

Practical Sustainability in a Small Laboratory

Steps That Can Make a Difference

Presented by:
Kim Ramsay
President
Neilson Research Corporation
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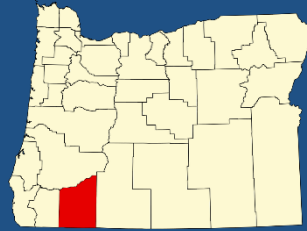
Neilson Research Corporation (NRC Labs)

www.nrclabs.com

Who we are

- Largest independent environmental lab in Oregon.

- Based in Southern Oregon.



- As a small lab, we're known for dependable results, fast turnaround times and strong technical expertise.
- ORELAP accredited under SDWA, CWA, and RCRA.

Why Sustainability Matters

Small lab, smart choices

- Although we're a small lab, our operations consume significant energy and materials.
- Our size allows us to implement changes quickly and lead by example.
- As an environmental laboratory, sustainability naturally aligns with our mission and values.

Forming Our Sustainability Committee (Our Green Team)

How It All Started

- Originated from a client sustainability questionnaire.

A screenshot of a web form with a white background. The first question is "Does your firm make efforts to reduce energy consumption and increase energy efficiency?" with a dropdown menu showing "Yes". Below this are two text input fields: "What is your firm's emissions footprint?" and "What targets does your firm have in place to reduce each emission footprint?".

- Initial answer: *"We recycle cardboard, and I drive an electric car"* — rejected.
- Updated response: *"We have a sustainability committee that meets regularly to enhance our practices"* — accepted.

The Unexpected Response

From Compliance to Culture

- Realized we needed to create a committee ... fast!
- Announced the idea during an all-staff meeting.
- Expected a few volunteers but every hand went up!
- Departments elected one representative each.
- Nine members total.

The Impact We Didn't Anticipate

More Than a Committee

- Our initial meeting was in September 2024. We created quick bylaws and voted in a Chair, Vice-Chair, and Secretary.
- During one-on-one meetings with the Director of Personnel, every committee member said: *"Being on the Sustainability Committee is the most rewarding part of my job."*
- A compliance-driven initiative became a workplace highlight.

The Turning Point from Reaction to Leadership

Researched My Green Lab &
My Green Lab Ambassador
Program.



Researched local resources
Energy Trust of Oregon &
Rogue Disposal.



Smarter Procurement Practices

Buying with impact

- It starts with purchasing. Ninety-nine percent of the environmental impact happens long before the product even enters your lab.
- Purchase from companies that practice sustainability efforts.
- Purchase items that are made of recycled products i.e. toner & paper.
- We consolidate all lab orders to one day of the week, Tuesday in our case, to limit the number of trucks on the road.

Smarter Procurement Practices

✓ Checklist for Sustainable Lab Procurement

- Does the product carry an **ACT** label?
- Is the **manufacturer ISO 14001** certified?
- Is the equipment **ENERGY STAR** rated?
- Are the **materials recyclable or reusable**?
- Does the vendor have a **take-back/recycling program**?
- Are **chemical products compliant** with Green Chemistry principles?
- Is packaging **minimal, recyclable, or biodegradable**?



Getting Started



Reduce

Cutting Waste at the Source

- Replaced single-use paper towels with washable cloth towels for cleaning out coolers.
- Reduced sample volume for metals and nutrient testing.
- Replace paper and plastic products in the breakroom with washable cups, plates and silverware.
- Eliminated plastic bags for bottles groups and moved to rubber bands.
- Completely paperless.
- Purchased LCD writing tablets instead of post it notes or note pads.

Energy Reduction & Efficiency

Refrigeration & Freezer Maintenance

- Annual maintenance – outsourced.
- Quarterly maintenance checks & defrosting.
- Replace cracked/damaged door seals to prevent energy loss.
- Removed idle equipment and put in storage.



