



Sustainable Labs Program Lunch & Learn

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DALHOUSIE | OFFICE OF
UNIVERSITY | SUSTAINABILITY



Rooting in Place

We are in Mi'kma'ki

Special thanks to:

- President's Advisory Council on Sustainability (PACS)
- Rachel Thompson, Steve Beaton, Jerry Aguinaga (EHS)
- Sustainability Leadership Certificate Students: Lister de Vitré, x and y



Today's Session



Brief History of Sust. Labs @Dal



About the Sust. Lab Program



How to Participate



Scorecard Review



Discussion: Ideas Marketplace



Labs At Dalhousie

- Dalhousie is a member of the U15 group of Canada's most research-intensive universities.
- Dalhousie has over 1350 laboratory spaces across four campuses.
- Labs are four to five times more energy intensive than classroom space.

10%

**Dalhousie's total
building footprint
is directed to labs**

50%

**University's total
energy is
consumed by labs**

550+

**Fume Hoods
on campus**

200+

**Ultra-low
temp freezers**



Most Energy Intensive Equipment: Fume Hoods

- HVAC consumes about 65% of lab's energy
- Energy consumption of a single fume hood operating 24 hours = 11,000 kWh – 22,000 kWh/year
- Equivalent to the average annual energy used by two homes
- One simple action: Close the sash when the hood is not in use
- Fan speed is controlled by the position of sash
- “Shut the Sash Program” at Harvard University realized about 70% energy saving in HVAC systems



2nd Most Energy Intensive Equipment: Ultra-Low Temperature (ULT) Freezers

- Energy consumption of an ULT freezer (-80°C), operating 24 hours = 4,000 kWh – 11,000 kWh/year
- Can consume as much energy as a family home
- Cold storage best practices:

Preventive Maintenance

- Fully defrost of freezer when you cannot easily remove ice from interior
- Remove dust and debris from intake, filters and coils gently with vacuum/soft brush

Material Management

- Clean out unneeded samples; keep samples labeled
- Use of racking system which allow better use of vertical space on each shelf



2nd Biggest Energy Intensive Equipment: Ultra-Low Freezers

Temperature Tuning

- Set to -70°C instead of -80°C can save up 30% energy

Retirement and Upgrades

- Replace with energy efficient freezers
- Permanently retire and unplug unneeded freezers is the best way to save energy and space

Cutting-edge Practices

- Share cold storage units
- Try room temperature sample storage for samples and reagents. It becomes more common for DNA and RNA.



Sustainable Lab Program Features



- **Self-paced program** – Build a culture of sustainability in your lab
- **Scorecard** – 10 categories, 30 yes/no questions + resources & recommendations
- **Flexible & easy** – Work at your own pace
- **Get recognized** – Celebrate your lab's achievements (no expiration!)



