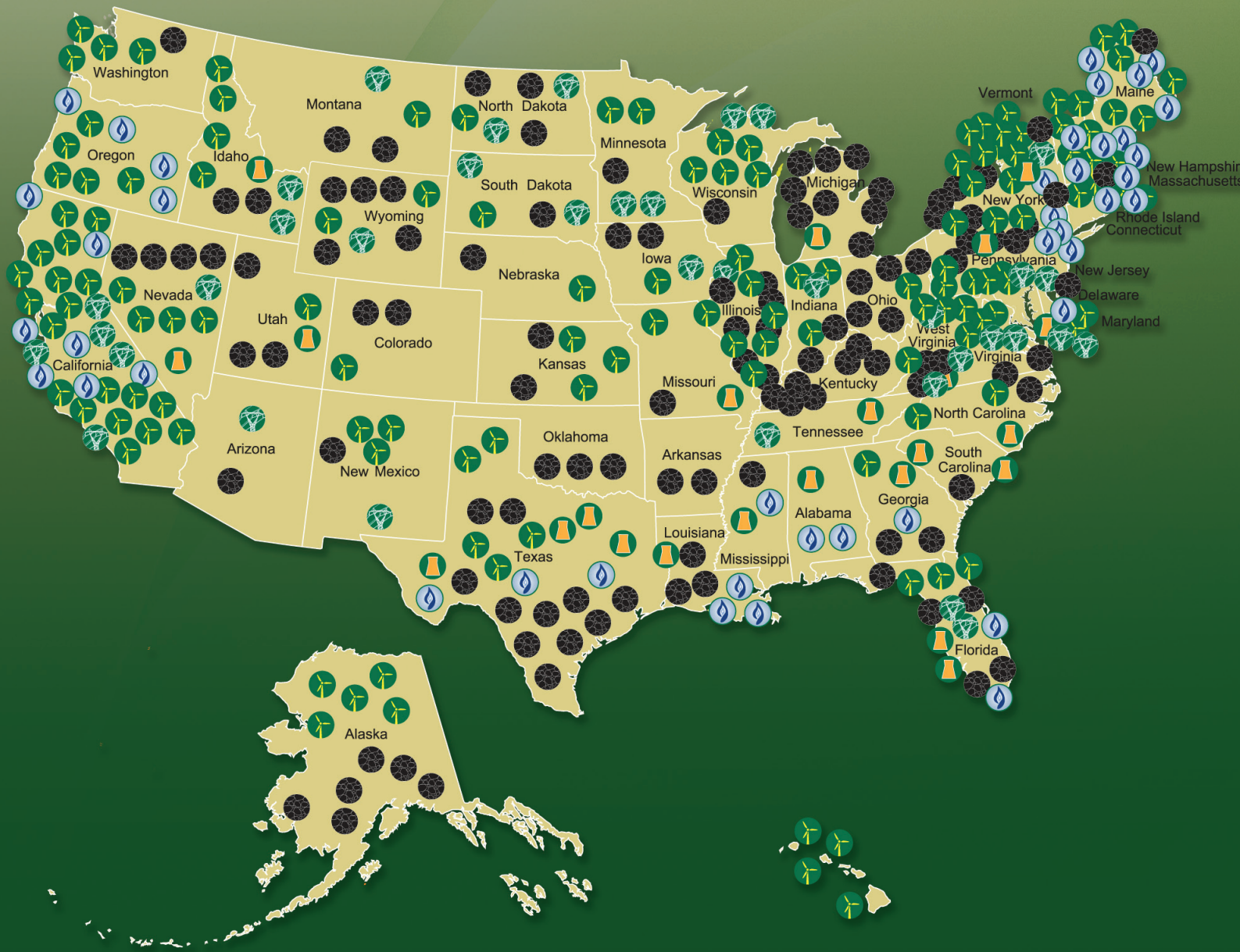
Project ~~No Project~~

Progress Denied:

A Study on the Potential Economic Impact of Permitting Challenges Facing Proposed Energy Projects



An Introduction to Project No Project by Bill Kovacs

If our great nation is going to begin creating jobs at a faster rate, we must get back in the business of building things. We also need to figure out how to do it without years and years of permit delays related to our complex regulatory process that allows almost anyone to impede or stop any energy project.

For years, we knew of anecdotal evidence that projects were being delayed or stopped throughout the nation, but there was no study that systematically examined the circumstances of such challenged projects. To address this information shortfall, Chamber staff implemented *Project No Project*, an initiative that assesses the broad range of energy projects that are being stalled, stopped, or outright killed nationwide due to "Not In My Back Yard" (NIMBY) activism, a broken permitting process and a system that allows limitless challenges by opponents of development. Results of the assessment are compiled onto the *Project No Project* Website (http://www.projectnoproject.com), which serves as a web-based project inventory. The purpose of the *Project No Project* initiative is to enable the Chamber to understand potential impacts of serious project impediments on our nation's economic development prospects.

The results of this analysis are startling! One of the most surprising findings is that it is just as difficult to build a wind farm in the U.S. as it is to build a coal-fired power plant. In fact, roughly 45 percent of the challenged projects that were identified are renewable energy projects. Often, many of the same groups urging us to think globally about renewable energy are acting locally to stop the very same renewable energy projects that could create jobs and reduce greenhouse gas emissions. NIMBY activism has blocked more renewable projects than coal-fired power plants by organizing local opposition, changing zoning laws, opposing permits, filing lawsuits, and using other long delay mechanisms, effectively bleeding projects dry of their financing.

The Chamber believes that our nation's complex, disorganized regulatory process for siting and permitting new facilities and its frequent manipulation by NIMBY activists constitute a major impediment to economic development and job creation. To test this belief, we commissioned the economic study, *Progress Denied: The Potential Economic Impact of Permitting Challenges Facing Proposed Energy Projects*, which was produced by Steve Pociask of TeleNomic Research, LLC and Joseph P. Fuhr, Jr. of Widener University. They were asked to examine what might be the potential short- and long-term economic and jobs benefits if the energy projects found on the *Project No Project* web site were successfully implemented.

Their study has produced several significant and insightful findings: For example, Pociask and Fuhr find that successful construction of the 351 projects identified in the *Project No Project* inventory could produce a $1.1 trillion short-term boost to

the economy and create 1.9 million jobs annually. Moreover, these facilities, once constructed, continue to generate jobs once built, because they operate for years or even decades. Based on their analysis, Pociask and Fuhr estimate that, in aggregate, each year the operation of these projects could generate $145 billion in economic benefits and involve 791,000 jobs. Unfortunately, despite the potentially significant economic and employment stimulus that could result from building these new energy facilities, the outlook for many of these projects is murky. Serious regulatory inefficiencies and permitting delays persist and NIMBY activists are winning more often than they are losing. All of this is leading to serious marketplace uncertainties, which can drive investors to opt not to finance new major construction projects or pull out of previous financial commitments.

This study, which is based on the *Project No Project* inventory, is just the first step in what will hopefully become a series of further economic analyses. Lawmakers and the American public should come to understand that our broken permitting process is denying projects across the country the opportunity to be fairly considered on their merits so the sound projects can be constructed and operated within a reasonable period of time. To be clear, we are not saying that ill-conceived projects should be allowed to move forward. Rather, all projects should be given a fair chance to prove their worth in the market within a reasonable period of time. And if a project is worthy, it should receive a permit. It is harmful to our economy to have needed projects stopped by regulatory inefficiencies or because a few individuals and entities oppose building anything anywhere!

We believe this study is the first of its kind, and hopefully, in addition, will encourage others to look further at the impact of denying permits upon other industries besides those in the energy sector. Another hope is that some organization decides to undertake a macroeconomic model to shed additional light on the impact that permit denials will have on long-term economic development, including the economic impact of having available greater supplies of energy.

The study also confirms for big energy projects what we are now finding on a day-to-day basis from the country's efforts to implement "shovel ready projects" under the American Recovery and Reinvestment Act of 2009 (the "Recovery Act"): that is, very few projects are truly "shovel ready," and getting through the permitting process is difficult if not impossible. At least in the case of Recovery Act projects, recognizing the problems posed by permitting impediments, Senators Barrasso and Boxer amended the Act to require the National Environmental Policy Act (NEPA) process be implemented "on an expeditious basis" and that "the shortest existing applicable process" under NEPA must be used. This amendment made all the difference in getting Recovery Act projects underway. Because of this amendment, over 179,000 of the 250,000 projects covered by the bill received the most expeditious form of compliance treatment possible with regard to NEPA—a categorical exemption—and work was able to begin and jobs were created. Moreover, only 820 projects were subjected to an environmental impact statement, the longest available process under NEPA. These circumstances confirm a recognition among some policymakers that the permitting process is harming our ability to grow our economy so we can compete with the world. But there is still work to be done, as many potential projects are not Recovery Act projects.

Finally, although the Chamber subjected the study to several rounds of peer review, and the undertaking will remain an ongoing effort to refine our understanding of the cost

of permit delays and other obstructions to project development, I must caution readers that this study, like any economic forecast, is not perfect. As previously observed, this study should be viewed as a first attempt to evaluate the permit challenges. We ask others to add to the body of work being developed and help us better improve our methodology for determining the lost economic and job opportunities that result from a failed permitting process. We encourage economists, think tanks, academics, and other interested parties to not only read the study but provide us feedback that might be helpful in refining our analysis.

In the meantime, the numbers speak for themselves. The economic and job impact projections of this study show that millions of jobs, and hundreds of billions of dollars in potential economic value, continue to sit on the shelf. This is not good for the nation's well-being. Widespread failure to move energy projects forward in a timely manner works against our ability to address two of our nation's most significant concerns: promoting substantial job creation and stimulating economic growth. The longer it takes to get the shovels into the ground and projects underway, the more expensive these projects become (owing to rising labor and materials costs as well as other factors) and correspondingly, the less confidence investors will have for successful project outcomes; a condition that will only limit the future competitiveness of the country.

What is urgently needed now is a careful consideration of how all these permitting obstacles and uncertainties and time delays can be addressed so as to speed up the processing, consideration, approval decisions, and development of many of the job-creating projects whose progress has so far been denied. If we fail to take on this challenge, we could find ourselves faced with: an endless litany of project failures; loss of investor confidence; fewer jobs created than we have the potential to create; and an inability to provide this nation with the energy it needs. Now that we are aware of the adverse impact on our economy and jobs of our broken permitting process, our failure to address its flaws is simply unacceptable. It is time that Congress acts to provide a process under which all projects have a fair opportunity within a reasonable time frame to prove their contribution to society. And once the project's contribution is proven, it must be given a permit without delay. This simple act will get this nation building again and creating jobs and a stronger economy.

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Project No Project

Progress Denied:

A Study on the Potential Economic Impact of Permitting Challenges Facing Proposed Energy Projects

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Progress Denied: A Study on the Potential Economic Impact of Permitting Challenges Facing Proposed Energy Projects

Steve Pociask and Joseph P. Fuhr Jr.*

I. Executive Summary

This study estimates the potential loss in economic value of 351 proposed solar, wind, wave, bio-fuel, coal, gas, nuclear and energy transmission projects that have been delayed or cancelled due to significant impediments, such as regulatory barriers, including inefficient review processes and the attendant lawsuits and threats of legal action. These energy projects were reviewed and catalogued by the U.S. Chamber of Commerce as part of its *Project No Project* initiative and are available at www.projectnoproject.com. To be clear, we do not believe that all of the subject projects ever would or necessarily should be approved, constructed, and operated. However, the *Project No Project* initiative and our independent research, which is summarized in this study, demonstrate that impediments such as regulatory barriers to energy projects can substantially reduce and impair private investment and job creation. After a year of research on these projects, the following are the major highlights of our study:

- In aggregate, planning and construction of the subject projects (the "investment phase") would generate $577 billion in direct investment, calculated in current dollars. The indirect and induced effects (what we term *multiplier effects*) would generate an approximate $1.1 trillion increase in U.S. Gross Domestic Product (GDP), including $352 billion in employment earnings, based on present discounted value (PDV) over an average construction period of seven years.[1] Furthermore, we estimate that as many as 1.9 million jobs would be required during each year of construction.

- The operation of the subject projects (the "operations phase") would generate $99 billion in direct annual output, calculated in current dollars, including multiplier effects, this additional annual output would yield $145 billion in increased GDP, $35 billion in employment earnings, based on PDV, and an average 791,200 jobs per year of operation. Assuming twenty years of operations across all subject project types, we estimate the operations phase would yield a potential long term benefit of $2.3 trillion in GDP, including $1.0 trillion in employment earnings, based on PDV.

- Therefore, the total potential economic and employment benefits of the subject projects, if constructed and operated for twenty years, would be approximately $3.4 trillion in GDP, including $1.4 trillion in employment earnings, based on PDV, and an additional one million or more jobs per year.

As noted above, we do not believe that all of the subject projects will be approved or constructed even in the absence of any legal and regulatory barriers. Also, as with all economic forecasts, we recognize that there is an element of uncertainty. This could be true here because, to our knowledge, this is the first empirical study to quantify the macroeconomic and employment impact of the regulatory barriers imposed on the development and operation of so many energy projects. Consequently, we believe additional work is needed to improve the list of energy projects and to refine this study's methodology. Among other things, future work could attempt to quantify other potentially lost benefits such as the economic impact of increased domestic energy supplies and associated reductions in consumer prices due to greater amounts of available energy.

Notwithstanding the above caveat, we believe this study provides an instructive and statistically defensible picture of the potential for corrosive economic and employment impacts that can arise from significant project obstacles such as inefficient regulatory processes, including attendant lawsuits and threats of legal action. Moreover we believe the data demonstrates these impacts are substantial. Furthermore, because we have, for example, excluded domestic on- and off-shore oil and many natural gas projects from our study cohort, we have substantially *underestimated* the impact of the regulatory barriers and other project impediments. In other words, this is a conservative analysis.

At a minimum, our study demonstrates that private investors and developers are prepared to fund, build and operate energy projects that could materially increase GDP and create many jobs. However, in view of project obstacles such as regulatory inefficiencies, this investment may only come to fruition if policymakers take the steps needed to streamline and improve existing regulatory processes so that projects can be given a fair opportunity to secure a final permit based on the soundness of the project, and not on the ability to withstand a tortured permitting process. Potentially, these and other similar projects offer substantial economic opportunities, but these opportunities can only be realized if these projects are reviewed and evaluated in an efficient, effective, and timely manner.[2] Based on our review of the circumstances of the 351 projects identified, we conclude that, absent policy action aimed at constructive reforms to the regulatory process, there is substantial risk that economic progress and opportunity will to continue to be denied for millions of American citizens.

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* The authors wish to thank Dr. Peter Morici for his peer review of this study.

[1] The GDP and employment earnings estimates presented in this study are expressed in terms of present discounted value (PDV), rather than current dollars, in order to reflect the fact that a dollar in the future is worth less than a dollar today. In this way, this study avoids exaggerating the real economic value of these projects. Based on the project type and weighted by construction value, we conservatively estimate the average project to take seven years to complete. See the methodology section of this study for further information.

[3] As noted, the authors fully realize that completing all 351 energy projects at once would be very unrealistic. However, the magnitude of these numbers shows that completing even a small portion of these energy projects would have significant economic benefits. Chapter IV (Part B) of this report conducts a sensitivity analysis aimed at different scenarios that assume completion of some, but not all, of the projects.

II. Overview of Projects Studied and Key Caveats

This study is a first attempt to broadly inventory many energy project proposals that have completed (or substantially completed) feasibility planning but are now delayed due to, among other significant impediments, regulatory inefficiencies and legal actions, and to quantify the potential economic and employment impacts of these inefficiencies and actions.

The projects included in this study are listed in **Appendix II**. Nearly 400 projects were initially identified from numerous public sources for inclusion in the data base used for this analysis.[3] Project-specific information including capacity and investment, were collected and verified where possible.[4] Based on a comprehensive audit we found consistent and usable information for 333 distinct projects. These included 22 nuclear projects, 1 nuclear disposal site, 21 transmission projects, 38 gas and platform projects, 111 coal projects and 140 renewable energy projects – notably 89 wind, 4 wave, 10 solar, 7 hydropower, 29 ethanol/biomass and 1 geothermal project. Since some of the electric transmission projects were multi-state investments and, as such, necessitate approval from more than one state, these investments were apportioned among the states, resulting in 351 state-level projects attributed to forty-nine states. Splitting the transmission projects into their various state portions enables the calculation of potential economic benefits by state. Some of the identified projects proposed producing "mixed outputs" (e.g. electricity and fuel) and others entail the use of mixed inputs to produce electricity as the final product. Several of the transmission projects specifically address the growing need to move renewable energy onto a smart national grid, a necessary ingredient to improving the efficient usage and distribution of this energy across the nation.

Future work is advised, which could, among other things, increase the number of projects considered and refine the economic estimates. Although the collection of projects used in this study is substantial, it is by no means all-encompassing. For example, very few gas exploration projects, such as the transfer

[3] An initial list of projects came from the U.S. Chamber of Commerce's compilation called *Project No Project*, at http://pnp.uschamber.com. The projects were checked with public sources, including newspaper articles and government documents. In an auditing process, a number of other website were considered: http://www.sierraclub.org/environmentallaw/coal/plantlist.asp; "North American LNG Import Terminals," Natural Gas Intelligence, Power Market Today, Intelligence Press, Inc., available at http://intelligencepress.com/features/lng/terminals/lng_terminals.html; "Tracking New Coal-Fired Plants: Coals Resurgence in Electric Power Generation," Department of Energy, May 1, 2007, available at http://www.netl.doe.gov/coal/refshelf/ncp.pdf; "Rural Electric Cooperatives and Coal." SourceWatch, at http://www.sourcewatch.org/index.php?title=Rural_Electric_Cooperatives_and_Coal; among many others.

[4] These projects were audited in late March 2010 and, at that time, were in various stages of the permitting process, and are subject to changes and revisions.

portion of Florida's Destin Dome, were included, and no oil exploration and offshore oil drilling projects were included in the study in order to simplify the analysis and to demonstrate the impact of significant project obstacles, such as regulatory barriers on renewable and other energy projects currently promoted by Federal energy law and policies.

Many of the nation's recent energy laws were designed to incentivize a wide range of new, cleaner energy technologies. In fact, among the impeded energy-producing projects identified in this study, nearly half (45%) were identified as renewable energy projects, which suggests that cleaner energy projects are hitting the same roadblocks as gas, oil, nuclear and coal projects. Furthermore, if renewable energy projects are to be approved, so must transmission projects. This is because solar fields, wind farms and wave facilities are seldom located where the energy produced is consumed. In these circumstances, energy from renewable projects must be transmitted from their source to where it can be used. Problematically, obstacles and opposition to transmission projects also have been considerable, compounding the difficulty of renewable energy project deployments.[5]

There are several key caveats to our conclusions. First, because this study excluded domestic oil and gas (offshore and onshore) drilling projects from the analysis, our estimates of the economic and employment impacts of substantial obstacles such as regulatory inefficiencies and legal barriers may significantly *underestimate* actual aggregate benefits. For instance, we omitted the Shell Oil Company's Alaska OCS, which was estimated to create 35,000 jobs over the next fifty years in the development and to extract up to 65.8 billion barrels of oil and 305 trillion cubic feet of natural gas.[6]

Second, as discussed earlier, projects were omitted if there was insufficient information to quantify the economic impact of the upfront investment and the projects' annual operations.[7] Additionally, many other projects may not have been identified because they were nascent proposals that were opposed early on and never moved ahead. Also, some of the projects analyzed in this study may have been scaled back during the regulatory approval process, and many others were never considered in anticipation of insurmountable regulatory, legal, and other cost considerations. This study makes no attempt to quantify the actual expenses investors may have incurred dealing with permit challenges and lawsuits that plagued their projects during project approval, construction, and operational phases.

Third, while this analysis calculates the size of the proposed potential

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[5] Juliet Eilperin and Steven Mufson, "Renewable Energy's Environmental Paradox," *The Washington Post,* April 16, 2009; and Ed Humes, "Solar Flare Ups: A Fight Over the Future of Clean Energy is Pitting Environmentalists Against One Another," *California Lawyer*, November 2009.

[6] "Economic Analysis of Future Offshore Oil and Gas Development: Beaufort Sea, Chukchi Sea and North Aleutian Basin," Northern Economics with the Institute of Social and Economic Research, University of Alaska, Anchorage, March 2009.

[7] In a small handful of instances, when faced with some incomplete public information, project investment was determined by the average of similarly sized projects based on relative overnight factors. For a definition and use of *overnight factors* see http://www.eia.doe.gov/oiaf/beck_plantcosts/index.html.

benefits from this inventory of projects, we recognize not all of the projects could or should be approved. Further, they would not and could not commence concurrently. For obvious reasons, simultaneous approval and commencement of all of these projects would create severe shortages of materials and skilled labor, which would affect input prices. Also, changes in energy demand could affect energy prices, thereby affecting the financial viability of some projects.

Fourth, if projects are cancelled at one location, it does not mean that an investment could not eventually take place elsewhere. For instance, assume that an Atlantic offshore wind project was cancelled. Although this may represent considerable economic loss for a particular state, investors are free to look for other opportunities, particularly overseas in countries with more streamlined permitting processes. So there may eventually be jobs created elsewhere by other investments, but not necessarily in the state where a project was initially proposed. Nevertheless, the data demonstrate approval of even a portion of the proposed projects now stalled due to significant impediments, such as regulatory and legal approval barriers could potentially generate substantial economic and employment benefits.

The next section explores the methodology we employed to calculate the potential economic benefits of the energy projects included in this analysis.

III. Methodology

A. Multiplier Effects

As investment is deployed and energy projects are built over a series of months and years, the economy benefits by the direct purchasing of equipment and services, as well as the hiring of workers and contractors. These activities spur suppliers and contractors to hire additional employees and to buy more equipment, in order to keep up with demand. In effect, the direct benefit of investment spawns indirect benefits in the economy. In addition to the direct and indirect benefits from investment, the income paid to workers will be used to make various household purchases, which creates additional economic benefits called *induced effects.*

The combination of direct, indirect and induced effects represents the total economic benefit from the initial investments. Essentially, as a dollar of investment (or spending) is made, increased economic output cascades along various stages of production, employees spend their additional earnings, and the economy ends up with more than one dollar of final product. This phenomenon is referred to as the *multiplier effect.* These direct, indirect and induced benefits can be measured in terms of their effect on U.S. Gross Domestic Product (GDP) – the most comprehensive measure of final demand – and they can be reflected in terms of their effects on jobs and employment earnings.

This study uses specific industry multipliers for each state, allowing for specific estimates based on the location of each energy project.[8] In Texas, for example, $1.00 of construction produces $2.56 throughout the economy, principally in the construction industry ($1.01), as well as finance and insurance ($0.14), engineering and other professional services ($0.13), real estate ($0.14), manufactured products ($0.33) and so on.[9] State-level and industry-specific multipliers are available to translate changes in economic output to new jobs created, as well as to estimate employment earnings.

In addition, the potential economic benefits from these energy projects include more than their initial investment. Once an energy project is constructed and begins full-time operation, the energy it produces yields additional potential economic benefits and creates additional jobs as energy is produced, distributed and consumed. Similar to the initial

[8] To capture the full economic effects from the upfront construction of these energy projects, including induced effects, construction industry multipliers for output, earnings and employment from the United States Bureau of Economic Analysis (BEA) were used. The BEA data rely on a 2002 national benchmark and 2007 regional data. Distinct multipliers were used for every state. Source: Regional Input-Output Modeling System (RIMS II), Regional Product Division, BEA, Table 3.5, Type II multipliers, 50 states, released online May 12, 2010.

[9] Ibid.

investment, these impacts will include direct, indirect and induced effects for specific industries.

To estimate the potential operational benefits of ongoing production, the predominant industry multipliers were considered: pipeline transportation; coal mining (which includes coal gasification); electric power generation, transmission and distribution (including electricity from solar, wind, coal, geothermal, nuclear and other sources); oil and gas extraction and distribution; natural gas distribution; petroleum refining (for fuel production); other organic chemical manufacturing (for ethanol production); and waste management and remediation services (which includes nuclear waste management services). In Pennsylvania, for example, $1.00 of electric power generation, transmission and distribution produces $1.85 throughout the economy; in Oklahoma, $1.00 of natural gas distribution produces $2.22 throughout the economy; and so on, depending on the state and industry in question.[10] This study follows the methodology used by the U.S. Department of Commerce for these regional multipliers.[11]

B. Timelines

This study expresses potential economic benefits in terms of jobs and dollars of economic output on an annual basis. However, the initial investment in an energy project can take years to construct, and once completed, it would operate for many more years. Because of the large number of projects compiled in this analysis, project construction timelines were not easily found in public documents. For this reason and because of the sheer number of projects under review, general assumptions were made about the average number of years needed to fully construct energy projects. **Table 1** shows the estimates for the number of years needed to complete projects by project type for three scenarios.[12] These estimates were compared to some project details.

Most renewable energy projects are constructed relatively quickly. For example, once the construction permit is final, actual construction of the Cape Wind project is expected to take two years,[13] as is the Humboldt WaveConnect project.[14] Other projects, such as nuclear, coal and gas will take much longer to complete. For example, gasification and

[10] Ibid.

[11] "Regional Multipliers: A User Handbook for the Regional Input-Output Modeling System (RIMSII)," Economic and Statistics Administration and Bureau of Economic Analysis, U.S. Department of Commerce, Third Edition, March 1997, in particular the case study described on page 11.

[12] Averages shown in Table I were weighted by project investments and assumed to commence at the same time.

[13] For Cape Wind, see www.capewind.org/article26.htm. Some say the average offshore wind farm will take 3 years to construct, according to Sarah Arnott, "Offshore Wind Needs £10bn to Avoid Missing Green Targets," July 26, 2010. Of course, this estimate does not include the ten-plus years of permitting turmoil that delayed Cape Wind's construction.

[14] See "Pacific Gas and Electric WaveConnect Project, presentation at the FERC/California State Lands Commission Scoping/Technical Meeting, Eureka, California, June 9, 2010, p. 12, available at http://opc.ca.gov/webmaster/ftp/project_pages/energy/pge_june9_presentation.pdf.

Table 1: Estimates for Project Construction
(Years Needed to Achieve Initial Operations)

Project Type	Timeline Scenarios (in Years)		
	Low	Baseline	High
Wind	2	3	4
Wave	2	3	4
Solar	2	3	4
Biomass	2	3	4
Ethanol	2	3	4
LNG	2	3	4
Natural Gas	4	6	8
Coal	4	6	8
Gasification	4	6	8
Transmission	3	6	9
Nuclear	8	10	12
Nuclear Repository	5	10	15
Weighted Average	**5.2**	**7.2**	**9.2**

coal plants are assumed to take on average six years to complete, while nuclear is assumed to take 10 years to complete. These are conservative assumptions, since some sources suggest that project construction could take less time.[15] In a FERC document, Freeport LNG was projected to take three years to construct, which is consistent with this study's assumption.[16] SunZia transmission has been estimated to take three years to construct,[17] as did the AEP Wyoming-Jacksons Ferry 765-KV Project,[18] but this study assumes six years to account for the many large multistate projects.

For the Yucca Mountain nuclear disposal

[15] A website developed by physicists at the University Melbourne claims that Japanese nuclear plants have taken as little as three years to build. See http://nuclearinfo.net. Also see Stan Kaplan, "Power Plants: Characteristics and Costs," CRS Report to Congress, Order Code RL34746, November 13, 2008, states that IGCC (gasification) and coal plants are estimated to take 4 years to complete, and 6-years for nuclear plants. One model used to calculate the economic impact of energy projects assumed (for illustration) that coal, gas and wind projects will take 4, 2 and 1 year to construct, respectively – see S. Tegen, M. Goldberg and M. Milligan, "User-Friendly Tool to Calculate Economic Impacts from Coal, Natural Gas, and Wind: The Expanded Jobs and Economic Development Impact Model (JEDI II)," presented at WINDPOWER 2006, NREL/CP-500-40085, National Renewable Energy Laboratory, June 2006.

[16] For example, see http://www.ferc.gov/whats-new/comm-meet/091504/C-5.pdf.

[17] For example see, "Developing New Transmission Lines in the Southwest: Why is Transmission so Difficult," presented at the Southwest Renewable Energy Conference, September 2010, p. 11, available at http://www.sunzia.net/documents_pdfs/why_is_transmission_so_difficult_sep_2010-92.pdf.

[18] According to American Electronic Power (AEP) at http://www.aep.com/about/transmission/Wyoming-Jacksons_Ferry.aspx.

site project, this study assumes up to 15 years for completion, given documents suggesting that the initial construction would take 5 years, as well as another 5 to 10 years for concurrent emplacement and subsurface development.[19]

While this study assumes that coal, gas and gasification projects would take between 4 to 8 years (depending on the scenario), it did not seem feasible to complete one proposed $40 billion Alaskan gas-to-liquids project so quickly.[20] For this particular Alaskan project, we lowered the investment estimate to include only its first phase – estimated to be $5 billion-thereby matching a more reasonable project timeline to avoid potentially exaggerating the economic benefits.

In short, this study attempts to make reasonable and conservative assumptions about the length of construction. If the assumptions for years of construction are too high, then the annual impact from project investment and the annual labor required for construction will be underestimated. For this reason, three scenarios – high, low and baseline views – are considered in a sensitivity test that will be discussed later in this study. Considering that this is a first attempt at quantifying the potential economic value of such as large compilation of projects, setting these general assumptions facilitates a straightforward calculation of potential benefits. However, we strongly encourage future research to consider refining and improving these assumptions.

C. Present Discounted Value

Since a dollar of investment or operations would be worth less tomorrow than a dollar today due to inflation and the time/value of money, the potential benefit from multi-year investment and operations should be the sum of each year's output discounted to reflect what investors and operators could have reasonably earned had they put their money and efforts elsewhere. While projects generally operate for twenty years and some for much longer, as noted above, the length of construction can vary depending on the size of the project and project type. For example, the construction value of a 3-year wind farm project (per the baseline assumption in **Table 1**) plus the 20 year-value of electricity production are shown in this report as the summation of present discounted values (PDV) over a 23-year period.

For the discount rate, we calculated a 20-year average yield on 10-year Treasury Bonds to be 5.56%. This estimate is in line with previous recommendations of discount rates by prominent economists.[21]

D. Capacity Factors

[19] DOE/EIS-0250F-S1D; Supplemental Environmental Impact for Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada, 2007, at http://nepa.energy.gov/nepa_documents/docs/deis/eis0250F-S1D/002%20volume%201/chap4.pdf, Chapter 4, p. 24.

