# P05 / Energy transition, security and justice in times of global shocks

**Topic :** GLOBAL WARMING, SDG, ENVIRONMENT, ENERGY AND POLICY

**Chair :** Daniel del Barrio Alvarez (The University of Tokyo)

**Second Chair :** Warathida Chaiyapa (Chiang Mai University School of Public Policy)

## GENERAL OBJECTIVES, RESEARCH QUESTIONS AND SCIENTIFIC RELEVANCE

The transition to a sustainable energy system is currently facing the challenges created by two consecutive global crises: the COVID-19 global pandemic and Russia's invasion of Ukraine. The dramatic reduction in natural gas international flows and the consequent increase in energy prices, due to the economic sanction against Russia, has come at a time when countries are still recovering from the economic shocks and disruption to global value chains from the global health pandemic. This has led to questioning how the combination of these two crises is going to affect countries' policies, and ambitions, on their energy transition programs in the short, medium, and long term. Even though the need to implement policies to limit the impact of climate change and a faster transition to sustainable energy systems is as urgent as, or even more than, ever (floods in Pakistan this year as an example).

However, there is the risk that governments' climate agenda will be left secondary to "other more pressing issues". This may include legitimate actions to support the population that may be more severely impacted by the increase in energy prices for electricity, thermal comfort, and transportation (as highlighted by the literature on energy poverty). As well as short-term energy security concerns which may justify the need to extend the lifetime of polluting energy generation plants. But there is also the risk that it may be utilized by some others to limit or reduce the transition to more sustainable energy systems. In addition, there are risks that the current sourness of international relations may affect the required cooperation in the climate agenda at international fora, as happened at the G20 (and so might be seen at COP27, not yet at the time of this writing). All this will impact for severely countries in the Global South. For example, a slowing down in the progress on the realization of the 7th Sustainable Development Goal (SDG-7) has been reported, particularly in the pace of electrification and the impossibility for around 90 million people in Asia and Africa to afford energy services to which they had access previously.

Nonetheless, there are opportunities to learn from the crises and practices experienced and feed them into the design of new policies and redefine research agendas. For that, this panel aims to bring together papers on experiences and practices from both Global South and North to address the two crises and their impact on energy and climate agendas, as well as those reflecting on emerging topics related to the intersection between energy transition and energy security.

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## CALL FOR PAPERS

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global crises: the COVID-19 global pandemic and Russia's invasion of Ukraine. The dramatic reduction in natural gas international flows and the consequent increase in energy prices, due to the economic sanction against Russia, has come at a time when countries are still recovering from the economic shocks and disruption to global value chains from the global health pandemic. This has led to questioning how the combination of these two crises is going to affect countries' policies, and ambitions, on their energy transition programs in the short, medium, and long term. Even though the need to implement policies to limit the impact of climate change and a faster transition to sustainable energy systems is as urgent as, or even more than, ever (floods in Pakistan this year as an example).

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· Policy responses to the two crises in general, and their impact on sustainable energy.

· Policy responses to address the impact of energy security and high prices, and their potential impact on the climate agenda.

· National energy policies and impact on international relations and restructuring on the new geopolitics of energy and renewables.

· Evaluation of existing theoretical frameworks and recommendations for reforms and/or new ones.

· Discussions on a research agenda to bridge between science and policy.

The panel welcomes papers from different disciplines, methodologies and geographies; and encourages comparative and interdisciplinary approaches.

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## Session 1

Wednesday, June 28th 08:00 to 10:00 (POD370)

### Europe’s new interventionism. Punctuated equilibrium and EU energy policy change

Andreas Goldthau (Willy Brandt School of Public Policy, University of Erfurt & Institute for Advanced Sustainability Studies (IASS))

Since the 1990s EU energy policy has sought to liberalize gas and electricity markets. Until 2022, the Single European Market ensured reliable supply, competitive pricing and environmental sustainability. But the Ukraine crisis gave rise to a substantial policy shift, toward a strongly interventionist approach. New measures included price caps, nationalization, and a single buyer vehicle for gas. This paper argues that the deep policy changes caused by Russia’s war will outlast the short-term need for crisis management. It draws on Jones and Baumgartner’s (1991) seminal work to empirically assess how the 2022 events revealed the inadequacies of the energy policy subsystem, thus effectuating a shift in policy image and policy venue. Central to this shift was the securitization of the green transition to a low-carbon economy; the inability of the market model to deal adequately with an external shock; as well as a change in decision making from energy sector-oriented agencies to highest levels of government and EU institutions. Drawing on a range of policy documents and using process tracing, the paper shows how the war rendered the incumbent energy policy subsystem instable and gave rise to a dominant new policy image – interventionism – that is likely to guide future EU energy policy making.

