

Testimony of  
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March 5, 2013

Before the  
House Committee on Natural Resources,  
Subcommittee on Energy and Mineral Resources  
Oversight Hearing on "America's Offshore Energy Resources: Creating Jobs, Securing America, and Lowering Prices"

Good morning Chairman Lamborn, Ranking Member Holt, and Members of the Committee. Thank you for inviting me to testify this morning. My name is Brian Kroll and I am the Senior Economist at the Virginia Economic Development Partnership. VEDP is Virginia's lead agency for business attraction, major business expansions, and export assistance. One of the ways our success is measured is the number of jobs the companies we work with create.

Electricity generated by offshore wind energy could benefit Virginia's economy by creating new jobs and new tax revenues. VEDP's discussions with leading wind energy equipment manufacturers and electric utilities led VEDP to expect the first major offshore wind farm will drive the supply chain of equipment and support for this sector. Virginia, given its skilled workforce, ports, central location on the East Coast, offshore winds, undersea topography, and electrical grid connectivity, is uniquely positioned to capitalize on this opportunity. I conducted an economic impact analysis to estimate the employment and tax revenue benefits the offshore wind energy supply chain could create for Virginia.

Based on discussions with VEDP's wind energy industry contacts, a wind farm with the capacity of 1,000 megawatts (MW) followed by additional wind farms of at least 200 MW a year would require a new supply chain. Wind energy equipment is currently made in the U.S. for the country's growing land-based wind power sector, but VEDP's wind energy industry contacts indicated the differences between land and offshore equipment require different production facilities. Input from construction firms and utilities suggested the 1,000 MW wind farm would be built over five years (Phase I). In my analysis, I assumed the additional wind farms would be installed over the next five-year period (Phase II), for a ten-year analysis.

Using published studies on proposed offshore wind projects and the National Renewable Energy Laboratory's Jobs and Economic Development Impact model for wind power, I identified the following sectors as opportunities for job creation: Operations and Maintenance, Construction, Ship Crew, Tower & Segments, Nacelles, Turbine Blades, and Generators. I estimated these seven sectors could directly support 4,250 jobs during Phase I and 3,270 jobs during Phase II, with the main difference being fewer construction jobs during Phase II. I assumed Virginia would be home to half of the supply chain or 2,125 jobs during Phase I and 1,635 jobs during Phase II.

These jobs are attractive because they offer career-length employment opportunities. As long as additional offshore wind farms of at least 200 MW are built in a year, these jobs will be supported. Given the life span

of offshore wind equipment, the equipment installed in the first year of the analysis will have to be replaced 20 years later. If the construction of wind farms regularly exceeded 200 MW, then more supply chain jobs would be created.

The benefits of job creation extend beyond the direct jobs into the additional jobs supported by the new businesses and their workers. This means the 2,125 direct jobs from Phase I could support 2,710 additional jobs for an estimated total of 4,835 new jobs in Virginia. The 1,635 jobs during Phase II could support 1,960 additional jobs for an estimated total of 3,595 new jobs in Virginia. The additional Virginia jobs would occur in sectors such as Health Care, Retail Trade, Real Estate, Restaurants and Food Service, Wholesale Trade, Telecommunications, Insurance, Financial Services, Utilities, and Automotive Repair and Maintenance. If all of the supply chain were to locate in Virginia, the 4,250 jobs from Phase I could support 5,420 additional jobs for an estimated total of 9,490 new jobs, while the 3,270 jobs from Phase II could support an additional 3,920 jobs for an estimated total of 7,190 new jobs.

The creation of direct and additional jobs in the offshore wind supply chain also would add to Virginia's state gross domestic product (GDP) and create new tax revenues for Virginia. Over the ten years of the analysis, I estimated Virginia's GDP would gain \$9 billion and state-level tax revenues would gain \$119 million. I used the commercially available input-output modeling software IMPLAN to estimate the additional jobs, GDP, and tax revenues. Given the linear nature of input-output models, a larger number of direct jobs would support a proportional increase in additional jobs, GDP, and tax revenues.

