Economic Study on the Atlantic Shores Offshore Wind Turbine Power Plant Developments off the New Jersey Coastline

Economic Damage to Coastal Community Tourism Industry is Not Offset by Alleged Economic Growth from Industrial Offshore Wind Turbine Power Plants

Defend Our Beaches NJ

August 2024 Rev3

Table of Contents

Background

In 2021 President Biden announced clean energy goals for the country including a 100% carbon pollution free power sector by 2035 and net zero emissions economy no later than 2050. The lynchpin for this energy transformation is to electrify energy including but not limited to transportation, heating, cooking, manufacturing, and replace fossil fuels with "green" energy" including 30GW of offshore wind energy by 2030 and 110 GW by 2050. [1] To show his support for the nation's clean energy goal as well as to create a new industry in the state, Governor Murphy signed a series of green energy executive orders. The governor's most recent E.O. goals were to implement 11 GW of offshore wind by 2040 and to sell 100% clean energy in the state by 2035. [2]

Wind energy developers and "experts", green energy lobbyists, and some elected officials claim that offshore wind will reduce anthropogenic GHG (the alleged cause of climate change) and at the same time create many "good paying union" jobs and economic growth. It should be noted there is no statement or guarantee that offshore wind will reduce flooding, extreme weather events, or ocean rise at the Jersey Shore in any document produced by an offshore wind developer or government agency. Also keep in mind that there are many ecological and environmental hazards that remain unaddressed by offshore wind developers and government agencies.

Regarding economic growth, according to President Biden, 30 GW of offshore wind will create 44,000 jobs and 33,000 indirect jobs and 110 GW of offshore wind will create 77,000 jobs and 57,000 indirect jobs. [3] At the NJ State level, it is estimated that over the next 10 years offshore wind will create 95,317 net job years, or 9,532 jobs per year according to the NJ Council on the Green Economy's September 2022 report, *Green Jobs for a Sustainable Future*. [4]

Digging deeper into specific wind development projects, specifically Atlantic Shores projects 9 miles off the NJ coast, the actual guaranteed jobs in the wind development documents are few. In the June 30, 2021, NJBPU Power Purchase Agreement for Offshore Wind [5], Atlantic Shores South Project 1 guarantees 88 jobs during the operations and maintenance phase and offers no job guarantee for the development and construction phases. This contrasts with the NJBPU's statements in the same PPA Agreement that Atlantic Shores South Project 1 will bring an estimated 18,550 direct

---

[1] FACT SHEET: President Biden Sets 2030 Greenhouse Gas Pollution Reduction Target Aimed at Creating Good-Paying Union Jobs and Securing U.S. Leadership on Clean Energy Technologies | The White House

[2] Office of the Governor | Governor Murphy Announces Comprehensive Set of Initiatives to Combat Climate Change and Power the "Next New Jersey" (nj.gov)

[3] FACT SHEET: President Biden Sets 2030 Greenhouse Gas Pollution Reduction Target Aimed at Creating Good-Paying Union Jobs and Securing U.S. Leadership on Clean Energy Technologies | The White House

[4] CGE Roadmap.pdf (nj.gov)

[5] https://www.nj.gov/bpu/pdf/boardorders/2021/20210630/ORDER%20Solicitation%202%20Board%20Order%20-%20ASOW%20C.pdf

and 40,744 total (direct, indirect and induced) job-years (in Full-Time Equivalent years or "FTE-years") to New Jersey from the date of the award through the 20-year OREC term, according to Atlantic Shores (Atlantic Shores Application at Table 8-3). In the Atlantic Shores NJDEP permitting application for its Operation and Maintenance Facility at the Farley Marina, the parking area for the building - located 2 miles away on Belmont Ave. in Atlantic City - has 198 parking spaces. This provides a clue as to the number of jobs that will be created in Atlantic City. It is also stated in this same permitting document that there will be 80 renewable energy employment opportunities created at the O&M Facility which is far less than the 198 available parking spaces.[6] Lastly, the Atlantic Shores' Construction and Operations documents include a section on jobs creation and value (GNP) added based on forecasts using wind industry models which is the most thorough data available. [7]This information will be rigorously analyzed in this study.

Although the Atlantic Shores' documents claim that there will be a significant positive economic impact during the life of the offshore wind projects, they ignore the significant negative long term impact on the tourism and other coastal community industries even though there are a number of peer reviewed scientific studies supporting this conclusion.[8] According to the studies, the reduction in tourism results from the number of tourists who will vacation elsewhere because they do not want an industrialized view of 357, 1040 Ft high "highly visible array of wind turbine generators (WTGs)" from the beaches in Atlantic and Ocean Counties. According to the Atlantic Shores FEIS, "WTGs would add a developed/ industrial visual element to ocean views that were previously characterized by open ocean, broken only by transient vessels and aircraft passing through the view". [9] In addition, "the WTGs are not compatible with water resource landform, land use and user activity".[10] Even Atlantic Shores describes their projects' visual impact on most of the key observation points throughout Atlantic and Ocean County as major with high visual prominence. [11] It should be pointed out that these studies don't even take into consideration the cost and disruption of beach and ocean areas caused by construction and turbine noise, or when failing blades crumble and fiberglass shards fall into the ocean and wash up on beaches, or when offshore and onshore cables are needed to be retrenched or reburied, or when oil, other toxic lubricants, and forever chemicals like PFAS and are found in the ocean. The recent Nantucket July 13,' 2024, Vineyard Wind turbine blade catastrophe is a wakeup call in

---

[6] njdep-asow-compliance-statement-and-site-plans.pdf

[7] See Appendix B

[8] *North Caroline State University the Amenity Costs of Offshore Wind Farms – Evidence from a Choice Experiment*, Lutzeyer et. al, August 2017; *Global Insight, Inc, an Assessment of the Potential Costs and Benefits of Offshore Wind Turbines*, prepared for the State of New Jersey, September 2008; *University of Delaware, Atlantic Offshore Wind Energy Development: Values and Implications for Recreation and Tourism*, sponsored by the Bureau of Ocean Energy Management, Parsons & Firestone, March, 2018)

[9] Atlantic Shores FEIS, Appendix F assessment of Resources with Moderate or Lower Impact

[10] https://www.boem.gov/sites/default/files/documents/VIA-South-Attachment-E-Photosimulations-Part-7-BC02.pdf

[11] *AtlanticShoresSouth_ Appendix H Landscapes and Visual Impact.pdf (see tables H-11 to H-30) and SLVIA_North_Attachment G SLIA and VIA Rating Forms.pdf (boem.gov) (table 7.3.1)

that we should expect our ocean to be negatively impacted by environmental hazards throughout the life of the offshore wind projects.[12]

Instead of admitting to the long-term negative impact on the tourism economy, Atlantic Shores and other wind developers, misleadingly cite the study, *Analysis of the Effects of the Block Island Wind Farm on Rhode Island Recreation and Tourism Activities*, BOEM, Smyth et. al., University of Rhode Island, Dec 2018. The project in this study consists of only 5, much smaller, 659 ft. high wind turbines, 3.8 miles off the southern tip of Block Island and mostly out of the viewshed from popular beaches and large harbor on the other side of the Island. [13] The wind developers cite other studies but omit key information and misrepresent study parameters and conclusions to back into their "informed decision" based on "scientific judgement" that the projects will have no long-term negative impact on tourism.

As a result of the inaccurate information produced by the offshore wind industry and its advocates, there is a critical need to correct the narrative on the jobs and economic impact of the offshore wind utility plant developments off our coastlines.

The cumulative impact of the 10 offshore industrial power plants with 2000 wind turbines off the New Jersey coast from Cape May to Sandy Hook will no doubt have an enormous impact on our NJ coastal communities and state rate payers. Two projects - Atlantic Shores South and North (357, 1040 ft high turbines starting 9 miles off the coast) - have "visual areas of potential effects" primarily in Atlantic and Ocean County coastal communities [14], and data is available to allow a rigorous study of their economic impact. For these reasons, the purpose of the study is to evaluate the jobs and economic impact by year over the life of the Atlantic Shores South and North Offshore Wind projects according to data and schedules in the Construction and Operation Plans (COPs), along with the impact on tourism industry jobs and economy in Atlantic and Ocean Counties.

In the Study section of this paper, the reader will gain an understanding of the economic impact of jobs and GDP created from the offshore wind project and job loss and reduced GDP from reduced tourism for each year during the life of the projects (2018 – 2062). Calculating the results by year allows for an apples-to-apples comparison of economic gains and losses which are then measured in average annual impacts. **The end result shows a significant net negative impact: a 14,137 average annual job loss and a net $1.3 billion average annual GDP loss over the 44-year life of the projects.**

Before delving into the study and calculations, there are other aspects of economic impact that should be considered. The discussion of these aspects follows.

