

This translation of the academic publication¹, that followed initial review of 19.12.2019 on European Green Deal for Ukraine², which was generalized³ after publication in New-York Times on 15.01.2020 and debates of UA Governmental Working Group on 20.02.2020⁴, as well as after intervention for Parliamentary hearing on 11.09.2020⁵

TERRITORIAL-SECTORIAL TRANSFRONTIER COOPERATION IN PAN-EURASIAN SPACE, ANSWERING GREEN GROWTH AND EUROPEAN GREEN DEAL PRINCIPLES

Dr. Zinoviy Broyde (director of Centre "EcoResource", Chernivtsi, UKRAINE)⁶

Keywords: post-crisis technologic solutions, Pan-Eurasia of Regions, European Green Deal, territorial-sectorial Circulating Economy, Trans-territorial cooperation, Material-Energy Balance of Production, Goods & Services Life Cycles, Best Available Technique (BAT), Sustainable Pan-Eurasian Development.

Pandemic crisis and the need to elaborate post-crisis development strategies change our vision of many pressing problems - from global till individual. This has already affected Freedoms, which are basic for Democratic Society, such as unimpeded circulation of People, Wares, Services, Capital and Information.

Also becomes obvious the necessity to turn mass consciousness from "democratic control", which's practically fully obsessed with election campaigns and minorities rights, to the urgency of an equally important "democratic awareness" of the reality challenges. The growing contradictions between natural and invented material-energy and information needs, on one hand, and resource-economic and eco-security restrictions of a natural and anthropogenic reasons, on the other, require revision of established views for more effective & safe use of available Resources & Opportunities⁷.

Previous publications⁸ were focused on internal and transfrontier interaction between regions, municipalities and communes, as for core aspect of territorial development and security. However, today's problems require deeper analysis, taking into account the peculiarities of the anthropocentric perception of the World around us.

In the original language of the Bible, this perception corresponds to the notion הַבֵּיבָס - "Sviva", meaning the external surroundings - from baby's swaddling band to the Environment (the same root for the words: circumstances, reason, whirlwind, rotation). Its Greek counterpart οἶκος - "oikos" unites "home" and "Oikumene"- the Universe, to which are related knowledge on business/management - "Economics", about the Environment and Biocenosis - "Ecology" and about the careful attitude to Resources - "economy".

In this context, development/updating and application of Technologies, as purposeful transformations of Human, Energy, Material, Biological, Information and other Natural

¹ <https://www.academia.edu/45147011/> P.170-175

² <http://comeuroint.rada.gov.ua/uploads/documents/29550.pdf>

³ http://ecoresource.ddns.net/SiteAssets/SitePages/EUSDR/Green_Safety_for_Economy_overheating_the_Planet.pdf

⁴ <https://www.kmu.gov.ua/en/news/dmitro-kuleba-oficijno-napravit-yes-propozicivi-ukravini-shehodo-uchasti-v-yevropejskij-zelenij-ugodi>

⁵ http://ecoresource.ddns.net/SiteAssets/SitePages/EUSDR/Circulating_Economy_proposal_for_UA_Parliament.pdf

⁶ zinoviy.broyde@gmail.com

⁷ <http://ecoresource.ddns.net/DocLib/Safety%201996.pdf>

⁸ <http://ukros.ru/archives/4125>

http://ecoresource.ddns.net/SiteAssets/SitePages/TFC/On_way_to_Wider_Europe_of_Regions.pdf

<http://isig.it/wp-content/uploads/2012/11/SWOT-1-Analysis-and-Planning-for-Cross-border-Co-operation-in-Central-European-Countries-2010.pdf>

http://www.eurosfair.pr.fr/7pc/doc/1303887075_proceedings_opendays_2010.pdf P.65.

<http://ukros.ru/archives/4395>

and Anthropogenic Resources, is the main mechanism of human interaction with various objects of the Natural-Anthropogenic Environment. From such point of view, there taking place permanent change in the "Sum of Technologies" in each specific sectorial (economic branch) and spatial-territorial stratum. Appropriate geospatial data and information systems (GIS) are increasingly used for a systematic analysis of these factors aggregate - from the close human surrounding till global level.

Basing on such perception¹, this article examines priorities and objectives of the European Green Deal, promulgated by European Commission and European Parliament on December 11-12 2019, as continuation of "Green Growth" initiated by OECD in 2009. At World Economic Forum "Davos 2013"², costs for necessary "Green Infrastructure" were estimated at \$4 trillion. Initially, Green Deal "launching" was set by the EU in March 2020. Investment of more than €1 trillion should be provided to transform Europe by 2050 into an Environmentally Neutral Continent. That means not only the EU, but whole extending of the continent to Ural and Caucasus mountains.

