

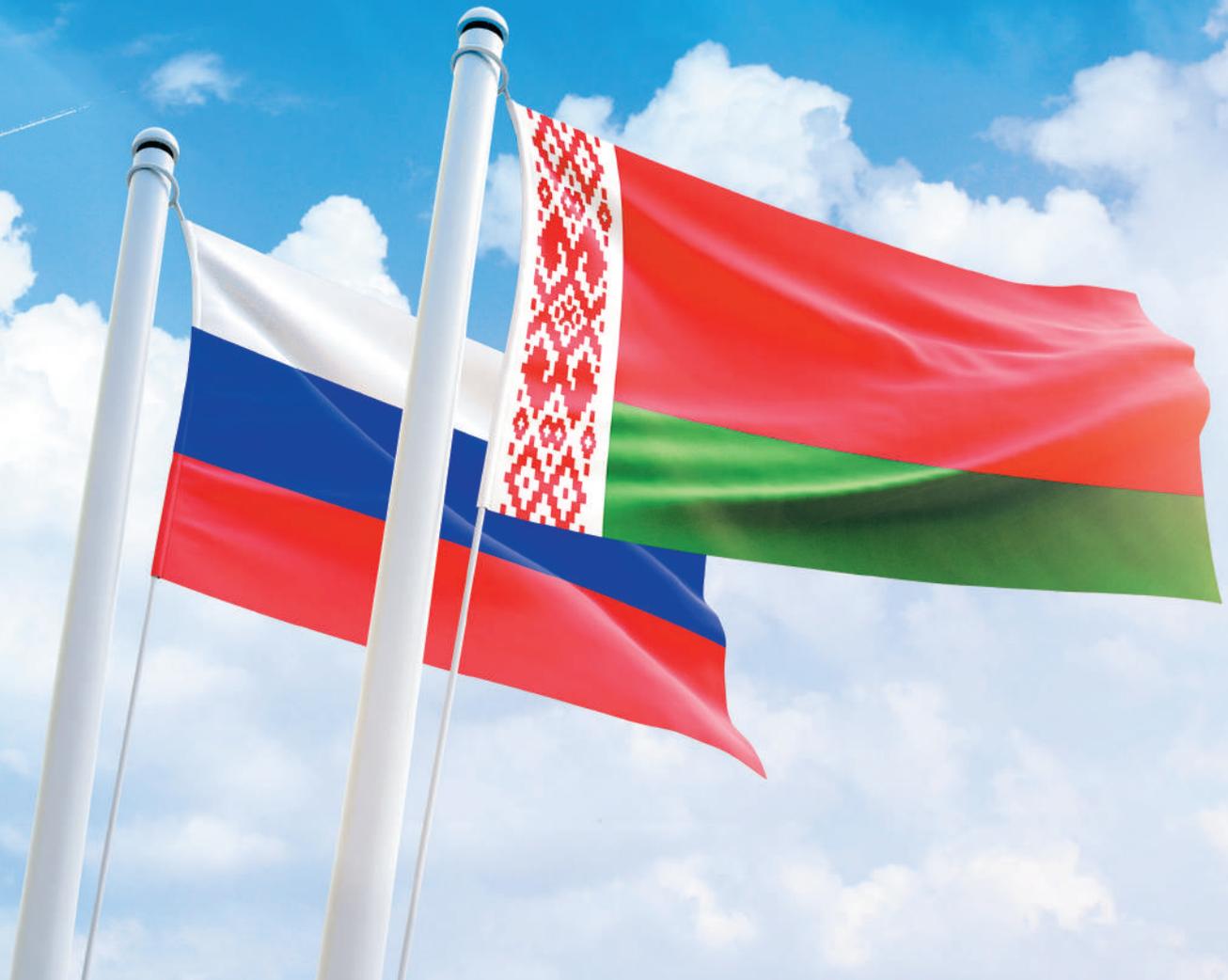
# The Union State of Russia and Belarus as the Hub for Rebooting the New World to the Biospheric Path of the Civilizational Development

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The main prerequisite for the development of the Program for Rebooting the Economy of the Union State of Russia and Belarus to the Biospheric Path of Civilizational Development (hereinafter referred to as the Program) is the existence of fundamental problems in the current models of civilizational structure and the disruptive nature of their technological and social development. The ruling “global elites” (it would be more correct to call them pseudo- or quasi-elites as they are impostors and self-appointed mandarins – no one has elected, appointed or accepted them into the global elite) lobby for increased control over people and reduction of the human population, including that through deindustrialization and decarbonization of the world economy.

Thus, protecting the interests of their clan, these “elites” do damage to developing economies and humanity as a whole, up to the programming of the self-liquidation of our industrial civilization in the foreseeable future.

In contrast to these scenarios of civilizational development, a biospheric technological path is proposed with the center of forces not in the West and East, but in the Union State of Russia and Belarus, relying on their own elites.

To strengthen and develop the Union State, the following global problems of our time were systematically analyzed:

- pollution of the environment and the Earth’s biosphere in general;
- local and global climate changes;
- national and civilizational security – resource, technological, infrastructural, transport, energy, food, medical, cultural, social, educational, informational, psychological, etc.

Consideration of problems and ways to tackle them from the perspective of Russia – the backbone of the Union State – is caused not only by its influence on all the ongoing civilizational processes as a Eurasian state with a huge territory, but also as a state with enormous resource and intellectual potential.

The proposed Program is not limited to the Union State and consists of the following biospheric engineering technologies:

- relict solar bioenergy (RSBE);
- biospheric agriculture;
- construction of cluster-type pedestrian linear cities;
- “second level” transport and infrastructure complexes – Unitsky String Transport (uST);
- non-rocket near space industrialization.

Each of the proposed solutions is scientifically justified and conceptually materialized in the research centers (located in the Republic of Belarus and the United Arab Emirates), which are part of the international group of companies called Unitsky Group of Companies (UGC) and established by engineer A. Unitsky.

The introduction of the Program – even in the context of the Union State, without the participation of other countries in the first stages of implementation – will allow to overcome the social, economic, ecological and resource crises in which mankind finds itself today.

A thorough description of the steps in the implementation of the Program makes it possible to see that the transformation of the existing capitalist system without evolutionary upheavals is real, with the Union State as a new world center of power.

The considered effect for Russia and Belarus from rebooting to the biospheric path of civilizational development assures us of the rightness to choose this direction, capable of saving the Earth's technocratic civilization from degradation, extinction and death in the existing reality. The estimated budget of the Program clearly illustrates its comparability with the state programs for the development of individual sectors that have been adopted but are less effective: the Program embraces all essential aspects of life for both individual citizens and regional societies or the state as a whole.

The conclusions deal in detail with the creation of uNet – an international transport and infrastructure network, combined with power industry, IT sector and agricultural production – as a fundamental instrument of implementation of the Program for Rebooting the World Economy to the Biospheric Path of Civilizational Development, which will give Russia and Belarus a real opportunity to become world leaders and great nations within a generation.

Economic rebooting of the Union State assumes the implementation of the uSpace program as an element to ensure the transition of the Earth's technogenic civilization to the space vector of technological development and large-scale space industrialization relying on non-rocket geocosmic transport technology – the General Planetary Vehicle (GPV) situated in the equatorial plane. In this context, political and social institutions of the Union State can act as consolidators not only for the states of the equatorial belt, but also for member states with high economic, scientific and engineering potential. This will ensure the completion of a global project to improve the quality of life of both individuals and humanity as a whole, without population restrictions or harm to the planetary environment – the Earth's biosphere.

Russia and Belarus, together with the multi-ethnic people of the Union State, will once again prove their greatness and special civilizational role in the world, confirming the prophetic words about Moscow as the "Third Rome that stands" and the "Fourth Rome that will never be".

***Keywords:** biospheric path of civilizational development, climate change, General Planetary Vehicle (GPV), "horizontal skyscraper", linear city (uCity), pollution of the environment, relict solar bioenergy (RSBE), transport and infrastructure complexes, uSpace geocosmic program, vertical greenhouse.*

## Introduction

The main purpose of this paper is to continue research on the development and detailed elaboration of a socio-technological way out of the critical situation that has unfolded on the planet.

All present-day humanity is actually declared a hybrid war by neurolinguistic reprogramming from the current civilizational vector of "Technological and intellectual progress" to the destructive vector of "Personal, social and civilizational suicide". This war is being waged through digital information tools and media that have replaced the "Truth matters most" principle with the more monetizable "Serving the master" concept.

The state as a political institution is meant to protect its citizens from internal and external threats. For this purpose, it has everything it might need at its disposal. Below you will find a rather detailed description of the innovations which will enable to:

- intensify the development of our Earth's technocratic civilization in a creative aspect;
- solve all the environmental and social problems of mankind without detriment to the planet and its biosphere;
- raise the living standards of any country and of humanity as a whole;
- give us all a chance for a better future – safer, more comfortable and more humane.

However, primarily it is necessary to say a few words about the anti-human plans that are voiced by the quasi-elites mentioned above.

Wars, economic and social crises, accelerated growth of consumption jeopardize the basic values of our civilization and our very future. It is becoming increasingly obvious that humanity has once again reached a dead end.

As a solution to all the problems on Earth, some suggest developing Mars, others – reducing the world population to the "golden billion". Furthermore, today we are not just recommended, but rather brutally forced to adopt these programs. Think of the infamous coronavirus, for example. No matter how hard they try to present it as some kind of mega-disaster, it is obvious to everyone: it is not.

**First**, it is clear that the pandemic is the result of man's detrimental impact on nature, immense and thoughtless consumption. It is easy to give an example: the virus is believed to have been passed on to humans from animals. One version suggests that pangolins are the main culprits. Chinese gourmards – well-fed and even jaded people – traditionally

have a rush for these animals, which has brought pangolins to the brink of extinction. As we all understand, it is not about hunger: pangolin meat is a spoil of affluence, an element of up-market consumption [1].

Some estimates suggest that there are about a trillion species of living organisms on Earth today, with only 1.75 mln (0.000002 %) described [2, 3]. Because of human actions, more than 70 species die every day; about 26,000 per year. The scale of the negative impact on the environment is only increasing every year, thus forcing the planet to simply defend itself against the aggressive actions of humans.

**Second**, the lifestyle we follow today makes humans the main cause of pandemics.

Massive overcrowding in cities, with huge numbers of people in close contact with each other; the use of outdated transportation systems, with large accumulations of passengers – all this only exacerbates the spread of viruses.

Junk food, new ingredients (sweeteners, anti-caking agents, leavening agents, GMOs, etc.) and a less active lifestyle weaken the immune system and, as a result, cause various diseases [4, 5]. Clever marketing and associated advertising are trying to sell us as many trendy food additives as possible, talking about their curative properties and benefits for the body. But our immune system cannot replace any of the drugs developed by man, including those taken as vaccines and inoculations. Without trying to deal with the cause, and just fighting the consequences of disease, we once again become a convenient target for advertisers and an inexhaustible source of their profit.

If you look back in history, you will realize that all the wars and economic problems of the 20<sup>th</sup> century stemmed from the overcrowding of people and their irresistible desire to consume as much as they could. As a result, the struggle for resources and spheres of influence intensifies. And this struggle is one of the basic elements of the capitalist system, which is built entirely on and around profit.

In general, the capitalist system assumes the necessity and inevitability of crises, which each time bring increasingly catastrophic consequences [6]. Most economic experts share this view. Accordingly, there is a demand for reform of capitalism, since alternative models (e.g., socialism) are not accepted by global quasi-elites. After all, these are capitalist elites. They cannot give up on themselves.

Historically, experts associate crises with overproduction [6]. Based on this logic, they can be avoided by changing the way we produce and consume. Before exploring how exactly the quasi-elites intend to arrange the new world, let us take a moment to look briefly at how this is happening now.

The worker produces the goods and gets paid for his labor. The surplus value is left to the enterprise to spend on the development of production, its own needs and the needs of the state through taxes. However, the goal of any production is to increase profits. Accordingly, on the one hand, it is necessary to optimize technological processes and reduce the cost of labor, and, on the other hand, to increase the number of products.

It turns out that the output must increase all the time, and the relative wages for labor should decrease. Who are the most popular customers for products? Wage earners. If they get less, they will buy less. But more and more goods and services are being offered every day. As a result, there is a surplus of products that no one wants. And then the manufacturer is forced to downsize, stop the production and minimize production costs.

The economy is slipping into crisis. Some manufacturers go bankrupt, others optimize production, prices for accumulated surpluses go down, and overstuffed warehouses are gradually emptied. Once again, the demand exceeds supply. Everything repeats with a new round of development. War or pandemic, by the way, can significantly smooth out the situation, since new sales markets and jobs are created in a short time, there appears a demand for certain product categories, orders, etc. This is why wars start when the economy is at its peak. This is not a consequence of excess power, but a way to avoid the forthcoming sharp and painful fall from the top. Is it possible to avoid crises in any other way? It seems so.

## **Problems and Prerequisites for the Transition to a New Post-Capitalist Economy**

Currently, the problems associated with the crisis of the Western European model of capitalism [7], as well as liberal and neoliberal doctrines as a socio-political extension of the dominant economic and technological model of civilizational structure, have become more pressing in the world.

As a reaction to the emerging crisis, Western European and North American power institutions and quasi-elites are actively promoting programs aimed at artificially restraining the industrial development of the world economy, while it is industry that is the basic civilizational technological platform of all modern humanity. This industrial technology platform has been created by engineers and scientists around the world over the past hundreds of years. However, if the starting point of industrial age is set from the invention of the wheel (which marked the beginning of transport), it took about

10,000 years to build the industry on Earth, and if it starts from the invention of the fire (which pioneered all thermochemical technologies, and not only cooking with fire, but later metallurgy, engine building, power engineering, etc.), it took even hundreds of thousands, if not millions, of years.