In conclusion, offshore wind energy has significant potential to create career-length jobs in the supply chain which will build and support the equipment used in the wind farms. VEDP's wind energy industry contacts believe the state adjacent to the first East Coast wind farm of at least 1,000 MW will be the focal point for the offshore wind energy supply chain. I estimate that if 2,000 MW of offshore wind capacity are installed over ten years on the East Coast, with 1,000 MW installed on the coast of Virginia, then the supply chain could support 4,250 direct jobs and 9,670 total jobs in Phase I and 3,920 direct jobs and 7,190 total jobs in Phase II. I believe Virginia can reasonably expect to be home to 2,125 direct jobs and 4,835 total jobs during Phase I and 1,960 direct jobs and 3,595 total jobs in Phase II.

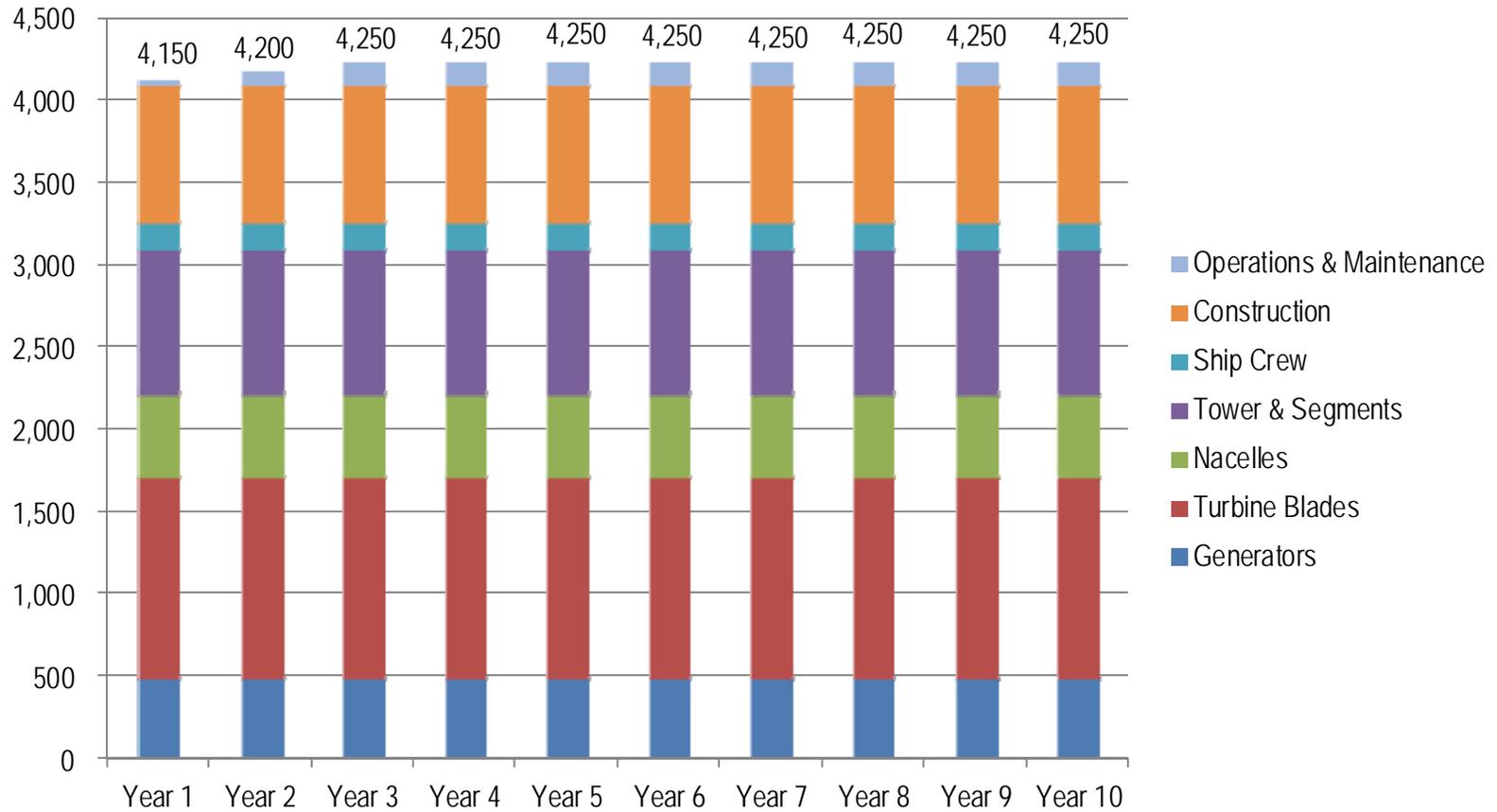
Thank you for your time and I look forward to answering any questions you may have.

