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The Hypothesis of the Causes of Climate Change and the Possibility of Saving the Planet

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Abstract

According to some reports, the planet is now beginning to die from greenhouse gases created by mankind. Some scientific community has agreed that all these gases come from fuel combustion.

But there is another theory of the origin of greenhouse gases. This is the destruction of the hydrological cycle. For millions of years, the circulation of water between heaven and earth has been created. Flowing through the earth, streams, rivers, underground channels, water dissolves minerals, organic matter and transfers their molecules to the roots of plants and organisms of all living things from microscopic bacteria to elephants.

From the moment of its appearance, man began to use water not only for drinking, but for many other non-natural purposes - washing, irrigating monocultures, storing, moving in pipes, channels with concrete and stone banks, technologies with a wide variety of non-natural transformations of compression, heating, storage, spraying, chemicals. Water returns back to the atmosphere without structural changes - as it came as rain, washed away dirt from hands and objects, cooled hot, passed through pipes, transferred feces, and returned to the sky with fumes. Its structure has not changed; it has not passed through a living organism or a plant. The moisture leaving the breath from the leaf of a plant has a structure with a new property, which differs not only from the moisture that has come to it, but also from the exhalations of neighboring plants and cells. Gathering together, all these vapors create a special substance, which, rising into the atmosphere, forms a unique raw material for each locality for the next precipitation formation.

Introduction

Everything in the world is interconnected. The water cycle in its cycles has its own specific conditions, composition, structure, parameters of substances involved in the processes of sedimentation, distribution by area, precipitation schedules. All types of water transformations on the soil have also been polished. The processes of return to the atmosphere of evaporations, their quality, volumes, intensity are provided. Humans have intervened in the water cycle. It changes the technology of transformations, takes away its natural functions from water. The most important mechanism that ensures the existence of life itself on the planet is being destroyed. Evaporation of waters that have not undergone natural transformations can be called artificial. They participate in the circulation, but their quality, volumes, frequency differ from natural ones. Sedimentation changes. Increasing volumes of artificial fumes are changing the well-established mechanism of the water cycle. New volumes of waters in the atmosphere, unplanned by nature, do not have goals, tasks, conditions - they fall out anywhere and anyhow. Hence floods, droughts, disappearance of glaciers.

Urgent measures are needed to reduce the impact on water. There are several ways to return water to its natural functions without reducing the comfort of our existence.

1. The water entering the kitchen and bathroom through the water supply system is pre-treated at the treatment plants. According to http://vodopodgotovka-vodi.ru/ochistka-vody/stancii-ochistki-vody A standard water treatment plant at the initial intake will include a mechanical treatment system to remove any inorganic impurities. Disinfection and iron removal system. Both reagent and non-reagent devices can be used here. The main thing is to remove excess iron and viruses with bacteria from the water.

Then softening begins directly. A variety of water softeners can be used here. But as one of the cheapest options and the fastest at the same time, the ion exchange device is still popular.

There is no "disinfection, iron removal, softening, ionization" in nature. Considering the use of water in everyday life, leads to the thought of the reasonableness of all these operations. For the human body, 2-3 liters of water per day is enough. According to statistics, each person in a developed country consumes from 100 to 300 liters. What is the expensive and spoiled water spent on? The main part of the water - 99% becomes a means for washing, washing, delivering sewage to treatment plants. Is expensive water treatment necessary for such work?

In developed countries, a review of attitudes towards water is beginning. -https://hmong.ru/wiki/Greywater#:~:text=%D0%98%D1%81%D0%BF%D0%BE%D0%BB%D1%8C%D0%B7%D0%BE%D0%B2%D0%B0%D1%82%D1%8C%20%D0%B2%D0%BE%D0%B4%D1%8B%D0%BE%D1%82%D0%BD%D0%BE%D0%B5%20%D0%BE%D1%82%D0%BD%D0%BE%D1%81%D0%B8%D1%82%D0%B5%D0%BB%D1%8C%D0%BD%D0%BE%20%D0%BD%D0%B5%D0%B4%D0%B0%D0%B2%D0%BD%D0%BE%20%D0%BD%D0%B0%D1%87%D0%B8%D0%BD%D0%B0%D0%B5%D1%82%D1%81%D1%8F%20%D0%B2%20%D0%9F%D1%80%D0%B5%D0%B8%D0%BC%D1%83%D1%89%D0%B5%D1%81%D1%82%D0%B2%D0%B0%20%D0%A1%D0%BF%D1%80%D0%BE%D1%81%20%D0%BD%D0.