Assessment Criteria

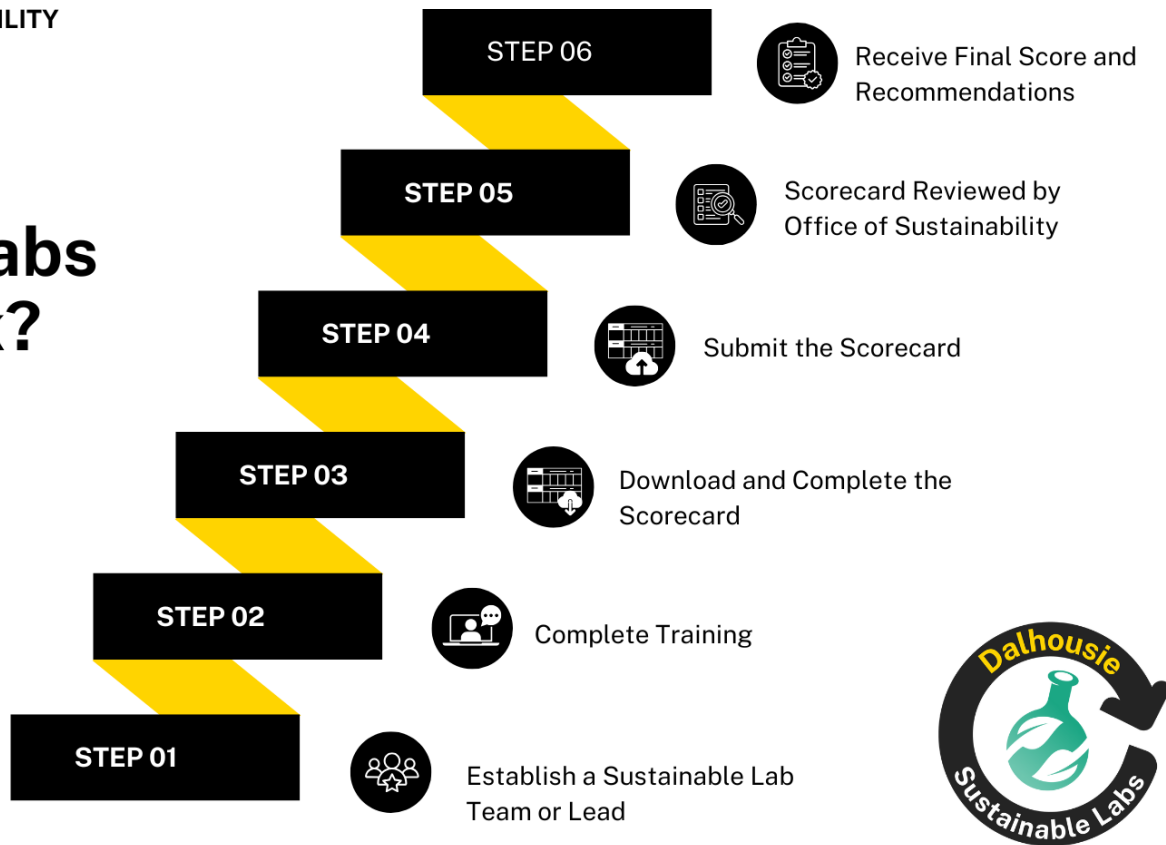


1. Sustainability Engagement & Communications
2. Waste Management & Recycling
3. Sustainable Purchasing and Asset Management
4. Energy Conservation
 - 4.1 Cold Storage
 - 4.2 Fume Hoods, Biosafety cabinets (BSCs) and Gloveboxes
5. Travel and Fieldwork
6. Green Chemistry & Biologics
7. Water Conservation



How to Complete the Sustainable Labs Scorecard

How does the Sustainable Labs Program Work?





The Scorecard

How to complete & submit



Where do I find the scorecard?

1. Visit Office of Sustainability SharePoint Page
2. Go to Programs Tab
3. Click the Sustainable Labs option from the drop-down options
4. Scroll down to Sustainable Labs Program Details

The screenshot shows the 'Office of Sustainability' SharePoint page. The 'Programs' tab is selected in the top navigation bar. A purple circle highlights the 'Sustainable Labs' option in the dropdown menu. A purple arrow points from the 'Sustainable Labs' option to the 'Sustainable Labs Program Details' tile in the main content area. Another purple arrow points from the 'Sustainable Labs Program Details' tile to the URL at the bottom of the page.

myDAL Site Directory News Events Resources

Office of Sustainability

Home Programs Resources News & Events Contact Edit

Sustainable Events SmartTrip Transportation Sustainable Labs Pollinator Program

Free Store Instant Sustainability Award Waste Management Sustainable Procurement

Published 9/10/2024 Share Edit

The Office of Sustainability strives to engage and encourage students, staff, and faculty in practicing sustainable behaviour. Use the **Programs** and **Learning Opportunities** tabs as your guide through our myDal Community site.

Learn about SmartTrip Transportation

Follow the links to learn more about sustainable labs:

- Sustainable Lab Program Details
- Sustainable Labs Tips
- Rebates
- Empty Hazard Materials Guide [PDF]
- Sustainable Labs Canada (SLCan)
- Institute of Sustainable Laboratories
- Waste Management Guide [PDF]

<https://dalus.sharepoint.com/sites/sustainability-office/SitePages/sustainable-labs-program-details.aspx>

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Where do I find the scorecard?

5. Scroll down on the Sustainable Labs Program Details page to the download the scorecard button

The screenshot shows the 'Office of Sustainability' website. The main content area lists six steps for the Sustainable Labs Program. A purple arrow points to a button labeled 'Download the scorecard [XLSX]' located between Step 3 and Step 4.

