Sustainability Projects Fund

BIG WAVE APPLICATION FORM

COVER PAGE

PROJECT INFORMATION

Please complete the fields below with information regarding your project.

Project Title Launching systemic solutions to lab waste management at McGill

Brief Description This project will implement systemic solutions to lab waste management challenges at McGill by developing University-level infrastructure and procedures to reduce and recycle non-hazardous waste.

Total Estimated Project Budget $419,000 **Amount Requested from SPF** $399,000

Campus(es) Impacted ☒ Downtown ☒ Macdonald ☐ Gault Nature Reserve ☐ Other

CONTACT INFORMATION

Project Leader

This person must be a current McGill University student, administrative staff, or academic staff.

Name	Kimberly John	Affiliation	Administrative Staff
Email	kimberly.john@mcgill.ca	Campus	Downtown
Faculty/Unit/Organization	McGill Office of Sustainability		

Project Team Members

The SPF encourages you to be inclusive, collaborative (especially between staff and students), diverse, and interdisciplinary when possible. To list more members, please complete a second cover page. You may email it to SPF Staff to include with your application.

Name	Cynthia Kallenbach	Affiliation	Academic Staff
Email	cynthia.kallenbach@mcgill.ca	Faculty/Unit/Organization	FAES
Name	Juliet Guay	Affiliation	Postgraduate
Email	juliet.guay@mcgill.ca	Faculty/Unit/Organization	FMHS
Name	George Lazaris	Affiliation	Administrative Staff
Email	george.lazaris@mcgill.ca	Faculty/Unit/Organization	FMAS/ Facilities
Name	Christian Bouchard	Affiliation	Administrative Staff
Email	christian.bouchard@mcgill.ca	Faculty/Unit/Organization	FMAS/ Facilities
Name	Philip Thorne	Affiliation	Administrative Staff
Email	philip.thorne@mcgill.ca	Faculty/Unit/Organization	Grad & Postdoc

SUBMISSION INFORMATION

In line with the SPF Eligibility Criteria, our team certifies that this project takes place at McGill University, is sustainability focused, is requesting seed funding, and is action oriented. ☒ Yes ☐ No

Our team has read the SPF Terms & Conditions and agrees to respect them. ☒ Yes ☐ No

Our team understands that this application is not confidential and consents to have its contents shared with relevant stakeholders during the review process and, if approved, on the SPF website. ☒ Yes ☐ No

Our team agrees to have their contact information included in the complete and shared application. ☒ Yes ☐ No

Sustainability Projects Fund

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PROJECT OVERVIEW

Instructions: *Please answer the questions below as clearly and concisely as possible. Once you have completed this Project Overview, save it and submit it online. SPF Staff will respond with feedback on your application within two weeks. The final application will be provided to the SPF Governance Council for their review and decision. As a reminder, all SPF applications are assessed using the SPF Eligibility & Evaluation Criteria:*

ELIGIBILITY CRITERIA		EVALUATION CRITERIA		
AT MCGILL	**SUSTAINABILITY FOCUSED**	**ANALYSIS**	**IMPACT**	**FEASIBILITY**
SEED FUNDING	**ACTION ORIENTED**	**COLLABORATION**	**SUPPORT**	**CAPACITY BUILDING**

Before starting, you may find it helpful to consult the SPF Sustainability Brief and the Climate & Sustainability Strategy 2020-2025.

CONTEXT

Criteria assessed in this section: **SUSTAINABILITY FOCUSED, ANALYSIS**

1. **What specific environmental need/issue have you identified at McGill and aim to address through your project? In your response, please describe clearly how the need/issue is related to an environmental initiative which, where applicable, integrates social and economic considerations.** *Limit ~200 words*

Presently, the management of non-hazardous lab waste at McGill runs counter to the University's Zero-Waste goals. Compared to other spaces, labs consume vast amounts of materials and generate disproportionately large amounts of waste. This fossil fuelled shipping, landfilling, decomposition and incineration of wastes contributes to greenhouse gas emissions and ecosystem degradation. There are also considerable risks to human health involved in the handling, transport and disposal of waste materials in or near communities. The heightened need for financial efficiency and precision in labs takes precedence over considerations of their environmental impacts, except for a small minority of labs which have had the human and financial resources to pilot waste reduction and recycling initiatives. Even so, these lab-based efforts need institutional support for long-term success beyond pilot projects.

There are growing opportunities to apply waste reduction, reuse and recycling strategies to divert some lab waste from the landfill and incineration (see Appendix 5). SPF support is needed to develop these opportunities and to provide lab waste infrastructure and resources to all McGill labs. This will enable the University to meet its sustainable waste management goals while maintaining the quality and efficiency of lab work and meeting health and safety standards.

2. **How do you know this is a need/issue? What research have you done on this need/issue (e.g. consultation, observation, survey)? If you received funding for project planning, please include the key results here and attach an appendix, if needed.** *Limit ~400 words*

The sheer volume of McGill's lab waste and feedback from its lab community indicate an urgent need for campus-wide infrastructure and operations to manage lab waste. Unlike regular waste from campus buildings and grounds – of which about 45% is recycled or composted- McGill's non-hazardous lab waste such as single use instruments, packaging, ice packs, or uneaten animal food is largely destined for landfill disposal or incineration. There is no standardized waste signage for labs which hinders awareness and proper sorting.
According to a 2015 SPF-funded project McGill's research and teaching labs generate >160 tonnes of plastic and glass waste -equal to 80 large cars- annually. However, the real amount is higher as the study excluded some classes of solid waste (e.g., polystyrene, single use packaging and PPE), and there are over 470 labs now compared to 402 labs then. The project recommended that the University implements campus wide recycling of plastics and glass recyclables from labs.
Survey data and feedback from McGill's lab community have consistently stressed the urgent need for a coordinated institutional approach and clear processes and guidelines to manage non-hazardous lab waste. In McGill Green Lab

Initiative's survey of 70 lab users in 2021, a large majority identified non-hazardous waste materials as the main environmental impact of the University's labs compared to only 1% who said energy was a priority (see appendix 2). Survey respondents prioritised the recycling and replacement of plastics, polystyrene and PPE, and overall improvements in lab waste management and awareness as urgent actions. Beyond McGill, many scientific and professional publications have highlighted the urgency of aligning lab waste management in higher education, clinical and industrial contexts with broader waste and sustainability goals (see attached references).

3. **Is there an underlying systemic issue or need? Are there other areas of McGill experiencing the same issue? If so, is there an opportunity to collaborate or address the root cause/need?** *Limit ~200 words*

Any meaningful and sustained improvements in the management of non-hazardous lab waste at McGill will require institutional leadership and coordination to develop and implement systemic solutions, plus resources and education for labs. Due to the difficult trade-offs between creating less waste and making lab processes safe, efficient and financially viable, lab users struggle to improve non-hazardous lab waste management. Thus, small lab-based projects have not yet catalysed institutional change and piecemeal waste management is inefficient. For Hazardous Waste Management (HWM), there are clear guidelines, processes, infrastructure and mandatory training requirements at McGill that align with provincial regulations. For regular waste from offices, classrooms, and residences, the leadership and coordination of Buildings & Grounds and MOOS have supported administrative units with consistent infrastructure and education.

McGill urgently needs a comparable level of efforts for lab waste involving these partners. This project aims to develop University-level coordination and pathways for lab-waste streams and to provide the resources and infrastructure that labs need to support good waste management. This would align with the HWM approach to lab spaces and respect the need for safety and financial efficiency. It will build on MOOS' extensive experience with implementing ambitious waste management initiatives.

4. **What relevant information and/or best practices have you found that relate to this need/issue? Please include a benchmarking analysis of relevant external organizations, which could include McGill's peer institutions. You may attach an appendix, if needed.** *Limit ~200 words*

This project is an opportunity for McGill to provide leadership and innovate solutions to the problem of nonhazardous lab waste. This will be highly visible in Montréal's research community. As we develop lab waste solutions, there is also potential for economies of scale along the Life Sciences Research corridor (a dense spread of research institutions in Eastern Canada stretching Québec City to Windsor, Ontario).

Among other U15 institutions, only eight currently have specific initiatives to address lab waste. These universities demonstrate the technical and practical feasibility of campus-wide lab waste infrastructure and operations through some basic replicable practices. The best practices include: 1) Easy to access online instructions and downloadable guidance documents for lab waste (for e.g., UBC, UfT, UdeM, UCalgary and UAlberta), 2) Diversion of recyclable materials from lab waste (e.g., UBC and UAlberta), 3) Piloting of waste reduction initiatives across campuses (e.g., UBC) and 4) Having a point person to coordinate or support lab sustainability initiatives (e.g., UBC, UfT, UBC, UdeM, Dalhousie and UAlberta).
(see appendix 4 for lab waste management benchmarking)

5. **Detail any relevant related initiatives (past or current) that you are aware of at McGill.** *Limit ~200 words*

Since 2010, the SPF has funded 6 projects (costing $348,000) with the specific aim of addressing lab waste (listed below), and a total of 20 projects geared towards general lab sustainability. These indicate a strong interest from the lab community in reducing the environmental impact of lab operations and in extending McGill's culture of sustainability into research and teaching labs.