Graphs in support of the  
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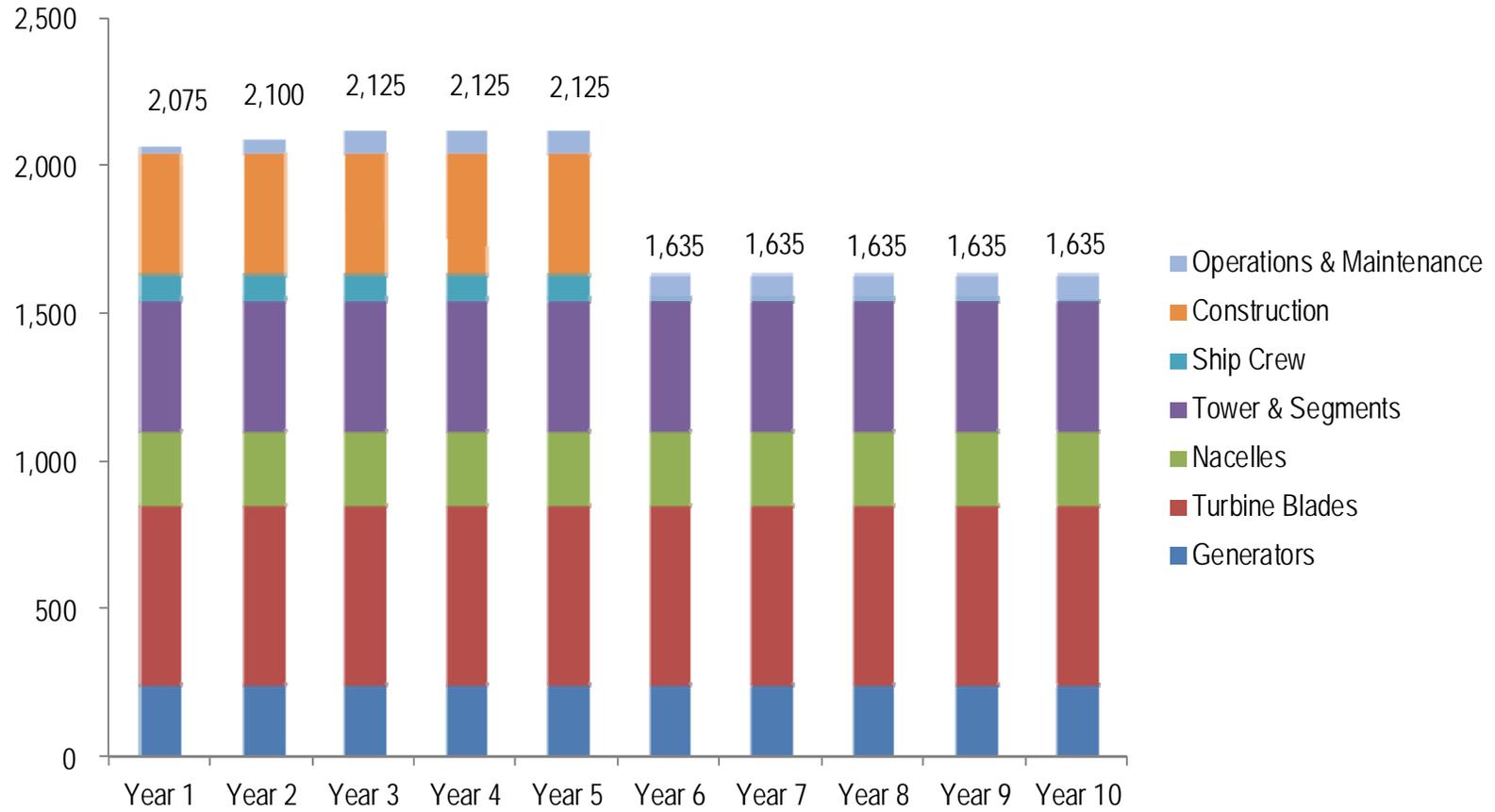