Office of Sustainability Home Programs Resources News & Events Contact Edit

+ New Promote Page details Immersive reader Analytics Published 4/10/2025 Share Edit

Step 1: Establish a Sustainable Labs Team or Lead

- Create a **Sustainable Labs Team** or **Sustainable Lab Lead** to oversee the certification process for your lab.

Step 2: Complete Training

- The team/lead must complete training by watching the [recorded Sustainable Labs Session](#).

Step 3: Download and Complete the Scorecard

- Download the **Sustainable Labs Scorecard** and complete it within **1-3 months**.
- Note: Some questions may not be applicable for your lab's activities. These should be marked as **"Not Applicable"**, and do not count towards your total score.

Download the scorecard [XLSX]

Step 4: Submit the Scorecard

- Once completed, **upload the scorecard** to **SharePoint** via [this form](#) for review by the Office of Sustainability.

Submit your scorecard

Step 5: Scorecard Reviewed

- After submission, a review will be completed by the Office of Sustainability. We will evaluate your lab's scorecard and assess completed action items, potentially through an in-person visit and meeting with the designated representative if deemed necessary.

Step 6: Receive Final Score & Recommendations

- After the audit, your lab will receive:

<https://dalus.sharepoint.com/sites/sustainability-office/SitePages/sustainable-labs-program-details.aspx>



Download a copy

6. Go to File > Create a Copy

7. Download a copy to your computer or save a copy on OneDrive

Note: DO NOT MODIFY the template. You must download your own copy.

The screenshot shows a Microsoft Excel spreadsheet titled "QUE Sustainable Lab Scorecard April 2025". The "File" menu is open, and the "Create a Copy" option is highlighted. A sub-menu is visible, showing "Create a copy online" and "Download a Copy" (circled in purple). The spreadsheet content includes a table with columns for "Question", "Recommendations", "Available Points (0-3)", "Yes, No, Not Applicable", "Points Achieved", "Lab Comments / Notes / Action Details", and "Resources". The "Water Conservation" section is visible, with a question about incorporating sustainability procedures and a corresponding table of recommendations and scores.

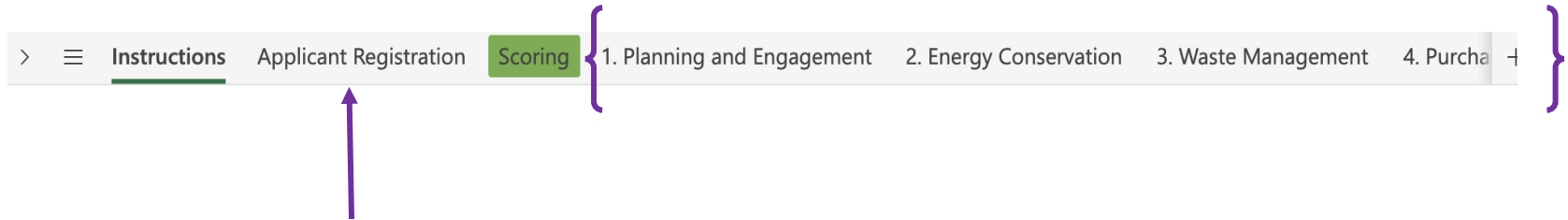
Question	Recommendations	Available Points (0-3)	Yes, No, Not Applicable	Points Achieved	Lab Comments / Notes / Action Details	Resources
Are water conservation protocols incorporated into the lab's sustainability procedures and have methods for minimizing water usage been discussed?	- conservation and include measures within the lab's operations plan and/or manual. This includes: - Closing taps when not in use - Using the appropriate level of water purity for the job. - Carefully monitor experiments that require running water, such as condensing, and equipment requiring open water feeds, like water purification units, dishwashers, and autoclaves. Ensure that inlets and outlets are secured and that any accidental release leads to a well-drained sink. - Consolidate items and maximize the loads for dishwashers, autoclaves, and cage washers. This means that you don't run this equipment half empty or with just one item. Consider using an autoclave log sheet to monitor autoclave cycles, help optimize future cycles and create a paper trail for maintenance and repair activities. - Reporting any leaks to facilities immediately at (902) 494-3345 (8 a.m. to 4 p.m. Monday to Friday) or Security Services at (902) 494-3345.	2		0		Appropriate level of water purity: https://www.labconco.com/articles/wat

<https://dalus.sharepoint.com/sites/sustainability-office/SitePages/sustainable-labs-program-details.aspx>



Exploring the Scorecard 'Sheets'

1. Instructions
2. Applicant Registration (input required, complete first)
3. Scoring (auto-populated once completed)
4. Category Assessments (7 total; input required)





Applicant Registration

Completed by the Sustainable Labs Team Lead(ers)



Name(s)

Email of Sustainable Labs team leader(s)

Department

Building Name

Room Number

Lab Manager

How many people share the lab space?

