

GREEN SAFETY FOR ECONOMY OVERHEATING THE PLANET



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Europe transformation into Environmentally-Neutral Continent till 2050 is the aim of European Green Deal, which was proclaimed by the EU Commission and Parliament in December 2019. Almost 30 years after World Environmental Summit “Rio-1992” this approach brings together development of “Circular Economy”, which was initiated in Germany by Law of 1994, with reduction emission of substances (so called “greenhouse gases”), that stimulate Global Warming, accordingly to Kyoto Protocol (1997) and Paris Treaty (2015).

This EU decision is following previous proclamation by UN OECD in 2009 of “Green Growth” idea. On the World Economic Forum in Davos (2013) needs for investments into necessary for this “Green Infrastructure” was estimated as \$ 4 trillions.

Already in March 2020’ve began implementation of Legal-Normative basis for Green Deal embodiment, for which EU allocates € 1 trillion. Thanks to timely response from Ukrainian side, common Statement on the results of EU-Ukraine Association Council meeting on 28.01.2020 in Brussels was recognized the need to integrate our country into Green Deal implementation.

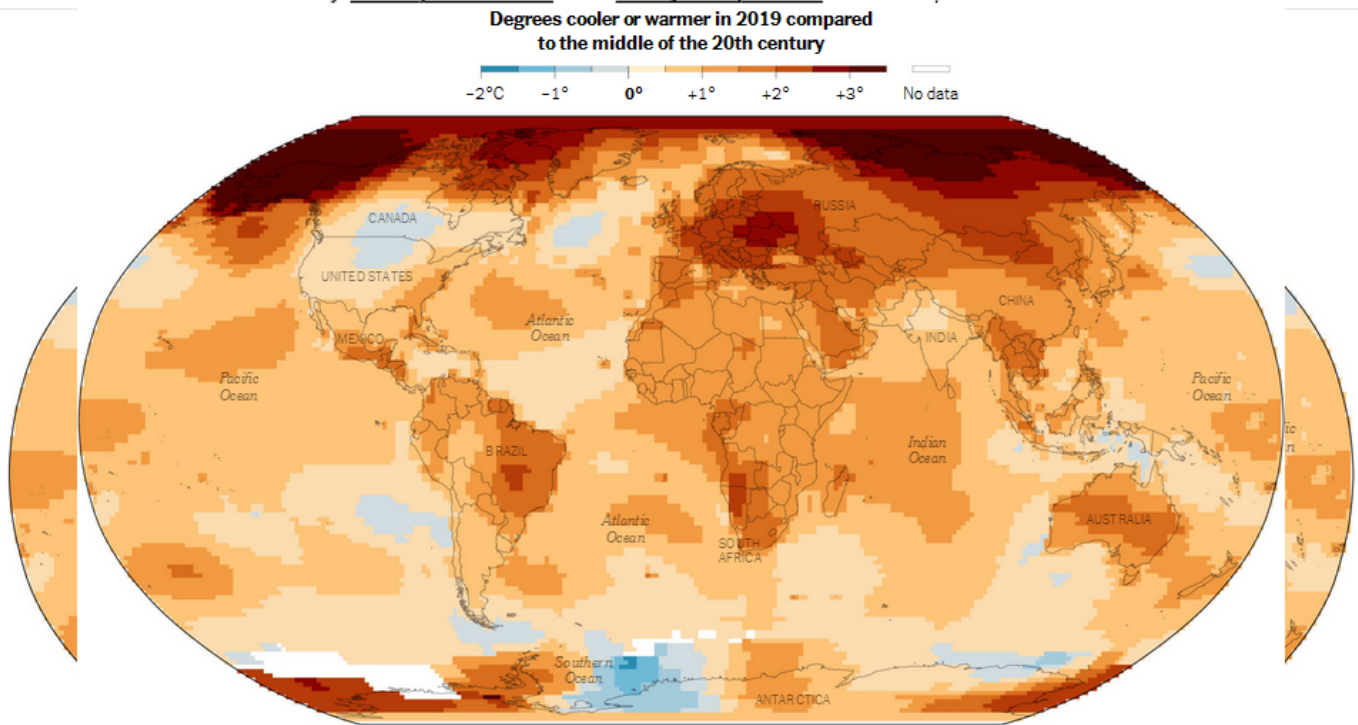
This oncoming step is issuing from pragmatic understanding of Ukrainian specific role on Green Deal embracing for whole European Continent, how it was proclaimed by the Commission. It opens new opportunities for Ukraine, where is situated Geographic Centre of the European Continent near border with Romania. At the same time this point is in the middle of common Ukrainian border with Poland, Slovakia, Hungary and Romania, which are most problematic EU and NATO Members for European Green Deal implementation. On both sides of Carpathians the Transcarpathian, Ivano-Frankivsk. Chernivtsi and Lviv Oblasts of Ukraine are boundary with these countries, as well as also Volyn and Odessa Oblasts. The surroundings of European Geographic Centre are flanking also by Ternopol, Khmel’insky and Vinnitsa Oblasts in the basin of Dnister/Nistru, from the EU side – by Austria and Czech, as well as by Serbia, Belarus and Moldova. In this area are lumped riverheads and catchments of Danube and Baltic basins (Tisa, Prut, Siret, Vistula), as well as Dnister/Nistru, the key Water and Hydro-Energy Resources of Central-Eastern Europe. On the other hand, on the territory of Ukraine (0.5% of the surface of Earth's land) in USSR time were excavated 5% of World’s fossil resources.