As main indicator is foreseen minimization of greenhouse gases emissions in accordance with the Paris Protocol, signed in 2015 to implement the UN Framework Convention on Climate Change, adopted at the "Earth Summit" Rio-92. Without diminishing the importance of accomplishing this task, it should nevertheless be stated, that reducing greenhouse gases emissions and adapting to climate change mitigates, but can't per se resolve problems unfavorable for mankind. Therefore Green Deal objectives should be supplemented by more synergistic technological approaches².

Crisis exacerbation've triggered by the COVID-19 Pandemia, as well as by pluralism of views on post-crisis development. This led to Green Deal integration into EU new paradigms of "Next Generation" and "Just Transition" for regions & municipalities. Priorities of the Green Deal foresee for internal and external EU policy to become directed towards decarbonization of Energy, shifting of main cargo and passenger Transport Flows from roads to rail and water communications, as well as a number of other approaches based on the "Circular Economy". As shown below, this concept should be understood as a "Circulating Economy" and as a real mechanism for Green Deal implementation.

Officially, this approach was initiated by the German Law on Cyclic Economy and Waste (Kreislaufwirtschafts- und Abfallgesetzes, KrW- / AbfG), adopted on 27.09.1994 accordingly to Chapter 34, Section 4 of the Agenda XXI, also approved by the Summit Rio-92. The formation of such a capacious concept has a long scientific, practical, and regulatory background, as well as its realization and implementation through recent decades.

Retrospective. Following natural wasteless processes, with tendency to close cycles of human activity, including circulating of products both from natural phenomena and vital activity of humans and animals, has been implemented since ancient times,

¹ <https://www.academia.edu/40262999> P. 15-21

² Z. Broyde. Technological Dynamic Synergy with Climate Change in Carpathian Area of EU Macrorregional Strategies.//Presentation on III Meeting of the Carpathian Convention Working Group on Adaptation to Climate Change 13.03.2014 in Vienna/- <http://www.carpathianconvention.org/eventdetailwg-124/events/third-meeting-of-the-carpathian-convention-working-group-on-adaptation-to-climate-change.html>

such as e.g. use of the Nile floods seasons or irrigation in Asia. As examples can also serve the usage of urine with volcanic ash mixtures for laundering, instead of nowadays surfactants, or urine therapy. The Agrosphere and the rural lifestyles are still associated with retain elements of natural circulation, for instance, by composting, use of agricultural and livestock waste for construction, as well as the conditioning of pig feces by Italian developers for reuse of undigested organic. The scientific basis, necessary for understanding the essence of the Circulating Economy, was laid in the 19th century by the formation of concepts:

- a) Ecology (E.Haeckel, 1866) and Biocenosis (K.Möbius, 1877);
- b) Phenomenological Thermodynamics with determination of the equilibrium states of heterogeneous systems by the extremums of their Thermodynamic Potentials (P.Duhem and D.Gibbs, 1880th).

It took a century to originate concept of “Biogeocenosis” and mathematical apparatus with computer support and technical capabilities for information collecting and handling, which is necessary for processes of Circulating Economy studying and simulation by territorial-sectorial principle. In the scientific and industrial sphere, as an example of transition from linear solutions to systemic (following EU Commission’s definition¹) can serve replacement of initial calculations and individual chemical reactions comparison (which served a “bottom” for nowadays chemical enterprises and a number of other industries’ve created in 19th-20th centuries). They were change for direct modeling of chemical-technological processes, in particular, Chemical-Thermal Treatment (CTT)². Thus, computer thermodynamic analysis revealed equilibrium (quasi-equilibrium) states in the processes of CTT and subsequent operation of composite materials, instead of the traditional semi-empirical - semi-calculated selection of components and surface hardening modes³. This fundamentally changes the entire Scientific→Industrial→Exploitation→Utilization Life Cycles of Products, Goods and Services. Targeted optimization now allows development of increasingly “loop” technological solutions, in particular:

- to identify among industrial and municipal wastes new ingredients for CTT, which are more effective than traditionally used components⁴;
- to loop gas and energy flows in "fluidized bed" processes⁵;
- to combine different treatment processes (for example, casting and CTT) into a single technology for articles formation & their surface hardening⁶;

