

What's the cheapest way to add power to the grid where you live? Unless you live near Lake Superior, the answer isn't coal — not even in West Virginia or Kentucky. Beyond that, the exact answer depends on just what you means by cheap. A [major study](#) from UT Austin digs deep into this question.

If you only count generating costs, it's natural gas in most places except for a wedge stretching from West Texas to North Dakota and east to Northern Illinois. Wind is the best alternative in that wedge. If you take into externalities like acid rain and air pollution, that wedge grows substantially, wind become appealing in some new places (including parts of the Appalachians), and nuclear becomes competitive in parts of the Midwest. If you then add siting issues, like the availability of water for cooling natural gas plants, solar becomes least cost in much of California. Then you can tweak the results with different assumptions about natural gas prices or wind capacity.

Coal remains an economically appealing fuel today for only two reasons: coal-fired generating plants already exist, and we don't take into account the harm they cause of public health and the environment. Natural gas is much better than coal in environmental terms, but still far from ideal. But we need to bring down the cost of solar to make it competitive in more areas. And we need to electrify transportation to bring those emissions down.