Does the lab use hazardous materials?

What is the primary function of the lab?

How did you hear about the Sustainable Labs Program?

Have you attended the mandatory training session?



Instructions for each category



- Each category has a series of weighted questions associated with sustainable action or practice.
- Each question has a score ranging between 0 to 3 points based on the level of difficulty and impact of the action.
- Each action one of the following responses (under the Status column) can be selected:
 - **No** - none (or less than 75%) of the actions in this category has been completed
 - **Yes** - 75 - 100% of the actions in this category have been completed
 - **NA** - non-applicable to the lab or the lab does not need to pursue this category



Instructions for each category



- Each category the following table headers:
 - **Section:** The thematic area the criteria fits into
 - **Question:** The specific criteria you are assessing
 - **Recommendations:** Practical information to support achieving the criteria
 - **Available Points:** Automatically accounted for, weighted based on impact and difficulty of criteria
 - **"Status" of Yes, No, Not Applicable:** Indicate if your lab has accomplished the criteria, or not, or if it's not applicable.
 - **Points Achieved:** Automatically calculated based on available points per criteria
 - **Lab Comments / Notes / Action Details:** Add details about the criteria's execution in your lab
 - **Resources:** Additional information to support the criteria



Scoring for each category



Overall Score			
Category	Total Points Available	Total Points Applicable	Total Points Achieved
1. Planning and Engagement	8	0	0
2. Energy Conservation	33	0	0
3. Waste Management	11	0	0
4. Purchasing and Asset Managr	9	0	0
5. Travel and Fieldwork	4	0	0
6. Green Chemistry	7	0	0
7. Water Conservation	5	0	0
Total	77	0	0

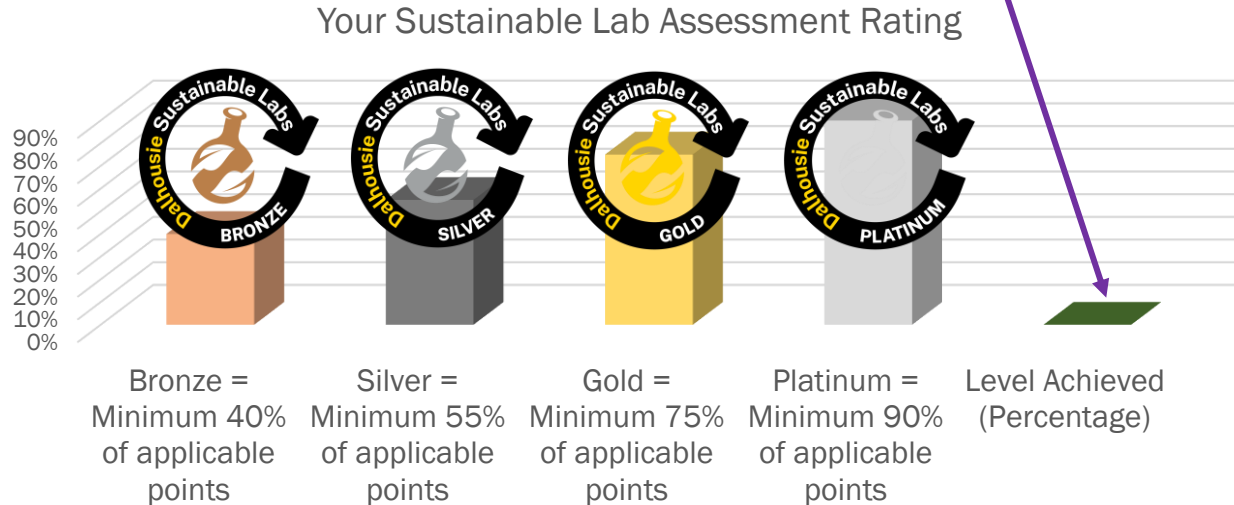
- For each category, there are:
 - **Total points available:**
Maximum number of points if all criteria are met
 - **Total points applicable:**
Maximum number of applicable points per category (yes's and no's)
 - **Total points achieved:**
Number of points per achieved category (only yes's)



