



On infrastructure and clean energy, America must play to win

By Richard L. Trumka and Ernest J. Moniz

The Rural Electrification Act was signed into law [85 years ago](#) this month. It was a visionary infrastructure program for the 20th century, the centerpiece of a federal energy investment strategy that brought growth and prosperity to the South, the West, and across rural America. Because of these investments, generations of Americans [were wealthier](#), healthier and led better lives.

Today's energy infrastructure challenges are no less daunting. We must invest quickly and decisively to reduce emissions and stem climate change, and to improve our lagging competitiveness. New infrastructure must also deliver results on social equity, inequality, and systemic racism, 21st century crises whose solutions cannot be deferred.

That's why the AFL-CIO and the Energy Future Initiative formed the [Labor Energy Partnership](#) — to forge a path to modernize our energy infrastructure, address climate change with the urgency it deserves, and seize the opportunity to create high-quality union jobs. Like [President Biden](#), we put [workers' rights](#), dignity and power at the center of the clean energy transition.

As a nation, our recent history is that we talk about infrastructure [but never do anything](#) about it. Now it is time to walk the walk. We either invest in ourselves, or cede the future to other nations. It's not surprising that in industry after industry U.S. competitiveness is lagging behind China — it has been [making the kinds of investments](#) we used to. But we can't catch up with 50 year-old ideas — we have to modernize.

Energy systems are the lifeblood of our economy, and there is little doubt where the future lies — with sharply lower emissions, resilience, cybersecurity and the very rapid deployment of new technologies. Investments in long-lived infrastructure must anticipate and accommodate these evolving realities and allow for significant regional variations in energy investment and decarbonization strategies.

This future starts with a 21st century electricity grid. The critical infrastructure that enables all critical infrastructure is low-carbon electricity — whether it's generated by renewables, nuclear, or fossil fuels coupled with carbon capture and storage (CCS). As we increase electrification, the grid will be asked to do more, such as supporting a continental scale [electric vehicle charging infrastructure](#) that can double up as a provider of grid services. Expanding and

upgrading the grid in creative ways is critical for meeting our climate and energy security goals while enabling new industries and supply chains.

The National Academies considers electrification the [greatest engineering achievement](#) of the 20th century. We need to reinvent the sector for the 21st century. The stakes are high — no modern grid, no modern economy.

Additionally, a strong economy requires a strong industrial base with secure supply chains, including for the clean-energy goods that we now mostly import. But just as importantly, we must decarbonize energy-intensive industries, which will require large investments in technology and infrastructure. Energy efficiency remains a cost-effective option, but it can only get us so far. Carbon capture and storage (CCS) is necessary to largely eliminate industrial carbon emissions in many sectors.

[Deploying CCS at scale](#) in the industrial and power sectors will require a major infrastructure buildout. A national commitment to CCS infrastructure will accelerate carbon emission reductions while preserving and creating construction and manufacturing jobs across the heartland. This too is an enabling technology across a large swath of our economy.

Finally, while electrification is a critical strategy for a clean economy, we still need fuels to affordably store energy for transportation, industrial and power-sector applications. Hydrogen is a very clean, flexible fuel that [can be stored](#) for use in power generation and a range of industrial processes.

In some parts of our country, [green hydrogen can be made](#) with low carbon electricity to split water. For many regions, blue hydrogen is a low-emissions option — CCS is used to capture emissions as hydrogen is produced from natural gas.

Access to inexpensive natural gas stretches from the [Ohio River Valley](#) to

the [Midwest to Texas](#) and [New Mexico to California](#). Each region has ample geological capacity for permanent underground storage — preventing the CCS-captured carbon from reaching the atmosphere.

A visionary infrastructure bill should support multiple hydrogen-CCS hubs across the country. Because natural gas, CCS, hydrogen and heavy industry can work as a system, these hubs would support local, high-quality job creation and reinvigorate stranded communities. All while addressing the urgent need for deep decarbonization.

Like those who passed the 1936 Rural Electrification Act, today we have a generational opportunity for visionary investments in energy infrastructure. We must seize the opportunity to invest at the scale our infrastructure needs demand — trillions of dollars of public and private investment.

We can [invest boldly](#) to beat climate change and transform our economy for fairness. We can invest in places where great traditional energy jobs have been lost, and in places that never had great jobs to begin with. We can invest to exponentially increase deployment of cutting edge technologies. But most of all, we must invest for our future, to achieve the vision of a 21st century America that is cleaner, prosperous and equitable.

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