But the most important factor for Ukraine's role comes from published in New York Times of 15.01.2020 the World map, where shown differences of average annual surface

temperature in relation to entire period of meteorological observations. This picture demonstrates growing overheating of Europe in comparison with other areas of mass settlement and anthropogenic activity.

The most overheated is central part of the Continent, which embraces Ukrainian Dnipro right-bank part and Belarus with surrounding regions of aforementioned bordering EU countries, Russia and Moldova.

The New York Times | <https://nyti.ms/35P1XFu>
**2019 Was the Second-Hottest Year Ever, Closing
 Out the Warmest Decade**
 By **Henry Fountain** and **Nadja Popovich** Jan. 15, 2020



It's obvious, that even a simplified interpretation of this information is not appropriate and, moreover, requires both methodological and factual verification by alternative means and by experts. However, we can try to make some assumptions about probable causes of such overheating in context of main Green Deal priorities, which were identified in the Statement of European Commission 11.12 2019.

In terms of "Cleaner energy", this area is interesting simultaneously from several points of view. First, there are a number of nuclear power plants without emissions of greenhouse gases, but their cooling towers evaporate large amounts of moisture and heat atmosphere. At the same time, owing to gas prices expanding, in this region are used alternative sources of energy: from large square of solar collectors up to burning coal, wood and debris, which influence on energy balance of the earth's surface and the atmosphere has not yet been fully explored. This should include also thermal input from numerous air conditioners and refrigerators through hot season, which becomes gradually longer.

To determine role of Ukraine for Green Deal priority of "Renewable manufacturing with closed resource-ecological cycles», is a sense to pay attention to absence of maximal overheating on territory of Donbass. This can be concerned essential reduction of production there after 2014, in comparison with overheated regions in Dnipro basin area. It should also be borne in mind that specific energy capacity of main production sectors

(from mining to agro-industrial) in the zone of overheating remains much higher than in the advanced countries. The same goes for scope of services and other aspects of human life support providing.

With regard to the priority of “Negative impact and losses reducing in Construction field and Housing-Communal services” - for the first sector essential aspects of environmental impacts still remain raw materials excavation and energy intensity for construction materials production, since extraction of gravel-sand mix till cement and brick manufacturing. Uncontrolled and /or technologically un-normalized extraction of raw materials, especially in river basins are resulting in a number of consequences, that affect the thermal balance of the area.

Unlawful changes in river beds have negative consequence, in particular - reduction of the surface of water “mirror” in designated part of Ukraine and Belarus, which had before dense water-wetland network, through channel-destructive and melioration measures. So, in Ukraine for the last 30 years more than ten thousands small rivers have disappeared. At that, also increase pollutions (turbidity, green scum, muddy) of water sources, which also significantly change thermal balance in this part of Europe. Equally important is the degree of clutter of territory, for example expansion of unplanned areas for disposal of waste with their further landfill gas and filtrate generating. This has especial influence in coastal protective areas of water streams and reservoirs which, contrary to the current legislation, have not yet been rendered "in nature” by State Geo-Cadastre, even when transferring land to new Amalgamated Territorial Communities. One more important aspect in the housing sector is the "contribution" of obsolete Heating Supply System.