The so-called "global elites" not only propose, but fiercely impose on our entire Earth's technocratic civilization, which they are an integral part of, projects to deindustrialize the economy (through its decarbonization) and to desocialize and depopulate humanity (through deindustrialization and digitalization) in order to strengthen control over people and systematically speed up the reduction of the world population.

First and foremost, these programs affect the so-called "developing economies", while at the same time serving the interests of "developed countries" and the global transnational corporations based there.

In this context, geopolitical confrontation on a global scale is intensifying. On the one hand, the USA and its partners are trying to impose their model of the world order to all other countries, which implies the domination of corporations, the obliteration of territorial boundaries and the gradual loss of the role of national states in all aspects of public life and economic activity, all the way to the abolition of states and transfer of their functions to global corporations. On the other hand, alternative centers of power are emerging, defending their interests and sovereignty [8]. Among them, the Union State of Russia and Belarus plays a key role in the geopolitical context.

At the end of May 2022, after a long break caused by the COVID-19 pandemic, the World Economic Forum was held in Davos in full-time format. For the first time in 35 years, the Russian Federation did not participate in it. Belarus also did not attend the event.

The exclusion of representatives of the Union State from the number of delegates of one of the largest and leading forums in the world is due to Russia's special operation in Ukraine. At the same time, military actions, their causes and consequences had been declared as the main topic of the event. During the discussion of the situation, Western experts stated that they would continue to support Ukraine and assist in its reconstruction. Ukrainian leader Vladimir Zelensky called for "the toughest possible" sanctions to stop Russia's "aggression". Suggestions included an oil embargo, blocking all banks, a complete withdrawal of European companies from the Russian market and a halt to trade. For Ukraine, he asked for financial and military aid of 5 bln USD per month.



David Beasley, Executive Director of the United Nations World Food Programme, drew attention to the blockage of grain supplies and expressed the opinion that “failure to open the ports in Ukraine will be a declaration of war on global food security” [9]. He said that if food supplies remain off the market, the world could face grain shortages in the next 10–12 months, and that “would be hell on Earth”.

Jens Stoltenberg, NATO Secretary General, called the special military operation a “turning point” not just for European security, but for the “broader international order”. In addition, he added, “peace in our continent has been shattered” in recent months. The politician argued that “freedom is more important than free trade” and called on business leaders to defend common values. Stoltenberg warned that ignoring the threat from authoritarian regimes “undermines security” [9].

Speaking at the forum, Ursula von der Leyen, President of the European Commission, said that the special military operation in Ukraine has put into question “our whole international order”. Instead of addressing climate change and shaping the global economy, “we must address the costs and consequences” of the conflict.

According to Olaf Scholz, Chancellor of Germany, the Russian government “wants a return to a world order in which strength dictates what is right; in which freedom, sovereignty and self-determination are simply not for everyone. This is imperialism. That is an attempt to blast us back to a time when war was a common instrument of politics, when our continent and the world were without a stable peaceful order... Putin underestimated the unity and vigour with which the G7, NATO and the EU would respond to his aggression. Working together, we have imposed sanctions that are tougher and further-reaching than any previously imposed on a country of Russia's size” [9].

The so-called “European community” has demonstrated exceptional, hitherto uncharacteristic cohesion in its perception of the “common foe” and the fight against it. It is unlikely that this attitude towards Russia and the Union State as a whole can change much in the near future. This means we need to look for new ways of development. The key problems here are import substitution, i.e., technological independence, decreasing the significance of energy exports for the economy, and building up political, social, technological and economic sovereignty as vigorously as possible. In addition, there is a growing need to find new partners, to reorient exports and imports to new markets, and to deepen integration with allied countries. First and foremost, we should talk about deepening of integration of the closest neighbors – Russia and Belarus, which in deed confirmed

their readiness and ability to interact even under strong external pressure.

The need for in-depth industrial cooperation between Russia and Belarus has been discussed for many years. The matter has been constantly reviewed at the meetings of the two presidents. The governments have set up special working groups that develop specific common grounds [10]. It is not easy for Russia and Belarus to solve problems on their own, therefore, joint organizational and technical solutions are being promptly considered now.

Among the wide list of sanctions, technological ones are among the most painful. It will take a long time to compensate for the lack of sophisticated modern equipment and industrial technologies, as well as the knowledge and skills to create them in Russia, since it cannot be fast – it takes years and sometimes even decades to master these technologies and production methods. Such a high commercial credit for the state economy in the very near future can destroy any production and, as a consequence, leave millions of citizens jobless, and the budget – without income.

Belarus, although it managed to preserve and in a number of industries even multiply the industrial heritage of the USSR, also cannot manage on its own. A small country lacking natural riches, such as oil and natural gas, does not have enough resources to compete in the market. It is just by joining forces that Russia and Belarus will be able to successfully resist external pressure and thereby offset all of its negative consequences [11]. However, a positive outcome in this case will be possible only with a fundamental revision of approaches in the monetary system. It will also require a change of priorities in infrastructure and technological development, including the main role of those scientific and industrial sectors, which can contribute most to the economic growth of the Union State and which have the appropriate prerequisites for occupying leading positions in the world.

The sanctions imposed on the Union State countries open a window of opportunity to rebuild and increase production capacity. Until now, Russian enterprises have essentially acted as assembly plants for foreign companies. This happened because the existing monetary system in the country did not permit to maintain and develop deep technological redistribution of industries with high added value, although the size of the market and access to cheap energy could contribute to the creation of a different model. For Belarus, the determinant of its lagging behind was its inability to withstand the financial and technological power of transnational corporations. The forces too incomparable in their scale and capabilities clashed on the market battlefield.

By changing and uniting, redirecting export and import flows to the shared domestic market, Russia and Belarus will be able to significantly compensate for vulnerabilities in each other's economies, and further ensure their rapid economic growth. This requires conscious and consistent actions from the governments of the two countries and all business entities, as well as financial institutions. Unfortunately, many steps in this direction do not seem right at present.

The wave raised by Russia's liberal financial and economic wing could "wash away" the remnants of technology and production in the country. Before the "inclusion" of sanctions, a considerable part of state revenues, including funds of the National Welfare Fund, were accumulated abroad, in the USA [12]. Almost 700 bln USD had been accrued in such funds. This Russian money was controlled by foreign institutions.

Huge funds, trillions of dollars over the past 30 years, which were withdrawn from the country, could have been invested in the development of national industry, and lowering the lending rate would have opened up tremendous opportunities for domestic investment and would have created a real reserve for rapid development. But this money was withdrawn from the Russian economy. They essentially became an investment in the USA economy and industry. Russia counted on foreign investment, the arrival of foreign technology and energy exports. As a result, this system led to a dependent semi-colonial status.

As soon as the situation in relations with the West worsened, technology and investment left Russia, gas and oil sales declined. Approximately 60 % of the funds accumulated in foreign financial institutions were frozen and made inaccessible after the start of the special operation in Ukraine [13]. The amount lost is equal to two annual budgets of Russia. However, the Central Bank, even in the current crisis, does not lower its lending rate to stimulate business growth and import substitution, but, on the contrary, raises it to keep the Russian ruble to US dollar exchange rate. *(For comparison: in the USA this rate is only 1.7 %.)*

Obviously, the monetary system that led to this situation must be reviewed in the first place. It is necessary to create conditions for intensive domestic investments within the Union State. Alongside traditionally prioritized economic sectors, it is imperative to support knowledge intensive industries, as well as fundamentally new technologies, and especially in backbone sectors such as transport, energy, agriculture, industrial and civil infrastructure, which determine the level of development of national sovereignty and security.

This is what the Western ideologists are afraid of, insisting on sanctions and governing the activities of the Central Bank of the Russian Federation through the International Monetary Fund (IMF). They do not want to allow the industrial development of countries that in their eyes act as rivals in the struggle for "living space" or even "enemies", as they are now trying to portray Russia.

The second most important topic of the previously mentioned World Economic Forum in Davos was traditionally the ecology and global warming. Despite the attractive and outwardly humane wrapping, the ideas voiced during the discussions on environmental protection are intended to achieve the same goals as the sanctions imposed on Russia – the elimination of rivals. For example, Ronald Busch, Executive Director of Siemens AG, proposed to take radical measures at the level of international legislation – to set prices for carbon, which, according to him, would create an incentive for businesses to decarbonize their operations [9]. In fact, it is easy to understand that such a decision would not be an incentive at all, but a lethal technological sanction against those countries and businesses that, for financial reasons, cannot afford to pay for carbon, and especially to decarbonize production with complex, expensive and inefficient equipment.

All Western actions and rhetoric since the outbreak of the COVID-19 pandemic show that Europe and the USA are not willing to cooperate with countries that, in their view, are not sufficiently developed. There are a majority of such countries on the planet, including the countries of the Union State. The behavior of the European powers demonstrates that they only pursue the interests of a narrow "inner circle". For example, it does not matter to them that sanctions against Russia threaten them with a fuel and food crisis of their own. Although they are aware of this.

Also at Davos in May 2022, IMF Managing Director Kristalina Georgieva said that developing countries faced food shortages due to sanctions against Russia, which is the main supplier [14]. Despite this acknowledgement, sanctions pressure has not waned; it is likely that this situation pleases the IMF and the EU. In their view, developing countries should not develop too much, otherwise they may threaten the leadership and hegemony of the IMF and the EU, which these organizations will try to counter with all their might, as we have seen in the case of Russia and Belarus.

Therefore, in the current situation, Russia and Belarus have to rely only on each other. At the same time, strengthening integration in the Union State opens up new opportunities and horizons for the countries, allowing them to refocus

on the domestic agenda, building a course for increasing autonomy, sovereignty (including technological) and economic growth. The Union State can create, from scratch, new financial institutions, form a new government and a better monetary system, unaffected by unfriendly countries, as well as implement various programs involving a full re-booting of the Union economy onto new technological rails.

Obviously, in order to achieve these plans, it is necessary to gain independence from the supranational liberal global systems (WTO, WHO, Kyoto Protocol, IMF, etc.) created by the "deep power" and quasi-elites with a single and deeply concealed goal – to rule the world through their agenda and in their interests. The sovereignty of the Union State – political, social, technological and economic – is in no way a part of these interests.

In order to achieve sustainable development goals in the Union State, we need to make considerable efforts to radically change the nature-intensive raw materials trends in the Russian Federation, which have gained enormous inertia. It is becoming more apparent (and the recent crisis has confirmed this) that the export-raw materials model of the Russian economy has exhausted itself. And environmental sustainability must become an important aspect of the new model [15].

Problems that need urgent solution by the leaders of the Union State are: depletion of natural capital as a factor of economic growth; grave impact of the polluted environment on human health; structural shifts in the economy, which increase the share of nature-intensive and polluting industries; greater environmental risks due to considerable physical deterioration of equipment; high environmental intensity levels; natural resource orientation of exports; ecologically unbalanced investment policy, leading to an imbalance between nature-intensive and processing, manufacturing and infrastructure sectors of the economy; other.

The above problems arise largely from the underestimation of the ecological factor in macroeconomic policy, which leads to further degradation of the environment and the depletion of non-renewable natural resources. In Russia, the negative ecological structural shifts were exacerbated by the crisis, during which the most survivable sectors were raw materials exports, largely due to government support. The crisis has clearly shown the enormous dependence of the Russian economy on the exploitation of the Earth's interior and the sale of natural raw materials [16].

Despite the efforts made by the Russian leaders in the field of innovation, modernization, diversification and import substitution, there is still a risk that the country's economy

will become solely export-raw material one, and there is a growing share of industries with a strong adverse ecological impact. In addition, we can observe further pollution and degradation of the natural environment and disruption of the fragile balance of biosphere ecosystems, which leads to the aggravation of human health and limits the possibilities of civilizational development. Rough estimates of risks from water and air pollution allow us to say that the economic costs to maintain the health of the Russian population are on average not less than 4–6 % of GDP. In the regions, particularly in the Ural, the health detriment for environmental reasons can be as much as 10 % of the GRP [17].

### **Environmental Pollution Problems**

In 2022, Victoria Abramchenko, Deputy Prime Minister of the Russian Federation, named the most environmentally unfavorable cities in Russia, where the degree of air pollution should be reduced by 20 % after implementation of the federal project "Clean Air". These are Chelyabinsk, Nizhny Tagil, Magnitogorsk (where large metallurgical plants are located), Norilsk, Novokuznetsk, Omsk, Krasnoyarsk, Cherepovets, Lipetsk, Bratsk (which has large aluminum smelters), Chita and Mednogorsk [18].

Of course, in many settlements, industrial enterprises and power plants create a critical environmental situation, but they still have a local character, although they pose quite high risks to the health of people in the regions of allocation.

The most unfavorable factor of environmental impact on the health of the population is air pollution from motor vehicles.

The second place in this dubious rating is urban noise. As a result of rapid development of transport load over the past 20–25 years, its level has increased by 5–10 dB, i.e., 2.5 times in terms of subjective perception of loudness [19]. Accordingly, we can assume that the effects of noise on the health of urban residents are quite significant.

Although we are now witnessing a decrease in hazardous emissions into the atmosphere and, albeit slowly, improving pollution indicators, the rate of soil deterioration is not decreasing; on the contrary, there is an accelerated degradation of their quality and fertility. This indicates that the existing government interventions do not fully ensure the preservation of soil fertility as a resource that guarantees the food security of the country and as the most essential natural component that contributes to the sustainable functioning of biosphere ecosystems – not only local and regional, but also global, planetary.



