

ENVIRONMENTAL STEWARDSHIP AND PSYCHIATRY - A PLAN FOR SUSTAINABLE CHANGE

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PURPOSE AND SCOPE

Every day seems to bring further depressing news about the climate crisis that is affecting more and more aspects of our lives. Whether it be hurricanes and flooding, extreme temperatures and forest fires, warming of the oceans, melting of the ice-cap and glaciers, rising sea levels, crop failures and human dislocations, disappearing animal species and new migratory patterns – all provide irrefutable evidence of the damage we are causing to the environment as a result of global warming and extreme weather change. And as a Department of Psychiatry we are becoming increasingly aware of the multiple impacts all of these can have on the mental health of individuals and communities.

For us, as for all of Civil Society, Environmental Stewardships must become a priority and we need to take immediate steps to address these challenges, as both a Department and as individuals. If our goal is to reach net zero - the point where our carbon emissions are the same as or less than our carbon savings to mitigate the impact on the environment, we need to change not only our behaviours but also our organisational processes, to ones that are more environmentally friendly and sustainable.

This Guidebook is our call to action on Global Warming. It provides an overview of the key factors contributing to the crisis facing our planet, and recommendations for actions we can take to create sustainable workplaces and lessen our negative impacts on the environment. It also suggests ways in which we can integrate “green” approaches into our clinical work and advocate for changes in the communities within which we live and work. Above all it highlights our responsibility as an Academic Department of Psychiatry to better understand the specific and inequitable effects of the climate crisis on mental health, and bring these to the attention of Government and the wider community.



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HEALTH CARE AND THE CLIMATE CRISIS

WHAT IS GLOBAL WARMING AND WHY IS IT IMPORTANT?

Global warming occurs when carbon dioxide (CO₂) and other air pollutants collect in the atmosphere and absorb sunlight and solar radiation that have bounced off the earth's surface. Normally this radiation would escape into space, but these pollutants, which can remain in the atmosphere for as long as a century, trap the heat and cause the planet to get hotter.

**HEALTH CARE
CONTRIBUTES 5% OF THE
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EMISSIONS IN CANADA,
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These heat-trapping pollutants—specifically carbon dioxide, methane, nitrous oxide, water vapor, and synthetic fluorinated gases—are known as greenhouse gases (GHGs), and their collective impact is known as the greenhouse effect.



To reduce our emissions, climate action is required from all sectors of society, including Healthcare. And Healthcare plays a critical role, not only because of the physical and emotional consequences of climate change, but also because as a sector we contribute to the problem.

Although the largest contributions come from transportation, the production of electricity, burning fossil fuels for industry and agriculture, Health Care (as a sector) contributes 5% of the total Greenhouse Gas (GHG) emissions in Canada, which is higher than the Airline Industry.

The majority of this comes from emissions in our supply chain - the production, transportation, operation and disposition of the materials we use in our clinical work, our research, and our operative processes,

So it is incumbent upon us as individuals and as a Department to look at sustainable ways we can reduce our emissions and our “carbon footprint” and be thinking about the health of the planet as an integral part of all of our work.

**HEALTH CARE NEEDS TO
PAY MORE ATTENTION
TO ITS IMPACT ON OUR
PLANET.**

CLIMATE CHANGE & MENTAL HEALTH

While health care in general needs to respond – and quickly – to the challenges that the Climate Crisis is posing, the multiple impacts that global warming has on mental health and wellbeing make it even more vital that academic Departments of Psychiatry are leaders in investigating these impacts and coming up with creative solutions.

WHAT ARE THE IMPACTS LOCALLY AND GLOBALLY:

There are a myriad of ways in which global warming affects our mental health. The warming climate and the extreme weather events which destroy homes and property lead to multiple losses and grieving, physical dislocation and loss of income. It also creates trauma both for those living through these frightening events and for first responders and others who witness the devastation these events can cause.

GLOBAL WARMING AFFECTS MENTAL HEALTH IN MULTIPLE WAYS....

It also creates significant anxiety about the future, especially for individuals living in areas with a changing climate, or who face these uncertainties every day. And globally it can lead to mass migrations or emigrations and all the problems economic refugees can encounter.