### Policy networks surrounding energy justice: Analyzing Twitter debates using mixed methods social network analysis

Yutong Si (Northeastern University Boston Campus)

There is a lack of research on the patterns of policy networks using social media data, and little is known about actors and actor groups involved in online policy networks surrounding energy justice. This research draws on policy network theory and social network theory to examine the Twitter communication network that has formed around the policy debates on energy justice. Based on mixed methods approaches to social network analysis of longitudinal tweets about energy justice, this study allows for an empirical identification based on how actors position themselves in the online debates toward other actors and their shared hashtags, combining semantic and relations research traditions within the network perspective. Based on the mentions network and hashtag co-occurrence networks, it aims to emphasize the central role of certain actor groups in energy justice debates and distinct narratives (or policy stances) by different actor groups on Twitter. Analysis also includes identifying how networks and discourses change in response to specific temporal events like the UNFCC COP meetings, the beginning of the COVID 19 pandemic, Russia’s invasion of Ukraine, and specific climate disruptions. It sheds light on empirical improvement and temporal dynamics in energy policymaking and social justice advancement, and the proposed approach can be further applied more widely to the analysis of online policy networks on Twitter.

### Cooperative Governance toward a Circular Economy of Waste Batteries for Electric Vehicles

Youhyun LEE (Ajou University)

Min Jeong Kim (Ajou University, Korea)

In efforts to address the climate crisis and reduce carbon emissions, sales and distribution of electric

vehicles (Hereinafter EVs) have increased worldwide. Moreover, unstable energy and raw material prices due to War in Ukraine-Russia require active exploration of ways to reuse and recycle key materials needed for battery production. Consequently, the market for the reuse and recycling of battery waste is also on the rise.

Currently, policies related to the recycling of used batteries for electric vehicles vary depending on the industrial conditions and environment of each country, such as the U.S., Europe, Japan and China. For Korea, as the leading producer of EV batteries, the cumulative supply of electric vehicles exceeded 300,000 units at the end of June 2022. However, it is necessary to supplement the institutional part, cooperative system, and investment to foster the EV battery recycling industry.

This study conducted an expert opinion survey targeting total of 37 EV waste battery experts in the public sector, academia, and the private sector to analyze 'cooperative governance to promote resource circulation of waste EV batteries in Korea'. This study analyzed the collected data qualitatively and quantitatively to identify the configuration method of the network, major actors, or topics for the reuse and recycling of waste batteries. Therefore, this study aimed to analyze the elements of governance, the main connecting processes of governance, and the elements consisting of the mechanism of governance based on the cooperative governance model presented by Ansell & Gash (2007) and the study of Tremblay et al. (2019) that articulates governance elements across multiple dimensions. As a result of the analysis, in the case of Korea, the structure and aspects of governance in which the central government transferred authority to businesses and local governments were found, but experts emphasized that the central government should have a system that can effectively manage and supervise the governance. They also emphasized that the central government should lead governance at the legal and institutional level and institutions and companies with technology should actively participate in developing related technologies and play a role in the production, reuse, and recycling of EV batteries. As a result, the researchers were able to identify the parts that need to be completed in terms of policy for the practice and implementation of EV battery circulation and net-zero emissions.

## Core capture: The effects of exposure to firms on the belief systems of executive regulators

Carolina Velandia Hernández (Northern Illinois University)

Thomas Skuzinski (Northern Illinois University, US)

Laws targeting the energy production sector are crafted to sustain both environmental protection and economic development, and government regulators have a duty to administer these laws in the public interest. A persistent risk of regulatory capture exists, in which a regulator’s decisions are motivated not by the public interest but by private interests of regulated firms. This dissertation builds on the new governance perspective on regulation by conceptualizing the regulator in a cross-sectoral network in which exposure to firms (through prior employment, informal social interactions, and formal job-related interactions in the process of regulation) affects regulators’ belief systems. This dissertation uses multiple methods to explore how exposure to private firms shapes the beliefs of executive regulators. It proposes that exposure to private firms through the three mechanisms above corresponds significantly to belief systems that are more favorable to private firms. Data on belief systems and on exposure are drawn from in-depth, semi-structured interviews with federal energy industry regulators in Colombia. Colombia is a compelling focus for this research because—like many countries—it is experiencing a rapid transition from resource-extractive energy to renewable energy but with a persistent political and economic dependence on fossil fuels, and has recently introduced laws whose regulatory interpretation will shape the country’s sustainability pathway for decades. The findings from the dissertation will be used to develop policy recommendations regarding changes to the regulatory process to better insulate regulators from private firm influence and to inculcate a stronger public interest ethos in regulators. The dissertation will serve as the foundation for a comparative research program exploring the regulation of sustainable infrastructure systems in multiple countries.