SP 0025 Hazardous Waste Minimization
SP0131 Lab sustainability Initiative- Established non-hazardous waste baseline and recommended University-wide effort to increase the diversion rate of glass and plastics
SP0194 Biomedical Waste Sterilization
SP0208 Green Labs Initiative at The Neuro - diversion of more than 3,000 litres of waste from incineration in biohazard bins or landfill
SP0268 Dishwasher to reuse plastic labware
SP0269 Reusable dishware for Pharmacology
SP0315 Styrofoam Recycling at the Lady Davis Institute

6. **What expertise or qualifications does your team have regarding this need/issue? Please note teams should be interdisciplinary and collaborative.** *Limit ~200 words*

We are pleased to have assembled an interdisciplinary and interdepartmental team with a wide range of expertise and valuable skills (listed below). Project conception, development and implementation therefore reflects the critical lab experience and advice of diverse lab users (a Principal Investigator, graduate student, and lab manager) as well the technical guidance of accomplished administrative staff:
1) Cynthia Kallenbach Assistant Professor leading lab-based research in Natural Resource Sciences Department, Chair the Department Safety Committee (hazardous waste protocols and lab operations), chair FAES Macdonald Campus Sustainability Committee.
2) Juliet Guay - PhD student conducting lab-based research and coordinator of McGill Green Labs Initiative
3) Philip Thorne - Lab Manager in charge of the day-today operations of the McPherson research lab, Faculty of Medicine & Health Sciences
4) Kimberly John (MOOS) Sustainability Officer - launched succesful Sustainable Labs Guide, Labs certification and International Freezer Challenge. Expertise in environmental project and program management, >4 years administration at McGill.
5) George Lazaris Buildings & Grounds Director.
6) Christian Bouchard Hazardous Waste Manager with >25 years of hazardous waste management experience
7) Stephanie Leclerc Sustainable Procurement manager with >10 years experience in sustainable procurement and contracting at McGill.

PROJECT IDEA

Criteria assessed in this section: **ALL ELIGIBILITY & EVALUATION CRITERIA**

7. **What is your project idea? Please describe the idea thoroughly and concisely. Identify how SPF funding will be used, key contributions to sustainability at McGill, and, if your project is happening in different stages, core phases of the project.** *Note: You may also share how the project is new or how it complements, builds upon, or scales existing initiatives. Limit ~600 words*

Previous nonhazardous waste management projects demonstrated the urgent need to transcend individual actions and provide institutional support for nonhazardous waste management in labs. This project will develop University-level infrastructure and resources, administrative and operational procedures to reduce, reuse and recycle non-hazardous lab waste at McGill. It will promote environmental sustainability through the proper handling and sorting

of waste in hundreds of labs and the diversion of nonhazardous lab waste from landfills and incineration. Financial efficiencies will be realised through consolidation of operational support and resources, and the coordination of relevant units such as Buildings & Grounds, Procurement Services and Environmental Health & Safety (EHS).
SPF funding will be used to:
1) Develop, distribute and promote standardised institutional signage, infrastructure and guidance for non-hazardous lab waste management.
2) Develop waste reduction, reuse and recycling strategies for at least one major non-hazardous lab waste stream across multiple labs and faculties (within existing university guidelines)
3) Draft new University policy for review and ratification to divert a priority non-hazardous lab waste stream.
4) Provide dedicated staff (one full-time Sustainability Officer and one Sustainability Intern) to provide leadership, support administrative units and lab user groups, implement best practices, and draft policies.

Project actions will be implemented in phases, while Education & Outreach, and Monitoring & Evaluation will be continuous:
Phase 1- Data collection and baseline development
-Conduct waste audits, consult lab users, McGill support units and service potential providers (McGill units, Recyc-Quebec, Eco-Entreprise, etc.) to determine waste streams, existing infrastructure and available professional waste management options (see Appendix 5)

Phase 2- Identify feasible lab waste reduction, reuse and recycling strategies
-Develop practical reuse and recycling strategies for at least one material (e.g. plastic resin class) or item (e.g. packaging, equipment) for waste reduction within existing McGill guidelines.

Phase 3- Waste diversion strategy implementation, monitoring and control
-Develop University-level recycling contracts for at least one new waste stream (e.g., single use pipette tips, tip boxes or ice packs).
-Develop agreements with key McGill vendors to facilitate switch to sustainable packaging (biodegradable/reusable wrapping) or take-back of unsustainable packaging.
-Facilitate reuse and sharing through i) sharing of lab supplies through annual inventory exchange event, ii) strategic equipment purchases such as dishwashers and racks, iii) subsidised and incentivised reusable labware such as glass pipettes, petri dishes, vials, tubes, tip boxes etc.
-Develop policy and guidelines for recycling triple washed recyclable items (e.g., pipette tips), or for composting organic waste materials from lab facilities (e.g., food waste, bedding, plants, soil, etc.). Design project to implement new policy, once ratified.

Phase 4- Project reporting and closure

Continuous Communications, Outreach and Promotions:
-Develop and distribute education and awareness materials for lab users and custodial staff: Standardized signage (Recyc QC) for McGill labs; Lab waste slide for mandatory training; Updated waste section in Sustainable Labs Guide; Video vignettes demonstrating proper sorting and decontamination techniques; Downloadable resource sheets and posters; and a Presentation kit for tabling at events: orientations, research expos, etc.
-Facilitate peer-peer education and awareness through trained sustainable lab ambassadors.

Project Milestones and indicators will be established during Phase 1. Then there will be continuous monitoring and evaluation of project progress andstakeholder feedback.

Detailed project activities are attached in Appendix 1

TRANSFORMING CAMPUS

Criteria assessed in this section: **AT MCGILL, IMPACT**

8. What will be the primary impact of your project? Please note Big Wave projects should have a significant impact on the McGill community and/or operations. *Limit ~200 words*

This project will be the first at McGill to address the expressed need of McGill's lab community for institutional support and consistency in managing non-hazardous waste. The main impact will be to reduce the environmental impact of hundreds of McGill's teaching and research laboratories. By taking decisive steps and dedicating resources to the longstanding issue of lab waste, this project will meet the need of the lab community and divert tonnes of regular waste from landfills. Ultimately, this project will support the sustainability and integrity of research teaching and activities in labs and make real progress towards the University's Zero-Waste goal.

9. In the table below, indicate your proposed project's 5 main impacts on the McGill campus community or goals to accomplish. Please check the stakeholders that will be impacted. Finally, please list at least one key success indicator for each impact (e.g. # people engaged, % waste diverted, # buildings certified, etc.). *Note: Indicate a realistic target for each success indicator (e.g., rather than "# people engaged," list a target such as "50 people engaged").*

		Main Impacts/Goals	McGill Stakeholders Impacted (check all that apply)	Key Success Indicator(s)
REQUIRED	1	Lab users provided with the necessary signage and guidelines to properly sort and dispose of non-HW	☒ Undergraduate ☒ Academic Staff ☒ Postgraduate ☒ Admin. Staff ☐ Alumni	non-hazardous lab waste guidelines published online, >5% of labs equipped with labels
	2	Lab waste baseline context established	☒ Undergraduate ☒ Academic Staff ☒ Postgraduate ☒ Admin. Staff ☐ Alumni	5 lab waste audits conducted > 5% of labs consulted Top 3 lab waste streams identified
	3	Significant diversion of one major non-hazardous lab waste stream	☒ Undergraduate ☒ Academic Staff ☒ Postgraduate ☒ Admin. Staff ☐ Alumni	5% decrease in tonnage of lab waste sent to landfill
	4	New University guidelines for lab waste in priority area for review and ratification	☒ Undergraduate ☒ Academic Staff ☒ Postgraduate ☒ Admin. Staff ☐ Alumni	One project proposal to implement new guidelines for recycling or composting lab waste
	5	Positive engagement and peer-to-peer-education among Principal Investigators, graduate trainees, etc	☒ Undergraduate ☒ Academic Staff ☒ Postgraduate ☒ Admin. Staff ☐ Alumni	At least 5% of McGill's labs across 5 faculties reached through outreach events.

10. Have you considered implementing your project at more than one McGill campus? (e.g. If your project is downtown, could it be implemented at Macdonald Campus as well?)

☒ Yes ☐ No

11. Please describe your choice of campus(es) and why this decision is best for your project. *Limit ~200 words*

We choose to implement this project at the downtown and Macdonald campuses as both campuses have labs. It is important that both campuses have the support needed to improve waste management, through infrastructure and engagement. This will improve consistency in sorting practices and reduce confusion among lab users and is the only efficient means of reducing landfilling and incineration across the University.

IMPLEMENTATION

Criteria assessed in this section: **ACTION ORIENTED, FEASIBILITY, IMPACT**

12. List the key activities for your project and indicate the timing for these on the right. Please be specific and realistic when formulating your activities, ensuring that they are achievable within the indicated timeframe.