The so-called gray water appears. Gray water refers to wastewater generated in households or office buildings from flows without faucal contamination, i.e., all flows except sewage from toilets. Greywater sources include sinks, showers, bathtubs, washing machines and dishwashers. Because gray water contains fewer pathogens than domestic wastewater, it is generally safer and easier to treat and reuse on site for flushing toilets, landscape or crop irrigation, and other non-potable uses.
It will be necessary to carefully consider and reconsider the use of chemicals used in everyday life, washing, washing. This is necessary in order not to poison the plants when they are irrigated. The main thing – start creating new technologies, new techniques for cleaning and using gray water.

The use of gray water in the field, as well as the study of the possibilities of treating and processing all wastewater, can lead to the elimination of the centralization of sewers and treatment plants. The widespread use of new technologies with the reduction of the entire industry can significantly reduce the anthropogenic impact on nature.

2. Food Storage
The very principle of food storage was created for the manufacture of the most complex equipment and its implementation. A special industry for the destruction of electricity has been created. The cold generated by freon is ridiculous, when half a meter behind the outer wall, the temperature is below 2 degrees for half a year. And frozen ice in winter can keep the required temperature in summer. It is also possible to use the cold coming from underground water: https://actascientific.com/ASMI/pdf/ASMI-05-1077.pdf. Cooling and storage of products is possible without freon and electricity consumption. It is estimated that the operation of refrigerators in the city of Almaty alone, with a population of two million, consumes all the electricity of the Kichaga hydroelectric power station. And it happens in summer and winter.

3. There is a problem of garbage disposal. And there is the problem of landfill fires. Why not combine these processes. You can build another shaft in a multi-story building, like an elevator shaft, and form a generator of heat, gases and energy in it, receive building materials and fertilizers: https://actascientific.com/ASMI/pdf/ASMI-05-1156.pdf

Greening the Planet

One of the many, but significant problems of nature restoration is the reclamation of degraded lands. Cardinal mass gardening of the destroyed territories is necessary.

It is proposed to stick planting material from aircraft into moist soil in spring and autumn, from a height of 10 kilometers. In this way, it is possible to plant not only planting material with a closed root system, but also tree cuttings, as well as germinated seeds in special capsules, along with the necessary trace elements. 50,000 airliners take to the air every day around the world. Flight schedules are scheduled months in advance. It is known that civil aviation aircraft often fly with an incomplete load. An empty seat in flight means a 50-90 kg shortfall in the nominal load, plus its baggage of 20 kg. And if there are free seats for 5-50 people? Surely, everyone at least once was a passenger with a half of the cabin. Adding another seed ejection mechanism to a thousand different devices on an airliner would not be a very difficult task. There are also devices for dropping bombs, water for extinguishing fires, refueling in the air. Cargo planes can carry even more seeds or seedlings when returning empty. At the given time, the given seeds are dropped at the given location. The time and dispersion zone is calculated in advance for each location. There is such experience in extinguishing forest fires. Seeds and seedlings are granulated with a sufficient amount of moisture and nutrients inside the projectile and are dropped over a desert, degraded place, or over arable land. Millions of granules dig into damp or wet soil. Such soil can be in autumn, spring, after snowmelt and heavy rains. These points are determined by local agronomy services. Thus, a possible simple technological process creates a revolutionary technology for the mass planting of greenery on the degraded and desert surface of some parts of the planet. It will also be possible to drop the embryos of the desired insects, small animals in special containers after creating a new green cover. Daily flights of aircraft under their trajectories cover almost the entire surface of the Earth.

