
Economic and Fiscal Impact of the Castle Wind LLC Floating Offshore Wind Farm

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Economic Impact Modeling

- IMPLAN “Input/Output” Model –
 - Impacts measured in jobs, wages, and economic output
- “Direct Impacts” attributable to the activity on the site
 - Workers employed to operate plant
- “Indirect Impacts” are the inputs that support the direct activity (local supply chain effects)
 - Equipment transport; vessel/helicopter leasing; fuel
- “Induced Impacts” result from the spending of the direct and indirect employees
 - Workers buy food, cars, homes, medical services, etc.

Background

- Castle Wind LLC proposes to develop a floating offshore wind energy facility:
 - 765 MW offshore wind project
 - Utilizes PG&E interconnection in Morro Bay
- Examine benefits during operating period under two scenarios:
 - Current local infrastructure (baseline scenario)
 - Long-run supply chain development (scenario B)

Direct Impacts: Scenario 0

- Direct “life-cycle” spending based on NREL (JEDI) estimates for CA offshore wind:
 - **\$1.7M** for labor compensation (wages and benefits)
 - **\$9.4M** for transport, site facilities, materials, etc.
 - **\$11.1M** per year total local spending in SLO County
- Average annual O&M cost = \$91/kW
 - Total O&M cost = \$69.8 M per year
 - 15.8% of annual O&M projected for SLO County

