

Florida International University's College of Engineering

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Engineers know better than anyone the importance of sharing the load. From bridges to electric grids to telecommunications networks, a structure's or system's soundness hinges on its ability to spread the burden in the event that one link in the chain becomes compromised.

Today, this principle is being applied in our nation's efforts to meet the daunting challenges facing our long-neglected energy infrastructure.

In the coming years, our ambitious energy goals are going to present challenges unlike any we've witnessed before. By 2030, U.S. energy demand is expected to jump by 21 percent. At the same time, we know we need to embrace cleaner energy sources that better contain--or simply don't produce--carbon emissions linked to the threat of climate change. In both cases, compromise is not an option. The country -- and the planet -- simply have to shoulder the load of greater demand in an environmentally responsible way.

Thankfully, there is momentum behind solutions. Across America, governments and private investors are funding a broad sweep of promising clean energy technologies, from solar and wind to geothermal and biofuels. President Barack Obama has tied America's economic revival to investments in these solutions. I commend this approach. By investing more in these industries, we will help put people back to work while paving the way for future reductions in greenhouse gases.

One meaningful way we could support these efforts is by embracing a solution that is viable, ready, and proven: carbon-free nuclear energy.

No other large-scale energy source comes close to nuclear power when it comes to delivering emissions-free electricity that is available 24/7. While the nation's 104 reactors contribute about 20 percent of our total electricity needs, they produce almost 75 percent of our emissions-free power.

Those same facilities help America avoid almost 700 million metric tons of carbon dioxide each year, equivalent to taking 99 percent of all passenger cars off the country's roadways. Nuclear reactors also do not produce other air pollutants such as nitrogen oxides and sulfur dioxide, which cause ground-level ozone, smog and acid rain.

Air pollution is an issue that is near and dear to my heart, as I made it a top priority to prosecute polluters during my tenure as administrator of the Environmental Protection

Agency in the early part of this decade. Now there is a better way, beginning with clean power sources like nuclear energy.

Around the country, more than 30 new reactors are under consideration as nuclear power is winning over a growing number of Americans who want to protect our atmosphere. If all were built, 12,000 to 21,000 new jobs would be added to the market, according to a report by the Clean and Safe Energy Coalition, the grassroots organization I chair with Greenpeace co-founder Patrick Moore. Indirectly, manufacturers and related service providers have already created 15,000 new jobs in anticipation of this coming construction cycle.

Engineers are essential to the industry's growth, as they are key contributors to almost every facet of a reactor's lifecycle, including design, operations, licensing, maintenance and other day-to-day operations. Recognizing engineers' contributions, power companies reward them generously. The median annual salary for nuclear engineers is \$82,000 – roughly \$8,000 more than all other engineering disciplines outside of the petroleum industry.

America's energy and environment challenges amount to a stress test of the nation's ability to transform itself for the greater good. Making the right investments today – in infrastructure and people – will help assure that nuclear energy continues to fill its essential role in cleanly supplying reliable, round-the-clock electricity for generations to come.

Christine Todd Whitman is the former Environmental Protection Agency administrator and governor of New Jersey. Currently she serves as co-chair of the Clean and Safe Energy (CASEnergy) Coalition -- a national grassroots coalition which promotes the economic and environmental benefits of nuclear energy.