Equally important may be the application of the method for the treatment of forests and steppes from pests, for example, chemicals from locusts and other pests.

Thus, the most important effect will be a significant reduction in the anthropogenic impact on the climate and a contribution to the possibility of preserving life itself on the planet.

Arable Land and Climate

Study Findings: https://thewaternetwork.com/_/sustainable-agriculture/article-FfV/new-app-to-assess-agricultural-soil-and-improve-its-quality-x5x4qMoKZeUB0j_qvtTInA indicate that bare soils, where no vegetation other than crops is allowed to grow, are more susceptible to air and water erosion, compaction and gradual deterioration.

Such areas in the world are now about 11% of all land. Bare soils change the quality of water during its movement in the soil and after evaporation in the atmosphere. On such land, the natural function of water changes. Water changes its properties. All the time of the year, bare soil, being exposed to open solar heating, evaporates the incoming moisture much faster. Increased evaporation occurs after each natural and artificial irrigation. The path of its transformations is shortened, the variety of transformations

disappears. The natural microflora and microfauna of the entire cultivated soil disappears, and with it all the other is aliveness.

Figure 1:

The transfer of moisture from one subject of flora and fauna to another creates its own special environment, in which a great many different vapors constitute the very essence of life in each area. Water, making a natural cycle on an uncultivated natural area, carries into the atmosphere a great variety of vapors from a wide variety of sources. Each element of the biota creates its own individual bouquet of emitted secretions and vapors, for example, odors, phytoncides. It is these conditions that have created the water and climate of the Earth over millions of years.

The destruction of this land by arable land, garbage and ore landfills, and reservoirs led to the creation of artificial evaporation. An even greater increase is given by the evaporation of water from technological and communal processes. The total volumes of such evaporations become predominant over natural ones. Their quality, speed and volumes create a new water cycle, devoid of meaning and any norms. Hence natural disasters, as harbingers of a global catastrophe.

Roads and Road Cleaning Impact on the Climate

Evaporation of water from non-natural coatings is alien to natural evaporation. For example, when washing asphalt and concrete roads. Water spewing with high pressure from the nozzles of a watering machine breaks down in its molecular structure. Secondly, it, then, partly evaporates from this coating, the other part flows into sewer or storm drains and also escapes into the atmosphere from treatment facilities without fulfilling its natural duties. The main function of water on earth is to provide biota with mineral and organic substances, which are dissolved after precipitation from the atmosphere. Read more at https://www.actascientific.com/ASMI/pdf/ASMI-SI-01-0009.pdf.

The problems of cleaning and cleaning roads around the world are almost the same. http://www.cominvest-akmt.ru/download/publications/kom2.pdf: "... The main task of summer cleaning is to remove contaminants that accumulate on the surface of the roadway, sidewalks, public transport stops and elements of road and street improvement that are a source of air dustiness, littering of urban areas, and also worsen aesthetic perception. In addition to environmental degradation, the presence of a layer of pollution on the roadway can also affect road safety by worsening the coefficient of adhesion of the wheel to the road surface. When this layer is moistened, for example, during rain, and the pollution turns into gel-like and plastic formations, the value of the adhesion coefficient drops especially sharply. With the growth of the area of cities, the expansion of the road network, the issue of its quality maintenance to reduce the environmental burden on the environment becomes more and more urgent. Every day in the summer in such a large metropolis as Moscow, about 2,000 watering and cleaning machines take to the streets. The area of objects of the street and road network of Moscow is 87.9 million m2...»

The controversial point in this quote is the reduction of the ecological burden on the environment. Quite the opposite: an increase in water consumption affects the climate. It is known that each hectare of soil contains 20 tons of underground living creatures - https://present5.com/osnovnye-sredy-zhizni-tipy-sred-obitaniya-vodnaya/ - each unit that could absorb water and slowly exhale and evaporate organic fumes - the basis of the natural hydrological cycle.