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## Session 2

Thursday, June 29th 08:00 to 10:00 (POD370)

### ENERGY TRANSITION-DRIVEN RESOURCE EXTRACTIVISM IN AFRICA: A BLESSING OR A CURSE?

Pakmoni Lariba (Chiang Mai University School of Public Policy)

ABSTRACT

This paper explores the nascent dilemma of natural resource politics in the face of rising extractivism in resource-rich African countries. The global rush for strategic energy transition materials amidst deepening climate crises calls for a linkage between the pursuit of capitalist-driven resource exploitation on the one hand and justice transition discourse on the other. Here, the relationship between the two and how it plays out in the rural world requires a more profound analysis and object of policy action. While some scholars contend that the rising demand for strategic minerals provides opportunities for African countries to rake in more mineral rents, employment, and infrastructural development, among other benefits, others argue the boomerang effects of the new extractivism may reconfigure conflict and rent-seeking behaviour in fragile states and those with weak institutions in ways that policymakers of a low-carbon future have never envisaged. This research explores how energy transition-driven resource exploitation and the rural world intersect. In analysing the conflicting prepositions of the mining boom argument, this paper draws data from a somewhat eclectic mix of data from Dr Congo and Ghana to underpin the studies. The preliminary findings show that the dominant emphasis on climate change mitigation policies and the aggressive promotion of a decarbonised future through the prism of renewable technologies risk pushing the ontological and cultural construction of a just transition discourse to the back burner.

This paper further asserts that energy transition-driven extractivism in African countries thus resonates with the Faustian bargain, where decarbonisation may be achieved at the expense of rural livelihoods. The paper concludes with recommendations for policy and practice.

### How do weather shocks affect household energy burdens? Empirical evidence from the United States

Ying Yu (The University of North Carolina at Chapel Hill)

Noah Kittner (The University of North Carolina at Chapel Hill)

Household energy consumption, used for cooking, lighting, cleaning, space heating, and cooling, is critical for daily living needs and physical health. Energy burden, defined as the percentage of household income spent on paying energy bills, is closely linked to climate change and vulnerable groups, making it a major social issue of equity rather than a purely economic topic of affordability. A number of pioneering studies have discussed the potential impact mechanisms of weather shocks have on energy burden. However, the existing literature has mainly focused on summarizing the theoretical background, while there is still a dearth of empirical evidence demonstrating the relationship between weather shocks and energy burden. Based on climate station records and U.S. Census data, we estimate the impact of weather shocks on energy burden at the county level in the conterminous United States over the period 2013-2020. The results demonstrate that weather shocks will significantly increase household energy burdens and suggest that increased heating demand may have a greater impact on household energy burdens than cooling demand. In addition, weather shocks will disproportionately affect the energy burdens of vulnerable groups, among which the poor, those unemployed, those less educated, and those living in energy-inefficient old houses will be subject to more severe adverse weather impacts. Further understanding the effects of household electrification and decarbonization strategies could provide specific adaptations for disproportionately

vulnerable groups and improve equity. Considering climate change impacts are already stratifying households in their ability to meet household energy needs, our findings can help inform future adaptation strategies and compensation mechanisms for affected groups.

### Shifting paradigms on power connectivity in the Greater Mekong Subregion? Analysis of existing perspectives on the future of electricity trade between Thailand and Laos

Daniel del Barrio Alvarez (The University of Tokyo)

For more than three decades, Thailand and Laos have been involved in a mutually beneficial gradual process of deepening power connectivity. Laos has been able to attract much-needed foreign investment, support the electrification of remote rural areas, and import electricity during the dry season. And Thailand got access and was able to finance the development of hydropower resources in Laos. The construction of additional generation projects, mainly hydropower, and transmission lines have been mostly constant despite public opposition due to the social and environmental impacts. However, there is a question on whether this may change as the global energy system has been shocked by two consecutive crises. These have had a dramatic impact on the energy choices of individual countries. It is still unclear whether this double crisis may create a critical juncture for power connectivity between both countries, and with others in the region. This paper investigates the existing and emerging perspectives towards the future of power connectivity between Thailand and Laos and evaluates this from the viewpoint of their capacity to accelerate or hinder the energy transition, its influence on how energy security is achieved, and the implications for a regional just transition.