

# Alutiiq Center

## Administration Building

### The Challenge

The Alutiiq Center in Anchorage, Alaska, serves as the headquarters building for the Afognak Native Corporation (ANC) and its subsidiary, Alutiiq LLC.

This five-story, 81,000-square-foot structure is designed to reflect the modern essence of the Afognak Island region and the Alutiiq people. Located at 3909 Arctic Boulevard, the exterior blends geographic elements from the Afognak Island, while the ground floor houses a small museum exhibiting historical and cultural artifacts of the Alutiiq people.

Stringent standards were upheld during construction to incorporate eco-friendly materials, such as granite facing and aluminum composite panels on the exterior.

Between the design phase and construction, utility rates in Anchorage skyrocketed by more than 260 percent. Building management collaborated with Capstone Green Energy, distributor, Arctic Energy, to install a cogeneration system with the goal of improving energy efficiency, cutting utility expenses, and lowering carbon emissions.

### The Solution

Commissioned in 2018, the building's combined heat and power (CHP) system features a Capstone C65 ICHP

### Power Profile

#### Customer

Afognak Native Corporation

#### Location

Anchorage, Alaska

#### Commissioned

Fall 2018

#### Fuel

Pipeline Natural Gas

#### Technologies

- (1) C65 ICHP Microturbine

#### Capstone Green Energy

#### Distributor

Arctic Energy Alaska



**By incorporating a single Capstone CHP machine into the building, Alutiiq Center successfully reduced Anchorage's escalating utility expenses, aligning the operational and maintenance costs with the initial design estimates."**

— Greg Porter, President/CEO  
Arctic Energy Alaska



**Smarter Energy  
for a Cleaner Future**



The Alutiiq Center in Anchorage features a Capstone C65 ICHP microturbine that significantly improves energy efficiency and reduces utility costs.

microturbine, offering a fully integrated solution. This setup accounts for 25 percent of the building's electricity consumption during full capacity and 100 percent during closing hours.

**Location.** The single Capstone C65 ICHP is a compact and quiet machine (>65 decibels) mounted to the rooftop outdoors. The single-unit engine requires minimal upkeep and downtime, with reduced scheduled maintenance intervals and millions of operating hours surpassing other technologies.

**Operation.** The microturbine's integrated heat recovery module (HRM) supplies the building's boiler heating systems through hot water storage tanks. Through the cogeneration process, the microturbine's exhaust heat is harnessed to generate both electrical and thermal energy.

**Significance.** The HRM integrated above the C65 captures the microturbine's waste heat, resulting in notable energy and cost efficiency while decreasing emissions. What's more, the Capstone heat exchanger is instrumental in heating the building's water for daily use 8 months of the year and between 30-50 percent between November and February.

## The Results

The cogeneration system at the Alutiiq Center has been fully operational since 2018. This system boosts energy efficiency, offsets grid power, and decreases carbon emissions. By ensuring a stable power supply, the building also plays a role in environmental conservation due to the system's near-zero emissions profile.

## By the Numbers

- **\$230/day utility fee savings (electricity & gas)** - In 2023, the microturbines saved 570,000 kWh of energy a month, reducing the total energy consumption by more than a third.
- **75 and 50 percent** - the amount of boiler and electric load offset by a single Capstone C65 ICHP.
- **49,120 hours** - Approximate amount of the continuous run time logged.
- **65kW** - The energy produced by the microturbines at full power year-round.

## Capstone C65 ICHP Microturbine



A C65 provides up to 65kW of electrical power while the UL-Certified C65 ICHP provides up to an additional 150kW of thermal power for CHP and CCHP applications.