RECOVER

Building Transformation Program

Deep Retrofit Feasibility Study

SAMPLE REPORT

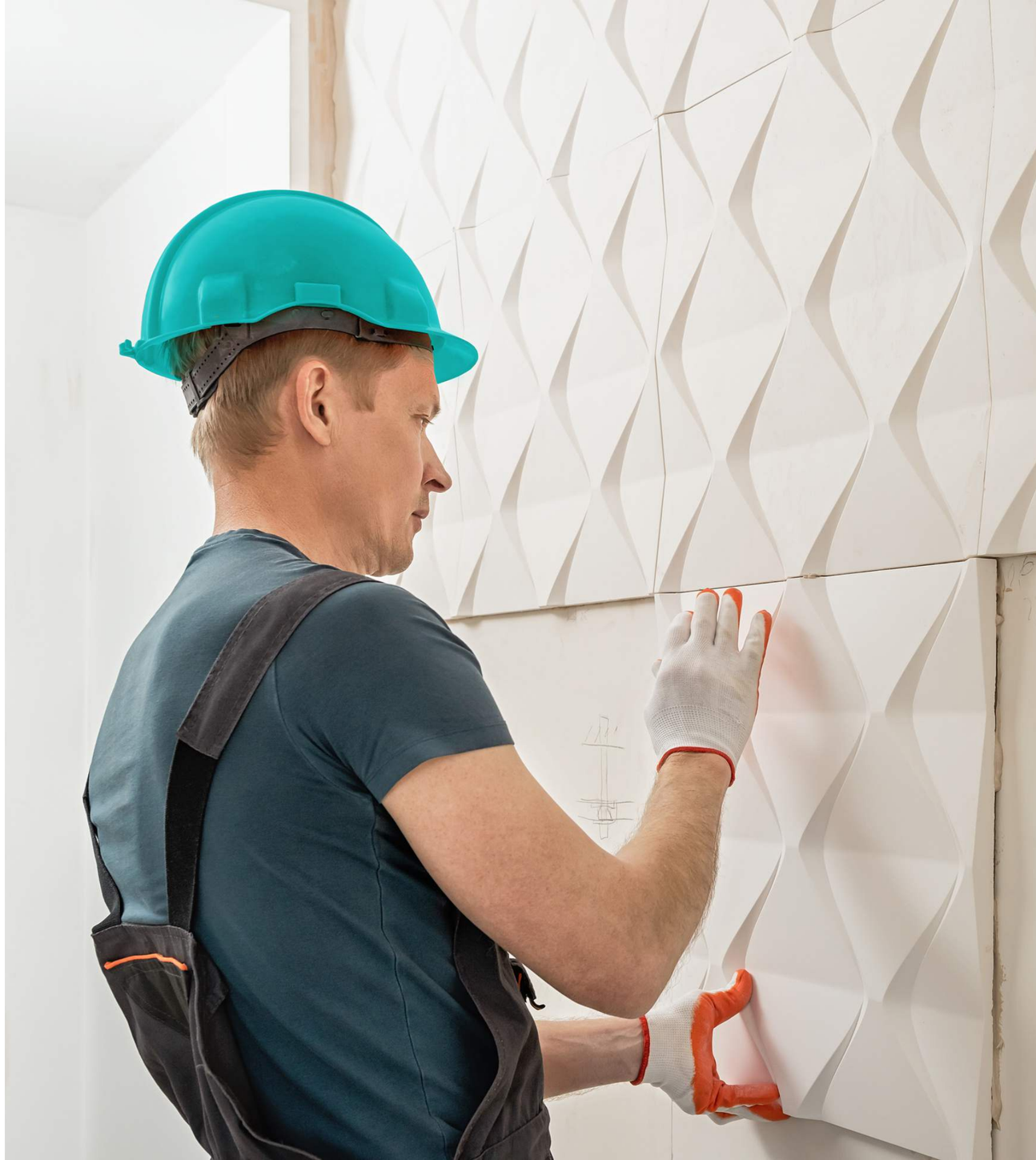
(For demonstration purposes only)

What to expect in your study

Buildings constructed under earlier energy and performance standards now face a dual challenge: rising operating costs and increasing pressure to reduce greenhouse gas (GHG) emissions, all while aging systems approach the end of their service life.

This sample Deep Retrofit Feasibility Study outlines the typical structure, content, and analytical approach of an ASHRAE Level II energy audit **combined** with a building condition assessment and does not represent findings for a specific building.