---

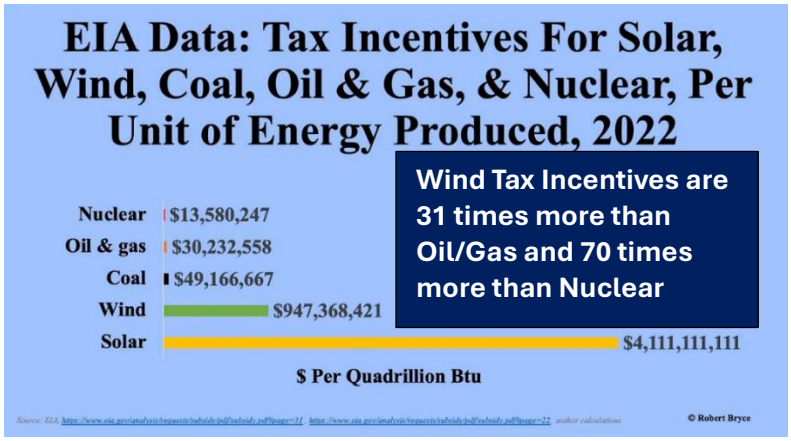
[12] Broken wind turbine blade 'crisis' fuels NJ beach disaster fears | Wind Energy News (wind-watch.org)

[13] See discussion of Existing Views of BIWF for Key Observation Points (KOPs) B102-B116*Sunrise Appendix Q1 VIA (boem.gov)

[14] Offshore-Wind-Catastrophic-Impact-to-Atlantic-County-Economy-April-2024.pdf (defendbrigantinebeach.org)

How Much is "Job Creation" Costing the Taxpayers and Rate Payers?
Federal and State Funding for Jobs in Offshore Wind Industry

Funding for offshore wind comes from rate payers via highly inflated above market offshore wind energy prices in government mandated contracts and from federal and state handouts paid by taxpayers. These sources subsidize the jobs and GDP related to the industry. An important consideration is the cost per job created in the wind industry. Independent financial experts conclude that the cost per wind job created is extremely high. A second consideration is how many jobs would be created if the same amount of tax or rate payer revenue was directed elsewhere. According to the US Department of Energy, there are at least 19 federal government agency subsidy programs for the promotion of green energy and jobs including tax incentives for project developers and investors, financing mechanisms, R&D grants, cooperative agreements, and technology deployment grants. [15] In 2022, the tax incentives for wind development were the second largest in the energy sector. [16] Even Warren Buffet stated, to reduce his company's tax rate he invests in wind energy. "That's the only reason to build them. They don't make sense without the tax credit." [17] New Jersey corporations already have a poor reputation for pocketing subsidies without creating local jobs.[18] Even worse, in the case of offshore wind, most wind development companies who will be receiving the trillions of dollars in US tax credits are foreign and multinational corporations which means that the subsidy windfalls will not even be benefiting US companies. For example, Atlantic Shores LLC, is a joint venture owned by Shell Oil of Great Britain/Netherlands and EDF Renewables owned by the French Government.



Below are examples of the subsidies/tax credits:

2022 Federal Inflation Reduction Act - This Act provides 30% - 40% in Investment Tax Credits and 2.6 cents/kWh in Production Tax Credits to offshore wind energy producers and other green energy projects. Estimates of the total cost of this federal program were $400 billion, and the program will end by 2032, or until the CO2 emissions are

[15] FACT SHEET: Biden Administration Jumpstarts Offshore Wind Energy Projects to Create Jobs | The White House
[16] Biden admin quietly released study showing green energy receives far more subsidies than fossil fuels | Fox News
[17] Even Warren Buffet Admits Wind Energy Is a Bad Investment (usnews.com)
[18] https://goodmenproject.com/featured-content/nj-residents-are-fed-up-with-corporations-pocketing-subsidies-without-creating-local-jobs/

75% below their 2022 levels, whichever comes last. As a result of this open-ended stipulation, it is estimated that the costs could balloon to $1.2 trillion. [19]

This subsidy program has been hijacked by the Wall Street bankers who turned it into a complex financial tool known as the tax equity package. Below is an example of how bankers are profiting from the IRA incentive paid by taxpayers.

> "Beyond the construction and deployment phases, the long-term nature of operating offshore wind, with fixed contracts with durations of 10 years or more, is nicely suited for another financial tool, known as the tax equity package. Offshore wind takes advantage of incentives, including tax credits, that were greatly expanded under the Inflation Reduction Act (IRA), enacted in August 2022. These types of structures enable the project owners to raise cash from the sale of investment stakes to financial institutions, who can then utilize tax credits from previous programs (Investment Tax Credits, and sometimes, Production Tax Credits), combined with new incentives in the IRA. Describing the financing for Vineyard Wind 1, Avangrid said: "The $1.2 billion investment transaction was reached with J.P. Morgan Chase, Bank of America and Wells Fargo, making it the largest single asset tax equity financing and the first for a commercial scale offshore wind project." The tax equity package is tied to a highly complicated 'partnership flip' that has been used in many renewable energy packages - after the financial institutions are paid off, the project developer, in this case Avangrid and CIP, garners all, or nearly all, of the upside. "[20]

Not too long ago we experienced the collapse of the real estate market along with record losses of jobs, GDP, and stock market known as the Great Recession from 2007-2009. Jersey Shore was devastated by this recession. The recession ring leaders included Wall Street who exploited toxic mortgages, conflicted rating and insurance industries, complicit and compromised government agencies and elected officials whose policies and legislation had unintended consequences which were not monitored. At this point the packaging of tax credits for green energy is not too big to fail, although we should be wary of the long-term outcome based on the factors resulting in the past historic recession.

U.S. Department of Energy's Innovative Energy Loan Guarantee Program [21] Provides $3 billion for offshore wind industry. So far, the Loan Program's Office has issued $1.6 billion for 1000 MW of onshore wind. That's $1.6 million per MW!

The Transmission Siting and Economic Development (TSED) Grant Program The program is a $760 million investment through the IRA. On July 24, 2024, the program issued $371 million to 16 states. New Jersey received $50 million to "catalyze civic engagement, workforce development, and economic mobility in NJ communities

[19] Biden's Inflation Reduction Act Now Forecast to Cost Taxpayers Triple the Government Estimate - IER (instituteforenergyresearch.org)
[20] https://www.marinelink.com/news/offshore-wind-inside-financial-web-515740
[21] FINANCING PROGRAMS | Department of Energy

impacted by the development of offshore wind transmission projects…. along with funding opportunities for electrical careers in partnership with the IBEW Local Union 400." [22]

New Jersey Economic Development Authority's Offshore Wind Tax Credit Program – Provides tax and insurance cost credits up to 100% of capital costs for any wind industry business investing $50M and has at least 150 new employees. According to the legislation, the value of the credits may be up to $100M unless NJEDA authorizes to exceed the cap.[23]

New Jersey Bureau of Public Utilities Offshore Wind Renewable Energy Certificate (OREC) Power Purchase Agreements (PPAs) Offshore wind energy is weather dependent, unreliable, and intermittent. [24] Offshore wind produces some of the costliest energy in the world. The costs include the mining of scarce minerals and rare earth elements in developing countries, manufacturing, and transporting the components over long distances, and installing the turbines in the seabed, installing cabling and substations to transport the energy to its users along with the cost of required electric grid upgrades to handle the energy's random surges and pauses. Its intermittency requires costly overbuilding of the wind energy power plant, and backup operations from duplicate "on demand" fossil fuel systems or by a magnitude of batteries in which technology does not even exist to fill in for higher percentages of wind energy in the grid.

The NJBPU executes solicitations for purchasing offshore wind energy and pays developers ORECS for their energy. There are few participants in each round of solicitations, so competition is lacking, and the produced costly energy will get sequenced first on the grid. Unlike other states, there is no legislated price cap per OREC paid to developers. The NJBPU could pay almost any price to meet the Governor's goal of implementing 11 GW of offshore wind by 2040.

Atlantic Shores has three projects to submit to the NJPBU for PPAs as follows: 1510 MW Atlantic Shores South Project 1, 1200 MW Atlantic Shores South Project 2, and 2235 MW Atlantic Shores N. for a total of 4945 MWs.[25] Atlantic Shores was awarded a PPA on June 30, 2021 for Project 1. Per NJPBUs most recent Solicitation 4 guidance, Atlantic Shores is allowed to resubmit another bid for a higher price.

Because there is no OREC price cap, awards are triple the price of PFM grid market wholesale energy prices which can be described as a "subsidy" to achieve the 11 GW of offshore wind goal and to create jobs. Based on recent bid results for Solicitation 3, prices for Offshore Wind energy are $101 to $174/MWH higher than the market price for power. Using these prices it is estimated that the "subsidy" for the Atlantic Shores

---

[22] Transmission Siting and Economic Development Grants Program | Department of Energy

[23] Offshore Wind Tax Credit Program - NJEDA

[24] See discussion of intermittency issues starting on page 7,Comments-NJPBU-OREC-Solicitation-No.-4-March-2024.pdf (defendbrigantinebeach.org)

[25] According to Atlantic Shores North COP, 50% of this energy and respective jobs will go to New York state.

South Project 1 rebid will total $16 billion over the life of the facility. [26] According to the Atlantic Shores South COP [27], Project 1 will create 40,730 job years (1 job over 10 years = 10 job years). The subsidy per job year for this project is $393,000! And 6,600 of those job years will be foreign labor during the construction phase. Project 1 will add $1.8 billion in GDP to the NJ economy. [28]Therefore, over the life of the project, ratepayers will pay $16 billion in "subsidies" (above market rates) to add $1.8 billion to the economy.

The subsidies will be paid through electric rates. Atlantic Shores projected rebid price along with the prices awarded in the 3rd solicitation could be as high as a 22% increase per kWh for residential rate payers, 27% increase for commercial rate payers and 32% increase for industrial rate payers. [29] According to one study only a 2% price increase would cost the NJ economy 2219 jobs. [30] These higher costs give added incentive for individuals and businesses to relocate out of NJ to other less costly areas which hurts the state's economy.

