

Green Will Initiative

Making the Case for Energy Management and Decarbonization Projects

Course Summary Cheat Sheet

1 Key Differences between Energy Efficiency and Decarbonization



Energy Efficiency

Focuses on eliminating waste and optimizing existing systems. Typically less than 30% reduction in GHG.

Vs.



Decarbonization

Significantly reduces GHGs (> 30%), often includes full system re-design, electrification or envelope upgrades. It should still include energy efficiency measures to reduce overall energy.

2 Financial Metrics Overview



Simple Payback

Very well understood and commonly used. Ignores long-term benefits and cost escalations.



NPV (Net Present Value)

Analyzes the measure over the whole lifespan – good for understanding the whole picture; positive NPV indicates a good investment.



IRR (Internal Rate of Return)

Measures profitability; should exceed the discount rate.



Discount Rate

Higher rates undervalue long-term savings; align with corporate policies. Remember to look for financing sources to access low interest financing sources.



NPV/Tonne

Total cost or savings of the measure over the lifetime GHG savings. Allow for normalization across measures with varying impacts. Preferred metric for comparing decarbonization and deep energy retrofit opportunities.

3 Building a Strong Business Case



1. **Financial:** Carbon risk including penalties and reduced resale value (and potentially new carbon taxes).
2. **Non-Financial:** Comfort, resilience, ESG goals, regulatory compliance, tenant satisfaction.

4 Lessons from Experienced Energy Managers



1. **Do a building pre-screen** to identify good opportunities before spending money on studies. Make your own pre-screen based on your portfolio. *Ex. mechanical equipment near end of life, has good data but requires other upgrades (ex. cooling, refurbishment).*
2. **Pick your easiest building first** – don't pick the one with the biggest impact, pick the easiest building so you'll get an easy win and buy-in for future projects.
3. **Frame decarbonization** as risk mitigation and future proofing, not just a cost.
4. **Engage finance teams early** to align on key metrics.
5. **Seek financing & references.** [Click here for more information.](#)

5 Common Challenges & Solutions



Long Payback Period

Look for preferred financing rates & incentives, consider upcoming penalties to build the business case. Pick a holistic retrofit bundle – decreases the total building energy use not just fuel switching. Right size equipment using real building data, consider internal carbon prices. [Click here for more information.](#)



Uncertainties

Carbon taxes, penalties, fuel escalation rates, do a sensitivity analysis (don't base your decision on only one scenario, especially if its uncertain).



No Upfront Capital

Explore incentives, grants, and financing programs. Look at Energy As A Service (EaaS) providers.



Convincing Decision-Makers

Showcase non-financial benefits (comfort, resilience) and present case studies. Think of how you build a case for a lobby refurbishment.

6 Additional Resources



1. [Better Building Navigation Resource Hub](#) ➡
2. [NRCan Directory of Energy Efficiency Programs](#) ➡
3. [GWI Resource Hub](#) ➡
4. [Commercial Building Electrification Guide](#) ➡