Key Project Activities	Start Date (DD-MM-YY)	End Date (DD-MM-YY)
Conduct lab waste audits at strategic points to determine baselines, current lab waste amounts etc.	03-Jul-23	25-Aug-23
Identify material or item for waste reduction through consultation with all stakeholders: lab users,	21-Aug-23	27-Oct-23
Recruit sustainable lab ambassadors and prepare material for tabling at events: orientations,	21-Aug-23	27-Oct-23
Conduct peer-to-peer-education and awareness-building among lab users through presentations,	04-Sep-23	02-Feb-24
Develop reuse and recycling strategies for at least one lab waste material or item	18-Sep-23	03-Nov-23
Work with key McGill vendors and Procurement to facilitate switch to sustainable packaging	30-Oct-23	26-Feb-24
Develop University-level recycling contracts for at least one new lab waste stream	06-Nov-23	26-Jan-24
Develop and distribute standardized signage (Recyc QC) for McGill labs (in coordination with	13-Nov-23	29-Apr-24
Develop and coordinate annual inventory exchange event to facilitate the sharing of reusable lab	04-Dec-23	29-Apr-24
Develop outreach and awareness resources for lab users, e.g. EHS training slide, waste section in	08-Jan-24	26-Apr-24
Develop outreach and sensitisation resources among custodial staff and managers	08-Jan-24	26-Apr-24
Where necessary, provide bins for labs with special space requirements (up to 50 bins)	06-May-24	30-Aug-24
Strategic equipment purchases and/or subsidies to facilitate the use of reusable lab supplies e.g.,	06-May-24	13-Sep-23
Recruit and train sustainable lab ambassadors, prepare material for tabling at graduate student and	19-Aug-24	25-Oct-24
Develop initiative to subsidise and incentivise the acquisition of reusable labware such as glass	02-Sep-24	03-Jan-25
Conduct peer-to-peer-education and awareness-building among lab users through Lunch & Learn	09-Sep-24	31-Jan-25
Work with HWM to develop policy and guidelines for triple washed recyclable items or organic	09-Sep-24	29-Nov-24
Design project to implement new policy, once ratified, through provision of infrastructure,	06-Jan-25	07-Feb-25
Coordinate annual inventory exchange event to facilitate the sharing of reusable lab supplies across	27-Jan-25	25-Apr-25
Project monitoring and control (continuous)	03-Feb-25	18-Apr-25
Project reporting and closure	21-Apr-25	27-Jun-25

13. Please describe what will happen to your project after the SPF funding ends. Additionally, please share if anything will be produced or installed (e.g. a workshop guide, equipment, a toolkit, a network, website, etc.) and indicate future maintenance plans. *Limit ~400 words*

After the funding ends there willl be institutional resources in place to reduce and recycle non-hazardous lab waste:
1) Lab users will be equipped with the necessary signage and guidelines to properly sort and dispose of non-hazardous waste. This material will also be accessible online and be cross-linked with relevant unit webpages such as Buildings & Grounds, EHS and MOOS Sustainable Labs.
2) All lab users will receive instructions on the sustainable management of non-hazardous waste during mandatory EHS training.
3) Custodial staff and building managers will have guidance on proper sorting and disposal procedures for non-hazardous lab waste.
4) Dishwashers (with a lifespan of 10-15years) and reusable items will remain distributed to labs across McGill.
5) Recycling contracts for important lab waste streams will be in place for at least a year after the project.
6) MOOS will continue to fund the Sustainable Labs intern to provide long-term outreach and support to lab users and to help keep documents updated.

14. In the table below, please list the main risks associated with your project and the measures you will take to reduce their likelihood.

Main Risks	Preventative Measures
Health and Safety risks associated with Biohazardous waste: waste contamination	Emphasise the priority of safety and risk avoidance and include existing EHS guidelines in all resources
Low uptake of resources and events	Consult main user groups in the development of resources and events and adapt to their needs and aademic calendars continuously

Low technical or financial feasibility of proposed solutions	Conduct consultations to ensure proposed solutions are suitable for technical and financial reasons, work with vendors to have access to custom solutions
Slow processes such negotiation and contracting, document reviews by external units.	The project timeline includes buffers and considers these processes outside of the the project team's control.

STAKEHOLDER ENGAGEMENT

Criteria assessed in this section: **AT MCGILL, COLLABORATION, SUPPORT, CAPACITY BUILDING**

15. **Please list all key stakeholders involved in your project, indicating their role and support. If the stakeholder has provided a support letter, please indicate so here and attach it as an appendix document. Include the stakeholders listed in your pre-application form.** *Note: Projects involving modifying a space on campus, making a permanent installation, hiring a full-time staff, or adding/modifying a garden, etc., must seek permission from the appropriate stakeholder(s) (e.g. building director, Campus Planning and Development Office, staff supervisor, etc.).*

Stakeholder's Name	Title	Role in the Project	Support/ Permission	Support Letter
George Lazaris	Director, Buildings & Grounds	Advisor/Project team member	Confirmed	Yes
Christian Bouchard	Manager, Hazardous Waste Management	Advisor/ Project team member	Confirmed	Yes
Lauren Macdonald	Sustainability Officer	Advisor	Confirmed	Yes
Stephanie Leclerc	Sustainable Procurement Program	Advisor/ Project team member	Confirmed	Yes
Cynthia Kallenbach	Assistant Professor, Dept. Natural	Advisor/ Project team member	Confirmed	Yes
Juliet Guay	PhD student and Green labs Initiative	Advisor/ Project team member	Confirmed	Yes
Shona Watt	Sustainability Manager	Advisor	Confirmed	Yes
			Choose one.	Choose one.
			Choose one.	Choose one.
			Choose one.	Choose one.

16. **Please provide a communications plan for your project. Include how you will share its impacts with your stakeholders and the McGill community and promote visibility. Tactics (e.g. social media, workshops, tabling, newsletters, etc.) and any related timing (e.g. at the beginning, during, or after the project) should be detailed as well. You may attach an appendix, if needed.** *Limit ~400 words*

See attached (last document in appendix)

17. **List the training, volunteer opportunities, jobs, or complementary applied student research integrated in your project. Please describe.** *Limit ~200 words*

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This project will recruit and train at least 5 Sustainable Lab ambassadors (one each for the faculties of Medicine & Health Sciences, Agriculture and Environmental Sciences, Engineering, Science and Dentistry). These ambassadors will help with the lab waste audits and attend tabling and other outreach events across the university.

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PROJECT BUDGET

Criteria assessed in this section: **FEASIBILITY**

Note:

- *Project teams are **strongly encouraged to secure additional financial support** from key project stakeholders for Big Wave projects. Please attach support letters demonstrating their commitment in an appendix.*
- *If your project will involve cost savings or revenue generation, please attach a financial model in an appendix.*
- *Big Wave project teams are **required to manage project finances and staffing needs**, if any, without assistance from SPF Staff. Please attach a support letter from your local Finance partner and, where relevant, your local Human Resources partner to demonstrate their agreement to support your project.*

Revenues

Indicate any funding you will receive or may receive to complete your project, including funds from McGill departments and units.

Funding Source(s)	Amount Requested	Request Status
Sustainability Projects Fund (SPF)	$399,000.00	Requested
McGill Office of Sustainability (MOOS)	$19,980.00	Confirmed
	$0.00	Choose one.
	$0.00	Choose one.
	$0.00	Choose one.
	$0.00	Choose one.
REVENUES GRAND TOTAL *(must match Expenses Grand Total)*	**$418,980.00**	

Expenses

Indicate your project expenses below. Please remember to include tax and shipping costs, if any.

Item Description	Unit Cost	# of Units	Total Cost	Expense paid by SPF?
Equipment and supplies (dishwashers, racks, reusable instruments)	$160,000.0	1	$160,000.00	Yes, fully
Waste recycling and other contracts for services	$35,000.00	1	$35,000.00	Yes, fully
Communications	$25000.	1	$25,000.00	Yes, fully
Events	$9,000.00	1	$9,000.00	Yes, fully
	$0.00		$ 0.00	Choose one.
	$0.00		$ 0.00	Choose one.
	$0.00		$ 0.00	Choose one.
	$0.00		$ 0.00	Choose one.
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	$0.00		$ 0.00	Choose one.
	$0.00		$ 0.00	Choose one.
	$0.00		$ 0.00	Choose one.
Expenses Subtotal			**$229,000.0**	

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Salaries & Wages

If applicable, please indicate any paid positions needed for your project. Note: If you complete this Salaries & Wages section, you must also complete the Staff Position Information Appendix.

Position Title	~# Hours per Week	~# Weeks	Hourly Wage	Subtotal	+ 20% Benefits	Total Cost	Funding Sources
Sustainability Officer	35	104	$38.92	$141,668.80	1.2	$170,002.56	SPF
Sustainable Labs Intern	10	100	$16.65	$16,650.00	1.2	$19,980.00	MOOS
			$0.00	$ 0.00	1.2	$ 0.00	
			$0.00	$ 0.00	1.2	$ 0.00	
					Salaries & Wages Subtotal	**$189,982.5**	

EXPENSES GRAND TOTAL *(must match Revenues Grand Total)*	**$418,982.5**

APPENDIX

Relevant Support Documents

List any appendix documents in order in the table below.

Please keep the total number of pages as low as possible. Please include any required and other relevant support letters.