There is a second smaller but important hidden "subsidy" for OREC awards paid to offshore wind developers. The NJPBU stipulates the evaluation criteria for awarding the Power Purchase Agreements. When the award is based on factors in addition to price, this increases the cost of energy. Examples are: required or encouraged contributions to port developments, manufacturing and training facilities, job creation minimums, and university and community investments. [31] Offshore wind developers are obligated to maximize profits for their shareholders. They are not altruistic entities. Although marketed as philanthropy, any funds spent on pandering to communities, educational institutions or government agencies are priced into their energy costs and paid by ratepayers. [32]

New Jersey Funding for Wind Energy Ports The New Jersey wind port in Salem County is the proposed hub for wind business. The state invested $500 million in direct aid for the project, along with $1B in federal tax credits to the first tenant, Danish wind giant

---

[26] Cost estimates are from the *Economic Analysis of a Potential Re-Bid of the Atlantic Shores One Offshore Wind Project*. Available at Whitestrandllc.com

[27] Atlantic Shores South Section 7.1.2 Volume II (boem.gov) and Atlantic Shores North Section 7.1.2 of Atlantic Shores South COP Volume II (boem.gov) ; See Appendix B for Data Tables and Calculations of Average Annual Jobs/GDP by Phase

[28] Ibid.

[29] Cost estimates are from the *Economic Analysis of a Potential Re-Bid of the Atlantic Shores One Offshore Wind Project*. Available at Whitestrandllc.com

[30] *The Cost and Economic Impact of New Jersey's Offshore Wind Initiative*, Beacon Hill Institute at Suffolk University, June 2011.

[31] See page 10 for evaluation criteria: 50% of criteria is Cost, Ratepayer Impacts, others are Guarantees for Economic Impacts, Environmental & Fisheries Impacts, Likelihood of Successful Operation. https://www.nj.gov/bpu/pdf/boardorders/2021/20210630/ORDER%20Solicitation%202%20Board%20Order%20-%20ASOW%20C.pdf

[32] *DE-OSWProcurement-SIOW-WorkingDraft (delaware.gov)

Orsted. [33]In November of 2023 Orsted suspended its offshore wind projects Ocean Wind 1 and 2, therefore the status of the $1B in federal tax credits is unknown. New Jersey also invested $250 million in a turbine assembly plant in Paulsboro, NJ. [34] As a result of the NJPBU's 3rd Solicitation for ORECS, the winners, Leading Light Wind and Attentive Energy will also be investing $164 million. As described in NJPBU OREC PPA section above, rate payers will ultimately be subsidizing the wind developers for their investments through increased utility prices. The Paulsboro plant will be developed in three phases, and by phase 3 it will create up to 800 permanent manufacturing jobs. The Salem County Wind Port is expected to create 1500 union jobs. [35] These job projections are based on the build out of the entire 11 GW of offshore wind and may also include an assumption that these ports would serve projects outside of NJ. The probability of this is low since other states are building their own wind ports.

Job Creation or Job Replacement?

Industry transitions create winners and losers. In the case of the energy industry, the losers have been the employees in the coal, gas and oil industries who have lost their jobs. There are 11 million direct and indirect jobs in the gas and oil industry.[36]

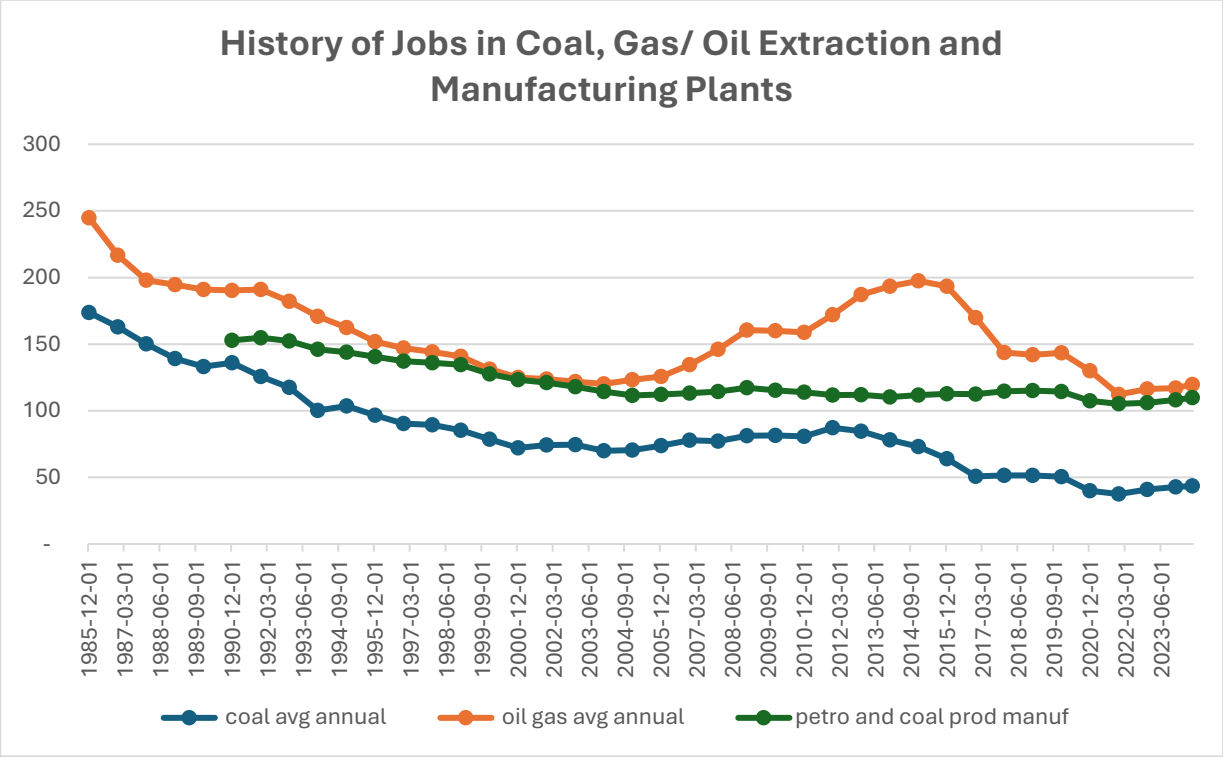
The chart below shows 3 subsets of the industry's employment: coal mining, gas and oil extraction and fossil fuel product manufacturing. In 1985 there were 479,000 jobs in these categories. Since then, 130,000 coal jobs, 125,000 oil/gas jobs, and 43,000 coal/oil/gas product manufacturing jobs have been eliminated. This is a total of 298,000 jobs or a 62% reduction. There are a total of 273,000 remaining jobs in these categories. [37] How many more jobs will be eliminated by net zero energy and carbon free energy policies? Are public policies on energy creating new jobs or just replacing the jobs that the policies are eliminating? Rulemakings like the Environmental Protection Agency's (EPA) new power plant rule will force the bulk of coal and natural gas fired power plants out of business by the 2030s if certain cost prohibitive requirements are not met. [38] How many jobs will be eliminated in New Jersey?

For instance, South Jersey Gas built a new headquarters in Atlantic City in 2018 which created 200 new permanent jobs. [39] NJ public policies require 100% clean energy to be sold by 2035. Will this force the closure of the South Jersey Gas headquarters in

---

[33] New Jersey wind port in Salem County aims to jump start state as hub for wind business (news12.com)
[34] NJ to invest $250 million in wind turbine manufacturing | PIX11
[35] sweeney-center-report-benchmarking-nj-on-offshore-wind-060523.pdf (rowan.edu)
[36] API | Behind the 10.8 Million Stat: The People of American Oil and Natural Gas
[37] All Employees, Coal Mining (CES1021210001) | FRED | St. Louis Fed (stlouisfed.org)
All Employees, Oil and Gas Extraction (CES1021100001) | FRED | St. Louis Fed (stlouisfed.org)
All Employees, Petroleum and Coal Products Manufacturing (CES3232400001) | FRED | St. Louis Fed (stlouisfed.org)
[38] Paige Lambermont, "The Problem With the Power Plant Rule," Catalyst, September 26, 2023, https://catalyst.independent.org/2023/09/26/power-plant-rule-problem/
[39] South Jersey Gas Opens New Headquarters in Atlantic City | Jersey Digs

Atlantic City? Atlantic Shores estimates that their offshore wind operation and maintenance building at Farley Marina in Atlantic City will create 88 jobs. This is a prime example of the job replacement cycle in the energy transition.



The Study

The purpose of this study is to evaluate the jobs and economic impact by year over the life of the Atlantic Shores South and North Offshore Wind projects using the data and schedules in the *Construction and Operation Plans (COPs), Volume II* [40], along with the impact on tourism industry jobs and economy in Atlantic and Ocean Counties in Tourism Economics', an Oxford Economics Company, Report, *Potential Economic Losses of Reduced Tourism Attributable to Proposed Wind Turbines in Long Beach Island, NJ* (March 2024). [41]

[40]Atlantic Shores South Section 7.1.2 Volume II (boem.gov) and Atlantic Shores North Section 7.1.2 of Atlantic Shores South COP Volume II (boem.gov) ; See Appendix B for Data Tables and Calculations of Average Annual Jobs/GDP by Phase

[41] PowerPoint Presentation (pashmanstein.com)

Other Economic Impacts Not in this Study

This study does not include the negative economic impact of the Atlantic Shores offshore wind turbine power plant developments on the fishing industry[42], recreational fishing industry or residential property values[43]. It also does not include jobs lost because of higher electric rates.

