

# Energy Savings Verification Plan

A public guide for confirming HVAC AI savings after installation and commissioning.

This document is a public method summary. Project contracts may add site-specific meters, tariffs, operating schedules, comfort constraints, sample-screening rules, and acceptance thresholds.

## What This Plan Establishes

ClimaMind verifies savings by comparing a clearly defined baseline operating mode with the AI-assisted operating mode under comparable site conditions. The goal is not to prove a single isolated equipment improvement, but to confirm the net electricity cost reduction delivered by optimized HVAC control.

- Baseline mode: equipment follows the agreed manual, BAS, or existing supervisory strategy without ClimaMind optimization.
- AI mode: the same system operates with ClimaMind recommendations or supervisory control enabled.
- Savings rate: the percentage reduction in comparable daily electricity cost after normalization and data review.

## Validation Windows

The site team and ClimaMind can choose one of the following approaches before the acceptance window starts. The selected method should match the building schedule, operating risk tolerance, weather stability, and available metering granularity.

Method	How it works
Matched-day comparison	Select several baseline-mode days in the test month. Compare them with AI-mode days that have similar weather, load pattern, and operating hours.
Alternating operation	Alternate baseline and AI operation during a short acceptance window, with comparable sample counts for both modes.

The matched-day method is usually less disruptive for operators. The alternating method creates a cleaner experimental rhythm, but requires stronger site coordination because the control mode changes more frequently.

## Operating Conditions

- Comfort setpoints, tenant schedules, and major equipment availability should remain materially consistent across compared days.
- Metering should cover the relevant HVAC electricity boundary, including chillers, chilled-water pumps, condenser-water pumps, cooling towers, and other agreed equipment.
- Daily operating hours should be aligned. If one day has a materially shorter or longer schedule, it should be adjusted, normalized, or excluded.
- Daily system load should be comparable. Material load differences should be handled through sample selection, normalization, or exclusion rules.
- Weather and load differences should be reviewed. Large deviations may require postponing comparison until suitable paired days are available.

## Savings Calculation

The calculation starts from electricity cost, not only kWh, because time-of-use tariffs can change the business outcome. When tariff periods are available, each interval is multiplied by the applicable electricity price and then summed into a daily HVAC electricity cost.

Metric	Definition
Daily baseline cost	Electricity cost of the HVAC boundary during baseline-mode operation, after the agreed data screening and normalization.
Daily AI cost	Electricity cost of the same HVAC boundary during AI-mode operation under comparable conditions.
Savings rate	Baseline daily cost minus AI daily cost, divided by baseline daily cost. Multiple valid days can be averaged.

## Data Review

- Both parties review raw meter readings, weather records, operating hours, and unusual events before finalizing the acceptance dataset.
- Invalid days can include equipment faults, manual overrides outside the test plan, major occupancy changes, meter outages, or unusual plant shutdowns.
- If baseline testing is performed after AI has been running, ClimaMind can return controllable settings to the agreed pre-test values after the baseline window ends.

# Recommended Acceptance Package

For a formal project closeout, ClimaMind recommends packaging the verification evidence as a short acceptance appendix rather than leaving it as raw trend exports. The appendix should make the method, selected days, excluded days, and final savings number easy to audit.

Evidence	Purpose
Test calendar	Shows which dates were baseline, AI, excluded, or held for review.
Meter export	Provides interval kWh and, where applicable, tariff-period electricity cost.
Weather and load notes	Documents the comparability of selected days and flags material differences.
Savings summary	Reports the accepted baseline cost, AI cost, savings amount, and savings rate.

For a site-specific acceptance protocol, ClimaMind can align this public plan with the project contract, BAS point list, utility tariff, and operating calendar.