

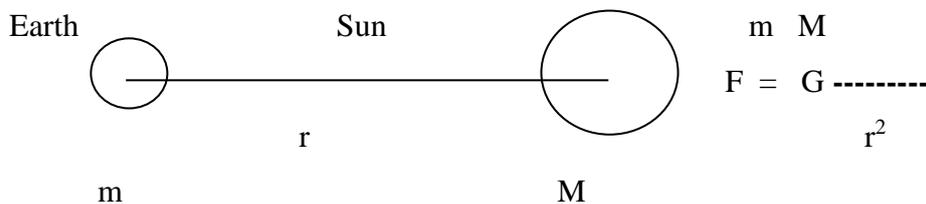
Energy as an international problem

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Kamysh politechnic collage

« Nothing is impossible in nature »

In total world's energetics 62% of energy is produced on heat power stations, 20% - at hydropower stations, and 17% - at nuclear power stations, and 1% of it is received from alternative sources (geothermal, tidal, solar, wind power stations). Alternative sources are most reliable and ecology-friendly, however, they form only 1%. Nuclear power stations represent danger for the existence of humanity, they are unreliable, and should be treated cautiously in order to avoid tsunami or eruptions. Hydropower stations are excellent, and should probably be developed, but river water is a limited resource. Finally, heat power stations are the least needed type of power plants. They can destroy the whole civilization. Their operation requires fuel – oil or coal, gas. Total annual world output of these resources equal: coal – 4 billion tons, oil – 3 billion tons (according to the data of 2003 [1]), all of these resources are burnt, and in return we receive atmospheric pollution and increase in its temperature. We should outline that coal transforms into gas from solid composition and leaves Earth, therefore, total Earth mass decreases, the law of gravitation comes in play, it claims: any two material objects interact with force, proportional to product of their mass (m and M) and inversely proportional to squared distance between them:



while m is mass of Earth, M is mass of Sun, r is distance between Earth and Sun, G is gravitational constant.

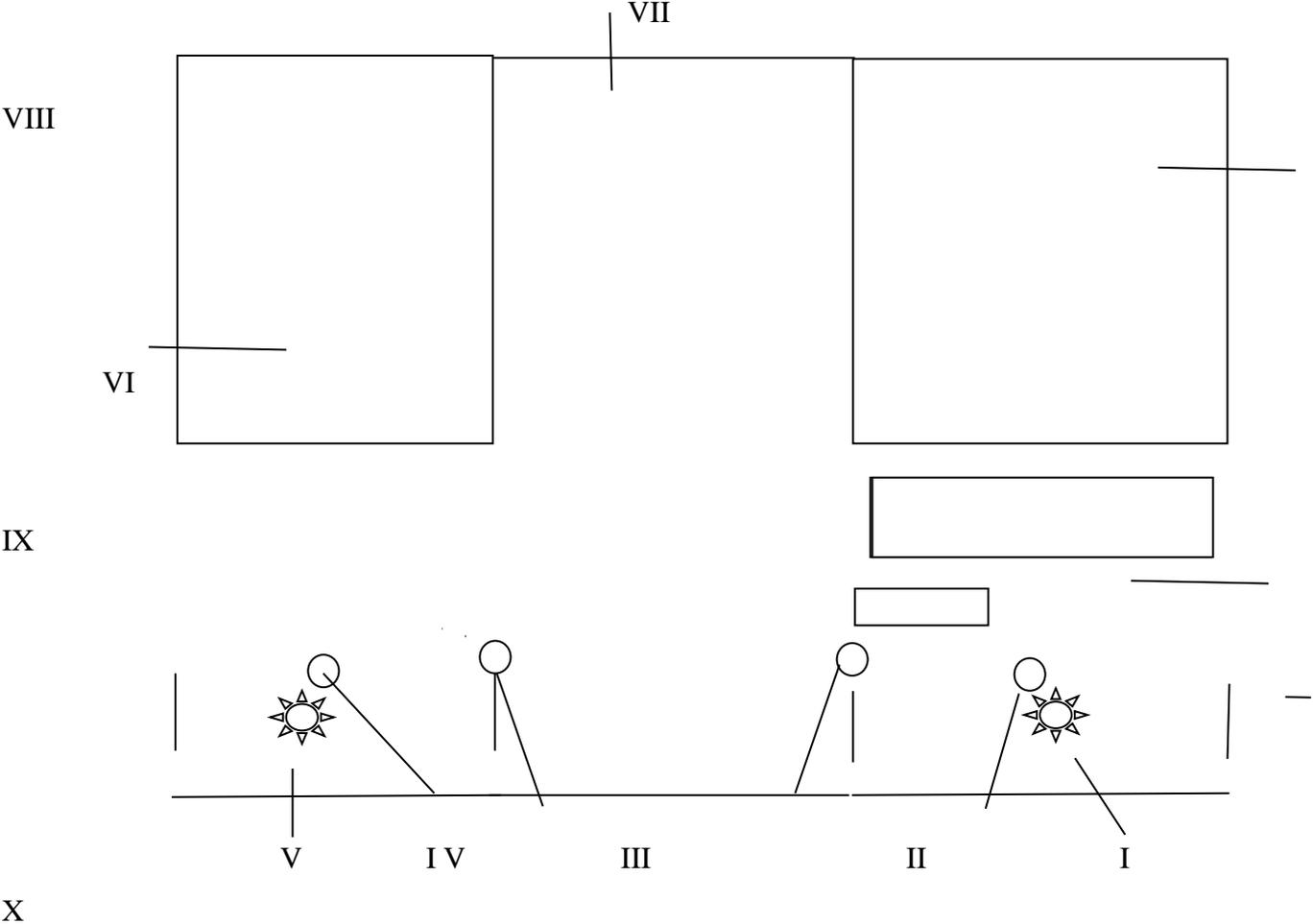
From this law we conclude that in case one of masses decreases, distance between them will decrease as well. If 7 billion tons of oil and coal is produced during one year in the world scale, 350 billion have been produced during the last 50 years. Of course, such dramatic decrease in Earth's mass changes Earth's orbit by a significant distance, this will lead to global warming. I don't know if this situation can be amended, but can it be put to end? In order to achieve it all of the world's heat power stations should be shut

