



Project Highlight

Canadian Forces Base (CFB) Esquimalt, BC

AMERESCO 

Naval Base Reduces Energy
Consumption by 19% and
GHG Emissions by 21%

Technology Type:

Building Automation | HVAC Gas to Heat Pump
Conversions | Solar Hot Water | LED Lighting |
Central Plant Upgrades | Boiler Plant Replacements |
Water Conservation | Refrigeration Plant Heat
Recovery | Energy Performance Contract (EPC)

Facility Size

240K square meters

Energy Project Size

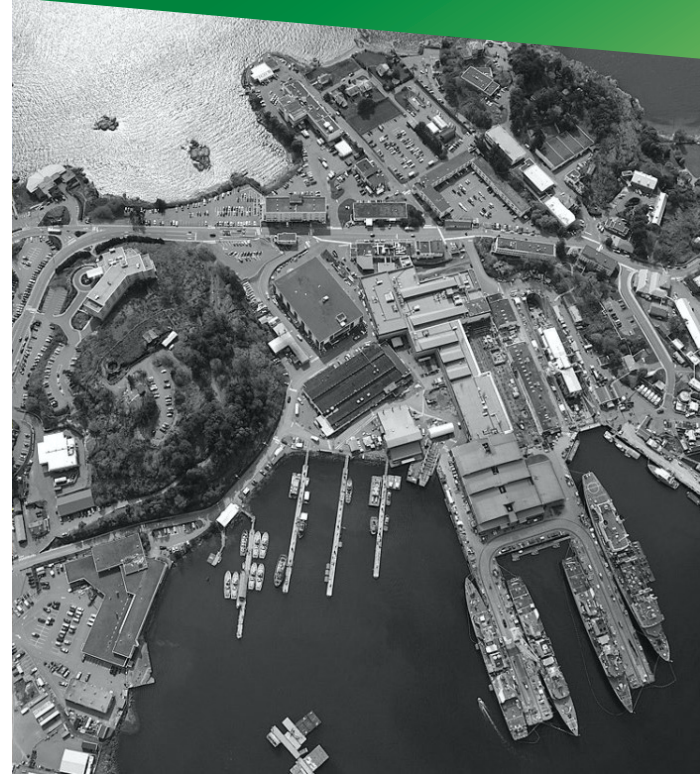
~\$16.6M

Annual Emissions Reduction

~3,000 metric tons of CO₂

Annual Electricity Reduction

~4,250 MWh



Summary

The Department of National Defence (DND) and Defence Construction Canada (DCC) embarked on a comprehensive campaign to reduce energy costs and greenhouse gas (GHG) emissions at CFB Esquimalt in British Columbia. Using an Energy Performance Contract (EPC) model, Ameresco maximized the amount of the capital for the efficiency and facility renewal measures with a turnkey, design-build project acting as the sole point of responsibility for project implementation.



Solution

In partnership with the DND and DCC, Ameresco was chosen to address the rising utility costs, aging infrastructure, and limited budgets facing CFB Esquimalt. By identifying various incentives, Ameresco facilitated critical infrastructure updates and replacements. The project, valued at \$16.6 million, was financed using a performance-based approach that utilized guaranteed savings to cover the costs of the upgrades.



The comprehensive scope of the project included 179 measures implemented across the following five categories:

- Lighting Retrofits
- Mechanical Upgrades
- Building Automation
- Plant Upgrades
- Building Envelope Upgrades

Ameresco's work at CFB Esquimalt has significantly enhanced our energy efficiency and reduction of greenhouse gas emissions. Their expertise and dedication delivered outstanding financial gains and environmental benefits, which would have been challenging to achieve, without their guidance and support.

Jamie Birtwistle
EPC Project Manager - CFB Esquimalt



Benefits

Despite the challenges inherent in implementing efficiency upgrades tailored to the unique energy demands of naval bases – including those from maintenance, repairs, and the operation of visiting vessels – the project delivered numerous beneficial results. Generating approximately \$876,000 in annual utility savings and achieving an annual reduction of 2,978 tonnes of GHG emissions, the net cost of the project equated to just \$52 per tonne of reduced GHG emissions, significantly below the expected carbon cost for the same time frame. Additional benefits included:

- 19% reduction in overall annual energy consumption
- ~4,250 MWh in electricity reduction
- ~11,700 MWh in natural gas reduction and ~670 MWh in propane reduction
- Reduced annual GHG emissions by approximately 21%
- Delivered significant ROI for the Department of National Defence

Ameresco's team of energy experts can assist you in identifying the solution that fits your needs.

For more information about Ameresco and our full-range of energy efficiency and renewable energy solutions, please call **1-866-AMERESCO** or visit **ameresco.com**.