Soil is the bedrock of agriculture and the natural environment in which almost all food crops grow. It is estimated that 95 % of food is produced directly or indirectly on natural soils [20]. Today, about 30 % of land is moderately to severely degraded due to erosion, salinization, compaction, acidification and chemical contamination [21].

Soil impoverishment and degradation are now such that the ability of future generations to meet their most urgent needs is threatened. Based on available estimates of current demographic trends and the predicted growth of the world population by 2050 (10 bln people), we can assume that agricultural production in the world would have to grow by 60 % on average and by almost 100 % in developing countries in order to just meet the demand for food [22].

According to data from the Federal Service for State Registration, Cadastre and Cartography, as of January 1, 2021 the acreage of the land fund of the Russian Federation accounted for 1,712 mln ha, including 1,126 mln ha of forest land (65.8 %) and 381.7 mln ha (22.3 %) of agricultural land [23]. Statistics from recent years shows that agricultural land is declining, as it has lost its original quality, overgrown with forests and became unsuitable for further use for its intended purpose. Thus, in the period from 2011 to 2021 the total area of agricultural land in the Russian Federation decreased by 12.6 mln ha, or over 3 %. In this regard, priority objectives

for the development of the country's agro-industrial complex are aimed at gradually involving previously unused lands with improved properties in agricultural turnover.

The total area of land resources in the Republic of Belarus is 20.76 mln ha; forests and agricultural land prevail, with an area of 9.6 mln ha and 8.3 mln ha, respectively. *(For comparison: the Tyumen Region of the Russian Federation alone with its autonomous districts occupies 146.4 mln ha, which is seven times the area of Belarus.)*

The influence of Russia as a Eurasian state and its giant territory on global climatic, environmental, geopolitical, economic, social, demographic, resource, infrastructure, energy, investment, innovation, intellectual and other problems of our time exceeds the influence of Belarus by one or two orders of magnitude, therefore, in this analysis, the problems of the Union State are considered primarily from the perspective of the geopolitical interests of Russia, which occupies 1/9 of the land surface (for Belarus, this indicator is 1/722).

Analysis of the results of soil monitoring for organic matter (humus) as the main determinant of soil fertility revealed that slightly humus soils prevail in the Russian Federation. It is 37 mln ha, or 37.1 % of the surveyed area (99.7 mln ha). Soils containing less than a minimum of humus make up a significant part – 25 mln ha (25.1%); medium humus soils account

for 26.2 mln ha (26.3 %), while the proportion of highly humus soils does not exceed 11.4 mln ha (11.4 %) [24]. The biggest part of arable lands with humus content below the minimal level is in Samara region (2.8 mln ha, or 99.2 %), Orenburg region (2.5 mln ha, or 41.2 %), Kurgan region (2.1 mln ha, or 86.2 %), Rostov region (2 mln ha, or 51.1 %), Saratov region (1.7 mln ha, or 29.9 %), Stavropol Krai (1.3 mln ha, or 32.1 %), Volgograd region (1.3 mln ha, or 23.1 %), Chelyabinsk region (1.1 mln ha, or 44.1 %), Altai Krai (1.1 mln ha, or 18.8 %).

### **Climate Change Problems**

According to the data provided in the relevant evaluation reports by the Russian Federal Service for Hydrometeorology and Environmental Monitoring, the average annual temperature in the territory of the Russian Federation is growing more than 2.5 times faster than the global rate of 0.45 °C per 10 years, and it is particularly rapid in the Arctic zone, where the growth rate reaches 0.8 °C per 10 years. In the Arctic in recent decades there has been a sharp decrease in sea ice area with significant inter-annual variability. Based on calculations in Russia during the 21<sup>st</sup> century, average surface air temperature is expected to grow. The greatest warming is likely in Siberia and northern regions of the country, as well as in the Arctic. Further degradation of permafrost is expected, which is accompanied by an increase in the thickness of the seasonally thawed layer and a northward shift of the border separating the areas of seasonal thawing and seasonal freezing of soils. Reduction of the ice cover of the Arctic Ocean will continue throughout the 21<sup>st</sup> century, mostly due to a reduction in the area of perennial ice.

World statistics confirm the validity of model calculations and forecasts by scientists and experts on the acceleration and growth of the socio-economic consequences of both global and regional warming and other climate changes, including those in Russia. Experts of the World Economic Forum have been publishing annual reports with ratings of global risks for more than 10 years, among which the highest positions are occupied by threats to the population and economy associated with climate change.

Extreme weather topped the list of global risks in the 2021 ranking, taking first place in terms of probability and second in terms of the scale of impact and severity of consequences. Natural disasters and failures in the efforts to reduce the man-made impact on the climate and adapt to climate change are also among the leaders in both criteria. In addition, large-scale forced migration, a type of which is referred to as "climate refugees", is a priority in terms of probability.

In recent times, general concerns about environmental threats have been growing. For the first time in the decade-long history of global risk analysis, the World Economic Forum determined that environmental hazards ranked all of the top five risks by probability and three of the top five risks by impact [25].

There is also an alternative perspective put forward by independent researchers and experts, including those from Russia and Belarus. It is as follows: global warming is not caused by man-made factors, but by natural cycles caused by processes in the bowels of the Sun and the Earth, as well as by their movement along planetary and galactic orbits. In particular, we know that there is a constant acceleration of thermonuclear combustion of hydrogen in our luminary and an increase in its brightness, which in time (about 5 bln years) will even turn the Sun into a red giant, which will expand and consume the Earth. This position is also supported by such a fact that in a historical retrospective the temperature on the planet was not strictly related to the content of greenhouse gases in the Earth's atmosphere, including carbon dioxide.

The entire multimillion-year history of life on our planet demonstrates that CO<sub>2</sub> is not the main climatic factor (from the perspective of the greenhouse effect, the content of water vapor in the Earth's atmosphere and ozone in the ozone layer are much more relevant). For example, 250–320 mln years ago, in the Carboniferous period, the concentration of carbon dioxide was half as high as today, and the average temperature was 10 °C higher. Whereas 150–200 mln years ago, its content was almost an order of magnitude higher than today – 0.3 %, and 400–600 mln years ago – even 0.6 %, and there was no global warming then. On the contrary, virtually the entire planet was covered in ice.

It is obvious to the author of this study that the "5D" program (digitalization, deindustrialization, decarbonization, desocialization, depopulation), which is being imposed on humanity with manic persistence by the global quasi-elites through their spokesmen (the Club of Rome, the World Economic Forum and the UN and World Health Organization bodies under their control) and is currently underway throughout the world, pursues completely different strategic goals than those that the Western mass media are talking about.

In fact, the consequences of global warming do not really matter for Russia and Belarus. For example, Russia will only benefit from it, as the climate of its northern territories will become more favorable. The rising ocean level will flood only the coastal area, primarily the shoreline of the Arctic Ocean, which is practically uninhabited by people.

But it will improve Russian and international logistics, because the Northern Sea Route will be free of multiyear ice. It will also make it easier and cheaper to extract natural resources – apart from hydrocarbons, the Russian Arctic has unique deposits of phosphorus, mercury, titanium, tantalum, tin, diamonds, gold, nickel, copper, silver, tungsten, uranium, platinum, palladium, molybdenum, as well as precious, rare, rare-earth and non-ferrous metals.

Furthermore, the rising level of the slightly warmer Arctic Ocean will increase Russia’s marine biological resources, increase opportunities for northern aquaculture and expand the area of agriculture and its productivity, as winter in the north will not be as severe and summer will be warmer. Multiple reasonable forecasts indicate that the ocean level in the next thousand years will not rise higher than 10 m, which threatens not Moscow and Minsk, but such megacities as London and New York. That is why it is the British and Americans who are so anxious about global warming and climate risks. But why must the Union State, to the detriment of its own interests, help its explicit geopolitical adversaries in solving their problems? After all, they are not enthusiastic about supporting Russia and Belarus, and on the contrary, over the centuries they have brought us a lot of irresolvable problems and horrific troubles.

### Transport Complex Problems

The Russian economy is marked by a high degree of spatial heterogeneity. The key objectives of the Transport Strategy of Russia until 2030 are to create a common transportation

space, to make transport safer and to improve accessibility for passengers [26].

Russian regions differ significantly in the level of socio-economic development, natural resource and production specificity. The main reason for the critical shortage of permanent population is not as much the harsh natural and climatic conditions as the transport isolation, which automatically deprives citizens of basic mobility and access to the basic benefits of civilization such as a diverse range of products and consumer goods.

The strategic problems of transport complex development in Russia are:

- low mobility of the population;
- limited accessibility of transport and logistics services;
- low efficiency and cost-effectiveness of the transport complex;
- unsatisfactory technical level and orientation to outdated century-old transport technologies;
- insufficient use of transit potential, lack of connection with the elements of global logistics;
- overall instability of regional and national economic development.

Solving the problems of sustainable development and finding a balance between economic growth and quality of life are especially relevant for cities, which are home to the majority of the world’s population. The United Nations Population Fund predicts that by 2030 the number of urban dwellers in the world will reach 5 bln, with the urban population

Problems of urban mobility		
Economic	Social	Environmental
Traffic congestion	Impediments to mobility of disadvantaged groups of the population	Air pollution
Increased costs for the maintenance and development of transport and related infrastructure	Negative impact on public health	Degradation of urban ecosystems
Increase in user costs	Negative impact on social relations and active use of public spaces	Negative impact on water bodies and urban soil
Limited mobility of urban population	Low livability of urban areas	Excessive use of non-renewable natural resources
Losses in traffic accidents (deaths and injuries to citizens)	Negative impact on visual appearance of urban environment	Noise pollution
Loss of urban land for agricultural production	Isolation of some urban areas	Urban sprawl and emergence of environmental problems in surrounding areas
Loss of urban land due to development of the street and road network and parking space	Negative impact on the level of urban security	Burial of urban waste (including household waste) in adjacent areas; resulting degradation of soils and regional ecosystems
Loss of time and deterioration of logistics due to spatial urban sprawl		

growing mostly in medium and large cities rather than in megacities. In addition to the increase in the number of city dwellers, urban settlements are also expanding. According to the United Nations, by 2030 the area of cities will increase three times in developing countries and 2.5 times in industrialized regions [27]. For example, the world's largest industrial city of Chongqing (China) has already caught up with Austria in terms of its area – it has taken over 82,000 km<sup>2</sup> of land from nature.

As reported by the Federal State Statistics Service, the total population of Russia as of January 1, 2022 was 145.4 mln people, with a population density of 8.5 people/km<sup>2</sup>. By the first indicator the Russian Federation ranks ninth among all states of the world, and 180<sup>th</sup> by the second (179<sup>th</sup> – Bolivia, 181<sup>st</sup> – Chad). Statistically, there are 29 people per 1 km<sup>2</sup> in the European part of Russia; the population density in its Asian part is only 2.5 people/km<sup>2</sup>. The population density of the north is generally low – 1.03 people/km<sup>2</sup>.

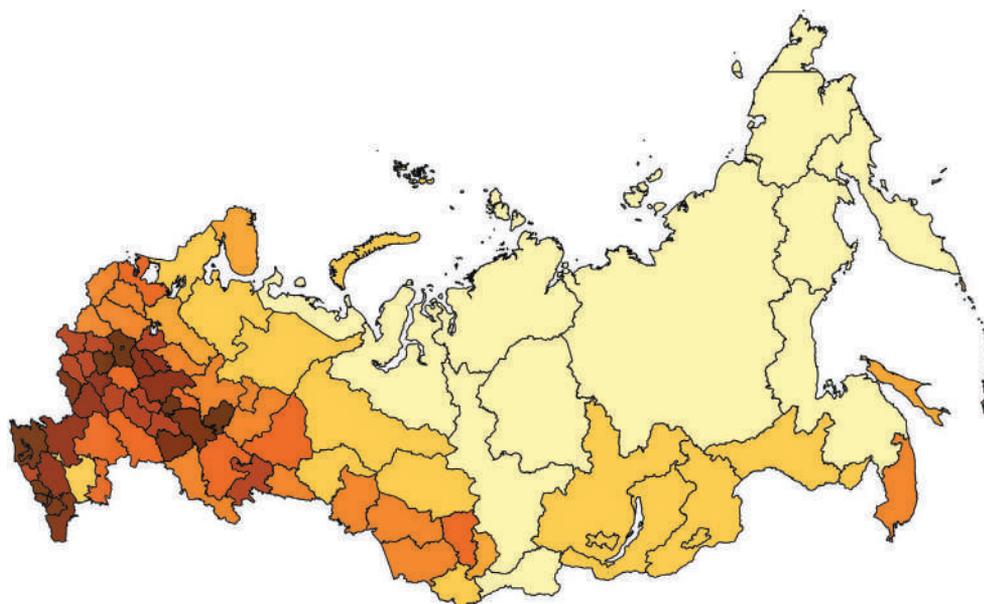
This imbalance is primarily due to geographic and historical factors. The European part of Russia was populated earlier, so there are more inhabitants today. The Asian region is the least inhabited for climatic reasons. For example, Siberia is characterized by a harsh climate (average air temperature from -15 °C to -30 °C). Furthermore, the population is affected by the infrastructure, which is not very well developed in many areas of the Asian part of the Russian Federation. In this regard, most of Russia's population is concentrated in its European territory, which, as people say, is more suitable for habitation.

