

## FSR Climate Annual Conference 2022 – 8<sup>th</sup> edition

Friday 2 December

*14:00-16:15 | Session – Energy transition*

**Presenter:** Elena VERDOLINI (EIEE & University of Brescia)

**Title:** *Policy choice, timing and stringency and the direction of innovation*

**Abstract:**

This paper tests how the choice, timing and stringency of different policy instruments affect innovation in two competing technologies, one of which is radical and one of which is incremental. This question is of relevance in many fields, but particularly so in the context reducing, and potentially eliminating, anthropogenic greenhouse gas (GHG) emissions. Differently from previous analyses, we postulate that competences and specialization mediate the effectiveness of different policy instruments giving rise to different policy regimes. To test our intuition, we develop three alternative models of how policies affect the direction of technical change in radical as opposed to incremental innovation. We then use data for a sample of 33 countries over the years 1990-2012 to choose the model that best fits the data. We show that the effectiveness of policy instruments varies discontinuously with the level of relative specialization in two competing technologies, pointing to the importance of relying on a carefully tailored portfolios of policies in support of innovation in radical as opposed to incumbent technologies.

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Webpage and programme [here](#)