[20] By one report the project could take 14 years to complete. Tim, Bradner, "Liquid Gold? Gas-to-Liquids Could Bring State More Value," Alaska Journal of Commerce, July 6, 2008, at http://www.alaskajournal.com/stories/070608/hom_20080706013.shtml.

To calculate potential operational benefits, we estimate the value of ongoing production of these projects at their peak level of operation. For example, a plant's output can be reflected by the value of electricity (based on its megawatts), the value of fuels produced (based on gallons of fuel per year) or the value of natural gas (based on billions of cubic feet of gas per day). While these values can be estimated based on peak capacity, they must be adjusted downward to reflect the reality that actual energy production will be lower than full capacity. This downward adjustment is based on the project's *capacity factor*.

For instance, while an electric project may be expected to achieve peak production of electricity at around 450 megawatts, the reality is that repair and maintenance will reduce output or take production offline. The capacity factor of an energy project reflects the ability of the project to achieve its capacity. This factor varies depending in large part on the type or source of energy. Nuclear projects and energy projects that are continuously fed, such as geothermal, coal and bio-energy facilities, will operate close to their base load – often at or above 90%, whereas some projects, such as wind, solar and wave, may operate well below capacity. Hydroelectric project capacity may be subject to water levels, solar power needs sunny days and are idle at night, and wind turbines, even when operating, may be well short of capacity.

In calculating the ongoing potential economic benefits of these energy projects, we reduce project energy capacity to reflect these factors. **Table 2** provides the capacity factor estimates used in this study. [22]

E. Price Assumptions

[21] Discount rates vary depending on risk and other factors. For instance, rates may be quite low for public sector investments, be moderate for public utility investments (such as electric utility projects) and be much higher for other, more risky, private investments. For estimates by economists of discount rates for public investments, see J. S. Bain, R. E. Caves, and J. Margolis, Northern California's Water Industry, Johns Hopkins Press, Baltimore, 1966; William J. Baumol, "On the Social Rate of Discount," American Economic Review, Vol. 58, September 1968, pp. 788-802; and J. V. Krutilla and O. Eckstein, Multipurpose River Development, Johns Hopkins Press, 1968. For a review of these and other studies, expressed in both nominal and real rates, see Robert Shishko, "Choosing the Discount Rate for Defense Decisionmaking", RAND, R-1953-RC, July 1976, Table 1, p. 10. These studies recommend nominal and real rates in the range of 4% to 12%.

[22] These capacity factors were used in the calculation of ongoing benefit from project production with one exception. The benefits of transmission projects conservatively included only the cost for operations and maintenance, property taxes and insurance (about 3% of the capital costs). This estimate was taken from a presentation by Tim Mason and Josh Finn of Black & Veatch at the Utah Renewable Energy Zone Transmission Work Group Meeting, September 17, 2009, citing the GTMWG Transmission Segments Working Group and is based on an average estimate of PacifiCorp, Pacific Gas & Electric and Tans-Elect data.

Table 2: Capacity Factors By Source of Production

Energy Source	Average Capacity Factor	Reference
Nuclear	91%	EIA [23]
Geothermal	82%	REPP [24]
Biomass	80%	Black and Veatch [25]
Coal	72%	EIA
LNG Terminals	50%	Jensen Associates [26]
Natural Gas Combined Cycle	41%	EIA
Wave	40%	Black and Veatch [27]
Hydro	37%	Black and Veatch [28]
Wind	32%	CMU [29]
Solar	19%	CMU [30]

[23] Average Capacity Factor by Energy Source, U.S. Energy Information Administration, Table ES-3, January 2010, also see http://www.eia.doe.gov/cneaf/electricity/epa/epa_sum.html. This is also the source for the coal and natural gas combined cycle capacity factors shown in Table 2.

[24] Geothermal projects can run continuously and could see capacity factors from 90% to 98%. We use the more conservative figure of 90%, consistent with Texas State Comptroller's Office, Windows of Government, Chapter 31: Geothermal, http://www.window.state.tx.us/specialrpt/energy/renewable/geo.php; Bruce D. Green and R. Gerald Nix, "Geothermal – The Energy Under out Feet: Geothermal Resource Estimates for the United States," National Renewable Energy Laboratory, Technical Report NREL/TP-840-40665, Nov. 2006, p. 16, http://www.nrel.gov/docs/fy07osti/40665.pdf; and Renewal Energy Policy Project at http://www.repp.org/geothermal/geothermal_brief_power_technologyandgeneration.html; and Bruce D. Green and R. Gerald Nix, "Geothermal – The Energy Under out Feet: Geothermal Resource Estimates for the United States," National Renewable Energy Laboratory, Technical Report NREL/TP-840-40665, Nov. 2006, p. 16, http://www.nrel.gov/docs/fy07osti/40665.pdf.

[25] "Renewable Energy Options," Black and Veatch April 16, 2008, estimates the capacity factor to be between 70% and 90%, http://www.bv.com/downloads/Resources/Reports/RenewableEnergyPletka2008.pdf. This estimate is similar to other estimates, such as "Wind Power: Capacity Factor, Intermittency, and What Happens When the Wind Doesn't Blow?" Renewable Energy Research Laboratory, University of Massachusetts at Amherst, Fact Sheet 2A at p. 2, citing biomass capacity factor as 80% for a new plant; and National Resource Defense Council at http://www.nrdc.org/energy/renewables/biomass.asp.

[26] Based on the 5-year average effective capacity factor of U.S. LNG terminals, see James T. Jensen, "LNG – The Challenge of Including an Internationally Traded Commodity in a North American Natural Gas Forecast," presented at 2006 EIA Energy Output and Modeling Conference in Washington, DC, March 27, 2006; and based on a telephone interview with James T. Jensen.

[27] "Renewable Energy Options," Black and Veatch April 16, 2008, estimates the capacity factor to be between 25 and 45%, http://www.bv.com/downloads/Resources/Reports/RenewableEnergyPletka2008.pdf.

[28] Ibid, Black and Veatch. They estimate this capacity factor to be higher (between 40 and 60%).

[29] Jay Apt and Aimee Curtright, "The Spectrum of Power from Utility-Scale Wind Farms and Solar Photovoltaic Arrays," Carnegie Mellon Electricity Center Working Paper, CEIC-08-04, p. 1. Wind is estimated to be from 32% to 40%, see https://wpweb2.tepper.cmu.edu/ceic/PDFS/CEIC_08_04_spf.pdf. Black and Veatch estimated the figure to be higher from 25% to 40%.

[30] Ibid, Arizona two-year estimate. Black and Veatch estimated the figure to be higher 26% to 29% for Solar Thermal and 25% to 30% for Solar Photovoltaic.

Ongoing operational output of these energy projects reflects the project's average production of energy (in terms of kilowatts, barrels of fuel or cubic feet of gas) times the price of each unit sold. Estimates of current prices generally come from the U.S. Energy Information Administration.[31] For example, kilowatt hour prices were available for states based on the average of residential, commercial, industrial and transportation prices.[32] The price of liquefied natural gas projects (including onshore and offshore platforms) was estimated by taking the city gate price (the price the distributing gas utility pays a natural gas pipeline company or transmission system) minus the import price, thereby estimating the incremental value-added to the price per cubic foot of gas.[33] There were also assumptions for liquid fuel prices, such as gasoline, diesel and ethanol.[34] Using the Bureau of Labor Statistics' Consumer Price Index (CPI-U) for piped gas and electricity, a 20-year compound average growth rate was applied to current prices as a proxy for future price changes.[35] In summary, the value of production was calculated by multiplying price times the level of project production, after adjusting for the average capacity factor, and then discounted to reflect the opportunity costs for future years.

F. Estimation Example

This section provides a description of the steps taken to calculate the economic output, employment earnings and jobs for the projects listed in **Appendix II** of this report.

The analysis we performed relies on the Department of Commerce's methodology described in its handbook on regional multipliers.[36] Since the state-level multipliers used here are industry

[31] Most figures were downloaded from www.eia.doe.gov. Prices were collected on the state-level where available during April and May 2010. Because of the recent increase in energy prices, if more recent and elevated prices had been used, the estimated benefits reported in this study would be significantly higher.

[32] "Average Retail Price of Electricity to Ultimate Consumers by End-Use Sector, by State," U.S. Energy Information Administration (EAI), Department of Energy, Table 5.6B, released in May 14, 2010. The state prices were used in the state corresponding with the project. The U.S. average was 9.43 cents per kilowatt hour.

[33] EIA, April 2010. For liquid natural gas platforms, the U.S. average used was $1.11 per thousand cubic foot (calculated as the city gate price of $6.89 minus the import price of $5.78). Coal gasification plant prices were at the state's average retail price (U.S. average of $7.06 per millions of cubic feet), since these products were delivered directly to the customer.

[34] Most fuel prices (per gallon) were available from EIA. For instance, gasoline price are available at http://www.eia.doe.gov/petroleum/data_publications/wrgp/mogas_home_page.html, and diesel price are available at http://www.eia.doe.gov/oog/info/gdu/gasdiesel.asp. Jet fuel prices are from the International Airline Transport Association at http://www.iata.org/whatwedo/economics/fuel_monitor/Pages/index.aspx, citing Platts as the source (http://www.platts.com). As of May 24, 2010, the average price for gas and diesel was $2.79 per gallon and $3.02 per gallon, respectively. As of May 21, 2010, jet fuel was $1.96 per gallon. The fuel price for jet, diesel and gasoline average $2.59 per gallon, according to EAI. As of May 25, 2010, E-100 rack ethanol prices averaged $1.81 per gallon, according to Fastracks, Telenet DTN, available at http://www.dtnethanolcenter.com/index.cfm?show=10&mid=32.

[35] According to the Consumer Expenditure Survey, which is used to weigh these price index components, electricity accounted for over 70% of the home electric and gas expenditures during 2007. This is consistent with the energy-producing projects analyzed in this study, whether from nuclear, coal or renewable operations. Based on BLS data, we assume electricity prices will increase by 2.94% per year.

averages and project construction costs (and other factors) are subject to revision from the time a project is proposed to its final decision, we stress the importance of aggregating these results into state or national totals, in order to minimize the degree of variation of estimates inherent in multiplier studies.

The following theoretical example summarizes the steps used to estimate the potential economic benefits of an energy project. Consider a solar project with an upfront investment of $3.0 billion and peak capacity of 400 megawatts. Using California as an example, **Table 3** shows the steps needed to estimate the potential economic value for this hypothetical project, in terms of the initial investment and ongoing production.

Starting with the initial investment of $3.0 billion, the total output effect including all direct, indirect and induced effects equals $7.1 billion, or the initial investment times the state's construction multiplier (shown in **Table 3** as 2.3576). Of this $7.1 billion, employment earnings will account for $2.3 billion (the output effect times the state's earnings factor of 0.7819). As the table shows, for every million dollars of output, approximately 18.36 jobs are created. This means more than 55,000 person years of employment would result from the initial investment as its effects cascade through the entire California economy (18.36 times $3 billion). Assuming that construction will take three years to complete, the direct, indirect and induced effects yield 18,360 jobs per year (55,080 divided by 3 years) across all industries, as shown below.[37]

As for the ongoing potential benefits from production, a 400 megawatt energy project, once it is fully operational,

Table 3: Hypothetical Solar Project
(in Current Dollars)

		Construction	Operation
Characteristics	Project Size		400 MW
	Direct Benefit	$3.0 Billion	$85.5 Million
Multipliers	Output	2.3576	1.742
	Earnings	0.7819	0.4503
	Jobs	18.36	7.40
Economic Effects	Output	$7.1 Billion	$149 Million
	Earnings	$2.3 Billion	$39 Million
	Labor Years	55,080	633
	Jobs per Year	18,360	633

[36] See "Regional Multipliers: A User Handbook for the Regional Input-Output Modeling System (RIMSII)," Economic and Statistics Administration and Bureau of Economic Analysis, U.S. Department of Commerce, Third Edition, March 1997, p. 11 at http://www.bea.gov/scb/pdf/regional/perinc/meth/rims2.pdf.

[37] Many studies use the term *person years of employment* to reflect the ongoing level of workers needed to operate a project over many years, or simply the number of new workers per year times the number of years of production. As mentioned earlier, because we assume that completely constructing the average energy project construction will require several years to complete, the employment effect per year is divided equally over these years. This study will report all jobs figures on an annual basis to avoid any double-counting.

would produce roughly $85.5 million per year in final demand for electricity. This estimate is derived by multiplying the project's peak energy capacity by the capacity factor of 19%, then converting the hourly output to annual basis, times the price of electricity per megawatt (assuming 12.84 cents per kilowatt in California).[38] Using the state multiplier for electricity production, employment earnings factor and jobs factor, the first year of production will have a total output effect of $149 million, $39 million in employment earnings and 663 jobs, respectively. All figures in this example are expressed in current dollars. However, this study adjusts all data to reflect present discounted values. This means that the economic value of investment will be discounted over a three year period and the economic value of operations will be discounted starting in year 4 using a discount rate of 5.56%.

This methodology is replicated for the entire compilation of energy projects using state-specific assumptions for multipliers, industry, prices, capacity factors, and so on. The section to follow will provide a national summary of the potential economic benefits had all of these projects been approved and built.

A. National Summary

[38] As shown earlier in **Table 2**, capacity factors vary by how the energy is produced. For this example, solar electricity has an average capacity of 19%, meaning that a 400 megawatt project averages only 76 megawatts each hour.

IV. Estimation of Economic Output and Jobs

As previously stated, the potential direct benefits of investment and operations produce additional potential benefits, commonly referred to as *multiplier effects*. These additional potential benefits come in the form of spillover effects that reflect the activity of related industries that benefit (indirectly) from the initial spending, as well as induced effects that result when workers use their earnings from these activities to make household expenditures. This section summarizes for the 351 state-level energy projects the total potential economic impact (direct, indirect and induced) in terms of economic output, employment earnings and new jobs created.

In total, the direct investment needed to make these operational equals $577 billion (in current dollars). Once the projects are built and operational, the economic impact would be worth an additional $98 billion in final sales per year (in current dollars). The value on direct investment and operations for these energy projects are shown on **Table 4**, located at the end of this section, and include estimates for the initial investment and first year of operations for all of the states, in today's dollars.

For the total inventory of projects, the total multiplier effects of all investments would approximate $1.1 trillion dollars in additional GDP during each year of construction (in PDV).[39] The employment earnings generated by these energy projects would top $352 billion and require as much as 1.9 million jobs during each year of construction.[40] These data are shown on **Table 5**, located at the end of this section, and include estimates for all of the states.[41]

Beyond the potential benefits of the initial investment, the potential one-year economic benefits from project operations, including multiplier effects, would be $145 billion in GDP and $35 billion per year in employment earnings. While these projects can operate for twenty years or more, for just one-year of operation, 791,200 jobs would be created across all industries. **Table 6** shows these data for the states.

Of course, some of these projects are designed to operate for twenty or more years, yielding ongoing potential

[39] As mentioned earlier, in this report, all of the dollar benefits of GDP and employment earnings are expressed in terms of present discounted value (PDV). For instance, each project's investment is discounted over its build period (which averages to about 7 years across all investments) and then summed.

[40] This assumes that all project construction is initiated at the same time.

[41] As has been stated throughout this paper, we acknowledge that all 351 projects could never be constructed simultaneously. However, it does represent a sizable pool of potential economic benefits and jobs available if only a portion of the projects were constructed.

Table 4: Project Value
($ in Millions of Current Dollars)

	Investment	Operations
Alabama	$10,600	$1,900
Alaska	$13,500	$2,100
Arizona	$1,200	$600
Arkansas	$2,600	$600
California	$27,000	$3,600
Colorado	$2,500	$700
Connecticut	-	-
Delaware	$1,700	$500
Florida	$45,000	$6,600
Georgia	$19,100	$2,900
Hawaii	$4,400	$1,200
Idaho	$12,100	$1,500
Illinois	$18,700	$2,900
Indiana	$5,300	$600
Iowa	$6,100	$800
Kansas	$6,500	$1,700
Kentucky	$8,300	$2,000
Louisiana	$11,900	$2,400
Maine	$6,700	$1,900
Maryland	$11,800	$2,000
Massachusetts	$4,900	$700
Michigan	$20,700	$3,600
Minnesota	$6,500	$500
Mississippi	$8,500	$1,500
Missouri	$8,200	$1,200
Montana	$5,400	$1,200
Nebraska	$1,400	$300
Nevada	$41,800	$3,800
New Hampshire	$900	$500
New Jersey	$3,200	$600
New Mexico	$4,900	$1,000
New York	$21,600	$5,500
North Carolina	$11,200	$2,000
North Dakota	$7,500	$1,400
Ohio	$13,600	$3,200
Oklahoma	$3,800	$1,000
Oregon	$3,300	$900
Pennsylvania	$21,600	$2,900
Rhode Island	$100	$100
South Carolina	$23,300	$3,700
South Dakota	$4,400	$400
Tennessee	$2,700	$700
Texas	$88,900	$18,200
Utah	$15,000	$2,300
Vermont	$300	$100
Virginia	$18,800	$2,400
Washington	$3,200	$400
West Virginia	$5,400	$500
Wisconsin	$3,000	$400
Wyoming	$7,600	$1,200
Total U.S.	**$576,600**	**$98,500**

Table 5: Multiplier Effects from Investment
($ in Millions PDV)

	GDP	Earnings	Annual Jobs
Alabama	$19,800	$6,300	33,100
Alaska	$22,100	$7,400	47,800
Arizona	$2,300	$800	3,900
Arkansas	$4,700	$1,500	9,100
California	$59,100	$19,600	142,100
Colorado	$5,200	$1,700	9,800
Connecticut	-	-	-
Delaware	$2,800	$800	3,800
Florida	$80,500	$27,400	121,300
Georgia	$38,100	$12,200	54,600
Hawaii	$8,200	$2,800	25,300
Idaho	$19,600	$6,500	46,000
Illinois	$40,900	$12,900	67,600
Indiana	$10,700	$3,300	19,600
Iowa	$10,200	$3,200	19,300
Kansas	$11,400	$3,400	21,700
Kentucky	$16,200	$4,900	29,400
Louisiana	$20,900	$6,900	40,500
Maine	$12,800	$4,300	45,200
Maryland	$19,500	$6,100	21,700
Massachusetts	$9,700	$3,100	24,900
Michigan	$39,400	$13,100	56,700
Minnesota	$12,800	$4,100	21,100
Mississippi	$14,800	$4,600	27,300
Missouri	$15,400	$4,600	19,500
Montana	$9,300	$3,100	24,900
Nebraska	$2,400	$800	6,800
Nevada	$66,900	$22,400	86,700
New Hampshire	$1,700	$500	3,800
New Jersey	$6,600	$2,100	15,900
New Mexico	$8,200	$2,700	18,300
New York	$36,200	$11,400	62,900
North Carolina	$20,600	$6,600	29,000
North Dakota	$11,600	$3,600	21,800
Ohio	$29,000	$9,200	51,400
Oklahoma	$7,300	$2,400	14,800
Oregon	$6,800	$2,100	21,200
Pennsylvania	$44,200	$13,800	56,100
Rhode Island	$200	$100	500
South Carolina	$43,200	$13,600	58,500
South Dakota	$7,000	$2,300	16,100
Tennessee	$5,200	$1,600	6,200
Texas	$191,700	$61,800	311,100
Utah	$29,400	$9,700	46,600
Vermont	$600	$200	2,100
Virginia	$34,400	$10,500	46,000
Washington	$6,600	$2,100	14,700
West Virginia	$9,300	$2,800	19,300
Wisconsin	$5,900	$1,900	12,800
Wyoming	$11,200	$3,700	21,500
Total U.S.	**$1,092,500**	**$352,400**	**1,880,300**

Table 6: Multiplier Effects from Annual Operations
($ in Millions PDV)

	GDP	Earnings	Annual Jobs
Alabama	$2,800	$700	18,200
Alaska	$3,200	$600	12,500
Arizona	$800	$200	4,200
Arkansas	$800	$200	4,500
California	$6,500	$1,700	32,200
Colorado	$1,200	$300	6,300
Connecticut	-	-	-
Delaware	$600	$100	2,300
Florida	$8,600	$2,200	53,100
Georgia	$4,100	$1,000	24,800
Hawaii	$1,700	$400	8,700
Idaho	$1,700	$400	9,900
Illinois	$4,700	$1,200	22,700
Indiana	$1,100	$200	5,500
Iowa	$1,100	$200	5,400
Kansas	$2,400	$500	11,800
Kentucky	$2,900	$700	16,800
Louisiana	$3,700	$900	23,100
Maine	$3,000	$700	18,200
Maryland	$2,600	$600	13,600
Massachusetts	$1,200	$300	5,700
Michigan	$4,700	$1,200	26,000
Minnesota	$800	$200	3,800
Mississippi	$2,000	$500	13,000
Missouri	$1,800	$400	10,100
Montana	$1,800	$400	8,700
Nebraska	$300	$100	1,500
Nevada	$4,800	$1,200	25,200
New Hampshire	$700	$200	3,200
New Jersey	$1,300	$300	6,500
New Mexico	$1,500	$400	9,000
New York	$7,200	$1,700	31,200
North Carolina	$2,400	$600	14,500
North Dakota	$2,000	$400	8,100
Ohio	$4,800	$1,000	22,200
Oklahoma	$1,400	$400	8,600
Oregon	$1,700	$400	11,100
Pennsylvania	$4,600	$1,100	23,700
Rhode Island	$200	$0	1,200
South Carolina	$4,400	$1,000	28,300
South Dakota	$500	$100	2,600
Tennessee	$900	$200	5,900
Texas	$29,800	$7,700	168,600
Utah	$3,500	$900	23,400
Vermont	$100	$0	300
Virginia	$3,400	$800	17,700
Washington	$600	$100	2,900
West Virginia	$800	$200	4,200
Wisconsin	$500	$100	3,000
Wyoming	$1,700	$300	7,200
Total U.S.	**$145,000**	**$35,200**	**791,200**

economic benefits over the life of the product. While long term forecasts can be somewhat unreliable, **Table 7** provides 5-year, 10-year, 15-year and 20-year GDP estimates to demonstrate the cumulative effects from operations. As an illustration, **Table 8** shows that after twenty years of operations, the projects would have produced roughly $2.3 trillion in GDP and $1.0 trillion in employment earnings. If these twenty years of operations were combined with the potential benefits of the upfront investment, the total potential project benefit (including investment and operations) would approach roughly $3.4 trillion in GDP and $1.4 trillion in employment earnings, and require roughly 1,020,000 jobs per year. **Table 9** provides these estimates for all of the states. Again, these longer term estimates are subject to forecast error, but they illustrate that these projects are not simply one-time stimulus, but represent sustained economic output, wages and employment for years to come.

In summary, when considering this inventory of projects and their effects on forty-nine states, the impact from the initial investment and the ongoing economic value from producing, transmitting and distributing energy, these energy products would represent a major economic stimulus. Therefore, if just some reasonable portion of these projects were approved and built, the resulting potential benefits in terms of output, employment earnings and jobs could be a much needed lift to the U.S.'s stagnating economic condition.

In the next section, this report conducts a sensitivity analysis of these estimates, and explores several different scenarios, in order to better understand the relative economic stimulus from approving and building some portion of these projects.

Table 7: GDP from Operations
($ in Millions PDV)

	5-Year	10-Year	15-Year	20-Year
Alabama	$13,400	$25,100	$35,500	$44,500
Alaska	$15,100	$28,400	$40,100	$50,400
Arizona	$3,600	$6,800	$9,500	$12,000
Arkansas	$3,700	$6,900	$9,800	$12,300
California	$30,700	$57,700	$81,500	$102,300
Colorado	$5,500	$10,300	$14,600	$18,300
Connecticut	-	-	-	-
Delaware	$2,700	$5,000	$7,100	$8,900
Florida	$40,700	$76,500	$108,000	$135,600
Georgia	$19,500	$36,600	$51,600	$64,900
Hawaii	$8,000	$15,100	$21,300	$26,800
Idaho	$8,100	$15,200	$21,400	$26,900
Illinois	$22,400	$42,100	$59,400	$74,500
Indiana	$5,300	$9,900	$14,000	$17,500
Iowa	$5,100	$9,600	$13,600	$17,000
Kansas	$11,500	$21,500	$30,400	$38,200
Kentucky	$13,900	$26,100	$36,800	$46,300
Louisiana	$17,800	$33,500	$47,200	$59,300
Maine	$14,300	$26,900	$37,900	$47,600
Maryland	$12,600	$23,700	$33,400	$41,900
Massachusetts	$5,600	$10,600	$14,900	$18,800
Michigan	$22,400	$42,000	$59,300	$74,500
Minnesota	$3,600	$6,800	$9,600	$12,100
Mississippi	$9,600	$18,100	$25,500	$32,100
Missouri	$8,500	$16,000	$22,500	$28,300
Montana	$8,800	$16,500	$23,300	$29,200
Nebraska	$1,700	$3,100	$4,400	$5,500
Nevada	$22,600	$42,500	$59,900	$75,200
New Hampshire	$3,300	$6,200	$8,700	$10,900
New Jersey	$6,200	$11,600	$16,400	$20,600
New Mexico	$7,300	$13,700	$19,300	$24,200
New York	$34,000	$63,900	$90,200	$113,300
North Carolina	$11,500	$21,500	$30,400	$38,200
North Dakota	$9,300	$17,600	$24,800	$31,100
Ohio	$22,700	$42,600	$60,200	$75,600
Oklahoma	$6,700	$12,700	$17,900	$22,400
Oregon	$8,300	$15,500	$21,900	$27,500
Pennsylvania	$22,000	$41,300	$58,300	$73,300
Rhode Island	$900	$1,600	$2,300	$2,900
South Carolina	$21,100	$39,600	$55,900	$70,200
South Dakota	$2,300	$4,300	$6,000	$7,500
Tennessee	$4,500	$8,400	$11,800	$14,900
Texas	$141,600	$266,000	$375,400	$471,500
Utah	$16,800	$31,600	$44,600	$56,000
Vermont	$300	$600	$800	$1,000
Virginia	$16,300	$30,600	$43,100	$54,200
Washington	$2,800	$5,300	$7,400	$9,300
West Virginia	$3,600	$6,700	$9,500	$11,900
Wisconsin	$2,600	$4,900	$6,900	$8,600
Wyoming	$8,300	$15,600	$21,900	$27,600
Total U.S.	**$688,900**	**$1,294,200**	**$1,826,200**	**$2,293,600**

Table 8: Multiplier Effects from Twenty Years of Operations
($ in Millions PDV)

	GDP	Earnings	Annual Jobs
Alabama	$44,500	$20,700	18,200
Alaska	$50,400	$17,000	12,500
Arizona	$12,000	$5,000	4,200
Arkansas	$12,300	$4,500	4,500
California	$102,300	$53,500	32,200
Colorado	$18,300	$9,100	6,300
Connecticut	-	-	-
Delaware	$8,900	$2,700	2,300
Florida	$135,600	$56,400	53,100
Georgia	$64,900	$28,200	24,800
Hawaii	$26,800	$10,300	8,700
Idaho	$26,900	$9,500	9,900
Illinois	$74,500	$35,000	22,700
Indiana	$17,500	$7,500	5,500
Iowa	$17,000	$5,600	5,400
Kansas	$38,200	$13,800	11,800
Kentucky	$46,300	$18,800	16,800
Louisiana	$59,300	$28,600	23,100
Maine	$47,600	$19,800	18,200
Maryland	$41,900	$17,000	13,600
Massachusetts	$18,800	$9,100	5,700
Michigan	$74,500	$29,900	26,000
Minnesota	$12,100	$4,900	3,800
Mississippi	$32,100	$13,100	13,000
Missouri	$28,300	$11,300	10,100
Montana	$29,200	$10,300	8,700
Nebraska	$5,500	$1,800	1,500
Nevada	$75,200	$27,400	25,200
New Hampshire	$10,900	$3,700	3,200
New Jersey	$20,600	$11,400	6,500
New Mexico	$24,200	$10,000	9,000
New York	$113,300	$42,100	31,200
North Carolina	$38,200	$14,700	14,500
North Dakota	$31,100	$9,500	8,100
Ohio	$75,600	$27,300	22,200
Oklahoma	$22,400	$9,700	8,600
Oregon	$27,500	$14,700	11,100
Pennsylvania	$73,300	$34,000	23,700
Rhode Island	$2,900	$1,400	1,200
South Carolina	$70,200	$24,800	28,300
South Dakota	$7,500	$2,500	2,600
Tennessee	$14,900	$5,900	5,900
Texas	$471,500	$245,000	168,600
Utah	$56,000	$27,200	23,400
Vermont	$1,000	$300	300
Virginia	$54,200	$22,200	17,700
Washington	$9,300	$3,700	2,900
West Virginia	$11,900	$4,500	4,200
Wisconsin	$8,600	$3,300	3,000
Wyoming	$27,600	$9,000	7,200
Total U.S.	**$2,293,600**	**$997,800**	**791,200**

Table 9: Multiplier Effects from Investment and 20 Years of Operations
($ in Millions PDV)

	GDP	Earnings	Annual Jobs
Alabama	$64,400	$27,000	21,800
Alaska	$72,500	$24,400	18,200
Arizona	$14,300	$5,700	4,100
Arkansas	$17,000	$6,000	5,600
California	$161,400	$73,000	48,200
Colorado	$23,500	$10,800	6,900
Connecticut	-	-	-
Delaware	$11,700	$3,400	2,600
Florida	$216,100	$83,700	71,700
Georgia	$102,900	$40,400	33,200
Hawaii	$35,000	$13,100	10,800
Idaho	$46,400	$16,100	16,600
Illinois	$115,400	$47,900	31,300
Indiana	$28,200	$10,800	8,700
Iowa	$27,200	$8,800	8,600
Kansas	$49,600	$17,200	13,800
Kentucky	$62,400	$23,600	19,700
Louisiana	$80,200	$35,400	26,800
Maine	$60,400	$24,100	21,800
Maryland	$61,400	$23,100	16,000
Massachusetts	$28,500	$12,200	8,200
Michigan	$113,800	$43,000	34,400
Minnesota	$24,900	$9,100	7,800
Mississippi	$46,900	$17,700	16,100
Missouri	$43,700	$15,900	12,800
Montana	$38,600	$13,500	11,500
Nebraska	$7,900	$2,600	2,300
Nevada	$142,100	$49,800	42,800
New Hampshire	$12,600	$4,300	3,200
New Jersey	$27,300	$13,500	7,800
New Mexico	$32,400	$12,700	11,000
New York	$149,500	$53,500	35,600
North Carolina	$58,800	$21,300	18,900
North Dakota	$42,800	$13,100	11,100
Ohio	$104,600	$36,500	28,700
Oklahoma	$29,700	$12,100	10,000
Oregon	$34,300	$16,800	12,400
Pennsylvania	$117,400	$47,800	32,600
Rhode Island	$3,100	$1,400	1,100
South Carolina	$113,500	$38,400	37,900
South Dakota	$14,500	$4,800	5,400
Tennessee	$20,100	$7,500	5,900
Texas	$663,200	$306,800	194,200
Utah	$85,400	$36,900	29,200
Vermont	$1,600	$500	500
Virginia	$88,500	$32,700	25,100
Washington	$15,900	$5,800	4,700
West Virginia	$21,200	$7,300	7,200
Wisconsin	$14,600	$5,300	4,800
Wyoming	$38,700	$12,700	10,200
Total U.S.	**$3,386,200**	**$1,350,100**	**1,019,800**

B. Sensitivity Analysis

This section provides a sensitivity analysis to understand how the study's estimates of economic output perform over time and under different build-out scenarios. As noted, the purpose of this study is to inventory energy projects facing delays and cancellation due to regulatory inefficiencies and legal process, and to highlight the potential economic and employment benefits that could be realized by addressing these inefficiencies and increasing project approvals. To estimate the total economic and employment value of the project inventory, it was assumed that all projects will commence at the same time.[42] In fact, approval of all of these projects at the same time would lead to immense conflicts in resources, and create shortages in machinery, equipment and skilled labor, as well as affect input and output prices and is not realistic.[43] Instead, it is more reasonable to assume that regulatory process improvements will lead to more project approvals with commencement at different times.

