

Nuclear Power Plant Contributions To State and Local Economies

January 2008

Key Facts ¹

Nuclear Plant Employment

- Operation of a U.S. nuclear plant generates 400 to 700 permanent jobs. These jobs pay 36 percent more than average salaries in the local area.

- The 400 to 700 permanent jobs at a nuclear plant create an equivalent number of additional jobs in the local area to provide the goods and services necessary to support the nuclear plant work force (e.g., grocery stores, dry cleaners, car dealers, etc.).

- Building a new nuclear plant would result in the creation of 1,400 to 1,800 jobs during construction, on average (with peak employment as high as 2,400 jobs at certain times).

Nuclear Plant Economic Benefits

- Each year, the average nuclear plant generates approximately \$430 million in sales of goods and services (economic output) in the local community and nearly \$40 million in total labor income. These figures include both direct and secondary effects. The direct effects reflect the plant's expenditures for goods, services and labor. The secondary effects include subsequent spending attributable to the presence of the plant and its employees, as plant expenditures filter through the local economy (such as restaurants and shops buying goods and hiring employees).

- Analysis shows that every dollar spent by the average nuclear plant results in the creation of \$1.07 in the local community.

- The average nuclear plant generates total state and local tax revenue of almost \$20 million each year.

These tax dollars benefit schools, roads, and other state and local infrastructure.

- The average nuclear plant generates federal tax payments of roughly \$75 million each year.

New Nuclear Plant Construction

- A new nuclear plant represents an investment of \$3 billion to \$4 billion (depending on plant size), including interest during construction.

- Construction of a new nuclear power plant will provide a substantial boost to suppliers of commodities like concrete and steel and manufacturers of hundreds of components. For example, a single new nuclear power plant requires approximately:

1. 400,000 cubic yards of concrete—as much concrete as was used to build the Pentagon
2. 66,000 tons of steel—the same amount used to build the Empire State Building
3. 44 miles of piping
4. 300 miles of electric wiring—enough to stretch from Boston to Philadelphia



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¹The estimates in this fact sheet are based on normalized averages from analyses of the economic and employment impact of 22 U.S. nuclear power plants (Braidwood, Byron, Catawba, Clinton, Diablo Canyon, Dresden, Grand Gulf, Hope Creek, Indian Point, LaSalle, Limerick, McGuire, Millstone, Oconee, Oyster Creek, Palo Verde, Peach Bottom, PPL Susquehanna, Quad Cities, Salem, Three Mile Island and Wolf Creek). The figures are calculated per megawatt of installed capacity and reflect a nominal 1,000-megawatt plant size. In practice, new nuclear plants will be larger than 1,000 megawatts, so the economic benefits listed here understate the benefits that new nuclear plants will produce. The analyses employ the IMPLAN model for estimating direct and indirect economic and employment effects of industrial activity. IMPLAN is widely used by U.S. government agencies.

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5. 130,000 electrical components.

Economic Benefits of U.S. Nuclear Plants

Economic Development

Nuclear power plants provide substantial economic benefits during their decades of operation. The jobs, taxes, and direct and secondary spending strengthen the economies of communities with nuclear plants and will give a similar boost to any community welcoming a new nuclear plant.

Affordable Electricity

Nuclear power is the lowest cost producer of baseload electricity. Average nuclear production costs have declined more than 30 percent in the last 10 years, to an average of 1.7 cents per kilowatt-hour. This includes the costs of operating and maintaining the plant, purchasing nuclear fuel, and paying for the management of used fuel. Electricity generated from nuclear power also has tremendous forward price stability because only a small part of production costs are fuel costs. Fuel accounts for 80 percent to 90 percent of the cost of electricity produced by fossil fuel-fired generation, making electricity from fossil plants highly susceptible to fluctuations in coal and gas prices.

The low and stable cost of nuclear power helps reduce the price of electricity paid by consumers.

Value of Environmental Benefits

The average nuclear plant avoids the emissions of approximately 10,000 tons of nitrogen oxides (NO_x) and 32,000 tons of sulfur dioxide (SO₂) each year. The total value of these avoided emissions based on current emissions allowance prices is approximately \$24.6 million per year.²

The average nuclear plant avoids 7 million metric tons of carbon dioxide (CO₂) each year. The value of these avoided greenhouse gas emissions based on the current European Union carbon allowance price is roughly \$35 million per year.³

As many as 32 new reactors are currently under consideration. These reactors represent an investment of approximately \$80 billion to \$100 billion to build. This is equivalent to the projected spending on reducing emissions at existing fossil-fired generators, according to federal government estimates. New nuclear plant construction will supply as much as 50,000 megawatts of additional clean and affordable electricity to meet the demand of a growing economy.

This fact sheet also is available at www.nei.org.

² NO_x and SO₂ allowances prices are as of December 2006.

³ CO₂ prices are as of January 2007.