Advancing decarbonisation through central banking and ecological macroeconomic modelling

About

Dr Maria Nikolaidi's research explores how central banks and financial systems can help achieve decarbonisation targets, thereby supporting global climate change mitigation efforts. Her work examines the potential of financial institutions like the European Central Bank (ECB) and the Bank of England (BoE) to integrate climate considerations into their monetary operations, with the goal of incentivising sustainable practices and reducing carbon emissions in the economy. This research, conducted with collaboration from the New Economics Foundation and Greenpeace, is funded by INSPIRE and the ClimateWorks Foundation.

Work

The primary aim of Maria's work is to reconfigure the monetary policies of major central banks to better align with climate goals. This includes proposing adjustments to the ECB's collateral framework and the quantitative easing (QE) programmes of the ECB and BoE. Her approach advocates for a structured shift whereby central banks support climate-friendly bonds more favourably than those issued by carbon-intensive companies. This prioritisation could lead corporations to adopt lower-carbon practices to gain greater financial support, catalysing a transition to a low-carbon economy.

Maria's research employs innovative ecological macroeconomic modelling, enabling the analysis of interactions between the ecosystem, financial systems and the broader macroeconomy.

The models developed by Maria and her colleagues permit a nuanced analysis of different climate policies' economic and environmental impacts. By simulating various scenarios, these models reveal the trade-offs and complementarities within climate policy options, providing a comprehensive guide for policymakers.

Maria's models have been pivotal in providing insights for institutions looking to incorporate sustainability within their financial systems. Her work has particularly impacted the Central Bank of Argentina, where she led a capacity-building programme to help the bank strategise responses to the climate crisis. By facilitating knowledge exchange and training, this programme underscored the practical applications of her ecological macroeconomic models for financial stability and climate resilience.

SDGs

6 CLEAN WATER AND SANITATION

7 AFFORDABLE AND CLEAN ENERGY

13 CLIMATE ACTION

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