Taking into account the above observation, it is useful to explore what the impact on GDP, employment earnings and jobs would be if significant obstacles, such as regulatory inefficiencies, were competently addressed. If only 20% of the value of the proposed investment in these energy projects were approved, the effect on the economy would still be substantial – $219 billion increase in Gross Domestic Product (GDP) from the investment plus $29 billion more for every year the project remains in operations. In terms of jobs, the 20% would yield 376,000 jobs (per year) over 7 years of construction plus 158,000 jobs (per year) for annual operations over the next twenty or more years. In other words, the impacts of increased approval would still be quite substantial.

Consider some other scenarios. **Table 10** shows that if only the largest project in each state were approved, GDP would increase by $449 billion dollars from the multi-year investment and $50 billion for each year of production. This suggests that the projects are well distributed across the U.S. **Table 10** also shows significant potential benefits if only the nuclear energy projects were approved, accounting for approximately 40% of the change in GDP resulting from the initial investment.[44] If only renewable projects were approved, nearly half a million jobs would be created for each year of construction. If only transmission projects were approved, GDP would increase by $64 billion for the construction portion alone. These examples demonstrate that obtaining approval of some portion of these 351 projects would produce significant potential benefits in terms of output and jobs.

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[42] This assumption was necessary to illustrate the total potential value of all projects. As discussed further in this section of the report, various sensitivity analyses were conducted to provide more realistic scenarios.

[43] Accounting for various dynamic effects, price effects and scarcity of resources may be better suited for a macro model than the more static model used here. This may be another approach to consider for future research.

[44] These projects were all energy producing plants. The Yucca Mountain nuclear disposal site project was not included in this example.

Table 10: What If Some Of These Projects Were Approved?

EMPLOYMENT			
Projects Approved	**Total GDP ($B in PDV)**	**Earnings ($B in PDV)**	**Annual Jobs (in Thousands)**
Only Largest Project in Each State			
Investment Effect	$449	$144	572
1-year Operations	$50	$12	272
Only Nuclear Projects			
Investment Effect	$411	$132	468
1-year Operations	$44	$11	267
Only Renewable Projects			
Investment Effect	$151	$49	447
1-year Operations	$17	$4	78
Only Transmission Projects			
Investment Effect	$64	$213	106
1-year Operations	$1.4	$0.3	7
All 351 Projects			
Investment Effect	$1,093	$352	1,880
1-year Operations	$145	$35	791

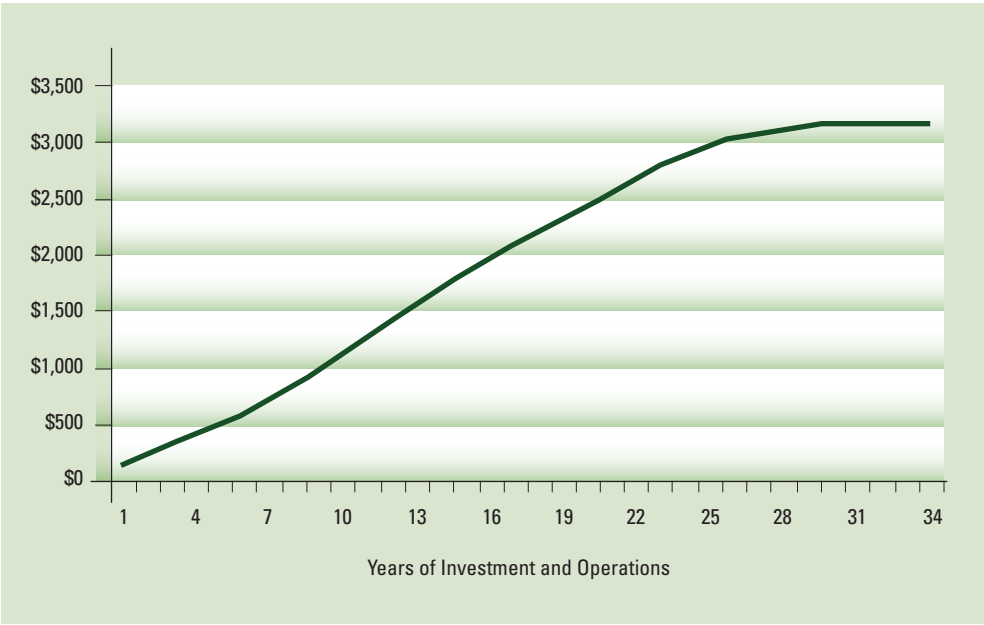
Unlike programs that may provide temporary economic stimulus, these energy projects represent, in many cases, billions of dollars of investments that produce multi-year potential economic benefits throughout construction and the life of the project. Notably, when construction winds down, production gears up, again producing potential economic benefits.

For example, **Figure 1** shows the cumulative capital investment over the build-out years in terms of billions of current dollars. Since many of the projects have an average completion time of three years and many more projects are expected to be completed in the first six years, there is a strong ramp up in investment (excluding any multiplier effect) during the first several years, followed by a marked slowdown in investment, as depicted in **Figure 1**. This chart reflects the completion of projects over the investment time horizon. On the other hand, as projects are

Figure 1: Cumulative Capital Investment by Year Excluding Multiplier Effects
(Billions of Current Dollars)

completed, they begin to operate and produce energy that is purchased and consumed by consumers and businesses. **Figure 2** (below) shows total cumulative economic output (in PDV) for investment and production (including multiplier effects) over the entire time horizon. For example, a nuclear plant may require ten years to build and then it may operate for twenty years. Similarly, **Figure 2** shows the cumulative economic value of the construction and twenty-years of production for all projects. In essence, as investment wanes, production picks up, and there is a multi-year potential benefit to the general economy—equaling

Figure 2: Cumulative Investment and Production Including Multiplier Effects
(Billions of Dollars – PDV)



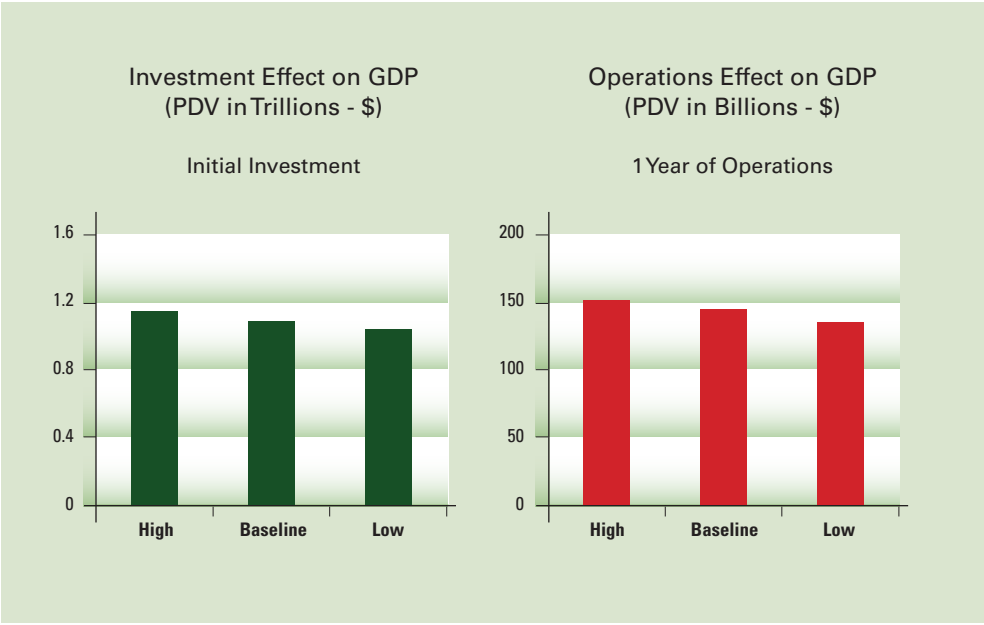
approximately $3 trillion dollars (in PDV). Since Bureau of Economic Analysis multipliers are periodically revised, productivity rates change over time, and twenty-year forecasts are prone to error, these twenty-year estimates should be regarded as a rough estimate and for illustration purposes only. We encourage others to consider potentially more dynamic approaches for future research.

Another factor to keep in mind is that the length of time to build a project varies from project to project. Assumptions were made about the length of construction for various types of projects (see **Table 1**). For our baseline model, the investment weighted average project length was 7.2 years, with high and low views of 5.2 years and 9.2 years, respectively. If construction takes a shorter time than the baseline view, then the annual economic effect during the construction period would be greater and require more labor (high view), but the current dollar effect would be no different over the entire period. Since this model expresses potential benefits in terms of present discounted value, however, the value of construction and operations over longer periods of time would be more heavily discounted and produce slightly lower impacts (low view). For example, **Figure 3** (below) shows the total output from investment and operations (including multiplier effects) comparing the high and low view to the baseline scenario used in this study. The differences between the baseline view and the alternative views amount to less than 5%. Therefore, the results from the baseline view appear to be reasonably stable.

As with any model, there is error. This section shows that changes in assumptions may lead to changes in the estimate of economic output. The model presented appears to be a reasonable and conservative first step for estimating the value of inventoried projects. We encourage further research to improve this methodology.

C. State by State Analysis

Figure 3: Output Effects under Various Scenarios



Appendix I provides state-by-state profiles that compare the potential benefits of these energy projects along with various economic and demographic characteristics. These data show a number of instances where states are facing high energy prices and unemployment, yet have significant opportunities for potential economic benefits through the implementation of these projects.

This study's estimate of potential job creation from the initial investment and sustained employment created over the project's years of operations provide an opportunity for policy makers to think of ways to increase the approval of energy projects. In fact, the potential total economic benefits of the initial investment in this compilation of energy projects are so sizable that approval of just a portion of these projects would result in meaningful economic benefits among the states. Therefore, the potential economic and employment benefits of these projects are significant.

This study has collected 351 energy projects and calculated the economic

V. Conclusions

impact that would occur from these projects. While it is inconceivable that all of these projects could or should be approved, tallying up the value of these projects makes clear the enormous potential for increased output and jobs. Specifically, this study has identified projects that, if built, would be worth $1.1 trillion in U.S. GDP, $352 billion in employment earnings and up to 1.9 million jobs per year – from just their construction.

Once these projects are fully operational, they would combine to generate $145 billion in GDP and $35 billion in employment earnings (in PDV) for each year of operation, as well as create 791,200 jobs annually over their productive lives. Because these projects can continue to produce and provide jobs for twenty years or more, the twenty-year operations of these 351 energy projects would contribute roughly $2.3 trillion to GDP and $1.0 trillion in employment earnings. If the twenty years of operations are combined with the potential benefits from the initial investment, the total potential benefits of energy projects considered in this study would amount to roughly $3.4 trillion in GDP and $1.4 billion in employment earnings, as well as require 1,020,000 jobs annually over the entire period. Not calculated in this study is that the energy produced would be valuable in keeping energy prices affordable, which would spur economic production and permit a cleaner mix of energy than is available today.

This first of its kind study has been enabled by the work undertaken by the U.S. Chamber of Commerce to identify and catalogue the 351 energy projects that form the basis for these economic forecasts.[45] That said, we hope our independent report leads to further analyses of the regulatory obstacles to completing new energy and infrastructure projects. Considerably more can be done—such as a complementary macroeconomic analysis to determine the effect of constructing the 351 projects on energy prices, supplies, and generation mix; or expanding the analysis to include new project areas and their potential economic benefits, including projects on highways, cellular telephone towers, oil and gas exploration, and big-box retail stores. In the end, we hope this study is a valuable tool for policymakers as they consider new ways to create jobs and economic value for the country, and the obstacles many of these projects face in trying to get off the ground.

[45] Full descriptions of each project included in the study can be found on the Chamber's Project No Project web site, http://www.projectnoproject.com.

Appendix I: State Profiles

State Profiles—Sources of Data

- Population (2009 in thousands) – Annual Estimates of Resident Population for the United States, Regions, States, and Puerto Rico: April 1, 2000 to July 1, 2009, NST-EST2001, U.S. Department of Census, Population Division, December 2009, Table 1, at www.census.gov.

- Personal Income per Capita – U.S. Department of Commerce, Bureau of Economic Analysis, March 2010 at www.bea.gov.

- Employment (as of August 2010, in thousands) – see "Table 3. Civilian Labor Force and Unemployment by State and Selected Area, Seasonally Adjusted," U.S. Bureau of Labor Statistics, released September 21, 2010. Available at www.bls.gov. U.S. figures were released on September 3, 2010. Data are residential, not place of work; they represent a count of those individuals employed as a subset of the civilian labor force, not a count of jobs.

- Unemployment Rate (as of August 2010) – See Employment Situation reports at www.bls.gov. August 2010 figures are preliminary and were released on September 21, 2010. U.S. figures were released on September 3, 2010. Figures represent the percent of unemployed divided by the civilian labor force and are seasonally adjusted.

- Change in Jobs (from January 2008 to August 2010) – Employment Situation reports at www.bls.gov. August 2010 figures are preliminary and were released on August 21, 2010. U.S. figures were released on September 3, 2010. A negative number means that the current job level remains below the job level in January 2008 – effectively jobs still lost since the last recession, which began December 2007. All figures are seasonally adjusted.

- Residential and Commercial Electricity Costs (Cents per Kilowatt Hours) - "Average Retail Price of Electricity to Ultimate Customers by End-Use Sector, by State, June 2010 and 2009," EIA, Table 5.6A, released September 15, 2010, available at www.eia.doe.gov.

- For the U.S., total receipts for 2009 are reported as $2.1 trillion and outlays were 67% higher at $3.5 trillion, according to "Budget of the U.S. Government," Fiscal Year 2011 (see Office of Management and Budget at www.budget.gov). The remaining profiles in this study show state expenditures for each state. Combined spending for all states was $1.7 trillion for 2008 (see "2008 Annual Survey of State Government Finances," last revised May 14, 2010 at www.census.gov).

- Potential economic Benefits from Proposed Energy Projects – all estimates of annual jobs created, earnings and economic output from TeleNomic Research based on U.S. Bureau of Economic Analysis multipliers and the methodology described in this report. The variables for "Upfront Investment" represent the total employment earnings and output (expressed in present discounted value or PDV) of constructing the project, as well as the annual jobs required to build the project (expressed as an annual averaged over the years needed to complete construction). The variables for "First Year of Operations" represent the annual jobs created, employment earnings and economic output for the first year of operations, with dollar values expressed in present discount value (PDV). Details of the methodology are described in Section III of this report.

ALABAMA

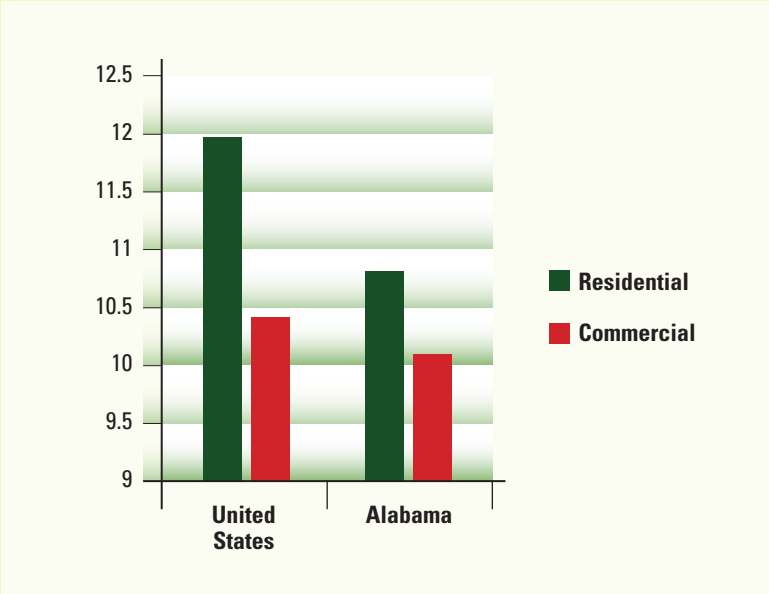
PROJECT NAME	TYPE
Bellefonte Nuclear Plant	Nuclear
Compass Port LNG	Natural Gas
Navy Homeport LNG	Natural Gas

Economic Overview

Population (2009 in thousands)	4,709
Personal Income per Capita (2009)	$33,096
Employment (Aug 2010 in thousands)	1,910.1
Unemployment Rate (Aug 2010)	9.2%
Change in Jobs (Jan. 2008 – Aug. 2010)	-141,700
All State Government Expenditures	$24.9 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	10.84
Commercial (June 2010)	10.11



U.S. vs. Alabama Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$19,800,000,000
Employment Earnings (in PDV)	$6,300,000,000
Average Annual Jobs	33,100

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$2,800,000,000
Employment Earnings (in PDV)	$700,000,000
Average Jobs Created in Year 1	18,200

Example Project

Compass Port LNG

ConocoPhillips proposed to build a liquefied natural gas (LNG) receiving, storage, and regasification facility approximately 11 miles off the coast of Dauphin Island, Alabama. The proposed LNG port would be designed for an average delivery of approximately 1.0 billion cubic feet per day of pipeline quality gas. The project would also require about 30 miles of onshore and offshore natural gas transmission pipeline. Concerns over the impact of the project on marine fisheries, as well as grassroots opposition by a host of environmental groups, brought veto threats from Alabama and Mississippi state governments. On June 8, 2006, ConocoPhillips pulled the Compass Port project altogether.

ALASKA

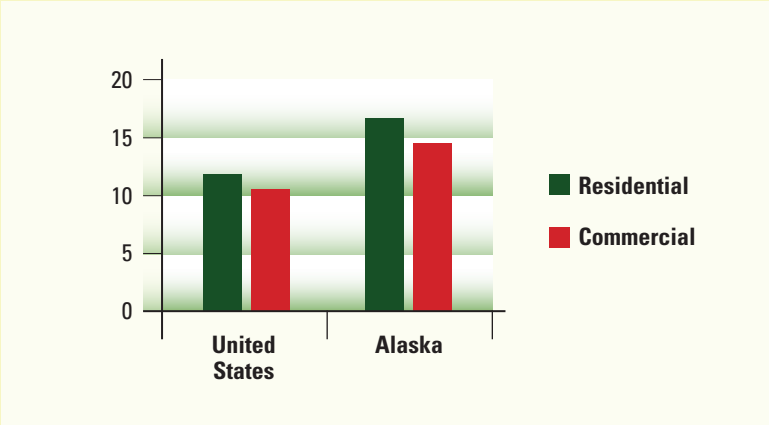
PROJECT NAME	TYPE
Agrium Corporation's Kenai Blue Sky Project	Coal
Alaska Natural Resources-to-Liquids LLC	Coal
Fire Island Wind Project	Wind
Homer Electric Association, Crescent Lake Hydropower Plant	Hydropower
Homer Electric Association, Falls Creek Hydropower Plant	Hydropower
Homer Electric Association, Ptarmigan Lake Hydropower Plant	Hydropower
Homer Electric Association, Grant Lake Hydropower Plant	Hydropower
Matanuska Electric Association	Coal
The Fairbanks Economic Development Corporation Coal-to-Liquids Plant	Coal

Economic Overview

Population (2009 in thousands)	698
Personal Income per Capita (2009)	$42,603
Employment (Aug 2010 in thousands)	334.4
Unemployment Rate (Aug 2010)	7.7%
Change in Jobs (Jan. 2008 – Aug. 2010)	-1,800
All State Government Expenditures	$10.1 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	16.92
Commercial (June 2010)	14.84



U.S. vs. Alaska Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$22,100,000,000
Employment Earnings (in PDV)	$7,400,000,000
Average Annual Jobs	47,800

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$3,200,000,000
Employment Earnings (in PDV)	$600,000,000
Average Jobs Created in Year 1	12,500

Example Project

Homer Electric Association, Crescent Lake
Homer Electric Association and Kenai Hydro Limited Liability Corp. (KHL) secured a preliminary permit from the Federal Energy Regulatory Commission to study generating electricity from Crescent Lake, on Chugach National Forest and State of Alaska land. Opposition group Friends of Cooper Landing formally intervened in the proceeding, opposing the project. The group cited threats to the scenic area's salmon spawning and its tourist-based economy. Construction was scheduled to begin in late 2012 and come on line in 2014. However, in October 2009, KHL surrendered its permit for Crescent Lake after determining that the project was currently not economically feasible.

ARIZONA

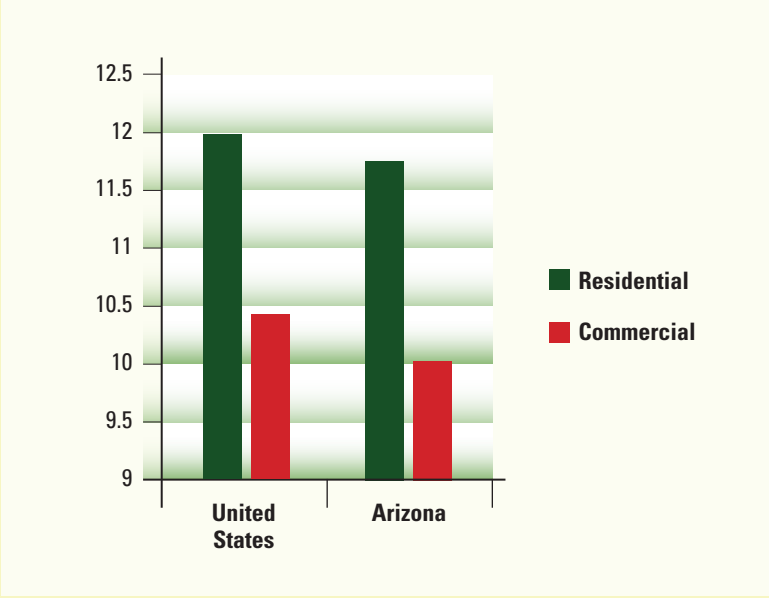
PROJECT NAME	TYPE
SouthWestern Power Group Bowie Power Station	Coal
SunZia Transmission Line (AZ Portion)	Transmission

Economic Overview

Population (2009 in thousands)	6,596
Personal Income per Capita (2009)	$32,935
Employment (Aug 2010 in thousands)	2,865.5
Unemployment Rate (Aug 2010)	9.7%
Change in Jobs (Jan. 2008 – Aug. 2010)	-276,700
All State Government Expenditures	$30.8 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	11.75
Commercial (June 2010)	10.02



U.S. vs. Arizona Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$2,300,000,000
Employment Earnings (in PDV)	$800,000,000
Average Annual Jobs	3,900

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$800,000,000
Employment Earnings (in PDV)	$200,000,000
Average Jobs Created in Year 1	4,200

Example Project

SunZia Transmission Line

The SunZia Southwest Transmission Project is a proposed 460 mile high capacity 500 kilovolt (kV) transmission line (or two parallel lines) across New Mexico and Arizona. The project will connect and deliver renewable energy resources in New Mexico and Arizona to population centers in the Desert Southwest. Several national and local environmental groups oppose various proposed routes for the project, as well as the potential that the line will deliver energy from the gas-fired Bowie Power Station. The permitting process continues. There was a 45-day public scoping period ending on June 10, 2010. In the spring of 2011, the Draft Environmental Impact Statement will be completed and made available for review. The project is currently scheduled to be completed in 2014.

ARKANSAS

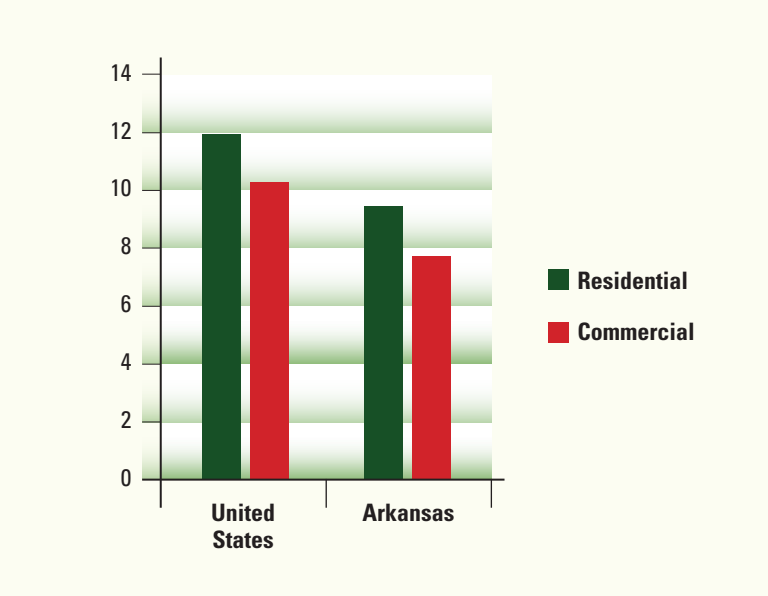
PROJECT NAME	TYPE
Plum Point Power Station	Coal
Hempstead	Coal

Economic Overview

Population (2009 in thousands)	2,889
Personal Income per Capita (2009)	$31,946
Employment (Aug 2010 in thousands)	1,240
Unemployment Rate (Aug 2010)	7.5%
Change in Jobs (Jan. 2008 – Aug. 2010)	-47,100
All State Government Expenditures	$16.7 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	9.56
Commercial (June 2010)	7.77



U.S. vs. Arkansas Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$4,700,000,000
Employment Earnings (in PDV)	$1,500,000,000
Average Annual Jobs	9,100

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$800,000,000
Employment Earnings (in PDV)	$200,000,000
Average Jobs Created in Year 1	4,500

Example Project

Hempstead

Hempstead is a 600-megawatt coal-fired power plant proposed by Southwestern Electric Power Co. that would utilize ultra-supercritical technology and burn coal from Wyoming's Powder River Basin. The plant would serve Arkansas as well as Texas and Louisiana, and would be located about 15 miles northeast of Texarkana. The plant first filed for a permit with the Arkansas Department of Environmental Quality in 2006. Sierra Club has challenged the plant using virtually every statute and regulation at its disposal, challenging permits and approvals under the Clean Air Act, Clean Water Act, National Environmental Policy Act, and several others. The plant's projected completion date is October 2012, but Sierra Club successfully obtained a temporary restraining order to halt construction in late 2010, stalling the project.

CALIFORNIA

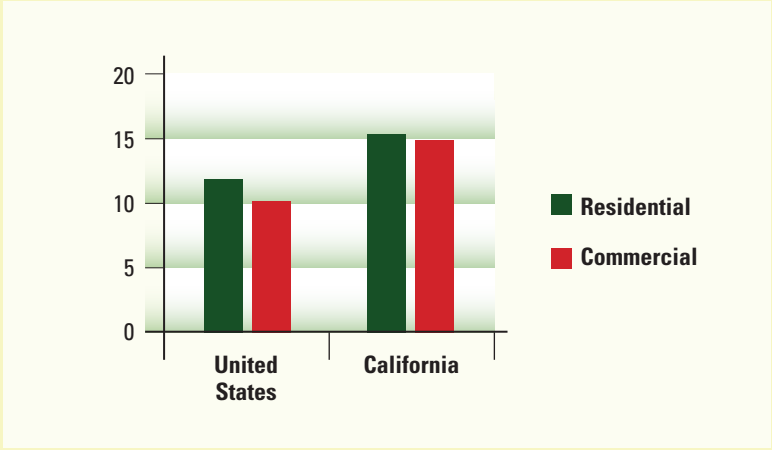
PROJECT NAME	TYPE
American Ethanol Plant	Renewable Fuels
BHP Billiton LNG Cabrillo Port	Natural Gas
Calpine Corporation Eureka Terminal	Natural Gas
Campo Reservation Wind Farm	Wind
Cilion Kern County Ethanol Plant	Renewable Fuels
Sound Energy Solutions, Long Beach Harbor	Natural Gas
Granite Mountain Wind Project	Wind
Green Path North Renewable Energy Transmission Line	Transmission
Hatchet Ridge Wind Power Project	Wind
Hay Ranch Geothermal Project	Geothermal
Iberdrola, Tule Wind Farm	Wind
Ivanpah Solar Power Project	Solar
Measure B Solar Project	Solar
TANC Transmission Project	Transmission
NorthernStar Energy Clearwater Port Oxnard Terminal	Natural Gas
OptiSolar Topaz Solar Farm	Solar
Pacific Renewable Energy Generation Lompoc Wind Farm	Wind
PdV Wind Energy Project	Wind
PG&E Humboldt County WaveConnect Project	Wave
Roseburg Biomass Project	Biomass
Russell City Energy Center, Alameda County	Natural Gas
Shell/Bechtel Vallejo	Natural Gas
Calico Solar Project	Solar
Southern California Edison, Presidential Station Project	Transmission
Southern California Edison, Tehachapi Line	Transmission
SunPeak Solar, Imperial County	Solar
SunPower/PG&E California Solar Ranch	Solar
Sunrise Powerlink Renewable Electricity Transmission Line	Transmission
Victorville 2 Hybrid Power Project	Solar/Gas
White Oak Wind Energy Project	Wind
Woodside Natural Gas Los Angeles/Malibu Ocean Way	Natural Gas

Economic Overview

Population (2009 in thousands)	36,962
Personal Income per Capita (2009)	$42,325
Employment (Aug 2010 in thousands)	15,968
Unemployment Rate (Aug 2010)	12.4%
Change in Jobs (Jan. 2008 – Aug. 2010)	-1,312,500
All State Government Expenditures	$246.6 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	15.51
Commercial (June 2010)	14.98



U.S. vs. California Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$59,100,000,000
Employment Earnings (in PDV)	$19,600,000,000
Average Annual Jobs	142,100

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$6,500,000,000
Employment Earnings (in PDV)	$1,700,000,000
Average Jobs Created in Year 1	32,200

Example Project

Green Path North Transmission Line

The Green Path North was a proposed 85-mile-long "green" power transmission line that would have brought renewable electricity from inland California to Los Angeles. The Los Angeles Department of Water and Power (LADWP) proposed the project to help meet its renewable electricity mandate, which must be 35 percent by 2020. Currently, 11 percent of LADWP's electricity comes from renewable sources. A wide range of national and local environmental activist groups, such as Sierra Club, Center for Biological Diversity, and the Redlands Conservancy fiercely opposed the project, forcing seven route and capacity revisions for the transmission line. Senator Dianne Feinstein threatened legislation to protect California desert lands from renewable projects, which would have made it very difficult, if not impossible, to construct the Green Path North transmission line. On March 10, 2010, LADWP officially abandoned the Green Path North project, citing enormous costs and fierce opposition from environmental groups.