¹ Demonstration of systemic solutions for the territorial deployment of the circular economy
https://ec.europa.eu/info/files/circular-economy-11_en

² Z.Broyde, V.Turov. Use of computer for automated thermodynamic calculation of chemicothermal treatment processes // Metal Science and Heat Treatment -Vol. 26 - Issue 1–1984.-P.9
<https://link.springer.com/article/10.1007/BF00712857>

³ <https://inis.iaea.org/collection/NCLCollectionStore/Public/09/369/9369849.pdf> - P.91

⁴ <http://www.findpatent.ru/patent/95/952999.html> , <http://www.findpatent.ru/patent/110/1104189.html> ,
 Certificate for invention of the USSR Nr. Method for CTT of steel products,

⁵ Certificate for invention of the USSR Nr.,1353051 Fluidized bed facility

⁶ Decision to issue a patent of the Russian Federation for an application for invention Nr 4946359/02 (051676)
 CTT Method ingots in casting molds permeable to liquids and gases

- to compose integral scientific-technological chains for development of new materials with continuation formation of their functional properties in the processes of manufacturing and operation of products, up to their waste utilization or disposal¹. Such "technological feasibility" has long been semi-intuitively used for territorial and sectorial decisions, becoming a factor of regional development, e.g. for Bukovina², One of the first attempts to apply such approach in USSR at the regional level was creation of Popular Economic Councils (Sovnarhozes) in 1959-1965. It is easy to see elements of the Circulating Economy in the cyclic model of forestry & woodworking industry development on the river basin territory, reflected in the film "Engineer Pronchatov" by novel of V. Lipatov, as well as in refinement of scientific developments to business level by the implementation company "Red Torch", existed on the base of research institutes of the Novosibirsk Academic Centre in 1960th.

The turn from a linear vision of technogenic development to a Circulating Economy can be traced in consistently adopted Standards:

- GOST USSR 17.0.0.04-90 "Nature protection. Industrial Enterprise Ecological Certificate. Fundamental regulations" for assessment impact of the "Sum of Technologies" of each enterprise on the Environment and Human Health;
- GOST CIS 17.0.0.05-93 "Unified system of Standards in the field of Environment Protection and Rational Use of Resources. Waste Technical Certificate" for "internal" operation breakdown material & energy balance assessment of each production process/unit in order to identify the "best available technology" (BAT - as later was defined by Directive 96/61/EC "Integrated Pollution Prevention and Control"- IPPC).

Simultaneously, in 1993, similar opportunities (answering today Green Deal and Circulating Economy priorities) were proposed for Energy sectorial aspect – both in the report of the Russian Federation Government for UNECE³, as well as for Sustainable Territorial Development⁴. Their following fine-tuning was continued by EU project⁵ and reflected in Protocol of intention with EON⁶. This approach comparison with analytic review⁷ published 20 years after aforementioned initiatives, demonstrates its relevance for further European Green Deal and Circulating Economy implementation, e.g. for today's proposals to utilize largest in Europe Hydro-Energy-Accumulating complex on the Dnister/Nistru river⁸ to stabilize and improve operational reliability of the EU Energy System (TEN-E).

Already at the time of the aforementioned GOST 17.0.0.05-93 adoption and initiatives for the Energy sector elaboration, even before the mentioned German

¹ http://ecoresource.ddns.net/DocLib/Gradient_Functional_Materials.pdf

² Bukovinian Cluster of the "Europe of Regions" <http://ecoresource.ddns.net/DocLib/Bukovinian%20cluster.pdf>

³ On environmentally sound approach to Energetics development.- ENVWA/Sem.6/R.23

http://ecoresource.ddns.net/SiteAssets/SitePages/EUSDR/On_Environmentally_advisable_approach.pdf

⁴ <http://ecoresource.ddns.net/DocLib/Systemic%20Energy%20territorial%20cycles-1993.pdf>

⁵ Energy Plan for Chernivtsi <http://ecoresource.ddns.net/DocLib/Systemic%20Energy%20territorial%20cycles-1993.pdf>

⁶ http://ecoresource.ddns.net/SiteAssets/SitePages/EUSDR/Protocol_of_intention_%20107_05_2008.pdf

⁷ <https://search.rsl.ru/ru/record/01005466596>

⁸ <https://drive.google.com/drive/folders/1OV0NpOLGoESRpZ2WvE5nG9BnmY7bloiA> (6 Energy)