ECO-ANXIETY IS A FORM OF ANXIETY RELATED TO ENVIRONMENTAL ISSUES AND THE FUTURE OF OUR PLANET...

Unsurprisingly, these contribute to **depression, anxiety, stress reactions and trauma** for the increasing number of people who are living in these situations. But we are also seeing the emergence of new anxiety states, collectively referred to as **Eco-anxiety**, where the anxiety is focused on environmental issues and the future of our planet. These fears can be reinforced by the continual presence of news items in news broadcasts or on social media. And we are now more and more in children and youth, who will inherit whatever mess we make of the planet, who are experiencing this anxiety,

GREENING MENTAL HEALTH CARE

There is strong evidence of the many benefits of including “green” approaches in our clinical work. This can be “prescribing” time in the outdoors, building outdoor activity into treatment plans and “greening” living environments such as better landscaping for residential homes,

There is also a growing movement to reduce prescribing, because of the carbon emissions during the production of medications, and considering the “carbon footprint” of a drug when there are two otherwise similar choices.

But climate change is also a health equity issue, with differential impacts on individuals and communities who already face significant disparities. These include Indigenous communities, those without housing or living in inadequate housing conditions, or individuals living in poverty or facing stigma or food insecurity, so we need to pay particular attention to these factors in all our approaches.

STEPS WE CAN TAKE IN OUR CLINICAL WORK

There are simple ways we can incorporate “green” ideas into the care we provide or use less expensive or more sustainable options in our clinical work or research, remembering that the majority of carbon emissions occur in the production and then the transportation of the products and chemicals we are using. These include:



- Encourage time in green environments and reduce barriers to accessing these. 2 hours a week has been shown to make a difference to someone's mood
- Encourage (prescribe) physical activity (ParkRx <https://www.parkprescriptions.ca/>)
- Think about “deprescribing” or prescribing less for environmental reasons
- Increase (selectively) virtual care to reduce the patient as well as the providers carbon footprint
- Find ways to reduce a patients carbon footprint (less travel to appointments for both patient and provider
- Be aware of the impact of climate, especially heat, on people taking psychotropic medications and check about cooling or heating needs during clinical assessments

WHAT CAN WE DO

AS A DEPARTMENT WE HAVE THREE BROAD GOALS:

1. To educate ourselves and our learners about the causes of the current climate crisis, the opportunities for individual and collective actions to change this, and the cost of doing nothing. This has been referred to as “climate literacy”.
2. To implement a plan to reduce our carbon footprint / emissions and, wherever possible, adapt our practices and processes to make them more sustainable and environmentally friendly.
3. To establish ourselves as local and national leaders in environmental stewardship

HOW WILL WE DO IT?

There are 4 different areas where we will act. But we have also developed a roadmap to follow to assist us in engaging members of our department and advancing our agenda.



ACTION ITEMS



TRAVEL

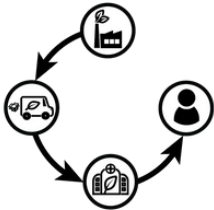
- Put supports in place for members who wish to ride their bikes to work
- Encourage ride-sharing including to meetings during the day and alternate forms of transportation to car travel
- Review meeting locations –local and out of town - and opportunities to hold them virtually (wherever possible/ practical)
- Look at alternatives to air travel

We will choose where we want to begin from this menu. Some are clearly going to be easier to implement than others, and some will be "quick wins" to help build momentum and engage our members.



REDUCING THE ENVIRONMENTAL IMPACTS OF OUR WORK

- Finding ways to reduce waste ie. avoiding single use items in research
- Reduce the use of electricity in our labs
- Assess the environmental impacts of our treatments and make adjustments
- Bring our own water bottles to work

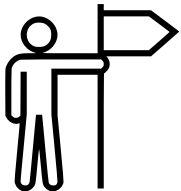


THE SUPPLY CHAIN

- Think of the environment when sourcing products, order locally and consider durability and sustainability
- Explore possible purchasing partnerships with other Departments
- Consider the "afterlife" of our equipment when purchasing

DEPARTMENT EVENTS

- Using only plant-based meals at our meetings and events
- Moving to telemedicine and teleconferences, wherever possible