COLORADO

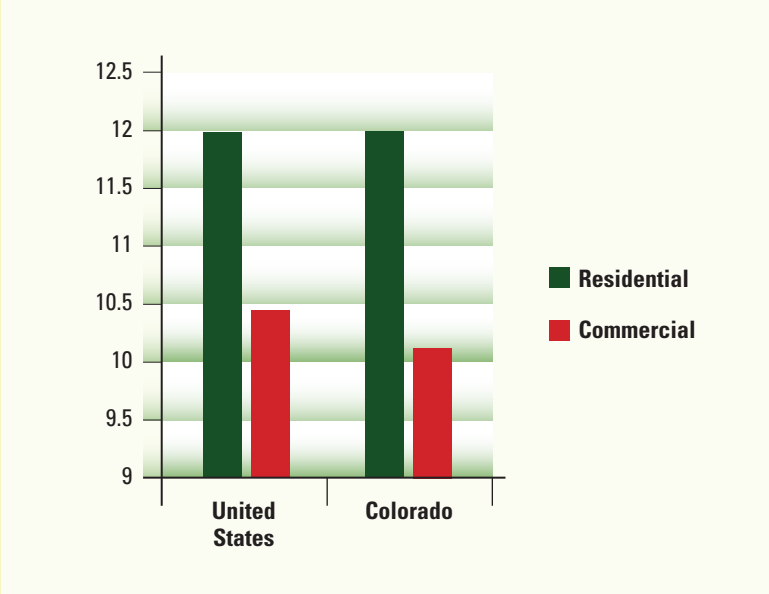
PROJECT NAME	TYPE
Colorado State University Green Power Project	Wind
LS Power High Plains Energy Station	Coal
Xcel Energy IGCC plant	Coal

Economic Overview

Population (2009 in thousands)	5,024
Personal Income per Capita (2009)	$41,344
Employment (Aug 2010 in thousands)	2,440.0
Unemployment Rate (Aug 2010)	8.2%
Change in Jobs (Jan. 2008 – Aug. 2010)	-158,700
All State Government Expenditures	$22.8 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	11.95
Commercial (June 2010)	10.15



U.S. vs. Colorado Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$5,200,000,000
Employment Earnings (in PDV)	$1,700,000,000
Average Annual Jobs	9,800

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$1,200,000,000
Employment Earnings (in PDV)	$300,000,000
Average Jobs Created in Year 1	6,300

Example Project

Colorado State University Green Power Project

In 2008, Colorado State University (CSU), as part of its efforts to be the nation's "green university," proposed to construct a 100-turbine wind farm on the university's 11,000-acre Maxwell Ranch and adjacent properties near the Colorado- Wyoming border in Larimer County. The project would generate up to 200 megawatts (MW) of clean energy for the University and surrounding region. A 35-person group calling itself the Greater Red Mountain Preservation Association opposed the project, claiming it would "irreparably fragment a fragile and unbroken high-plains ecosystem with roads, transmission lines and turbines." The group even challenged the terms of CSU donor Fred Maxwell's will, arguing that he did not bequeath Maxwell Ranch to CSU for these purposes. CSU's original partner left the project in late 2009, although CSU has found a new partner and still intends to move forward.

DELAWARE

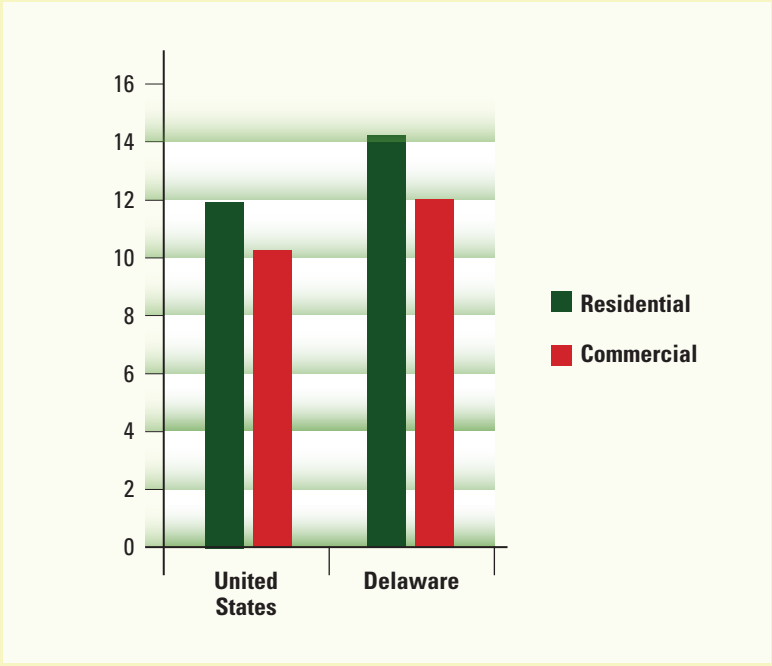
PROJECT NAME	TYPE
NRG Indian River Plant Expansion	Coal
Pepco Mid-Atlantic Pathway (DE portion)	Transmission

Economic Overview

Population (2009 in thousands)	885
Personal Income per Capita (2009)	$39,817
Employment (Aug 2010 in thousands)	386.8
Unemployment Rate (Aug 2010)	8.4%
Change in Jobs (Jan. 2008 – Aug. 2010)	-22,200
All State Government Expenditures	$7.15 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	14.51
Commercial (June 2010)	11.73



U.S. vs. Delaware Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$2,800,000,000
Employment Earnings (in PDV)	$800,000,000
Average Annual Jobs	3,800

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$600,000,000
Employment Earnings (in PDV)	$100,000,000
Average Jobs Created in Year 1	2,300

Example Project

Mid-Atlantic Power Pathway

The Mid-Atlantic Power Pathway (MAPP) is a proposed 150-mile 500-kilovolt transmission line to be built by Pepco Holdings in parts of Delaware, Maryland and Virginia. MAPP was first proposed in May 2006 as a 230-mile line stretching into New Jersey. The current project was approved by PJM Interconnection in October 2007 and by the Federal Energy Regulatory Commission in November 2008, and is expected to provide access to 1,300 megawatts of renewable wind generation. Several national and local environmental and citizens groups oppose the project; their concerns include water quality, noise, traffic, air quality, deforestation, loss of wetlands, aesthetics and electromagnetic radiation. In January 2010, Pepco suspended work on MAPP to allow it and PJM to study future transmission needs for the region. MAPP was originally to be completed in 2014, although delays have changed the expected in-service date to 2015.

FLORIDA

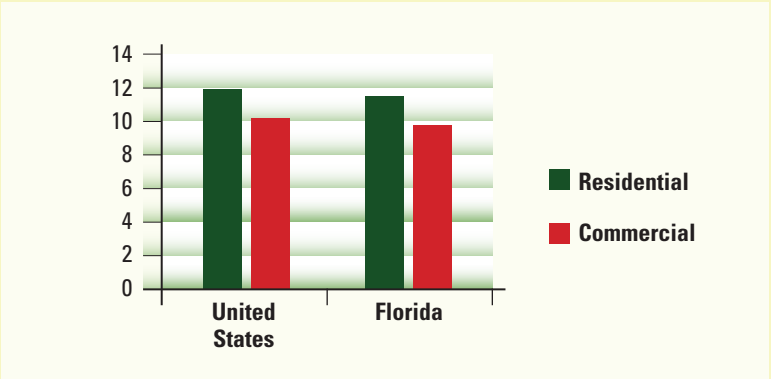
PROJECT NAME	TYPE
Gas & Electric LLC Tallahassee Renewable Energy Center	Biomass
Chevron USA, Murphy Oil, ConocoPhillips: Destin Dome	Natural Gas
Florida Municipal Power Agency, Taylor Energy Center	Coal
Florida Power & Light, St. Lucie County Wind Farm	Wind
Florida Power & Light, Glades Power Plant	Coal
Levy County Nuclear Power Plant	Nuclear
Levy County Transmission Line	Transmission
Port Dolphin LNG Deepwater Port	Natural Gas
Port Sutton Envirofuels, Tampa Ethanol Plant	Renewable Fuels
Progress Energy, Apalachicola – Port St. Joe	Transmission
Seminole Electric Power Cooperative, Seminole 3	Coal
Southern Company's Southern Power Clean Coal Plant	Coal
Tampa Electric Power Company, Polk Power Station 6	Coal
Turkey Point Units 6 and 7	Nuclear

Economic Overview

Population (2009 in thousands)	18,538
Personal Income per Capita (2009)	$37,780
Employment (Aug 2010 in thousands)	8,145.7
Unemployment Rate (Aug 2010)	11.7%
Change in Jobs (Jan. 2008 – Aug. 2010)	-688,900
All State Government Expenditures	$76.9 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	11.65
Commercial (June 2010)	9.80



U.S. vs. Florida Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$80,500,000,000
Employment Earnings (in PDV)	$27,400,000,000
Average Annual Jobs	121,300

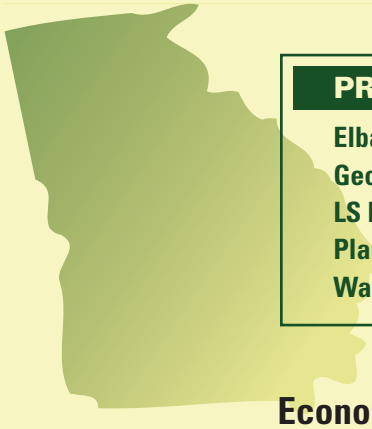
First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$8,600,000,000
Employment Earnings (in PDV)	$2,200,000,000
Average Jobs Created in Year 1	53,100

Example Project

BG&E Tallahassee Renewable Energy Center
Biomass Gas & Electric LLC (BG&E) proposed a $150 million biomass power plant in Tallahassee. The plant would provide the city with 38 megawatts of electricity, enough to power about 35,000 homes, plus 60 decatherms of biomass process gas. The project was announced in early 2007, with a delivery date of 2010 or 2011. However, unrelenting NIMBY opposition from local landowners and the County Commissioner's office forced BG&E to pull the plug on the project in January 2009. BG&E has moved the project to Port St. Joe.

GEORGIA



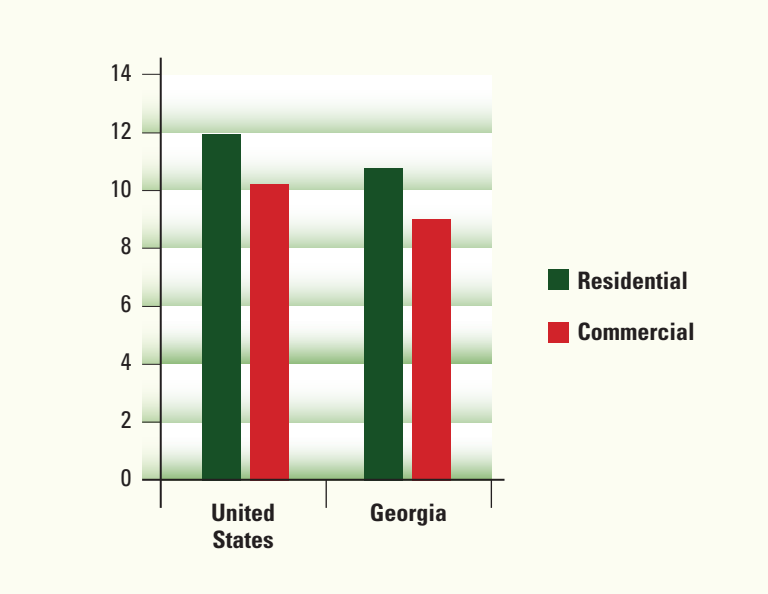
PROJECT NAME	TYPE
Elba III Expansion, Wilkes County	Natural Gas
Georgia Alternative Energy Cooperative Turner County Ethanol Plant	Renewable Fuels
LS Power, Longleaf Coal Plant	Coal
Plant Vogtle	Nuclear
Washington County Power Station	Coal

Economic Overview

Population (2009 in thousands)	9,829
Personal Income per Capita (2009)	$33,786
Employment (Aug 2010 in thousands)	4,201.5
Unemployment Rate (Aug 2010)	10.0%
Change in Jobs (Jan. 2008 – Aug. 2010)	-338,500
All State Government Expenditures	$41.2 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	10.86
Commercial (June 2010)	9.22



U.S. vs. Georgia Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$38,100,000,000
Employment Earnings (in PDV)	$12,200,000,000
Average Annual Jobs	54,600

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$4,100,000,000
Employment Earnings (in PDV)	$1,000,000,000
Average Jobs Created in Year 1	24,800

Example Project

Elba III Expansion, Wilkes County
Southern LNG, a subsidiary of El Paso Corporation, announced plans to significantly expand its Elba Island liquefied natural gas (LNG) terminal near Savannah, Georgia. According to El Paso, the expansion is expected to add 8.4 billion cubic feet (Bcf) of storage capacity at the Elba Island facility and 900 million cubic feet per day of send-out capacity. Environmental groups, including Sierra Club and Citizens for Clean Air and Water, oppose the expansion project. The project is divided into two phases: Phase 1 includes installation of a new 4.2 Bcf storage tank and modification of the docking facilities to accommodate new, larger delivery vessels; Phase 2 will add another 4.2 Bcf storage tank. Phase 1 was completed in July 2010; Phase 2 has not been completed.

HAWAII

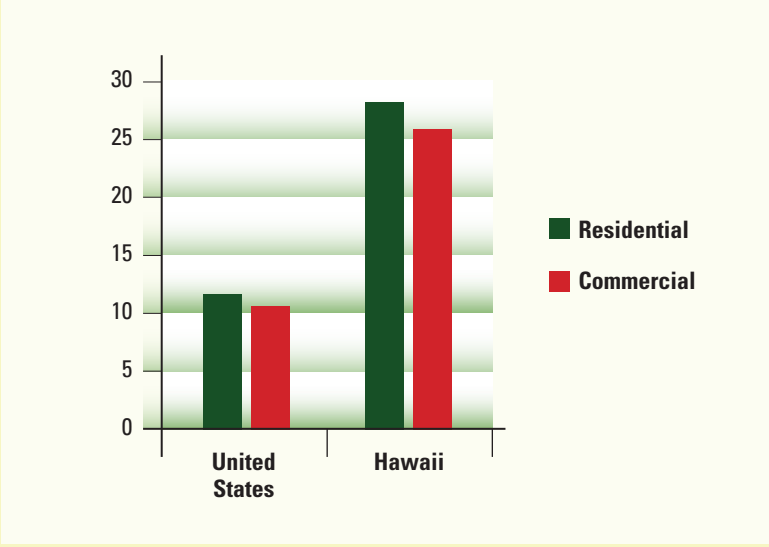
PROJECT NAME	TYPE
Hamakua Biomass Energy Plant	Biomass
Hu Honua Bioenergy, Biomass Plant	Biomass
Imperium Renewables Biodiesel Plant	Renewable Fuels
Penguin Bank Wave Energy Project	Wave

Economic Overview

Population (2009 in thousands)	1,295
Personal Income per Capita (2009)	$42,009
Employment (Aug 2010 in thousands)	594.2
Unemployment Rate (Aug 2010)	6.4%
Change in Jobs (Jan. 2008 – Aug. 2010)	-40,800
All State Government Expenditures	$10.5 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	28.36
Commercial (June 2010)	26.14



U.S. vs. Hawaii Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$8,200,000,000
Employment Earnings (in PDV)	$2,800,000,000
Average Annual Jobs	25,300

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$1,700,000,000
Employment Earnings (in PDV)	$400,000,000
Average Jobs Created in Year 1	8,700

Example Project

Penguin Bank Wave Energy Project
Grays Harbor Ocean Energy Co. proposed to erect 100 ocean platforms over a roughly 80-square-mile area between O'ahu and Moloka'i to harness up to 1,100-megawatts of electricity from waves and wind. The proposed Penguin Bank site, in the heart of the Hawaiian Humpback Whale National Marine Sanctuary, is considered to be a prime feeding and calving area for whales and an important feeding ground for Hawaiian monk seals. It is also popular with commercial and recreational fishermen. The company acknowledged this would be a very challenging site and that the environmental concerns would be substantial, but argued that the site was the only one in Hawaii that would work for such a large project. The company also maintained that the project would have caused no significant environmental impacts or threats because the submerged parts would be immobile and, once they have been installed would simply be a "bunch of sticks in the water." Environmental groups and local residents vehemently opposed the project. On April 21, 2009, FERC and MMS agreed to rule changes that effectively terminated the Penguin Bank project.

IDAHO

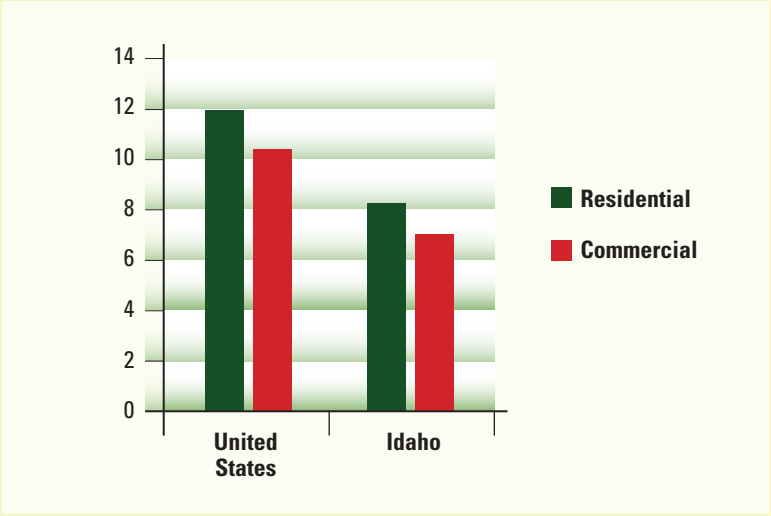
PROJECT NAME	TYPE
Bear River Narrows Hydroelectric Project	Hydro
China Mountain Wind Project	Wind
Cotterel Mountain Wind Power Project	Wind
Gateway West (ID Portion)	Transmission
Hammett	Nuclear
Idaho Power Company IGCC	Coal
Northwestern/Montana States Intertie Project (ID Portion)	Transmission
Ridgeline Energy, Goshen South Wind Farm Project	Wind
Sempra Energy, Jerome Plant	Coal

Economic Overview

Population (2009 in thousands)	1,545
Personal Income per Capita (2009)	$31,632
Employment (Aug 2010 in thousands)	688.7
Unemployment Rate (Aug 2010)	8.9%
Change in Jobs (Jan. 2008 – Aug. 2010)	-50,900
All State Government Expenditures	$7.67 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	8.21
Commercial (June 2010)	6.87



U.S. vs. Idaho Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$19,600,000,000
Employment Earnings (in PDV)	$6,500,000,000
Average Annual Jobs	46,000

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$1,700,000,000
Employment Earnings (in PDV)	$400,000,000
Average Jobs Created in Year 1	9,900

Example Project

Bear River Narrows Hydroelectric Project
In December 2006, the Twin Lakes Canal Company submitted application to construct a new hydroelectric power plant on Bear River. The project would create a 200-acre reservoir backing up to the Oneida Dam. Organizations such as Idaho Rivers United and the Greater Yellowstone Coalition fought to prevent construction, asserting that the project would harm water quality, threaten fish habitat, and flood prime recreation territory. In October 2007, competitor PacifiCorp Energy filed a motion with FERC requesting that the license application be dismissed and the preliminary permit be rescinded, contending that the proposed dam would conflict with its own hydroelectric license. As of July 2010, FERC had yet to issue a decision.

ILLINOIS

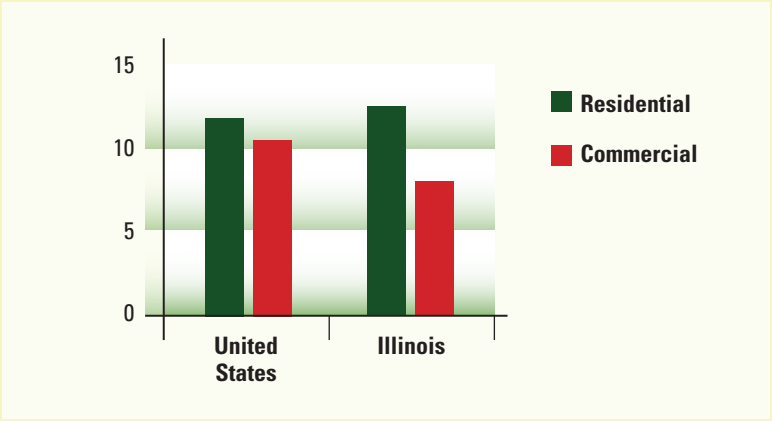
PROJECT NAME	TYPE
DeKalb and Lee County Wind Project	Wind
EcoGrove Wind Farm, Stephenson County	Wind
El Paso Wind Farm, Woodford County	Wind
Enviropower Franklin County Power Plant	Coal
FutureGen	Coal
Green Power Express (IL Portion)	Transmission
Horizon Wind, Twin Groves Wind Farm Expansion	Wind
Indeck Energy Services Coal Plant	Coal
Lancaster Wind Farm Project	Wind
Navitas Energy, Baileyville Wind Farm, Ogle/Winnebago Counties	Wind
Peabody Energy, Prairie State	Coal
Power Holdings, Waltonville Coal Project	Coal
Secure Energy, Decatur Gasification Plant	Coal
Taylorville Energy Center	Coal
White Oak Energy Center	Wind

Economic Overview

Population (2009 in thousands)	12,910
Personal Income per Capita (2009)	$41,411
Employment (Aug 2010 in thousands)	5,953.4
Unemployment Rate (Aug 2010)	10.1%
Change in Jobs (Jan. 2008 – Aug. 2010)	-399,500
All State Government Expenditures	$63.4 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	12.60
Commercial (June 2010)	8.15



U.S. vs. Illinois Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$40,900,000,000
Employment Earnings (in PDV)	$12,900,000,000
Average Annual Jobs	67,600

First Year of Operations (total of all projects)

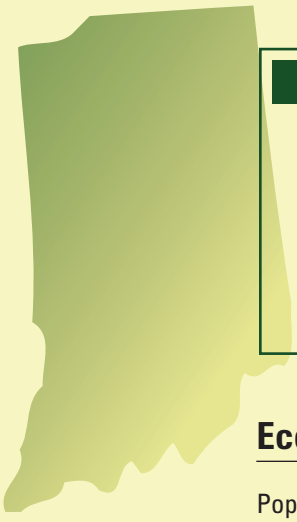
Total Economic Output (in PDV)	$4,700,000,000
Employment Earnings (in PDV)	$1,200,000,000
Average Jobs Created in Year 1	22,700

Example Project

Navitas Energy Baileyville Wind Farm

In late 2004, Navitas Energy Corp. proposed an 80-turbine wind farm in Ogle County. By early 2010, Navitas had not begun construction. Patricia Muscarello, an Arizona woman who took Ogle County and Navitas Energy to court over the proposed wind farm in January 2006, filed an identical lawsuit in January 2010 in Winnebago County. Ms. Muscarello owns property in both Ogle and Winnebago Counties that she claims would be adversely affected by turbines. She also opposed the mechanisms that allowed the wind farms to be built. As of November 7, 2010, the project remains stalled, and a settlement seems unlikely.

INDIANA



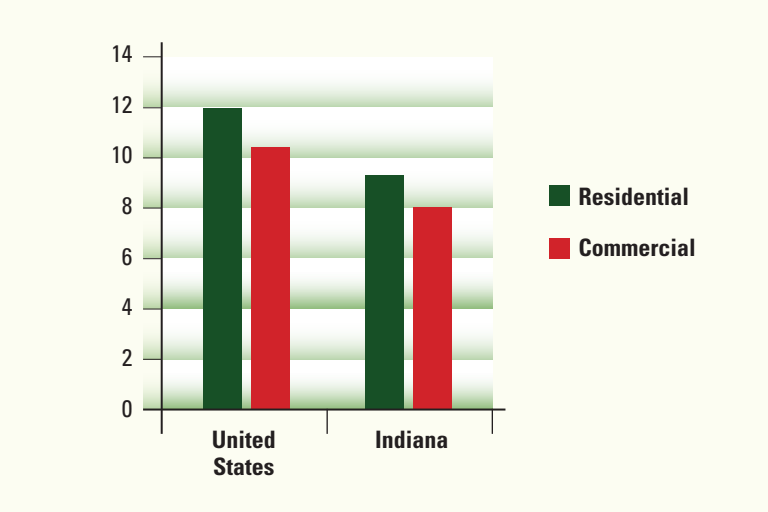
PROJECT NAME	TYPE
Bioenergy San Pierre Waste-to-Ethanol Plant	Renewable Fuels
Duke Energy, Edwardsport IGCC Plant	Coal
Green Power Express (IN Portion)	Transmission
Indiana Gasification LLC	Coal
NuFuels LLC Huntington Ethanol Plant	Renewable Fuels
VeraSun Milford Ethanol Plant	Renewable Fuels

Economic Overview

Population (2009 in thousands)	6,423
Personal Income per Capita (2009)	$33,725
Employment (Aug 2010 in thousands)	2,801.8
Unemployment Rate (Aug 2010)	10.2%
Change in Jobs (Jan. 2008 – Aug. 2010)	-182,500
All State Government Expenditures	$30.8 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	9.19
Commercial (June 2010)	8.03



U.S. vs. Indiana Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$10,700,000,000
Employment Earnings (in PDV)	$3,300,000,000
Average Annual Jobs	19,600

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$1,100,000,000
Employment Earnings (in PDV)	$200,000,000
Average Jobs Created in Year 1	5,500

Example Project

BioEnergy San Pierre Waste-to-Ethanol Plant

BioEnergy proposed a $62 million waste-to-ethanol refinery in San Pierre, Indiana, with the potential to produce 27 million gallons of ethanol per year. On November 15, 2007, the Starke County Board of Zoning Appeals granted a conditional use permit for the construction of the facility. BioEnergy originally planned to open the facility in the first quarter of 2009. Three weeks later, on December 6, 2007, the Legal Environmental Aid Foundation, representing the NIMBY group opposing the project, filed a lawsuit seeking judicial review of the Board of Zoning's decision. On September 25, 2008, BioEnergy announced it would not build the proposed plant. The opposition group declared victory on its website and cites the lawsuit as the primary factor in killing the project.

IOWA

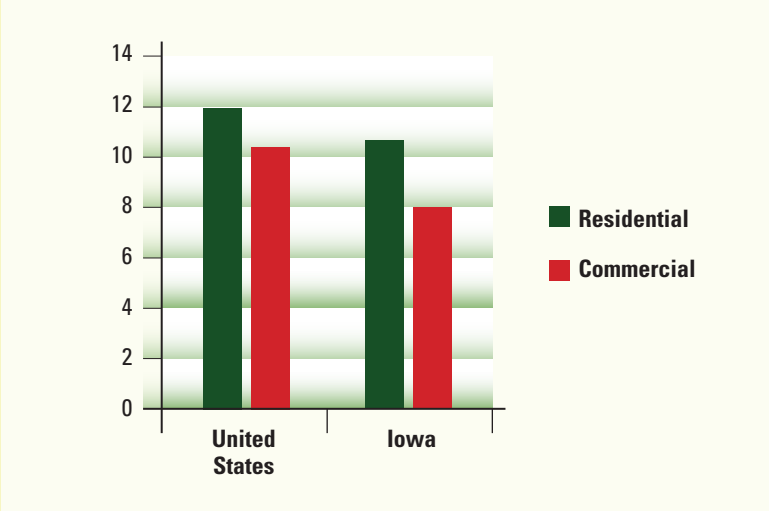
PROJECT NAME	TYPE
Alliant – Marshalltown Power Plant	Coal
Big River Resources Ethanol Plant, Grinnell	Renewable Fuels
Green Power Express (IA Portion)	Transmission
LS Power, Elk Run Energy Center	Coal

Economic Overview

Population (2009 in thousands)	3,008
Personal Income per Capita (2009)	$36,751
Employment (Aug 2010 in thousands)	1,558.3
Unemployment Rate (Aug 2010)	6.8%
Change in Jobs (Jan. 2008 – Aug. 2010)	-54,500
All State Government Expenditures	$30.8 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	10.56
Commercial (June 2010)	7.91



U.S. vs. Iowa Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$10,200,000,000
Employment Earnings (in PDV)	$3,200,000,000
Average Annual Jobs	19,300

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$1,100,000,000
Employment Earnings (in PDV)	$200,000,000
Average Jobs Created in Year 1	5,400

Example Project

LS Power, Elk Run Energy Center

LS Power proposed to build the Elk Run Energy Station, a 750-megawatt pulverized-coal power plant located five miles outside of downtown Waterloo. The city heavily courted LS Power for the project. In June 2007, LS filed for a draft air quality permit with the state. Environmental groups organized in opposition to the proposal. In May 2007, several hundred local residents turned out to oppose the annexation of land for the plant. Zoning issues at the city and state levels plagued the project's permits for several months. In December 2008, LS Power announced that it was reevaluating its role in developing new power plants, including Elk Run, citing tightening credit markets and regulatory uncertainty. In January 2009, LS Power announced that because of the economic downturn, it was cancelling plans to build the plant.

