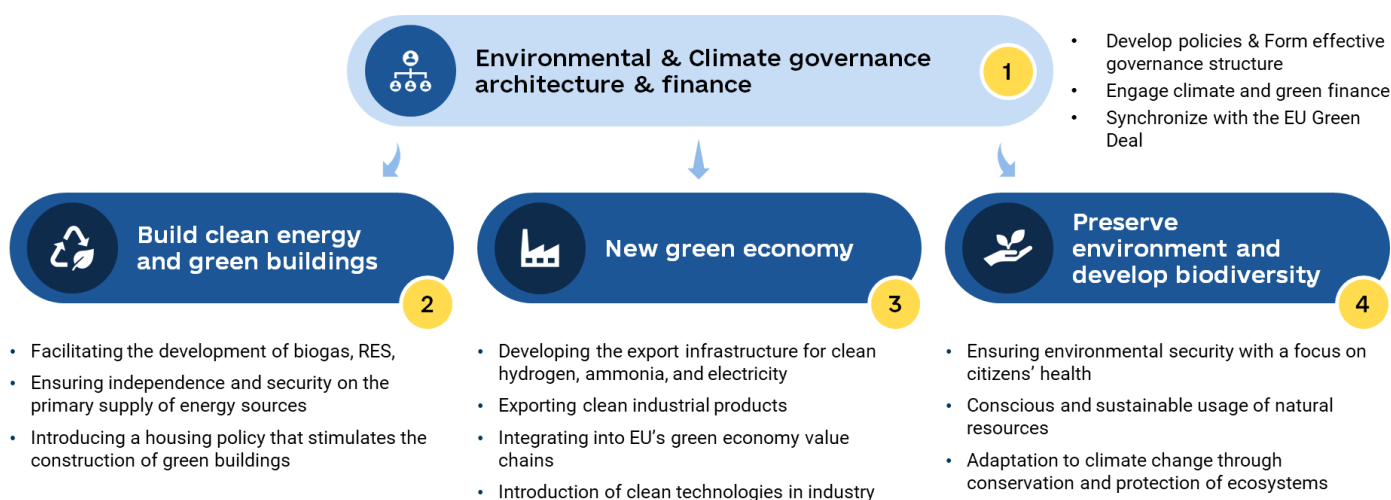


ENVIRONMENTAL RECOVERY

Climate change has resulted in declining water levels in rivers in Ukraine (the water level of the biggest river, the Dnipro, declined by 10% over the last 30 years). This led to economic losses of 1 bln USD in 2020 as a result of droughts and fires. As a response to climate change, prior to the war Ukraine has targeted the green transformation of the economy and has set a new climate target to reduce CO₂ emissions by 65% from the base year (1990). The low energy efficiency of infrastructure, buildings and industrial production evolved in Ukraine since 1991 as a result of the slow transformation to a market economy, as well as inconsistent policy development which did not incentivise business and citizens to improve energy efficiency. The worn-out infrastructure transformed from an advantage into a weakness of the Ukrainian energy system in the form of a burden on the consumers that pay for huge losses and surplus capacities of the electricity and gas infrastructure. Ukraine has shown the most significant progress in the transformation of the energy sector, which resulted in rapid growth of RES up to 10% of the energy mix over 5 years and liberalization of the energy markets. Still, prior to war the situation with the environmental pollution was critical as a result of over 500 mln tons of wastes emitted annually with only 25% of them being utilized. Only in 2020 poor waste treatment and pollution of the environment caused by the energy and industrial sectors resulted in at least 2.2 bln UAH of economic losses.

The war started by Russia resulted in demolished infrastructure, significantly polluted territory and decline of economic activity. Those challenges have been compounded by energy and economic security threats such as high dependency on imported fossil fuels, which exceeded 30% with gas and 60% with oil products, and blocked key seaports that ensured the export of Ukrainian products, thus making a resilient economy and reliable energy supplies a priority for Ukraine.

