ESG Starter Pack – Environment (E)

1. Measure your GHG footprint

Measure your GHG footprint using an SME friendly calculator.

NZ SMEs are encouraged to voluntarily begin emissions measurement as a first step.

2. Identify your top 2-3 sources of emissions or energy use

Energy use, transport and waste are typical SME hotspots.

See Appendix A.

3. Start implementing easy energy-efficiency improvements

eg – LED lighting, equipment maintenance or EECA-supported efficiency actions.

Lighting upgrades – convert to LED and smart controls (occupancy/daylight sensors) in warehouses, offices and yards.

Align with NZ Green Building Council practices via EECA sector guidance.

4. Conduct a simple waste audit

Understanding what you throw away helps identify reduction and recycling opportunities.

See Appendix B.

5. Introduce recycling or waste-reduction initiatives

Small operational improvements can reduce landfill costs and environmental impact.

6. Explore opportunities for circular economy practices

SMEs can reduce costs and resource use by reusing materials or improving process efficiency.

See Appendix C.

APPENDIX A
How to Identify Your Top 2-3 Emission Sources

Step 1 – List your main activities

Start by listing all activities that generate emissions or use energy.

Typical categories:

- Fuel use (diesel for trucks, forklifts, generators)
- Electricity (warehouses, offices, refrigeration)
- Freight transport (ocean, air, road, rail)
- Travel (flights, car)
- Waste
- Refrigerant gases
- Water use
- Purchased goods/services (Scope 3)

WHAT IS SCOPE 3?

Greenhouse gas emissions are split into 'scopes' that define their sources.
Scope 1 refers to direct emissions from an organisation eg - fuel burnt by your own trucks/forklifts/ generators creates emissions directly due to your operations.
Scope 2 refers to purchased energy – your electricity use from the grid, or gas used.
Scope 3 is everything else – which means that greenhouse gases are being emitted due to the organisation, but not directly by the organisation.
Examples of Scope 3 are freight transport (not run by your own vehicles), business travel, waste etc as the associated emissions are neither directly emitted by the organisation nor purchased electricity. For more detail on the scope levels, please visit the sites below.

- *Measuring and reducing emissions: where do I start? - myNZTE*
- CLC Masterclass Series – Exploring Scope 3 Emissions
- *Measure your business greenhouse gas emissions | EECA*

Step 2 – Gather data for each activity

Data can be simple:

- Fuel (litres of diesel/petrol)
- Electricity (kWh from energy invoices)
- Freight (tonne-km or shipment details)
- Travel (km or flights)
- Waste (kg or number of bins)
- Refrigerants (kg of gas topped up)

Step 3 – Convert your activity data into CO2e

Use any emissions calculator or emissions factor table to convert your data. Good free tools include:

- EcoTransIT World for freight movements (SIO 14083 and GLEC compliant)
  ecotransit.org
- CarbonCare Co2 Calculator for air/road/rail/sea, includes reefer and lifecycle breakdowns
  carboncare.org
- GHG Protocol tools or UK Government conversion factors for generic energy/fuel/ waste conversions.
  ghgprotocol.org
- Greenlit Carbon Calculator for monitoring and reporting on waste and greenhouse gas emissions
  greenlit.org.nz/carbon-calculator
- Ekos Kamahi Ltd to help you understand the carbon impact of your business
  www.ekos.co.nz/business-lite-calculator
- SME Climate Hub for calculating your business emissions
  smeclimatehub.org/start-measuring
- MBIE Climate Action Toolbox to find key areas where you can reduce emissions.

These tools calculate emissions by multiplying your numbers by verified emission factors.

Step 4 – Rank emissions from highest to lowest

Once all activities are converted into **annual tones of CO2e**, place them in order from largest to smallest.

Across most logistics-heavy operations, the biggest sources tend to be:
- Freight transport (Scope 3)
- Diesel use in fleet
- Electricity for warehousing or cold storage

Step 5 – Identify your top 2-3 sources

Your top emission sources will be the categories with the highest total CO2e. These are the activities you should prioritise for reduction programs.

Example (simple)
After calculating, you might find something like the table below, showing your top 2-3 sources are Freight, Diesel and Electricity.

Activity	Annual CO_2e	Rank
Freight transport	2,800 t	1
Diesel for fleet	1,200 t	2
Electricity use	450 t	3
Business travel	80 t	—

APPENDIX B
How to Conduct a Simple Waste Audit (Easy Five-Step Method)

A waste audit helps you understand **what waste you produce**, **where it comes from**, and **what can be reduced, reused, or recycled**. You don't need consultants - just a safe, organised process.