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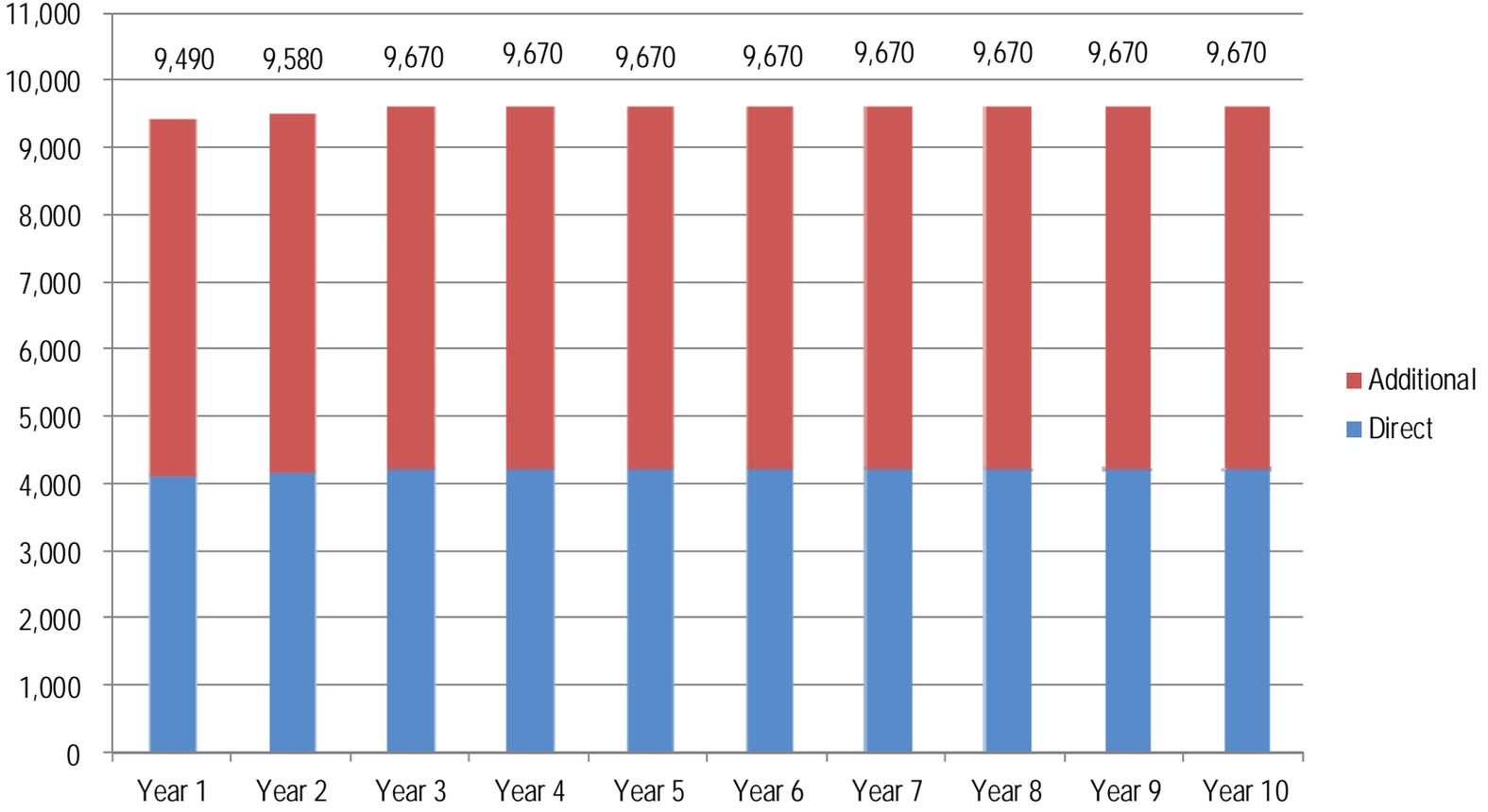
### Estimated Direct Employment by Sector - Total Supply Chain



