EV BATTERY RECYCLING IN CANADA

Canada's EV Battery Recycling Opportunity

- Key Facts:
  - 93,000 EV batteries need recycling by 2040
  - 500,000 batteries by 2045
  - Current capacity will be exhausted by 2034–2038 without new investment
  - Canada targeting 100% zero-emission vehicle sales by 2035

Source: Lark Scientific (2025); Electric Mobility Canada (2025)

MARKET GAPS

- Current State:
  - 3 recycling facilities (Quebec, Ontario, multiple provinces)
  - Mostly handle manufacturing scrap
  - Pilot-stage operations only
- What's Missing:
  - No national EV battery EPR framework
  - Provincial fragmentation prevents collection networks
  - Limited end-of-life battery collection
  - Minimal commercial-scale recycling

Source: Compliance and Risks (2025); Canadian Broadcasting Corporation (2025)

METAL RECOVERY POTENTIAL

- Annual Output (10,000 tonnes input):
  - Lithium: 128 tonnes
  - Nickel: 1,282 tonnes
  - Cobalt: 523 tonnes
  - Manganese: 900 tonnes
- CO_2 Impact:
  - 15,000 tonnes CO_2 avoided annually
  - Equivalent to 3,200 cars off roads for one year

Source: Ni et al. (2024); ICCT (2023)

RECOMMENDATIONS

5 Key Priorities

- **National EPR Framework** – Harmonize battery collection across provinces
- **Regional Hubs** – Build 2–3 facilities in BC, ON, QC
- **Technology Adoption** – Deploy direct recycling to achieve ≥95% recovery rates
- **Collection Networks** – Partner with OEMs, dealerships, fleets
- **Research** – Model capital costs, logistics