Law, it has been proposed Standardization System¹, covering a number of Circulating Economy key aspects. Basic Standards of this system, approved in 1999, taken into account the ten-year path of US from combating the consequences of environmental pollution (Recovery Act, 1980) to emergency planning and control (Emergency Planning and Community Right-to-Know Act, 1986) and pollution prevention (Pollution Prevention Act, 1990), as well as experience of joint legislation of Germany, Austria and Switzerland and also of France on Waste Management. In parallel with these works, in USSR was elaborated approach to utilization of significantly large volumes of Waste as Secondary Resources. It was initiated by the Ukrainian Research Institute of Planning and Normative of the State Planning Committee and, then, continued with all-Union Institute of Resource Conservation under the aegis of State Procurement Committee².

For proper scientific & technical, as well as peopleware support for these innovative and investment solutions implementation, appropriate scientific-methodological³ and technically-economic⁴ approaches were developed for engineering and environmental education as a “bottom” for basic specialization in high schools⁵.

Perspectives. Developments focused on Resource & Energy Cycles optimizing and Waste Minimizing through, *inter alia*, use of BAT were continued by EU projects⁶ with assessment by UNIDO Technology Foresight method⁷ and discussions at WasteTech International Conferences in 1999-2011⁸.

For wealthy countries, territorial and business structures, the best technical solutions identified in this way, are available through BAT market, regulated in the EU countries by appropriate legal, economic and social instruments⁹. For developing countries, Standards and Primary Accounting for Wastes and Packaging promoting the most appropriate scientific and technological off-the-shelf solutions selection, improving the use of available resources by territorial structures and enterprises¹⁰.

As mainstream for Circulating Economy in the Mobility sphere was proclaimed main cargo and passenger flows shifting from roads to multimodal rail and water transport¹¹, as it declared by the EU Commissioner A.Vălean on 11.12.2019. For Green Deal purposes is of particular importance maximal use and further

¹ Z.Broyde. Standardization problems in the sphere of Environment Protection & rational use of Resources //Standards & Quality.-1994-Nr 4.- P.29, Nr 6.-P.31

² http://ecoresource.ddns.net/SiteAssets/SitePages/EUSDR/Standardization_in_Environmental-Resource%20sphere_1994.pdf

³ Proceedings of all Union Institute of Resource Conservation of the USSR Procurement Committee.-Moscow.-1991.-P.92-98

⁴ <http://ecoresource.ddns.net/DocLib/ECORES1992.doc>

⁵ http://ecoresource.ddns.net/DocLib/Transition_solutions_system.pdf

⁶ <http://ecoresource.ddns.net/DocLib/ECOSPEC.rtf>

⁷ Ecoprofit <http://ecoresource.ddns.net/DocLib/Ecoprofit1999brochure.pdf>, Harmonisation UA State & Regional Waste Treatment Legal Basis with EU Standards <http://ekopro.biz/04101901E.pdf>, Promotion BAT implementation for Waste Minimisation & Resource Conservation <http://ecoresource.ddns.net/DocLib/WasteBarSEPSBrochure.pdf>

⁸ Pilot project on Technology Foresight for Regional Innovation & Investment Development in Euroregion

“Upper Prut”// http://ecoresource.ddns.net/SiteAssets/SitePages/EUSDR/Technology_Foresight_2002.pdf

⁹ http://ecoresource.ddns.net/SiteAssets/SitePages/EUSDR/Wastes_Treatment_and_BAT_revealing.pdf

¹⁰ <https://eippcb.jrc.ec.europa.eu/reference/>

¹¹ <http://chernivtsy.eu/portal/f/mv/mvk2013004-133-d.doc>

¹² <https://twitter.com/AdinaValean/status/1204788263359328257>

development of one of the densest transport networks in Eastern Europe around Geographical Centre of the European Continent at the historical crossroads of the “Silk Way” and “from Varangians to Greeks”¹. Here, among a number of key tasks, there is a need to restore and further increase cross-border railway traffic on the existing 1520 mm track through Zhmerinka - Chernivtsi - Kolomyia - Rakhiv to Chop - Uzhgorod with extensions through Slovakia, Hungary, Romania and Moldova to Central Europe and the Mediterranean basin², which as far back as in 1919 was considered as the shortest route from the east through Carpathians to Budapest³. A comprehensive discussion of these opportunities with representatives of interested countries & regions within the framework of the TEM/TER UNECE projects, Central European Initiative, at preparation of the Carpathian Convention Transport Protocol, under the aegis of EU Strategy for the Danube Region and at European Railway Summits⁴ revealed broad opportunities for relevant projects implementation, in particular, modern piggyback transport with simultaneous development of newly formed united territorial communities⁵, with the support of WBRD, EU funding instruments & through Public-Private Partnership.