## Conclusions

With the current approaches in the economy and modern anti-sustainable trends, the Russian economy may finally turn into a raw-material nature-exploiting economy with dwindling natural resources, which is on the periphery of global development and suffers from any (even a slight) decline in raw materials prices. Such unfavorable prospects are the most compelling reason for the necessity of a speediest and large-scale modernization of the national economy. However, it should be remembered that the Russian man, according to the world quasi-elites, is needed merely as a servant of the territory, which is a raw materials appendage and a resource pantry for the industrially developed Western countries. This means that the population of Russia and Belarus must be "optimized" – reduced at times, to 50 mln and even 30 mln people. All methods will be good for such a goal – pandemic, war, replacement of the economy of real values with the economy of imaginary entities, social and moral degradation.

Thus, the problem of balancing socio-economic development and the improvement of the natural, social and economic environment is an urgent task not only for Russian cities, but also for the whole country. This requires the use of a distinctive macroapproach to the territory spread over 1/9 of the Earth's land surface as a social, ecological and economic system with equal attention to all the most important aspects of human life and the functions of the surrounding Live Nature.

Population density, people/km<sup>2</sup>



## Russia's Potential for a Possible Technology Breakthrough

As the largest country in the world, with its enormous resource and intellectual potential, Russia seeks to pursue an independent policy focused on protecting the interests of its people, maintaining its territorial integrity and sovereignty in all its manifestations – from socio-economic to moral and spiritual. However, for a number of reasons, its position in the global geopolitical and civilizational confrontation has been weakened.

Russia's economic and technological lagging behind its geopolitical rivals is due to the historical events associated with the collapse of the Soviet Union and the long period of recovery that followed. At a time when the country was forced to solve the basic tasks of state and economic construction, other countries were able to allocate resources to stimulate the growth of scientific and technological potential. As a result, they were far ahead in many technical aspects.

In the current situation, attempts to catch up with European states and the USA in technological development within the conventional spheres and industries occupied by transnational corporations representing these countries are hardly feasible. In view of this, it is more appropriate to focus on innovative development in those breakthrough areas, in which Russia is able to be the first and where it will be able to establish itself as a world leader forever.

For such steps to be effective, the innovative projects must be largely scaled, embrace the entire range of advantages of the Union State and allow the full development of the territorial and resource potential of Russia and Belarus, and then ensure rapid growth of export opportunities through the supply of implemented breakthrough technologies to all countries of the world.

Russia also understands the need for fundamental changes in the existing development model in the world, as well as within the country. At the Rio+20 UN Conference on Sustainable Development in June 2012, Chairman of the Government of the Russian Federation Dmitriy Medvedev underlined: "Society, the economy and nature are inseparable. This is exactly why we need a new paradigm of development that can ensure society's prosperity without excessive burdens on nature. We must balance the interests of the economy with conservation in the long term. That said, we must achieve innovative, energy efficient and green economic growth that will benefit all countries" [28]. Perhaps the main task of the Russian economy at the moment, which is reflected in the key documents of the country's development

in the medium and long term, is to abandon the raw materials model of the economy. This direction is also the centerpiece of the concept of green economy, with most of its goals included in the fundamental documents.

The future economy of the Union State must have the following important attributes:

- the crucial value of environmental and economic living conditions of citizens and their guaranteed and stable supply of basic products and services;
- priority in the development of science-intensive, high-tech, manufacturing and infrastructure industries with minimal impact on the environment;
- a significant reduction in the share of the raw materials sector in the economy;
- a drastic increase in the efficiency of the use of natural resources and their saving, which is reflected in a steep decline in the cost of natural resources and the amount of pollution per unit of the end result (reduction of the nature intensity and pollution intensity indicators);
- a substantial reduction in environmental pollution in industry and transport.

The state can facilitate and accelerate the transition to the new economy through environmentally balanced economic reforms and the creation of an appropriate macroeconomic environment [29].

In general, it is possible to identify the main problems faced primarily by the Russian regions in the sustainability of socio-economic development:

- division of power in the economic sphere between the federal center and the regions, especially in the public sphere;
- non-diversified structure of the region's economy;
- disproportions in the financial sphere (deficit of finances in the real sector);
- growing social tensions (social stratification, an increasing proportion of the population living below the poverty line);
- insufficient development of intraregional and interregional ties, including foreign economic relations;
- unresolved issues of ensuring environmental safety;
- lack of a clearly developed system of quantitative target indicators of regional development sustainability;
- lack of an effective system of state regulation of sustainable socio-economic development;
- insufficient competitiveness of regional products, displacement of domestic manufacturers from the national market as a result of imports of foreign products.

For the development of regions with a certain degree of inertia, the timing is important. If we assume the thesis that the territory is a social, ecological and economic system, the question of time will be crucial. The economic decisions made today in such an interconnected system have long-term consequences both in terms of the impact on society, i.e., the social component, and in terms of the environmental impact, i.e., the environmental component [27]. Moreover, solutions designed for immediate economic effect without focusing on environmental and social aspects may turn out to be less profitable in the future, when society will have to bear additional significant costs due to environmental degradation or the creation of an adverse social situation.

The innovative option assumes, on the one hand, narrowing of differences in the level of socio-economic development of the Union State subjects; reduction of inter-regional differences in the level and quality of life of the population; creation of equal opportunities for all citizens, regardless of their place of residence, to exercise their social and economic rights. On the other hand, there should be a balance between building the economic potential of each subject of the state and/or municipal entity and the comfort of the living environment for the residents of the respective territories – the natural environment must not be degraded. In this regard, the key direction is the balanced development of the transport and infrastructure complex, which will provide logistics and infrastructure conditions for the growth of the innovative component of the economy, improve the quality of life and ensure the transition to a poly-centric model of spatial progress of the Union State.

Activities for the development of the new transport and infrastructure complex of the Union State are:

- creation of a network of territorial and production clusters – residential, industrial, energy, IT-hubs, scientific, educational, tourist, recreational, shopping and entertainment and others, which focus on high-tech, knowledge-intensive and industry-forming technology and production;
- arrangement of territorial and production clusters focused on deep processing of raw materials and energy production, which ensure the development of new territories (mountains, sea shelf, taiga, tundra, etc.);
- establishment and development of tourist and recreational areas in the Crimea, on the Black Sea coast, Altai, Baikal, Kamchatka, the Russian North and other regions;
- development of major transport, logistics and industrial and energy hubs in the West and Northwest of the Union State, the Urals, Siberia, the Arctic, the Far East, Southern Russia

and other regions, including four southwestern regions annexed to the Russian Federation in 2022.

When exercising this scenario, the modernization of the transport and infrastructure complex of the state must progress at an advanced rate compared to other sectors of the economy and the social sphere in order to lift infrastructure constraints of prospective socio-economic development, which depends on communications – transport, energy and information.

Therefore, new requirements to the transport and infrastructure complex arise: on the basis of breakthrough transport and infrastructure technology there should be a transition from the current extensive development model to the intensive one. That is why transport and infrastructure innovations are to become the starting point of sustainable growth in the economy of the Union State.

### **Suggestions of the Unitsky Group of Companies on the Program for Rebooting the Economy of the Union State of Russia and Belarus to the Biospheric Path of Civilizational Development**

Currently, the EcoSpace program [30] developed by the international Unitsky Group of Companies (UGC) proposes technologies that completely satisfy the above-mentioned requirements:

- relict solar bioenergy (RSBE), which relies on the energy of the ancient Sun (which illuminated the Earth hundreds of millions of years ago);
- biospheric agriculture based on the mass production and use of living humus derived from brown coal and shale (instead of chemical fertilizers, toxic chemicals, pesticides and genetic modification of crops);
- construction of linear cities (uCities), made up of cluster-type pedestrian settlements;
- “second level” transport and infrastructure complexes – Unitsky String Transport (uST);
- creation of a geocosmic spacecraft – the General Planetary Vehicle (GPV), designed to provide large-scale passenger and cargo traffic required for the industrialization of near space, which is millions of passengers and millions of tons of cargo per year.

An international group of companies, created by engineer A. Unitsky, initiates rebooting of the productional and economic system of the world economy through a return

to Live Nature, of which the Earth's industrial civilization is a biological part, and a very insignificant one at that. It is proposed to accomplish this transition through natural (biospheric) technologies, but by no means through nature-like technologies. Such rebooting can be implemented in two directions, which can develop in parallel.

**First direction.** Using innovative biospheric technologies in residential, industrial and transport infrastructure, in energy and agriculture – based on the forms of economic management established in the world. This will ensure significant economic growth and large-scale implementation of these biospheric technologies on a planetary level.

**Second direction.** Gradual transition (within a generation, as it was carried out, for example, in the era of Stalin's industrialization in the USSR) to a new post-capitalist system, where the economic entities and cultural life will become small communities of a few thousand people, united by place of residence (in pedestrian cluster villages) within a single global transport and infrastructure system of pedestrian clusters of uCities.

Any economic system is built on agriculture and energy. What do today's experts suggest for these industries? Genetically modified products and artificial meat, which are dangerous to human health, as well as the transition to renewable energy sources, which is possible only if the world energy consumption will be considerably, by an order of magnitude, reduced. However, this can happen only as a result of large-scale space development and removal of environmentally hazardous and energy-consuming part of the Earth's industry off-planet, provided that universal human values are observed in the future and the global population is kept at 10 bln people, without its reduction and without digitally modifying people into convergent cyborgs [31].

An alternative to conventional anti-biospheric agriculture and power industry will be biospheric agriculture and environmentally friendly relict solar bioenergy. This is conditioned by the following reasons.

**First,** agriculture must be localized in places where people live, within a walking distance, making it highly productive and based on the use of living, all-natural and organic fertile humus – without using chemical fertilizers, pesticides and genetic modifications. Wherever food will be produced, all its waste, including sewage and household waste, will be turned into humus. New food will grow on this humus here in the residential cluster, which corresponds to the natural cycle of living matter in the biosphere, as it has always been in the previous hundreds of millions of years of the evolution of life on our planet.

Currently, food for humans grows in one place, while food waste, including sewage, is generated completely elsewhere, even thousands of kilometers away. At the same time, the outflow of nutrients from the living fertile soil of agricultural lands on the planet (billions of tons annually) is not compensated, because only three chemical elements – nitrogen, potassium and phosphorus – are brought back into the soil. Moreover, plants in their growth retrieve from the soil almost the entire periodic table – more than 80 chemical elements [31]. In addition, simple and soluble chemical fertilizers produced by industry, but not complex organic insoluble humates created by nature, are brought into the soil of agricultural lands today, as it happened earlier and is happening now in the natural component of the Earth's biosphere, i.e., in the part where human intervention is avoided or minimal.

**Second,** the energy stored in brown coal and oil shale is the relict solar energy received from our sun by living organisms that inhabited the planet more than 100 mln years ago. Therefore, oil shale and brown coal, which have the same sets of macro-, micro- and ultramicroelements as the ancient organisms did when the environment was not polluted by industrial waste, can be used not only to generate electric and thermal energy, but also to produce relict biohumus – the foundation of any soil fertility.

It has long been known that food chains for animals, including humans, begin in the fertile part of soils consisting of humus and thousands of species of soil microorganisms (their number is up to a trillion living organisms in each kilogram of chernozem). Their symbiosis allows healthy, even healing, food to grow. It is the natural living soil, not the soil that is today killed by mineral fertilizers, arable farming and pesticides all over the world, that is the key link in the biosphere of our planet, which we can call a global immune system. The health of all living organisms on Earth, including humans, depends on the condition of this system. In particular, the biospheric and evolutionarily related human immune systems, weakened by modern industry, are the root causes of epidemics and pandemics.

It is suggested to mix combustion waste (ash, slag, sludge, dust, flue gases) and unburnt shale or brown coal in the ratio of about 1:5, with the addition of any organic raw material – grass, peat, sawdust, manure, household garbage, etc. This multicomponent mixture, which contains both organic and mineral raw materials, is finally processed into living fertile humus in bioreactors with specially selected communities of aerobic and anaerobic microorganisms [32].

The obtained living relict humus can be added to the top soil layer (30–40 cm thick) in an amount of 2 % by mass – with such a small content, even desert sand will become fertile.

That is, a living and highly fertile soil will be created around power plants, where gardens, for example, can be planted. Consequently, grapes, apples and other agricultural products will become a peculiar "waste" of the operation of such relict solar biopower plants.

This is an easy thing to accomplish, since more than 80 chemical elements that make up all of the Earth's living organisms, including ancient plants, have turned into coal and shale in prehistoric times, and they will all (through the restored relict soil in hundreds of millions of years) give a new life to new organisms.

Biopower plants can be combined into complexes with agricultural facilities. Then the excess carbon dioxide from the operation of relict solar biopower plants will not only be chemically bound in humus, but also fed into greenhouses (in cold regions of the world) or orangeries (in tropical regions), from which their productivity will increase many times more. In greenhouses and orangeries carbon will be utilized by plants and processed into dietary carbohydrates, proteins, vegetable fats, enzymes, vitamins and other diverse living matter – as thousands of various organic compounds, including practically the entire periodic table, with carbon accounting for about 60 % of their mass.

The heat (which is about 55 % of the combustion energy) will be used for heating greenhouses in cold climates or for air conditioning of orangeries in hot countries (in special thermal convertors). At the same time, the overnight surplus electricity will be used for additional lighting of greenhouses and orangeries, which will also increase their productivity.