Definitions of Economic Impact

The scope of the impact in this study includes direct, indirect and induced jobs and value added/lost (GDP). The definition of these terms for the two industries is as follows:

Industry	Direct Impact	Indirect Impact	Induced Impact
Offshore Wind (Atlantic Shores COP, Vol II)	Impacts to the local economy represent the initial impacts felt in the Project Region from the new local spending, such as the number of jobs created or the total amount of sales or production.	Changes in the interindustry transactions in the Project Region when supplying industries respond to increased demands from the directly affected industries.	The tertiary or "induced" effects reflect changes in local household spending in the Project Region that result from income changes in the directly and indirectly affected industry.
Tourism (*Tourism Economics, Potential Economic Losses of Reduced Tourism Attributable to Proposed Wind Turbines in Long Beach Island, NJ*, March 2024)	Impacts created directly from spending by visitors to a destination within a discreet group of tourism-related sectors (e.g. recreation, transportation, lodging)	Impacts created from purchase of good and services used as inputs (food wholesalers, utilities, business services) into production by the directly affected tourism -related sectors.	Impacts created from spending in the local economy by employees whose wages are generated either directly or indirectly by visitor spending.

Regions Impacted

Atlantic Shores Discussion of Job and Economic Growth: Inconsistencies in the Description of the Regions Impacted

- According to Section 7.1.1 in Atlantic Shores South Construction and Operations Document (COP) Vol. II, the Project Region is defined as communities in Atlantic, Monmouth, Salem, Gloucester, Ocean, Essex, and Hudson Counties in NJ.

[42] Offshore wind could shrink Atlantic City's surfclam revenue, study says - WHYY

[43] *Atlantic Shores South Final EIS: Appendix H Seascape, Landscape, and Visual Impact Assessment (boem.gov) PDF PAGE 19 (Summary of Impact on Residential Beachfront Character)

- Tables in this section, following the Project Region definition, list data for additional counties including Burlington, Camden, Cape May, Cumberland Counties.
- According to Section 7.1.2.2, *Workforce Hiring*, "the Impact Producing Factors (IPFs) section focuses on the direct effect that workforce hiring will have on local New Jersey and New York communities during the development and construction, O&M, and decommissioning phases."
- Some tables with employment, labor and value added data are labled "NJ" and others do not specify the state. (tables 7.1-12 to 7.1-24)
- According to Section 7.1.1 in Atlantic Shores North Construction and Operations Document (COP) Vol. II, the Project Region is defined as communities in Atlantic, Burlington, Camdon, Cape May, Monmouth, Salem, Gloucester in NJ.
- Tables in this section, following the Project Region definition, list data for additional counties including Burlington County.
- According to Section 7.1.2.2, Workforce Hiring, "the Impact Producing Factors (IPFs) section focuses on the direct effect that workforce hiring will have on local New Jersey and New York communities during the development and construction, O&M, and decommissioning phases."
- Some tables with employment, labor and value added data are labeled "NJ" and others do not specify the state. (tables 7.1-12 to 7.1-24)

It is apparent that Atlantic Shores discussion of jobs and economy in the COPs for the South and North projects is inconsistent regarding area of impact. For the purpose of this study, it is assumed that offshore wind industry job creation and value added (GDP) impact the entire state of New Jersey.

Other details further weaken the integrity of the wind developer's job growth data. The job claims by Atlantic Shores do not specify which will be NJ sourced jobs and which will be foreign workers. According to the Atlantic Shores South DEIS (Atlantic Shores Offshore Wind South Draft Environmental Impact Statement: Chapters 1-4 (boem.gov), the BVG Associates Limited study (BVG 2017) concluded that the US sourced jobs during initial implementation - until 2030 - of US offshore wind projects would range from 35 -55 %. The construction for the Atlantic Shores South and North projects will end in 2028. Therefore, 45% - 65% of the jobs listed in Atlantic Shores workforce tables may be outsourced to foreign workers. Whether the wages are paid to foreign workers temporarily located in New Jersey or the workers are located outside of the state or country is unknown.

The documented actual local economic impact of a recent project in Massachusetts demonstrates that the numbers in the BVG Study may be overly optimistic. Only 4% of the value of Vineyard Wind's subcontracts were awarded to companies in Southeastern Massachusetts, according to a study the developer commissioned that was made public. Massachusetts-based companies won less than 20% of the value of awarded contracts, and more than half of spending went to non-US international companies. [44]

[44] Developers touted New Bedford area jobs in offshore energy — are they delivering? - The New Bedford Light

The regions directly impacted by tourism jobs and GDP loss are the coastal economies in Ocean County and Atlantic County. The total job and economic losses, including direct, indirect and induced, expand into all the Ocean and Atlantic County communities. The Tourism Economics, an Oxford Economics Company, produces an annual tourism economic study, *The New Jersey Visitor Economy*, prepared for VisitNJ.[45] This study includes tourism data by County. The Tourism Economics Report, *Potential Economic Losses of Reduced Tourism Attributable to Proposed Wind Turbines in Long Beach Island, NJ (March 2024)*[46] calculated the economic impact for tourism losses specific to the LBI coastal communities and Ocean County. The Tourism Economics' study on the economic losses of reduced tourism first estimated tourism specific to LBI coastal communities and then calculated the jobs and economic losses based on the reduced visitation in LBI communities. According to the report, Tourism Economics estimated a 25% loss of visitation and direct annual spending in the LBI Municipalities based on its review of the scientific literature.

To account for the tourism losses specific to Atlantic County coastal communities, for this study, a model was created to calculate the tourism data, and losses relative to the Long Beach Island tourism loss study. The Atlantic County coastal community model used LBI's percentages for the coastal community tourism as a percent of the total county tourism and the same tourism loss percentage. Atlantic County statistics in the 2022 Tourism Economics' *NJ Visitor Economy* report[47] were used as the baseline data. Mathematically, the same result would be calculated by applying the "LBI coastal community tourism loss as a percentage of total Ocean County tourism" to Atlantic County total tourism numbers. Both calculations were done to validate the results and to fill in for some of the baseline LBI total tourism data that was not revealed in the report.[48]

For a more precise calculation of the impact for Atlantic County coastal communities, it is recommended that Tourism Economics prepare a Tourism Impact Study for this region. There may be differences in the impact in the two county coastal areas but at this time we do not have data available specifically for Atlantic County coastal community losses from Tourism Economics. Nonetheless, using the same methods as those in the Long Beach Island Tourism Loss Study seems reasonable and provides a good estimate.

Vineyard Wind Nov 2022 Jobs Impact Report: Microsoft Word - VW1 Monitoring Final (squarespace.com)

[45] New Jersey Tourism Research and Information | VisitNJ.org

[46] PowerPoint Presentation (pashmanstein.com)

[47] Economic Impact (visitnj.org)

[48] See Appendix A for calculations

Data Year, Job Definition, Economic Impact Calculations, Modeling Software

The economic data in Atlantic Shores COPs is for the 2020 year. The economic data for the Tourism Economics Report is the 2022 year. The 2022 year for the tourism measurement is more accurate than using the 2020 tourism data which was highly impacted by a once in a lifetime global pandemic. By 2022, tourism rebounded to a pre-pandemic level and has continued to increase through the 2023 year (most recent data available).

Atlantic Shores' offshore wind industry employment definition (*Atlantic Shores South and North COPs, Vol II*): 1 job is 1 Full Time Equivalent (FTE) at 35 hours per week (1820 hrs. per year) for Atlantic Shores South and 40 hours per week (2080 hrs. per year) for Atlantic Shores North.

Tourism Economics' (*Potential Economic Losses of Reduced Tourism Attributable to Proposed Wind Turbines in LBI, NJ, March 2024*) tourism industry employment definition: 1 job (includes part time and seasonal work) is 1 person working at least one hour per week for fifty weeks during the calendar year. According to the Bureau of Labor Statistics, Table 23., "Persons at work by occupation, ex and usual full-or part time status", the average hours worked per week for service industry employees was 34.8 in 2023.

For job and GDP loss, Tourism Economics uses employment and wage data from the Regional Economic Information System (REIS) maintained by the Bureau of Economic Analysis using categories related to the tourism industry.

For job creation and value (GDP) added, it appears that Atlantic Shores uses a model of job creation and economic impact based on the total Megawatt capacity for a wind energy project. This was determined after calculating the jobs per MW for several projects and arriving at consistent results. It has not been confirmed if this model is an industry standard.

Both Atlantic Shores and Tourism Economics use the IMPLAN model to calculate the projected jobs and GDP outcomes. [49]

---

[49] A detailed economic Input-Output (I-O) model was developed for each of the Projects by Atlantic Shores using the IMPLAN47 online analysis tool to analyze and estimate the potential labor and economic impacts of the planned spending and local opportunities in the Project Region. Using the projected local spending patterns for the Projects as described above, the I-O model analyzes and estimates anticipated changes to local industry or commodity revenues in the Project Region due to that spending, and the resulting increases in local supply chain and business-tobusiness transactions.

IMPLAN is an industry-standard regional I-O modelling tool that assembles annual data sets from validated government and industry sources including the U.S. Bureau of Economic Analysis, (BEA)

Atlantic Shores Project Phase Schedules

The planned schedules for the projects provide context for the anticipated duration of jobs, the timeline of the job creation, and other associated economic benefits.

According to the schedules, the Atlantic Shores South project job and economic activity will last over 43 years, and the Atlantic Shores North project job and economic activity will last over 41 years.

In the Atlantic Shores reports, the job numbers were not separated for the Development and Construction phases. For this study, jobs were apportioned for each category based on the total wages that Atlantic Shores assigned to each of the Development and Construction phases. The wage data was presented by phase in the Atlantic Shores South and North Construction and Operations Plan (Volume II) documents and the percentages were consistent based on the data in both documents. The Development Phase was 27% of the total Development and Construction Phase labor and the Construction Phase was 73% of the total for the two phases combined.