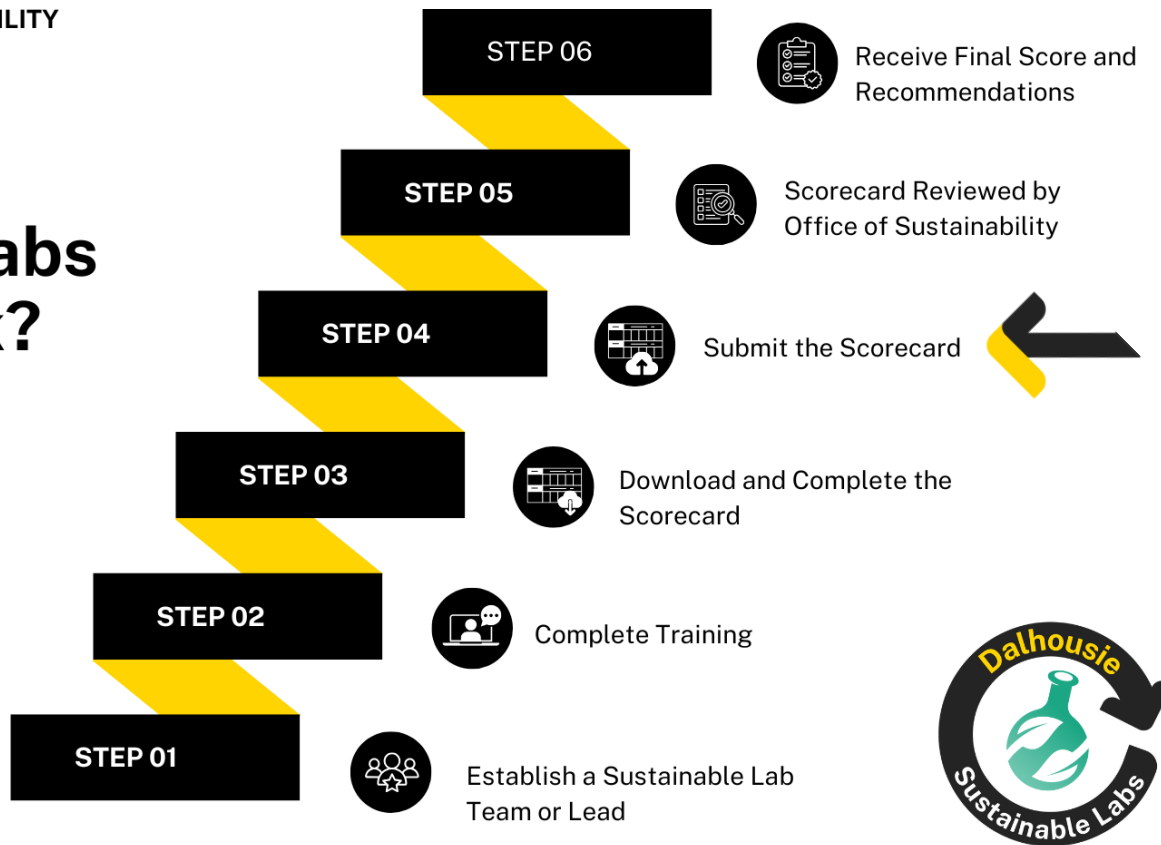
Certification Levels



- Automatically tallied on line 21 of 'Scoring' sheet
- Bar chart to visualize your score, automatically populated



How does the Sustainable Labs Program Work?





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Submitting your scorecard

- Via MS Form
- Includes:
 - Lab name
 - Location (building and specific room numbers)
 - Contact name
 - Contact email
 - Submission type (new or update)
 - Upload button

Sustainable Labs Assessment Scorecard Submission Form

Please submit your completed SLA Scorecard to the Office of Sustainability using the form provided. Once submitted, a representative from the Office of Sustainability will reach out to schedule an audit. During the audit, your lab's scorecard will be reviewed, and completed action items will be assessed through an in-person visit and meeting with your designated representative.

We encourage labs to collaborate with a Sustainable Lab Specialist from the Office of Sustainability while completing the scorecard to receive guidance and support.