Energy Reduction & Efficiency

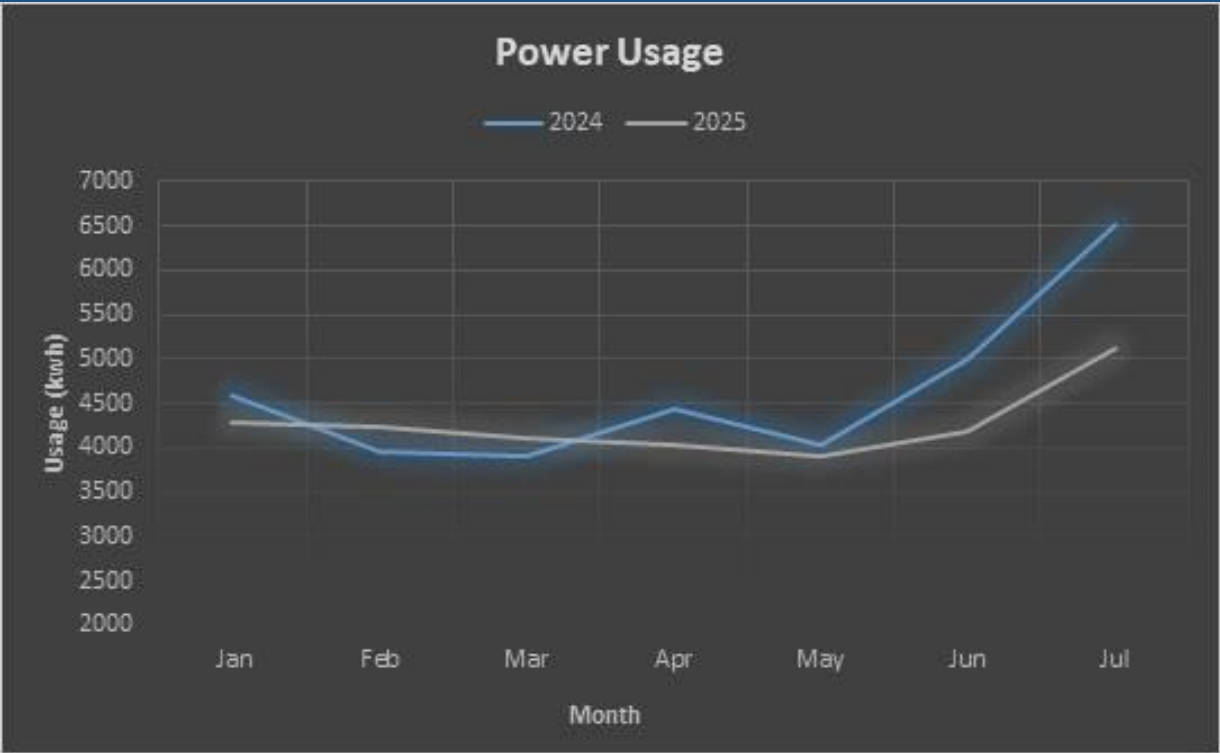
Smart Equipment Use & Energy Savings

- Timers on water baths: automatically shut off after hours and turn back on to warm up by the time staff returns.
- Reminder signage to power down or unplug non-essential equipment.



Energy Reduction & Efficiency

- Purchased four new HVAC systems with smart thermostats. Starting see a return on investment already.



Energy Reduction & Efficiency

Smart Equipment Use & Energy Savings

- Fume hood sash protocol:
Shut the sash!
Turn them off when not in use.
- Lights out when last one exiting room.
- Computers set to sleep mode.



Water Use Reduction

Methods for Reducing Water

- New vacuum pumps for organic extractions.
- Dishwashers & autoclaves only run when full.
- Watch for leaks or dripping faucets, toilets, etc.
- Limited DI and ultrapure water use to what's essential.

Reuse

Lab Supplies & Consumables

- Pipet tips purchased in bulk and reuse pipet tip boxes.
- Donate unused supplies and glassware to local schools.
- Reuse ice bottles rather than wet ice.
- Repurposed solvent bottles for waste collection.

Shipping & Logistics

- Saved and reuse bubble wrap, packing material and cardboard boxes.

Recycle

From Cardboard to Glass: Closing the Loop

- Switched to comingling recycling which now includes all plastic sample bottles! No rinsing required.
- Added a dumpster for glass recycling, including all sample bottles. No rinsing required.
- Paper shredding and recycling.
- Use “Hazardous Waste Day” to responsibly dispose of our hazardous waste.



Green Team Field Trip to the Landfill!

What we learned!

- 160 trucks a day unload garbage at the landfill.
- The amount of garbage that we dispose of increases along with our economy. The more money we make, the more we throw away.



Green Team Field Trip to the Landfill!

- Our glass sample bottles become fill.
- Our plastic sample bottles travel to Portland to a recycling center.
- Most plastic is “recycled down” and will not be able to be recycled again.
- Our cardboard goes to Eugene to a paper mill.



Green Team Field Trip to the Landfill!

Put our garbage to use!

3.2 mega watts of methane gas is produced from our garbage and fuels 3000 homes.



Our Commitment Moving Forward

Culture. Progress. Impact

- It started with one client's question, and became part of our culture.
- We're weaving sustainability into everyday decisions.
- Our team is leading the shift.
- We're earning employee trust by making a real difference.

Thank you!

Kim Ramsay
President
Neilson Research Corporation
kramsay@nrclabs.com