LEADERSHIP

- Ensuring representation of the Climate Change perspective at the highest level of Department discussions (similar to EDI) and on all Department Agendas
- Establish a "Green Steering Committee" to guide the implementation of changes and build on the work to date
- Conduct research on the mental health impacts of climate change, and bring these to the attention of the wider community
- Educate colleagues / community through our personal examples



OUR PHYSICAL AREA

- Switch to LED lighting, as much as we can
- Turning off lights and other equipment at night (birds will also appreciate this)



USE OF MEDICATIONS

- Deprescribing as much as we can
- Review the pharmaceutical products we use, to use brands which have the smallest carbon footprint, although this is difficult and time consuming to analyze.



ACHIEVE CLIMATE LITERACY AS A DEPARTMENT

- Engage Department members in the work that needs to be done
- Compile a library of easy to read but effective resources which can also be circulated to Department members in small amounts
- Raise awareness through a regular column in the Department Update, and reports at Executive and Department meetings
- Base the case for action on data / evidence, as to both the impact of climate change and the examples of beneficial changes that have been made elsewhere
- Develop expertise / knowledge in specific conditions related to eco-anxiety, and to related conditions in adults and children
- Developing a common glossary of terms that we will use



EDUCATION

- Introduce a “curriculum” and educational events for our residents and other learners



RAISING AWARENESS

- Building partnerships with groups who share our goals
- Support efforts to persuade organisations to divest their fossil fuel investments
- Draw public attention to the specific impacts of climate change on communities already living with inequities in health care, including Indigenous communities, individuals without housing or living in inadequate housing conditions, or in poverty, or facing racism or stigma ie its an equity issue
- Pay particular attention to the challenges faced by our Indigenous Communities and be guided by Recommendation 19 of the Truth & Reconciliation Commission

A ROADMAP TO ENVIRONMENTAL STEWARDSHIP

The Road to Environmental Stewardship can be rocky starting out, but once you have people and a plan in place it will build momentum.

Choose our initial Projects

Begin with a few projects which have high impact, are relevant and relatively easy to implement and will engage Department members

Initiate Action

Identify this as a priority for the Department and present a vision of our goals and activities

Evaluate

Set targets and measure the impact of our individual initiatives and our progress towards meeting overall Department goals.

Identify Partners

Contact organisations who could assist us and meet with HHS, SJH and FHS to coordinate our planning

Celebrate

Recognize our accomplishments to help build momentum and encourage others to act as well.

Start

Identify People

Assign a Lead to organize and promote the initiative and establish a working group. The Lead will join the Dept. Executive

Engage our members

Disseminate this and other documents, and follow up with presentations to the Executive, Divisions and Department. Meet with any interested Dept. members

Build this into our New Strategic Plan

Include environmental stewardship in our strategic discussions and our strategic plan.



THINGS WE CAN DO OUTSIDE WORK

As with the Department, our goal is going to be a series of small steps that together lead to bigger changes. These are just a few ideas for things you could consider:



ENERGY EFFICIENCY

- Unplug electricals when not being used
- Add solar panels to use solar energy
- Wash clothes in cold water
- Use a laptop rather than a desktop computer



REDUCING WASTE

- Reduce food waste - buy less and shop more often
- Trade disposable utensils for re-usable ones
- Consider shopping second hand
- Trade plastic cleaning tools for natural alternatives
- Use re-usable cleaning cloths rather than paper towels
- Store food in glass or wrapped in beeswax paper rather than using plastic containers



FOOD

- Consider a plant-based diet and eat less meat
- Buy locally
- Choose non-processed foods



TRAVEL

- Use a bike whenever possible
- Drive less and keep tires well-inflated



WEATHERISE YOUR HOME

- Conduct an energy audit
- Use a low flow showerhead
- Insulate your home well
- Change from incandescent light bulbs to LEDs



LEARN MORE

- Calculate your carbon footprint www.carbonfootprint.com/calculator.aspx
- And possible savings you could make www3.epa.gov/carbon-footprint-calculator/

GLOSSARY

Carbon Capture: Carbon capture and storage is a process in which a relatively pure stream of carbon dioxide from industrial sources is separated, treated and transported to a long-term storage location, usually deep underground.

