

“Building Back Better” in Practice: A Science-Policy Framework for a Green Economic Recovery After COVID-19

Theodoros Zachariadis*, Elias Giannakis, Constantinos Taliotis, Marios Karmellos and Nestor Fylaktos, Mark Howells, Will Blyth and Stéphane Hallegatte

Abstract

As current production and consumption patterns of humanity exceed planetary boundaries, many opinion leaders have stressed the need to adopt green economic stimulus policies in the aftermath of the COVID-19 pandemic, in line with the United Nations Sustainable Development Goals and the Paris Agreement on Climate Change. This paper provides an integrated framework to design an economic recovery strategy aligned with sustainability objectives through a multi-criterion, multi-stakeholder lens. The aim is to enable decisions by policymakers with the aid of transparent workflows that include both expert evidence that is based on quantitative open-source modelling, and qualitative input by diverse social actors in a participatory approach. We employ an energy systems model and an economic input-output model to provide quantitative evidence and design a multi-criteria decision process in which we engage stakeholders from government, enterprises, and civil society. As a case study, we select thirteen green recovery measures that are relevant for the European Union member state of Cyprus and assess their appropriateness with numerous criteria related to environmental sustainability, socio-economic and job impact, and climate resilience. The results highlight trade-offs between immediate and long-run effects, between economic and environmental objectives and between expert evidence and societal priorities. Importantly, we find that a ‘return-to-normal’ economic stimulus is not only environmentally unsustainable but also economically inferior to most green recovery schemes.

Keywords: Energy systems model; Input-output model; Multi-criteria decision analysis; Policy formulation; Stakeholder engagement

* Corresponding author. Address: The Cyprus Institute, Konstantinou Kavafi 20, 2121 Aglantzia, Nicosia, Cyprus. Email: t.zachariadis@cyi.ac.cy