KANSAS

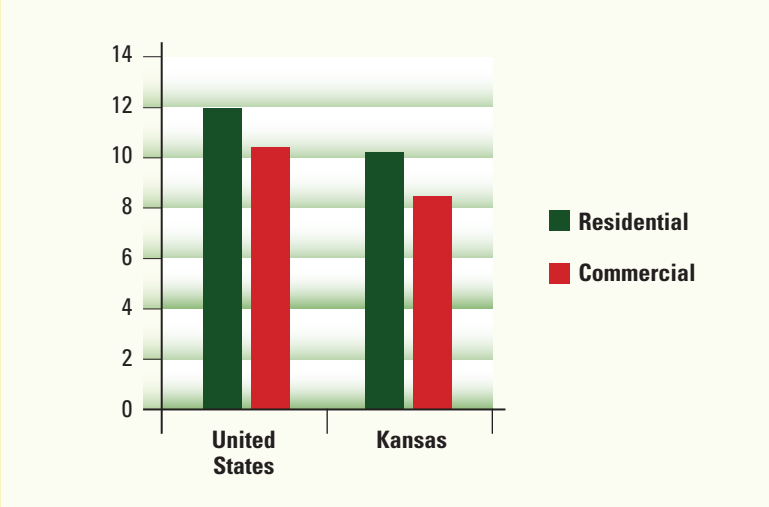
PROJECT NAME	TYPE
Boot Hill Biofuels Ethanol Plant	Renewable Fuels
Emerald Renewable Energy Topeka Greenfield Plant	Renewable Fuels
Hays Wind Project	Wind
Sunflower Electric Power Corp., Holcomb Expansion	Coal
Westar Energy Coal Plant	Coal

Economic Overview

Population (2009 in thousands)	2,819
Personal Income per Capita (2009)	$37,916
Employment (Aug 2010 in thousands)	1,392.9
Unemployment Rate (Aug 2010)	6.6%
Change in Jobs (Jan. 2008 – Aug. 2010)	-52,100
All State Government Expenditures	$14.9 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	10.26
Commercial (June 2010)	8.40



U.S. vs. Kansas Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$11,400,000,000
Employment Earnings (in PDV)	$3,400,000,000
Average Annual Jobs	21,700

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$2,400,000,000
Employment Earnings (in PDV)	$500,000,000
Average Jobs Created in Year 1	11,800

Example Project

Sunflower Electric Power, Holcomb Expansion

Sunflower owns and operates the 349-megawatt coal-fired Holcomb Power Station in Garden City, Kansas. In 2006, Sunflower proposed an 895-megawatt expansion. The proposal has been the subject of ongoing political controversy. In early 2007, Sierra Club and other environmental groups brought lawsuits challenging the plant's permits. In October 2007, Kansas regulators denied the air permit for the proposed expansion, citing global warming concerns. After the initial permit was rejected, former Governor Kathleen Sebelius repeatedly vetoed legislation that would have allowed the Sunflower expansion anyway, stating that renewable energy was a better alternative for Kansas. In January 2010, with support from the new governor, Sunflower reapplied for the permit. A draft permit was issued in April 2010, and then revised and reissued in September 2010 after Sierra Club asked EPA to intervene. Comments on the draft permit are ongoing.

KENTUCKY

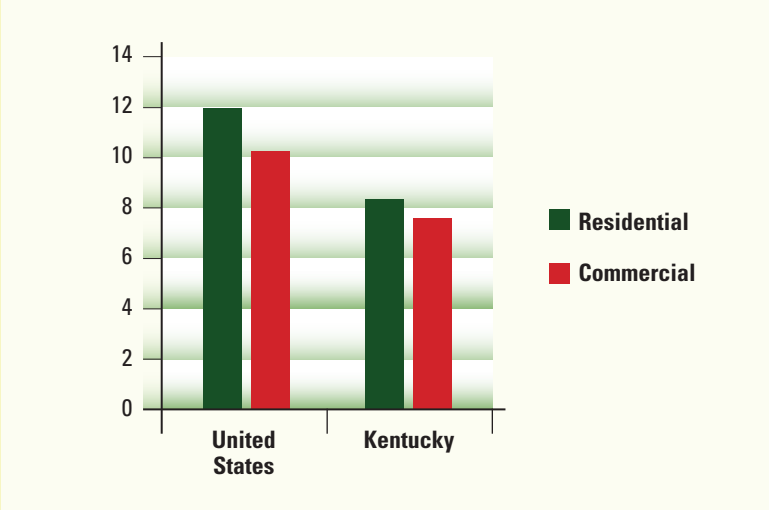
PROJECT NAME	TYPE
Cash Creek IGCC Plant	Coal
East Kentucky Power Cooperative, Clark County	Coal
Estill County Energy Partners	Coal
Kentucky Mountain Power – Knott County	Coal
Louisville Gas & Electric, Trimble County Plant	Coal
Peabody Energy, NewGas Energy Center	Coal
Peabody Energy, Thoroughbred Generating Station	Coal

Economic Overview

Population (2009 in thousands)	4,314
Personal Income per Capita (2009)	$31,883
Employment (Aug 2010 in thousands)	1,862.0
Unemployment Rate (Aug 2010)	10.0%
Change in Jobs (Jan. 2008 – Aug. 2010)	-102,600
All State Government Expenditures	$25.4 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	8.38
Commercial (June 2010)	7.64



U.S. vs. Kentucky Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$16,200,000,000
Employment Earnings (in PDV)	$4,900,000,000
Average Annual Jobs	29,400

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$2,900,000,000
Employment Earnings (in PDV)	$700,000,000
Average Jobs Created in Year 1	16,800

Example Project

Peabody Energy, Thoroughbred Generating Station

Peabody Energy proposed to build two 750-MW pulverized coal-burning plants at its Thoroughbred Campus in Muhlenberg County. The plant was designed to burn Western Kentucky high-sulfur coal from a mine adjacent to the plant. The Sierra Club and Valley Watch challenged the Clean Air Act permit for the plant. In 2005, a state hearing officer upheld the appeal and remanded the permit. However, this decision was overturned in April 2006 by the Environmental and Public Protection Cabinet Secretary, and the appeal challenging the air permit was denied. In October 2006, a coalition of environmental groups, including the Sierra Club, Valley Watch, National Parks Conservation Association, and the Natural Resources Defense Council, filed a petition with the U.S. EPA. After continued litigation, Peabody withdrew its air permit application in December 2008 for the Thoroughbred Generating Station and announced that it would partner with ConocoPhillips to seek to build a coal-to-gas plant at the site.

LOUISIANA

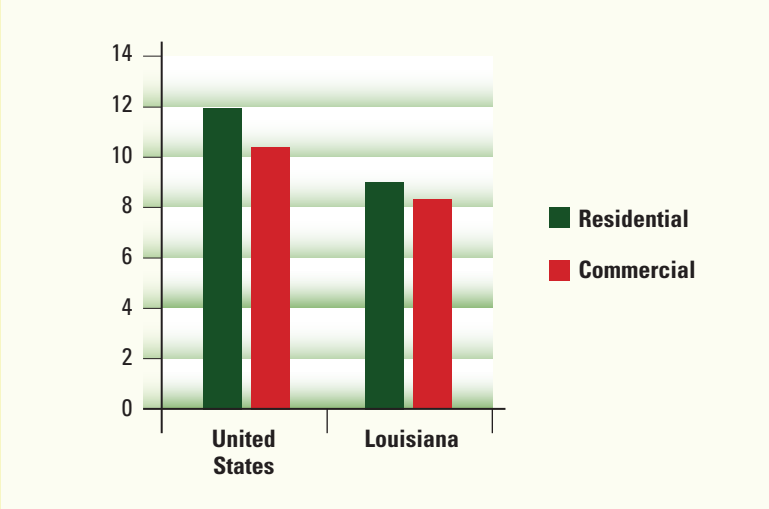
PROJECT NAME	TYPE
Big Cajun I	Coal
Big Cajun II	Coal
Cameron LNG	Natural Gas
Little Gypsy	Coal
Main Pass Energy Hub	Natural Gas
River Bend	Nuclear
Shell Gulf Landing	Natural Gas

Economic Overview

Population (2009 in thousands)	4,492
Personal Income per Capita (2009)	$35,507
Employment (Aug 2010 in thousands)	1,940.1
Unemployment Rate (Aug 2010)	7.6%
Change in Jobs (Jan. 2008 – Aug. 2010)	-26,300
All State Government Expenditures	$33.0 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	8.93
Commercial (June 2010)	8.25



U.S. vs. Louisiana Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$20,900,000,000
Employment Earnings (in PDV)	$6,900,000,000
Average Annual Jobs	40,500

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$3,700,000,000
Employment Earnings (in PDV)	$900,000,000
Average Jobs Created in Year 1	23,100

Example Project

Shell Gulf Landing

In 2003, Shell US Gas & Power LLC proposed to develop a liquefied natural gas (LNG) terminal in the Gulf of Mexico, 38 miles south of Cameron, LA. Gulf Landing would be capable of handling 1 billion cubic feet per day of gas, and was expected to be operational in 2008-09. Environmental groups widely panned the project, calling it a "fish-killing machine." At the heart of the controversy was Shell's proposed use of an "open loop" system to convert the gas from liquefied to gaseous state. In 2006, pressure by environmental groups and residents led Louisiana Governor Kathleen Blanco to veto an open loop LNG proposal at a different gulf site, and Shell took notice for its Gulf Landing project. On March 29, 2007, citing changed market conditions, Shell abandoned the project. Environmental groups quickly congratulated themselves for killing Gulf Landing.

MAINE

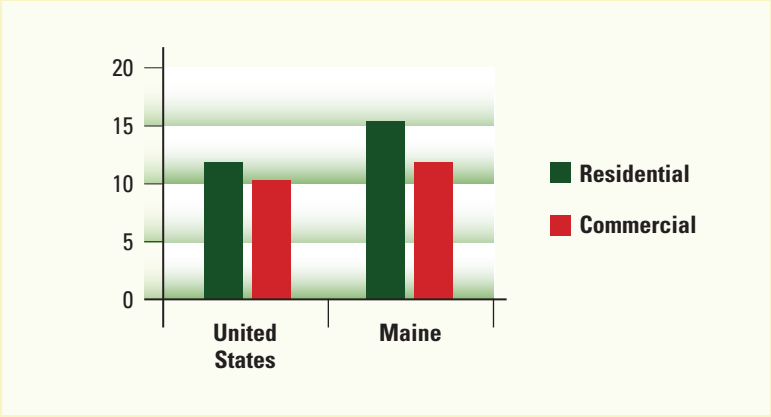
PROJECT NAME	TYPE
Aroostook County Wind Farm	Wind
Black Nubble Wind Farm	Wind
Calais LNG	Natural Gas
Downeast LNG Robbinston Plant	Natural Gas
Kibby Wind Power Project	Wind
Quoddy Bay LNG Pleasant Point Plant	Natural Gas
Record Hill Wind Project	Wind
Rollins Mountain Wind Project	Wind
Stetson Wind	Wind
TransCanada/ConocoPhillips Hope Island Project	Natural Gas
TransCanada/ConocoPhillips Fairwinds LNG Facility	Natural Gas
Twin River Energy Center	Coal

Economic Overview

Population (2009 in thousands)	1,318
Personal Income per Capita (2009)	$36,745
Employment (Aug 2010 in thousands)	638.4
Unemployment Rate (Aug 2010)	8.0%
Change in Jobs (Jan. 2008 – Aug. 2010)	-31,500
All State Government Expenditures	$8.17 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	15.37
Commercial (June 2010)	12.09



U.S. vs. Maine Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$12,800,000,000
Employment Earnings (in PDV)	$4,300,000,000
Average Annual Jobs	45,200

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$3,000,000,000
Employment Earnings (in PDV)	$700,000,000
Average Jobs Created in Year 1	18,200

Example Project

Black Nubble Wind Farm

Maine Mountain Power sought in 2005 to build a 30-turbine wind farm on Black Nubble Mountain. Maine Audubon Society opposed the project, citing threats to rare species, such as the Bicknells thrush, the Canada lynx, and the Golden eagle. By a 4-2 vote on January 14, 2008, Maine's Land Use Regulation Commission (LURC) asked its staff to prepare a recommendation rejecting Maine Mountain Power's plan for a wind power project proposed on Black Nubble Mountain. A revised proposal, for 18 turbines only on Black Nubble, was put forward by MMP, supported by many environmental groups, but still opposed by Maine Audubon. The project was rejected by the LURC in 2008.

MARYLAND

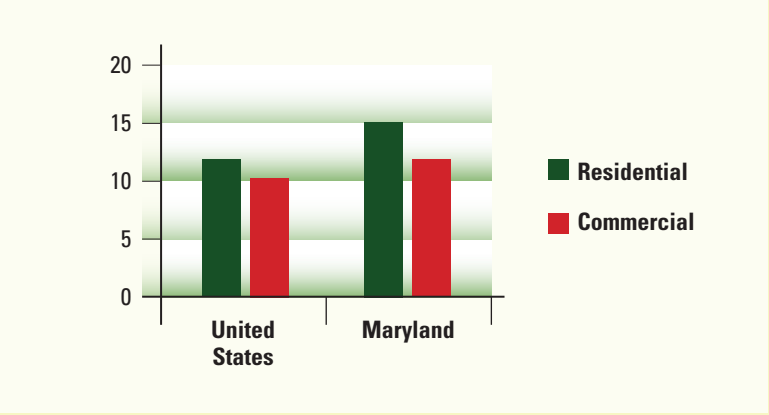
PROJECT NAME	TYPE
Allegheny Energy and AEP – PATH Project (MD Portion)	Transmission
Calvert Cliffs Nuclear Power Plant	Nuclear
Criterion Wind Energy, Clipper Windpower	Wind
Dan's Mountain Wind Energy Project	Wind
Pepco Mid-Atlantic Pathway (MD Portion)	Transmission
Sparrows Point LNG, Baltimore County	Natural Gas

Economic Overview

Population (2009 in thousands)	5,699
Personal Income per Capita (2009)	$48,285
Employment (Aug 2010 in thousands)	2,731.7
Unemployment Rate (Aug 2010)	7.3%
Change in Jobs (Jan. 2008 – Aug. 2010)	-91,400
All State Government Expenditures	$34.0 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	15.22
Commercial (June 2010)	11.95



U.S. vs. Maryland Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$19,500,000,000
Employment Earnings (in PDV)	$6,100,000,000
Average Annual Jobs	21,700

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$2,600,000,000
Employment Earnings (in PDV)	$600,000,000
Average Jobs Created in Year 1	13,600

Example Project

Calvert Cliffs Nuclear Power Plant

In July 2007, UniStar Nuclear Energy, a joint venture between Constellation Energy and French-based EDF Inc., sought to construct a third nuclear reactor at the Calvert Cliffs nuclear power plant in Southern Maryland. The 1,600-megawatt reactor will take 10 years to construct if approved. The Chesapeake Safe Energy Coalition, a coalition of environmental groups, has opposed the project. UniStar had applied for a $7.5 billion loan guarantee for the project. However, in October 2010, Constellation officially pulled out, on the grounds that the loan guarantee's terms for the project were unreasonably burdensome and would create unacceptable risks and costs. EDF agreed to buy Constellation's stake in UniStar and the project, reviving slim hopes for its future. EDF must find another partner for the project to replace Constellation, since Federal law prohibits full ownership or control of a U.S. nuclear plant by a foreign entity.

MASSACHUSETTS

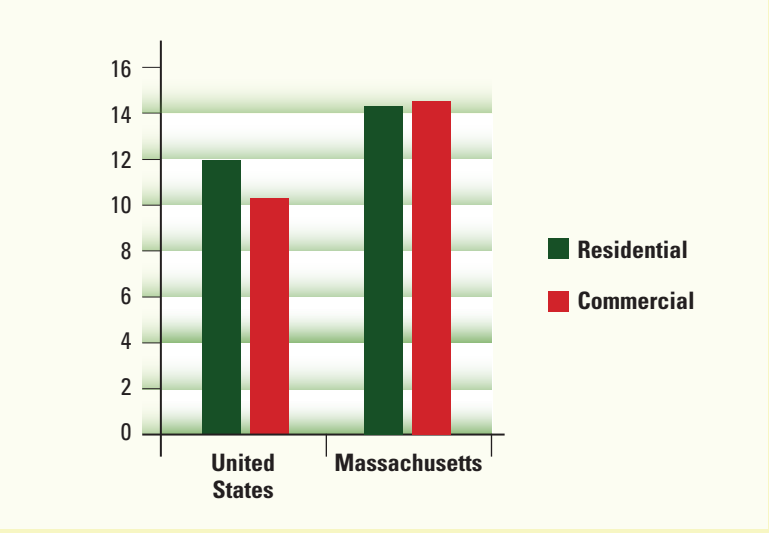
PROJECT NAME	TYPE
Berkshire Wind Project	Wind
Brayton Point/Somerset LNG	Natural Gas
Cape Wind Offshore Wind Farm	Wind
Fairhaven Wind, Bristol County	Wind
Hoosac Wind Energy Project	Wind
Madera Biomass Plant	Biomass
Neptune LNG	Natural Gas
Russell Biomass Power Plant	Biomass
Weaver's Cove Energy LLC and Mill River Pipeline Fall River	Natural Gas

Economic Overview

Population (2009 in thousands)	6,594
Personal Income per Capita (2009)	$49,875
Employment (Aug 2010 in thousands)	3,171.6
Unemployment Rate (Aug 2010)	8.8%
Change in Jobs (Jan. 2008 – Aug. 2010)	-97,800
All State Government Expenditures	$45.6 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	14.62
Commercial (June 2010)	14.72



U.S. vs. Massachusetts Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$9,700,000,000
Employment Earnings (in PDV)	$3,100,000,000
Average Annual Jobs	24,900

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$1,200,000,000
Employment Earnings (in PDV)	$300,000,000
Average Jobs Created in Year 1	5,700

Example Project

Russell Biomass Power Plant

Russell Biomass is a 50-megawatt, wood-fired electrical power plant proposed to be built on the site of the Westfield River Paper Company mill that has been closed since 1994. Russell Biomass would have been the second largest (after Cape Wind) renewable energy project to be developed in Massachusetts. Permit applications were first filed in 2005, construction was expected to begin in late 2008, and the developers sought to have a fully operational plant completed by 2010, but as of today the plant has not been built. Local groups have fiercely opposed the project, citing negative traffic and environmental impacts. The project appears to have stalled while the state conducts further research into biomass's sustainability and carbon neutrality.

MICHIGAN

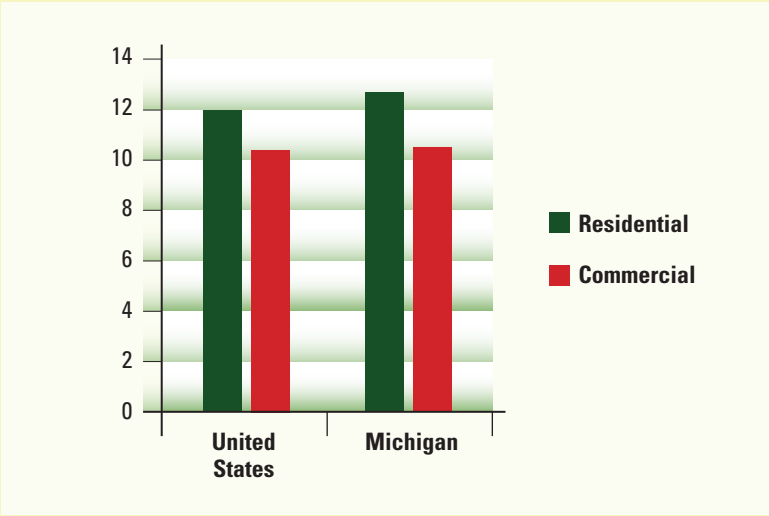
PROJECT NAME	TYPE
Consumers Energy Coal Plant, Essexville	Coal
Enrico Fermi Nuclear Generating Station	Nuclear
Great Lakes Energy and Research Park	Coal
Lansing Coal/Biomass Hybrid Plant	Coal/Biomass
LS Power/Dynegy Midland Power Plant	Coal
Northern Michigan University Ripley Addition	Coal
The Board of Holland Public Works	Coal
Tondu/MSWDC Northern Lights Coal Plant	Coal
Wisconsin Public Power Inc., Escanaba Plant	Coal
Wolverine Coal Plant	Coal

Economic Overview

Population (2009 in thousands)	9,970
Personal Income per Capita (2009)	$34,025
Employment (Aug 2010 in thousands)	4,196.3
Unemployment Rate (Aug 2010)	13.1%
Change in Jobs (Jan. 2008 – Aug. 2010)	-417,700
All State Government Expenditures	$56.9 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	12.87
Commercial (June 2010)	10.70



U.S. vs. Michigan Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$39,400,000,000
Employment Earnings (in PDV)	$13,100,000,000
Average Annual Jobs	56,700

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$4,700,000,000
Employment Earnings (in PDV)	$1,200,000,000
Average Jobs Created in Year 1	26,000

Example Project

Enrico Fermi Nuclear Generating Station

DTE Energy submitted an application in September 2008 to construct a new reactor at its Enrico Fermi Nuclear Generating Station in Monroe County, Michigan. The project, called Fermi 3, would add a 1500-megawatt Economic Simplified Boiling Water Reactor, designed by General Electric. Environmental groups immediately lined up to oppose the project, citing radioactive, thermal and toxic impacts, as well as concerns to Lake Erie from onsite storage of spent fuel. Sierra Club argued that the electricity from the project would not even be needed. The opposition groups were granted intervenor status in the licensing process before the U.S. Nuclear Regulatory Commission. The permitting process is already more than a year behind schedule.

MINNESOTA

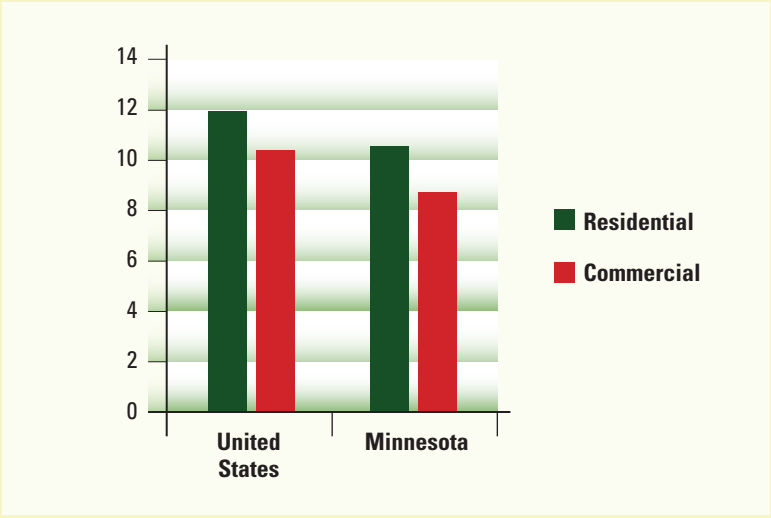
PROJECT NAME	TYPE
CapX2020 (MN Portion)	Transmission
Excelsior Energy Mesaba Plant	Coal
Green Power Express (MN Portion)	Transmission
Kenyon Wind Goodhue Wind Project	Wind
MinnErgy Eyota Ethanol Plant	Renewable Fuels

Economic Overview

Population (2009 in thousands)	5,266
Personal Income per Capita (2009)	$41,552
Employment (Aug 2010 in thousands)	2,749.0
Unemployment Rate (Aug 2010)	7.0%
Change in Jobs (Jan. 2008 – Aug. 2010)	-114,000
All State Government Expenditures	$34.3 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	10.68
Commercial (June 2010)	8.80



U.S. vs. Minnesota Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$12,800,000,000
Employment Earnings (in PDV)	$4,100,000,000
Average Annual Jobs	21,100

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$800,000,000
Employment Earnings (in PDV)	$200,000,000
Average Jobs Created in Year 1	3,800

Example Project

Kenyon Wind Goodhue Wind Project

Kenyon Wind, LLC was granted a final permit by the Minnesota Public Utilities Commission in July 2007 for its 18.9-megawatt wind-energy conversion system. Landowners and other opposition groups contested the project raising questions about noise, impacts on communications systems, potential for annoyance, visual impacts, safety and engineering considerations and property values impacts. In February 2009, the permit was amended to allow Kenyon Wind flexibility with the type of turbines, spacing, and an extension of both the power purchase agreement and beginning date for the two-year period of construction allowed. On October 21, 2010, Kenyon Wind applied to amend its permit to extend the time for completion of the project, citing current economic conditions for the project delay. The comment period for this amended period closed on November 19, 2010.

MISSISSIPPI

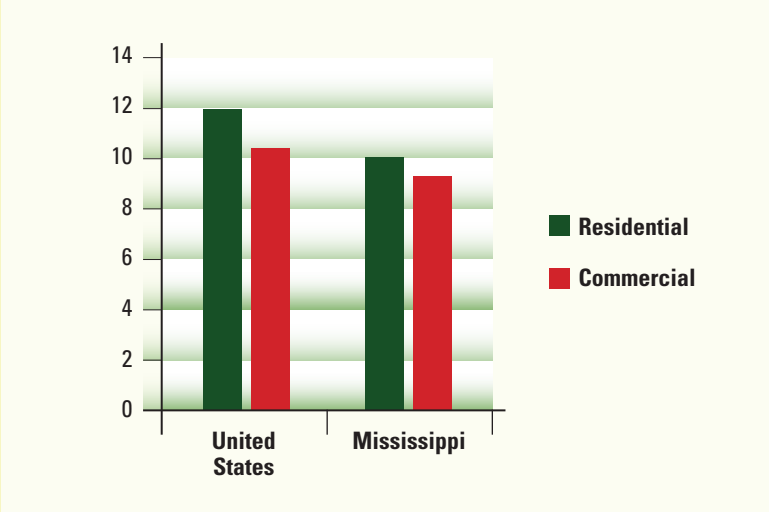
PROJECT NAME	TYPE
Grand Gulf Plant, Port Gibson	Nuclear
Gulf LNG Energy, Jackson County	Natural Gas
Mississippi Power, Kemper County IGCC Plant	Coal

Economic Overview

Population (2009 in thousands)	2,952
Personal Income per Capita (2009)	$30,103
Employment (Aug 2010 in thousands)	1,166.7
Unemployment Rate (Aug 2010)	10.0%
Change in Jobs (Jan. 2008 – Aug. 2010)	-77,800
All State Government Expenditures	$18.6 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	10.21
Commercial (June 2010)	9.35



U.S. vs. Mississippi Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$14,800,000,000
Employment Earnings (in PDV)	$4,600,000,000
Average Annual Jobs	27,300

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$2,000,000,000
Employment Earnings (in PDV)	$500,000,000
Average Jobs Created in Year 1	13,000

Example Project

Grand Gulf Plant, Port Gibson

In September 2005, a consortium of 12 nuclear companies (operating under the name NuStart) announced that it planned to seek a license for a new nuclear reactor at Entergy's Grand Gulf Nuclear Power Plant in Port Gibson, Mississippi. In March 2007, the U.S. Nuclear Regulatory Commission (NRC) issued an Early Site Permit for the project. In February 2008, Entergy Operations, Inc. submitted a Combined Operating License Application with the NRC for the project. The original reactor plans in the application specify a single, 1,550-megawatt Economic Simplified Boiling Water Reactor. Environmental and consumer groups opposed the project, and mounted a failed attempt to intervene against the Early Site Permit on a variety of grounds. In 2009, Entergy temporarily suspended the Grand Gulf Unit 3 application after it was unable to strike a deal regarding reactor designs. Entergy is reportedly examining different reactor technologies.

MISSOURI

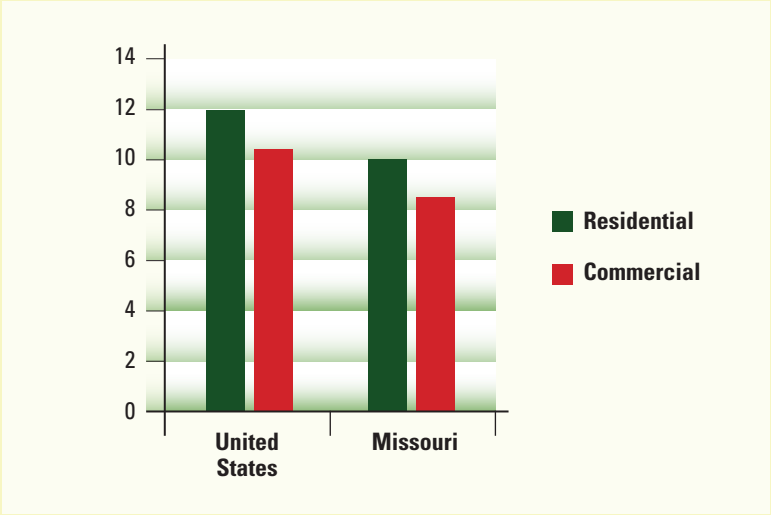
PROJECT NAME	TYPE
Associated Electric Cooperative, Norborne Coal Plant	Coal
Callaway Nuclear Plant	Nuclear
Gulfstream Bioflex Energy Ethanol Plant	Renewable Fuels

Economic Overview

Population (2009 in thousands)	5,988
Personal Income per Capita (2009)	$35,676
Employment (Aug 2010 in thousands)	2,702.0
Unemployment Rate (Aug 2010)	9.3%
Change in Jobs (Jan. 2008 – Aug. 2010)	-132,300
All State Government Expenditures	$26.8 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	10.13
Commercial (June 2010)	8.55



U.S. vs. Missouri Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$15,400,000,000
Employment Earnings (in PDV)	$4,600,000,000
Average Annual Jobs	19,500

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$1,800,000,000
Employment Earnings (in PDV)	$400,000,000
Average Jobs Created in Year 1	10,100

Example Project

Gulfstream Bioflex Energy Ethanol Plant
Gulfstream Bioflex Energy (GBE) announced plans for an ethanol plant in Webster County, Missouri, in 2006. Local residents opposed the project, claiming the plant's planned use of more than a million gallons a day of water from a deep aquifer would harm their water supply. A group called Citizens for Groundwater Protection filed suit to stop the plant in 2006. When the State Appeals Court ruled in favor of Gulfstream, Citizens for Groundwater Protection appealed the ruling to the Missouri Supreme Court. In February 2009, the Court denied the group's request to hear the case on appeal. On March 31, 2009, the judge in the case ordered that GBE could collect on the $25,000 bond posted by the plaintiffs when securing the temporary restraining order against GBE to keep the company from drilling into the aquifer. The order cited more than $60,000 in damages to be recoverable from the bond. Although GBE received its first clean air permit from the Missouri DNR in April 2008, as of March 2009 there were no signs that the site is being prepped for construction.