Doc #	Appendix Document Title	# of Pages
1	Detailed Project objectives and actions	2
2	Evidence of need for non-hazardous waste management at McGill labs	5
3	Lab Photos	4
4	Example of available reuse and recycling strategies	1
5	Benchmarking of U15 lab waste management practices	3
6	Letters of support	6
7	Sustainability Officer Position Appendix and CV	5
8	Communications Plan	2
9		
10		
11		
12		
13		
14	Financial model, if project has a cost savings or revenue generation component	
15	Staff Position Information Appendix, if applicable	

Detailed project Objectives and actions

Launching systemic solutions to lab waste management at McGill	
Supporting individual actions and consolidating institutional resources to reduce, reuse and recycle the non-hazardous waste generated by lab activities	
Project Objectives and Activities	**Cost estimate ($)**
1) Develop, distribute and promote standardised institutional infrastructure and guidance for non-hazardous lab waste management. This includes RecycQuebec-aligned signage and labels, and education and awareness building for lab users and support services.	
Develop and distribute standardized signage (Recyc QC) for McGill labs (in coordination with research institutes)	13000
Develop outreach and awareness resources for Principal Investigators, graduate trainees, and lab managers, including those at McGill-affiliated labs at research institutes. These resources would include an updated waste section in online Sustainable Labs Guide, slide(s) for inclusion in mandatory EHS training, video vignettes demonstrating proper sorting and decontamination techniques, resource sheets and posters.)	5000
Promote peer-to-peer-education and awareness-building among Principal Investigators, graduate trainees, and lab managers, including those at McGill-affiliated research institutes. This would include training of sustainable lab ambassadors, Lunch & Learn waste presentations, tabling at graduate student and researcher orientation, and research expos.	11000
Develop outreach and sensitisation resources among custodial staff and managers	1000
Where necessary, provide bins for labs with special space requirements (up to 50 bins)	15000
SUBTOTAL	**30000**
2) Develop waste reduction, reuse and recycling strategies for at least one major non-hazardous lab waste stream across multiple labs and faculties.	
Conduct lab waste audits at strategic points across downtown and Macdonald faculties to determine current lab waste amounts and building infrastructure.	3500
Identify at least one material (e.g. plastic resin class) or item (e.g. packaging, equipment) for waste reduction through consultation with lab users and other stakeholders (McGill units, Recyc-Quebec, Eco-Entreprise, etc.). Then develop practical reuse and recycling strategies for implementation across McGill.	500

Launching systemic solutions to lab waste management at McGill	
Supporting individual actions and consolidating institutional resources to reduce, reuse and recycle the non-hazardous waste generated by lab activities	
Project Objectives and Activities	**Cost estimate ($)**
Develop University-level recycling contracts for at least one new waste stream (e.g., single use pipette tips, tip boxes or ice packs)	20000
Work with key McGill vendors and Procurement to facilitate switch to sustainable packaging (biodegradable/reusable wrapping) or take-back of unsustainable packaging	5000
Develop annual inventory exchange event to facilitate the sharing of reusable lab supplies across five lab-heavy faculties	5000
Implement strategic equipment purchases and/or subsidies to facilitate the use of reusable lab supplies e.g., sanitising equipment such as dishwashers and racks.	150000
Subsidise and incentivise the acquisition of reusable labware such as glass pipettes, petri dishes, vials, tubes, tip boxes etc.	15000
SUBTOTAL	**199000**
3) Draft new University policy for review and ratification to divert a priority non-hazardous lab waste stream. Possible areas include:	
Work with Hazardous Waste to develop policy and guidelines for triple washed recyclable items (e.g., pipette tips) to be included in the recycling stream, or for organic waste materials from lab facilities (e.g., food waste, bedding, plants, soil, etc.) and the specific conditions under which they can be included in the compost stream.	0
Design project to implement new policy, once ratified, through provision of infrastructure, guidelines and administrative support.	0
SUBTOTAL	0
4) Provide dedicated staff to provide leadership, support administrative units, implement best practices, refine institutional benchmarking, coordinate units and lab user groups, and draft policies.	
Sustainability Officer salary	170000
Intern salary	20000
SUBTOTAL	**190000**
TOTAL	**419000**

Appendix 2: Evidence for the urgency of managing McGill's non-hazardous lab waste

The sheer volume of McGill's lab waste and feedback from its lab community indicate an urgent need for campus-wide infrastructure and operations to manage lab waste. Unlike regular waste from campus buildings and grounds – of which about 45% is recycled or composted- McGill's non-hazardous lab waste such as single use instruments, packaging, or ice packs, is largely destined for landfill disposal or incineration. There is no standardized waste signage for labs which hinders awareness and proper sorting.

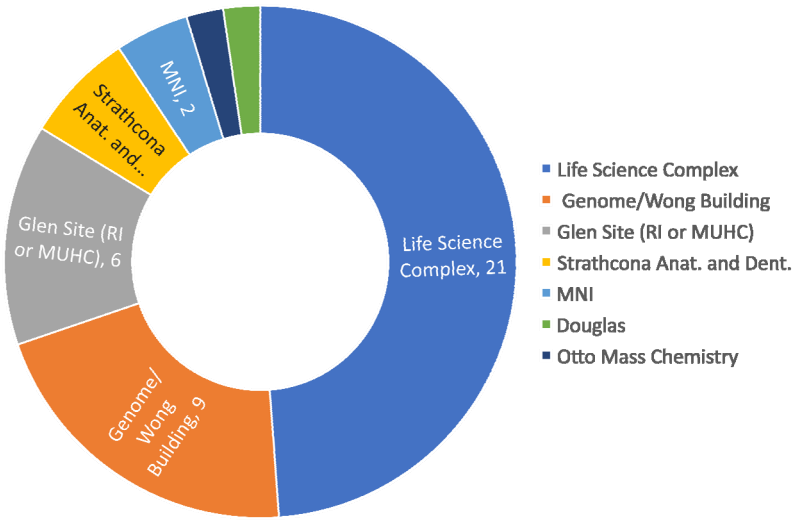
According to a 2015 SPF-funded project McGill's research and teaching labs generate >160 tonnes of plastic and glass waste -equal to 80 large cars- annually. However, the real amount is higher as the study excluded some classes of solid waste (e.g., polystyrene, single use packaging and PPE), and there are over 470 labs now compared to 402 labs then. The project recommended that the University implements campus wide recycling of plastics and glass recyclables from labs across campus.

Survey data and feedback from McGill's lab community have consistently stressed the urgent need for a coordinated institutional approach and clear processes and guidelines to manage non-hazardous lab waste. In McGill Green Lab Initiative's survey of 70 lab users in 2021, the majority of respondents identified non-hazardous waste materials as the main environmental impact of the University's labs compared to only 1% who said energy was a priority:
PPE- 77%
Plastics- 76%
Styrofoam – 34%
Waste management & chemicals – 24%
Packaging and ice packs- 9%

Survey respondents prioritised the recycling and replacement of plastics, polystyrene and PPE, and overall improvements in lab waste management and awareness as urgent actions. Several respondents also stressed that any lab waste management initiatives should be handled at the institutional level because of researchers' limited capacity to implement and sustain the necessary measures. Due to the difficult trade-offs between creating less waste and making lab processes safe, efficient and financially viable, lab users struggle to improve non-hazardous lab waste management (see full report below).

Beyond McGill, it is clear that special efforts are needed to align lab waste management in higher education, clinical and industrial contexts with broader sustainability goals. A 2015 study published in Nature estimated that in 2014 alone, laboratories across the world generated 5.5 million tons of plastic waste. At our peer U15 institutions, lab waste is a growing issue (see attached benchmarking). Additionally, many scientific and professional publications have highlighted the urgency (e.g. Urbina et al 2015) and feasibility (Alves et al 2020) of improving lab waste management (see references).

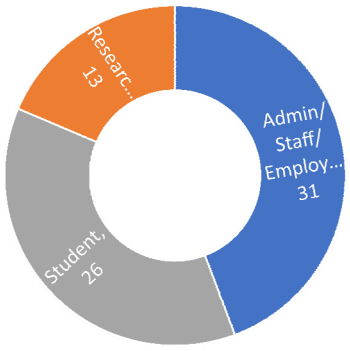
1. Which McGill affiliated location are you a part of?



LDI	27
Life Science Complex	21
Genome/Wong Building	9
Glen Site (RI or MUHC)	6
Strathcona Anat. Dent.	3
MNI	2
Douglas	1
Otto Mass Chemistry	1
Total	70

1

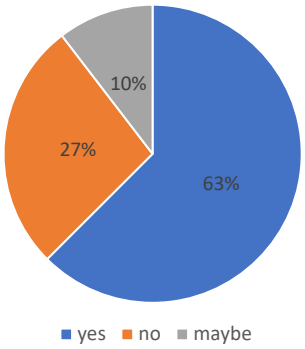
2. Are you a:



Admin/Staff/Employee	31
Researcher	13
Student	26
Total	70

2

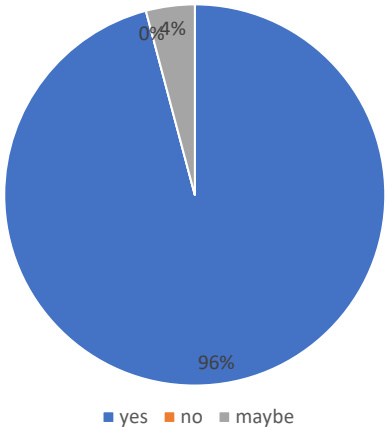
3. Do you think that research funds should contribute to Green Initiatives in your building/institutions?



Interesting comments/suggestions:
Not sure, I think a better approach may be to use green certification as an incentive structure, where institutions can receive more research funds if they meet a standard. Since as I understand it, going green costs more. Not sure how this change could be implemented.
Marginally. A small and fixed amount such as the percentage devoted to art in new constructions. Let's say 5%.
It should be paid by central, funds are already tight and I'm not sure PIs would be willing to go there
Only if directly related to the research for which funds were allocated to (e.g. greener materials)
Yes, but via institutional overhead: McGill takes a portion of each grant for operations costs, and this portion should be used for Green initiatives
I'm not sure that will be allowed for tri-agency grants.
No, our grants are stretched too thin as it is.
With Institutional funds but not operating research funds of PIs the green initiative should be based on.

