

Albany Times Union

Commentary: Nuclear power must be part of New York's energy solution

James E. Hansen April 11, 2022

New York is to be commended for adopting the Climate Leadership and Community Protection Act, legislation that calls for carbon-free electricity by 2040. However, future generations will judge us by results we achieve, not by our aspirations.

Recently, the state's Climate Action Council released a draft "scoping plan" on how the climate act might be implemented. It proposes hundreds of square miles of solar panels, thousands of onshore and offshore wind turbines, and massive battery investments. Acknowledging that existing renewable energy and storage technologies are insufficient to achieve a carbon-free grid, the plan hinges on future breakthroughs and extremely optimistic trajectories. However, it gives short shrift to our most reliable, proven means of decarbonization: nuclear power.

The draft plan admits that nuclear power provides much of New York's carbon-free electricity today, even after decades of solar and wind deployment. Technical analysis in the plan also confirms that extending the operational life of reactors is a cost-effective way to limit greenhouse gas emissions. Yet the rest of the document portrays nuclear as more a problem than a solution, thus contributing to public misunderstanding and misplaced fear. Furthermore, the plan ignores the potential for advanced nuclear technology to help meet future electricity demand, and to produce high-temperature heat and carbon-neutral fuels for industry and transportation.

Nuclear power has the smallest land footprint and lowest life-cycle carbon emissions of any energy source. It can generate electricity around the clock or as needed. It is also among the safest forms of energy on the planet. Indeed, Dr. Pushker Kharecha and I showed that as of ten years ago, nuclear power had saved 1.8 million lives by displacing polluting fossil fuels — a number that could be multiplied several-fold by midcentury. Nuclear power provides

good-paying union jobs and tax revenue. It enables vibrant, thriving communities.

Tackling the climate crisis requires policies based on facts, not prejudice. Wind and solar power help with early decarbonization, where they can replace fossil fuels without need for large storage and transmission upgrades. However, systems overly dependent on intermittent, low-energy-density renewables — as California and Germany have proven — lead to skyrocketing electric rates, grid instability, and continued dependence on fossil fuels. Cost-optimized energy modeling reveals that nuclear power must ramp up for emissions to approach zero. In fact, the U.N. Intergovernmental Panel on Climate Change finds that nuclear generation in 2050 grows by two to six times 2010 levels for all four illustrative pathways consistent with limiting global warming to 1.5°C. Today's policies need to reflect this awareness and initiate multi-decadal plans to achieve reliable, affordable, and sustainable energy systems.

Significantly, many governments are beginning to understand that nuclear power is part of the answer. France, which decarbonized its grid with nuclear years ago, has announced support for a new generation of reactors. So have the United Kingdom, the Netherlands, and Canada. In our country, several states have taken steps to preserve their existing plants, while others like Wyoming are developing passively safe advanced nuclear technology for the future. Members of Congress on both sides of the aisle are on board, too. Highlighting federal enthusiasm, U.S. Energy Secretary Jennifer Granholm recently said, “We are very bullish on advanced nuclear reactors. ... Nuclear is dispatchable, clean baseload power, so we want to be able to bring more on.”

New York belongs at the forefront of innovation, not on the sidelines. A brighter tomorrow is possible, but it requires setting politics and ideology aside. If New York is to meet its climate goals while providing ample, reliable energy essential for prosperity, it must engage in an inclusive discussion of solutions and craft a realistic plan that recognizes the value of nuclear power today and in the future.

James E. Hansen is director of the Climate Science, Awareness and Solutions Program at Columbia University's Earth Institute.