The volume of this article doesn't allow dwelling in more details on these and other areas of Circulating Economy formation. In particular, it concerns agro-production⁶ and forestry-woodworking⁷ sectors, including depletion of water resources and desertification prevention, as well as of extreme flooding and pollution risks⁸. This also combines effectively potential of transfrontier cooperation, cultural multi-ethnic heritage and tourism opportunities with other aspects of sustainable socio-economic territorial and sectorial development - from individual communes till macro-regional structures⁹.

Even a cursory review of these possible approaches to pandemic-globalized problems¹⁰ (wittily titled by journalists “Economy overheats the planet” with the connotation of both meanings of the word “heats” which both in Ukrainian & Russian also means “line one's pocket”) testifies unsuccessfulity of individual attempts (sometimes mutually exclusive) to find separate solution by single country or region.

The symbiotic nature of outlined problems and opportunities creates prerequisites both for today's contradictions overcoming, and for a consistent transition from a long confrontation to territorial - macroregional transfrontier cooperation. Its prospects have been repeatedly demonstrated and discussed at representative Forums of both the Pan-European¹¹ and Eurasian¹ Paradigms. At

¹ http://ecoresource.ddns.net/SiteAssets/SitePages/EUSDR/Sustainable_Transport_System_on_new_EU_and_NATO_border_2003.pdf

² <http://comeuroint.rada.gov.ua/uploads/documents/29422.pdf>

³ <https://search.rsl.ru/ru/record/01001553275> C. 82-112

⁴ <http://www.railwaypro.com/wp/?p=10945>

⁵ <https://mtu.gov.ua/news/30768.html>

⁶ Z. Broyde. Green Agricultural Infrastructure — Answering Climate Change & European integration challenges <http://ru.calameo.com/read/001133349178f58a43e46> P.193

⁷ <http://www.carpathianconvention.org/eventdetailwg-forests/events/fourth-meeting-of-the-wg-on-sustainable-forest-management.html>

⁸ <http://www.carpathianconvention.org/eventdetailcop/events/cop4-fourth-meeting-of-the-conference-of-the-parties-to-the-carpathian-convention-copy.html>

⁹ <http://comeuroint.rada.gov.ua/uploads/documents/29482.pdf>

¹⁰ http://ecoresource.ddns.net/SiteAssets/SitePages/EUSDR/Green_Safety_for_Economy_overheating_the_Planet.pdf

¹¹ <http://www.carpathianconvention.org/eventdetailwg-spatial-planning/events/workshop-towards-a-eu-strategy-for-the-carpathian-region-148.html>

the same time, starting from the first steps of European and Euro-Atlantic Neighborhood Policy & basing on the previous experience of EU enlargement in the Blue and Red Bananas, were made attempts to predict further formation of promising areas of possible cooperation² and probable rivalry³ in order to anticipate common interests and appropriate cooperation mechanisms. for example, for the Black Sea region⁴. In particular, the original proposals for the Central and Eastern European "Green Banana"⁵ are being intensively updated today in the Three Seas Initiative⁶.

For such cooperation, there exists a wide range of available international toolkits, tested both in the East and in the West of the macro-continent - from the 1980 Madrid Convention with Additional Protocols and the Association of European Border Regions till the modern, macro-regional Baltic and Danube EU Strategies, the Three Seas Initiative, SCO (Shanghai Cooperation Organization), BRICS etc. This is especially important for the Eurasian Macro-continent, where accumulated contradictions unfold and opportunities are concentrated for their, if not overcoming, then reorientation into a constructive channels of cooperation. From both East & West, this space is symmetrically connected through the oceans with the American Macro-continent. The historical circulation of Human, Material and Energy, Commodity, Information, Innovation and Technological Flows and Investment Capital inside and between of them. periodically changes from relatively stable (resembling a “conjunctural wave”) to growing “civilizational disturbances”. The current state of Resource-Environmental and Information-Communication problems’ve catalyzed the search for new approaches to Sustainable Development, especially in the Pan-Eurasian space. The relevance of such a search is evidenced by the analyzed data on the heating of the Earth's surface published on January 15, 2020 in the New York Times. There shown, that from the zones of mass habitation and anthropogenic activity, the maximum overheating was detected in the neighboring territories of Ukraine, Russia, Belarus, Poland, Slovakia, Hungary, Romania and Moldova around the Geographic Centre of the European Continent and the territory of the Chernobyl defeat.