World reserves of brown coal and shale (about 600 tln tons) will be enough for about 15,000 years to provide the future population of the planet of 10 bln people with green energy at the rate of 2 kW per each human, which will amount to a total power capacity of about 20 bln kW. *(For comparison: the capacity of all existing power plants in the world today is an order of magnitude lower – 2.1 bln kW.)*

**Third**, residential, industrial and transport infrastructure must be deployed in uCities, and within a walking distance, making it possible to effectively fit out not only already developed land, but also remote and inaccessible regions, thereby solving local and global problems, including environmental ones caused by widespread urbanization. This will allow the development, with no negative impact on nature, of currently unpopulated areas, such as the sea shelf or mountains, taiga or jungle, desert or tundra.

Gradually, more and more people will be willing to settle in such places, preferring them for a happy and dignified life instead of wasting it in the pursuit of wages and profits

in the concrete and asphalt jungles of the megacities. In fact, the same thing will happen as before, when people moved massively from the countryside to the cities, except that the new migration will be in the reverse direction.

**Fourth**, the attractiveness of uCities for investors and consumers will be ensured by more comfortable living conditions in them, as well as transport accessibility with significant savings on the construction and operation of all residential, industrial and transport infrastructure. Should, for example, a need arises to visit a certain megacity, it will be possible to do it for an acceptable time and money, even if the residential cluster is hundreds of kilometers away from it.

Communication between the existing cities and clusters of uCities will be arranged through rapid transportation systems in elevated version, known as Unitsky String Transport and currently promoted under uST brand, in which passengers and cargo will travel at speeds of up to 150 km/h in the city and up to 500 km/h in intercity communication. In the future, with the creation of transport systems with tunnels, where the atmosphere will be rarefied to eliminate air resistance, steel-wheeled rail electric cars will accelerate up to 1,500 km/h. Then it will be possible to travel from one edge to another of the world's largest territory – the Union State – in less than 8 h, with maximum comfort, without long waits at airports and train stations.

**The arrangement of everyday life in a linear city.** A residential cluster with an area of about 100 ha (the size planned is about 1 km) is a pedestrian urban settlement. It will comfortably accommodate from 2,000 (at the rate of 500 m<sup>2</sup>/person, or 25 ha per average family of five) to 5,000 residents (200 m<sup>2</sup>/person, or 10 ha per family). The cluster is designed for construction on land, but with minor modifications it can also be built on the sea shelf or, if the buildings and structures are floating, in the open sea.

The clusters are sized so that their centers can be connected with each other by uST sagging-type transport – in one span, without supporting towers. It is well known that in urban transport, stops at intervals of less than 1 km significantly reduce the average speed of the rolling stock, which in this case would lead to an increase in travel time along a uCity. And if the spans are longer than 1.5 km, the string-rail track structure will sag excessively on them (under its own weight and the weight of the rolling stock), which would require the arrangement of passenger stations at a height of 50 m or more. Therefore, the planned size of the cluster and the span lengths within 1.5 km are optimal both in terms of pedestrian and transport urban logistics, and in terms of technical and economic performance.



The residential area of the cluster of the uCity will be divided into quarters, separated by a forest strip, where there will be places of common use for cluster residents and guests: recreation and sports areas, various public buildings and facilities, sports fields, stadium, health center, medical center, stores, cafes, workshops, kindergarden, school, etc.

In the center of the residential area, within a 10-minute walking distance from any point in the cluster, there will be a dominant building with a uST station on one of the floors (or on the roof). The center of the forest strip at a height of over 10 m will include a string-rail track structure – visually light and delicate, which does not cast even a shadow – which will be at least 10 times cheaper than the traditional subway and provide the same performance. The rolling stock of the low-noise transport complex – a kind of “air metro” – will be steel-wheeled rail electric cars called uPods.

The uPod moving high above the ground, which eliminates the adverse effect on the aerodynamics of the shielding solid roadbed, is considerably more energy efficient than any conventional rolling stock: car, bus, tram, subway train. For example, the uPod is “greener” than a conventional pneumatic-tired electric car by at least three times, as it uses three times less energy for the same amount of transportation.

Residential buildings in the cluster will be combined into an architectural and functional system – a multi-apartment extended house, a kind of “horizontal skyscraper”, i.e., a high-rise building “lying on its side”. The size of a linear house, including its length, can vary quite widely – from 100 m to 1 km. Each house (with a living area of at least 100 m<sup>2</sup>, and a total area of at least 300 m<sup>2</sup>) will be designed to accommodate an average family of five. The houses will have two floors – living area and attic.

The buildings can be framed with vacuum glass panels (the know-how of engineer Unitsky) – the thermal insulation properties of such panels, which are up to 20 mm thick, are equivalent to, for example, a brick wall 1.5 m thick. Here the load will be received by the frame of the building (steel, reinforced concrete or other), and the vacuum glass should provide comfortable conditions inside the house for people to live in – optimal temperature, illumination, humidity, air purity, etc. If necessary, such panels can be easily transformed into screens which can display any images. The main material for construction – sand – is sufficient on the planet for trillions of “glass” skyscrapers. It is also important that the glass wall does not need to plaster, paint, protect against external factors – extreme heat and cold,

high humidity, high airborne dust, sand, sea salts, etc. With appropriate robustness (glass can be made armored), such a highly-efficient building panel and, accordingly, the building itself can last for hundreds of years without losing its consumer appeal.

In terms of energy efficiency, each “horizontal skyscraper” of the cluster will be made as a “house plus energy” (according to the European classification), when the house with the help of engineering equipment – solar panels, collectors, heat pumps and recuperators – generates more energy than it consumes itself.

Each cluster will be made as an autonomous urban-type settlement, although by the structural arrangement of residence, it is more likely related to rural settlements. The cluster will be provided with all the necessary things from its own production – organic food, clean water, green energy, safe transportation, as well as other products and services. This will ensure food, energy and infrastructure security of the uCity even in the face of pandemics and lockdowns or other natural and man-made disasters.

It is impossible to imagine an actual ecohouse without the production of a variety of organic food for the needs of each household such as vegetables, fruits, meat, milk, eggs, mushrooms, fish, etc.

The roofs (mansards) of each “horizontal skyscraper” in the cluster of the uCity will be made as glass greenhouses (orangeries in hot countries), which are connected to each other and have a road in the center for the entire length of the house in order to transport maintenance equipment [33].

This will allow for centralized and most mechanized and automated growth of not only organic vegetables and fruits in greenhouses (or orangeries) on the roof, but also seafood and fish, both marine and freshwater, as well as mushrooms, poultry and other organic products for food. At the same time, the enclosed agricultural area, completely independent of external natural and climatic conditions, can be maintained commonly for each “skyscraper” by the gardener and agronomist hired by households.

Microgreens and green food for the residents of the cluster of the uCity (for people and animals) will also be produced in greenhouses and orangeries, including those made as vertical farms. This technology feeds the root system of plants with a solution of liquid humus with a natural selection of nutrients. Within 5–7 days the planted seeds will give green shoots – microgreens, which contain a storehouse of vitamins and thousands of biologically active and mineral substances. Since evolutionarily all plants

on the planet are genetically formed to be fed with organic humus, such technology, unlike the conventional nature-like hydroponics on chemical minerals, can be considered as truly natural.

Humus consists of insoluble salts of humic acids stored in the soil [34] and is converted into soluble form by a community of thousands of species of aerobic and anaerobic soil microorganisms immediately in the root system of plants. Therefore, the agricultural farms of the uCity will practice humusponics – this technology is about feeding plants with liquid humus, in which insoluble salts of humic acids have already been converted to the soluble form. Such experiments have been successfully carried out in the Republic of Belarus by Unitsky's Farm Enterprise [32].

Microgreens grown with humusponics are natural organic food originally rich in easily digestible nutrients and vitamins; the technology of its cultivation is free of chemical fertilizers, chemical protection (pesticides, herbicides and other toxic chemicals) and GMOs. For example, compared with dry animal feed (mixed fodder, meadow hay), humus-derived wheat sprout feed is better assimilated, more energy-intensive, contains three times more proteins and fats, and exceeds dry feed in terms of carbohydrates, sugar and vitamins by about 10 times. It is also much healthier and more effective than fresh grass and silage. Unlike any feed eaten off-pasture, this feed comes in live form at its peak, preserving all the vitamins and digestive enzymes that animals need so much, particularly in winter.

Another fundamental difference is that the animal eats not only the aboveground part, but also the root part rich in sugars and proteins, as well as the starch-containing seed residues. Various organic wastes from the cluster can be used as a substrate for germination of seeds: straw, oilcake and even specially prepared wood chips, which microorganisms and plant roots convert (ferment) into easily digestible food. As a result, we get a balanced, complete and stable in its composition and quality feed, which provides a variety of necessary nutrients to herbivorous animals.

Regardless of the time of year and climatic conditions (droughts, heavy rains, heat, frost) the humusponic units can supply fresh green food not only to animals, but also to people in any region all year round, which is especially crucial when vitamin deficiency occurs in winter.

To grow a ton of green fodder you need about 2 tons of water, while the traditional field method requires 400 tons, i.e., 200 times more. For the traditional cattle fodder it is necessary to have about a hectare of land per head, and in the proposed technology on the year-round operating

vertical humusponic farms you need about 1 m<sup>2</sup> of floor, i.e., 10,000 times less. Such technology will exclude (moreover, on natural territories 10,000 times larger) mechanical soil treatment and fertilizers application, as well as such labor-intensive operations as sowing, reaping, harvesting, transportation, drying, etc.

Growing of agricultural products in greenhouses in a protected environment, for instance presently in the Netherlands, yields an average of at least 50 kg/m<sup>2</sup> per year. Accordingly, it is enough to have about 100 m<sup>2</sup> of year-round greenhouses to provide a family of five people with organic fruits, vegetables, berries and herbs.

If you place greenhouses on the roofs of "horizontal skyscrapers", i.e., replace traditional roofs with year-round greenhouses (orangeries in hot regions), each house will be able to feed the family living in it with plant food. The total area of natural soil in such urban development will not diminish as the soil from under the house, even if it is a desert sand, will be enriched with live highly fertile humus and transferred to the roof. So, the construction of such uCities will not decrease, but rather increase the amount of fertile soil on the planet. At the same time, such soil will become "greener" – it will be more productive even compared to chernozem.

The greenhouse of the "horizontal skyscraper" or its common basement floor, made as a common agricultural farm, will also be used for growing mushrooms, fish, seafood, small animals (like rabbits) and poultry (like quails) – for the requirements of the cluster's residents and for sale.

Thus, the residents of the cluster of the linear city will be fully supplied with everything necessary for living – organic food, fresh water, clean air, energy and housing. Neither the state nor corporations will have to take care of them. At the same time, the residents of uCities, who have everything to meet their primary needs, will continue to do some kind of work as part of the existing socio-economic system in general. Their labor will be paid. And their income will be spent on the purchase of goods and services.

With a consistent supply of basic goods, products and services, the volume of demand for everything else will become much more predictable. The risks of overproduction, and thus of economic crises, will be minimized. The social system will be as stable as possible, since even a person who has lost his job will not be without means of livelihood. Consequently, the probability that he or she will go to the "revolutionary barricades" will be drastically reduced. The state will feel much calmer and more stable. Like all citizens of the country and the world.



The above-described technologies have already been created and are being tested and certified in two research centers based in the Republic of Belarus (Maryina Gorka) and the United Arab Emirates (Sharjah). Six types of innovative buildings have been built and successfully operated, the ones that can be erected in the clusters of uCities, including those with greenhouses on the roofs, a subtropical orangery and a garden inside the house.

This garden is arranged according to the principle of a natural ecosystem – all the sewage in the house, including the kitchen and toilet, go to the root system of plants. There, under the ground, all organic waste is processed into fertile humus and technical water enriched with liquid humus with the help of specially selected natural communities of microflora and microfauna (several thousand species taken from the world Bank of fertile soils and soil microorganisms, created on the territory of Unitsky's Farm Enterprise). This experiment confirms that the waste of the person's vital activity is able to feed not only himself, but also one more person, not only without poisoning the Live Nature, but also enriching it with live, fertile humus.

We should note that the uST research centers were built on abandoned lands. In Belarus – on the site of a military training ground, pitted with tank tracks and shells, soaked with gunpowder and diesel fuel; in the UAE – in a lifeless desert. In a few years, these territories have been transformed into oases, where gardens and vineyards grow, including those under uST tracks [35, 36]. For example, more than 20,000 fruit trees and shrubs were planted in Maryina Gorka, about 20 ponds and lakes were dug, where more than 20 species of fish live, comprising five species of sturgeon alone. And this land, which has been killed for decades by the military and industrial machine, has not only been reanimated, but, moreover, in the territory of the Belarusian swamps, one of the best places for recreation and fishing in our republic has been created within just a few years.

"Second level" transport systems – Unitsky String Transport – have been equally successful. uST has been implemented in the EcoTechnoPark (Maryina Gorka) and the uSky Test & Certification Centre (Sharjah): six test tracks with a total length of over 4 km have already been built and put into operation there since 2016. Another five tracks with a total length of more than 7 km are currently under construction.

The developer of uST – the engineering company Unitsky String Technologies Inc. (Minsk, Belarus) – has designed and manufactured at their own production facilities 12 fundamentally different models of unmanned uPods.

These models include urban, cargo and high-speed intercity, hinged and suspended vehicles in northern and tropical versions, with a capacity of two to 48 passengers [37]. Five uPod models have already been certified, including those in the tropical design. All necessary components of transport infrastructure – passenger stations, cargo terminals, turnouts, control rooms, automated control systems, power and communication systems – have been tested and certified.

These biospheric technologies have been improved for about 50 years. Over the past period, the range of technologies implemented as part of the project has been continuously expanded. First, we developed the string-rail overpass, with the first test section built in 2001 in the Moscow region (Ozery). In parallel, the possibility of applying the technology for the development of settlements were studied. This activity took place in Russia, including that under the auspices of the United Nations under two grants led by engineer A. Unitsky (in 1998 and 2002).

