

Nuclear energy's fate depends on the story we tell



Southern Company considers giving public tours of the Vogtle 3 and 4 nuclear plant construction site essential for explaining the benefits, importance and progress of the project. (Image: Georgia Power)

Depending on who you talk to, nuclear energy is either in an inescapable death spiral or on the precipice of an amazing breakthrough.

On the one hand, more new plants are under construction worldwide than at any time since the 1990s. Companies are developing advanced reactors that are cheaper, smaller and simpler to build than current designs.

On the other hand, operating plants are at risk of early closure, and some new construction has been canceled, as nuclear generation struggles against cheap gas and subsidized renewables. If things don't change soon, nuclear may not bridge the gap to its promising potential.

What is nuclear energy's future? Much depends on preserving existing plants and building new ones faster and on budget. A vibrant future for nuclear energy demands fixing markets and commercializing new technologies that can make nuclear even more competitive, such as advanced reactors and fuels.

What will really determine nuclear energy's fate is whether the nuclear community can change the conversation about this technology that has proven its worth many times over. Put bluntly, its future depends on the stories we tell, and how others perceive nuclear energy's value.

First, the facts: Nuclear is the safest, most reliable and most concentrated energy source we have. Nuclear is also the largest source of carbon-free power in North America, the European Union, and in several other advanced economies. Leading experts consider the climate puzzle unsolvable without a massive expansion of nuclear.

But the facts don't matter if no one knows them and how they support our common goals. Abundant, clean and reliable energy is an essential part of this equation. Nuclear energy provides those benefits like no other energy source.

Amazingly, most Americans surveyed do not know that nuclear is the largest source of emission-free power in the U.S. A similar majority even thinks nuclear power produces greenhouse gases. In fact, a global [survey](#) covering all sources shows less support for nuclear than for gas, which emits carbon. Only coal polled worse.

To make matters worse, companies have reduced spending on stakeholder outreach to cut costs. In countries where the nuclear sector is largely publicly owned, such as South Korea, unsupportive governments have throttled back public outreach.

The good news is that outreach works. A 2016 [survey](#) shows that the more people become aware of the benefits of nuclear energy, the more they support it.

And the lack of public support has real-world consequences.

In the United States, markets that don't value nuclear plants' contributions to fighting climate change or bolstering energy security are forcing them out of business. Or, as in the case of France's Fessenheim or Belgium's facilities, plants may be shut because of political decisions.

These situations have more to do with perceptions than they do with facts. Most nuclear plants at risk of early closure are well-run facilities, supplying clean, reliable power and supporting local economies.

Changing minds is difficult because the negative attitudes about nuclear energy have deep roots, dating all the way back to Madame Curie. Those suspicious of then new discoveries compared them to black magic or alchemy.

Consider also nuclear energy's early association with weapons, or pop culture references like the Incredible Hulk or Godzilla. Overcoming fear with facts about nuclear energy takes significant work — and creativity.

It starts with telling the right stories well.

Centrist think tank Third Way [points](#) to dozens of nuclear technology startups developing next-generation designs aimed at making nuclear even more efficient, competitive and safer.

The first Generation 3+ plants, including the AP1000, APR1400 and EPR, are coming online, and many others are under construction. Market distortions that forced some plants to close early are being addressed in several jurisdictions so other plants don't face the same fate.

But the nuclear sector must make public outreach a higher priority or the road to success becomes much narrower.

Nuclear energy in several key countries is at a crossroads.

Down one path, nuclear plants stay online until new plants are built and next-generation technologies come in — steady, if not growing, nuclear's contribution to climate-friendly energy generation.

Down the other, well-run plants continue shutting down prematurely, while nuclear's talent pool shrinks and the last entrepreneurs give up trying.

How this turns out is impossible to predict precisely, but one thing is sure: it is up to us who understand nuclear and its enormous potential to tell the stories, because nuclear technology cannot speak for itself.