down immediately, but what will replace them? I suggest replacing them with Gravitational power stations.

2.

Hydropower station (HPS)

Gravitational HPS



Picture 1.

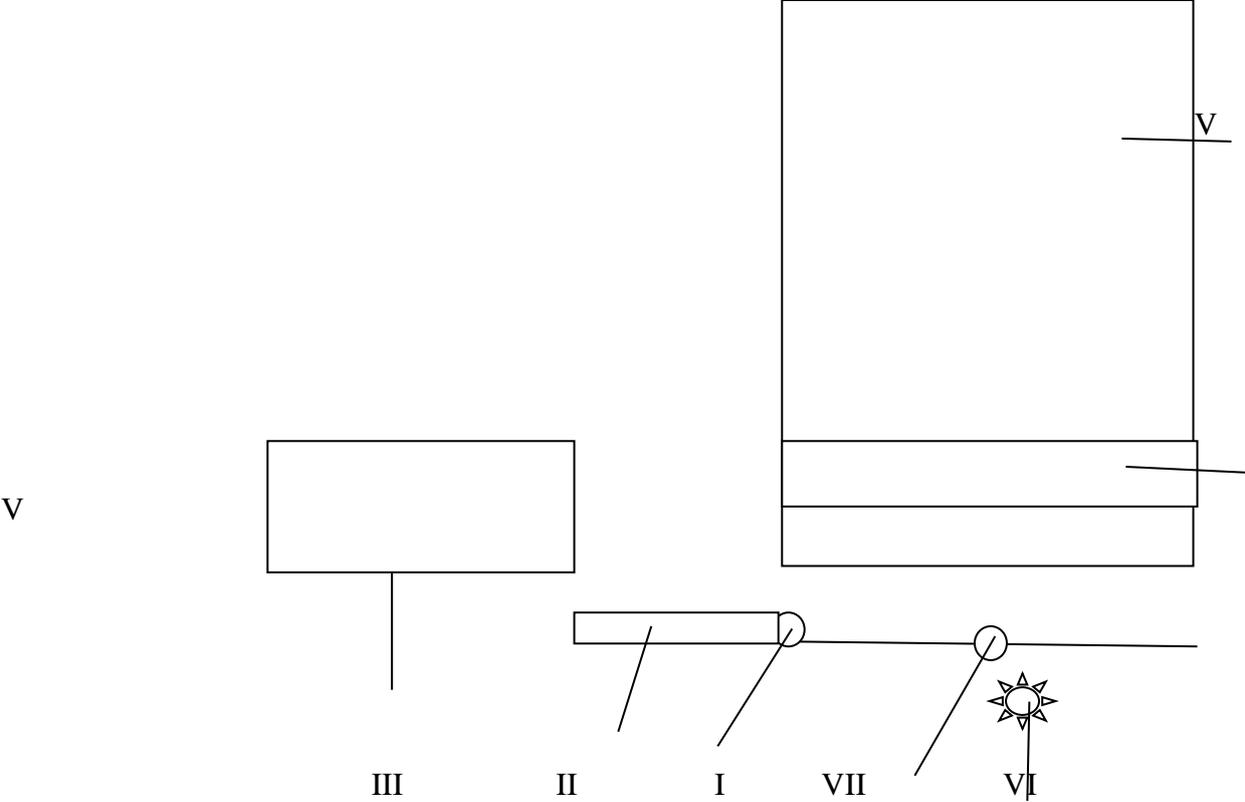
I – water stop, II water stop, III – water stop, IV water stop, V – generator turbine 1, VI – hydroelectric complex, VII – dam, VIII – sluice, IX – barge, X - generator turbine 2.

If water stop 3 is open and all other water stops are closed, water from the dam will fill hydroelectric complex VI. If water stop 4 is open, turbine will start produce power, as any HPS does.

If water stop 2 is open, and water stop 3 is closed, water will start to fill sluice, and barge will escalate with water. If the barge is used as a load, at height h it will have potential energy mgh , in other words, dumping water onto turbine X the barge can work as clock with weights. But generator can be placed instead of clock and electrical current will be generated. We should also underline that buoyancy force that supports the barge at the surface, is not conservative, therefore, the law of saving energy can't be applied in this case, it is just only

for conservative forces. If volume of barge is increases several times with preservation of buoyancy force, work will increase proportionally. Gravitational HPS works from differences and falls that are numerous in every country, but are rarely used.

3. Let us study the following experiment.



I – water stop, II – conduit , III – pump, IV – big capacity, V – floating capacity, VI – generator turbine, VII- water stop.

Principle of work of Gravitational HPS.

Water stop I is open, floating capacity V is placed in the lowest position. Turn the pump on and pump up water. Water fills the capacity and elevates floating capacity at height h. At the height h it possesses potential energy mgh and is able to carry out work. Close water stop I and open water stop VII, dump the water upon turbine VI, then the weight starts to rotate generator and produce current. Capacity of such power station depends on power of its pump. Gravitational HPS can work on seas and oceans, rivers, lakes and swamps, even frogs will not get in its way. If we increase floating capacity, pump of the same power will elevate it on height h provided that buoyancy force is secured. This position will provide us with unlimited energy without consumption of fuel.

Capacity of such power stations is unlimited. We shall stop pollution of the atmosphere and increase in its temperature, still producing power and, most important, preserving earth mass. If all heat power stations are closed, we shall have to use kerosene lamps, it is not normal,

therefore, transition should be gradual, erection of one gravitational powerplant of 500 megawatt can allow shutting down heat power station of the same capacity.

4.

Thus we can transit completely to electric energy produced by gravitational power stations. Such powerplants can warm houses and power various electric devices. Procession of power via this method will become very cheap in every country. The problem of constructing gravitational power stations is non-existent every country has plenty of water.

Let us study operation of gravitational powerplant according to the law of preserving energy (picture 2). All electric energy transforms into potential energy of water in capacity, but floating capacity floats in water, it doesn't consume energy. When elevated to height h , it will possess potential energy $E = m_f g h$ while m_f is mass of floating capacity. This energy is free and is able to work. My report was represented at conference in Sochi, but all professors, except for one, claimed that such engine will not work, as it is Perpetuum Mobile, I decided not to argue with professors, relying on their conscience.

RESUME:

I don't claim it is an everlasting engine, but gravitational powerplants can provide all countries with cheap energy.

Bibliographic list:

- 1. New student's reference book, tome II, 2003, St. Petersburg, p. 656.**