3

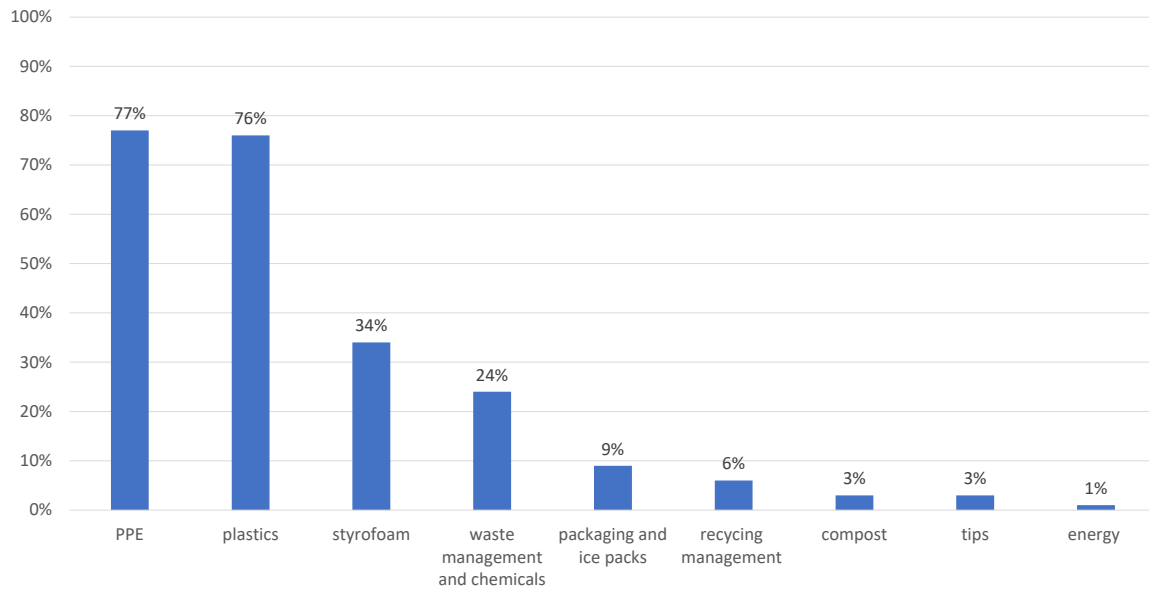
5. Do you think that McGill should contribute more funding specifically to contribute to Green Initiatives in your building/institutions?



Interesting comments/suggestions:
Maybe... tricky in the affiliate centers...
I think defining green initiatives in this question could help respondents answer it better.
Depends on the initiative. Not a fan of "more recycling bins", very big fan of education, and custom-designed solutions for various labs / groups of people to reduce waste.
Yes and LDI Administration also should provide
Yes, as it is part of there 2025 action plan to make McGill campus "greener". Research labs ARE a part of their campus they seem to forget about!
Yes, absolutely. They have the resources on the system level to improve things.
yes, especially for waste management which should be the same campus-wide

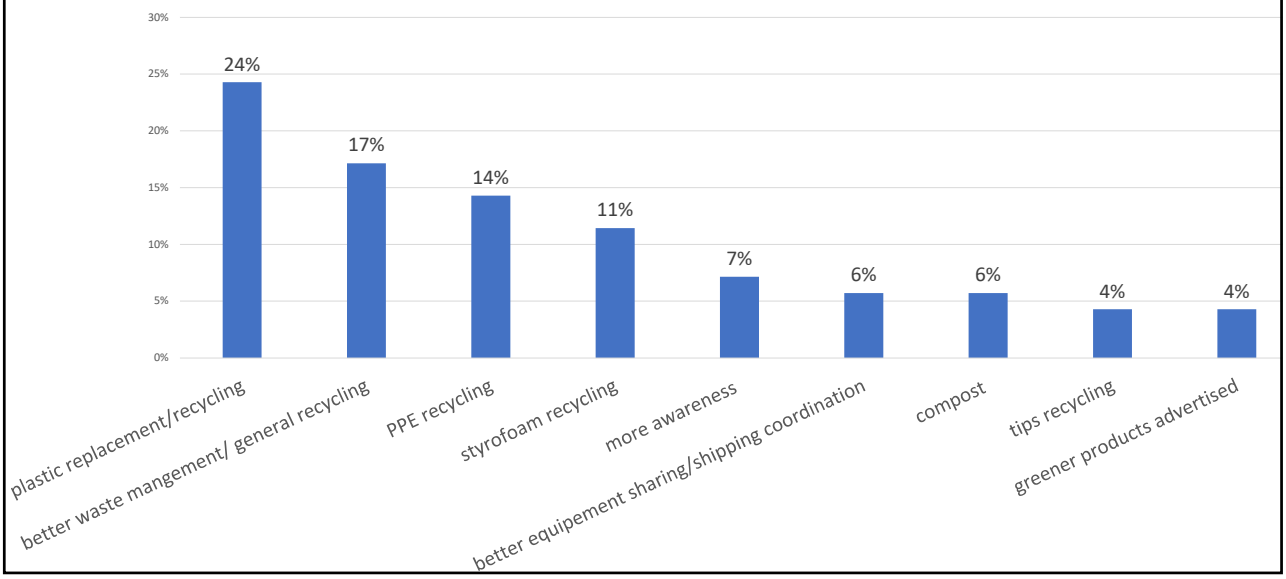
4

6. Which component of research do you believe contributes the most to our environmental impact?
(% of people that chose the option)



5

7. Suggestions for a new green initiatives you would like to see?
(% of people that mentioned the option)



6

8. *Optional* Comments or Questions for the McGill GLI?

Define ideas first, then ask people if they agree.
Thank you, great initiative
You are super, brave and important!! Cannot thank you enough!!
This must be and essential componant of the McGill lab policy otherwise it will no longer be considered a lead institution
Nice work guys. This is so important - so thank you for doing it. Keep it up!!!
How can we be sure that plastics are really recycled? Eventhough, we put plastic in a recycling bin, I have the feeling that in fact plastics are mixed with the other waste once brought downstairs....
Now that zoom seminars have been well implemented and well attended, I think that it is irresponsible from the scientific communities to have a speaker take a plane to present a one-hour talk.

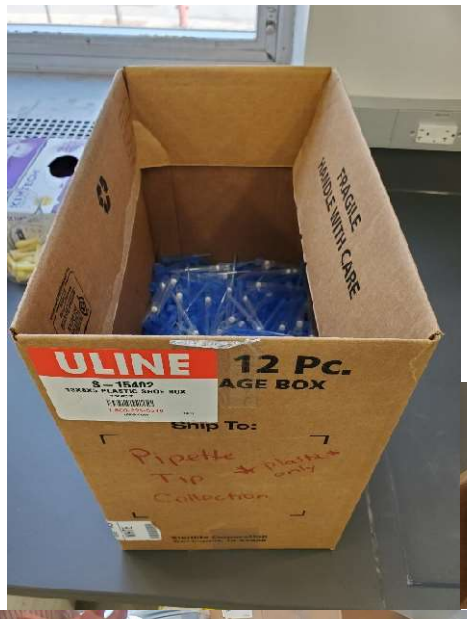
7

9. If you would like to be a part of the GLI e-mail list please add your email.

mari.kaartinen@mcgill.ca	GCRC, Jade will contact
Elise.vickridge@mail.mcgill.ca	already in GCRC green committe
paolaguizar77@gmail.com	
rchanda@jgh.mcgill.ca	
gabriel.guajardo@mail.mcgill.ca	
Francois.mercier@mcgill.ca	
john.thomas3@mail.mcgill.ca	
cbsenechal@gmail.com	
keerthana.harwalkar@mail.mcgill.ca	GCRC, Jade will contact
silvia.pernsteiner@gmail.com	
lisa.danielczak@mcgill.ca	
cleber.moraes@mcgill.ca	GCRC, Jade will contact
isabelle.harvey@mcgill.ca	
alanna.watt@mcgill.ca	GCRC, Jade will contact
asa.lind@mcgill.ca	
alexandra.maters@mail.McGill.ca	
damien.faury@muhc.mcgill.ca	

8

Appendix – McGill's Lab waste in photos

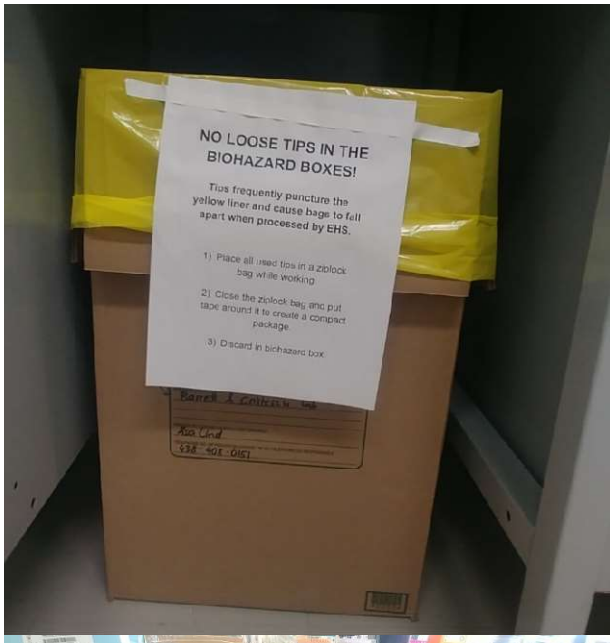


Pipette tips and tip boxes represent a major stream of plastic waste in many wet labs

One week's worth of ice packs collected in one lab.