Step 1 – Define the scope (what you want to measure)

Before you start, decide:

- Where the audit happens (warehouse, office area, lunchroom, dispatch zone)
- What time (one day's waste, one shift, or one week)
- Which bins you will audit (general waste, recycling, organics, cardboard, soft plastics)

This mirrors EECA's guidance that measuring is the first step to identify the biggest impact areas in your business emissions and waste profile.
rest-api.ecotransit.world/apis/openapi/calculate-transport

Step 2 - Gather simple equipment

You don't need much:

- Gloves (heavy-duty)
- Tarp or large plastic sheet
- Scales (bathroom scales are fine)
- Marker & labels
- Buckets or tubs for sorting
- Clipboards or a simple spreadsheet

Step 3 - Collect and sort the waste

a) Collect

Gather the selected waste from your chosen timeframe and location.

b) Sort into categories

Spread your tarp on the ground, empty the waste, and sort into broad categories:

- Paper/cardboard
- Plastics (soft plastics, rigid plastics)
- Organics/food
- Metals
- E-waste
- General landfill waste
- Packaging materials (pallet wrap, strapping, void fill)

This step aligns with the idea of identifying "emissions hotspots," which EECA emphasises in its measurement guidance.

Step 4 - Weigh and record each category

For each waste type:

- Weigh it
- Note the weight
- Optional: note where it likely comes from (eg - staff kitchen, packaging line, warehouse floor, office printers)

Create a simple table:

Waste Category	Weight (kg)	Notes (Source / Issues)
Cardboard	5.2	Mostly incoming packaging
Soft Plastics	3.1	Pallet wrap & packing film
Food Waste	2.4	Staff lunchroom
General Waste	4.7	Mixed - needs better separation

Step 5- Identify quick wins and opportunities

Now look for patterns:

- Is your landfill bin full of recyclables?
- Is there lots of cardboard? → investigate bale-press or supplier agreements
- Is pallet wrap the biggest item? → switch to lower-micron wrap or reusable straps
- Is food waste high? → start composting or assess catering portion-management

This is the same logic EECA uses across its tools: measure → identify hotspots → create an action plan.

APPENDIX C

Here are **practical, business-ready ideas** for exploring **circular economy opportunities**,

Step 1 - Keep Materials in Use Longer (Reuse & Life-extension)

• **Reusable packaging systems**
Switch from single-use pallet wrap, cartons or void fill to:

- Reusable crates
- Returnable pallets
- Durable pallet straps instead of wrap
- Reusable thermal covers for chilled freight

This creates cost savings and diverts significant packaging waste.

• **Repair instead of replace**
Audit high-use assets such as:

- Forklift parts
- Warehouse equipment
- IT equipment

Often repair/refurbishment programs cost far less than replacement and reduce Scope 3 upstream emissions.

Step 2 - Create Closed-Loop Systems with Suppliers

• **Packaging take-back agreements**
Work with suppliers so inbound packaging (cardboard, pallets, drums, crates) is:

- Returned
- Refurbished
- Reused in their system

• **Reverse logistics channels**
If you run transport networks, backloads can collect:

- Used packaging
- Customer returns
- Damaged goods for repair
- Pallets for reconditioning

This turns a cost centre into a recovery opportunity.

Step 3 - Reduce Material Inputs (Design & Procurement)

• **Lightweighting or right-sizing packaging**
Reduce unnecessary packaging volume/weight.
This lowers:

- Waste
- Transport emissions (lighter loads)
- Costs for customers & suppliers

• **Choose recycled or circular-ready materials**
Shift procurement requirements to:

- Recycled cardboard
- Recycled plastics
- Reusable pallets
- Refillable containers

Step 4 - Turn Waste into Resources (Upcycling & Redeployment)

• **Repurpose operational by-products**
Examples:

- Turn damaged pallets into chocks, dunnage, garden beds
- Recycle soft plastics via local processors into plastic pallets or bollards
- Shred unusable cardboard into packing fill

• **Identify local recyclers or remanufacturers**
Work with businesses that take:

- E-waste (screens, batteries)
- Metals
- Plastics sorted by grade
- Textiles (uniforms, PPE)

This supports a more circular supply-chain ecosystem.

Step 5 - Circular Procurement Policies

• **Prioritise suppliers with circular models**
When tendering or negotiating:

- Require take-back programs
- Choose suppliers offering reuse/remanufacture services
- Prefer products with long life, repairability, and modularity

• **Include circularity KPIs**
Examples:

- % recycled content
- % reusable packaging
- Return-rate targets
- End-of-life recovery requirements

Step 6 - Circularity in Workplace & Operations

• **Resource-sharing networks**
Share or rent:

- Tools and equipment
- Underused vehicles
- Warehouse space
- Meeting rooms or training spaces

This reduces unnecessary purchasing.

• **Staff-led reuse programs**
Set up:

- Office furniture reuse
- Tech equipment redeployment
- PPE recycling partnerships
- Used uniform repurposing, eg - insulation, rags

Step 7 - Circular Customer Solutions

• **Offer repair, refurbish or return services**
Useful if your organisation deals with:

- Tech
- Retail
- Appliances
- Furniture
- Industrial components

• **Sell "service" instead of "product"**
Move from ownership models to:

- Leasing
- Pay-per-use
- Subscription models

This improves asset utilisation and keeps materials circulating.

Step 8 - Start With a Simple Materials-Flow Audit

Before selecting actions, map:

- What materials come in
- How they flow through operations
- What exits as waste
- What has residual economic value

This follows the same "measure → identify hotspots → act" logic that EECA recommends for carbon and waste reduction.