

# Energy efficiency networks – do they work? Evidence from German plant-level data

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**Abstract:** In energy efficiency networks, groups of firms exchange experiences on energy conservation in regular meetings over a four-year horizon. The companies implement energy efficiency measures in order to reach commonly agreed energy savings and CO<sub>2</sub> reduction goals. Energy efficiency networks play an important role in the German policy mix to achieve the 2020 national climate targets. Between 2009 and 2014, more than 360 production sites have participated in 30 of these voluntary regional networks in Germany. Existing evaluations of these networks claim that participants improved energy efficiency at twice the speed of the industry average. This paper confirms that the companies self-selecting into networks are more energy efficient than the average industrial firm and examines whether this higher rate of energy conservation was caused by participating in energy efficiency networks. I employ both a difference-in-differences estimator, using companies that joined energy efficiency networks starting at a later point in time as a control group, as well as a conditional DiD matching estimator. I demonstrate that there is some evidence for an average increase of energy productivity by more than seven per cent due to the network activities, as well as a decline in CO<sub>2</sub> emissions by almost 11%. However, this effect is not robust across all model specifications.

**Keywords:** Business networks; voluntary agreements; energy conservation; policy evaluation

**JEL codes:** D22; Q40; Q51; C50

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