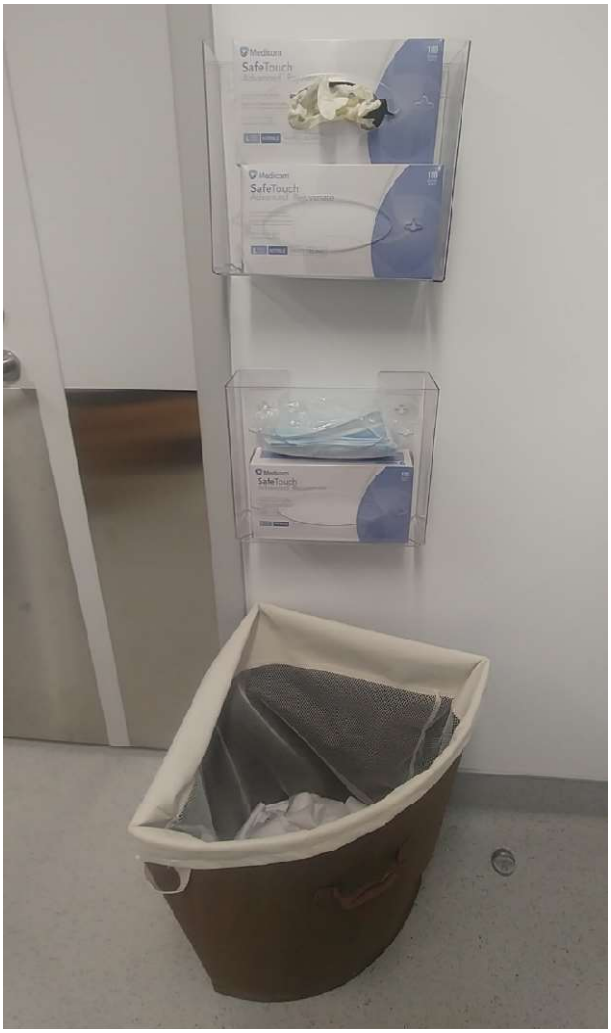
Lab-based initiative to recycle pipette tips with a supplier

One lab-based initiative to recycle glass with a supplier



All biohazardous waste is sorted into colour coded bags and collected regularly by Hazardous Waste Management. This is reinforced by mandatory training for all lab users.

Miscellaneous plastic waste gathered under a desk.



PPE waste collected for disposal via landfill

Systemic solutions to lab waste management at McGill

Benchmarking lab waste management at peer universities (u15 and STAR ratings)

Among other U15 institutions, only eight currently have specific initiatives to address lab waste. These demonstrate the technical feasibility of campus-wide infrastructure and operations to manage lab waste, and McGill can learn from the innovators in this area through some basic practices.

The best practices include easy to access online instructions and downloadable guidance documents for lab waste (for e.g., UBC, UfT, UdeM, UCalgary and UAlberta), diversion of recyclable materials from lab waste (e.g., UBC and UAlberta), piloting of waste reduction initiatives across campuses (e.g., UBC) and having a point person to coordinate or support lab sustainability initiatives (e.g., UBC, UfT, UBC, UdeM, Dalhousie and UAlberta).

University	Sustainable / Green labs coordinator	Website/ Guidance document
U. Alberta	yes	https://www.ualberta.ca/facilities-operations/projects-initiatives/energy-climate-action/green-labs/index.html
UBC	yes	https://sustain.ubc.ca/get-involved/green-labs-program/green-your-lab
U. Calgary	no	https://www.ucalgary.ca/live-uc-ucalgary-site/sites/default/files/teams/138/Blue%20Bucket%20Program%20Infographics_Final.pdf
Dalhousie	yes	https://cdn.dal.ca/content/dam/dalhousie/pdf/dept/sustainability/get-involved/green-labs/Waste%20Sorting%20Guide-11x17.pdf
McGill	no	no
U. de Montréal	yes	https://durable.umontreal.ca/fileadmin/durable/documents/Ecolabo/Affiche_8.5x11in_GMR_labo_-_Campus_MIL-min.pdf
U. Ottawa	no	no
Queens	no	no
U. Saskatchewan	yes	no
U. Toronto	yes	yes
U. Waterloo	yes	no
Western	no	no

	Non-hazardous Lab waste streams diverted from landfill						
University	**Glass**	**Plastics**	**Freezer/ Ice packs**	**Styrofoam**	**PPE**	**compostable**	**STARS rating**
U. Alberta	?	pipette tip holders and boxes, air pillows, conical tubes and lab bottles. Plastics 1, 2, 4, 5.	No/ Landfill	No/ Landfill	No/ Landfill	No/ Landfill	Gold
UBC	amber glass bottles in select buildings	Hard-plastic containers that contained non-hazardous materials. Petri dishes, pipette tip holders. Plastics 1, 2, 4, 5, 6. https://sustain.ubc.ca/lab-plastics-recycling	Pilot project to donate ice packs to grocery delivery company: https://sustain.ubc.ca/stories/ubc-green-labs-life-sciences-centre-and-spud-divert-hundreds-gel-ice-packs-landfill	Styrofoam and soft plastic collection at select locations	Masks and Nitrile glove recycling: https://sustain.ubc.ca/stories/gloves-lawn-furniture-ubc-nitrile-glove-recycling-pilot	Experimental plants and soil can be recycled per Safety & Risk Services requirements and can be reused as soil or fill for landscaping	Gold
U. Calgary	Clean Glass Containers, lab Glassware, glass pipettes	Plastic containers, pipette tip boxes and pipette plates, safety wash bottles	No/ Landfill	Yes: https://gsa.ucalgary.ca/zero-styrofoam-waste-initiative/	No/ Landfill		Gold
Dalhousie	Uncontaminated and triplerinsed glass containers that held solvents, acids or bases	Uncontaminated and triplerinsed plastic chemical containers	No/ Landfill		No/ Landfill	Uncontaminated organics used in experiments (fruit and vegetables)	Gold
McGill	Glass/pyrex serological pipettes	No dual system for recycling office vs lab	No/ Landfill	No/ Landfill	pilot project	No/ Landfill	Gold
U. de Montréal							Silver

	Non-hazardous Lab waste streams diverted from landfill						
University	**Glass**	**Plastics**	**Freezer/ Ice packs**	**Styrofoam**	**PPE**	**compostable**	**STARS rating**
U. Ottawa	No/ Landfill	No/ Landfill	No/ Landfill	No/ Landfill	Uncontaminated masks, gloves, ear plugs, glasses and hair nets: https://www.uottawa.ca/campus-life/campus-sustainability/waste-diversion/personal-protective-equipment-recycling-ppe	No/ Landfill	Gold
Queens	No/ Landfill	No/ Landfill	No/ Landfill	No/ Landfill	No/ Landfill	No/ Landfill	N/A
U. Saskatchewan	?	clean and uncontaminated lab plastics					Silver
U. Toronto	?	?	?	?	?	?	
U. Waterloo	?	?	?	?	?	?	Silver
Western	?	?	?	?	?	?	Gold
Arizona State University	?	?	?	?	Nitrile glove recycling	?	Platinum

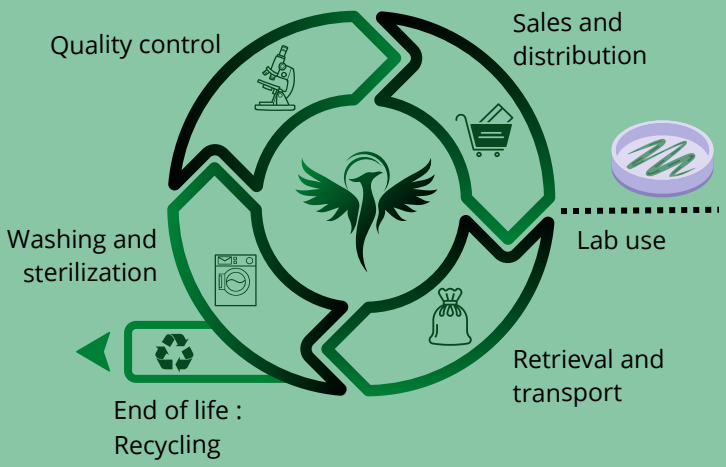
Phoenix Biotech

Lab supplies, reborn.

Our offer

Phoenix Biotech offers a recovery and reconditioning service for single-use plastic consumables for research laboratories in biotechnology, chemistry and healthcare. The same piece of equipment can be reused several dozen times thanks to our process.

Reconditioning cycle



Contact

https://phoenixbio.tech

Fiona Milano Maxime Dimidschstein

contact@phoenixbio.tech +1 (514) 207-5429

Phoenix Biotech

Our mission is to provide sustainable laboratory equipment at a competitive price.

Values

The true value in reprocessing with Phoenix Biotech is not only financial savings, but also environmental impact, quality assurance and an unpaired flexibility. We work with you to deliver quality solutions adapted to your reality.

Pilot project

We are looking for labs willing to take part in a pilot starting around August of 2023. Details are to be discussed on a case by case basis. We will decide together which consumables are targeted by the pilot.

Our team will collect, clean and sterilize the used items. After running tests to guarantee their quality, those items will be returned to you, for a fraction of their original cost.