Within the National Recovery Plan the Ukrainian government sees as a potential for Ukraine to ensure the green transition to the new green economy that will fully integrate into the European economy and be the core element in building the EU strategic autonomy. The component “**Environmental Recovery**” that will ensure the green transition of Ukraine consists of 4 pillars: 1) climate governance architecture & finance; 2) clean energy and green buildings; 3) New green economy; 4) Preserved environment and developed biodiversity.



#1. EFFECTIVE ENVIRONMENTAL & CLIMATE GOVERNANCE ARCHITECTURE AND FINANCE | Prior to the war, Ukraine had been developing and adopting a climate policy that would clearly define targets and establish instruments for Ukraine to ensure its green transition. Since the beginning of the war the Ukrainian government has been forced to focus on resolving issues of energy and social security and ensuring the transition to the war economy. Still, Ukraine is determined to ensure the green recovery and development of Ukraine by establishing a transparent policy framework which will ensure its green transition and prevention of pollution. Digitalization of environmental monitoring will ensure transparent control of air pollution. In order to ensure the complex transformation of the economy and social security, Ukraine must also mobilize a sufficient amount of climate finance with significant reliance on international sources of capital.

- Develop policy instruments that stimulate the green recovery of Ukraine, including adoption of the best available technologies;
- Establish a clear climate governance architecture that would ensure effective coordination between government bodies in Ukraine and direct a clear signal to business and investors to start long-term green transformation projects;
- Ensure access to clean drinking water in all regions of Ukraine;

- Mobilize green finance in order to ensure the green recovery of buildings, industry, infrastructure and development of green transport;
- Ensure the carbon accounting, monitoring and reporting of emissions generated from economic activity;
- Integrate the Ukrainian and European environmental policy instruments that stimulate green transition and prevent air pollution;
- Develop the green finance market that will ensure sufficient mobilization of green capital to finance the green transition.

Effective climate-governance architecture will ensure that Ukraine has effective stimuli to transform and is supplied by sufficient resources to finance those changes.

#2. BUILD CLEAN ENERGY AND GREEN BUILDINGS | The energy sector of Ukraine has shown significant progress in its transformation over recent years as a result of market reforms and the development of renewable energy sources. Still, the rapid development of RES worsened as a result of energy consumption decline in 2020 (due to the pandemic). Furthermore, slow market liberalization caused by the social insecurity of citizens led to significant turmoil in both the electricity and gas markets. The decline of energy consumption by 30% and high consumer debt have led to financial disbalance in the market which exceeded 1 bln USD in June. Significant volumes of generation capacities, including 2,6 GWh of RES and over 50% of heat generation capacities are in the temporarily occupied territories. The Recovery will focus on transforming the energy system of Ukraine, to ensure clean and smart energy system formation. The clean energy system will rely on new technologies to supply the internal and European economy with carbon-neutral energy resources. Energy modernization of buildings and the construction of new green buildings will ensure the reduction of energy poverty and the energy independence of Ukraine.

- Exercise a full ban on Russian energy resources, ensure storage of sufficient volumes of reserves, and diversify energy supplies;
- Develop renewable energy sources to ensure the transition to clean energy;
- Rebuild infrastructure that will reflect the economic needs of the economy and citizens and ensure that this infrastructure is capable of transporting new energy resources;
- Modernize residential and private houses in accordance with energy-efficient principles;
- Develop additional 30GW of RES that will ensure the decarbonization of the energy sector and reduction of the air pollution, produce hydrogen and export it to the EU in order to strengthen energy resilience of Europe and reduce the dependency of Russia;
- Develop energy independence on critical resources and produce new energy resources that will substitute traditional fossil fuels.

Transformation of the energy system will ensure the competitiveness of the economy, foster the development of the Ukrainian economy and result in a higher quality of life for citizens.