Each of the watering machines makes several runs a day. There are hundreds of major cities in the world. Thousands of smaller cities and towns performing the same tasks. The water washing the roads must be fresh and clean so that the nozzles do not clog and the pumps work. Water from asphalt evaporates many times faster and more - replenishes artificial evaporation - affecting the climate.

In the context of the growing shortage of fresh water and climate change, it is urgent to reconsider our attitude towards it.

Usually, when a rubber tire moves on the road, the liquid and mud phase rises and pounces on the mudguard. The slurry drains from it and is evenly distributed in the same place. With the movement of hundreds of wheels, this slurry is mixed with debris, crushed into a fine gruel, gradually dries up and turns into dust. This dust is washed away by thousands of watering machines. Or maybe it doesn't wash off, but supposedly it washes off.

Figure 2:

Here in this randomly seen picture, all the dirt is soaked, shifted a little and ... remains on the road. So, you can see that the first car along the way is shifting the slurry to the right, and all the rest are only moistened. Dusting will stop, and then, all the dirt, as it dries, will rise into the air with fine dust, hundreds of wheels of subsequent vehicles.

The patent archives are full of inventions to reduce useless expenses. For example: https://actascientific.com/ASAG/pdf/ASAG-02-0210.pdf.
The essence of this innovation lies in a simple action that is performed by each or most of the transport units.

To do this, behind one or all wheels, it is necessary to turn the mudguard around the vertical axis by 10-45 degrees to the right for right-hand driving. about movement. Then, all or almost all of the slurry will be reflected and, ricocheting from the mudguard, will shift to the right. Not far, by 2 - 3 centimeters, maybe 10 - 20, depending on the speed, consistency, temperature, wind, along the entire path. The main thing here is the majority of moving cars. This can be most accurately determined when all buses or trolleybuses of one specific route are moving. Since the movement of the wheels of each car cannot move along the same trajectory, then all the slurry will gradually shift towards the right curb and even onto it. Regardless of the desires of drivers and device designs. The road surface becomes clean without special washing. Such a clean and almost dry track - a triangle - we see behind each wheel. It is not necessary to equip all 4 or 6 wheels. Enough 2 or even 1 wheel, but on all or most machines.

In this way, everything that falls from the sky is turned into a road wash, depending on the amount of traffic. Such cleaning of roads on mountain roads during snowfalls is especially important. The snow crushed by the wheels does not immediately melt, turns into a creamy slurry and gradually goes to the side of the road. The road remains dry and clean in winter.

Real experience is needed to verify and test such a cleaning method. It seems to be the most rational in urban conditions, on trolleybus or bus routes. Rotated mudguards of all buses of the same route will quickly show the effectiveness of the impact of the new device on the road. The reconstruction process will go through a chain reaction on all routes of the city, the mayor of which will decide to conduct a single experiment.

A city that does this upgrade will eliminate almost the entire road maintenance industry, leaving only curb cleaners. In Moscow alone, 2,000 watering machines disappear. In addition, machines for dispersing sand and salt, all road equipment with bulldozers and brush blades, become unnecessary. Significant production areas of institutes, factories, offices with all equipment and staff are freed up. But most importantly, water consumption and artificial evaporation, which affect the climate, are reduced.

Structurally, the model of each type of machine has its own capabilities and must be processed by specialists, taking into account the available wheel space, chassis features, and dimensions. It is quite possible to shift dirt not only with mudguards. When the wheel moves, slurry rolls form on both sides of it. On some models, it is rational to install a small blade behind the wheel, which could shift these rollers to the right side. If you pay attention to the spray raised by the wheels, you will notice that they mostly fly out symmetrically in the same way in both directions. Why not install small aprons on the left side of the wheel, which reduce the spray range to the left side.

Considering the interaction of wheels with snow, and carrying out the shown possibilities in real experiments under various conditions of temperature, wind, types of precipitation, and other weather conditions, it is possible to achieve an absolutely dry and clean road on the passes, where traffic accidents often occur.