---

the U.S. Census Bureau, and the Bureau of Labor Statistics (BLS). All annual data sets used in this analysis are current to reporting year 2019. The IMPLAN software applies deflators to the 2019 data to provide results for current year of analysis (2020). The IMPLAN application and supporting documentation may be accessed at: https://www.implan.com/

Tourism Economics estimated the economic impacts of reduced visitor spending (attributable to the proposed wind turbines) using regional Input-Output (I-O) model based on a customized IMPLAN (www.implan.com) models for the economy of Ocean County. IMPLAN is recognized as an industry standard in local-level I-O models. An I-O model represents a profile of an economy by measuring the relationships among industries and consumers to track the flow of industry revenue to wages, profits, capital, taxes and suppliers. The supply chain is traced as dollars flow through the economy, representing indirect impacts. The model also calculates the induced impacts of spending. Induced impacts represent benefits to the economy as incomes earned as a result of direct spending are spent in the local economy, generating additional sales, jobs, taxes, and income. The modeling process begins with aligning the direct expenditure measurements with the related sectors in the model (e.g. hotels, restaurants, retail, and recreation). The model is then run to trace the flow of these expenditures through the economy. In this process, the inter-relationships between consumers and industries generate each level of impact. IMPLAN calculates three levels of impact – direct, indirect, and induced – for a broad set of indicators

Atlantic Shores South Project Schedule (COP, Volume II) [Volume II (boem.gov)]

Table 7.1-10 Anticipated Project Schedule

Phase	Start	End	Duration (Years)
Project 1			
Development	2018	2024	7
Construction	2025	2027	3
Operations	2028	2057	30[a]
Decommissioning	2058	2060	3
Project 2			
Development	2018	2024	7
Construction	2026	20297	3
Operations	2029	2058	30[a]
Decommissioning	2059	2061	3

Notes: A detailed construction schedule is provided in Table 4.1-1 of Volume I Project Information.
a). Atlantic Shores' Lease Agreement OCS-A 0499 includes a 25-year operating term, which may be extended or otherwise modified in accordance with applicable regulations in 30 CFR Part 585.

Atlantic Shores North Project Schedule (COP, Volume II) [Atlantic Shores South COP Volume II (boem.gov)]

Table 7.1-11. Anticipated Project Schedule

Phase	Start	End	Duration (Years)
Development	2020	2025	5
Construction	2025	2028	3
Operations	2029	2059	30
Decommissioning	2059	2062	3

Notes: Table 4.1-1 of Volume I Project Information provides a detailed construction schedule. Atlantic Shores' Lease Agreement OCS-A 0549 includes a 25-year operating term, which may be extended or modified following applicable regulations in 30 CFR Part 585.

Analysis and Conclusions

Schedules are presented for the combined Atlantic Shores South and North projects creation of jobs and value (GDP), the losses of tourism industry jobs and economic value by year in the coastal communities of Atlantic and Ocean Counties and the net change in jobs and GDP.

This report includes a Schedule of Economic Impact Summary (Schedule 1), a Schedule for Job Creation and Loss by Year (Schedule 2) and a Schedule for Value (GDP) Added and Loss by year (Schedule 3). A fourth Schedule shows the Job Creation and Loss including a 45% factor for jobs going to a domestic work force during the construction phase (Schedule 4). As stated on page 11 of this report, the BVG Associates Limited study (BVG 2017) concludes that the US sourced jobs during initial implementation - until 2030 - of US offshore wind projects would range from 35 -55 %.

The construction for the Atlantic Shores South and North projects will end in 2028. An assumption of 45% for the domestic job workforce was used by taking the average of 35% - 55%.

The schedules 2, 3, and 4 have a column for each Atlantic Shores Project including Atlantic Shores South Project 1 (ASS 1), Atlantic Shores Project South Project 2 (ASS 2) and Atlantic Shores Project North (ASN). The rows in the schedule are labeled by year and project phase (Development – D, Construction – C, Operations-O, and Decommissioning – DECM) according to the project phasing information in the Atlantic Shores Construction and Operations Documents.

The total annual jobs created, and value added (GDP) for all Atlantic Shores projects are in column J in each schedule. The jobs and GDP created vary greatly by the phase of development and most of the employment is temporary in nature. For example, the construction phase which only lasts for 3 years during the life of each project produces the highest number of average annual jobs and value (GDP) added. Employment and GDP drop dramatically after this phase is over and as the project progresses into the operational phase.

The total annual Ocean and Atlantic County tourism job loss and value (GDP) loss by year over the life of the Atlantic Shores projects is in column M in each schedule. The net change in jobs and value (GDP) by each schedule year is in column N. The average annual gains/losses over the life of all projects are on line 52 for each Atlantic Shores project, coastal communities by county and net.

Discussion on Jobs Creation/Loss Schedule

Over the life of the projects, the average annual jobs created in the state of New Jersey is 2,181. Analyzed separately, the average annual jobs for Atlantic Shores South Project 1, Project 2 and Atlantic Shores North total 947, 753, and 611, respectively.

As stated in the “Regions Impacted” section of this report, 35% - 55% of the jobs listed in Atlantic Shores construction phase workforce tables before the year 2030 are domestic workers. This results in a much smaller increase in the jobs created for the New Jersey domestic workforce during the construction years of 2025 – 2028 (See Schedule 4). The construction years are short lived and reducing the available jobs for the New Jersey labor force by 55% will result in an average of 3,969 less jobs created in each year from 2025-2028. The average annual NJ jobs created during the life of the projects is reduced to 1,828 from 2,181.

The average annual job loss is constant and does not vary by year. It is assumed that there is no job loss during the development phase and the annual loss begins once construction starts for the projects. Starting with construction of Atlantic Shores South Project 1, annual job loss is 18,906 per year – 6,729 job loss for Ocean County and 12,177 job loss for Atlantic County. The average annual tourism job loss over the life of the projects is 15,965 for Ocean and Atlantic County coastal communities. Average

annual job loss for Ocean County coastal communities is 5,682 per year and job loss for Atlantic County coastal communities is 10,283 per year.

The net employment impact is an average annual loss of 13,784 jobs each year from 2018 – 2062 during the combined life of the three projects. If only 45% of the construction jobs are domestic workers, the net average annual job loss for the NJ labor force is 14,137.

Discussion on Value (GDP) Added/Loss Schedule Discussion

Over the life of the projects, the average annual value (GDP) added totals $100 million. Analyzed separately, the average annual value added for Atlantic Shores South Project 1, Project 2 and Atlantic Shores North total $41 million, $33 million, and $32 million, respectively.

The average annual tourism GDP loss is constant and does not vary by year. It is assumed that the is no tourism loss during the development phase and the annual loss begins once construction starts for the projects. Starting with construction of Atlantic Shores South Project 1, annual tourism GDP loss is $1.6 billion per year – $668 billion GDP loss for Ocean County and $962 billion GDP loss for Atlantic County. The average annual tourism GDP loss over the life of the projects is $1.4 billion for Ocean and Atlantic County coastal communities. The average annual loss in Ocean County coastal communities is $564 million and the loss is $812 million in Atlantic County coastal communities.

The net economic impact is an average annual loss of $1.3 billion in GDP each year from 2018 – 2062 during the combined life of the three projects.

Currently there is no model available to calculate the GDP impact of only a 45% domestic workforce during the construction phase. Therefore, GPD calculation is based on a 100% domestic workforce, the GPD created by the Atlantic Shores projects may be inflated and the net average annual loss in GDP each year may be understated.

Schedule 1

Atlantic Shores South and North Offshore Wind Projects
Direct, Indirect, and Induced Economic Impact
Measured by Average Annual Job Creation/Loss and Value Added/Loss (GDP)

	Atlantic Shores S Project 1	Atlantic Shores S Project 2	Atlantic Shores North	Total
Project Life (Years)	43	43	41	44
Years	2018-2060	2019-2061	2021-2062	2018-2062

Job Creation/Loss	Atlantic Shores S Project 1	Atlantic Shores S Project 2	Atlantic Shores North	Total
NJ Avg Annual Job Creation	947	753	611	2,181
Avg Annual Ocean County Tourism Job Loss				-5,682
Avg Annual Atlantic County Tourism Job Loss				-10,283
Net Average Annual Jobs				-13,784

Value (GDP) Added/Loss ($millions)	Atlantic Shores S Project 1	Atlantic Shores S Project 2	Atlantic Shores North	Total
NJ Avg Annual Value Added	$41	$33	$32	$100
Avg Annual Ocean County Tourism Job Loss				-$564
Avg Annual Atlantic County Tourism Job Loss				-$812
Net Average Annual Loss				-$1,276

Job Creation/Loss (domestic labor adj)*	Atlantic Shores S Project 1	Atlantic Shores S Project 2	Atlantic Shores North	Total
NJ Avg Annual Job Creation	822	653	529	1,828
Avg Annual Ocean County Tourism Job Loss				-5,682
Avg Annual Atlantic County Tourism Job Loss				-10,283
Net Average Annual Jobs				-14,137