The first sample of the fourth generation uPod (uBike) ran on the string-rail overpass in Maryina Gorka in 2016. At the same time, projects in agro- and biotechnology began to be actively developed. Meanwhile, the Bank of fertile soils and soil microorganisms from over 100 regions of the world was created, which is constantly replenished by investors in string technology (there are over 500,000 of them), living in 220 states and territories. Presently, all the mentioned design and technological achievements are patented in the leading countries of the globe.

Today everyone has a chance to see the viability of the proposed biosphere-friendly infrastructure technologies: you can come to our research centers and see everything with your own eyes. Unitsky String Technologies Inc., the parent engineering company of the Unitsky Group of Companies, is ready to offer our solutions to anyone who will develop technologies that will enable the economy to rebooting to rapid industrialization with biosphere engineering technologies in a short period of time. This step will raise gigantic investments, create tens of millions of jobs and stimulate the growth of domestic demand and supply. All the necessary technologies for this purpose are available.

A number of experts, including the author of this study, have a full understanding that the Earth now lacks a spatial niche for the technosphere. Or rather, it exists, and may even expand, but only at the expense of replacement and destruction of the biosphere, which historically, billions of years ago, already occupied the same spatial niche. Meanwhile, humanity cannot give up any of its basic existence platforms – neither the biosphere, which would mean the extinction

from the planet of humans as a species of biological beings, nor the technosphere, which would mean the extinction from the planet of human civilization, which exists and develops based on engineering (industrial) technologies.

Thus, we conclude that it is necessary and even inevitable to relocate the Earth's industry beyond the biosphere in the foreseeable future – into near space. Not into deep space (neither on the Moon, nor on Mars), closer to the industrial civilization that created the technosphere, to simplify, facilitate and make cheaper large-scale geocosmic logistics along the Biosphere – Technosphere route.

Many scientists have long been proposing the relocation of industrial facilities from Earth to space as one of the lines of development of the Earth's technogenic civilization to preserve both the biosphere and humanity. The principal arguments in this matter are: exhaustion of limited raw and other natural resources, negative environmental and climatic impact, overpopulation of the planet, where ecosystems are already on the verge of destruction due to overexploitation by man.

Practical implementation of the uSpace program is based on non-rocket development of near space and includes the creation and launching of the GPV [38]. The program also includes the construction of a takeoff and landing overpass and the entire geocosmic infrastructure: on Earth in the equatorial strip and in near space (near-Earth orbits in the equatorial plane at altitudes of about 400 km).

We should note that such geocosmic transportation of the future will be advantageously different from modern rocket-based geocosmic solutions: its efficiency (guaranteed annual cargo and passenger flow of tens of millions of tons and tens of millions of passengers); high comfort and environmental friendliness of geocosmic transportation (owing to the operation using only internal forces of the system, without any mechanical and energy interaction with the Earth's atmosphere); low cost of transportation (about a thousand times cheaper than with carrier rockets), using only electric traction (in its engineering nature, the GPV is a kind of electric car, but a geocosmic one).

Thus, the GPV is meant to take all hazardous industrial production beyond the Earth, opening up the prospects of using the conditions of weightlessness, vacuum, ultra-low and ultra-high temperatures, spatial, energy and raw materials resources of the near space and the infinite Universe [39].

The above biospheric technologies are complementary. Their comprehensive implementation will allow for a large-scale rebooting of the economy of any country, first and foremost of the Union State.

## **Global Effect of Rapid Industrialization by Biospheric Engineering Technologies**

Global processes marked by fast pace (increase in population, development of industry, scientific and technological revolution, emergence and rapid spread of new types of industries and services, involvement in industrial production and expansion of extraction of natural resources in an increasing number of countries, growth of consumption and, as a consequence, speedy degradation of the natural environment), are the most important distinctive features of the second half of the 20<sup>th</sup> – the beginning of the 21<sup>st</sup> century. Under these conditions, it is necessary to work out a stable, safe and balanced way of civilizational development in the "Man – Nature – Economy" system, as it becomes obvious that our technogenic civilization has once again reached a dead end. Since experts associate world economic crises mainly with overproduction, it is possible to avoid them only by changing the very nature of production and consumption of goods, products and services.

The solution to these problems needs new approaches to the definition of global and regional economic policy, the development of effective forms and methods to manage the progressive advancement of any territory.

The various recent crises reveal the instability of the world's current model of civilizational development. An important and widely recognized flaw of this model is the absolutization of economic growth at the expense of solving social and environmental problems.

The reports and documents of the UN bodies note that the basis of the transition to sustainable development is the creation of green economy [40]. In all countries the transition to this economic model will be different, because it depends on the specificity of natural, human, physical (artificial) and institutional capital of each state, the level of its development and socio-economic priorities, as well as the social culture, including that in the environmental sphere.

The concept of green economy is no substitute for the concept of sustainable development. But there is a growing recognition that achieving sustainability depends almost entirely on getting the economy right. Over the past decades, humanity has created new wealth predominantly on the basis of an anti-environmental model of "dirty" economy.

Any production, any human activity cannot exist in isolation from nature and society – they are in synergy with the surrounding natural (primarily living) and social environment, where the determinant is the society of a particular country,



which has a centuries-long and even millennia-long unique history. The very possibility of human activity is created by natural conditions and natural resources, and the natural resource potential of the territory affects the level and quality of life for the people.

At the same time, the “quality of life” of the population in any territory is a rather multifaceted concept, which includes economic, social, cultural, environmental and other aspects. Furthermore, the “quality of life” is an evolving category, reflecting the comfort of the physical and spiritual life of a person at a given historical stage of development of the territory. In the process of interaction between the natural and social environment, the natural and social environment surrounding a person is formed. It not only affects people’s health, but also determines the specifics of life and economic structure of each region.

The high rate of urbanization, acceleration and complication of urban life, which is the habitat of most of the world’s population, determine the increasing need for recreation of a significant number of people [27]. However, the achievement of this need automatically leads to an increase in the load on the natural environment and its subsequent degradation not only in suburban, but also in remote coastal areas, which are most responsive to the conditions of recreation of urban residents.

Rebooting the world economy based on the introduction of biospheric technologies in production, housing and transport infrastructure, power industry and agriculture is the way out of the social, ecological and resource crises in which mankind has found itself today. The development of a network of uCities in the future will create an alternative to modern megacities. The whole world will look different.

Linear cities will fit harmoniously into the environment of any natural and climatic zone on the planet. The urban development will not only prevent the loss of fertile land, but on the contrary, it will expand it. The uCities will be provided with everything they need for their sustainable functioning: relict green energy, organic food, artesian (spring) drinking water and clean air saturated with healing natural phytoncides (biologically active substances released by plants that kill and suppress the growth and development of pathogenic bacteria, including coronavirus). Thanks to uCity, deserts will disappear from the planet, and in the 21<sup>st</sup> century the Earth will be transformed into a blooming garden, where all future humanity – about 10 bln people – will live and work safely and comfortably [31]. Linear cities should be located 10 m above the current ocean level. If in the distant future its level rises (it does not matter whether it happens due to natural cyclical global warming or man-made warming), the ocean will not flood such settlements.

Each uCity will be designed as pedestrian clusters connected to each other by a "second level" urban electric communicator with a travel speed of up to 150 km/h – Unitsky String Transport as the safest, most energy efficient and environmentally friendly mode of passenger and cargo transportation.

The uNet air transport and communication corridor about 100 m wide will run along the uCity. It will include high-speed cargo and passenger intercity, interregional and intercontinental uST tracks (speed up to 500 km/h) and hypervelocity routes (speed up to 1,500 km/h), placed in forevacuum tunnels, as well as cargo systems.

In order to ensure comfortable traffic with centrifugal accelerations below  $1 \text{ m/s}^2$ , the curve radii (both vertical and horizontal) on the track structure should have the following values: at least 20 km for 500 km/h speed; at least 200 km for 1,500 km/h. Accordingly, the uCity itself may be convoluted in plan, while the high-speed routes along it must be as straight as possible.

With an average density of settlement in a linear city (for example, 2,000 people/km) for a population of 10 bln people the total length of all cities on the planet (built along the uNet communication network, combined with power plants, transmission lines and communications) will be 5 mln km. Then the worldwide network of uCities will occupy an area of about 5 mln km<sup>2</sup>, or 1/27 of land (excluding the coldest continent – Antarctica), and 26/27 of land will be given to national parks, reserves, sanctuaries and reservations with sparing regimes of land use [33].

By the way, deserts on the planet (excluding the polar deserts of Antarctica and the Arctic) are four times larger. That is, if we green deserts and build uCities there, then 40 bln people will be able to live in them, provided with everything required – housing, food, drinking water, energy, transport, work and recreation. And there is no need to plan, even in the most distant future, the development of a remote, cold and totally alien to us Mars, which is hostile to any earthling. All mankind has enough space on its native planet, it is only necessary to learn to be friends with the Earth's nature, not enemies with it.

Such uCities will occupy land conventionally, as gardens will grow on the roofs of all buildings and structures (in greenhouses and orangeries). We will create biogeocenoses and biospheric ecosystems there – even in place of today's deserts and permafrost. All the houses (that is about 2 bln buildings) in such cities will occupy an area of about 200,000 km<sup>2</sup>, or 1/750 of the Earth's land. The global length of the uNet network, taking into account cross-lines and "second level"

roads entering protected areas and natural resource deposits, will in this case total about 10 mln km.

*(For comparison. Currently, the total length of the world network of all types of roads is 68 mln km. These roads have already ripped away from the Earth's biosphere the best land, the size of, for example, five areas of Great Britain – exactly the kind of territory that is now "rolled up" in asphalt and "buried" under sleepers. This land is ruined – there is no life on it and no green plants to produce oxygen, which is necessary not only for our breathing, but also for the operation of industry created on the planet. Besides, cars alone kill more than 1.2 mln people on the roads every year and cripple more than 10 mln [41]. What is really happening on the planet today, and with each of us, does not worry the world's quasi-elites, these "protectors" of the "bright future" for all mankind. They are maniacally concerned only about a virtual (distant and unobvious) future: in particular, about "global warming" and "the level of the World Ocean", which, if it rises a few meters in 100 years, will flood territories much smaller than five areas of Great Britain (in addition, this land will not be destroyed and, moreover, will not be separated from the natural biospheric homeostasis, both ecological and biological). At the same time, the rising level of the ocean will not kill anyone in the literal or figurative sense. Although for the same period of time – 100 years – the existing roads alone will kill more than 120 mln people on the planet and cripple more than 1 bln. And no green electric cars, other green and carbon-free technologies, except uST and pedestrian linear cities, can really save these people.)*

Next to the residential clusters along or across the uCity, we will locate infrastructure clusters with different functionality: scientific, educational, manufacturing, sports, shopping and entertainment, tourist, recreational, etc. To improve logistics and service industries, including relict solar biopower plants with a large volume of cargo transportation of raw materials and humus, infrastructure clusters will be located outside the residential area – in the area of the uNet transport and communication corridor. At the same time, the required annual volume of cargo traffic on the world string-rail road network will be about 10 bln tons of brown coal and shale and about the same amount of fertile humus.

Each cluster will have one or more relict solar biopower plants with a total capacity of up to 10,000 kW, located outside the residential area. They will be capable of producing up to 50,000 tons of live fertile humus per year. This will make it possible, for example, to turn about 1 km<sup>2</sup> of desert (which corresponds to the area of an average residential cluster) per year into fertile land, which will be

of the same quality as chernozem. Thus, in 25–30 years of operation a planet-wide linear city can increase soil fertility throughout the Earth's land to the level of rich chernozem.

In addition, the relict solar biopower plants can carry out deep processing of some coals and shales in order to obtain from them not only fertile humus (including liquid humus), but also synthetic fuel and the widest range of chemical products – aromatic hydrocarbons, oxygen and nitrogen compounds, alicyclic alcohols, which have hydrogen-donor properties, etc. These power plants will also produce chemical elements of practically the entire periodic table, including gold (up to 40 g/t in shale), elements of the platinum group, tungsten, molybdenum, rare, rare-earth and other metals [33].

For example, some Russian coals contain (in grams per ton of coal): yttrium – 254, scandium – 96, dysprosium – 384, gadolinium – 335, samarium – 211, lanthanum – 46, cerium – 89, neodymium – 806, which amounts in total to over 2 kg of rare earths per ton of fossil fuels. Therefore, the whole demand of Russia in rare-earth metals (about 10,000 tons per year) can be satisfied by processing only 5 mln tons of such coals, and the entire world demand (about 200,000 tons per year) – 100 mln tons, which is less than 1 % of coal and shale to be used in such power plants.

Not only coal (shale), but also derivatives of their combustion – flue gases, dust, ash, sludge, slag – will be used as raw materials to obtain chemical products at biopower plants located in the industrial clusters of uCities. Such technologies have long been available in Russia and Belarus. The lower the energy value of the used coal and shale (i.e., the higher their ash content), the more effective and efficient they will be in terms of output of fertile humus and a variety of chemical elements, products and substances at biopower plants. Thus, the relict solar biopower plants operating on brown coal and oil shale will meet the future needs of mankind in these products for thousands of years to come.