Here's what you can expect to see when the consultant that is contracted by ReCover Initiative provides your final report.



2. Site Investigation & Data Collection (6–15 pages)

1.1 Study Background

Owner goals: [decarbonization targets, cost reduction, resilience, comfort, compliance]

Constraints: [occupied building, budget cap, phased construction, heritage]

Standards and guidance used:

- ASHRAE audit framework (Level II) as the basis for scope and reporting expectations.
- Property Condition Assessment conventions (walkthrough + document review → condition report).

1.2 Scope of Work (ASHRAE Level II + BCA)

A Level II "Energy Survey & Analysis" typically includes: document review, utility analysis, site visit/walkthrough, interviews, engineering calculations, and a report with (Energy Conservation Measures (ECMs) and financials; internal templates explicitly call for these components and for reviewing envelope/mechanical/electrical/loads/schedules and renewables applicability.

This combined feasibility study includes:

- Level II energy audit deliverables
- Retrofit bundling and sequencing ("pathways")
- Building condition assessment integrated into scope selection

3. Baseline Energy & GHG Performance (10–20 pages)

3.1 Benchmarking & Weather Normalization

- EUI and comparison vs peer buildings (if benchmark data available)
- Heating degree day adjustment for fuel use
- Calibrated energy model

3.2 End-Use Breakdown (Example)

- Space heating: 45%
- Ventilation/fans: 15%
- Cooling: 10%
- Lighting: 12%
- Plug loads: 16%
- DHW: 2%

3.3 Key Baseline Issues Identified (Example)

- Simultaneous heating/cooling (controls & VAV reheat)
- High infiltration (envelope leakage at roof–wall transitions)
- Low outside air control stability; no heat recovery

Baseline energy. There should be a note added in about calibrated energy model. This is an important piece that enhances our ASHRAE level II to demonstrate the energy model has been modified and complete with reasonable accurately to match the true historical energy use of the building. this further enables accurate projections with reasonable certainty the proposed energy savings.

4. Building Condition Assessment (BCA) (15–40 pages)

This section is written like a Facility Condition Assessment: walkthrough + document review + observed deficiencies + recommended remedies and timing.

This can include:

- **Condition Ratings**
  - Good: functioning as intended; minor maintenance
  - Fair: serviceable; plan renewal within 5–10 years
  - Poor: near/at end of life; repair/ replace within 0–5 years
  - Critical: safety risk or imminent failure
- **System by System Findings**
- **Mechanical**
- **Electrical**
- **Life Safety**
- **Deferred Maintenance**

5. Energy Conservation Measures (ECMs) (15–35 pages)

5.1 ECM Log (Sample Table)

ECM ID	Measure	Type	Est. Energy Savings	Est. GHG Savings	Capex (ROM)	Opex Impact	Interactive Effects	Notes
E-01	**BAS scheduling + setpoint reset**	**Controls**	___	___	$___	-$___	**affects HVAC runtime**	**quick win**
M-03	**Air-to-water heat pumps**	**HVAC**	___	___	$___	+/–	**depends on envelope**	**electrification**
EN-02	**Roof insulation + air sealing**	**Envelope**	___	___	$___	—	**reduces heating load**	**aligns w/ roof renewal**
L-01	**LED + occupancy/daylight sensors**	**Lighting**	___	___	$___	-$___	**reduces cooling**	**fast payback**
R-01	**PV rooftop**	**Renewables**	___	___	$___	-$___	**demand profile dependent**	**structural review needed**

In Conclusion

Structured around an ASHRAE Level II (Energy Survey and Analysis) framework and informed by a representative Building Condition Assessment, this example report demonstrates how energy performance, capital renewal needs, and operational considerations can be integrated to support informed decision-making.

The content and analyses presented are illustrative only and are intended to show the typical structure, level of detail, and types of insights that such a study would provide.

About the Building Transformation Program

The Building Transformation Program helps you plan and execute deep retrofits using a holistic approach that aligns with your building's needs and your goals as an owner.
We help building owners convert deep retrofit studies into investment-ready business cases that support confident decisions.

An investment-ready retrofit includes:

- A feasibility study paired with a financial business case
- Clear ROI, payback, and sequencing
- Identified funding and incentive pathways
- Documentation aligned with lender and board expectations

You don't just receive a report.
You receive a roadmap lenders recognize.

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