MONTANA

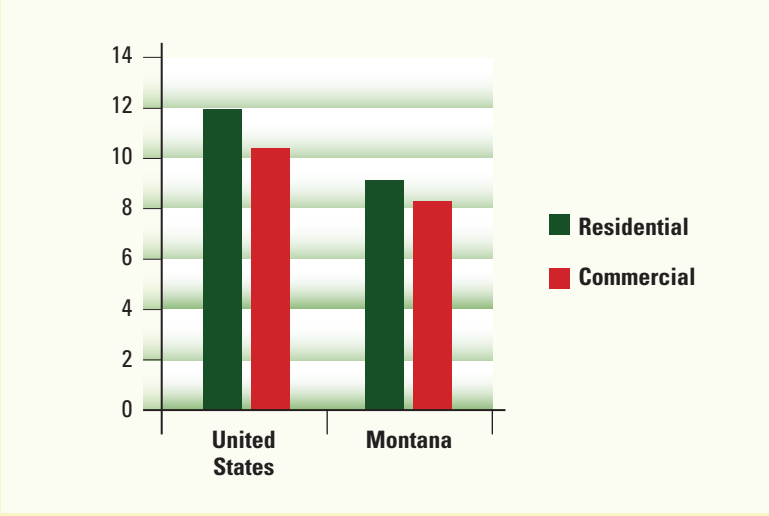
PROJECT NAME	TYPE
Bull Mountain Power Project	Coal
Malmstrom Air Force Base Coal-to-Liquids Plant	Coal
NorthWestern/Mountain States Intertie Project (MT Portion)	Transmission
Valley County Wind Farm	Wind

Economic Overview

Population (2009 in thousands)	975
Personal Income per Capita (2009)	$34,004
Employment (Aug 2010 in thousands)	460.3
Unemployment Rate (Aug 2010)	7.4%
Change in Jobs (Jan. 2008 – Aug. 2010)	-22,600
All State Government Expenditures	$6.14 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	9.34
Commercial (June 2010)	8.37



U.S. vs. Montana Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$9,300,000,000
Employment Earnings (in PDV)	$3,100,000,000
Average Annual Jobs	24,900

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$1,800,000,000
Employment Earnings (in PDV)	$400,000,000
Average Jobs Created in Year 1	8,700

Example Project

Mountain States Intertie Transmission Line

NorthWestern Energy has proposed to build the Mountain States Intertie Project (MSTI), a 430-mile, 500-kilovolt overhead transmission line carrying renewable energy from wind energy projects in Montana to Idaho. Work began on an environmental impact statement in July 2008; NorthWestern has held open house forums for residents in 2010. Nevertheless, opposition to MSTI has been substantial. Local residents along the proposed route oppose the project because they are frustrated about the "lack of notification," and have voiced concerns over economic impact, quality of life, health, and aesthetic impact. A member of the Public Service Commission has stated that he intends to kill the line. Competitors have complained that the project intends to gain a monopoly on transmission in the state. Project developers have experienced significant setbacks due to opposition and expect at least "half a decade" before the project is completed.

NEBRASKA

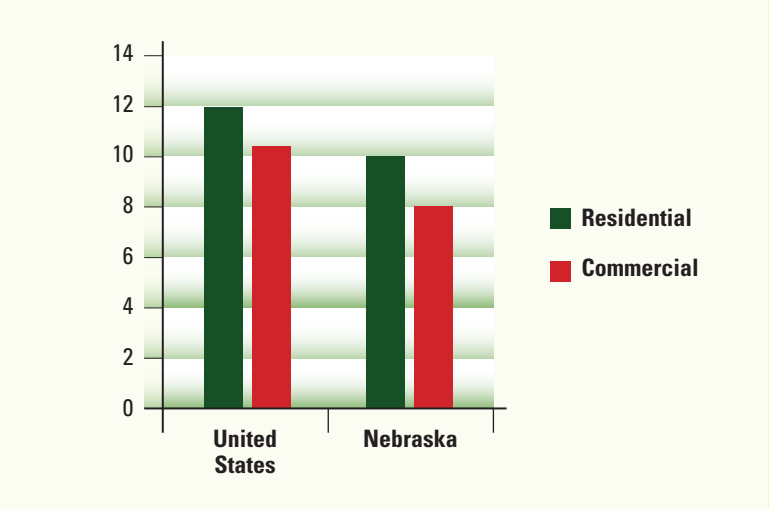
PROJECT NAME	TYPE
Elkhorn Ridge II Wind Farm	Wind
Whelan Energy Center II	Coal

Economic Overview

Population (2009 in thousands)	1,797
Personal Income per Capita (2009)	$38,081
Employment (Aug 2010 in thousands)	930.4
Unemployment Rate (Aug 2010)	4.6%
Change in Jobs (Jan. 2008 – Aug. 2010)	-20,200
All State Government Expenditures	$8.44 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	9.98
Commercial (June 2010)	8.17



U.S. vs. Nebraska Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$2,400,000,000
Employment Earnings (in PDV)	$800,000,000
Average Annual Jobs	6,800

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$300,000,000
Employment Earnings (in PDV)	$100,000,000
Average Jobs Created in Year 1	1,500

Example Project

Elkhorn Ridge II Wind Farm

Midwest Wind Energy hopes to expand their Elkhorn Ridge Wind Farm with Phase II, which would result in a 1,200-megawatt project consisting of anywhere from 400 to 800 wind turbines. A project spokesperson says the project will provide "hundreds of construction jobs along with dozens of permanent full-time jobs." Landowners are uneasy about the project because it would not qualify as a C-BED project, which allows landowners involved in the project to be investors in it as well. In the case of C-BED projects, after the initial 10-year lease agreement expires the ownership of the wind farm goes to Nebraska investors who, instead of corporate investors, then receive the economic benefits. A member of the Nebraska Farmers Union commented that profits will leave Nebraska: "Corporate America is seeing the opportunity of profit with the development of wind energy, and they don't share."

NEVADA

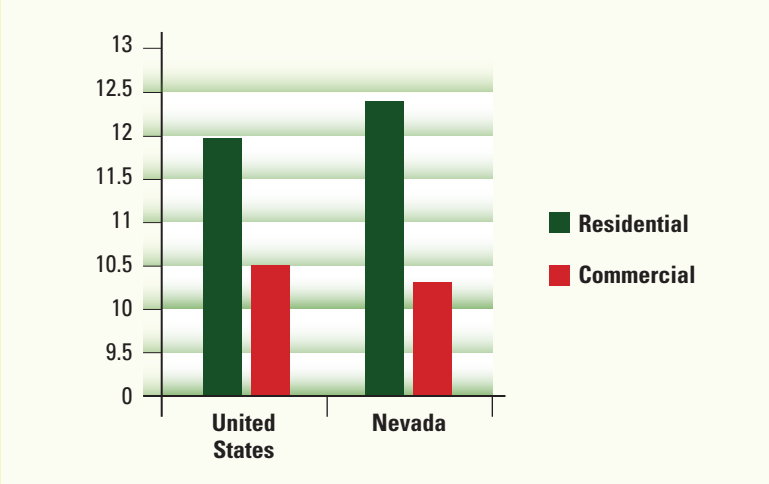
PROJECT NAME	TYPE
Duke Energy Wind Project – Searchlight	Wind
Ely Energy Center	Coal
LS Power – White Pine Energy Station	Coal
Nevada Energy, East Henderson Transmission Project	Transmission
New Comstock Wind Energy Project	Wind
Sempra Energy Gerlach Plant	Coal
Crescent Dunes Solar	Solar
Toquop Power Plant	Coal
Virginia Peak Wind Project	Wind
Yucca Mountain	Nuclear

Economic Overview

Population (2009 in thousands)	2,643
Personal Income per Capita (2009)	$38,578
Employment (Aug 2010 in thousands)	1,157.0
Unemployment Rate (Aug 2010)	14.4%
Change in Jobs (Jan. 2008 – Aug. 2010)	-175,800
All State Government Expenditures	$10.8 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	12.42
Commercial (June 2010)	10.37



U.S. vs. Nevada Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$66,900,000,000
Employment Earnings (in PDV)	$22,400,000,000
Average Annual Jobs	86,700

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$4,800,000,000
Employment Earnings (in PDV)	$1,200,000,000
Average Jobs Created in Year 1	25,200

Example Project

East Henderson Transmission Project

NV Energy proposed to upgrade an existing line to a 20-wire, 230-kilovolt line to help meet projected energy needs for the Las Vegas Valley. The project quickly drew opposition from rural Henderson residents, who said that their lifestyle was threatened by the proposed transmission line. One resident said the proposed transmission line would interfere with his sweeping view of the Las Vegas Valley. After several hearings, the Henderson Planning Commission voted in June 2009 unanimously to deny NV Energy's proposal. The route preferred by the Commission would have added $19.5 million to the total project cost, which NV Energy had rejected. NV Energy litigated the matter, and in May 2010 the Clark County District Court upheld the Henderson Planning Commission's rejection of the project.

NEW HAMPSHIRE

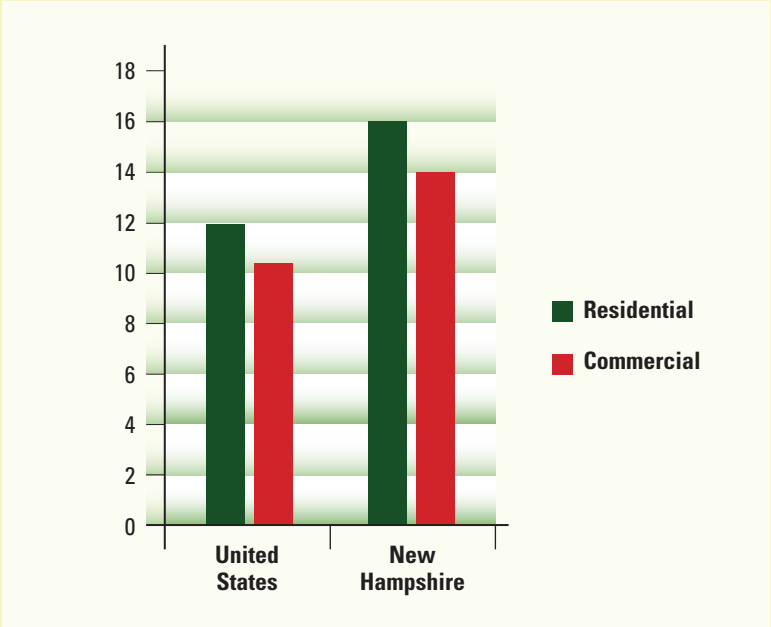
PROJECT NAME	TYPE
GenPower Biomass Facility	Biomass
Granite Renewable Power, Coos County Wind Project	Wind
Henniker Biomass Facility	Biomass
PSNH Clean Air Project, Merrimack Station	Coal

Economic Overview

Population (2009 in thousands)	1,325
Personal Income per Capita (2009)	$42,831
Employment (Aug 2010 in thousands)	697.0
Unemployment Rate (Aug 2010)	5.7%
Change in Jobs (Jan. 2008 – Aug. 2010)	-20,300
All State Government Expenditures	$6.6 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	16.19
Commercial (June 2010)	14.05



U.S. vs. New Hampshire Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$1,700,000,000
Employment Earnings (in PDV)	$500,000,000
Average Annual Jobs	3,800

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$700,000,000
Employment Earnings (in PDV)	$200,000,000
Average Jobs Created in Year 1	3,200

Example Project

GenPower Biomass Facility

In 2005, GenPower LLC submitted designs for a $95 million wood-burning power plant to the Hinsdale, N.H. Planning Board. The proposal included a $7 million construction and demolition facility that would supply about 15 percent of the plant's fuel. The processing operation would accept debris from a 50-mile radius and would be capable of handling between 600 and 750 tons of material per day. Residents raised concerns about increased traffic, noise and pollution. The Concerned Citizens of Hinsdale's primary concern was pollution from heavy metals and other toxins. In 2006, New Hampshire put a moratorium on the burning of construction and demolition debris, which was then extended by the state to Dec. 31, 2007. The withdrawal caused GenPower to withdraw its proposal for a plant in Hinsdale.

NEW JERSEY

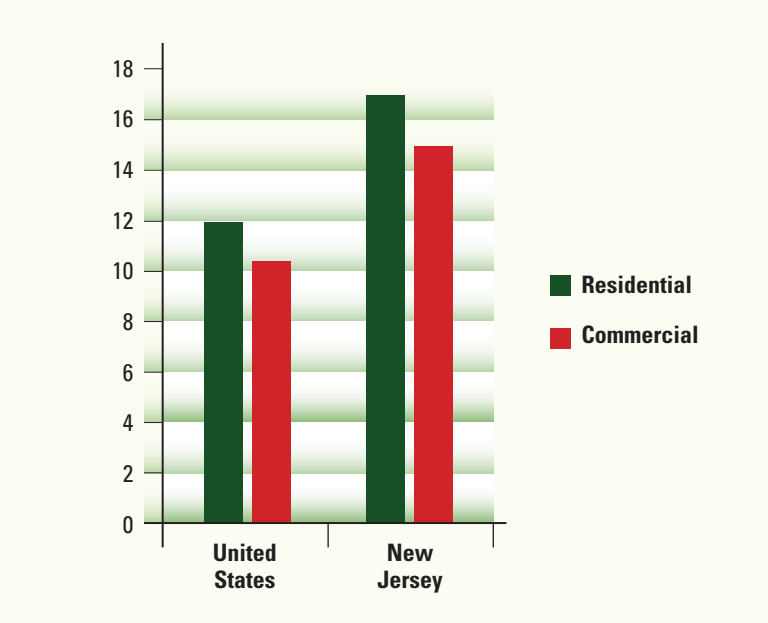
PROJECT NAME	TYPE
BlueOcean Energy LNG	Natural Gas
BP Crown Landing Terminal, Logan Township	Natural Gas
Garden State Offshore Energy Wind Project	Wind
Susquehanna-Roseland Power Line (NJ Portion)	Transmission

Economic Overview

Population (2009 in thousands)	8,708
Personal Income per Capita (2009)	$50,313
Employment (Aug 2010 in thousands)	4,075.4
Unemployment Rate (Aug 2010)	9.6%
Change in Jobs (Jan. 2008 – Aug. 2010)	-246,900
All State Government Expenditures	$58.5 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	16.86
Commercial (June 2010)	15.20



U.S. vs. New Jersey Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$6,600,000,000
Employment Earnings (in PDV)	$2,100,000,000
Average Annual Jobs	15,900

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$1,300,000,000
Employment Earnings (in PDV)	$300,000,000
Average Jobs Created in Year 1	6,500

Example Project

Susquehanna-Roseland Power Line

PPL Electric Utilities and Public Service Electric & Gas Co. (PSE&G) have jointly proposed to build the Susquehanna-Roseland Project, a 500-kilovolt overhead transmission line from Berwick, Pennsylvania to Roseland, New Jersey. The line was ordered by PJM Interconnection, the regional entity responsible for planning the transmission system, which determined that the power line is needed to ensure reliability of electricity supplies. A host of environmental and citizens' groups oppose the project. The National Park Service received 3,342 comments on proposed alternatives. The New Jersey Highlands Coalition and the New Jersey chapter of the Sierra Club have urged New Jersey to kill the project, which they claim will ruin pristine land and promote polluting, coal-burning generating plants in the west. On July 30, 2010, PSE&G announced that the project's completion, originally expected to be 2012, will be delayed an additional three years. PSE&G cited a prolonged environmental approval process as the reason for the delay.

NEW MEXICO

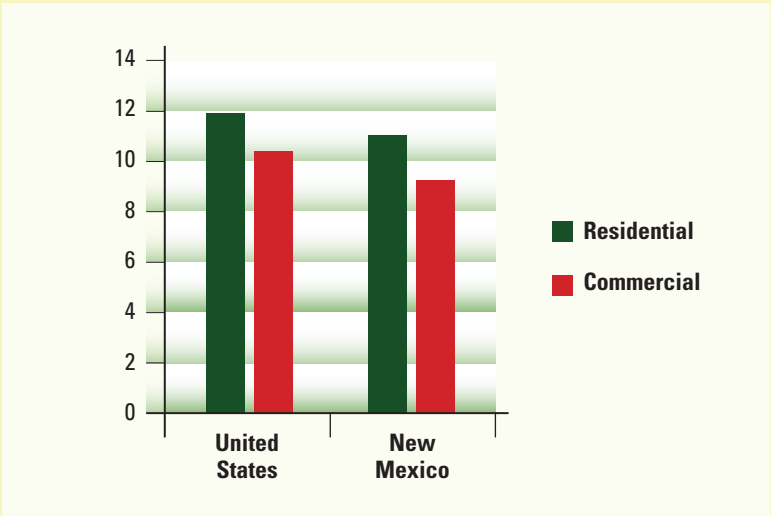
PROJECT NAME	TYPE
ConAgra Ethanol Plant	Renewable Fuels
Desert Rock Energy Project	Coal
Estancia Basin Biomass Power Project	Biomass
SunZia Transmission Line (NM Portion)	Transmission
Taos Wind Farm	Wind

Economic Overview

Population (2009 in thousands)	2,010
Personal Income per Capita (2009)	$32,992
Employment (Aug 2010 in thousands)	875.9
Unemployment Rate (Aug 2010)	8.3%
Change in Jobs (Jan. 2008 – Aug. 2010)	-48,300
All State Government Expenditures	$15.8 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	11.34
Commercial (June 2010)	9.25



U.S. vs. New Mexico Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$8,200,000,000
Employment Earnings (in PDV)	$2,700,000,000
Average Annual Jobs	18,300

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$1,500,000,000
Employment Earnings (in PDV)	$400,000,000
Average Jobs Created in Year 1	9,000

Example Project

Estancia Basin Biomass Power Project

The Western Water and Power Production LLC applied for an air quality permit to construct and operate a 35 MW biomass power generation plant on a 50 acre property in Torrance County, New Mexico. The State ultimately denied the permit in May 2007. Local citizens and the environmental community opposed the project, citing emissions from the facility. "Dirty energy produced from the destruction of native forests cannot be considered clean and renewable and should be rejected as such by the states and the federal government," said Bryan Bird, program director for WildEarth Guardians. The state initially denied the project a Renewable Energy Production Tax Credit, but reversed its decision in February 2008. However, on March 12, 2010, the New Mexico Division of Energy Conservation and Management sent a letter informing the company that it had not met the 24-month milestone to generate electricity as required in the state's administrative code.

NEW YORK

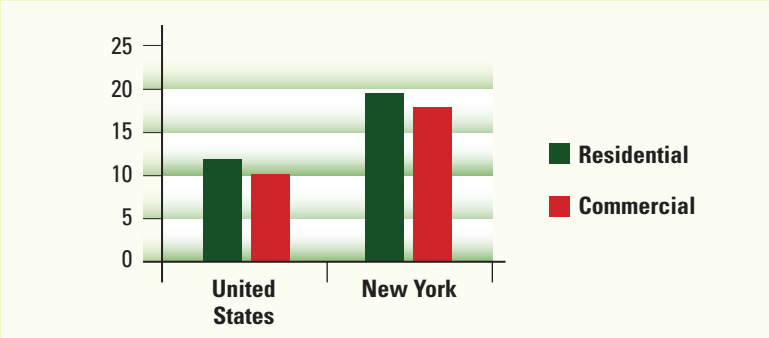
PROJECT NAME	TYPE
Adirondack Wind Energy Park, Gore Mountain	Wind
Alabama Ledge Wind Farm	Wind
Atlantic Sea Energy Group, Safe Harbor Energy, Long Island	Natural Gas
Cape Wyckoff Wind Project	Wind
Allegany Wind Farm Project	Wind
Hardscrabble Wind Farm	Wind
Horse Creek Wind Farm	Wind
Jamestown Oxy-Coal Power Plant	Coal
Jericho Rise Wind Farm	Wind
Jones Beach Wind Farm	Wind
Jordanville Wind Farm	Wind
Marble River Wind Farm	Wind
New York Regional Interconnect Power Line	Transmission
Nine Mile Point Nuclear Station	Nuclear
Prattsburgh Wind Farm	Wind
RiverWright Buffalo Ethanol Plant	Renewable Fuels
Scriba Coal Gasification Plant	Coal
Shell/TransCanada Broadwater LNG	Natural Gas
Tonawanda IGCC Plant	Coal

Economic Overview

Population (2009 in thousands)	19,541
Personal Income per Capita (2009)	$46,957
Employment (Aug 2010 in thousands)	8,858.7
Unemployment Rate (Aug 2010)	8.3%
Change in Jobs (Jan. 2008 – Aug. 2010)	-280,500
All State Government Expenditures	$157 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	19.12
Commercial (June 2010)	17.27



U.S. vs. New York Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$36,200,000,000
Employment Earnings (in PDV)	$11,400,000,000
Average Annual Jobs	62,900

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$7,200,000,000
Employment Earnings (in PDV)	$1,700,000,000
Average Jobs Created in Year 1	31,200

Example Project

Jones Beach Wind Farm

In April 2008, Winergy Power submitted an application to state power regulators for a 940-megawatt wind farm 12 to 15 miles off the coast near Jones Beach. The proposal calls for 190 to 260 turbines. Save Jones Beach, a local watchdog group, was organized to oppose the project. The proposal is going through environmental and economic scrutiny and no timeline has been given for the completion date. No offshore wind farms have yet been built in the United States, although Cape Wind in Massachusetts appears to be moving forward after a lengthy delay.

NORTH CAROLINA

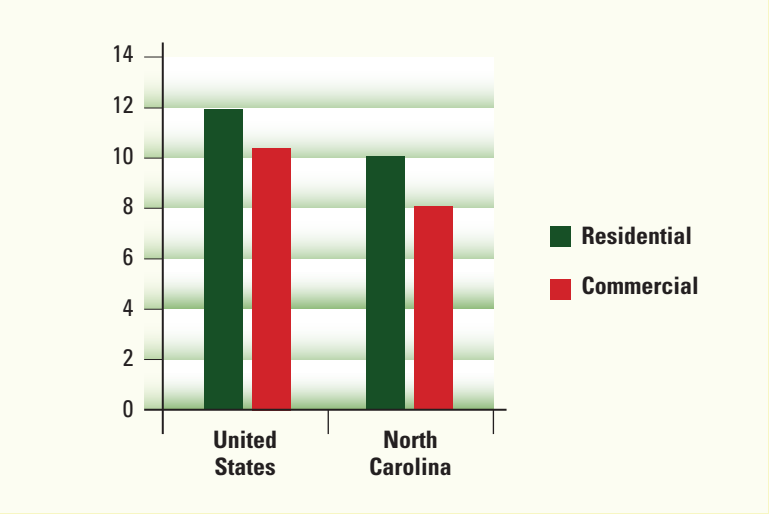
PROJECT NAME	TYPE
Ashe County Wind Farm	Wind
Duke Energy Cliffside Steam Station	Coal
Golden Wind Farm	Wind
Shearon Harris Nuclear Plant	Nuclear

Economic Overview

Population (2009 in thousands)	9,381
Personal Income per Capita (2009)	$34,453
Employment (Aug 2010 in thousands)	4,054.9
Unemployment Rate (Aug 2010)	9.7%
Change in Jobs (Jan. 2008 – Aug. 2010)	-257,900
All State Government Expenditures	$46.9 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	10.13
Commercial (June 2010)	8.13



U.S. vs. North Carolina Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$20,600,000,000
Employment Earnings (in PDV)	$6,600,000,000
Average Annual Jobs	29,000

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$2,400,000,000
Employment Earnings (in PDV)	$600,000,000
Average Jobs Created in Year 1	14,500

Example Project

Shearon Harris Nuclear Power Plant

On February 19, 2008, Progress Energy applied for a combined license from the U.S. Nuclear Regulatory Commission (NRC) to build two 1,100-megawatt Westinghouse Advanced Passive 1000 (AP1000) nuclear reactors at its existing Shearon Harris Nuclear Power Plant in Wake County, North Carolina. Progress initially expected the new reactors to be brought online by 2018. In August 2008, environmental group NC WARN filed a lawsuit against the project, challenging the project's design, safety, security, cost estimates and other issues. The NRC threw out the case, and one year later, on July 22, 2009, NC WARN filed an appeal on the same grounds as the original lawsuit. In September 2010, Progress Energy told state regulators that it was reassessing its nuclear options, including the Shearon Harris expansion project. Opponents see this as a sign that Progress may be considering giving up on the project. In October 2011, Progress reported that it is putting off plans for the Shearon Harris expansion until 2025.

NORTH DAKOTA

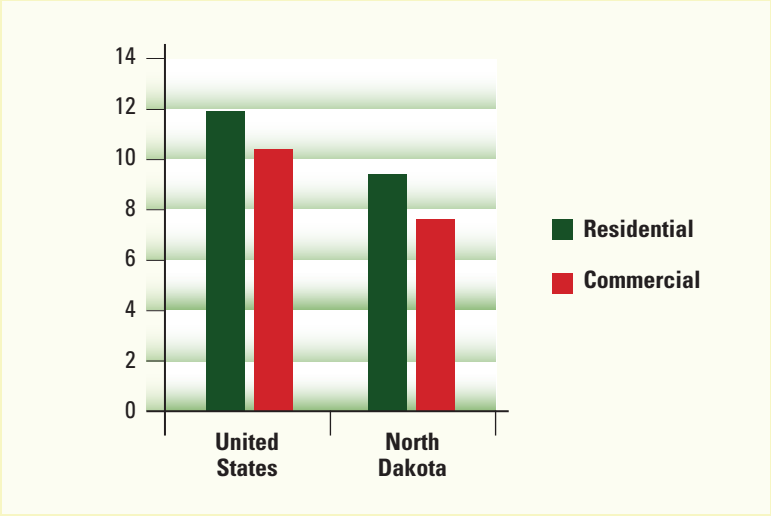
PROJECT NAME	TYPE
American Lignite Energy LLC Coal-to-Liquids Project	Coal
CapX2020 (ND Portion)	Transmission
Gascoyne 500-MW Project	Coal
Green Power Express (ND Portion)	Transmission
Luverne Wind Farm	Wind
South Heart Coal Gasification Plant	Coal

Economic Overview

Population (2009 in thousands)	647
Personal Income per Capita (2009)	$39,530
Employment (Aug 2010 in thousands)	354.3
Unemployment Rate (Aug 2010)	3.7%
Change in Jobs (Jan. 2008 – Aug. 2010)	-7,500
All State Government Expenditures	$4.13 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	9.38
Commercial (June 2010)	7.63



U.S. vs. North Dakota Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$11,600,000,000
Employment Earnings (in PDV)	$3,600,000,000
Average Annual Jobs	21,800

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$2,000,000,000
Employment Earnings (in PDV)	$400,000,000
Average Jobs Created in Year 1	8,100

Example Project

Gascoyne 500-MW Project

Westmoreland Inc. began planning the Gascoyne 500-MW power plant, located in southwestern North Dakota, in 2001. National and local environmental groups opposed the project. The developer submitted a permit application to the North Dakota Department of Health (DOH) in 2006. In July 2007, project opponents, including the Park Service, submitted critical comments based on alleged air pollution impacts to a nearby national park and CO2 emissions. In August 2007, the developer declared its intent to build in a letter to the North Dakota Public Service Commission. In February 2008, DOH again requested comments on the air permit, specifically asking for comments on the department's analysis of the impact of the plant's emissions on visibility in the park based on the National Park Service's findings that the plant's emissions would adversely impact the visibility of Theodore Roosevelt National Park. In May, the developer cancelled the project due to "uncertainty about federal carbon dioxide rules."

OHIO

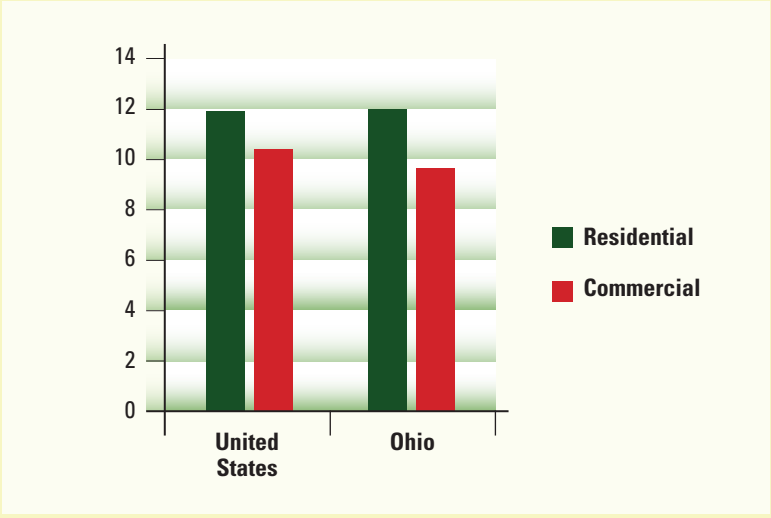
PROJECT NAME	TYPE
629 MW Great Bend IGCC Plant	Coal
American Municipal Power Generating Station	Coal
Baard Energy Coal-to-Liquids Plant	Coal
Black Fork Wind Farm	Wind
Dominion Power 600 MW Conneaut Coal Plant	Coal
Lima Energy IGCC Station	Coal

Economic Overview

Population (2009 in thousands)	11,543
Personal Income per Capita (2009)	$35,381
Employment (Aug 2010 in thousands)	5,325.6
Unemployment Rate (Aug 2010)	10.1%
Change in Jobs (Jan. 2008 – Aug. 2010)	-394,500
All State Government Expenditures	$67.8 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	12.00
Commercial (June 2010)	9.66



U.S. vs. Ohio Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$29,000,000,000
Employment Earnings (in PDV)	$9,200,000,000
Average Annual Jobs	51,400

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$4,800,000,000
Employment Earnings (in PDV)	$1,000,000,000
Average Jobs Created in Year 1	22,200

Example Project

Black Fork Wind Farm

First announced in 2007, the proposed Black Fork Wind Farm is located near Vernon, Ohio. The project includes 112 wind turbines and was proposed by Gary Energetics. The turbines will generate 201.6 megawatts of energy. A group of local residents opposed to the project, citing concerns over property values, noise generated from the turbines, and harm of well water systems and contamination of water. The project was before the Ohio Power Siting Board in early 2010, but the project has not yet received state certification. The project was sold to Element Power, and on August 12, 2010, the application was withdrawn by the new developer. The project is likely to reapply for certification at a later date. As of August 2010, the project was still awaiting state certification.