*45% domestic labor during construction phase

Schedule 2

1/A	B	C	D	E	F	G	H	I	J	K	L	M	N
2	OFFSHORE WIND JOBS BY YEAR AND TOURISM JOBS LOST FOR ATLANTIC SHORES SOUTH (PROJ 1 & 2) AND ATLANTIC SHORE NORTH												
3	DIRECT, INDIRECT AND INDUCED JOBS												
4		TOTAL JOBS IN NEW JERSEY											
5		ASS 1		ASS 2		ASN			TOTAL	Tourism Job Loss			Total Net Gain/(Loss)
6		Schedule	jobs	Schedule	jobs	Schedule	jobs			Ocean Co	Atlantic Co	Total	
7	2018	D	631						631	0	0	0	631
8	2019	D	631	D	501				1,132	0	0	0	1,132
9	2020	D	631	D	501				1,132	0	0	0	1,132
10	2021	D	631	D	501	D	551		1,682	0	0	0	1,682
11	2022	D	631	D	501	D	551		1,682	0	0	0	1,682
12	2023	D	631	D	501	D	551		1,682	0	0	0	1,682
13	2024	D	631	D	501	D	551		1,682	0	0	0	1,682
14	2025	C	3,978	D	501	D	551		5,030	-6,729	-12,177	-18,906	-13,876
15	2026	C	3,978	C	3,161	C	2,483		9,621	-6,729	-12,177	-18,906	-9,285
16	2027	C	3,978	C	3,161	C	2,483		9,621	-6,729	-12,177	-18,906	-9,285
17	2028	O	756	C	3,161	C	2,483		6,399	-6,729	-12,177	-18,906	-12,507
18	2029	O	756	O	600				1,356	-6,729	-12,177	-18,906	-17,550
19	2030	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
20	2031	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
21	2032	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
22	2033	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
23	2034	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
24	2035	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
25	2036	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
26	2037	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
27	2038	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
28	2039	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
29	2040	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
30	2041	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
31	2042	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
32	2043	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
33	2044	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
34	2045	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
35	2046	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
36	2047	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
37	2048	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
38	2049	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
39	2050	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
40	2051	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
41	2052	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
42	2053	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
43	2054	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
44	2055	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
45	2056	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
46	2057	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
47	2058	DECM	570	O	600	O	460		1,630	-6,729	-12,177	-18,906	-17,276
48	2059	DECM	570	DECM	453	O	460		1,482	-6,729	-12,177	-18,906	-17,424
49	2060	DECM	570	DECM	453	DECM	347		1,369	-6,729	-12,177	-18,906	-17,537
50	2061			DECM	453	DECM	347		799	-6,729	-12,177	-18,906	-18,107
51	2062					DECM	347		347	-6,729	-12,177	-18,906	-18,559
52	avg jobs per year		947		753		611		2,181	-5,682	-10,283	-15,965	-13,784
53	YEARS ARE INCORRECT IN COP TABLES; MADE ADJUSTMENTS TO YEARS BASED ON DURATION												
54	Total Avg Annual Direct, Indirect and Induced Jobs By Phase												
55			ASS 1		ASS 2		ASN *						
56	MW		1510		1200		1117.5						
57	DEVELOPMENT		631		501		551						
58	CONSTRUCTION		3,978		3,161		2,483						
59	OPERATIONS (O)		756		600		460						
60	DECOMMISH (DECM)		570		453		347						
61	Development and Construction Jobs numbers are combined in COPs. In this schedule, total development and construction jobs are split (27%/73%) based on ratio of labor revenue schedules in COP .												
63	Atlantic Shores North jobs split 50/50 between NJ and NY												
64													
65	Project Life Based on Atlantic Shores South and North Project Schedules												
66		South	North										
67	Development	7	5										
68	Construction	3	3										
69	Operation	30	30										
70	Decommissionin	3	3										
71		43	41										

Schedule 3

1/A	B	C	D	E	F	G	H	I	J	K	L	M	N
2	VALUE ADDED (GDP) & VALUE LOST (TOURISM TOTAL ECONOMIC LOSS) BY YEAR FOR ATLANTIC SHORES SOUTH (PROJ 1 & 2) AND ATLANTIC SHORES NORTH												
3	DIRECT, INDIRECT AND INDUCED GDP												
4		Value Added (GDP) IN NEW JERSEY ($millions)								Counties Tourism Loss ($millions)			
5		ASS 1		ASS 2		ASN			TOTAL	Ocean	Atlantic	Total	Net Gain/Loss
6		Schedule	GDP	Schedule	GDP	Schedule	GDP						
7	2018	D	$39						$39	0	0	$0	$39
8	2019	D	$39	D	$31				$70	0	0	$0	$70
9	2020	D	$39	D	$31				$70	0	0	$0	$70
10	2021	D	$39	D	$31	D	$40		$110	0	0	$0	$110
11	2022	D	$39	D	$31	D	$40		$110	0	0	$0	$110
12	2023	D	$39	D	$31	D	$40		$110	0	0	$0	$110
13	2024	D	$39	D	$31	D	$40		$110	0	0	$0	$110
14	2025	C	$258	D	$31	D	$40		$329	-$668	-$962	-$1,630	-$1,301
15	2026	C	$258	C	$205	C	$191		$655	-$668	-$962	-$1,630	-$975
16	2027	C	$258	C	$205	C	$191		$655	-$668	-$962	-$1,630	-$975
17	2028	O	$24	C	$205	C	$191		$421	-$668	-$962	-$1,630	-$1,209
18	2029	O	$24	O	$19				$43	-$668	-$962	-$1,630	-$1,587
19	2030	O	$24	O	$19	O	$18		$61	-$668	-$962	-$1,630	-$1,569
20	2031	O	$24	O	$19	O	$18		$61	-$668	-$962	-$1,630	-$1,569
21	2032	O	$24	O	$19	O	$18		$61	-$668	-$962	-$1,630	-$1,569
22	2033	O	$24	O	$19	O	$18		$61	-$668	-$962	-$1,630	-$1,569
23	2034	O	$24	O	$19	O	$18		$61	-$668	-$962	-$1,630	-$1,569
24	2035	O	$24	O	$19	O	$18		$61	-$668	-$962	-$1,630	-$1,569
25	2036	O	$24	O	$19	O	$18		$61	-$668	-$962	-$1,630	-$1,569
26	2037	O	$24	O	$19	O	$18		$61	-$668	-$962	-$1,630	-$1,569
27	2038	O	$24	O	$19	O	$18		$61	-$668	-$962	-$1,630	-$1,569
28	2039	O	$24	O	$19	O	$18		$61	-$668	-$962	-$1,630	-$1,569
29	2040	O	$24	O	$19	O	$18		$61	-$668	-$962	-$1,630	-$1,569
30	2041	O	$24	O	$19	O	$18		$61	-$668	-$962	-$1,630	-$1,569
31	2042	O	$24	O	$19	O	$18		$61	-$668	-$962	-$1,630	-$1,569
32	2043	O	$24	O	$19	O	$18		$61	-$668	-$962	-$1,630	-$1,569
33	2044	O	$24	O	$19	O	$18		$61	-$668	-$962	-$1,630	-$1,569
34	2045	O	$24	O	$19	O	$18		$61	-$668	-$962	-$1,630	-$1,569
35	2046	O	$24	O	$19	O	$18		$61	-$668	-$962	-$1,630	-$1,569
36	2047	O	$24	O	$19	O	$18		$61	-$668	-$962	-$1,630	-$1,569
37	2048	O	$24	O	$19	O	$18		$61	-$668	-$962	-$1,630	-$1,569
38	2049	O	$24	O	$19	O	$18		$61	-$668	-$962	-$1,630	-$1,569
39	2050	O	$24	O	$19	O	$18		$61	-$668	-$962	-$1,630	-$1,569
40	2051	O	$24	O	$19	O	$18		$61	-$668	-$962	-$1,630	-$1,569
41	2052	O	$24	O	$19	O	$18		$61	-$668	-$962	-$1,630	-$1,569
42	2053	O	$24	O	$19	O	$18		$61	-$668	-$962	-$1,630	-$1,569
43	2054	O	$24	O	$19	O	$18		$61	-$668	-$962	-$1,630	-$1,569
44	2055	O	$24	O	$19	O	$18		$61	-$668	-$962	-$1,630	-$1,569
45	2056	O	$24	O	$19	O	$18		$61	-$668	-$962	-$1,630	-$1,569
46	2057	O	$24	O	$19	O	$18		$61	-$668	-$962	-$1,630	-$1,569
47	2058	DECM	$3	O	$19	O	$18		$40	-$668	-$962	-$1,630	-$1,590
48	2059	DECM	$3	DECM	$3	O	$18		$24	-$668	-$962	-$1,630	-$1,606
49	2060	DECM	$3	DECM	$3	DECM	$2		$8	-$668	-$962	-$1,630	-$1,622
50	2061			DECM	$3	DECM	$2		$5	-$668	-$962	-$1,630	-$1,625
51	2062					DECM	$2		$2	-$668	-$962	-$1,630	-$1,628
52	AVG GDP per year		$41		$33		$32		$100	-$564	-$812	-$1,376	-$1,276
53	YEARS ARE INCORRECT IN COP TABLES; MADE ADJUSTMENTS TO YEARS BASED ON DURATION												
54	Total Avg Annual Direct, Indirect and Induced GDP By Phase												
55			ASS 1		ASS 2		ASN *						
56	MW		1510		1200		1117.5						
57	DEVELOPMENT		$39		$31		$40						
58	CONSTRUCTION		$258		$205		$191						
59	OPERATIONS (O)		$24		$19		$18						
60	DECOMMISH (DECM)		$3		$3		$2						
62	Atlantic Shores North jobs GDP 50/50 between NJ and NY according to Atlantic Shores COP												
63	Project Life Based on Atlantic Shores South and North Project Schedules												
64		South	North										
65	Development	7	5										
66	Construction	3	3										
67	Operation	30	30										
68	Decommission	3	3										
69		43	41										