At the same time, a simple assessment of the consequences of global warming does not go beyond school knowledge. So, the heating of the troposphere with a volume of about 6×10^{16} cubic m by one Celsius degree increases the water content by about 1 gram in each cubic meter. Those. the increase share of the fresh water circulation in the surface atmosphere layer can be estimated as approximately 60 cubic km of water. In the total amount of condensed fresh water (which does not exceed 3% of the total volume of the remaining saline

<http://ecoresource.ddns.net/DocLib/Brochure%20III%20CEI-Bucovina%202008.pdf>

http://ecoresource.ddns.net/SiteAssets/SitePages/EUSDR/IV_CEI-Bukovina_Recomendations_2010.pdf

¹ <http://2011.forumstrategov.ru/eng/program/stol4.html>

http://ecoresource.ddns.net/SiteAssets/SitePages/TFC/AEBR_Annual_Conference_Kursk_22-24_September_2011.pdf

https://eabr.org/upload/iblock/c6d/broyde_transgranichnoe-sotrudnichestvo-v-evrazii.pdf

² <http://ecoresource.ddns.net/DocLib/Brochure%20CEI-Bukovina%202006.pdf> P.8

³ http://www.carpathianconvention.org/1_files/carpathiancon/Downloads/03%20Meetings%20and%20Events/Working%20Groups/Sustainable%20Industry%20Energy%20Transport%20and%20Infrastructure/rea_Brochure_ConnectingDanube_Balticmacroregion%20II.pdf Slide 5

⁴ Odessa Declaration on the Black Sea Euroregion <https://rm.coe.int/168071ad7b>

⁵ http://ecoresource.ddns.net/SiteAssets/SitePages/EUSDR/Logistic_challenges_in_Green_Banana_it.pdf

⁶ <http://ecoresource.ddns.net/SiteAssets/SitePages/EUSDR/3SI=TEN-T+UA.jpg>

waters of the World Ocean), consisting of melting ice and snow by 69%, groundwater by 30% and about 1% of surface and ground water, the volume of water in all rivers of the World is approximately 2100 cubic km. Those. when the near-earth part of the atmosphere (which contains 90% of the fresh water accumulated in the entire troposphere) is heated for 1 degree - an additional 3% of the total volume of water in the rivers is diverted into it. Among the many consequences of this fact, which can be foreseen, are the observed qualitative and quantitative changes nature of flood events. The prevailing previously more evenly distributed atmospheric moisture fallout over the territory, was followed by a rise in the water level in river basins (floodplane). Now more and more often the flood mechanism changes to localized Stormwater precipitation of increasing intensity (due to the simultaneous growing turbulization of the atmosphere and water content in it). This leads to upstream (stream) floods (flashfloods), which significantly intensify river floods and increasingly exceed them. In areas of intensive development of territories and depending on the natural and technogenically altered topography, as well as coverage and /or soil compaction, such urban floods are characterized by an increasing capacity of water flows through the “trays” streets with water accumulation in lower areas with insufficient drainage.

Guidelines for a joint search for compatible solutions are laid down, in particular, in Chapter 27 Title V of the Association Agreement between Ukraine & EU Thus, Article 448 of this document reads: “The Parties shall strengthen and encourage development of cross-border and regional elements of, *inter alia*, transport, energy, communication networks, culture, education, tourism, health and other areas covered by the present agreement which have a bearing on cross-border and regional cooperation. In particular, the Parties shall encourage the development of cross-border cooperation in the modernisation, the equipping and the coordination of emergency services”.

One of the rapidly updating prerequisites for systemic solutions in time revealing/development and application for Pan-Eurasia, in our opinion, is a return (after the second half of the 20th century) to the old problems of "coal" regions and transfrontier best practices exchange between them. The urgency of this particular problem was emphasized 20 years ago when initiating the current Law of Ukraine "On Transfrontier Cooperation"¹.

The already existing multifaceted developments, including experience of their implementation (or ignoring) mentioned above, allow today assess comprehensively the prospects of the Circulating Economy fundamental approach for Pan-Eurasian space to provide appropriate decisions in a coordinated way.

¹ http://ecoresource.ddns.net/SiteAssets/SitePages/TFC/Subregional_Transfrontier_Cooperation_2001.rtf