McGill

Hazardous Waste Management | **Gestion des déchets dangereux**

Dear SPF Governance Council,

As the manager of McGill's Hazardous Waste Management department and co-chair of the Sustainable Labs Working Group, I wish to endorse the project to launch systemic solutions to lab waste management at McGill. My unit is responsible for the safe handling and disposal of biological, chemical, radioactive and other hazardous waste at McGill and we promote a safe and secure environment in labs through education, prevention and response. The proposed project aligns well with our mission and our work.

This project will be essential for implementing the University's zero-waste strategy in labs where non-hazardous waste management has been highly decentralised. This will also meet lab users' need for clear, consistent directions, inter-unit coordination and University-level support. Based on our many years of experience working with labs, my unit is ready to support this project with guidance to ensure that it meets the highest standards of safety and risk management required for lab operations at McGill.

Some years ago, I collaborated on a project to recover clean plastics from laboratories. It was clear then that transformational improvement of lab operations and waste management requires significant effort, human, and financial resources. I think that this project will put the necessary resources and infrastructure in place to help divert lab waste from the landfill safely and to meet our goal of becoming zero-waste by 2035.

With my best regards,

Christian Bouchard

Manager, Hazardous Waste Management

McGill University

McGill University
3655 Promenade Sir William Osler, Room 129
Montreal, Quebec, Canada H3G 1Y6

Université McGill
3655, promenade Sir William Osler, bureau 129
Montréal (Québec) Canada H3G 1Y6

T: 514 398-5066
hwm@mcgill.ca
www.mcgill.ca/hwm

Dear SPF Governance Council,

Please accept this letter as my endorsement and support for the project entitled "Launching systemic solutions to lab waste management at McGill". I am currently a PhD student in the department of Experimental medicine and a coordinator for McGill's Green Lab Initiative (GLI@McGill). The GLI is a student and staff initiative that aims to implement more sustainable practices in labs across McGill. We are passionate about improving waste and energy management, educating fellow scientists, and raising awareness about the habits to help the planet while performing excellent science in our labs.

The proposed project reflects GLI's past advocacy for university-level support with clear and consistent resources to manage the tonnes of plastic, glass and packaging waste that flow through our labs every year. Through my PhD career and that of my peers, we have firsthand experience of the continuous stream of lab waste generated during our research. This waste accumulates even when offices and classrooms are not in use, such as during the COVID-19 pandemic.

The GLI has worked closely with the Sustainable Labs Working Group over the last few months to embed sustainability in labs, for example through the Sustainable labs Guide. We have also raised awareness of sustainable lab operations and cultivated our network of lab users through a series of well-attended GLI Lunch & Learn events.

We believe it is important to keep this momentum and to allocate urgently needed resources for managing lab waste. This is essential if the University is to meet its waste diversion goals and bring us closer to a being zero-waste campus.

Please do not hesitate to contact us if you would like more information on GLI or our recommendations for lab waste management. Thank you for considering this important proposal.

Sincere regards,

Juliet Guay (PhD student and coordinator McGill Green Labs Initiative)
juliet.guay@mail.mcgill.ca

McGill

Department of Natural Resource Sciences
Faculty of Agricultural and Environmental Sciences
McGill University, Macdonald Campus

Département des sciences des ressources naturelles
Faculté des sciences de l'agriculture et de l'environnement
Université McGill, Campus Macdonald

T: (514) 398-7890
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21,111 Lakeshore
Ste-Anne-de-Bellevue, QC, Canada
H9X 3V9

January 31st 2023

Dear SPF Governance Council,

I am offering my support for the SPF proposal to develop university-level resources for lab waste management. I am an Assistant Professor in the Natural Resource Sciences Department at the McGill Macdonald Campus and also chair the Department Safety Committee, which deals with hazardous waste protocols and lab operations, and chair the FAES Macdonald Campus Sustainability Committee. As a Principal Investigator of a research lab and my role as Chair on these committees, I am acutely aware of the large amounts of waste, especially plastic waste, generated by research labs. Students and researchers across the Macdonald campus view this as a serious problem in how they conduct their research activities and as a significant barrier of achieving McGill's zero-waste strategic initiative. In my lab alone we likely generate hundreds of thousand plastic pipet tips annually that enter the waste stream. Previously, myself and 5 other principal investigators in my department have sought funding from other sources to purchase pipet washers so that we could recycle and reuse the tips but have so far been unsuccessful. Thus, I am certain there is both a need and motivation on our campus.

The plan put forward in the SPF project is thorough and well-thought through and addresses reducing lab waste from multiple angles. This project, which seeks to reduce plastic and hazardous waste at the university-level rather than an individual lab approach will have a significant impact on achieving McGill's zero-waste target. Importantly, with the support of this initiative, lab managers and principal investigators will be able to more easily participate in developing more sustainable practices in their lab and I am confident that with the support of the university and SPF, many labs will be able to make reductions in waste generation.

I will continue to provide support on this project if funded, helping to organize the education and awareness program at Macdonald and recruiting other labs and PIs to participate. I will also communicate the project with our Sustainability Committee so that we can develop our own initiatives that will directly support the success of this SPF program. I strongly encourage the Governance Council to consider this project for funding, as it is an impactful and comprehensive initiative for reducing lab waste.

Regards,

Dr. Cynthia Kallenbach
Cynthia.kallenbach@mcgill.ca

Facilities Management and Ancillary Services
1010 Sherbrooke Street West, 10th Floor
Montreal, Quebec Canada H3A 2R7

Gestion des installations et services auxiliaires
1010, rue Sherbrooke Ouest, 10e étage
Montréal (Québec) Canada H3A 2R7

E-mail: george.lazaris@mcgill.ca
Tel./Tél.: 514-398-4560
Fax/Téléc.: 514-398-3229

Montreal, February 14, 2023

Dear SPF Governance Council,

As the Director of Building & Grounds at McGill University responsible for providing the McGill campus community with an environment that is clean, safe and functional, I wish to endorse the project to launch systemic solutions to lab waste management at McGill.

My unit manages non-hazardous waste and recycling operations on the downtown campus. We are working with others to drive the University's Waste Reduction and Diversion Strategy (2018-2025). This project will be essential for implementing the strategy in labs where a higher level of coordination and communication are required to support the lab safety and integrity of teaching and research.

After many years of ad-hoc sustainability initiatives, often based in individual labs, I can attest to the need for having a well-coordinated and institutional approach to reducing the environmental impacts of labs. Over the last 6-months we have worked closely with the Sustainable Labs Working Group and a dedicated Sustainability Officer focussed on labs, to develop the Sustainable labs Guide, a University-level for sustainable lab operations, and a pilot project for recycling lab-generated PPE waste. By allocating much needed financial and human resources for managing lab waste, this project will now move the University forward towards diverting 90% of our waste from landfills and becoming zero-waste by 2035.

I strongly encourage and support this proposal for funding from the Sustainability Projects Fund.

Sincere regards,

George Lazaris
Director, Buildings & Grounds

Kimberly John, Ms.

From: Stephanie H. Leclerc
Sent: February 17, 2023 16:25
To: Kimberly John, Ms.
Cc: Kathy Zendehbad
Subject: Letter of support for the "Launching of systemic solutions to lab waste management at McGill".

Dear Members of the SPF Governance Council,

I hereby express my full support to the SPF Big Wave project called the “Launching of systemic solutions to lab waste management at McGIll”. I also intend to collaborate, as best I can, with this initiative.

I am the Program Manager for Sustainable Procurement at McGill, and a member of the Sustainable Labs Working-Group. I collaborated on a previous pilot project for the recovery of clean plastics from laboratories (along with stakeholders such as Claire Turbide, Carmen Lampron, Christian Bouchard, and others), a few years ago. Unfortunately, the lack of resources (time and funding) to help bring about the necessary changes to reduce lab waste and ensure proper sorting and recycling has always been a major hurdle. Our past initiative had to be abandoned because of the lack of proper signage, bins, logistics, and human resources to keep the momentum, and this was only a project in one building.

The current project is ambitious but it has all the key elements as part of its scope, to be successful. I will be able to support the initiative by helping with waste reduction, by embedding the necessary clauses and requirements in Procurement Services’ calls for tenders and contracts to facilitate the transitioning to reusable and recyclable items, and to encourage the development of supplier take-back programs, where relevant.

There is no doubt that this Big Wave project is essential to enabling the University’s Zero Waste, and circularity ambitions. Reducing, and optimizing the management of lab waste will help limit spending on landfilling and incineration, contribute to the recovery of natural resources, and curtail various emissions to air, water and soil. It will also help us transition to the new provincial recycling strategy involving Éco-Entreprise Québec.

I can testify that many of our researchers and students will appreciate this initiative. They will feel relieved that this waste flow is finally being tackled and properly managed, and they will feel a sense of pride that their institution is carrying out this important work.

Please do not hesitate to contact me if you have any questions regarding this project or my involvement with this initiative.

Best regards,

Stéphanie

Stéphanie H. Leclerc, M.A., Ph.D. Candidate
Program Manager, Sustainable Procurement / Gestionnaire de programme, Approvisionnement responsable | **Université McGill University** | Procurement Services / Services de l’Approvisionnement | 3465 Durocher Street, Room 105 / 3465, rue Durocher, Bureau 105 | Montréal (Québec) H2X 0A8 | **T: 514.398.2096** F: 514.398.1885 | **stephanie.leclerc@mcgill.ca** | http://www.mcgill.ca/procurement

DÉVELOPPEMENT DURABLE MCGILL SUSTAINABILITY

McGill Office of Sustainability

February 3rd, 2023

Dear SPF Governance Council,

As the Sustainability Officer responsible for advancing the University's long-term target of becoming zero-waste by 2035, I wish to voice my support for Launching systemic solutions to lab waste management at McGill.

