

## Case Studies:

### Repowering Wyoming Communities with an Advanced Reactor

In 2020, nuclear energy generated more electricity in the United States than coal for the [first time ever](#), primarily due to coal plant retirements. While falling coal generation reduces greenhouse gas emissions, it can greatly hurt local communities and risks leaving them behind during the energy transition. In states like Wyoming, where 4 coal plants providing 5,500 megawatts of power are expected to retire in the next 15 years, local communities now face economic hardship. Advanced nuclear energy can help solve this problem by reusing retired [brownfield](#) coal power plant sites for nuclear energy, preserving local jobs and spurring local economic growth.

In June 2021, Wyoming emerged as a national leader in nuclear innovation by proposing a project to do exactly that. TerraPower, Wyoming Governor Mark Gordon, and electric utility Pacific Corp [announced that they will be demonstrating the Natrium project](#), a sodium cooled fast reactor with a molten salt system, at a retiring coal plant site in Wyoming. Supported by federal funding in a public-private partnership, the project is a first-of-a-kind opportunity to demonstrate advanced nuclear energy. It also serves as an opportunity to analyze how feasible it is to repurpose existing coal plant infrastructure with nuclear systems. Analysis shows that many of the functions needed for a new nuclear plant can be matched by systems in a coal plant. This includes the fossil-powered turbines used to produce the electricity, the transmission lines used to distribute electricity to homes nearby, and [even comparable roles and jobs](#) to operate the power plant.

Wyoming's willingness to host TerraPower's demonstration project also reflects local community interest in advanced nuclear energy. The candidate host communities [welcome the project](#). The nuclear plant would have a positive impact by keeping local energy jobs by retaining previous coal plant workers and bringing in new jobs, stimulating their communities' economies. Bruce Roumell, mayor of Glenrock, a potential site where the project may be built, was "glad to see they're looking to do something to keep our economy going, instead of just shutting the plants down and letting them mothball."<sup>1</sup> Community colleges are on board too. Carter-King and Rock Springs Mayor Tim Kaumo said local community colleges would be able to retrain coal workers to make the transition to advanced nuclear power easier for locals.

Transitioning to a carbon-free future is necessary to mitigate climate change, but it should not occur at the expense of local communities. Projects like Natrium in Wyoming demonstrate that energy innovation can support communities during the transition.

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<sup>1</sup> See: [https://trib.com/business/energy/wyoming-towns-eager-to-host-next-generation-nuclear-reactor/article\\_f73e3b4d-032f-5727-87a7-88bb3e23d890.html](https://trib.com/business/energy/wyoming-towns-eager-to-host-next-generation-nuclear-reactor/article_f73e3b4d-032f-5727-87a7-88bb3e23d890.html)