

CASE STUDY / GENERAL DYNAMICS NASSCO, SAN DIEGO, CA

GENERAL DYNAMICS
NASSCO

MIGHTY ENERGY SAVINGS IN SHIPBUILDING




General Dynamics NASSCO in San Diego, California has been designing and building ships in the Port of San Diego since 1960. NASSCO specializes in the design and construction of government and commercial ships and is a major provider of repair services for the U.S. Navy. NASSCO is committed to environmental excellence and joined SEM to deepen their impact from 2018 to 2022.

In the SEM program, delivered by Cascade Energy and funded by SDG&E's Public Purpose Programs fund, NASSCO took a closer look at energy efficiency, greenhouse gas reductions, and organizational change management. NASSCO formed a cohesive Energy Team that included people from Maintenance, Operations, and EH&S. They worked together to complete 55 energy saving projects identified during the 4-year engagement.

Mega Savings: Compressed Air

The facility in the Port of San Diego uses compressed air to drive many of their industrial processes and substantial projects were found within this system. The NASSCO team completed 22 total compressed air energy savings projects saving over 2,100,000 kWh, \$300,000, and 100 metrics tons of carbon annually. One interesting project was replacing 18 compressed air valves whose location and mechanism allowed employees to kick them on with their feet. The new design replaces the valves with a style that must be operated manually and creates a better seal. This project saves the site nearly 350,000 kWh/year (over \$50,000 annually).

ACHIEVEMENTS AT-A-GLANCE*

 **>3,600,000 kWh**
estimated reduction
in annual electric usage

 **>\$500,000**
estimated reduction
in annual energy costs

 **1,680 Tons/Year**
estimated reduction in annual
scope 1 & 2 CO₂ emissions

 **>\$35,000**
in incentive payments

*Based on engineering calculations.



KEY SEM CHANGES

VALVE REPLACEMENTS



Old



New

- 1 Changed compressed air functionality through extensive valve replacements (*Left*)
- 2 Turned off equipment when not in use
- 3 Added dewpoint sensors within compressed air system
- 4 Modified lighting schedules and optimized use of sensors
- 5 Adjusted compressor discharge pressure settings gradually to the right level (tweak 'n' peek)
- 6 Implemented setpoint controls on machinery
- 7 Added VFDs



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The workshops gave us an opportunity to hear from similar companies to learn about what they are doing and how that can be applied (at NASSCO). Connecting with other companies with similar programs was very helpful and Cascade supported the growth of the NASSCO team.

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SIERRA LANDAICHE

Environmental Engineer
and Energy Champion

Interested in energy efficiency options for your facility in SDG&E territory?

For program questions, contact our SEM Coach or visit sdsmartindustrials.com



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The SMART (Savings, Measurement, Assistance, Rebates, Training) Industrials Strategic Energy Management program is funded by California utility customers under the auspices of the California Public Utilities Commission and implemented by Cascade Energy Inc. under a contract awarded by San Diego Gas & Electric® Company (SDG&E).

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