

US approves first new nuclear reactors in 30 years

But government incentives go begging as applications for plants dry up.

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The US Nuclear Regulatory Commission (NRC) [signed off](#) on the first new nuclear reactors since 1978 on Thursday, marking the beginning — and some might say the end — of the United States' nuclear renaissance.

Southern Company, a utility giant based in Atlanta, Georgia, can now move forward with a pair of Westinghouse AP1000 nuclear reactors at its [Vogtle](#) nuclear station near Waynesboro. But whereas many within government and industry were hoping for a wave of new reactors — to the point of planning for workforce and regulatory difficulties that would stem from a sudden surge in nuclear construction — Southern Company now stands virtually alone. As discussed in a [preview](#) of the decision by the New York Times, aside from a pair of possible reactors in South Carolina, the pipeline has pretty much dried up, despite unclaimed government incentives.

The NRC voted 4-1 to approve the application, clearing the way for the commission to issue a combined licence for the operation and construction of the reactors (the combined licence itself is a new innovation intended to hasten a historically slow, expensive and, some say, unpredictable regulatory process). The [AP1000](#) (fuzzy artistic rendering, top right) is one of a new generation of pressurized-water reactors equipped with passive safety features that are designed to prevent overheating in the event of a power loss like the one that occurred last year at the Fukushima plant in Japan. The new reactors also have sturdier designs that are intended to better withstand earthquakes — or plane crashes.

None of this prevented a dissenting vote from NRC Chairman Greg Jaczko, who argued that the commission did not go far enough to ensure that the safety lessons from Fukushima would be implemented in the new reactor ([Huffington Post](#)).

The challenges facing the nuclear industry in the United States are four- or five-fold. First and foremost, nuclear power is expensive, requiring massive spending on the front end. The government is offering loan guarantees to help improve the economics of the first several plants in hopes that costs will fall once the industry gets a little experience under its belt. For its part, Southern Company received US\$8.3 billion in [loan guarantees](#) from the US Department of Energy for a project that weighs in at an estimated \$14 billion.

The remaining challenges are largely variants of the first. Demand for power has been weak, in part because of the economic woes of late. The new shale development has driven down the price of natural gas and further improved the economics of gas-fired generation, which is, unlike nuclear power, easy and cheap to install. And although it looked at one point as if low-carbon nuclear power might benefit from climate regulations that would penalize fossil fuels and make everything else that much more economically attractive, that issue has come and gone for the time being.

To top it off, many states have deregulated their electric industry in recent decades, turning the electricity market into a cutthroat business focused on short-term pricing rather than long-term planning. It is no coincidence Southern Company is building its plants in Georgia, a regulated market where the state's Public Service Commission can authorize the company to lock in an electricity rate that will cover its costs. The same is true in South Carolina.

But over the long haul, demand for energy is likely to rise, as is the pressure to reduce carbon emissions. With such thoughts in mind, perhaps, the nuclear industry heralded the announcement as a sign of better times to come. "Today's licensing action sounds a clarion call to the world that the United States recognizes the importance of expanding nuclear energy as a key component of a low-carbon energy future," Marvin Fertel, president of the [Nuclear Energy Institute](#) in Washington DC, said in a prepared statement.

Time will tell.



Westinghouse

The new reactors have passive safety features that the Fukushima plant in Japan lacked.

