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COMPARISON OF THE MOST COMMON GEOTHERMAL ENERGY METHODS

Geothermal energy is the energy sector based on the use of heat energy from the Earth's subsoil to produce electricity at geothermal power plants, or directly for heating or hot water supply.

In practice, three proven methods of extracting electricity from the earth are resorted to:

1. the neutral wire method;
2. simultaneous application of two different electrodes;
3. potential of different heights.

The neutral wire method provides voltage power sufficient to burn several light bulbs. It is done by using a phase and neutral conductor. The bulb must be connected not only to zero but also to ground to prevent energy losses.

A significant disadvantage of the method is the low voltage, which varies between 10 and 20 volts. To improve the performance, it is necessary to improve the design by using more expensive elements.

When two different electrodes are used simultaneously, the Earth as a large capacitor with negative potential and its shell as a source of positive energy. Energy can be generated by connecting to this natural generator and providing a reliable grounding.

The design of the device should include a metal rod, a ground loop, and an emitter to allow electrons to escape from the conductor. Application of two different electrodes serves for getting electricity from the ground without charging. It assumes the use of a single passive ground loop that receives and returns charge for domestic use. This loop acts as an exchange buffer and can be realized using a conventional gas pipe in an apartment.

To allow wave frequencies to pass through, a transformer coil is installed on the passive loop to block high frequency charges. Any coil and several turns of insulated wire are used. This method uses wiring that connects a gas tube to a capacitor that transmits and returns the wave oscillations, blocking the alternating current. Two capacitors with positive poles to each other are placed in the gap between them, forming a single capacitor. An LED light bulb is connected to the capacitor and should blink, demonstrating the presence of different energies in the circuit.

When the potential of different heights is used, the height of the conductor should ensure a difference of opposite potentials, which will allow the electrodes to move not downward, but upward along the metal rod submerged in the ground.

The main role of the emitter in this process is to release the electrodes, which are released into the environment as pure ions. Once the atmospheric and electromagnetic potential of the earth are equalized, energy production will begin. At this point, its third-party consumer should already be connected to the structure. In this case, the current strength indicator in the electric circuit will depend entirely on how powerful the emitter turns out to be. The higher its potential, the greater the number of consumers can be connected to the generator. Naturally, it is practically impossible to build such a structure within populated areas on your own, because everything rests on the height of the conductor, which must exceed trees and all structures, but the idea itself can become the basis for the creation of large-scale projects that allow you to get electricity from the ground for free.

To sum it, the neutral wire method seems to be the most suitable for conducting experiments on generating clean energy from the ground. So far, it has relatively low installation and maintenance cost and does not require additional resources or infrastructure. In addition, it is environmentally

friendly because it utilizes the Earth's thermal energy without polluting the environment. In comparison, other methods require more investment and more complex infrastructure to implement.