Schedule 4

1/A	B	C	D	E	F	G	H	I	J	K	L	M	N
2	OFFSHORE WIND JOBS BY YEAR AND TOURISM JOBS LOST FOR ATLANTIC SHORES SOUTH (PROJ 1 & 2) AND ATLANTIC SHORE NORTH												
3	DIRECT, INDIRECT AND INDUCED JOBS WITH DOMESTIC WORKERS PERCENTAGE IN CONSTRUCTION PHASE												
4		TOTAL JOBS IN NEW JERSEY											
5		ASS 1		ASS 2		ASN			TOTAL	Tourism Job Loss			Total Net Gain/(Loss)
6		Schedule	jobs	Schedule	jobs	Schedule	jobs			Ocean Co	Atlantic Co	Total	
7	2018	D	631						631	0	0	0	631
8	2019	D	631	D	501				1,132	0	0	0	1,132
9	2020	D	631	D	501				1,132	0	0	0	1,132
10	2021	D	631	D	501	D	551		1,682	0	0	0	1,682
11	2022	D	631	D	501	D	551		1,682	0	0	0	1,682
12	2023	D	631	D	501	D	551		1,682	0	0	0	1,682
13	2024	D	631	D	501	D	551		1,682	0	0	0	1,682
14	2025	C	1,790	D	501	D	551		2,842	-6,729	-12,177	-18,906	-16,064
15	2026	C	1,790	C	1,422	C	1,117		4,330	-6,729	-12,177	-18,906	-14,576
16	2027	C	1,790	C	1,422	C	1,117		4,330	-6,729	-12,177	-18,906	-14,576
17	2028	O	756	C	1,422	C	1,117		3,295	-6,729	-12,177	-18,906	-15,611
18	2029	O	756	O	600				1,356	-6,729	-12,177	-18,906	-17,550
19	2030	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
20	2031	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
21	2032	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
22	2033	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
23	2034	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
24	2035	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
25	2036	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
26	2037	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
27	2038	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
28	2039	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
29	2040	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
30	2041	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
31	2042	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
32	2043	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
33	2044	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
34	2045	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
35	2046	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
36	2047	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
37	2048	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
38	2049	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
39	2050	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
40	2051	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
41	2052	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
42	2053	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
43	2054	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
44	2055	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
45	2056	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
46	2057	O	756	O	600	O	460		1,816	-6,729	-12,177	-18,906	-17,090
47	2058	DECM	570	O	600	O	460		1,630	-6,729	-12,177	-18,906	-17,276
48	2059	DECM	570	DECM	453	O	460		1,482	-6,729	-12,177	-18,906	-17,424
49	2060	DECM	570	DECM	453	DECM	347		1,369	-6,729	-12,177	-18,906	-17,537
50	2061			DECM	453	DECM	347		799	-6,729	-12,177	-18,906	-18,107
51	2062					DECM	347		347	-6,729	-12,177	-18,906	-18,559
52	avg jobs per year		795		631		511		1,828	-5,682	-10,283	-15,965	-14,137

YEARS ARE INCORRECT IN COP TABLES; MADE ADJUSTMENTS TO YEARS BASED ON DURATION

Total Avg Annual Direct, Indirect and Induced Jobs By Phase			
	ASS 1	ASS 2	ASN *
MW	1510	1200	1117.5
DEVELOPMENT	631	501	551
CONSTRUCTION	1,790	1,422	1,117
OPERATIONS (O)	756	600	460
DECOMMISH (DECM)	570	453	347

Development and Construction Jobs numbers are combined in COPs. In this schedule, total development and construction jobs are split (27%/73%) based on ratio of labor revenue schedules in COP .

Atlantic Shores North jobs split 50/50 between NJ and NY

CONSTRUCTION PHASE DOMESTIC WORKERS	45%	45%	45%

Project Life Based on Atlantic Shores South and North Project Schedules

	South	North
Development	7	5
Construction	3	3
Operation	30	30
Decommissioni	3	3
	43	41

Appendix A

Tourism Loss Calculations

Calculation 1

Annual Tourism Impact Calculation

2022 Tourism Economics NJ Tourism Annual Report

Category/Year/Compare %	Atlantic Co.	Ocean Co.	Total	Atlantic vs Ocean (%)
Total Visitors (millions)	22.83	10.3	33.13	55%
Total Spending (millions)	$7,775.7	$5,398.5	$13,174.2	31%
Total Direct Employment	53,021	27,667	80,688	48%
Total Employment	68,305	37,745	106,050	45%
Total Fiscal impact (millions)	$860.0	$515.0	$1,375.0	40%

LBI economic data based on 2024 LBI Economic Impact Study : LBI tourism as % of Ocean County Toursim

Category/Year/Compare %	AC Coastal Towns	LBI *	LBI% of Ocean Co	Atlantic Co Coastal vs LBI (%)
Total Visitors (millions)	7.31	3.3	32%	55%
Total Direct Spending (millions)	$2,592.6	$1,800.0	33%	31%
Total Economic Impact (Ocean County)	$3,849.8	$2,672.8	50%	31%
Total Direct Employment	40,927	21,356	77%	48%
Total Employment (Ocean County?)	48,708	26,916	71%	45%
Total Fiscal impact (millions)	$317.9	$190.4	37%	40%

* numbers in blue are calculated = LBI $ loss / 25% reduction (Toursim EconomicsLBI Wind Turbine Impact Study). Numbers in Green are stated in Tourism Loss Impact Study

Results of Economic Loss Study Based on 2022 Data LBI % of Co. Tourism and % Losses *

	Atlantic Co.	LBI	Total	% Reduction LBI Report **	Total Atlantic and LBI
Lost Annual Visitors (millions)	-1.85	-0.835	-2.69	-25%	-2.686
Lost Direct Annual Spending (millions)	-$648.4	-$450.2	-1,098.64	-25%	-$1,098.6
Annual Total Economic Losses (millions) Ocean County	-$962.4	-$668.2	-1,630.64	-25%	-$1,630.6
Lost Annual Direct Employment	-10,232	-5,339	-15,570.65	-25%	-15,571
Lost Annual Total Employment	-12,177	-6,729	-18,906.09	-25%	-18,906
Total Annual Fiscal Impact (millions)	-$79.5	-$47.6	-127.09	-25%	-$127.1

* Ocean County Reductions are from Toursim Economic Impact Study. Assume losses %s are the same for Atlantic County .

** Visitations and Spending (yellow) are numbers from Tourism Economics Wind Turbine LBI Impact Study. Assume reductions for other categories are the same.

* Ocean County % reduction based on 25% tourism loss (Tourism Economics LBI Wind Turbine Impact Study)

Calculation 2

Annual Tourism Impact Calculation

2022 Tourism Economics NJ Tourism Annual Report

Category/Year/Compare %	Atlantic Co.	Ocean Co.	Total	Atlantic vs Ocean (%)
Total Visitors (millions)	22.83	10.3	33.13	55%
Total Spending (millions)	$7,775.7	$5,398.5	$13,174.2	31%
Total Direct Employment	53,021	27,667	80,688	48%
Total Employment	68,305	37,745	106,050	45%
Total Fiscal impact (millions)	$860.0	$515.0	$1,375.0	40%

Results of Economic Loss Study Based on 2022 Data and LBI Tourism % Losses *

	Atlantic Co.	LBI	Total	% Reduction LBI Report **
Lost Annual Visitors (millions)	-1.85	-0.835	-2.686	-8%
Lost Direct Annual Spending (millions)	-$648.4	-$450.2	-$1,098.6	-8%
Annual Total Economic Losses (millions) Ocean & Atlantic Co	-$962.4	-$668.2	-$1,630.6	-12%
Lost Annual Direct Employment	-$10,232	-5,339	-15,571	-19%
Lost Annual Total Employment	-$12,177	-6,729	-18,906	-18%
Total Annual Fiscal Impact (millions)	-$79.5	-$47.6	-$127.1	-9%

* Ocean County Reductions are from Toursim Economic Impact Study. Assume losses %s are the same for Atlantic County.

**If a specific study for Atlantic County was completed, losses would be based on Coastal Community Tourism as % of Total County Tourism and Visual Impact of Turbines (Distance, Height, Number)

** Ocean County % reduction based on LBI losses/Ocean County Total

Appendix B

Atlantic Shores South Project 1 and 2 Average Annual Jobs by Phase from Construction and Operations Plan

				AVG ANNUAL FTE					
	NJ proj1	NJ proj2	YEARS IN PHASE	NJ proj1	NJ proj2	Total Proj 1 and 2		Avg Annual Jobs/MW	
MW	1510	1200						1510	1200
DIRECT EMPLOYMENT									
DEVELOPMENT	2,010	1,597	7	287	228	515		0.2	0.2
CONSTRUCTION	5,435	4,318	3	1,812	1,439	3,251		1.2	1.2
OPERATIONS	10,326	8,202	30	344	273	618		0.2	0.2
DECOMMISH	779	618	3	260	206	466		0.2	0.2
	18,550	14,735		2,703	2,147	4,850		1.8	1.8
INDIRECT									
DEVELOPMENT	1,065	846	7	152	121	273		0.1	0.1
CONSTRUCTION	2,880	2,289	3	960	763	1,723		0.6	0.6
OPERATIONS	5,472	4,348	30	182	145	327		0.1	0.1
DECOMMISH	413	328	3	138	109	247		0.1	0.1
	9,830	7,811		1,432	1,138	2,570		0.9	0.9
INDUCED									
DEVELOPMENT	1,338	1,064	7	191	152	343		0.1	0.1
CONSTRUCTION	3,619	2,875	3	1,206	958	2,165		0.8	0.8
OPERATIONS	6,875	5,464	30	229	182	411		0.2	0.2
DECOMMISH	518	412	3	173	137	310		0.1	0.1
	12,350	9,815		1,799	1,430	3,229		1.2	1.2
TOTAL									
DEVELOPMENT	4,414	3,507	7	631	501	1,132		0.4	0.4
CONSTRUCTION	11,933	9,482	3	3,978	3,161	7,138		2.6	2.6
OPERATIONS	22,673	18,014	30	756	600	1,356		0.5	0.5
DECOMMISH	1,710	1,358	3	570	453	1,023		0.4	0.4
	40,730	32,361		5,934	4,715	10,649		3.9	3.9
FTE = 2080HRS/YR									
DATA Source									
Volume II (boem.gov)									
Table 7.1-11 to 7.1-19									
7.1.2.2 Workforce Hiring									
DEVELOPMENT AND CONSTRUCTION SPLIT ACCORDING TO LABOR REVENUE SPLIT									
DEVELOPMENT	27%	27%							
CONSTRUCTION	73%	73%							
DEV & CONST									
DIRECT	7445	5915							
INDIRECT	3945	3135							
INDUCED	4957	3939							
Project Life Based on Atlantic Shores South and North Project Schedules =									
Project Life Based on Atlantic Shores South and North Project Schedules =									
	South	North							
Dev	7	5							
Const	3	3							
Operation	30	30							
Decommissioning	3	3							
	43	41							