For left-hand traffic, all these structures are mirrored to divert the liquid coating to the left side.
There are several more significant options for devices for shifting slurry and snow to the side.

Snow is not the Enemy, but a Friend is Road in Winter Time

Snowfalls and blizzards fill up roads and create massive congestion on city streets and on intercity highways.

Considering the processes of formation of the road surface during snowfall, it can be noted that snow during precipitation is light fluffs, which, at an indefinite time, with different intensity, at different temperatures, stacking in layers, gradually by the wheels of cars, are compacted into a slippery bumpy canvas. The rubber tread, rolling over freshly fallen layers, compresses the snow, forming ruts. The resulting trace firmly adheres to the asphalt. Almost all cars follow each other, so the wheels of the following cars compact mainly the same track. On low-activity roads, leaving the rut when overtaking or passing around leads to smoothing and compaction of the freezing walls of the rut.

Figure 3:

With heavy snowfall and rarely moving vehicles, the layers of snow increase, the ruts become deeper, and the cars begin to row the snow with their pallets, suspension. A little more snow and... a traffic jam.

With intensively moving transport, the entries and exits to / from the laid tracks become more frequent. Chaotically superimposed on each other traces of various thicknesses and widths as snowfall, at various volumes and temperatures, humidity, wind, traffic

intensity, gradually freeze and harden. A hard, icy surface of a slippery bumpy indefinite shape is formed.

To combat this, snowplows are involved. Shoveling snow over the side of the road, and then removing it from there, loading, exporting, storing snow at special landfills is a ruinous task. Traffic on city roads is declining. But, no matter how hard the army of specialists with snowplows tries, often the roads are completely covered with layers of snow and ice, covering all the asphalt. Snow layers of 1 cm and, for example, 20 cm are the same in terms of sliding and this ice cover can no longer be removed by any technique. Of course, where there are many snowplows, the snow can be removed to the asphalt in a timely manner. But it's not everywhere. On the outskirts of cities and on intercity roads, the snow still compacts and closes the hard surface.

And what if you do not remove the snow from the roads at all, but level the road with the snow itself. In fact, cars go on such roads. Maybe just give the compacted snow the specified parameters? To avoid ruts, there were no slips. Maybe this is done not by special equipment, but by the moving vehicles themselves? Everyone. Or by its majority, for example, scheduled passenger cars and electric vehicles within the city. And on intercity routes - large trucks. Snow, in a still loose state, when pressed by a wheel, can be shifted with small scrapers or brushes a little, the width of the wheel, to the right. The designs and sizes of scrapers or brushes may vary. It is assumed that the size of the palm is sufficient.

Brushes or scrapers are fixed in the most convenient place for fastening the vehicle in close proximity to the roadway, at an angle to the direction of movement, with the possibility of displacing a small strip of freshly fallen snow, loose snow mass in front of the wheel and / or behind the wheel along the movement. To shift the formed crest of squeezed snow to the right and into its own track after the wheel has passed. For right-hand traffic: to the right. Ideal - clearing snow in front of the wheel and completely filling up your own track behind the wheel.

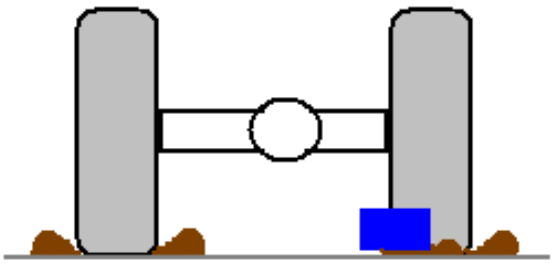

Figure 4:

Shown here is the rear axle of the car - rear view and scraper behind the right wheel. One scraper per right wheel is enough. The scraper moves only one roller of snow into its own track. Of course, it is better on both wheels, but this is enough so that ruts do not form in deep snow.

The track of the wheels is lost among the tracks of the wheels of the previous machines, the factor of track-to-track movement and the compaction of a single track disappear.