OKLAHOMA

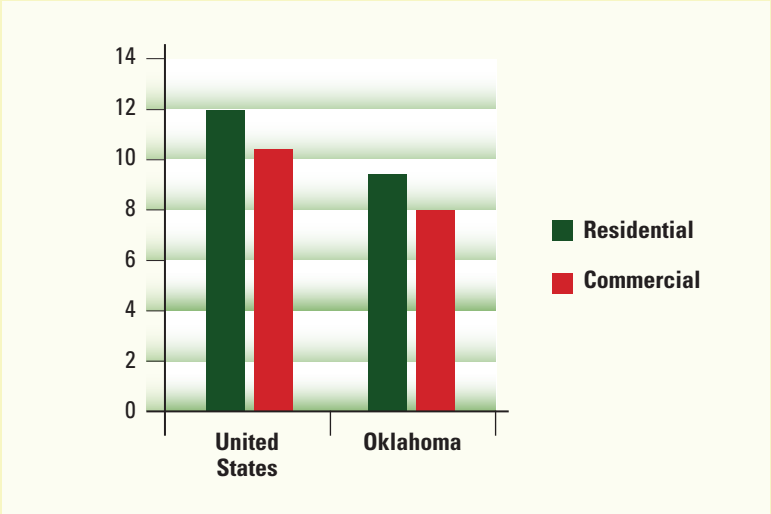
PROJECT NAME	TYPE
AES Shady Point II	Coal
Red Rock Generating Facility	Coal
Tenaska Sallisaw Plant	Coal

Economic Overview

Population (2009 in thousands)	3,687
Personal Income per Capita (2009)	$35,268
Employment (Aug 2010 in thousands)	1,634.2
Unemployment Rate (Aug 2010)	7.0%
Change in Jobs (Jan. 2008 – Aug. 2010)	-44,300
All State Government Expenditures	$19.5 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	9.36
Commercial (June 2010)	7.99



U.S. vs. Oklahoma Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$7,300,000,000
Employment Earnings (in PDV)	$2,400,000,000
Average Annual Jobs	14,800

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$1,400,000,000
Employment Earnings (in PDV)	$400,000,000
Average Jobs Created in Year 1	8,600

Example Project

Red Rock Generating Facility

The Red Rock Generating Facility was a 950 MW coal-fired power plant proposed by PSO (a subsidiary of American Electric Power), Oklahoma Gas & Electric, and the Oklahoma Municipal Power Authority. Environmental groups lined up against the proposal. The project was approved by the state legislature in 2005, and its air quality permits were challenged at the state level and reviewed until 2007. In June 2007, several opponents filed suit against the project, challenging the constitutionality of the state's pre-approval procedures. On September 10, 2007, the Oklahoma Corporation Commission denied PSO´s application for approval of the permits for the plant. By October 2007, the project's developers pulled out and the Red Rock proposal was officially dead.

OREGON

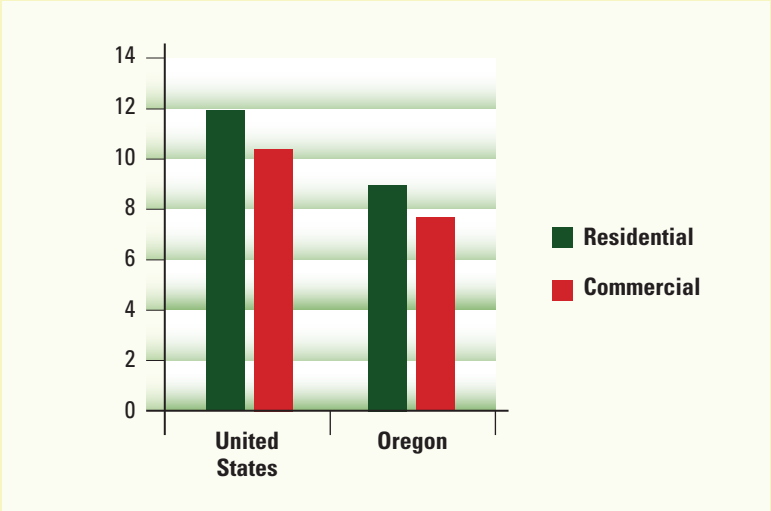
PROJECT NAME	TYPE
Finavera Renewables Makah Bay Wave Project	Wave
First Wind Cascade Wind Farm	Wind
Florence Oregon Ocean Wave Energy Park	Wave
Jordon Cove LNG	Natural Gas
Northern Star Natural Gas, Bradwood Landing Project	Natural Gas
Oregon LNG	Natural Gas
Port Westward Generating Station, Columbia County	Natural Gas
West Linn Highway Solar Project	Solar
West Ridge and East Ridge Wind Projects, Harney County	Wind

Economic Overview

Population (2009 in thousands)	3,826
Personal Income per Capita (2009)	$35,667
Employment (Aug 2010 in thousands)	1,756.3
Unemployment Rate (Aug 2010)	10.6%
Change in Jobs (Jan. 2008 – Aug. 2010)	-141,800
All State Government Expenditures	$22.4 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	9.13
Commercial (June 2010)	7.73



U.S. vs. Oregon Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$6,800,000,000
Employment Earnings (in PDV)	$2,100,000,000
Average Annual Jobs	21,200

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$1,700,000,000
Employment Earnings (in PDV)	$400,000,000
Average Jobs Created in Year 1	11,100

Example Project

Finavera Renewables Makah Bay Wave Project

Finavera Renewables filed an application to construct the Makah Bay project, a 1 MW offshore wave power demonstration plant, with the Federal Energy Regulatory Commission (FERC) in November 2006. FERC granted a license—the first of its kind—in December 2007. Construction was initially not allowed until Finavera received all necessary federal and state approvals, including sign-off of the State coastal zone management agency. On March 20, 2008, FERC amended the license to allow construction of the project to proceed. The Washington Department of Ecology then challenged the license under the Clean Water Act, and asked FERC to rescind its approval. In February 2009, Finavera surrendered the license to FERC, ending the project. Finavera determined that the project was no longer economically viable, citing an unfavorable economic climate, restrictions on capital, and unsuccessful efforts to transfer the license.

PENNSYLVANIA

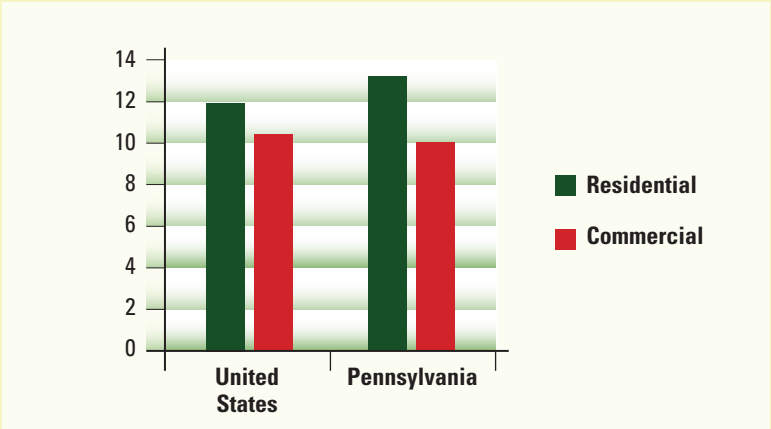
PROJECT NAME	TYPE
Beech Hollow Coal Plant	Coal
Bell Bend, Susquehanna, PA	Nuclear
Broad Mountain Wind Project	Wind
Crystal Lake Wind Project	Wind
Delta-T Ethanol Facility	Renewable Fuels
Dunning Mountain Wind Project	Wind
Freedom Energy Center, Philadelphia	Natural Gas
Gilberton Coal-to-Clean Fuels and Power Project	Coal
Greene Energy Resource Recovery Project	Coal
Penn-Mar Ethanol Plant, Conoy Township	Renewable Fuels
Penn-Mar Ethanol Plant, Greene Township	Renewable Fuels
Shaffer Mountain Wind Project	Wind
Sithe Global Power, Shade Township	Coal
Sithe Global Power River Hill Project	Coal
South Chestnut Ridge Wind Power Project	Wind
Susquehanna-Roseland Power Line (PA Portion)	Transmission
TrAIL Project (PA Portion)	Transmission

Economic Overview

Population (2009 in thousands)	12,605
Personal Income per Capita (2009)	$39,578
Employment (Aug 2010 in thousands)	5,778.0
Unemployment Rate (Aug 2010)	9.2%
Change in Jobs (Jan. 2008 – Aug. 2010)	-228,800
All State Government Expenditures	$71.9 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	13.33
Commercial (June 2010)	10.22



U.S. vs. Pennsylvania Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$44,200,000,000
Employment Earnings (in PDV)	$13,800,000,000
Average Annual Jobs	56,100

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$4,600,000,000
Employment Earnings (in PDV)	$1,100,000,000
Average Jobs Created in Year 1	23,700

Example Project

Penn-Mar Ethanol Plant, Conoy Township

In 2004, Penn-Mar Ethanol attempted to construct an ethanol producing plant in Conoy Township, Pennsylvania. Neighboring Hellam Township sent a letter to the Conoy Township Board of Supervisors objecting to the ethanol plant. Hellam Township's objections included environmental risks to the surrounding area and the "risk of causing the beautiful area surrounding the Susquehanna River to become an undesirable site." Hellam Township's objections slowed the approval process, and on February 7, 2005, while a conditional-use permit was pending, Penn-Mar voluntarily decided to withdraw its application and relocate the project to nearby Franklin County. That project was also killed, partly by a group called Citizens for a Quality Environment.

RHODE ISLAND

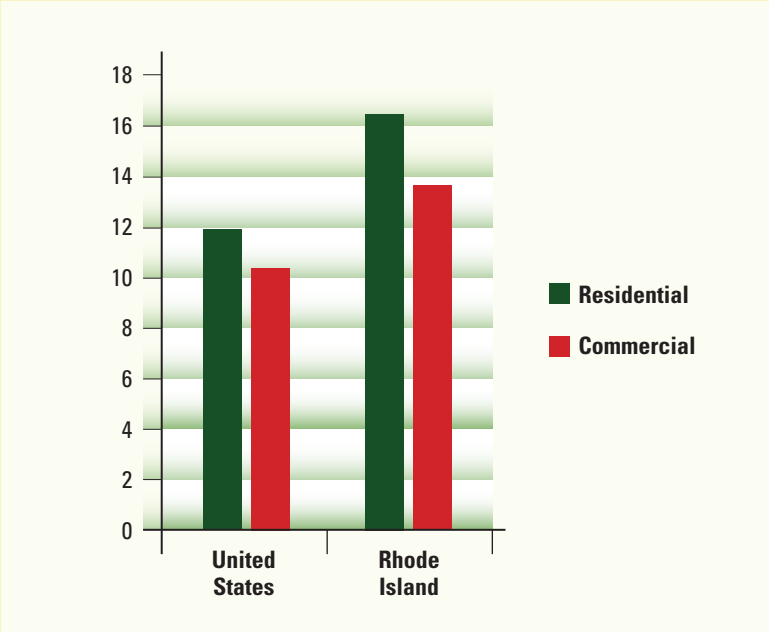
PROJECT NAME	TYPE
KeySpan LNG and Algonquin Gas Transmission Expansion	Natural Gas

Economic Overview

Population (2009 in thousands)	1,053
Personal Income per Capita (2009)	$41,003
Employment (Aug 2010 in thousands)	504.6
Unemployment Rate (Aug 2010)	11.8%
Change in Jobs (Jan. 2008 – Aug. 2010)	-36,700
All State Government Expenditures	$7.5 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	16.53
Commercial (June 2010)	13.64



U.S. vs. Rhode Island Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$200,000,000
Employment Earnings (in PDV)	$100,000,000
Average Annual Jobs	500

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$200,000,000
Employment Earnings (in PDV)	$0
Average Jobs Created in Year 1	1,200

Example Project

KeySpan LNG

KeySpan Energy (now National Grid) first announced in 2003 a proposal to expand its existing liquefied natural gas (LNG) storage and receiving facility in Providence, Rhode Island into a terminal that would receive LNG deliveries from tankers. The terminal would have a sendout capacity of 500 million cubic feet of natural gas per day. Environmental groups and state officials mounted significant opposition to the proposal. They were concerned about what might happen in the event of a terrorist attack or an accident aboard an LNG tanker, as well as the potential disruptions that regular tanker shipments would cause to other Bay traffic. Several of Rhode Island's state and federal representatives vocally opposed the project. The Federal Energy Regulatory Commission rejected KeySpan's proposal in 2005. KeySpan appealed the decision in the U.S. Court of Appeals for the District of Columbia Circuit, but new owner National Grid dropped the lawsuit in October 2007. National Grid then shelved the KeySpan expansion project.

SOUTH CAROLINA

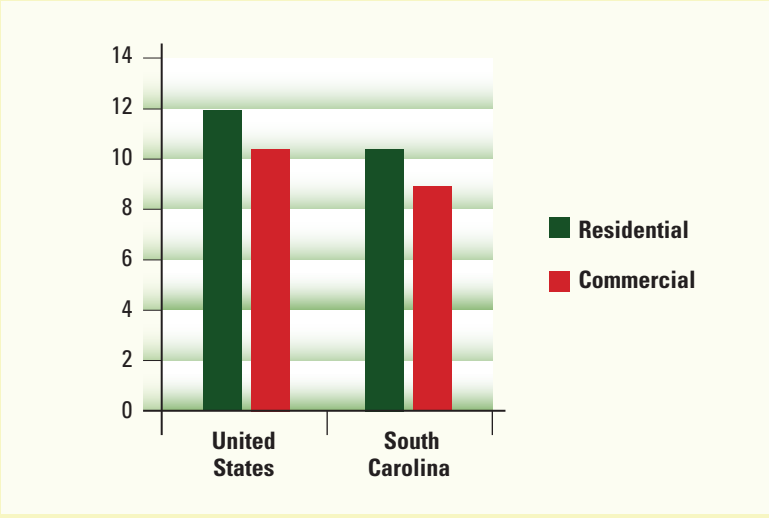
PROJECT NAME	TYPE
Pee Dee Facility	Coal
Summer Nuclear Station	Nuclear
William States Lee III Nuclear Station	Nuclear

Economic Overview

Population (2009 in thousands)	4,561
Personal Income per Capita (2009)	$31,799
Employment (Aug 2010 in thousands)	1,910.8
Unemployment Rate (Aug 2010)	11.0%
Change in Jobs (Jan. 2008 – Aug. 2010)	-129,800
All State Government Expenditures	$27.6 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	10.58
Commercial (June 2010)	9.03



U.S. vs. South Carolina Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$43,200,000,000
Employment Earnings (in PDV)	$13,600,000,000
Average Annual Jobs	58,500

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$4,400,000,000
Employment Earnings (in PDV)	$1,000,000,000
Average Jobs Created in Year 1	28,300

Example Project

William States Lee III Nuclear Station

On December 13, 2007, Duke Energy submitted a combined construction and operating license application to the Nuclear Regulatory Commission (NRC) for a proposed two-unit nuclear power plant in Cherokee Falls, North Carolina. The plant would generate 2,234 megawatts of electricity from two Westinghouse Advanced Passive 1000 (AP1000) Pressurized Water Reactors. NRC approved and docketed the application in February 2008; by mid-2010, the proposal was still near the beginning of the process. NRC expects safety reviews to be complete by February 2011, and environmental reviews by August 2012. In June 2008, Greenpeace USA Raleigh and the Blue Ridge Environmental Defense League (BREDL) intervened in the NRC proceeding and challenged the adequacy of Duke Energy's application. BREDL filed new additional contentions to the intervention petition in March 2009. The permitting of this facility is expected to last several more years, at least. Duke originally targeted 2016 as the completion date, but NRC expects Duke to push this back.

SOUTH DAKOTA

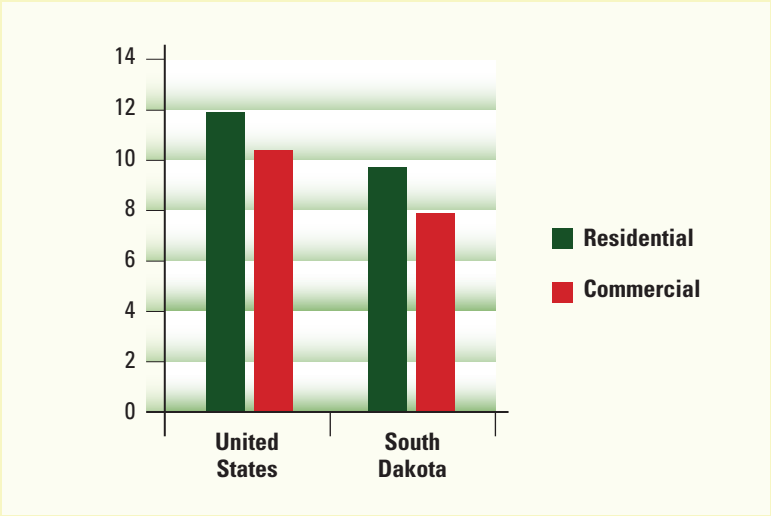
PROJECT NAME	TYPE
Big Stone II	Coal
Buffalo Ridge II Wind Farm	Wind
CapX2020 (SD Portion)	Transmission
Green Power Express (SD Portion)	Transmission

Economic Overview

Population (2009 in thousands)	812
Personal Income per Capita (2009)	$36,935
Employment (Aug 2010 in thousands)	423.2
Unemployment Rate (Aug 2010)	4.5%
Change in Jobs (Jan. 2008 – Aug. 2010)	-4,500
All State Government Expenditures	$3.69 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	9.76
Commercial (June 2010)	7.88



U.S. vs. South Dakota Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$7,000,000,000
Employment Earnings (in PDV)	$2,300,000,000
Average Annual Jobs	16,100

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$500,000,000
Employment Earnings (in PDV)	$100,000,000
Average Jobs Created in Year 1	2,600

Example Project

Green Power Express

Green Power Express is a 3,000-mile high-voltage transmission line across seven Midwestern states proposed by International Transmission Company (ITC). The project's purpose is to construct a transmission line that will bring wind-powered electricity from North Dakota to Chicago, Minneapolis and other metropolitan areas. The seven states through which the Green Power Express will run are Illinois, Indiana, Iowa, Minnesota, North Dakota, South Dakota, and Wisconsin. The proposal was unveiled in early 2009, and ITC hopes to finish construction by 2020. The Citizens Energy Task Force, a coalition of neighbors and citizens, is opposing the project. It argues that the power lines would interfere with bird migration, hurt tourism and damage the ecosystem. The main delay the project has faced, however, came from rules for new, cross-state transmission lines in the Midwest which discourage investment in power lines not designed to meet an immediate need. Green Power Express, which would presumably meet future renewable electricity needs, does not fit that description. In April 2009, the Federal Energy Regulatory Commission allowed the project to proceed by approving rate incentives for the project.

TENNESSEE

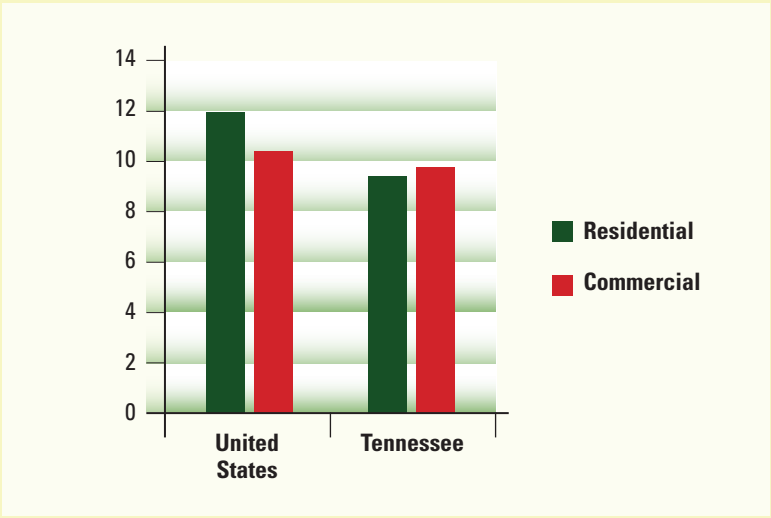
PROJECT NAME	TYPE
TVA, Rutherford-Williams Power Supply Improvement Project	Transmission
TVA, Watts Bar Unit 2	Nuclear

Economic Overview

Population (2009 in thousands)	6,296
Personal Income per Capita (2009)	$34,089
Employment (Aug 2010 in thousands)	2,746.6
Unemployment Rate (Aug 2010)	9.6%
Change in Jobs (Jan. 2008 – Aug. 2010)	-200,600
All State Government Expenditures	$26.4 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	9.45
Commercial (June 2010)	9.65



U.S. vs. Tennessee Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$5,200,000,000
Employment Earnings (in PDV)	$1,600,000,000
Average Annual Jobs	6,200

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$900,000,000
Employment Earnings (in PDV)	$200,000,000
Average Jobs Created in Year 1	5,900

Example Project

TVA Watts Bar Unit 2

The Tennessee Valley Authority (TVA) partially built, then suspended construction of, the Watts Bar Unit 2 nuclear reactor in 1985. On August 3, 2007, TVA informed the Nuclear Regulatory Commission (NRC) of its plan to resume construction of Watts Bar Unit 2. The finished unit will generate 1,180 megawatts of electricity. The unit will be completed as originally designed, incorporating additional modifications made to its sister unit, WBN Unit 1, which has been operating since 1996. No expansion of the existing site footprint will be required. On July 7, 2008, the NRC issued an Order extending the Watts Bar Unit 2 construction permit completion date to March 31, 2013. A host of national and local environmental groups have challenged the project and have petitioned the NRC not to issue a final license for the new reactor.

TEXAS

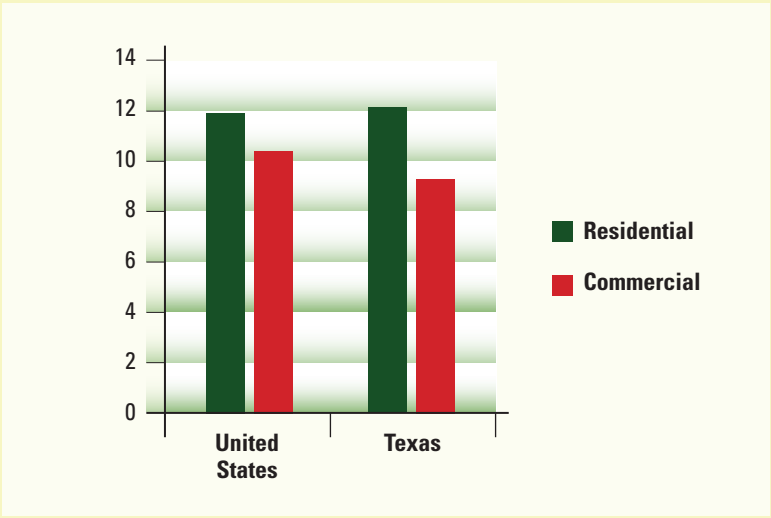
PROJECT NAME	TYPE
Amarillo	Nuclear
Coleto Creek Expansion	Coal
Comanche Peak Nuclear Plant	Nuclear
Freeport LNG	Natural Gas
Gemini Solar Plant	Solar
Golden Pass LNG	Natural Gas
Las Brisas Energy Center	Coal
Limestone III	Coal
Padre Island Offshore Wind Farm	Wind
Pampa, Texas Wind Farm (Mesa Power)	Wind
Pelican Island LNG	Natural Gas
Penascal Wind Farm	Wind
Sandy Creek Plant	Coal
South Texas Nuclear Project	Nuclear
TXU Big Brown	Coal
TXU Lake Creek 3	Coal
TXU Martin Lake 4	Coal
TXU Monticello 4	Coal
TXU Morgan Creek 7	Coal
TXU Tradinghouse 3 and 4	Coal
TXU Valley 4	Coal
Victoria County Station	Nuclear
Wilbarger County Wind Power Project	Wind

Economic Overview

Population (2009 in thousands)	24,782
Personal Income per Capita (2009)	$36,484
Employment (Aug 2010 in thousands)	11,124.5
Unemployment Rate (Aug 2010)	8.3%
Change in Jobs (Jan. 2008 – Aug. 2010)	-204,100
All State Government Expenditures	$101 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	12.13
Commercial (June 2010)	9.30



U.S. vs. Texas Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$191,700,000,000
Employment Earnings (in PDV)	$61,800,000,000
Average Annual Jobs	311,100

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$29,800,000,000
Employment Earnings (in PDV)	$7,700,000,000
Average Jobs Created in Year 1	168,600

Example Project

Pelican Island LNG

In 2004, BP announced plans to build a liquefied natural gas (LNG) terminal on Pelican Island, near Galveston, Texas. The project was expected to send out 1.6 billion cubic feet of natural gas per day and was expected to go into operation sometime between 2016 and 2021. However, the project met stiff opposition from local citizens and environmental groups. Opponents argued that the facility would be located where Texas A&M University studies marine biology, would threaten marine and estuary habitats and beaches, and would harm Galveston's tourist industry. Other residents opposed the project due to terrorism risks or general safety fears. In 2004 and 2005, island residents filed lawsuits against the project, alleging public entities violated open meetings laws when they negotiated in private with BP for a lease option agreement. The litigation placed the project on hold and prevented BP from filing a permit application with the Federal Energy Regulatory Commission. On August 22, 2006, BP announced that it was stopping the Pelican Island LNG project indefinitely.

UTAH

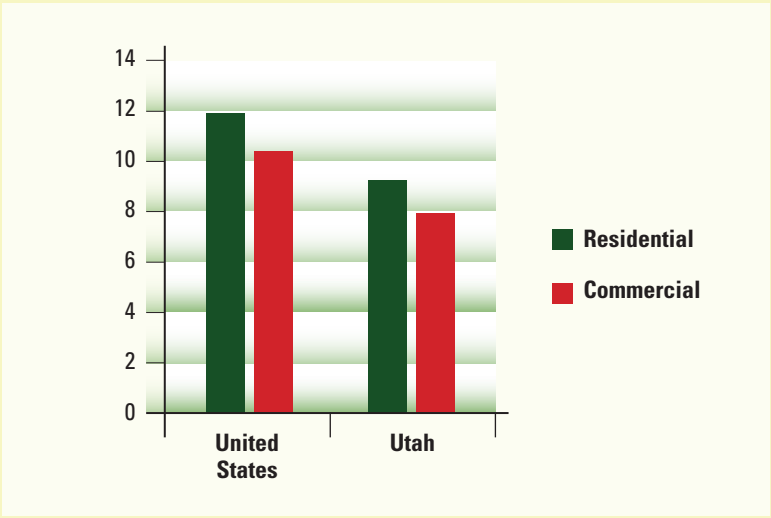
PROJECT NAME	TYPE
Blue Castle Nuclear Project	Nuclear
Bonanza Coal-Fired Power Plant	Coal
Hook Canyon Hydropower Project	Hydropower
Intermountain Power Project Unit 3	Coal
Sevier Plant	Coal

Economic Overview

Population (2009 in thousands)	2,785
Personal Income per Capita (2009)	$30,875
Employment (Aug 2010 in thousands)	1,251.4
Unemployment Rate (Aug 2010)	7.4%
Change in Jobs (Jan. 2008 – Aug. 2010)	-62,900
All State Government Expenditures	$14.3 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	9.16
Commercial (June 2010)	7.98



U.S. vs. Utah Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$29,400,000,000
Employment Earnings (in PDV)	$9,700,000,000
Average Annual Jobs	46,600

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$3,500,000,000
Employment Earnings (in PDV)	$900,000,000
Average Jobs Created in Year 1	23,400

Example Project

Hook Canyon Hydropower Plant

In 2006, Symbiotics LLC proposed the 1,120-megawatt Hook Canyon pump project in Bear Lake Canyon, Utah. The project encountered massive public opposition, on the grounds that the project was expensive, inefficient and environmentally unsound. In April 2008, the Federal Energy Regulatory Commission (FERC) put the project on hold after the Utah Division of State Parks and Recreation sent a letter refusing to provide the easement allowing the project to be built on the lake bed. The state agency's letter followed Gov. Jon Huntsman Jr.'s announcement of opposition to the project. While FERC grants licenses for hydro projects, state permission must be granted to construct a project on state property. In April 2008, FERC suspended the project and Symbiotics surrendered its permit after the Utah Division of Parks and Recreation refused to negotiate with the developer on an easement.

VERMONT

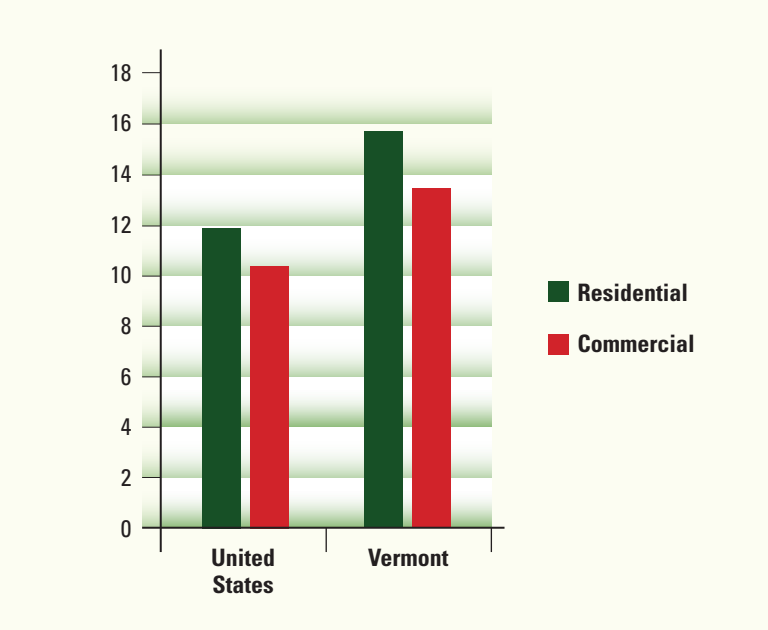
PROJECT NAME	TYPE
Deerfield Wind Project	Wind
East Haven Wind Farm	Wind
First Wind, Sheffield Wind Project	Wind
Georgia Mountain Wind Project	Wind
Glebe Mountain Wind Energy Project	Wind

Economic Overview

Population (2009 in thousands)	622
Personal Income per Capita (2009)	$38,503
Employment (Aug 2010 in thousands)	334.5
Unemployment Rate (Aug 2010)	6.0%
Change in Jobs (Jan. 2008 – Aug. 2010)	-14,900
All State Government Expenditures	$5.07 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	15.71
Commercial (June 2010)	13.48



U.S. vs. Vermont Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$600,000,000
Employment Earnings (in PDV)	$200,000,000
Average Annual Jobs	2,100

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$100,000,000
Employment Earnings (in PDV)	$0
Average Jobs Created in Year 1	300

Example Project

Glebe Mountain Wind Energy Project

On April 30, 2005, Catamount Energy filed an application to erect a wind farm consisting of 27 1.8-megawatt turbines on Glebe Mountain, which stretches from Londonderry to Windham, Vermont. The location is also home to the Magic Mountain Ski Area. An opposition group calling itself the Green Mountain Group mounted a substantial legal and public relations campaign. On June 15, 2006, Catamount announced it was pulling the plug on the Glebe Mountain Wind Project. According to a statement by Catamount CEO James Moore, "We thank the supporters of our project, and they should be encouraged by the near doubling of wind energy capacity in the United States since 2002 and the growing support for new wind projects in dozens of states across the country. As Vermonters, we respect the wishes of the local population and the state's position on wind energy so we thought it was time to end our development efforts in the state."

