



Decommissioning
San Onofre
Nuclear Generating Station

San Onofre
Economic Impact
Study
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Purpose

- Purpose of analysis
 - Local interest in decommissioning jobs
 - Project jobs/“trade work” going to local organized labor
 - Quantify near-term economic output

Background

- Output during operations
 - Estimated at \$3.3 billion/year in California (in 2010)
 - Higher employment and more “permanent” jobs
 - Average of 500 contract employees

San Onofre Staffing			
Phase	Average Annual Budget (\$ in millions)	Core Staffing	Staffing Budget (\$ in millions)
During Operation	775	2,200	410
Decommissioning	242	375	80

Background

- Decommissioning output
 - Estimated at \$293 million/year in California (~1/10th)
 - Lower employment and more temporary jobs
 - Current average 100 contract employees

San Onofre Staffing			
Phase	Average Annual Budget (\$ in millions)	Core Staffing	Staffing Budget (\$ in millions)
During Operation	775	2,200	410
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Introduction

- Retained Beacon Economics
- Focus of study
 - Major work from 2013 to 2026
- Assessed primary impacts:
 - Employment – jobs for region's residents
 - Output – goods and services
 - Tax revenues – state and local
 - Boost to economic activity

Economic Impact Analysis SONGS Decommissioning Project

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Overview

- **Economic impact**
 - \$3.2 billion spend
 - Major work phase from 2013 - 2026
 - 2 primary sources of impact
 - Construction and effects on regional growth
- **Benefits**
 - Employment – jobs for region's residents
 - Output – demand for goods and services
 - State and local tax revenues
 - Boost to economic activity

Types of Economic Impacts

- **Direct impact**
 - Expenditures to dismantle the nuclear generation station (e.g. construction)
 - Provides jobs for city and county residents
- **Indirect impact**
 - Purchase of building materials
 - New real estate
- **Induced impact**
 - Worker spending
 - Tax revenues (Sales tax on goods purchased)

Overview of IMPLAN

- Used to estimate a project's economic impact on a particular geography
- Typically constructed at the county level
 - This analysis was done at county, state, and U.S. level
- Based on multipliers:
 - \$X invested in the local economy
 - Generates \$Y in output and Z jobs

IMPLAN Multipliers

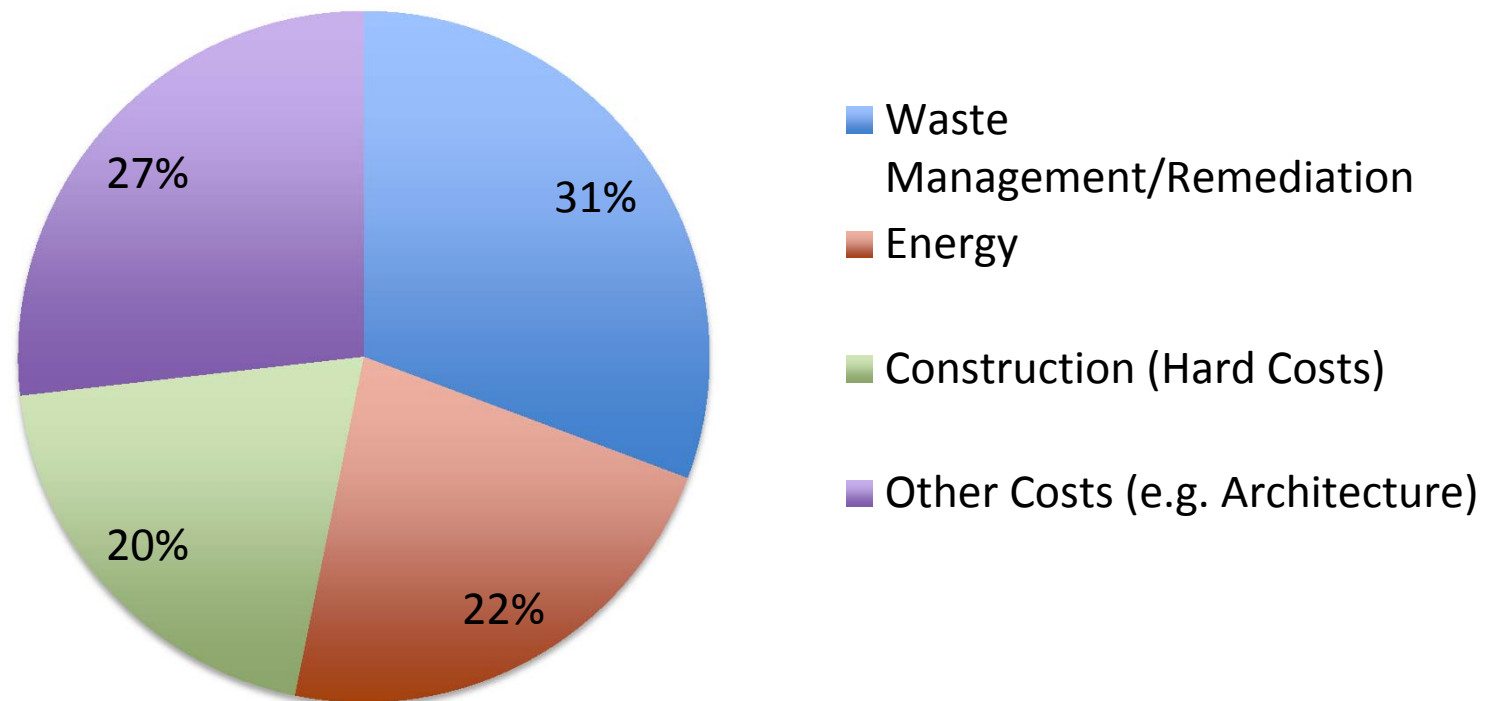
- Multipliers vary by industry and geography
- California vs. San Bernardino County
 - California has larger multipliers. Why?
 - Leakage into other regions
- Example: PC manufacturing in San Bernardino County
 - Requires silicon chips as major input
 - County is not major chip manufacturing area
 - PC manufacturer has to buy chips from another county
 - PC purchases do not impact SB County (“leak out”)
- General rule of thumb
 - Larger geography = less leakage
 - More diverse local economy = less leakage