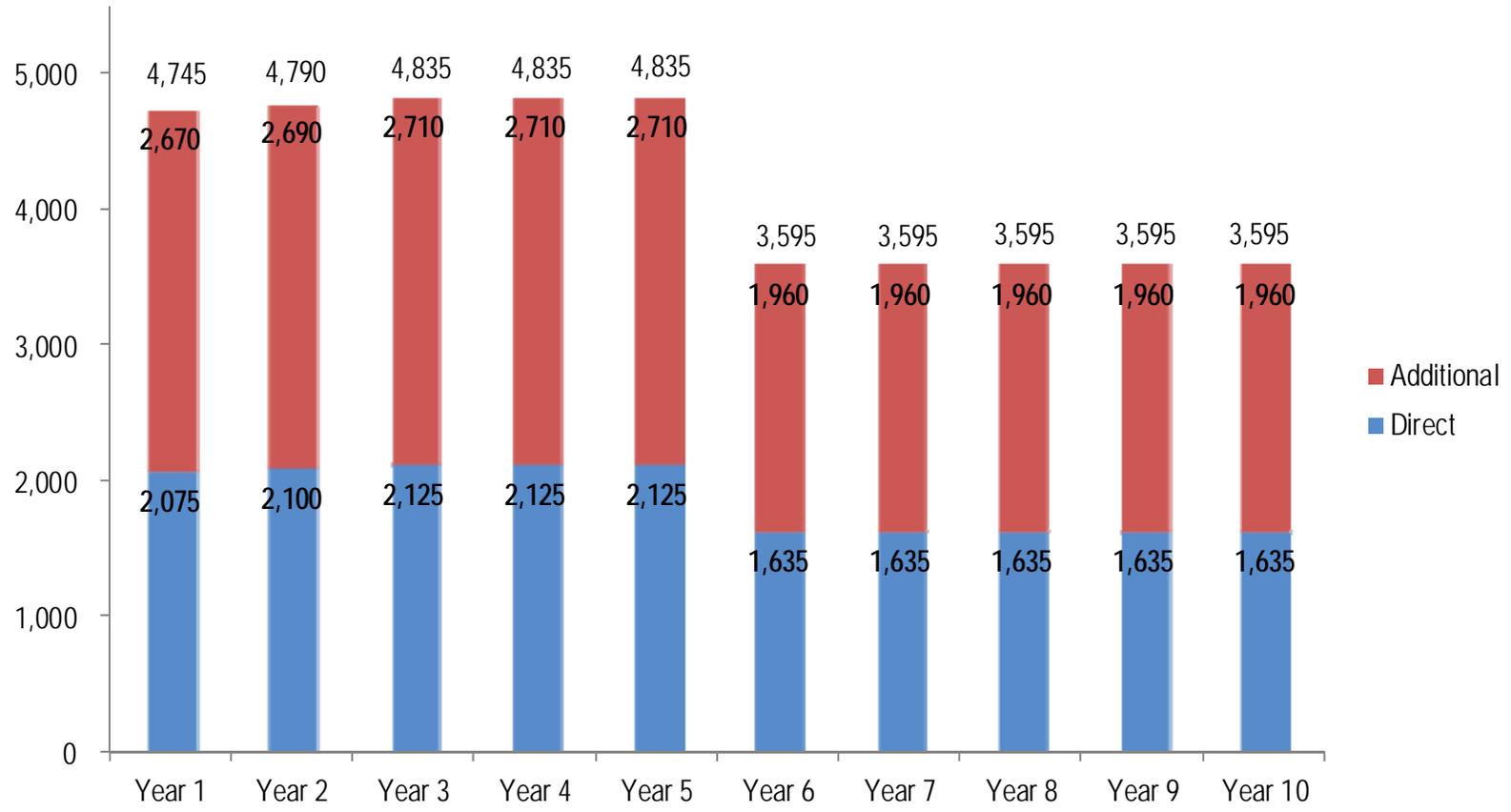
Estimated Direct Employment by Sector - Virginia = 50% Supply Chain



### Estimated Total Employment - Total Supply Chain



Estimated Total Employment - Virginia = 50% Supply Chain



### Estimated State Tax Revenue and GDP - Virginia = 50% Supply Chain