Committing to zero-waste means that the university "must achieve at least 90% diversion from landfills, incinerators and the environment, and commit to a goal of reducing the amount of materials discarded as part of a continuous improvement system to zero," according to the Zero-Waste International Alliance.

This project will have a significant and needed impact on reducing lab waste, a waste stream that has been neglected so far in our zero-waste efforts. This project which will directly contribute to the reduction element of McGill's zero-waste commitment by removing economic barriers for McGill community members to make individual choices that reduce the amount of waste being sent to landfill.

I also think this project's impact will extend beyond the lab users who are directly impacted and contribute to the long-term cultural change needed to get to zero-waste by 2035 in educating students and staff about sustainable lab practices.

I therefore strongly encourage and support this initiative's request for funding from the Sustainability Projects Fund.

Sincerely,

Lauren MacDonald

Lauren MacDonald

Sustainability Officer (Implementation), Office of Sustainability

McGill | Office of Sustainability | Bureau du développement durable

Feb 20, 2023

Dear SPF Governance Council,

As McGill Office of Sustainability (MOOS) Sustainability Manager, I commit to supervising the Sustainability Officer position focused on labs. While you are familiar with my work as SPF Steward, my portfolio also encompasses MOOS-run sustainability engagement programs. These suite of engagement programs provide frameworks, support networks, and resources to encourage adoption of sustainability best practices by the McGill community. My team runs several engagement programs and related communications for students and staff: SKILLS21 sustainability training sessions for students, Organizational Development (OD) sustainability training sessions for staff, the Student Sustainability Network, Sustainable Ambassadors volunteer program, the Sustainable Workplace Certification program, and the Sustainable Event Certification program. Thanks to SPF funding, we are developing a lab certification program which will be launched in spring 2023.

While my team makes notable effort to increase education and engagement in sustainability in operations across campus, there are limits to individual and small-scale changes when there are significant institutional barriers. MOOS has seen an enormous interest and momentum for green lab practices in the past three years. Graduate students across downtown and Mac campus have put in a tremendous amount of time and effort to implement measures to recycle and reduce waste, save energy, and increase awareness of best practices in labs. The new campaigns and programs that Kimberly John (current Sustainability Officer) have launched have been instrumental to feeding the momentum we see on campus. This includes the International Freezer Challenge, updated Sustainable Labs Guide, and assisting the Green Labs Initiative grassroots group with their educational events.

Lab waste is a very complex, yet visible and significant environmental impact of McGill's research. This topic has been neglected in previous years due to the highly decentralized nature of labs and the lack of institutional capacity and coordination. Kimberly's tireless efforts in the past 8 months have led to strengthened collaborations and new partnerships, and she has prepared the groundwork to take on a large-scale project to tackle waste. Kimberly has shown leadership, resourcefulness, and true grit in establishing and promoting best practices in lab sustainability. I am confident that she will carefully and thoughtfully address the issues, evaluate the options, and select measures that are feasible and appealing to the McGill community.

I will supervise this position, and MOOS will continue to contribute the funds for the sustainable lab intern.

Sincerely,

Shona Watt

Sustainability Manager
McGill Office of Sustainability

Sustainability Projects Fund

STAFF POSITION APPENDIX

STAFF POSITION INFORMATION

Please complete the fields below with information regarding the position that you would like to fund through your project. Should you have more than one type of position, please fill and attach a form for each position.

Position Title	Sustainability Officer- Labs
Brief Description of Role	Management of the lab waste project full-time: 1) Providing technical guidance, 2) Coordination between McGill units, lab users and external actors, and 3) Developing lab waste resources.

1. **This position is:** ☐ New ☒ Already exists on campus

2. **Please describe which McGill unit/department/group/association will host the position.** *Limit ~100 words*

McGill Office of Sustainability

3. **Who will supervise the employee? Please list the supervisor's name and role at McGill.** *Note: The supervisor must provide a letter detailing their commitment. Please include this in the application appendix. Limit ~100 words*

Sustainability manager - Shona Watt

4. **Employee's Location(s):** ☒ Downtown ☐ Macdonald ☐ Gault ☐ Other: _____

5. **Please provide a detailed task list and/or job description.** *Limit ~400 words*

1) Providing technical and institutional guidance based on consolidated stakeholder consultations, lab audits and benchmarking best practices, 2) Coordination between McGill units, lab users and external actors, and 3) Developing lab waste resources in coordination with MOOS communication team.

6. **Working hours:** ☒ Full time ☐ Part time *If part time, indicate hours per week:* _____

7. **Wages:** ☒ Salaried ☐ Hourly pay *Indicate salary or hourly wage:* 71,000/year

8. **Please share how you have determined the hours and wages included in the budget.** *Limit ~200 words*

This position is a full time job for two years of an MPEX Grade 04 (mid-point of the salary range).

9. **If applicable, please share how you will integrate the employee into the existing team/group structure.** *Limit ~100 words*

The Sustainaibility Officer will work closely with other sustainability officers to embed the project within the University's climate and sustainability strategy and participate in continuous peer review and exchange with the Officer responsible for implementing Zero-Waste initiatives.

10. **What will happen to the position after the project funding concludes? Is there an intent to institutionalize this position?** *Limit ~200 words*

Throughout the year, the sustainability office will strive to garner central HR resources to embed the tools and resources in FMAS units and/or to make the position permanent, either within MOOS or with another relevant unit such as Campus planning or EHS.

11. **If applicable, please briefly describe how you plan to recruit the employee.** *Limit ~200 words*

No recruitment is expected as there is already a Sustainability Officer at MOOS with responsibility for embedding sustainability in labs. Once their mandate to develop a certification program ends in June 2023, they can be available to work on this project.

STAFF POSITION APPENDIX

12. **My project team already has a candidate in mind to fill this position:** ☒ Yes ☐ No

If yes, please disclose. *You may wish to attach a CV for the candidate in the application appendix. Limit ~100 words*

Launching systemic solutions to lab waste management at McGill

Communications plan

Goal	Product	Objective	Target Audience	communication channels	Phase
Promote awareness of the project among key stakeholders and invite feedback					
	Project launch article	Informational; incentivise lab users	Principal investigators, graduate students, lab managers and research assistants	interviews and features on MOOS website, MOOS newsletter, social media, McG Reporter, What's New)	Phase 1, 2, 3, 4
	Project launch email to target audience	Informational to key members of the McGill community	Building and custodial staff managers. Principal investigators, graduate students, lab managers and research assistants	Email and Slack Channel	Phase 1, 2, 3, 5
	Regular project updates	Informational to key members of the McGill community	Building and custodial staff managers. Principal investigators, graduate students, lab managers and research assistants	interviews and features on MOOS website, MOOS newsletter, social media, McG Reporter, What's New)	Phase 1, 2, 3, 6
	Lab waste management paper	Informational to key members of the external audiences	AASHE, Sustainable labs canada and other external stakeholders	article or presentations at AASHE, SLCAN conference or other event	Phase 1, 2, 3, 7
Promote awareness and strategies to reduce and reuse nonhazardous lab waste					
	MOOS Sustainable labs landing page	Informational; hub linking out to other resources and events.	Principal investigators, graduate students, lab managers and research assistants	MOOS website	Phase 2, and beyond
	standardized signage (Recyc QC) for McGill labs	Indicate receptacles for non-hazardous lab waste streams and proper sorting procedures	Principal investigators, graduate students, lab managers and research assistants, custodial staff	announcement via McGill Reporter, direct distribution of adhesive lables and signs via building managers	Phase 2, and beyond

Launching systemic solutions to lab waste management at McGill

Communications plan

Goal	Product	Objective	Target Audience	communication channels	Phase
	Lab waste features	Informational; incentivise lab users	Principal investigators, graduate students, lab managers and research assistants	interviews and features in MOOS website, newsletter, social media, McG Reporter, What's New)	Phase 2, and beyond
	Sustainable labs guide - Wa	Informational	Principal investigators, graduate students, lab managers and research assistants	easily accessible web-based resource on MOOS website, linked to EHS and other sustainable lab partners	Phase 2, and beyond
	sustainability slide in mandatory EHS training materials	Informational	Principal investigators, graduate students, lab managers and research assistants	Slide aligned with EHS layout and format	Phase 2, and beyond
	outreach and sensitisation resources among custodial staff and managers	Indicate receptacles for non-hazardous lab waste streams and proper sorting and disposal procedures	Building managers and custodial staff managers	tbd in consultation with B&G	Phase 2, and beyond
	Annual Lab equipment sharing event	Call to action	Principal investigators, graduate students, lab managers and research assistants	campaign on MOOS website, newsletter, social media, McGill Reporter, What's New, Faculty and Grad student channels	Phase 2, and beyond
	sustainability section in EHS handbook	Informational	Principal investigators, graduate students, lab managers and research assistants		Phase 2, and beyond
	Lab waste presentation kit	Monthly	Sustainable lab ambassadors present to Principal investigators, graduate students, lab managers and research assistants	Lunch & Learn waste presentations, tabling at graduate student and researcher orientation, and research expos	Phase 2, and beyond