

## FSR Climate Annual Conference 2021 – 7<sup>th</sup> edition

Dates: 29 & 30 November on Zoom Webinar

Tuesday 30 November

*14:00-16:00 – Session on Energy efficiency and renewables*

**Presenter:** Enrica De Cian (Ca' Foscari University of Venice and CMCC)

**Title:** *Integrating energy needs for adaptation in mitigation pathways*

**Abstract:**

Climate adaptation actions can be energy-intensive. If households and industries use more energy to cope with the ongoing and expected changes in climate conditions, the mitigation challenge can look inherently different. This adaptation-energy feedback is absent in most of the up-to-date energy scenarios.

Here we provide new evidence on how climate change impacts and adaptation can alter mitigation pathways with a focus on the response of residential, commercial, and industrial activities. We quantify the impacts of climate-induced adaptive changes in final energy use on energy investments and costs, emissions, and on air pollution. We find that climate adaptation induces changes in energy demand that have a direct bearing for the energy system as a whole, with non-negligible implications for greenhouse gas emissions and local air pollutants, as more energy capital would be locked-in into fossil fuels. When the energy requirements for adaptation are accounted for, the level of the carbon price needed to achieve mitigation policy goals increases by up to 30%.

Adaptation to climate change, as we know it from the empirical evidence of past behaviour of people and industry, bear a high risk of being climate-blind.

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Webpage and programme [here](#)