used if so, from him after while again that's all useful fossils used Usgbu in the article work release in the industry geothermal energy from sources use prospects about word goes*

Key words*: Production release, energy, geothermal, organic natural resource, positive*

INTRODUCTION

Today's in the day the world energy again non-recoverable energy sources based on Main energy sources oil, gas and is coal. Energy field development near prospects energy of carriers better ratios search with depend But that's it we say possibly energy with almost inexhaustible basically limited organic natural to resources based on from energy humanity today's to the day come already transition to the period came [2]

ANALYSIS AND RESULTS

Alternative energy of sources advantage their again resilience and ecological clean energy sources is that To these sources the following includes:

- the sun energy,
- the wind energy,
- waves and of currents energy,
- geothermal energy;
- biofuel.

Geothermal energy is of the earth internal in the part physical and chemical processes as a result taken, land under waters hot to the state of gone steam until heating heat energy Internal heat energy of our planet in the middle of radionuclides division because of harvest will be

Geothermal energy sources International energy agency by 5 species divided into:

1. geothermal dry steam mines;
2. hot steam sources (hot water and steam combination);
3. geothermal water mines;
4. dry Hot genders;
5. magma. [3]

Geothermal of energy two main method available: direct heat and electricity energy work release

Heat straight away to use the most simple and therefore for the most wide spread out is a method. From the heat straight away use practice high in latitudes tectonic plates on the border, for example, Iceland and in Japan wide spread Such cases water supply straight away deep to the wells is installed. Received Hot water roads heating, clothes drying and buildings, greenhouses, swimming basins heating, village economy and fish products drying, solutions steaming, fish, mushrooms Cultivation and others for is used.

Geothermal from energy electricity energy work release method straight away use method very similar Only difference high to the temperature has been is needed (from 150 ° C high). This method for high temperature geothermal energy and heat stations (GeoES) are used.

Geothermal electricity station (GeoES) - earth under of sources heat from energy electricity energy work emits electricity of the station one type

In GeoES energy to get one how many the way available [4]:

1. Straight away connection: steam direct to the turbine enters, it is electric energy work emits the generator feeds. From steam use fuels turn on necessity no does (as well as fuel transport and save the need no Figure 1)

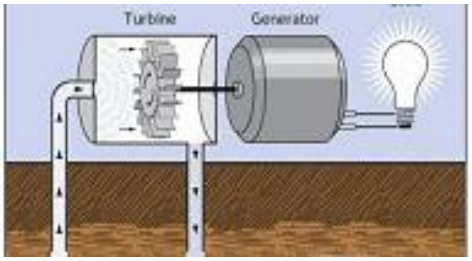
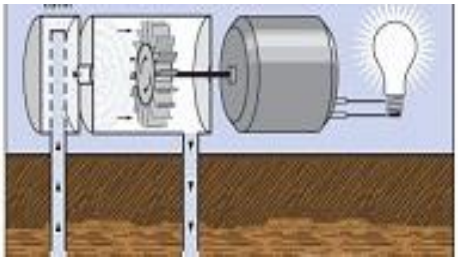


Figure 1. Straight away connection method.

2. Indirect scheme: electric energy work release for such in factories very heated hydrotherms (temperature from 182 ° C high) is used. Hydrothermal solution the pressure decrease for to the evaporator is forced, therefore for of the solution one part very fast evaporates. The resulting steam turbine to action brings If liquid in a bowl if left, even more power get for next in the evaporator evaporation possible (Fig. 2).



Picture 2. Indirectly scheme method

3. mixed scheme (binary cycle): hot geothermal water and from water lower to boil point was second, additional liquid heat from the exchanger will be held. The heat of the geothermal water vaporizes the second fluid, the vapors of which drive the turbines. Since it is a closed system, there are almost no emissions to the atmosphere (Figure 3).

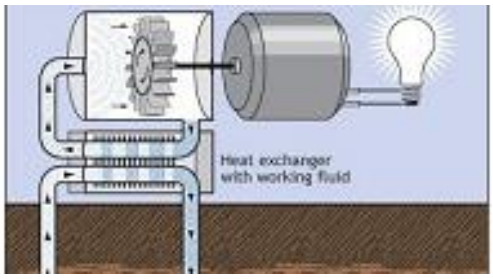


Figure 3. mixed circuit (binary cycle) method.

Hot waters husband of the shell to the surface near has been in the regions - many geysers (Kamchatka, Kuril Islands, Japan of the archipelago islands) active volcano activity zones geothermal energy economic in terms of efficient is considered These areas climate condition and geothermal energy potential in terms of only Iceland with to compare can

Geothermal from energy use very a lot advantages have It is used countries to oil relatively less need it is felt. Geothermal electricity stations by work issued each ten megawatt electricity energy 140,000 barrels of crude per year oil saves. From this besides, geothermal resources very big and their finish danger another many energy sources than one how many is low. Geothermal from energy use of the environment contamination the problem solution does From this except, his cost another many energy types relatively much lower.

Conclusion. However the same for the environment how many negative sides there is. Geothermal in steam usually hydrogen sulfide there is it is a lot amount poisonous, little amount while sulfur the smell because of unpleasant However, this the gas take throwing systems digging removable fuel electricity stations emission control to do to systems than is more effective.

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