VIRGINIA

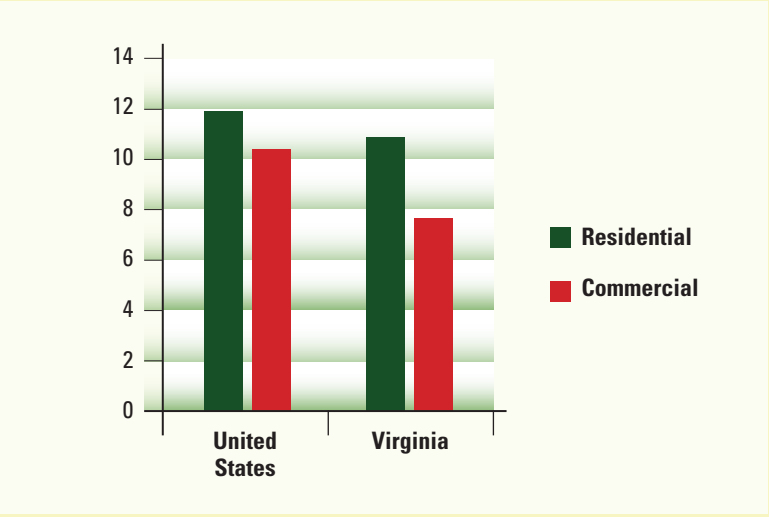
PROJECT NAME	TYPE
Allegheny Energy and AEP – PATH Project (VA Portion)	Transmission
Appalachian Power, Sunscape Project	Transmission
Cypress Creek	Coal
Dominion Virginia Power, Meadow Brook to Loudon (VA Portion)	Transmission
East River Mountain Wind Project	Wind
Highland New Wind Project	Wind
North Anna Nuclear Generating Station Unit 3	Nuclear
Osage BioEnergy Ethanol Plant	Renewable Fuels
TrAIL Project (VA Portion)	Transmission
Virginia City Hybrid Energy Center	Coal

Economic Overview

Population (2009 in thousands)	7,883
Personal Income per Capita (2009)	$43,874
Employment (Aug 2010 in thousands)	3,879.3
Unemployment Rate (Aug 2010)	7.0%
Change in Jobs (Jan. 2008 – Aug. 2010)	-133,700
All State Government Expenditures	$39.9 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	10.77
Commercial (June 2010)	7.63



U.S. vs. Virginia Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$34,400,000,000
Employment Earnings (in PDV)	$10,500,000,000
Average Annual Jobs	46,000

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$3,400,000,000
Employment Earnings (in PDV)	$800,000,000
Average Jobs Created in Year 1	17,700

Example Project

East River Mountain Wind Project
Dominion and BP Wind Energy North America Inc. purchased 2,560 acres of land in Tazewell County for a 70 to 80 megawatt wind farm. The project is opposed by the Mountain Preservation Association, due to impacts on tourism. In early 2010, the Tazewell County Board of Supervisors voted 3-2 to approve a "ridgeline protection ordinance" which essentially prohibits the development of structures more than 40 feet in height along certain protected ridgelines, including East River Mountain. The board member who cast the deciding vote said the wind turbines have generated too much controversy and will create too little public revenue. Dominion remains committed to the project, although it does appear to be delayed indefinitely.

WASHINGTON

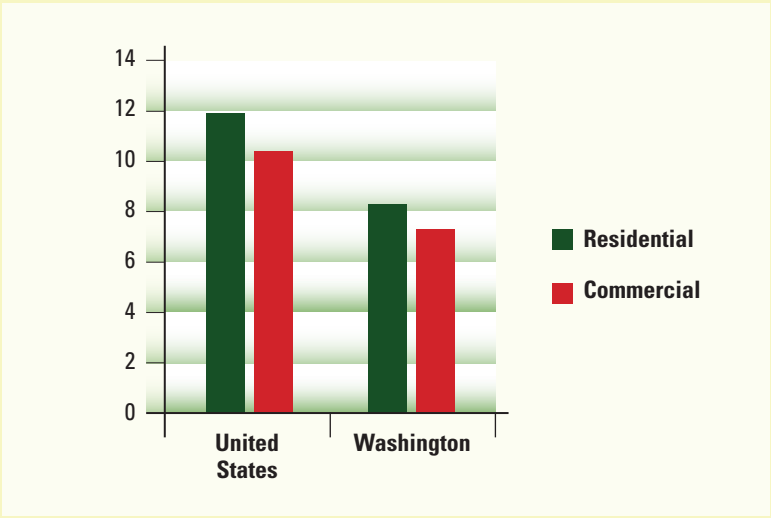
PROJECT NAME	TYPE
Desert Claim Wind Power Project	Wind
Pacific Mountain Energy Center	Coal
Radar Ridge Project	Wind
Shankers Bend Hydropower Project	Hydropower
Whistling Ridge Wind Project	Wind

Economic Overview

Population (2009 in thousands)	6,664
Personal Income per Capita (2009)	$41,751
Employment (Aug 2010 in thousands)	3,218.9
Unemployment Rate (Aug 2010)	8.9%
Change in Jobs (Jan. 2008 – Aug. 2010)	-173,000
All State Government Expenditures	$39.7 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	8.26
Commercial (June 2010)	7.34



U.S. vs. Washington Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$6,600,000,000
Employment Earnings (in PDV)	$2,100,000,000
Average Annual Jobs	14,700

First Year of Operations (total of all projects)

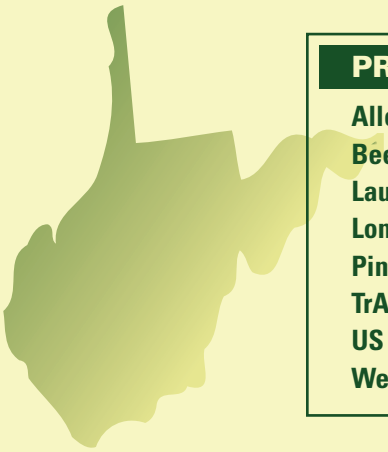
Total Economic Output (in PDV)	$600,000,000
Employment Earnings (in PDV)	$100,000,000
Average Jobs Created in Year 1	2,900

Example Project

Shankers Bend Hydropower Project

Shankers Bend is a 42-megawatt water storage and hydroelectric project located on the Similkameen River in Okanogan County, Washington. The Dam and associated facilities would be located upstream of the region's Enloe Dam. Preliminary permit applications were filed with FERC on May 15, 2007. On December 18, 2008, FERC issued a preliminary permit for the proposed Shankers Bend Project to be located just one mile upstream of the Enloe Dam Project. A group calling itself the Hydropower Reform Coalition opposes the project, and is lobbying FERC to review this project. In March 2009, the Canadian Parks and Wilderness Society applied for intervenor status before FERC in order to protest the project. This request was denied in June 2009. According to the third six-month preliminary permit progress report for the project submitted on June 2, 1010 by the Public Utility District for Okanogan County, the project is still "in progress" and studies are being conducted.

WEST VIRGINIA



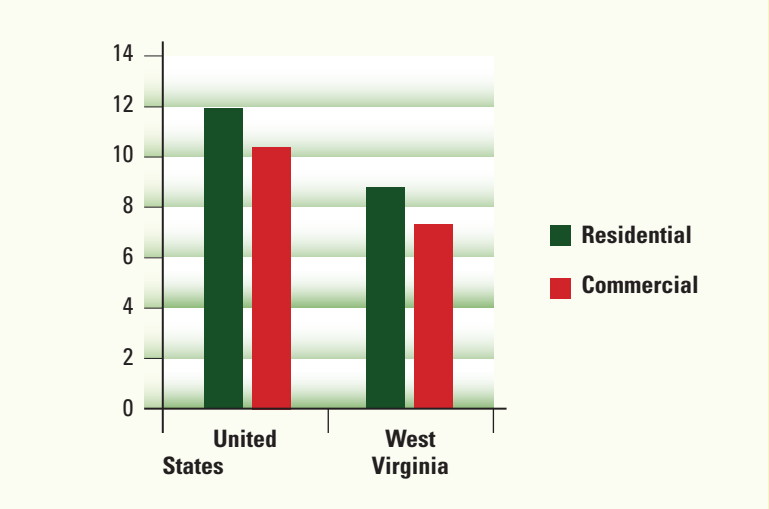
PROJECT NAME	TYPE
Allegheny Energy and AEP – PATH Project (WV Portion)	Transmission
Beech Ridge Energy Wind Farm	Wind
Laurel Mountain Wind	Wind
Longview Project	Coal
Pinnacle Wind Farm	Wind
TrAIL Project (WV Portion)	Transmission
US WindForce Liberty Gap Wind Farm	Wind
Western Greenbrier Cogeneration Plant	Coal

Economic Overview

Population (2009 in thousands)	1,820
Personal Income per Capita (2009)	$32,219
Employment (Aug 2010 in thousands)	705.6
Unemployment Rate (Aug 2010)	8.8%
Change in Jobs (Jan. 2008 – Aug. 2010)	-19,200
All State Government Expenditures	$10.1 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	8.62
Commercial (June 2010)	7.26



U.S. vs. West Virginia Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$9,300,000,000
Employment Earnings (in PDV)	$2,800,000,000
Average Annual Jobs	19,300

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$800,000,000
Employment Earnings (in PDV)	$200,000,000
Average Jobs Created in Year 1	4,200

Example Project

Allegheny Energy and AEP—PATH Project
The Potomac-Appalachian Transmission Highline (PATH) is a joint venture of American Electric Power and Allegheny Energy to build a new 765-kV transmission line from southwest West Virginia to central Maryland. A host of environmental and citizens groups oppose the project, arguing that PATH is not needed, adequate alternatives exist, comprehensive energy planning is more necessary, and that its environmental impacts outweigh its benefits. PATH was first announced in 2007 and received FERC approval in March 2008. A federally-mandated reconfiguration of the project pushed the completion date from 2012 to 2013. In September 2009, the Maryland Public Service Commission rejected PATH's application on procedural grounds, forcing a re-file. By 2010, the project's in-service date was extended again to mid-2015.

WISCONSIN

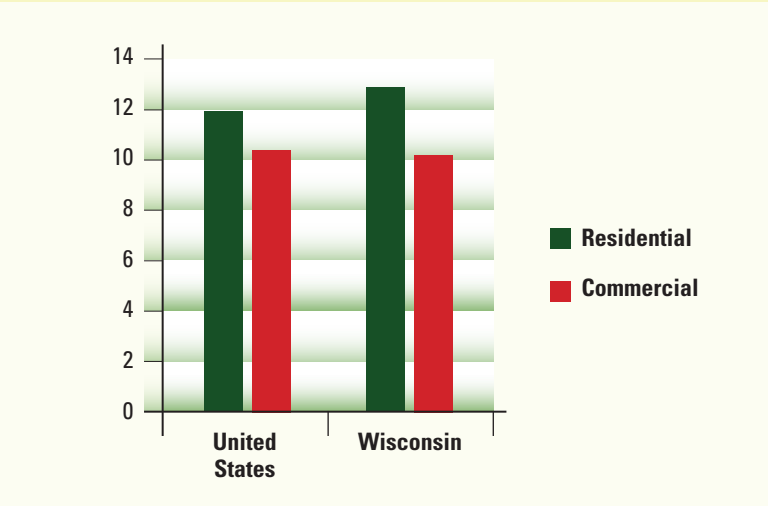
PROJECT NAME	TYPE
AgWind Energy Partners Trempealeau County Wind Farm	Wind
CapX2020 (WA Portion)	Transmission
Coulee Area Renewable Energy – Ethanol Plant	Renewable Fuels
EcoMagnolia Wind Project, Magnolia Township	Wind
Emerging Energies, Mishicot Wind Farm	Wind
Glacier Hills Wind Park	Wind
Green Power Express (WI Portion)	Wind
Nelson Dewey III	Coal

Economic Overview

Population (2009 in thousands)	5,655
Personal Income per Capita (2009)	$36,822
Employment (Aug 2010 in thousands)	2,790.7
Unemployment Rate (Aug 2010)	7.9%
Change in Jobs (Jan. 2008 – Aug. 2010)	-164,400
All State Government Expenditures	$32.6 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	12.83
Commercial (June 2010)	10.08



U.S. vs. Wisconsin Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$5,900,000,000
Employment Earnings (in PDV)	$1,900,000,000
Average Annual Jobs	12,800

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$500,000,000
Employment Earnings (in PDV)	$100,000,000
Average Jobs Created in Year 1	3,000

Example Project

AgWind Energy Partners Trempealeau County Wind Farm

AgWind Energy Partners approached Trempealeau County in September 2006 to build several wind farms in the county. AgWind installed a wind measurement tower as a precursor to possible wind farm development in 2007, but the tower aroused enough local opposition to trigger a countywide ordinance that effectively killed the project. In December 2007, wind opponents successfully obtained an ordinance placing a one-mile setback from homes and workplaces, a half-mile setback from property lines, and a two-mile setback from wildlife refuges. It also has a 40 dbA upper noise limit and strong noise restrictions. Together, these new conditions essentially barred all wind energy development, killing the project.

WYOMING

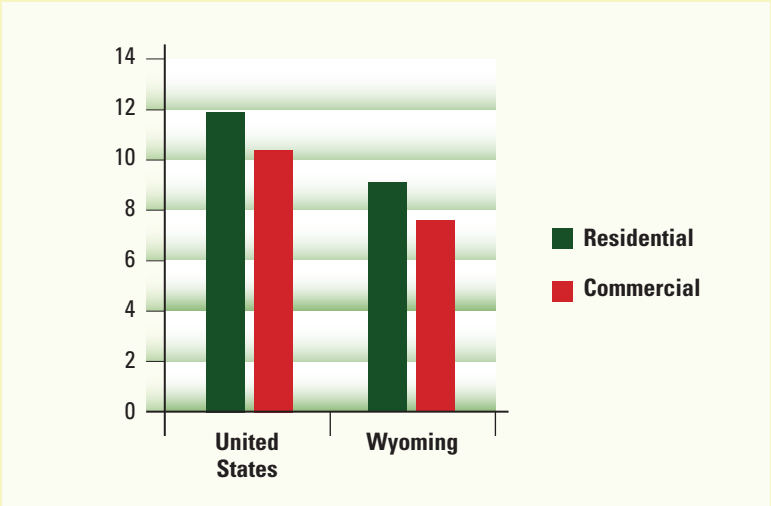
PROJECT NAME	TYPE
Dry Fork Station	Coal
Gateway West (WY Portion)	Transmission
Horizon Wind Energy, Simpson Ridge Wind Farm	Wind
Medicine Bow Project	Coal
PacifiCorp Jim Bridger 5 Supercritical Unit	Coal
Two Elk	Coal
Black Mountain Wind Park	Wind
Wygen III Power Plant	Coal

Economic Overview

Population (2009 in thousands)	544
Personal Income per Capita (2009)	$45,705
Employment (Aug 2010 in thousands)	271.1
Unemployment Rate (Aug 2010)	6.8%
Change in Jobs (Jan. 2008 – Aug. 2010)	-11,500
All State Government Expenditures	$5.08 bn

Electricity Costs (cents/kilowatt hour)

Residential (June 2010)	9.08
Commercial (June 2010)	7.58



U.S. vs. Wyoming Electricity Costs
(cents/kilowatt hours)

Benefits from Proposed Energy Projects

Upfront Investment (total of all projects)

Total Economic Output (in PDV)	$11,200,000,000
Employment Earnings (in PDV)	$3,700,000,000
Average Annual Jobs	21,500

First Year of Operations (total of all projects)

Total Economic Output (in PDV)	$1,700,000,000
Employment Earnings (in PDV)	$300,000,000
Average Jobs Created in Year 1	7,200

Example Project

Simpson Ridge Wind Farm

The Carbon County Planning Commission approved development plans for Horizon Wind Energy's 154-turbine project in 2009, and construction was expected to begin either in 2010 or 2011. However, the presence of the endangered sage grouse on the project site has effectively ended the project. In August 2008, state officials in Wyoming decided not to allow wind development in Wyoming's sage grouse core areas; the U.S. Fish and Wildlife Service reached a similar conclusion. Horizon hoped to create a pilot wind farm in the area to gather scientific data on the impact of wind development on sage grouse so that Horizon would be able to develop a mitigation plan, but those plans did not come to fruition. In August 2009, Horizon announced that it would suspend the project indefinitely, citing ongoing regulatory uncertainty.

Appendix II – List of Energy Projects

Adirondack Wind Energy Park, Gore Mountain, Barton Group
AES Shady Point II
Agrium Corporation's Kenai Blue Sky Project
AgWind Energy Partners Trempealeau County Wind Farm
Alabama Ledge Wind Farm
Alaska Natural Resources-to-Liquids LLC (First Phase Only)
Allegheny (Chipmonk) Wind Project
Allegheny Energy and AEP - PATH Project
Alliant - Marshalltown Power Plant
Amarillo
American Ethanol Plant
American Lignite Energy LLC, Coal-to-Liquids project
American Municipal Power Generating Station
Appalachian Power - Sunscape Project
Aroostook County Wind Farm
Ashe County Wind Farm
Associated Electric Cooperative, Norborne Coal Plant
Atlantic Sea Island Group's Safe Harbor Energy in Long Island
Baard Energy, Coal-to-Liquids Plant
Bear River Narrows Hydroelectric Project
Beech Hollow Coal Plant
Beech Ridge Energy Wind Farm
Bell Bend (near Susquehanna, PA)
Bellefonte Nuclear Site
Berkshire Wind Project
BHP Billiton LNG International's Cabrillo Port in Oxnard/Malibu
Big Cajun I
Big Cajun II
Big River Resources, Ethanol Plant near Grinnell, Iowa
Big Stone II
BioEnergy San Pierre Waste-to-Ethanol Plant
Biomass Gas & Electric LLC, Tallahassee Renewable Energy Center
Black Fork Wind Farm
Black Mountain Wind Park
Black Nubble Wind Farm
Blue Castle Nuclear Project
BlueOcean Energy LNG
Bonanza Coal-fired Plant
Boot Hill Biofuels Ethanol Plant
BP's Crown Landing Terminal in Logan Township
Brayton Point/Somerset LNG
Broad Mountain Wind Project

Buffalo Ridge II Wind Farm
Bull Mountain Power Project
Calais LNG
Calico Solar
Callaway Nuclear Plant
Calpine Corporation Eureka Terminal
Calvert Cliffs Nuclear Power Plant
Cameron LNG
Campo Reservation Wind Farm
Cape Wind Offshore Wind Farm
Cape Wyckoff Wind Project
CapX2020
Cash Creek IGCC Plant
Chevron USA, Conoco, and Murphy Oil: Destin Dome
China Mountain Wind Project
Cilion Kern County Ethanol Plant
Coleto Creek Expansion
Colorado State University (CSU) Green Power Project
Comanche Peak Nuclear Plant
Compass Port LNG
ConAgra Ethanol Plant
ConocoPhillips and Mitsubishi Corp's Sound Energy Solutions in Long Beach Harbor
Consumers Energy Coal Plant
Cotterel Mountain Wind Power Project, Windland Inc.
Coulee Area Renewable Energy - Ethanol Plant
Crescent Dunes Solar
Criterion Wind Energy Project, Clipper Windpower
Crystal Lake Wind Project, Energy Unlimited Inc.
Cypress Creek
Dan's Mountain Wind Energy Project
Deerfield Wind Project
DeKalb and Lee County Wind Project
Delta-T Ethanol Facility
Desert Claim Wind Power Project
Desert Rock Energy Project
Dominion Power 600-MW Conneaut Coal Plant
Dominion Virginia Power, Meadow Brook to London
Downeast LNG Robbinston Plant
Dry Fork Station
Duke Energy - Cliffside Steam Station
Duke Energy Wind Project - Searchlight
Duke Energy, Edwardsport IGCC Plant
Dunning Mountain Wind Project
East Haven Wind Farm
East Kentucky Power Cooperative, Clark County
East River Mountain Wind Project
EcoGrove Windfarm, Stephenson County
EcoMagnolia Wind Project, Magnolia Township
El Paso Windfarm, Woodford County

Elba III Expansion, Wilkes County
Elkhorn Ridge II Wind Farm
Ely Energy Center
Emerald Renewable Energy Topeka Greenfield Plant
Emerging Energies, Mishicot Wind Farm
Enrico Fermi Nuclear Generating Station
EnviroPower's Franklin County Power Plant
Estancia Basin Biomass Facility
Estill county Energy Partners
Excelsior Energy - Mesaba Plant
Expansion of Twin Groves Wind Farm, Horizon Wind Energy
Fairhaven Wind, Bristol County
Finavera Renewables Makah Bay Wave Energy Project
Fire Island Wind Project
First Wind Cascade Wind Farm
First Wind, Sheffield Wind Project
Florence Oregon Ocean Wave Energy Park
Florida Municipal Power Agency - Taylor Energy Center
Florida Power & Light, St. Lucie County Wind Farm
Florida Power & Light's Glades Power Plant
Freedom Energy Center, Philadelphia
Freeport LNG
FutureGen
Garden State Offshore Energy Wind Project
Gascoyne 500-MW Project
Gateway West
Gemini's Solar Plant
GenPower Biomass Facility
Georgia Alternative Energy Cooperative Turner County Ethanol Plant
Georgia Mountain Wind Project
Gilberton Coal-to-Clean Fuels and Power Project
Glacier Hills Wind Park
Glebe Mountain Wind Energy Project
Golden Pass LNG
Golden Wind Farm
Grand Gulf Plant, Port Gibson
Granite Mountain Wind Project
Granite Renewable Power, Coos County Wind Project
Great Bend IGCC Plant
Great Lakes Energy and Research Park
Green Path North Renewable Electricity Transmission Line
Green Power
Greene Energy Resource Recovery Project
Gulf LNG Energy, Jackson County
Gulfstream Bioflex Energy - Ethanol Plant
Hamakua Biomass Energy Plant
Hammett
Hardscrabble Wind Farm
Hatchet Ridge Wind Power Project, Shasta County

Hay Ranch Geothermal Project, Coso Operating Company, Inyo County
Hays Wind Project
Henniker Biomass Facility
Highland New Wind Project
Homer Electric Association, Crescent Lake Hydropower Plant
Homer Electric Association, Falls Creek Hydropower Plant
Homer Electric Association, Ptarmigan Lake Hydropower Plant
Homer Electric, Association, Grant Lake Hydropower Plant
Hook Canyon Hydropower Project
Hoosac Wind Energy Project
Horizon Wind Energy, Simpson Ridge Wind Farm Project
Horse Creek Wind Farm
Hu Honua Bioenergy, Biomass Plant
Iberdrola, Tule Wind Farm
Idaho Power Company IGCC
Imperium Renewables Biodiesel Plant -Oahu, HI
Indeck Energy Services
Indiana Gasification LLC
Intermountain Power Project Unit 3
Ivanpah Solar Power Project, Bright Source Energy
Jamestown Oxy-Coal Power Plant
Jericho Rise Wind Farm
Jones Beach Wind Project
Jordanville Wind Farm
Jordon Cove LNG
Kentucky Mountain Power - Knott County
Kenyon Wind, LLC, Goodhue County Wind Energy Conversion System
KeySpan LNG (National Grid) and Algonquin Gas Transmission, Expansion
Kibby Wind Power Project
Lancaster Wind Farm Project
Lansing Coal/Biomass Hybrid Plant
Las Brisas Energy Center
LA's Measure B Solar Project
Laurel Mountain Wind
Levy County Nuclear Power Plant
Levy County Transmission line
Lima Energy IGCC Station
Limestone III
Little Gypsy
Longview Project
Louisville Gas & Eclectic, Trimble county plant
LS Power - Elk Run Energy Center
LS Power - Longleaf Coal Plant
LS Power - White Pine Energy Station
LS Power/ Dynegy's Midland Power Plant
LS Power's High Plains Energy Station
Luverne Wind Farm
Madera Biomass Plant
Main Pass Energy Hub

Malmstrom Air Force Base Coal-to-Liquids Plant
Marble River Wind Farm
Matanuska Electric Association
Medicine Bow Project
MinnErgy's Eyota Ethanol Plant
Mississippi Power - Kemper County IGCC Plant
Navitas Energy, Ogle/Winnebago Counties
Navy Homeport LNG
Nelson Dewey III
Neptune LNG
Nevada Energy, East Henderson Transmission Project
New Comstock Wind Energy Project
New York Regional Interconnect Power line
Nine Mile Point Nuclear Station
North Anna Nuclear Generating Station Unit 3
North Western/Montana States Intertie Project
Northern Michigan University Ripley Addition
Northern Star Natural Gas Inc., Bradwood Landing Project in Astoria
NorthernStar Energy's Clearwater Port Oxnord Terminal
NRG Indian River Plant Expansion
NuFuels LLC Huntington Ethanol Plant
OptiSolar Topaz Solar Farm
Oregon LNG
Osage BioEnergy Ethanol Plant
Pacific Mountain Energy Center
Pacific Renewable Energy Generation Lompoc Wind Farm
PacifiCorp Jim Bridger 5 Supercritical Unit
Padre Island Offshore Wind Farm
Pampa, Texas Wind Farm, T. Boone Pickens, Mesa Power
PdV Wind Energy Project
Peabody Energy - NewGas Energy Center
Peabody Energy's Prairie State
Peabody Energy's Thoroughbred Generating Station
Pee Dee Facility
Pelican Island LNG
Penascal Wind Farm
Penguin Bank Wave Energy Project
Penn-Mar Ethanol Plant, Conoy Township (Susquehanna River)
Penn-Mar Ethanol Plant, Greene Township (Franklin County)
Pepco Mid-Atlantic Pathway
PG&E Humboldt County WaveConnect Project
Pinnacle Wind Farm
Plant Vogtle
Plum Point Power Station: LS Power
Port Dolphin LNG Deep Water Port
Port Sutton Envirofuels, Tampa Ethanol Plant
Port Westward Generating Station, Columbia County
Power Holdings' Waltonville Coal Project
Prattsburgh Wind Farm

Progress Energy, Apalachicola - Port St. Joe
Public Service of New Hampshire (PSNH) Clean Air Project, Merrimack Station
Quoddy Bay LNG Pleasant Point Plant
Radar Ridge Project
Record Hill Wind Project
Red Rock Generating Station
Ridgeline Energy, Goshen South Wind Farm Project
River Bend
RiverWright Buffalo Ethanol Plant
Rollins Mountain Wind Project
Roseburg Biomass Project
Russell Biomass Power Plant
Russell City Energy Center, Alameda County
Sandy Creek Plant
Scriba Coal Gasification Plant
Secure Energy's Decatur Gasification Plant
Seminole Electric Power Cooperative's Seminole 3
Sempra Energy Gerlach Plant
Sempra Energy's Jerome Plant
Sevier Plant
Shaffer Mountain Wind Project
Shankers Bend Hydropower Project
Shearon Harris Nuclear Plant
Shell and TransCanada Energy Broadwater Project in Long Island Sound
Shell, Gulf Landing
Shell/Bechtel Vallejo
Sithe Global Power (Shade Township)
Sithe Global's River Hill Project
South Chestnut Ridge Windpower Project
South Heart Coal Gasification Plant
South Texas Nuclear Project
Southern California Edison, Presidential Station Project
Southern California Edison, Tehachapi Line
Southern Company's (Southern Power) Clean Coal Plant
Southwestern Power Group's Bowie Power Station
Sparrows Point LNG, Baltimore County
Stetson Wind
Summer Nuclear Station
Sunflower Electric Power Corporation, Holcomb Expansion
SunPeak Solar, Imperial County
SunPower/PG&E, California Solar Ranch
Sunrise Powerlink Renewable Electricity Transmission Line
SunZia Transmission Line
Susquehanna-Roseland
Tampa Electric Company's Polk Power Station 6
TANC Transmission Project
Taos Windfarm
Taylorville Energy Center
Tenaska Sallisaw Plant

The Board of Holland Public Works
The Fairbanks Economic Development Corporation Coal-to-Liquids Plant
Tonawanda IGCC Plant
Tondu/MSWDC Northern Lights Coal Plant
Toquop Power Plant
TrAIL Project
TransCanada Pipeline and ConocoPhillips, Hope Island Project
TransCanada PipeLines and Conoco Phillips - Fairwinds LNG facility in Harpswell
Turk Plant: Hempstead
Turkey Point Units 6 & 7
TVA, Rutherford-Williams Power Supply Improvement Project
TVA, Watts Bar Unit 2
Twin River Energy Center
Two Elk Generation Partners - Unit 1
TXU Big Brown
TXU Lake Creek 3
TXU Martin Lake 4
TXU Monticello 4
TXU Morgan Creek 7
TXU Tradinghouse 3 and 4
TXU Valley 4
US WindForce Liberty Gap Wind Farm
Valley County Wind Farm
VeraSun Milford Ethanol Plant
Victoria County Station
Victorville 2 Hybrid Power Project, Inland Energy Inc.
Virginia City Hybrid Energy Center
Virginia Peak Wind Project
Washington County Power Station
Weaver's Cove Energy LLC and Mill River Pipeline Fall River
West Linn Highway Solar Project
West Ridge and East Ridge Wind Projects, Harney County
Westar Energy's Coal Plant Project
Western Greenbrier Co-Production Demo Project
Whelan Energy Center II
Whistling Ridge Wind Project
White Oak Energy Center
White Oak Wind Energy Project
Wilbarger County Wind Power Project
William States Lee III Nuclear Station
Wisconsin Public Power Inc. Escanaba Plant
Wolverine Coal Plant
Woodside Natural Gas Los Angeles/Malibu Ocean Way
Wygen III Power Plant
Xcel IGCC plant
Yucca Mountain Project

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Steve Pociask is president of the American Consumer Institute. He has published numerous economic studies, including three books for the Economic Policy Institute, and policy studies for numerous independent nonprofit organizations. He has also written reports for the Small Business Administration's Office of Advocacy, testified before Congress and has appeared numerous times in the media, including Bloomberg News, CNBC, NBC, FOX, Congressional Quarterly, New York Times, and CNET Radio. He served as chief economist and executive vice president for Joel Popkin and Co., and prior to that was chief economist for Bell Atlantic Corporation. He has completed his Ph.D. coursework in economics and has an M.A. in economics from George Mason University.

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