A lot of cars in a given zone move randomly, from the leftmost lane to the right shoulder, along a multi-lane highway, evenly rolling over the entire surface of the road. If each of the wheels will shift its snow roller to the right, then the snow will gradually go to the side of the road and beyond. At a negative temperature, the snow collars freeze and form a corrugated surface in the longitudinal direction, but even along the width of the road. And an ice curb is formed at the side of the road, protecting cars from slipping off the road.

The movement of snow into the resulting ruts by all or most moving equipment can create shallow furrows and low curbs in the longitudinal direction. It turns out corrugation in the longitudinal direction. A different profile of scrapers of different machines at different times when freezing will leave a different trace. The longitudinal compacted and frozen ridges of these tracks can keep the wheels from slipping sideways. It is no longer a smooth and indefinitely bumpy slippery surface. Repeated snowfalls will cover the road in larger and larger layers. And the continuous displacement, smoothing and compaction by moving vehicles, still light snow mass, creates an even canvas with a comb profile. This is not a smooth, shapeless road surface with polished tire bumps, but a uniformly compacted grooved road without bumps. Snow becomes not a burden, a load or an enemy of roads, but an ally, a building material for new roads. Eliminates the need for its collection, transportation and storage.

When thawed in the spring, the snow mass again becomes mobile and is able to slowly approach the roadside. At the same time, the structure of the snow becomes loose, and the entire snow mass gradually goes to the side of the road and beyond the side of the road.

Each type of vehicle has its own design, dimensions, wheel arrangement. Each of them requires an individual approach and its own design. There are many options, for example, you can rotate all existing mudguards 15-45 degrees around the vertical axis. The displacement of snow is carried out in a state of its friability. Until it sets in the cold. There can be a great variety of designs of scrapers, brushes, reflectors, aprons, mudguards. From specially designed elements mounted on an axle with a wheel with a spring mechanism. Down to the simplest piece of rubber or a board suspended on chains.

Of course, it is impossible to install such devices on all machines at once.
An experimental test of the principle itself is necessary pa. To do this, you can conduct an experiment on a particular section of the road with not very heavy traffic.

We need strong-willed efforts and organizational skills of one of the local leaders, any district, city or region of any country. Choose just one bus or trolleybus route that goes to any outskirts of the city. Make such a scraper on all buses of only one of this

routes and see the result. You can turn the mud flaps around the vertical axis by 30-45 degrees to the right. The road along this route, unlike all others, will be flat without ruts, in severe frosts. At positive temperatures, snow and mud will gradually go to the side of the road and beyond it. There will be no dust in spring and summer. A positive visible result in a chain reaction will instantly spread along all roads.

The First Experiment is Necessary

On intercity routes, a small workshop at the exit from the city will be able to quickly and skillfully hang ready-made devices, pre-designed designs for various types of long-distance vehicles that are characteristic of this road. Before the start and during the snowfall - this can be done in a matter of minutes, at the wheels of cars leaving the city. In the suburbs, a cooperative solution is possible and the installation of such scrapers on private cars of this particular area is possible. It is more rational to use trucks for this, which regularly deliver food and materials, buses and trolleybuses of urban and suburban routes.

Upon the manifestation of the effect, the method will instantly spread to other roads. Grows to a large scale. And this is already a new quality, which will simply oblige automobile manufacturers to start supplementing new cars with devices that are more efficient, more economical.

Economic efficiency appears in the reduction of accidents on the roads, the possibility of eliminating congestion and emergencies. There is no need to sprinkle roads with salt and other chemicals, which will save the environment. With prolonged and heavy snowfalls, a layer of compacted snow will keep the road from damage during temperature changes.

The need for snow removal equipment and the entire industry with warehouses, factories, designers, and ministries disappears. This is not just a tangible savings in fuel, money and labor resources, it is a revolution in the road sector.

Reference

1. http://www.inform.kz/ru/zakryty-avtotrassy-v-akmolinskoy-oblasti_a2978704.