For any questions, please contact us at greenlabs@dal.ca.

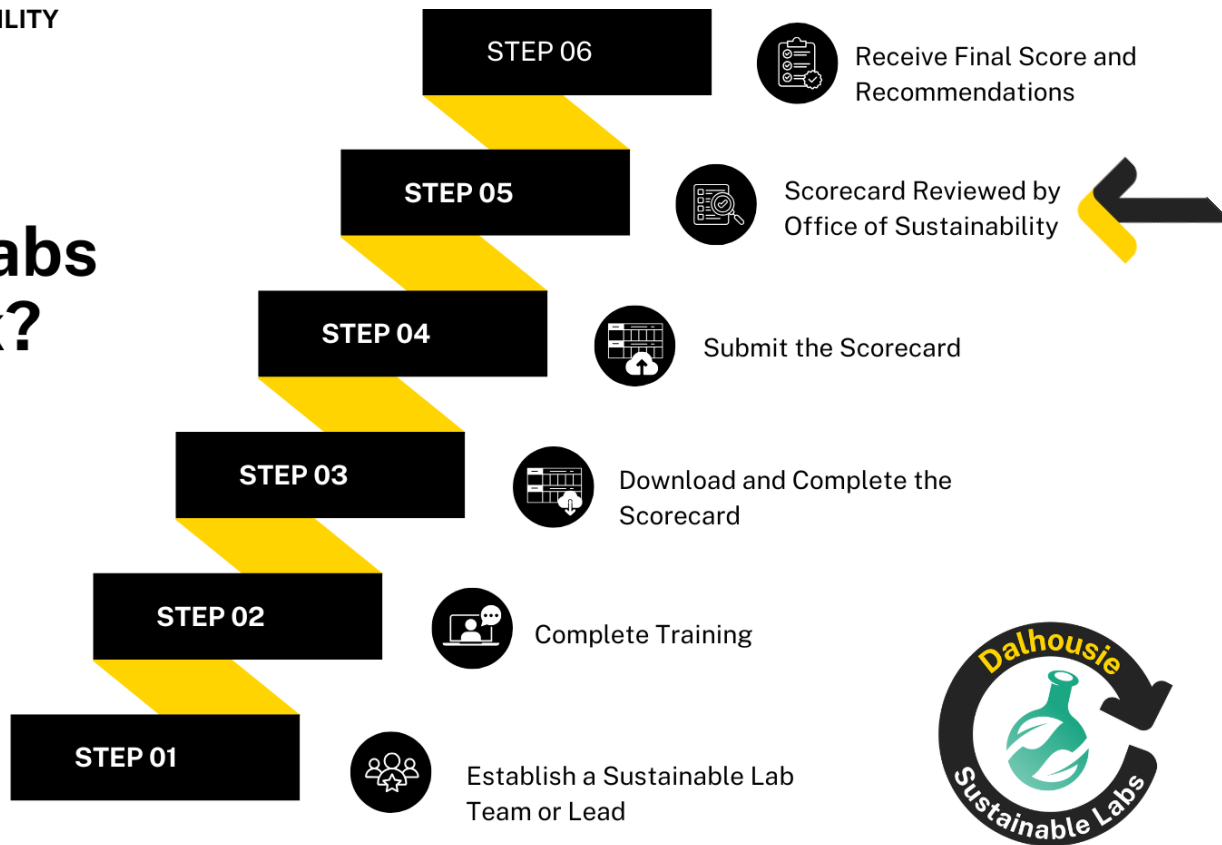
Hi, Alexa. When you submit this form, the owner will see your name and email address.

* Required

1. Lab Name *

Enter your answer

How does the Sustainable Labs Program Work?



How does the Sustainable Labs Program Work?





Sample Certificate

Dalhousie Sustainable Labs Certification

Awarded to:

Lab name here

On [Day, Month, Year]

This certificate verifies that this lab is committed to sustainability, resource efficiency, and innovation, aligning with Dalhousie's sustainability goals and inspiring positive change.



Administered by:



**DALHOUSIE
UNIVERSITY**

OFFICE OF
SUSTAINABILITY



Discussion

We want to hear your ideas!



Engagement Questions

What sustainability practices has your lab already implemented? What has worked well so far?

