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Short Communication

Energy Consumption Increases the Comfort of Mankind, but Destroys the Climate

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The main and largest in terms of number and volume of living beings on the planet is microscopic living creatures: "Biomass is the mass of microorganisms in terms of area or volume unit. More often it is expressed in tons per 1 ha and varies in the range from 0.5 to 20 t/ha. - https://veterinarua.ru/mikrobiologiya/452-mikrobiologicheskie-parametry-pochvy.html. This is the total mass of living individuals of one species, group of species or community as a whole (plants, animals, microorganisms) per unit surface or volume of habitat.

To them should be added the volume of all terrestrial living creatures and vegetation. Every body from microbe to elephant and every plant is 50-90% water. Water in its eternal cycle goes through certain phases of transformation. A significant part of the water is recycled by this total mass of biota. Entering every cell of this entire mass, water supplies microelements, participates in the vital activity of existing and construction, and the birth of new cells. Washing away the spent and obsolete material, the water carries the waste out and evaporates. These vapors are the main raw material for precipitation in the atmosphere.

The quality of evaporation is purely individual from each creature, plant, microbe. The quality, volumes and patterns of evaporation are an integral part of the hydrological cycle. Each square centimeter of the earth's land with its evaporation creates its own unique substance, not just H2O, but bouquets of various molecules with their own properties, for example, odors, phytoncides, pheromones. These bouquets do not disappear, they also have their own purpose in the life cycle and are the most important link in the water cycle.

The conventional wisdom that the main evaporator is the ocean is rather doubtful. The total surface area of all land plants is not inferior to the total area of oceans and seas: according to https://geographyofrussia.com/iz-4-mlrd-let-geologicheskoj-istorii-zemli-susha-byla-bezzhiznennoj-34-mlrd-let/ : "The leaf surface of plants is huge. The area of all leaves is 3-4 times the area of the entire land, i.e., in size it is not less than the area of the World Ocean.

From the very beginning of his appearance, man began to influence the water cycle - to change evaporation: the very first washing, covering the dwelling with a roof, plowing the land and the following: laying roads, mining and ore minerals, construction destroy the soil. And organic evaporation from biota is reduced. From asphalt, arable land, a pond, from dried linen and dishes, water evaporation does not change its properties, it loses its purpose - as water came from the sky, it went back. Organic transformations are decreasing, and evaporation from all territories ruined for nature, from all technological and communal processes - you can call them artificial - are increasing.

One of the most powerful artificial evaporators are the water areas of man-made reservoirs that flooded the banks of rivers.

Flooding destroys 20 tons of living creatures and all plants on every hectare of the most fertile land - on the banks and coastal areas of rivers. Natural transformations of water disappear - transpiration of plants, juices, excretions of the animal world and all biomass - the composition, quality, and volumes of evaporation change. It is the most important link in the water cycle. A change in evaporation leads to a change in the subsequent link. The consolidation of various evaporations forms the main elements

of precipitation formation - the quality of clouds, their volumes, the rate and extent of condensation, the schedules and places of precipitation. In the course of evolution into nature, it has created just such a technology. A change in one link in the cycle chain affects the next link in the water cycle. As the breakdown of one of the mechanisms of the mechanism leads to its stop or catastrophe, so the distortion of one link affects the entire cycle.

A person, in pursuit of the comfort of his life, invents and manufactures more and more new devices of the most diverse technology, develops and puts into action new technologies in production and everyday life. Much of this requires electricity from an electric shaver to a washing machine. To do this, it is necessary to increase the production of electricity, build new hydroelectric power stations. And they require new areas for flooding.

To save the climate, it is necessary to reduce such areas. Industrial production does not consider such a dilemma. It also expands the production of electricity, is interested in sales and increases the area of flooding.

If you look at the maintenance of the house and our life, you can find an insane waste of electricity.

It is estimated that domestic refrigerators alone in one city of Almaty in Kazakhstan with a population of 2 million consume all the electricity produced by the Kapchagai hydroelectric power station: https://actascientific.com/ASMI/pdf/ASMI-05-1077.pdf. - about 1 billion kW/h. Per month. It is proposed to reduce by half, three times, and even more, if you use the natural atmospheric and free cold outside the house. From 20 to 50% of the time of the year, depending on the distance from the equator you can use the ambient temperature, reducing the consumption of electricity required for the movement of freon in refrigerators.

Considering the temperature fluctuations of the environment and the existing heating, cooling, ventilation, water supply systems inside a separate house, apartment, room, it can be found that energy consumption can be significantly reduced.

All devices and technologies created by specialized enterprises are more focused on obtaining their own benefits, rather than saving resources. This is how entire industries of refrigeration, air conditioning, heating, heaters, and humidifiers were created.

Under our feet there is a free source of cold in summer and heat in winter. It can be used to reduce electricity in water supply, heating, food cooling, air conditioning systems.

As noted in the above article, in the cold season, the temperature in the street ranges from zero to -300C for six months, in the middle and upper latitudes of the planet. We heat the volumes of all rooms and the kitchen to 200 and, then, we reduce this temperature to 20 in the refrigerator, again consuming energy.

The use of outdoor air temperature more than 2 times reduces the electricity consumption of refrigerators alone.

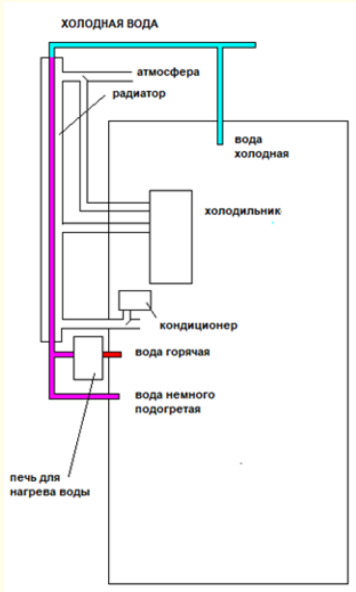

Figure 1

The same waste is observed when heating water in the summer. In summer, the ambient temperature is from 200 to 400, and we spend electricity to heat water from the water supply from 4 - 60 to 750 to wash, wash, wash - https://studentopedia.ru/tovarovedenie/opredelenie-raspredeleniya-temperatur-v-techenii-goda-na-glubine-zaleganiya-truboprovoda---1-51-m-.html

Moreover, we heat it in order to mix hot water with cold water in faucets for washing dishes, body, hands.

It takes 1.17 kWh of energy to heat one cubic meter of water by 1 degree - https://westerdam-forum.ru/skolko-nuzhno-energii-dlya-nagreva-1-litra-vody-na-1-gradus/.

According to https://shopfilter.ru/skolko-chelovek-potreblyaet-vody-v-god/: the average rate of hot water per person without a meter was 4.75 m^3, or 4750 liters per month.

According to paragraph 2.4 of SanPiN 2.1.4.2496-09, the temperature of hot water at the points of water intake, regardless of the heat supply system used, must be at least 60°C and not higher than 75°C.

Tap cold water at the entrance to the house has a temperature of 4 to 10 0C in winter and summer. The temperature of this water must be raised to the indicated 60 - 700. To this temperature, the water must be heated from, almost minimal, 50C:

70 - 5 = 650.

Then, to heat 1 m^3 to such a temperature, it is necessary to spend

65x1.17\u003d 76.05 W of energy.

One person consumes 4750 liters per month. Only one hot water, therefore

76.05x4750 = 361237 W per month.

How many hours in a month:

24x30 = 720 hours

We divide the watts by the number of hours per month, we get:

361237: 720 = 502 watts per hour or 0.5 kWh of electricity.

All this for one person. In a city of 2 million people

0.5x2000000 = 1000000 kW per month. Almost all the energy generated by the Kapchagai HPP.

There is a simple way to significantly reduce power consumption. Water from the underground pipeline must be brought to the surface, well under solar radiation. It is not so easy and irrational to lay the entire pipeline on the surface of the earth, but in the places of output it can be created and passed through special radiators or simply pipes heated from street heat. And in sunny weather, the water will heat up to 30 - 40 degrees. And if you use special solar heaters - then up to all 700. The easiest way is to pass water through a black pipeline of increased diameter, installed under the sun's rays. Such water can be heated not from 5, but from 20 - 40 degrees, or even from all 70.

Established the air conditioning industry. At the same time, water from an underground water supply with a temperature of 4 to 100 comes into the kitchen and bathroom. In the hot season, you can do without air conditioning altogether if this water is let through heating radiators. Double benefit - the water is heated by the heat of the room, and the air temperature in the room drops to a comfortable 15 - 200. The air conditioner becomes unnecessary.

According to http://crio.pro/kondicionirovanie-vozduxa/moshhnost-kondicionera/: For a room up to 3 m high, 1 kW is required per 10 square meters. 200 meters respectively consumes 20 kW of electricity. In addition to saving electricity, there is no need for air conditioning with its unit and maintenance. An unusual effect appears - a constant influx of fresh cooled air.

Water supply to consumers in the house is provided from the input, which is connected to the water pipeline, attached to the trench at a depth of 1-2 meters. The temperature of this water in the inlet pipeline is 4 - 100. This water must be supplied to many devices and mixers, and some of it must be heated to a temperature of 60 - 750C.

Considering the principle of water heating in terms of reducing energy consumption leads to interesting conclusions - in the summer, water must be heated with the free heat of the outside air up to 20 - 300, and with additional devices, such as solar heaters, up to 700.

In principle, it is absolutely unreasonable to drive freon in the refrigerator in the cold season and in the hot summer time with air conditioners.

The use of cold brought by water from an underground water conduit can significantly reduce energy consumption.

The idea of using this factor in addition to the one proposed in the mentioned article appears. The temperature difference between the outside air and the air inside the refrigerator in summer is much higher than between the temperature of the incoming water and the temperature inside the refrigerator. It is rational to transfer the water temperature of the underground water supply inside the refrigerator. It remains only to cool a little with a regular cooler.

To do this, water from the water supply is fed into the radiator grille and blown with air, which, when cooled, enters the refrigerator.

The air from the refrigerator is much cooler than the outside air, but warmer than the underground water supply, it is supplied to the outside of the grate, cooled and returned back, cooled by the radiator, and still enters the room to reduce the room air temperature. Indeed, on the street below 400, and we heat water from 100, and we do not use the cold of this water at all.

Water from the trench radiator enters the heater to be heated. We heat this water no longer from 4 - 10^0, but slightly heated by outside air - from 20 - 30, or even 40 degrees to 60 - 70^0 in the summer.

Full heating is not required. We need to calculate and define more precisely. It is possible to keep the standard heater to stabilize the temperature. At the same time, electricity is saved significantly.

It is interesting to develop the theme of natural cold water freezing in winter and underground storage and use of additional cooling water and air input in summer. It remains only to develop the design of a new device for convenient freezing and storage of ice.

Another reserve for reducing energy for heating water. If you look at the chimney in a house with heating from a gas or diesel stove. You can wind a hose on it - the water temperature will rise to the temperature of the outgoing smoke - http://www.stove.ru/stati/ispolzovanie_tepla_othodyaschih_gazov.

The shown calculation is made for one small town of 2 million people in just the simplest engineering networks. A review of the consumption of electrical and thermal energy in other areas on a scale of the whole of mankind can reveal immense reserves for their reduction. And with them - the restoration of biota and climate.

Thus, it is necessary not to increase energy, but to reduce its consumption and eliminate hydroelectric power stations and water areas of man-made reservoirs. And with them the restoration of forests and biota. The recovery of organic fumes leads to a reduction in artificial fumes, a major climate-influencing component. conclusions - in the summer, water must be heated with the free heat of the outside air up to 20 - 300, and with additional devices, such as solar heaters, up to 700.

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