#3. NEW GREEN ECONOMY | Ukraine has a strong industrial potential and surplus of natural resources that can support the green transition of Europe. The war led to the demolition of over 100 industrial production facilities and the blockade of seaports that ensured the export of over 70% of products, thus resulting in an economic decline of 30%. The new green economy of Ukraine will aim at building a new resilient economy that would supply the transformation of the Ukrainian infrastructure with resources and qualified labor. The realized economic potential of Ukraine will strengthen EU autonomy and support the green transition of Europe with 1) modern natural resources such as lithium, titanium, and cobalt; 2) clean energy that will be exported to the EU; 3) green industrial products such as green steel, batteries, RES that will be produced in Ukraine; 4) safe and high-quality agricultural products that will strengthen the food security of Europe.

- Rebuild production facilities with energy-efficient technologies that would ensure the competitiveness of the economy, reduction of the carbon footprint, and prevent pollution;
- Develop clean transport and charging infrastructure that would significantly reduce the negative impact on the environment, ensure the reduction of the carbon footprint of products and reduce the energy dependence of Ukraine;
- Make a transition to new technologies that rely on carbon-neutral energy resources;
- Responsibly realize natural resource potential and provide Europe with the resources required for the green transition, such as lithium, cobalt, titanium, etc.;
- Integrate into European food, energy and industrial value chains in the new green economy;
- Develop a circular economy that will ensure efficient waste treatment and efficient reuse of existing resources.

Development of a new green economy would ensure the competitiveness of Ukrainian products on the global market and ensure European economic resilience by supplying Europe with critical resources, products, and services.

#4. PRESERVE ENVIRONMENT AND DEVELOP BIODIVERSITY | The war has caused damage to over 1.2 mln hectares of natural reserves, with over 20% of the natural reserve fund being under threat. Furthermore, Ukraine's forests have suffered over 440 mln USD of damages, with forest fire area increasing by 41 times year on year. Moreover, 13% of the territory of Ukraine has been polluted as of the end of May. As of May 2022, The Ministry of Environmental Protection of Ukraine recorded 254 crimes against the environment with more than 1500 documented facts. Restoration and development of natural resources will mitigate the negative impacts of climate change and improve quality of life. The recovery process will focus on adaptation to climate changes as a response to the long-term threats posed by climate change on Ukraine's natural and human resources, including biodiversity, impact on ecosystems and migration.

- Develop forestry by managing forest clearance and planting new trees;
- Ensure the safety of Ukrainian territories by conducting mine clearance;
- Restore degraded lands and effectively use them;
- Build facilities for effective waste management and circular use of materials;
- Develop natural resources that strengthen the resilience of territories to natural disasters such as floods and fires;
- Preserve and develop natural resources of Ukraine.

Adaptation to climate change would strengthen the resilience of Ukraine against natural disasters caused by climate change and ensure a higher quality of life in a clean, natural environment.

POSSIBILITIES TO SUPPORT | With advanced experience in decarbonizing the economy and implementing best practices on mitigating human influence on the environment, international partners would be able to contribute to Ukraine's environmental recovery: (1) *Technical support to the Government of Ukraine* in building the architecture of climate governance could help Ukraine ensure the green transition and just transitio; (2) *Investments* in developing the green economy of Ukraine, including but not limited to, RES, energy-efficient housing, modern energy infrastructure, etc. would be a valuable contribution toward Ukraine's swift reconstruction; (3) *Creating equal opportunities for Ukraine*, as a European partner, in a) access to long-term sources of financing for business, financial institutions, and government; b) access to global bodies of knowledge and R&D programs; c) access to the European market for Ukrainian products and services with consideration of Ukrainian context; would help to build resilient European economy and support the economic recovery of Ukraine; (4) *Financial and material assistance* in overcoming consequences of hostilities in Ukrainian territory, for instance, assistance in humanitarian mine clearance, including demining of sea routes and combatting water and soil pollution.

Having implemented the proposed initiatives, Ukraine will reach a qualitatively new level of development and enter a phase of modernization of the economy, bringing about positive change both in terms of building a prosperous economy and achieving a higher quality of life.

At the request of the URC2022 Organizational Committee, this brief was prepared by the Centre of Economic Recovery (CER) based on extensive multi-stakeholder consultations, which included representatives of the government, civil society, business, local self-government, and academia. The views expressed are those of the authors and contributors and should not be reported as the position of the Ukrainian or Swiss Governments.