What areas are most challenging to adopt more sustainable practices? (i.e. procurement, waste, energy, ect)

What types of support (e.g., resources, training, funding, recognition) would make it easier for your lab to participate in sustainability initiatives?

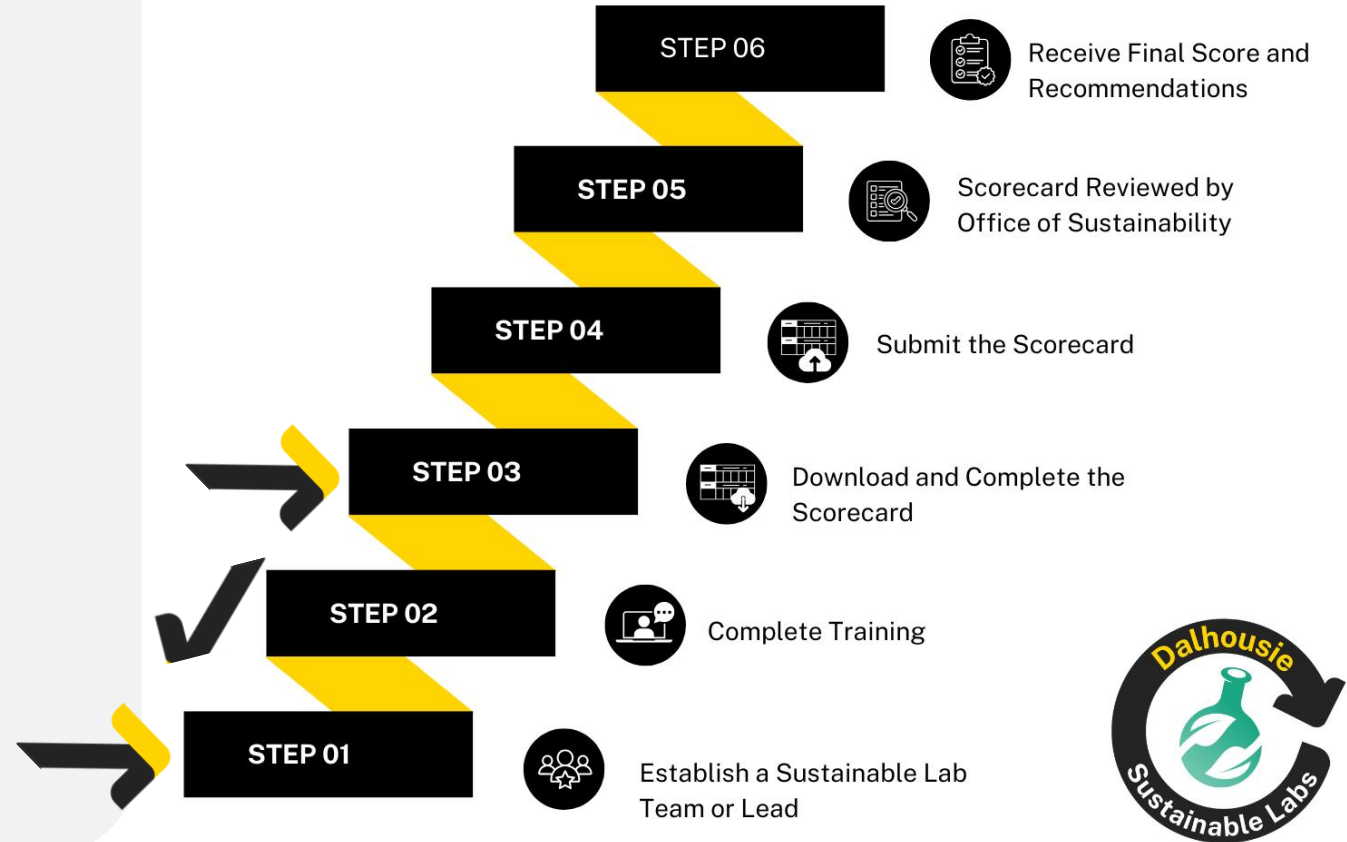
What incentives or program features would encourage greater participation from other labs on campus?

How much time would your lab realistically be able to dedicate to improving sustainability practices?

If you could see one new sustainability initiative implemented across all labs, what would it be?



Next Steps





Thank you!

Questions?

greenlabs@dal.ca

Follow the Office of Sustainability
for more events & resources:

