



ECONOMIC BENEFITS OF NEW NUCLEAR ENERGY DEVELOPMENT

A UniStar Issue Brief



As America searches for clean, secure, and cost-effective ways to power our future, the acknowledged benefits of nuclear energy require that it be an important component of our national strategy. Expanding access to reliable nuclear energy

will reduce our dependence on foreign oil, create thousands of career opportunities on our shores, and prepare us for a greener future. The United States' nuclear energy industry is committed to providing Americans with cleaner, safer, and more reliable sources of energy. To meet our aggressive national goals for energy security and combatting air pollution and climate change, the U.S. will need 100 new nuclear energy facilities in the next 20 years.

Collectively, the industry has already invested more than \$4 billion and created 15,000 new career opportunities to support the burgeoning domestic nuclear renaissance.¹ Applications for 26 new nuclear units have been submitted to the U.S. Nuclear Regulatory Commission (NRC).² Globally, 53 facilities are under construction, including 18 in China alone.³ Investment banks project that China's economy will grow more than nine percent in 2010, based partly on surging energy investment.⁴ Americans and people around the world are learning about the valuable role nuclear energy plays in stabilizing energy supplies.

AN OPEN DOOR

A door to energy independence is open today—but it will not remain open forever.

Renewed investment in nuclear energy promises to strengthen and grow the economy through the construction of new facilities, stabilizing markets for materials, and expansion of heavy manufacturing. Generating electricity from new nuclear energy facilities will provide consumers with a safe, stable, low-cost energy supply, while, at the same time, returning money to the community in the form of wages and tax revenues. But these benefits can only be realized if we embrace a renewed commitment to the benefits of new nuclear energy in the U.S.

As an industry leader, UniStar Nuclear Energy, LLC, is already investing in site investigation, licensing, and contracting for long-lead equipment. Building new nuclear energy facilities as soon as possible, in a safe and cost-effective manner, is in everyone's best interests.

The federal loan guarantee program can expedite the expansion of new nuclear energy in the U.S. This program is administered by the U.S. Department of Energy (DOE) and is intended to provide financial assurance to lenders that provide credit to companies building new nuclear facilities. American taxpayers are protected under this program because zero tax dollars are used to administer it. The companies seeking to build will pay the cost of federal loan guarantees. Furthermore, the projects must be financially viable before the government will consider backing the necessary financing and the risk of default is very low once a project has progressed to the point where the DOE will formally commit to the loan guarantee.⁵

In the final analysis, the company building the facility makes the real investment and takes the lion's share of the risk—about \$3 billion per project. Simply put, the nuclear energy industry has significant skin in the game and, as shown in the table below, loan guarantees are a great investment for the public.

Economic Impact of a Nuclear Energy Facility⁶

Income (staff wages)	\$40 million
Income generated in local community	\$430 million
Permanent jobs	400
Salaries	>36% higher than local average
Secondary jobs in the community	400–700
Construction jobs (peak)	>4,000
Tax Revenue generated: state and local	\$20 million
Tax Revenue generated: federal	\$75 million

NEW SOURCES OF ELECTRICITY REQUIRE NEW INVESTMENT

Americans rightfully expect that, when we need electricity to support our everyday lives and to run our businesses, the electricity will be there—all the time, every time. Unfortunately, our existing energy infrastructure often fails to meet this essential standard, resulting in blackouts, brownouts, and expensive fluctuations in energy bills. This will only get worse as demand grows, and strains on the system increase.

The 2009 Annual Energy Outlook released by the Energy Information Administration (EIA), predicts that electricity demand will increase by at least 16 to 36 percent over 2007 levels by 2030. Although it's possible that efficiency gains will slow demand growth, even a modestly growing population and economy will require greater electricity supply.

How should we respond to this challenge? By expanding our development of an already-proven technology. Nuclear energy is a time-tested, demonstrated economically successful source of electricity. The nation's 104 operating nuclear energy facilities provide the lowest and most stable generating costs of all energy sources in the U.S., except hydropower—and the U.S. is already using virtually all of its exploitable hydropower capacity.

Expansion of new nuclear energy provides a unique opportunity to add reliable generating capacity to the grid, while also fueling economic growth and opportunity. The average nuclear energy facility, generating about 1,000 megawatts of electricity, purchases approximately \$430 million of goods and services per year in its local community and pays about \$40 million in labor income to the highly trained workers on site.⁷

Constructing nuclear energy facilities requires significant quantities of raw and manufactured materials, generating economic activity throughout the supply chain. This economic impact generates lasting benefits, not the least of which is a renewed domestic manufacturing base in areas where the U.S. should enjoy a competitive global advantage.

In addition, the average nuclear energy facility contributes approximately \$20 million in annual state and local taxes. Nuclear energy facilities also contribute about \$75 million in federal taxes each year.



BIG RETURNS ON AN INVESTMENT OF TRUST

While the hundreds of billions of dollars in financial investments to build new nuclear energy facilities will be borne by the developers, what is being sought from the American public is their trust and confidence that industry will do the job. The owners of the new nuclear facilities will not see returns for more than a decade after making a decision to proceed. The public, however, will immediately begin to see the benefits of those investments just by accepting these new facilities. Investing in nuclear energy now will save Americans money, create career opportunities, and fuel economic growth.

Several companies are ready to begin early-site-preparation work immediately for new nuclear facilities. Construction of the 26 new units for which license applications have been docketed by the NRC would directly create 104,000 construction jobs. The new manufacturing and supply chain that would arise to support just these facilities and the spending of workers' wages would create another 122,000 jobs in the wider economy. To support continuing operations, each new nuclear energy facility would also create approximately 400 permanent new jobs. For 26 new operating facilities, that's another 10,400 permanent, high-paying jobs to run, supply, and support the projects already on the drawing board. With a strong, clear national policy supporting more than 100 new nuclear facilities, we can expect many times that number.

Making these jobs a reality will require a new generation of talented professionals and skilled craft workers. UniStar has partnered with community and four-year colleges and universities in Maryland to build the educational pipeline necessary to supply this skilled workforce. Meanwhile, our engineering

and construction contractor is working with labor groups on programs to identify and train workers needed to construct an advanced nuclear energy facility.

In addition to the private-sector investment and jobs related directly to new nuclear energy facilities, an infrastructure of manufacturing plants, nuclear-fuel-cycle facilities, and other industry suppliers now being developed will represent another major layer of economic stimulus.

New nuclear energy jobs will mean renewed prosperity, particularly in many of the hardest-hit areas of the country—such as South Carolina, California, Florida, Ohio, Tennessee and Michigan—where unemployment rates have reached double digits. New construction would add almost a full percentage point of employment in some states.

To meet our nation's climate change goals, the U.S. must build 100 new nuclear energy facilities in the next twenty years. This investment in America's future would create more than 150,000 new, long-term, construction jobs and nearly seven times as many manufacturing, supply chain, retail, and service jobs in the wider economy.⁸ The new facilities would add nearly 44,000 permanent jobs and generate \$43 billion in income in their respective local communities. These new facilities would also pay \$2 billion per year in state and local taxes and \$7.5 billion per year in federal taxes. Between 1970 and 1990, the U.S. built 95 reactors; we can do it again.⁹



In 2009, UniStar's partner, AREVA, organized Supplier Days in Baltimore, Md. and Columbus, Ohio to educate and inform potential suppliers about the needs and requirements for building an EPR™ nuclear facility in their respective regions. Supplier interest exceeded expectations, and more than 100 companies from around the country attended each Supplier Day.