It is clear that such global changes in the economy of any state should happen gradually. One can start with a small fragment of a uCity near a modern megacity or with a string road connecting a new settlement with an old one or an airport with a neighboring megacity. Fragments of a uCity can then be extended, linking pedestrian clusters with each other, until the length of the city reaches hundreds of kilometers. Then other such cities will emerge. Life in them will be safe and attractive. The air will be clean. Children will be able to spend more time in nature without being afraid of getting hit by a car. The apartment building

will produce everything needed for a full family meal. A small community of several thousand people, most of whom can work within walking distance of their homes, will be able to successfully implement different models of self-government.

Closeness to the earth in a uCity will allow man to return to his origins – to Live Nature, of which he is a part and from which he has been taken away, believing in the idol of scientific and technological progress.

Linear city clusters will be the basic platform for community self-organization to survive in the face of fierce global competition while diminishing the role and importance of state borders as socio-economic regulators.

World imperialism, focused on competition and profit, has been imposing for centuries a pseudo-democracy on all mankind, based on lies and a blind fear of the future and hatred for each other and for everything around us. We are afraid of losing our jobs and our ability to pay interest-bearing loans; we are afraid of catching a “fashionable disease” and dying, although we understand the causes and origins of it and the associated lockdowns, masks, tests and other restrictions on our freedoms; we are forced to hate other nationalities, societies and countries with alien cultures and religions; we fear global warming, carbon footprints, horrific natural and man-made disasters, terrorism and wars, which are occurring with increasing frequency and magnitude and accompanied by terrifying messages in all media, from which we cannot hide anywhere, as they are on everybody's digital lips – device and gadget; we are afraid of vaccination, chipping and “electronic concentration camps”, but we are herded there, like a herd of sheep, by an even greater fear – the stigma of a negative social rating, the restriction of constitutional and other freedoms, the denial of rights.

Psychologically a person always strives to seek support and mutual understanding among people who are close to him in spirit and way of life: it is not enough for him to feel just a member of society and a citizen of his country. For modern man, tired of constant pressure from the authorities, politicians, businesses and advertising, it is vital to have a kind of outlet: understanding and solidarity, participation without benefit and profit, self-realization, common spiritual and moral guidelines, culture and language.

Such social needs as social and cultural ties, shared values, religion, traditions, art, ethnic and interethnic contacts, etc., are satisfied precisely by small groups with similar interests. Such self-governing communities of different types, manifesting themselves in different ways – spiritual, religious,

socio-economic, ethnic, organizational and managerial, communicative, political, educational, historical and environmental – can be created in clusters of uCities.

In this case, the main work for many residents of uCities will be the development of science, culture and education, small and medium-sized businesses, tourism and services, intellectual and spiritual perfection, raising children, communicating with nature, growing organic food for themselves and their families and other areas of intellectual, spiritual and physical activities of man.

This work will be more exciting and more meaningful to any society, including humanity as a whole, than, for example, today's work as a miner, turner, welder, metallurgist, cab driver or truck driver, and it will be paid much better. So, unemployment and poverty will become a thing of the past when the bulk of humanity moves from the concrete and asphalt jungles of megacities, cut off from nature and life, to pedestrian linear cities in harmony with Live Nature.

Here will prevail the innovative strategy of transition of local (cluster) societies of techno-consumers to a new qualitative state – to a socio-technogenic society. Such readjustment of the vector of long-term development of the Earth's industrial civilization involves the conversion of military and industrial complexes, the creation of planetary biospheric infrastructure (transport, industrial, residential, energy, information, other), the use of social resources of territories, spiritual and intellectual potential of each person, as well as energy- and resource-saving technologies. This transformation will be achieved through the transition from the global export of resources and raw materials to the eco-production of goods and services in clusters of uCities using the same raw materials, relying on their own capabilities, inter-regional cooperation and the human dimension in ecology [33].

According to the Program for Rebooting the World Economy to the Biospheric Path of Civilizational Development, the capacity of the world market will be more than 10,000 tln USD in the 21<sup>st</sup> century. We can identify seven main sectors.

The first one is to build ecohousing in uCities, including infrastructure, for 10 bln people.

The second one is the annual production of billions of tons of organic agricultural products in all clusters of uCities without exception.

The third one is the creation of a network of RSBE operating on brown coal and shale at a rate of up to 5 kW of installed energy capacity per inhabitant of the planet.

The fourth one is the construction of about 10 mln km of the uNet transport and infrastructure network, including safe, rapid, accessible, efficient and environmentally friendly "second level" uST tracks, combined with electric and information networks.

The fifth one is the annual production of billions of tons of living highly fertile humus from RSBE waste and organic waste from uCities.

The sixth one is to increase the natural fertility of soils and improve their biogeocenoses over tens of millions of square kilometers of land.

The seventh one is the elimination of deserts on all continents and the transformation of our planet, which gave birth to and raised our human civilization, into a blooming garden planted on rich chernozem.

It is possible to transform the current economic system (the capitalist system) without disturbing the existing disposition of power and without upheaval. In this case, as with the liberal programs promoted by the globalists, the capitalists will also benefit.

Implementation of this program will allow the world economy to develop steadily with an annual GDP growth of 10 % and a population of 10 bln people within the next 100 years. By that time all environmentally dangerous part of the Earth's industry will be reformed and relocated into near space where it will be capable of sustainable development for the benefit of our Earth's Civilization in our material Universe – infinitely in Time in infinite Space with infinite Resources.

### **Effect for the Union State of Rebooting the Economy to the Biospheric Path of Civilizational Development**

The implementation of comprehensive biospheric-friendly solutions will boost the entire economy of the Union State, both in Russia and Belarus.

The living and highly fertile humus produced by relict solar biopower plants is one of the most sought-after products in today's world, because the planet's fertile soil is being degraded by improper use. Setting up mass production of biohumus from brown coal and shale (peat can also be used for this purpose, the explored reserves of which in the Union State are estimated at 200 bln tons) will enable to export this highly profitable product around the world, getting a profit even higher than that of the current oil suppliers. And the demand for biospheric humus will be much higher than the current demand for anti-biospheric oil.

The conversion of farming towards the use of living humus enriched with associations of favorable soil microorganisms (instead of dead chemical fertilizers) will increase the yield and quality of agricultural products – they will all become organic [33]. In turn, this will be an investment in the health of the population of the Union State and in human potential. It is very important that such products are obtained within walking distance in each cluster of the uCity and by the same producers (cluster inhabitants), who will then consume these food – it is hard to imagine a better-quality control of agricultural products, which are the very basis of our health. Thus, it guarantees the food security of all inhabitants in each uCity and, in the future, of all humanity on Earth for thousands of years to come.

The creation of a new transport and infrastructure industry based on uST technologies will secure orders for companies engaged in construction, mechanical engineering, metallurgy, chemical industry, building materials, software development, electronics, power industry, agriculture, etc.

The construction of uCities will stimulate the real estate market and allow the development of remote and hard-to-reach areas. At the same time, a large part of the costs for all of the above (power industry, agriculture, transportation, housing, etc.) will be borne by the end users – the future residents of uCities, since all of these elements are part of the urban infrastructure. Just as, for example, an elevator in a conventional high-rise building, a playground in the yard or a parking lot are parts of a residential complex, and their cost is included in the price of the apartment one buys.

The state will be able to stimulate demand by starting various programs, comprising mortgages. Then, as uCities are built and people settle in them, the entire socio-economic system of the area will change [33]. To understand what will happen, one should look at the way of life in the new linear settlements.

Besides, with the today's level of psychological stress and the rapid changes of the modern world, which also require rapid adaptation, nature remains the crucial tool of human struggle against stress, overwork and other realities of urban life. The creation and preservation of "green oases" in the urban environment is not only the most important part of the environmental components, such as clean air and noise protection, but can also be used as a tool for the prevention of stress and emotional tension of urban residents.

The predicted reserves of brown coal, shale and peat in the Union State (more than 1 tln tons) are enough to satisfy

the energy needs of the future population of the state (200 mln people) for a thousand years at the rate of 5 kW of installed capacity per capita. With a population of, for example, 400 mln people these energy resources will be sufficient for 500 years, and with a power 2.5 kWh/person and a population of 500 mln people – for 800 years. Besides, more than 500 bln tons of biohumus will be produced in total, which will make it possible to cultivate more than 500 bln tons of organic food, while providing food security for the state for at least a thousand years. This will also enable to turn poorly fertile soils into rich chernozem on the area of more than 10 mln km<sup>2</sup>, which, in particular, is 43 times more than the area of Great Britain. At the same time, properly organized biospheric agriculture, which is involved in the cycle of living matter on the planet by historically established natural mechanisms, will be eternal, just like the biosphere, which appeared billions of years ago, will exist until its energy source – the star named the Sun – is extinguished.

Together with string transport and uCities, such infrastructural technologies will become the kind of socially oriented biospheric technologies that can save our industrial civilization from the recently intensifying socio-technogenic degradation, which could lead the entire world, including the Union State, to extinction and death. Neither artificial intelligence and digitalization, nor conventional electric cars and deindustrialization, nor wind and solar power plants, nor other so-called "green" and "carbon-free" technologies, which not only fail to solve the urgent problems of humanity, but also cause significant environmental damage to Live Nature, will be able to save our civilization.

The availability of decent housing, desirable jobs, confidence in the future, basic consumer products and services will allow to solve the demographic problem in a short time. Most families will have many children, and by 2050 the population of the Union State will grow to 200 mln people or more. A special demographic mortgage system can be introduced for this purpose. For example, the state allocates funds for mortgages for the construction of a uCity under the Five Children program. At the birth (or presence) of the first child mortgage payments are reduced by 20 %, at the birth (or presence) of the second child – by 40 %, etc. At the birth (or presence) of the fifth child, the mortgage is fully repaid.

There are currently about 1 mln multi-child families in Russia, which is very small for such a huge country. They should be the first to be provided with 20 % of housing in uCities; and childless families and families with few

children should be granted 80 % of housing. There must be at least 10 mln multi-child families in the Union State for sustainable demographic growth, i.e., 10 times more than today. It is for them that homes should be built in uCities during the first 10 years of implementation of the program – 1 mln homes a year, or 2,000 residential pedestrian clusters, given that each cluster would contain on average 500 homes for 2,000–3,000 dwellers.

At this pace, by 2050 there are plans to build 25 mln houses, 50,000 clusters, which will house a significant part of the state's population – 125 mln people. A network of uCities with a total length of about 50,000 km will be erected with two infrastructure backbones of the largest state in the world:

- meridian: Murmansk – Petrozavodsk – Saint Petersburg – Veliky Novgorod – Tver – Moscow – Tula – Voronezh – Volgograd – Rostov-on-Don – Krasnodar – Sochi – Republics of Transcaucasia with branch lines to the Crimea and newly annexed territories;

- latitudinal: Brest – Minsk – Smolensk – Moscow – Vladimir – Nizhny Novgorod – Cheboksary – Kazan – Izhevsk – Perm – Yekaterinburg – Tyumen – Omsk – Novosibirsk – Kemerovo – Krasnoyarsk – Irkutsk – Ulan-Ude – Chita – Birobidjan – Khabarovsk – Ussuriisk – Vladivostok with meridian

branch lines in the Urals, Siberia, Yakutia, Khabarovsk Krai and Sakhalin Island.

There will be built about 50,000 km of rapid (up to 150 km/h) "second level" urban roads for a total cost of about 150 bln USD (3 mln USD/km), which will be included in the cost of housing in uCities and make it slightly more expensive (only 3 %).

The transport component of the Russian and Belarusian part of the uNet global transport and infrastructure network, created along linear cities of the Union State, which will be integrated with power lines and communications, including mobile ones, will also comprise the following uST track, built above ground on the second level in the North – South and East – West directions:

- about 50,000 km of high-speed (up to 500 km/h) inter-city cargo and passenger routes at a total cost of 350 bln USD (7 mln USD/km). This cost will also be included in the cost of housing in the uCity, which will make it only 7 % more expensive;

- about 50,000 km of cargo routes (up to 150 km/h) at a total cost of 250 bln USD (5 mln USD/km);

- about 20,000 km of hypervelocity (up to 1,500 km/h) inter-city cargo and passenger routes at a total cost of 800 bln USD (40 mln USD/km).



In addition, a contour line of transport and defense clusters will be created along all national borders, including those in the Arctic, which will fulfill (along with basic socio-economic functions) additional functions, in particular autonomous military-defense outposts equipped with the most advanced military-defense complexes. The problem of the second line of continuous border control can be effectively solved here by connecting the outposts with the high-speed (up to 500 km/h) cargo and passenger transport and communication network. Having modern checkpoints and observation complexes, such a "second level" transport and communications network, if necessary, can provide ultra-fast redistribution of personnel and equipment across outposts and redeployment of military forces to any part of the state border.

On string-rail routes, launchers camouflaged as a cargo uPod, for example, with cruise missiles, which can be launched without stopping the transport, i.e., on the move, can run at a constant speed of up to 500 km/h. It would be very difficult for a potential enemy to detect and disarm such launchers, as they are capable of changing their location on the uNet road network over a distance of up to 10,000 km in a single day.

The Russian and Belarusian parts of the uNet road network built will be serviced by tens of thousands of passenger stations, cargo terminals and service shops with a single automated control system created by secure digital blockchain technology. Millions of uPods (urban, intercity and cargo) with on-board control systems will travel along the airways. Thus, millions of computers combined into a common distributed system – a supercomputer spread over millions of square kilometers and connected by millions of kilometers of neural and power networks integrated into the string-rail track structure – will operate in the uNet infrastructure and rolling stock. Its computational capabilities are colossal, and the network communication structure (transport, energy and information) is invulnerable to any threats: climatic, man-made, military or terrorist.

