

[Spatial variation of emissions impacts due to renewable energy siting decisions in the Western U.S. under high-renewable penetration scenarios](#)

Authors: Seth Blumsack, Jianhua Xu

Summary

This research looks into how incremental utility-scale renewable energy deployments have impacted carbon dioxide, sulfur dioxide, and nitrous oxide in WECC. The researchers found that specific deployments of wind can increase emissions in some locales and that the location of wind development has impacts on how transmission assets are used. Their study concludes with an analysis of where policy needs to go going forward, positing that policy needs to be careful to ensure that it is meeting its purported environmental goals. To conduct this study, the researchers performed a zonal, SCED analysis with unit-specific characteristics.

Why is this important to me?

In energy, much attention has been paid towards deploying renewable energy as a policy goal in and of itself. Rightfully, the energy sector has been charged with neglecting to think about justice and equity within its policymaking. This article alludes to some of those shortfalls by discussing the distributional benefits of deploying renewable energy. Energy decarbonization and grid modernization will necessarily need to account for impacts on communities. Where companies and utilities site energy projects will need to account for how developments impact communities and, as we advance, policymakers and regulators will need to consider not just overall emissions reductions, but also other benefits/costs at a community level.