Concerning Priority "Sustainable development of transport support" role for overheating phenomena - it should be taken into consideration a number of rail and road freight features. Especially in Ukrainian Carpathian regions, neighboring EU countries, and in Belarus and Russia this network and traffic on it are the densest in overheated area of Continent. During the last decades, rail freight has been shrinking here due to growth of long-haul truckloads with increasing tonnage and share of obsolete vehicles, which aren't correspond to nowadays environmental requirements. This also worsens condition of roads, the passage of which provokes additional ones fuel and lubricant costs and, of course, emissions. Thereafter number of road repairs is increasing, what also does not add "sterility", but leads to further pollution and increased of thermal emissions.

At the same time, there is no positive trends on railway transport, which is quite more environmentally-friendly. For instance, piggyback trains, overcoming about the same frontal resistance for more than 30 trucks on platforms in comparison with each truck separately on the road, in few times reduces both the specific need for fuel and lubricant materials, as well as emissions generation per unit of transported cargo, while maintaining state of roads and labour & health of drivers. However, the absence of a significant progress in these aspects of transportation is further multiplied by usage a obsolete diesel locomotives, from which environmental pollution and thermal emissions are growing. It should be also added here significant air pollution due to transportation of bulk freights by open platforms or gondola wagons.

Therefore it's understandable Statement of new EU Commissioner for Transport A. Vălean directly in the day of Green Deal promulgation on 11.12. 2019: “Our goal is to move a significant part of the inland freight done by vehicles to rail and inland waterways, using multimodal solutions”

Green Deal's Priority "Biodiversity" needs separate conversation. One of most important aspects of "synergistic" response challenges of global warming, are the Forestry, and more precisely, balance of logging and reforestation, especially for mountain areas. Actual reducing trend of snow and glacier water accumulation in the mountains, due to global warming, not only worsens the thermal balance of the territory, but also decreases the water supply of the entire Continent, including also water network, impact on which was discussed above. Therefore, the reforestation task, first of all in mountains, in the prevailing ratio to logging and timber export is one of the key for Green Deal implementation.

One of the most comprehensive is Green Deal Priority "Sustainable agro-food production and consumption "From Farm to Fork". In addition to its fundamental role for largest part of territory from plowing and anthropogenic cover of ground surface, as well as from individual crops species development or decline, livestock and processing industries, significant importance attracts involvement into this sector large volumes of products from other sectors, e.g. agricultural chemicals or packaging materials, starting with film for greenhouses and agricultural products.

This aspect of Green Deal is closely linked to its last major Priority "Prompt and effective reduction of environmental pollution", which is directly - through clutter, and indirectly - due to impact on air, water and soil condition, significantly changes the thermal balance of the European Continent territories.

Even this cursory overview of problems proves the need to find answers not only to challenges of Global Warming, but also for adhering to basic principle of Sustainable Development: "to live now in accordance with modern civilization standards, but not at the expense of future generations". The key for this is in minimization of Resources excavation and Waste generation /accumulation, including also greenhouse and ozone-depleting emissions. This requires conditional "life cycles" maximal closure for all material-energy transformations in processes of production and consumption of goods and services and in human life activity. That means minimal involvement of non-renewable natural resources with appropriate minimization of waste and their mostly efficient utilization by using Best Available Technologies (BAT).

This approach embodiment for simultaneous resolution of both designated global problems requires permanent optimization of the entire set of anthropogenic technologies - from natural resources excavation (raw materials, energy, biological ... and their corresponding "compensation") – till consumption of manufactured industrial products, rendered services and vital needs providing for population, as well as waste treatment from these activities. Unlike the previous years attempts, today opportunities for this approach embodiment have greatly improved by development and accessibility to modern information and communication technologies (ICT), in particular, geo-information systems (GIS) and distributed spatial data.

Therefore, efficient answer to mentioned challenges was given on the first meeting of Ukrainian Governmental Inter-sectorial Working Group on these issues, held on 20.02.2020, that "it's important for our country not just to wait for recommendations from Brussels, as it usually took place in the past, but to show new quality of interaction with the EU, taking an active part on the policy development stage".

Actually, the necessary steps from Ukrainian side were made even before the announcement of the European Green Deal. Ministry of Regional Development of

Ukraine as National Coordinator on Transfrontier Cooperation and for participation in EU macro-regional Strategy for the Danube Region (EUSDR) submitted proposals to EUSDR revised Action Plan for 2021-2027, which've included project initiatives for all above mentioned areas. And after promulgation by European Commission on 11.12.2019 top Priorities of Green Deal - from Ukrainian side were proposed modifications and corrections to previously submitted proposals, that've lead Ukrainian initiatives to full compliance with objectives of new EU paradigm.