Project Expenditures by Category

Sector	Amount (\$ Millions)	Pct. Of Total Expenditures
Waste Mgmt./Remediation	1,004.2	30.68
Utilities	735.1	22.46
Construction (Nonresidential)	654.5	20.00
Architectural/Engineering Services	451.2	13.78
Investigation/Security	273.7	8.36
Insurance Carriers	40.3	1.23
Wholesale Trade	32.9	1.01
Advertising & Related Services	29.5	0.90
Environmental/Other Tech. Consulting	19.5	0.60
Machinery Rental/Leasing	16.5	0.50
Real Estate	10.6	0.33
Computer Manufacturing	3.9	0.12
Telecommunications	1.6	0.05
Total	3,273.4	100.00

Expenditures by Major Group

Project Spending



Note on Impacts

- **Jobs** aren't permanent; most will end when the project is finished (i.e. spending stops)
- **Output** reflects revenues or business opportunities for local vendors in each geographical region, *not* for SONGS partners
- **Labor income** isn't only for SONGS workers

Summary of Economic Impacts

Area	Jobs (Full-Time Equiv.)	Output (\$ Millions)	Labor Income (\$ Millions)
United States	45,415	9,022.7	2,807.7
California	20,720	4,105.8	1,384.3
San Diego County	6,572	1,180.1	408.6
Orange County	6,330	1,238.8	435.5
Los Angeles County	4,334	941.9	299.3
Riverside County	984	176.3	58.7
San Bernardino County	883	178.4	58.3
Rest of California	1,618	390.2	124.0
Out of State	24,695	4,916.9	1,423.4

Secondary Impacts

- **\$1.9 billion** in California output through secondary effects alone
 - *Real Estate* (6th highest tot. output)
 - \$5.3 mil direct; \$53.9 mil indirect; \$55.7 mil induced
 - *Petroleum Refineries* (7th highest tot. output)
 - \$0 direct; \$84.1 mil indirect; \$11.1 mil induced
- Companies almost always need to increase energy consumption and expand facilities in response to a big increase in business activity

California Fiscal Impacts

- **\$185.0 million** in state and local tax revenue generated across California
- Major sources:
 - Sales tax: \$45.5 million
 - Personal income tax: \$44.2 million
 - Business property tax: \$36.2 million
- Increase in income generates state tax revenue, while increase in spending generates local tax revenue

Orange County Impacts

Impact Type	Jobs (Full-Time Equiv.)	Output (\$ Millions)	Labor Income (\$ Millions)
Direct	3,990	799.5	293.1
Indirect	1,249	251.5	83.8
Induced	1,091	187.9	58.6
Total	6,330	1,238.8	435.5

- Orange County will see the largest output impacts of any county
 - Driven by largest direct spending in any county (\$293.1 mil)
- Major sectors impacted:
 1. *Utilities* (\$229.0 mil)
 2. *Waste/Remediation* (\$152.4 mil)
 3. *Arch./Engineering* (\$151.1 mil)
- More jobs supported in *Investigation/Security* than any other sector (1,739; 1,711 dir)
- Food Services (175), Real Estate (161) benefit from secondary job impacts

San Diego County Impacts

Impact Type	Jobs (Full-Time Equiv.)	Output (\$ Millions)	Labor Income (\$ Millions)
Direct	3,757	710.0	253.9
Indirect	1,158	216.4	73.6
Induced	1,657	253.7	81.1
Total	6,572	1,180.1	408.6

- SD County will see the largest employment impacts of any county
- Less labor income but more jobs than Orange County. Why?
 - High-wage vs. low-wage jobs
 - Orange County spending will support more workers in high-wage sectors (Arch./Engineering, Utilities)

Real Estate Impacts

- Some studies claim removal of nuclear facilities increases nearby home values
 - Roughly 6.4%, homes < 10 miles from site
- 3 cities in S Orange County within range
 - Dana Point, San Clemente, San Juan Capistrano
- Assume 6.4% increase in assessed valuation
 - Over long-run; short-run limited by Prop 13
- Assume 20% of prop. tax revenue goes to 3 cities
 - Dana Point - ~\$900,000
 - San Clemente - ~\$1.3 million
 - San Juan Capistrano - ~\$600,000

Key Findings

- **\$9 billion in output in U.S.**
 - **\$4.1 billion** in output in California, with **\$1.9 billion** through secondary effects
- **Much of the economic activity will come in Southern California**
 - Orange County: ~6,300 jobs, \$1.2 bil output, \$436 mil labor income
 - San Diego County: ~6,600 jobs, \$1.2 bil output, \$409 mil labor income
- **\$185 million in state and local tax revenue in California**



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