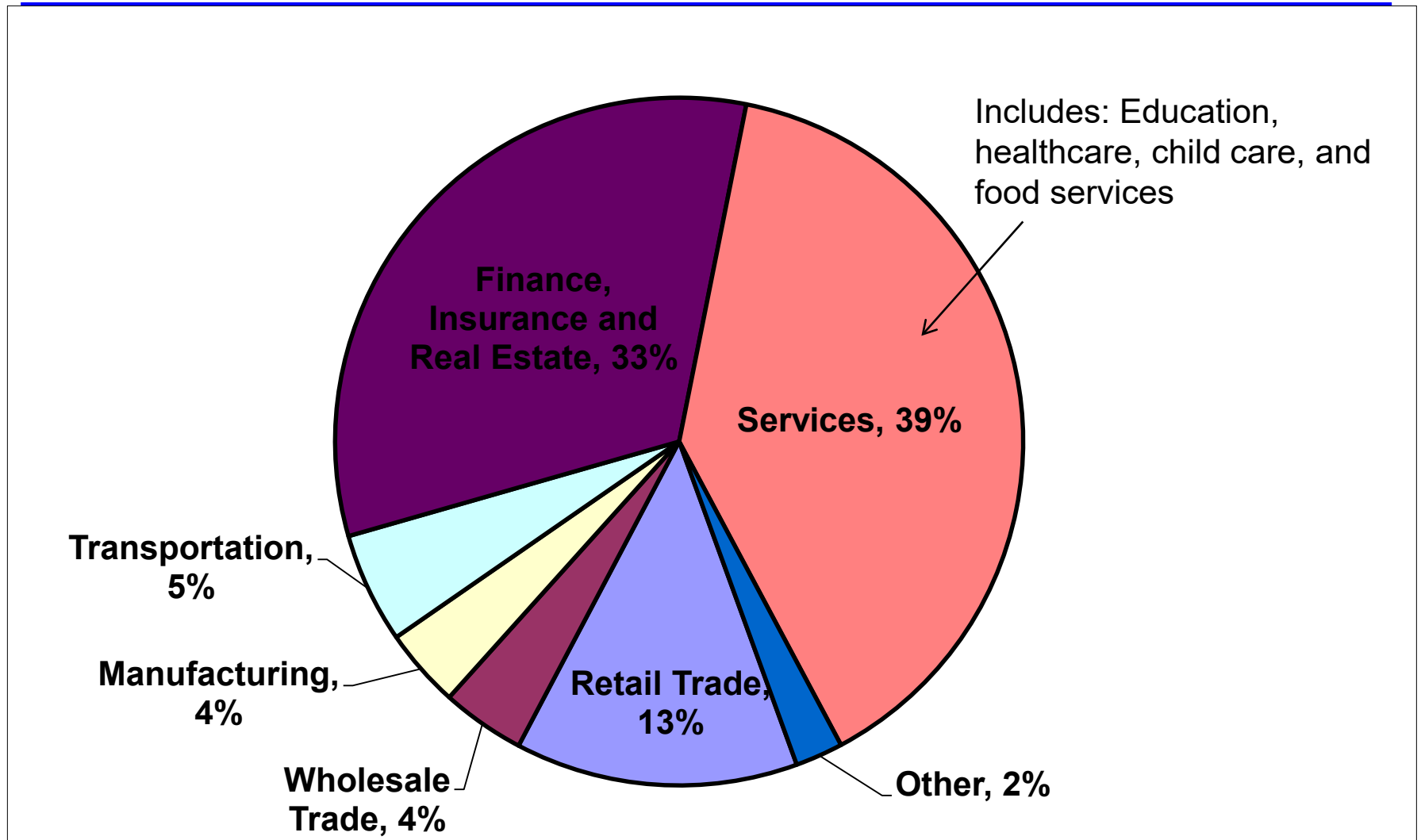
Direct Impacts: Scenario B

- Direct “life-cycle” spending based on NREL (JEDI) estimates with higher local shares:
 - **\$3.1M** for labor compensation (wages and benefits)
 - **\$16.6M** for transport, site facilities, materials, etc.
 - **\$19.8M** per year total local spending in SLO County
- SLO County share of annual O&M = 28.4%

Indirect Impacts – Inputs to On-Site Activity

- Beneficiaries include providers of:
 - Marine and helicopter transport equipment
 - Materials and equipment (e.g., piling, anchors, mooring)
 - Contracted services, etc.
- Many indirect impacts are likely to accrue outside of SLO County
 - Top local supply chain development opportunities:
 - Transportation, communication and public utilities (TCPU)
 - Maintenance & repair (construction trades)
 - Professional services

Induced Spending by County Workers



Summary of Economic Impacts: SLO County Scenario 0

- Annual Jobs and Employee Compensation

Impact	Economic Activity	Job Years ¹	Employee Compensation	Economic Output ²
Direct	Project Operations	28	\$1,734,260	\$11,053,280
Indirect	Local Supply Chain	24	\$1,188,399	\$3,928,858
Induced	Employee Spending	13	\$542,170	\$1,682,374
Total Operating Phase		65	\$3,464,829	\$16,664,512
Tax Impacts				\$311,287

[1] Job estimates include part-time and full-time employment on a FTE basis

[2] Economic output excludes the gross value of the power generated by the offshore wind facility.

Summary of Economic Impacts: City of Morro Bay Scenario 0

- Annual Jobs and Employee Compensation

Impact	Economic Activity	Job Years ¹	Employee Compensation	Economic Output ²
Direct	Project Operations	28	\$1,734,260	\$11,053,280
Indirect	Local Supply Chain	13	\$917,903	\$1,651,398
Induced	Employee Spending	6	\$474,679	\$759,083
Total Operating Phase		47	\$3,126,842	\$13,463,762
Tax Impacts				\$119,091

[1] Job estimates include part-time and full-time employment on a FTE basis

[2] Economic output excludes the gross value of the power generated by the offshore wind facility.

Summary of Economic Impacts: SLO County Scenario B

- Annual Jobs and Employee Compensation

Impact	Economic Activity	Job Years ¹	Employee Compensation	Economic Output ²
Direct	Project Operations	50	\$3,096,892	\$19,738,000
Indirect	Local Supply Chain	42	\$2,122,140	\$7,015,815
Induced	Employee Spending	20	\$968,161	\$3,004,239
Total Operating Phase		112	\$6,187,193	\$29,758,055
Tax Impacts				\$555,868

[1] Job estimates include part-time and full-time employment on a FTE basis

[2] Economic output excludes the gross value of the power generated by the offshore wind facility.