The Union State's highest degree of security will stem not only from the network nature of transport and infrastructure functions of uCities and the uNet network, but also from their provision with all the basic types of state security: infrastructure, transport, energy, production, raw materials, housing, social, information, demographic, labor, food, water, etc.

In addition, the entire future Internet and mobile communications of the Union State can be built under the Union's independent standards and also be integrated into the track

structure of the uNet network. These communication lines do not require cellular towers and space communication satellites: their functions will be taken over by elements of the transport and energy-information infrastructure – anchoring structures and supporting towers, stations, terminals, relict solar biopower plants, as well as rolling stock and the string-rail track structure which integrates the protected power and information networks.

At the same time, automated control systems of the uNet transport and information network and uCities, created based on blockchain technology, can be easily combined with the production of an electronic unit of account – our own cryptocurrency. It will be mined automatically, without consuming additional resources and power, in the process of, for example, useful transport work, i.e., during cargo and passenger transportation. Consequently, the more passenger-kilometers and ton-kilometers of uNet transportation will be produced, the more kilowatt-hours of electricity, tons of biohumus and agricultural products will be obtained in uCities, the higher the real (and not virtual) value of such a unit of account will be.

The uNet cryptocurrency will be effectively enabled and bound to the transport, energy, residential, industrial and other infrastructure, as well as to its effective functioning on the entire planet, i.e., to true civilizational values. Therefore, over time it will be transformed into the world's main digital currency, controlled by the Union State (in this way the Union State can create a digital equivalent of the US Federal Reserve System).

### **Project Budget**

With an average house cost of 200,000–250,000 USD (considering the cost of urban infrastructure in a uCity) the annual project budget would be about 200 bln USD. Then within 25 years (roughly by 2050) 5 tln USD should be invested in linear urban development. This cost includes not only building 25 mln two- and three-storied residential buildings with a total area of 7.5 bln m<sup>2</sup> and creating a network of urban and intercity high-speed routes with a total length of about 100,000 km; it also includes the cost of all the relevant urban infrastructure of pedestrian linear cities, 250,000 ha of greenhouses and orangeries, 25 mln ha of highly fertile homesteads on which gardens will be planted – more than 1 bln fruit and berry plants.

The plans are to build 50,000 residential clusters (in essence, urban-type villages) with 250,000 km of landscaped streets with everything necessary for a decent, comfortable

and safe living for most of the population of the Union State. In addition, this cost includes the creation of a fundamentally new network energy system of the state – RSBE with a total installed capacity of about 600 mln kW to generate 270 mln kW of electricity and 330 mln kW of thermal energy. These figures exceed all the modern anti-biospheric energy in Russia and Belarus, which has a total capacity of about 260 mln kW.

The entire above-mentioned housing stock of the state with the corresponding infrastructure (including transport, energy and farming with a total cost of about 5 tln USD) will be paid for by the population. Citizens of the Union State will buy houses in clusters of uCities, in which, after becoming residents of the largest territory in the world (by then the safest, most comfortable and equipped, with one of the highest living standards in the world), they will live and work decently.

It only needs to pay 1,050 bln USD from the budget (the construction of 70,000 km of cargo and hypervelocity elevated uST tracks), or 42 bln USD each year. The routes being built need to be made transit ones as well (i.e., with a higher capacity), as the Union's transport-infrastructure and communication-logistics network uNet can be extended in the following directions:

- East: through Mongolia and Kazakhstan to Southeast Asia, primarily China and India; to Japan;
- North: across the Bering Strait to Canada and the USA;
- West: to Kaliningrad; to London (and Paris).

In addition, hypervelocity tracks of the uNet network with vacuum tunnels, deployed with zero floatability at a depth of about 50 m, will be able to pass through the oceans (through the Atlantic in the West and the Pacific in the East) and connect not only Asia and Europe, but also Eurasia with America through Russia and Belarus. Then, for example, it would take 2.5 h to get from Moscow to London and 4.5 h from London to New York, which is faster and safer than taking a plane (such a project was first proposed by engineer A. Unitsky over 30 years ago) [42].

The construction of the Union's part of the world transport, energy, information and infrastructure uNet network can raise foreign capital, as well as funds withdrawn by Russian business abroad in previous years, since investments in this case will provide a stable income not only in the 21<sup>st</sup> century, but also in the centuries to come.

The network of Union's linear cities will produce annually about 500 mln tons of living humus which is more fertile and productive than chernozem (humus makes up 5 %

and more in the content of natural chernozem), with a total market value of about 500 bln USD. It is possible to get up to 20 tons of chernozem from a ton of crumbly biohumus, if we add it to non-fertile soil (including desert sand). Accordingly, 500 mln tons of living humus in agricultural production is equivalent to 10 bln tons of chernozem. Half of the produced biohumus as a by-product of the RSBE operation (in terms of its economic essence, it will reach the producer actually for free) can be spent for the needs of the Union State, and the other half can be exported. Given the biohumus costs 1,000 USD/t, this will provide about 250 bln USD of export revenue annually, which is currently almost twice the revenue from the sale of Russian crude oil abroad.

It is planned to create more than 25 mln new high-paying jobs in the Union State – not only in residential areas, but also in nearby infrastructure clusters (manufacturing, scientific, educational, sports, tourist, trade and entertainment, recreational, etc.) situated within walking distance. The required number of such clusters is about 10 times less than that of the residential ones – about 5,000. Consequently, both residential and industrial areas in Russia and Belarus will have a network (cluster, or cellular) structure, which is very resilient to external and internal challenges, self-sufficient and independent, distributed over the whole territory of the state, from North to South and from West to East, and oriented mainly on domestic demand and resources. This principle of organization will provide infrastructural security – such a state cannot be defeated.

By that time the population of the state may expand to 200 mln people and even more; today's Russia and Belarus, which are under sanctions and are demonized by their geopolitical competitors in this deranged modern world, will turn into a highly developed, self-sufficient and prosperous single state, a worthy example for all other countries (no matter developed or developing), which have chosen the regressive path of their civilizational development at the urging of global quasi-elites. This liberal vector leading to a civilizational dead end, which the Union State can avoid thanks to the proposed alternative Program, is based not only on the above mentioned "5D" program (digitalization, decarbonization, deindustrialization, desocialization, depopulation), but also on many less meaningful, but similarly regressive "Ds": demotivation, destabilization, decapitalization, denationalization, degradation, dumbing-down and debiologization of people, societies and humanity in general [33].



The Union State of Russia and Belarus has an abundant heritage and production base from the time of the Soviet Union represented by engineering and scientific schools with a deep immersion in the problems of space development, as well as the technology that allowed the first man, of Russian nationality, to fly into space in 1961.

Currently, one such industrial site with a high level of engineering and intellectual potential is UGC, the international Unitsky Group of Companies. To achieve a common global goal – the transition to the biospheric path of civilizational development of mankind – UGC has united both engineers who create uST transport and infrastructure complexes and the General Planetary Vehicle, biotechnologists who organize comfortable life in enclosed ecosystems, and lawyers, financial experts and sociologists who offer scenarios of centuries-long, sustainable development of the Earth's industrial (i.e., engineering) civilization. All these works are presented annually at the International Scientific and Technical Conference "Non-Rocket Near Space Industrialization: Problems, Ideas, Projects" [43] held in Maryina Gorka and are aimed at improving the quality of life of people in our common home – on planet Earth.

Article 2 of the Vienna Convention allows Russia and Belarus, as fully legitimate subjects of international law, to initiate international cooperation agreements

for implementation of the large-scale EcoSpace program and its space vector – the uSpace program.

The governments of the Union State, Russia and Belarus and their Presidents can choose their unique biospheric path of progressive civilizational development: protection of independence, self-identity and sovereignty (including technology), preservation of people, rapid industrialization, socialization and demographicization, creation of infrastructure backbones – not only territorial, but also resource (where, in particular, resources are also territory, fertile soil, clean air, natural drinking water), as well as national, social and cultural resources.

The Program for Rebooting the Economy of the Union State of Russia and Belarus to the Biospheric Path of Civilizational Development will relieve all of the present-day pains of the Union State and solve all its major problems in the long term. Particularly, the Program will ensure infrastructure, resource, food, transport and energy security; reshape the export-raw materials orientation of the economy towards domestic demand and the transport and infrastructure development of its largest territory in the world; resolve import substitution issues; create conditions for rapid growth in the indigenous population; solve problems associated with excessive urbanization, degradation of fertile soils and desertification.

We should also point out that the costs required to reboot the economy of the Union State to the biospheric and socially oriented path of developing the economy and society are not that huge – they are nearly the same as of other Russian programs, which are much less important. For example, such programs as the Transport Strategy of the Russian Federation until 2030, which was approved in 2008 to solve only transport problems; its implementation costs were estimated at almost the same 5 tln USD at the time of its adoption [44].

### **The EcoSpace Program, or the Role of the Union State in the Survival of All Mankind**

The economic resources of the Union State, as well as its social and political institutions, can form the basis for the implementation of the large-scale EcoSpace program, including its space vector – uSpace program, which aims to industrialize near space.

As mentioned earlier, the uSpace program involves the creation of a global transport and infrastructure system, where the key elements are the Equatorial Linear City (ELC) with a takeoff and landing overpass, the GPV and the Industrial Space Necklace “Orbit” (ISN “Orbit”) in low equatorial orbits.

The Equatorial Linear City is a system of residential, industrial, energy, logistics and other infrastructure facilities stretched along the equator. The main elements of the ELC are distributed along the GPV overpass and, in addition to performing the usual functions for any city, are designated to serve and organize the GPV takeoffs and landings, as well as to distribute passengers and cargo moving along the Earth – Orbit – Earth route.

The General Planetary Vehicle is a self-carrying spacecraft that encircles the planet in the equatorial plane. It is a torus with a cross section of about 1.5 m with a linear electric motor in the core. Centrifugal force, sufficient for lifting into orbit, is ensured by rotation around the planet of belt flywheels placed in longitudinal vacuum channels. Entering into space is achieved by spinning the GPV body around the planet (after ascent beyond the atmosphere) up to the first space velocity of 7.91 km/s. Such transport can make up to 100 trips a year and deliver up to 10 mln tons of cargo and up to 10 mln passengers per each trip to space and back [39]. This will make it possible to industrialize near space in a short period of time.

The Industrial Space Necklace “Orbit” is a system of industrial, residential and energy facilities located in near-Earth orbit. The complex is designed to serve the needs of the Earth’s population in space industrial products and energy. It allows access to unlimited resources in space – spatial, energy, raw materials and technological (weightlessness, deep vacuum, technological purity).

The Union State, where we propose to work out a number of fundamental technologies for the uSpace program (uCities and string transport to connect them, etc.), can be their main supplier in the implementation of the project – the most ambitious in the history of civilization. For this purpose, it is necessary to set up a block around the institutions of the Union State, which will include the states located on the equator and other members.

The block’s objectives will be entirely peaceful and creative in nature. Their achievement will provide the necessary prerequisites for the gradual relocation of the hazardous part of the technosphere outside the planet and the long-term sustainable development of our civilization on a global scale without limitations on the number of available resources and the size of the population. Thus, the proposed program of rebooting can be developed globally and contribute to solving the environmental, demographic and political problems that jeopardize the survival of all humanity on Earth, possibly the only Intelligent Civilization in our vast Universe.

### **Conclusions**

The uNet transport and infrastructure network should initially be built in the territory of the Union State, taking into account future transit cargo and passenger transportation in both East – West and North – South directions. Therefore, the latitudinal line of uNet can be extended in the future:

- in the West: along the route Brest – Warsaw – Berlin – Brussels – London – Paris – Madrid – Lisbon;
- in the East: along the routes Khabarovsk – Komsomolsk-on-Amur – Sakhalin Island – Tokyo; Ulan-Ude – Ulan Bator – Beijing – Shanghai; Khabarovsk – Magadan – Anadyr – Bering Strait – Alaska – Canada – Los Angeles – Washington – New York;
- in the South: along the route Omsk – Astana – Tashkent – Dushanbe – Kabul – Islamabad – New Delhi – Hanoi – Shanghai.

All Asian, European and North American countries will be interested in the construction of a worldwide network of uCities and the uNet transport and infrastructure network, so a unified global transport and infrastructure space of the new generation can be created at their expense.



With the right strategy and through foreign investment the Union's component of the uNet global network can be fully funded. However, the unified Union State will become the trendsetter in science and technology and the world leader in the rebooting of the world economy on the above-described biospheric path of technological, social and civilizational development.

The Russian Federation and the Republic of Belarus will transform from sanctioned rogue countries demonized by the globalist oligarchy into a prosperous unified state – an example to follow as a winning country in the planet's undeclared war of ideologies and vectors of civilizational development, which will be won not by lethal weapons, but by intelligence, and not artificial or digital (i.e., nature-like), but natural, human (i.e., existing in nature).

The important thing is to consolidate domestic resources (that already exist) and to build up our own intellectual competencies, which other countries lack, both in the East and in the West, including through the training of the necessary specialists. We need to move as rapidly as possible from consumer capitalism (which sooner or later will bring our entire civilization to suicide) to a fundamentally new creative and socially-oriented model of the world economy.

At the same time, the main weapon of the Union State will no longer be supersonic missiles and nuclear warheads,

but mineral and territorial resources – about 20 % of the world's deposits. These resources should belong not to the West and Western-oriented professional liberal globalists, not to officials and oligarchs close to the government, but to the state and the people, and then the Union State will win any war, even a century-long one.

Russia and Belarus, together with the multi-ethnic people of the Union State, will once again prove their greatness and special civilizational role in the world, confirming the prophetic words about Moscow as the "Third Rome that stands" and the "Fourth Rome that will never be".

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