

## Climate-compatible investment needs in the power generation sector of G20 countries

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### Extended Abstract

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### Abstract Summary

Reaching a pathway towards net zero GHG emissions requires rapid and massive investments in low-carbon infrastructure, particularly in the power sector. However, the specific investment shifts required are not fully understood, especially concerning emerging and developing economies. This could lead to an insufficient steering effect for crucial technologies. To address this gap, we analyze the required technology-level investment shifts in the power generation sector of G20 countries. We combine data from 142 Paris Agreement-compatible scenarios from 18 integrated assessment models (IAMs) using the Scenario Compass tool and compare this with a meta-analysis of data in the peer-reviewed academic literature. Our results contribute to clarifying investment needs trajectories and highlight key differences between forecasted power generation sources. Furthermore, we provide guidance on which countries are on the route to meeting investment targets and which will require substantial policy support and potentially rely on foreign investment to achieve their decarbonization targets.

### Presenting Author Biography

Valeria de los Casares is a third-year doctoral candidate at the Energy and Technology Policy Group at ETH Zurich. Here, she conducts research at the intersection of energy, finance and economic policy. Particularly, she is interested in the role of public financial institutions in the energy transition. She has a background in economics, with degrees from Sciences Po and University College London. Before her PhD, she gained experience as a research assistant at Sciences Po, in ESG consulting and at the OECD.