Summary of Economic Impacts: City of Morro Bay Scenario B

- Annual Jobs and Employee Compensation

Impact	Economic Activity	Job Years ¹	Employee Compensation	Economic Output ²
Direct	Project Operations	50	\$3,096,892	\$19,738,000
Indirect	Local Supply Chain	24	\$1,104,892	\$2,948,924
Induced	Employee Spending	9	\$416,387	\$1,343,120
Total Operating Phase		83	\$4,618,171	\$24,030,045
Tax Impacts				\$214,191

[1] Job estimates include part-time and full-time employment on a FTE basis

[2] Economic output excludes the gross value of the power generated by the offshore wind facility.

Additional Impacts – Commercial Fishery

- Potential loss of revenue from fish landings
 - Depends on ability to meet existing groundfish quotas after displacement
- Greater fishing effort raises cost of landings
 - Loss of area available to fish
 - Increased vessel days to maintain landings
- General risks and uncertainty:
 - Lost option value
 - Navigational hazards; gear entanglement
 - Turbine noise; electromagnetic fields

Additional Impacts – Environmental

- Furthers California’s objective in meeting its ambitious renewable energy standard
 - Partially displaces loss of Diablo Canyon power
- Aligns with “clusters of opportunity” identified in SLO County Economic Strategy Project
 - Growth of green economy jobs in SLO County 5 times faster than rest of the economy 1995-2008
 - SLO County becoming a leader in green energy
 - Synergy with world-class engineering programs at Cal Poly

Comments are Welcome

Thank you!

Additional Impacts – Tax Revenues

Note: Does not include lease payments to City

- Property Taxes:
 - Increased value of land and taxable improvements
 - Does not include taxable improvement of switchyards and substations in the City of Morro Bay
- Sales and Use Tax:
 - Taxes paid on materials and equipment
 - City of Morro Bay does not receive use tax
- Personal Taxes: local income taxes
- Corporate Taxes

Direct Impacts: Jobs and Wages

- Castle Winds LLC offshore wind project will generate good-paying jobs:
 - Technicians, administrative staff,
 - Annual wages equivalent to **\$40-60K** salaries
- Total Local Jobs and Wages in SLO County
 - Baseline: **28** “job years” and **\$1.3M** wages + benefits
 - Scenario B: **50** “job years” and **\$2.3M** wages + benefits

Δ Direct Impacts: Scenario B

- **Changes from baseline:**
 - Technician salaries: from 50% to 60% local labor
 - Management/Supervision: from 10% to 60% local
 - Transport: from 20% to 50% local
 - Materials/maintenance parts: from 5% to 10% local

Total Indirect Impacts in SLO County

- Scenario 0 (baseline): local supply chain impacts during operating phase
 - 24 “job years” and \$1.2M annual wages and benefits
 - \$3.9M total economic output (local spending on labor, materials and services, excluding value of energy)
- Scenario B: More developed supply chain
 - 42 “job years” and \$2.1M annual wages and benefits
 - \$7.0M total economic output per year

Induced Impacts – Spending “Multipliers”

- Spending by direct and indirect workers on:
 - Retail goods (food, clothing, vehicles, etc.)
 - Health care services
 - Housing and real estate services
 - Education and professional services, etc.
- Majority of induced impacts from direct workers likely to accrue within SLO County
 - Greatest impacts are in retail sector, finance, insurance, and real estate, and health care services, which will occur near workers’ homes and workplaces

Total Induced Impacts in SLO County

- Scenario 0 (baseline):
 - 13 “job years” and \$0.6M annual wages and benefits
 - \$1.7M total economic output
- Scenario B:
 - 20 “job years” and \$1.0M annual wages and benefits
 - \$3.0M total economic output per year