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Introduction to the Issue on

How Can the EU Better Adapt to Climate Change?

Chang Woon Nam

In the face of increasing climate impacts, understanding the costs, effectiveness, and socio-economic implications of adaptation is more important than ever. Adaptation refers to adjustments to ecological, social, or economic systems in response to actual or expected climatic stimuli and their effects. It refers to changes in processes, practices, and structures to limit potential damage or take advantage of opportunities associated with climate change.

Climate policy debates in the EU are currently focused primarily on reducing greenhouse gas emissions, the main cause of climate change. However, even under the most optimistic emissions scenarios, climate change is expected to continue and cause severe damage. Across Europe, increasingly frequent and severe flooding is causing serious material damage, while the gradual rise in temperature, droughts, soil and forest degradation, and loss of biodiversity are causing serious economic losses to farmers in the EU and around the world. Climate change also threatens the livelihoods of communities in many developing countries, where resilience to climate change is already low. It is therefore crucial to develop comprehensive adaptation strategies to minimize the economic costs, increase public safety, and address the health risks associated with the escalating climate crisis.

Adaptation measures can take many forms, depending on the unique context of a community, business, organization, country, or region. There is no "one-size-fits-all" solution – they can range from building flood defenses, setting up early warning systems for hurricanes, and switching to drought-resistant crops, to redesigning communication systems, business operations, and government policies. Many countries and communities in the EU are already taking steps to build resilient societies and economies. However, greater ambition and better coordinated actions are needed to cost-effectively manage the risks both now and in the future.

In February 2021, the European Commission adopted a new EU Adaptation Strategy, which is a key part of the European Green Deal and aims to strengthen and accelerate the EU's efforts to protect nature, people, and livelihoods from the unavoidable impacts of climate change. Within this framework, the EU (1) ensures that all its own policies and actions aim to increase Europe's resilience to the impacts of climate change; (2) supports national, regional, and local authorities and private sector partners in adapting to climate change; and (3) reinforces global climate change resilience and preparedness by increasing international funding and promoting greater global engagement and exchange on adaptation. In this context, it is important to note that reducing emissions, adapting to global warming, and mitigating climate risk are not only challenges but also new opportunities for growth and innovation in the EU. As the economy transitions to clean and renewable energy, the complexity and opportunities will only increase.

Severe heatwaves, deadly wildfires, violent storms, and devastating floods hit many regions of the world in the summer of 2023, the warmest since 1880. These extreme weather events caused by climate change threaten food security, communities, infrastructure, natural resources, and entire ecosystems. They have led to the displacement of millions of people worldwide, particularly in less developed countries in Africa and Asia. It is now increasingly recommended to facilitate migration as a climate adaptation measure in order to protect the economy and millions of lives.

This issue of EconPol Forum contains nine articles addressing the question of how the EU can better coordinate and adapt to climate change in order to prevent and reduce its multiple negative impacts on the environment, people, the economy, and society. Paying particular attention to the spatial, institutional, and financial aspects in the EU and its member states, the authors critically assess the short- and long-term challenges associated with the implementation of adaptation strategies, as well as the potential trade-offs that need to be avoided and therefore taken into account when designing the policy mix. They also point out the new opportunities for growth and innovation in the EU that can also result from climate risk mitigation.

Johannes Pfeiffer and Karen Pittel point out not only that estimates of climate impacts and the potential to reduce these impacts through adaptation show the scale of the benefits that can arise from investing in climate change mitigation in the EU, but also that the benefits of adaptation measures often exceed their costs. Nevertheless, the current level of private and public funding for climate adaptation measures often falls short of what could be considered economically efficient. Apart from the need for a clear division of responsibilities for climate adaptation between private and public actors, challenges in the implementation and financing of adaptation measures arise from uncertainty about future damages, funding constraints, and lack of information. *Ilan Noy* and *Tomáš Uher* explain that climate adaptation requires balancing trade-offs associated with any policy decision on adaptation – a "trilemma" in which a choice must be made between two of three objectives: reducing inequities and hardships, incentivizing risk reduction, and fiscal sustainability. In addition, three main approaches dominate adaptation and are consistent with these objectives: public investment, private adaptation, and risk financing and insurance. Economic assessments of adaptation measures should increasingly seek to quantify the trade-offs of the trilemma, while their combinations should be designed to minimize the trade-offs and maximize the synergies.

For Maria Waldinger and Franziska Wintersteller, climate change adaptation is an investment decision with unique challenges such as uncertainty, long time horizons, and market imperfections that hinder optimal private action. In this sense, public sector involvement should address market failures while avoiding moral hazard and the crowding out of private investment through targeted knowledge dissemination and incentives. Significant differences in adaptive capacity between and within countries lead to fundamental inequalities in climate resilience that require special policy consideration.

According to *Peter Eckersley*, investing in climate adaptation is much more cost-effective than the cost of emergency management and recovery from climate-related disasters. As there is no simple "business case" for specific adaptation initiatives, governments need to take a very long-term perspective on investment spending. Governments also need to build societal consensus on how to prioritize adaptation spending and protect those locations and population groups that are much more susceptible to climate risks than others.

As Bruno Conte and Hubert Massoni emphasize, the spatial dimension is a crucial factor for economic adaptation to future climate change. The uneven geographical nature of expected changes requires placebased policies. The EU Adaptation Strategy 2021 underlines that robust data and risk assessment tools for all economic actors (from families owning a house to businesses in coastal areas to farmers planning their crops) are important prerequisites for the right policy design. These tools must not only focus on early warning systems and local risks, but also include the risks of spatial propagation of shocks through migration, trade, and infrastructure disruption. Europe is warming twice as fast as the global average, and climate change adaptation measures vary considerably between and within European regions. *Federico Revelli* emphasizes that the quality and integrity of governments in Europe correlates with adaptation performance. Information on progress in implementing adaptation goals, including subcentral governments, is important, while performance assessments and benchmarking promote competition, innovation, and accountability in the EU.

Matthew E. Kahn believes that investing in strengthening Europe's weather resilience will boost national economic growth. Given Europe's well-educated population and committed environmental awareness, there is an opportunity for Europe to take a leading role in "resilience technology," which focuses on both measuring spatial risk and developing cost-effective solutions to promote resilience. Global demand for adaptive market solutions is increasing and stimulating endogenous innovation. Europe can benefit from this trend as the world has a growing need for cooling, flood protection, and air pollution control technologies.

In addition to the threat to competitiveness posed by bilateral tariffs imposed by the US, the EU has suffered from negative energy shocks related to the war in Ukraine and declining productivity growth. In this context, *Rabah Arezki, Jean-Pierre Landau* and *Frederick van der Ploeg* argue that the EU's green policy framework is no longer fit for purpose due to new geopolitical developments, proactive industrial policies in China and elsewhere, and increasing fiscal pressures. The EU needs to act quickly to realign its energy and environmental policy mix. This requires new EU-wide subsidies that target the early development phase and increase the EU's resilience to trade disruptions, with nuclear energy together with renewables as the main contribution to decarbonization and carbon pricing.

Both the public and experts in Europe seem to be rather pessimistic about voters' support for climate policy. In contrast to this general view, a survey by *Davide Pace* shows that voters are willing to make sacrifices for climate change and support costly climate policies. They also support green investments, even if these are financed through carbon taxes, while a carbon tax plus a climate premium – an upfront transfer to all households – may also be a promising policy.

We hope you enjoy this Policy Debate of the Hour!