A small cost advantage is not a selection

SYNTHETIC-DEMO-001 | Review draft | All inputs invented

Two fictional process-water filtration packages illustrate a reproducible comparison. This is a method demonstration, not an equipment recommendation or a professionally reviewed ETSS.

The result in one minute

At the base assumptions, package B has an included five-year cost of **CAD 86,700**, versus **CAD 88,800** for A: B is lower by **CAD 2,100** [C7-C8]. Real technical eligibility and actual costs remain unknown [C13].

What changes?	What happens?
Operating hours fall from 4,000 to 2,000 h/year	A becomes lower by CAD 2,700 [C10].
Electricity falls from 0.12 to 0.08 CAD/kWh	A becomes lower by CAD 1,100 [C11].
B's other annual cost rises by CAD 500/year	A becomes lower by CAD 400 [C12].

What to verify

1. Open **synthetic-source.md**. Confirm every input is explicitly assumed.
2. Check: A = 40,000 + 5 x (12 x 4,000 x 0.12 + 4,000) = 88,800 CAD.
3. Check: B = 55,000 + 5 x (8 x 4,000 x 0.12 + 2,500) = 86,700 CAD.
4. Run **python reproduce.py** from the unzipped reproduction package. Compare output to expected-results.json.

Before any real decision

Establish actual duty, water characteristics, performance, safety, operability, vendor evidence and full lifecycle economics. Route project-specific work through the appropriate Licensed Engineering Partner. No real purchase or design decision is supported by this example [C13-C14].

AI disclosure: prepared by an AI generator. Independent checker findings are supplied separately; human approval is required before public release. This example does not establish production readiness.