Preconditions for this approach were elaborated already in the time of USSR under coordination of Ukrainian Research Institute of Planning and Normative. Appropriate developments made throughout 1983-1989 were summarized in a series of more than 10 Handbooks on Secondary Resources generation and utilization in key sectors of the Economy. Today this approach is used in developments of numerous sectorial application collections of modern Best Available Technologies (BAT), which are publishing by one of the major EU Research Centres in Seville (BREF).

Since 1989, has been developed regulatory and methodological-information basis of cross-sectorial actions (regulated by set of National and International Standards and by Waste and Packaging Accounting Form, aligned with Acquis Communautaire). They're directed to Environmental Management and Resource Conservation've based on Technological Processes Material-Energy Balance Assessment for Commodity production, Services delivery, Consumption and Livelihood providing. These developments were discussed and aroused interest of Government Delegation led by US Deputy Secretary of State during meeting in Presidium of the National Academy of Sciences of Ukraine on 05.12.1993. On this basis, and after discussions in 1994 with leading experts and ministers on French-Ukrainian Forum in Lviv and at Seminar with EU, Vyshegrad Group and CIS environmental experts and officials in Czech Republic, such systemic approach, aimed to improve status of Technogenic-Environmental and a number of other aspects of Strategic Security, have been elucidated in the article "Security yesterday and ... for tomorrow" in Government Courier, 21.12 1995.

As a key provision for Development Safety the outcome from these elaborations became the necessity of adequate "synergistic" response to objective transformation (both in reality and in Mankind mentality) from initial being in the Natural Environment to active interaction with today global Natural-Anthropogenic surroundings, which embraces now both Global Climate Change and combat with Crownvirus. The need for move in this direction toward Sustainable Socio-Economic Development was outlined by President of Ukraine in his speech at the 19th Special Session of the UN General Assembly on 27.06.1997. And already on 05.08.1997, after preliminary discussion on July 3-4 at the Summit in Izmail with the Presidents of Romania and the Republic of Moldova, by President of Ukraine was issued special authorization to initiate establishment of Carpathian-Black Sea EcoEuroRegion to elaborate modern approaches to Sustainable Socio-Economic and Spatial Development in transfrontier river basins of Prut, Siret and Dnister/Nistru. The first elaborations and projects carried out under this commission in the pilot Euroregion "Upper Prut" were expressed by President of Ukraine on 30.04.2001 on Bucharest Summit "Environment and Sustainable Development in Carpathian-Danube region". And reflection of this approach in Declaration of this Summit became a cornerstone for Carpathian Convention signed in Kyiv in May 2003, as well as for

Austro-Romanian Initiative, also announced in Kyiv in June 2008, which become a basis of the EU Strategy for Danube Region (EUSDR) establishment in 2010-2011.

From 1994 till 2015 this approach has been repeatedly discussed and supported in European Commission and NATO Headquarters, relevant Council of Europe and UN entities (CLRAE, CEMAT, OECD, UNIDO, UNEP), with governmental and regional institutions in USA, Germany, France, Austria, UK, Italy, Russia, Israel, Netherlands, Poland, Czech Republic, Hungary, Slovakia, Romania, Bulgaria, Slovenia, Moldova, Central European Initiative etc. It has been endorsed by the World Bank and reflected in its Strategy for Ukraine for 2004-2007 and in the Concept of the National Transfrontier Clustering Strategy of Ukraine. Approval in joint projects under EU programs, in particular for Energy, Forestry and Agro-Industries, revitalization and further development of Transport Systems, Waste Treatment, Water and Flood Risks Management allowed to obtain Recommendations to finance these projects from Vice-President of European Commission and authorized representatives of 14 EUSDR countries.

Responding these challenges, it is important already today to take into consideration Green Deal Priorities in Regional Development Strategies, which are currently being elaborated by each Ukrainian Oblast and on the National level. Through mandatory Strategic Environmental Assessment for these State Planning Documents as universal and common with EU and OECD means, such step will not only significantly accelerate Ukraine's accession to Green Deal and other effective toolkits of European and Euro-Atlantic integration. At the present stage of decentralization and initiation of Constitutional changes, Ukraine needs to apply mentioned factors for key decisions making. In particular, it's said on establishment, definition of functions and operational mechanisms for new sub-regional structures (counties, circumscriptions, enlarged districts) to combine state capabilities with international support of inter-municipal/communities engagement, as well as Public-Private Partnership for all above mentioned priorities of European Green Deal.

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