Federally mandated but locally administered: Political differences in air pollution abatement under the Clean Air Act

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Highly relevant topic particularly for current policy discussion

Obj: Estimate differential state level implementation of the CAA’s technological requirements across political regimes.

Data: Abatement technology information at facility and boiler level

Contribution: First to identify how the partisan affiliation of a political leader affects pollution abatement technology/expenditures. abatement technology at regulated facilities.
Simple and straightforward way to provide an answer to an interesting question

Main Approach: "Close elections RDD" with validity tests and placebo tests

Results: In non-attainment areas, when Republican governors in charge, less abatement capital expenditures, lower probability for better technology. However, the additional cost of technology adoption when Democratic governors in charge is larger than its benefit.
Marshall (2019): Downstream effects of politician characteristics: gender, race or ethnicity, clan, religious identity, ideological extremist, criminal history, prior incumbency, seniority, term limit status, partisan affiliation, and partisan alignment with other levels of government.

Pacca et al. (JAERE 2021), The Role of Party Affiliation, Lobbying, and Electoral Incentives in Decentralized US State Support of the Environment

Could consider the heterogeneity in state with different industrial concentration, the pressure of economic growth (trade off with environmental preservation), polluting lobbies, or environmental organizations.
Have you considered the overlap period for election and attainment designation? Or change of attainment status during one term (4 years)?

Will governors for attainment areas have the incentives to stay in attainment status and adopt technology?

Interesting to estimate how much could partisan affiliation explain the differential pollution patterns.

Technology adoption is only one of the measures that State governors take to re-gain attainment status, could there be any ”gaming of the system” strategies that could also vary by politician characteristics?
Thank You