Atlantic Shores North Average Annual Jobs by Phase from Construction and Operations Plan

				AVG ANNUAL FTE		
	NJ	NY	YEARS IN PHASE	NJ	NY	Avg Annual jobs/MW
MW	1117.5	1117.5				1117.5
DIRECT EMPLOYMENT						
DEVELOPMENT	1,302	1,302	5	260	260	0.2
CONSTRUCTION	3,522	3,522	3	1,174	1,174	1.1
OPERATIONS	6,685	6,685	30	223	223	0.2
DECOMMISH	504	504	3	168	168	0.2
	12,013	12,013		1,825	1,825	1.6
INDIRECT						
DEVELOPMENT	676	676	5	135	135	0.1
CONSTRUCTION	1,827	1,827	3	609	609	0.5
OPERATIONS	3,117	3,117	30	104	104	0.1
DECOMMISH	235	235	3	78	78	0.1
	5,855	5,855		926	926	0.8
INDUCED						
DEVELOPMENT	777	777	5	155	155	0.1
CONSTRUCTION	2,099	2,099	3	700	700	0.6
OPERATIONS	3,990	3,990	30	133	133	0.1
DECOMMISH	301	301	3	100	100	0.1
	7,167	7,167		1,088	1,088	1.0
TOTAL						
DEVELOPMENT	2,755	2,755	5	551	551	0.5
CONSTRUCTION	7,448	7,448	3	2,483	2,483	2.2
OPERATIONS	13,792	13,792	30	460	460	0.4
DECOMMISH	1,040	1,040	3	347	347	0.3
	25,035	25,035		3,840	3,840	3.4
FTE = 2080HRS/YR						
TOTAL FTE	PER COP	CHECK				
DIRECT JOBS	24000	24026				
INDIRECT JOBS	12000	11710				
INDUCED JOBS	14000	14334				
DATA Source						
Atlantic Shores South COP Volume II (boem.gov)			(link is labeled incorrectly, but it is correctly linked to			
Section 7.1.2.2. Workforce Hiring						
Atlantic Shores North jobs split 50/50 between NJ and NY						
DEVELOPMENT AND CONSTRUCTION SPLIT ACCORDING TO LABOR REVENUE SPLIT						
DEVELOPMENT	27%	27%				
CONSTRUCTION	73%	73%				
DEV & CONST						
DIRECT	4824	4824				
INDIRECT	2503	2503				
INDUCED	2876	2876				
Project Life Based on Atlantic Shores South and North Project Schedules =						
Project Life Based on Atlantic Shores South and North Project Schedules =						
	South	North				
Dev	7	5				
Const	3	3				
Operation	30	30				
Decommissioning	3	3				
	43	41				

Atlantic Shores South, Project 1 and 2 Average Annual Value Added (GDP) by Phase from Construction and Operations Plan

	($MILLION)								
				AVG ANNUAL INC					
	NJ proj1	NJ proj2	YEARS IN PHASE	NJ proj1	NJ proj2	Total Proj 1 and 2		Avg Annual VALUE ADDED/MW	
MW	1510	1200						1510	1200
DIRECT EMPLOYMENT									
DEVELOPMENT	$131.7	$104.7	7	$18.8	$15.0	$33.8		0.01246	0.01246
CONSTRUCTION	$375.4	$298.3	3	$125.1	$99.4	$224.6		0.08287	0.08287
OPERATIONS	$351.8	$279.6	30	$11.7	$9.3	$21.0		0.00777	0.00777
DECOMMISH	$4.7	$3.7	3	$1.6	$1.2	$2.8		0.00103	0.00103
	$863.6	$686.3		$157.2	$125.0	$282.2		0.10413	0.10413
INDIRECT									
DEVELOPMENT	$66.8	$53.1	7	$9.5	$7.6	$17.1		0.00632	0.00632
CONSTRUCTION	$190.4	$151.3	3	$63.5	$50.4	$113.9		0.04202	0.04203
OPERATIONS	$178.4	$141.8	30	$5.9	$4.7	$10.7		0.00394	0.00394
DECOMMISH	$2.4	$1.9	3	$0.8	$0.6	$1.4		0.00052	0.00053
	$437.9	$348.0		$79.7	$63.4	$143.1		0.05280	0.05281
INDUCED									
DEVELOPMENT	$73.4	$58.4	7	$10.5	$8.3	$18.8		0.00695	0.00695
CONSTRUCTION	$209.3	$166.4	3	$69.8	$55.5	$125.2		0.04621	0.04621
OPERATIONS	$196.2	$155.9	30	$6.5	$5.2	$11.7		0.00433	0.00433
DECOMMISH	$2.6	$2.1	3	$0.9	$0.7	$1.6		0.00058	0.00058
	$481.6	$382.7		$87.7	$69.7	$157.4		0.05807	0.05806
TOTAL									
DEVELOPMENT	$271.9	$216.1	7	$38.8	$30.9	$69.7		0.02572	0.02572
CONSTRUCTION	$775.1	$616.0	3	$258.4	$205.3	$463.7		0.17111	0.17111
OPERATIONS	$726.4	$577.3	30	$24.2	$19.2	$43.5		0.01603	0.01604
DECOMMISH	$9.7	$7.7	3	$3.2	$2.6	$5.8		0.00213	0.00213
	$1,783.1	$1,417.0		$324.6	$258.0	$582.6		0.21500	0.21500
FTE = 2080HRS/YR									
DATA Source									
Volume II (boem.gov)									
Table 7.1-11 to 7.1-19									
7.1.2.2 Workforce Hiring									
Project Life Based on Atlantic Shores South and North Project Schedules =									
	South	North							
Dev	7	5							
Const	3	3							
Operation	30	30							
Decommissioning	3	3							
	43	41							

Atlantic Shores North Average Annual Value (GDP) Added by Phase from Constructions and Operations Plan

Average Annual VALUE ADDED By Phase ($MILLION)								
				AVG ANNUAL VALUE ADDED				
	NJ	NY	YEARS IN PHASE	NJ	NY	Total NJ NY	Avg Annual Value Added /MW	
MW	1117.5	1117.5		1117.5	1117.5		1117.5	1117.5
DIRECT EMPLOYMENT								
DEVELOPMENT	$97.5	$97.5	5	$19.5	$19.5	$39.0	0.01745	0.01745
CONSTRUCTION	$277.8	$277.8	3	$92.6	$92.6	$185.2	0.08286	0.08286
OPERATIONS	$260.4	$260.4	30	$8.7	$8.7	$17.4	0.00777	0.00777
DECOMMISH	$3.5	$3.5	3	$1.2	$1.2	$2.3	0.00104	0.00104
	$639.2	$639.2		$121.9	$121.9	$243.9	0.10912	0.10912
INDIRECT								
DEVELOPMENT	$49.4	$49.4	5	$9.9	$9.9	$19.8	0.00884	0.00884
CONSTRUCTION	$140.9	$140.9	3	$47.0	$47.0	$93.9	0.04203	0.04203
OPERATIONS	$132.0	$132.0	30	$4.4	$4.4	$8.8	0.00394	0.00394
DECOMMISH	$1.8	$1.8	3	$0.6	$0.6	$1.2	0.00054	0.00054
	$324.1	$324.1		$61.8	$61.8	$123.7	0.05534	0.05534
INDUCED								
DEVELOPMENT	$54.3	$54.3	5	$10.9	$10.9	$21.7	0.00972	0.00972
CONSTRUCTION	$154.9	$154.9	3	$51.6	$51.6	$103.3	0.04620	0.04620
OPERATIONS	$145.2	$145.2	30	$4.8	$4.8	$9.7	0.00433	0.00433
DECOMMISH	$1.9	$1.9	3	$0.6	$0.6	$1.3	0.00057	0.00057
	$356.3	$356.3		$68.0	$68.0	$135.9	0.06082	0.06082
TOTAL								
DEVELOPMENT	$201.2	$201.2	5	$40.2	$40.2	$80.5	0.03601	0.03601
CONSTRUCTION	$573.6	$573.6	3	$191.2	$191.2	$382.4	0.17110	0.17110
OPERATIONS	$537.6	$537.6	30	$17.9	$17.9	$35.8	0.01604	0.01604
DECOMMISH	$7.2	$7.2	3	$2.4	$2.4	$4.8	0.00215	0.00215
	$1,319.6	$1,319.6		$251.8	$251.8	$503.5	0.22529	0.22529

FTE = 2080HRS/YR

DATA Source
Volume II (boem.gov)
Table 7.1-11 to 7.1-19
7.1.2.2 Workforce Hiring

Project Life Based on Atlantic Shores South and North Project Schedules =

	South	North
Dev	7	5
Const	3	3
Operation	30	30
Decommissioning	3	3
	43	41


Welcome to the Jersey Shore!