

**DIVE BRIEF**

Microsoft partners with UK nonprofit on software to help coal plants transition to nuclear power

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Dive Brief:

- Microsoft and TerraPraxis, a nonprofit headquartered in the U.K., have joined forces to develop a software application that will help existing coal plants determine the best avenue for decarbonization, according to a Thursday announcement.
- The software fits within the TerraPraxis Repowering Coal Initiative, through which the nonprofit advocates for replacing the coal-fired boilers at coal power plants with small modular nuclear reactors.
- “Our work with Microsoft will accelerate the clean energy benefits that Repowering Coal will bring to each community while simultaneously initiating hundreds of projects by leveraging Microsoft’s unparalleled digital capability and global market scale,” TerraPraxis director Eric Ingersoll said in a statement.

Dive Insight:

Microsoft and TerraPraxis believe that more digital tools could help some 2,400 coal-fired power plants worldwide decarbonize — and potentially transition to nuclear generation.

TerraPraxis hopes to release a suite of tools that could help automate the design and regulatory processes involved in transitioning coal plants to nuclear power. In 2020, the UK-based nonprofit won over Founders Pledge, a group supporting high-impact philanthropic investing. The group said philanthropists should provide TerraPraxis with seed funds to have a direct and immediate impact on a neglected area of energy innovation — nuclear energy.

“Most research suggests that we will need a huge scale-up of nuclear power, along with renewables and other technologies, if we are to avoid dangerous climate change,” John Halstead wrote for Founders Pledge. “In spite of that, there is almost no philanthropic support for nuclear advocacy in Europe, and relatively little in the US, and potentially as a result, limited policy support for nuclear either. TerraPraxis is a small organization that helps to correct this imbalance.”

TerraPraxis connected with Microsoft at the 2021 Microsoft Hackathon Executive Challenge, where a team consisting of TerraPraxis and Microsoft employees was selected as a challenge winner by Microsoft president and vice chairman Brad Smith.

“The global energy transition requires partnerships and technology innovation like this one led by TerraPraxis to repurpose coal-based power plants with carbon-free energy generation,” Darryl Willis, corporate vice president of Energy & Resources at Microsoft, said in a statement. “We look forward to our role in enabling TerraPraxis to accelerate this transformational solution economically, securely and at scale.”

According to TerraPraxis, repowering existing coal plants with small modular reactors would enable rapid, large-scale and low-risk decarbonization worldwide. The nonprofit has already

partnered with Southern Company, the Tennessee Valley Authority and the University at Buffalo, among other parties.

A study out of the U.S. Department of Energy determined about 80% of coal-fired power plants could host an advanced nuclear reactor, and that converting the plants could reduce the capital cost of a nuclear reactor by 15-35%.