Carbon Footprint: A measure of the total amount of carbon dioxide and other carbon products emitted during the consumption of fossil fuels. This is measured in tons of emissions per unit of comparison ie per year, per person, per km travelled; per kgm of protein

Carbon Offset: This refers to a reduction in the emission of Greenhouse Gases or steps taken to store carbon and remove it from the atmosphere ie through land restoration, reforestation and tree planting. A mature tree will take 48lb of carbon dioxide out of the atmosphere and replace it with oxygen. So 40 trees will remove one ton of carbon a year

Circular Economy: A systematic approach to economic development designed to benefit business, society and the environment. It moves beyond recycling to keeping products in use, eliminating waste streams and regenerating natural systems.

Climate Adaptation: Measures which are taken to protect a community or an ecosystem from the impacts of climate change.

Climate Mitigation: Measures which are taken to decrease or prevent the emission of heat-trapping greenhouse gases into the atmosphere.

Divesting Foundation Funds: Encouraging Universities to move money from standard portfolios with fossil-fuel investments to lower carbon portfolios

Greenhouse Gas (GHG) Emissions: GHGs are made up of carbon dioxide (CO₂), nitrous oxide (N₂O), methane (CH₄) and fluorinated greenhouse gases (F-GHGs).

HVAC Systems: Heating, Ventilation and Air Conditioning (HVAC) systems that generate most of an hospital's GHG emissions.

Nature-based solutions: Implementing sustainable designs and natural features into the built environment to promote adaptation and resilience. These solutions would include natural grasses, pollinator gardens, rain gardens, trees and green roofs.

Net-Zero: Achieving a balance between the greenhouse gas emissions put into the atmosphere and those taken out. CO₂ emissions make up over 80% of GHGs and can be broken down into Scope 1 direct emissions (i.e. heating and cooling), Scope 2 indirect emissions (i.e purchased from utilities), and Scope 3 emissions generated from the operations of the company (i.e. supply chain, travel). In order to prevent the worst climate damages, global net human-caused emissions of carbon dioxide (CO₂) need to fall by about 45 percent from 2010 levels by 2030, reaching net-zero around 2050.

Sustainable Prescribing: This involves optimizing medications for patients, typically resulting in less medications prescribed. Also, in some cases, prescribers can switch from one medication to another one which produces less GHGs. For example, switching inhalers.

Sustainable Procurement: Building environmental sustainability factors into the rating system for the acquisition through purchase or lease of real property, goods or other products, works or services.

ACCESSIBLE RESOURCES

LEADERSHIP

- [Leadership Strategy](https://cascadescanada.ca/resources/all-topics/organizational-readiness/organizational-readiness-playbook/) - <https://cascadescanada.ca/resources/all-topics/organizational-readiness/organizational-readiness-playbook/>
- [Divesting from Fossil Fuels, Investing in Green Energy](https://www.shiftaction.ca) - <https://www.shiftaction.ca>

EDUCATING OURSELVES

- [Choosing Wisely Canada](https://choosingwiselycanada.org/hospitals/) - <https://choosingwiselycanada.org/hospitals/>
- [Calculating your footprint](https://healthcareclimateaction.org/checkup) - <https://healthcareclimateaction.org/checkup>
- [Melting of the ice-cap](http://dx.doi.org/10.1098/rstb.2019.0123) - <http://dx.doi.org/10.1098/rstb.2019.0123>
- [Green Health Care](https://greenhealthcare.ca) - <https://greenhealthcare.ca>
- https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM.pdf
- [Geo-Political Conflict](https://unfccc.int/blog/conflict-and-climate#:~:text=The%20evidence%20is%20clear%20that,climate%20change%20into%20conflict%20risks) - <https://unfccc.int/blog/conflict-and-climate#:~:text=The%20evidence%20is%20clear%20that,climate%20change%20into%20conflict%20risks>
- [PEACH Sustainable Healthcare Partnerships](https://peachhealth.ontario.com) - <https://peachhealth.ontario.com>
- [Equity](https://www.un.org/womenwatch/feature/climate_change/downloads/Women_and_Climate_Change_Factsheet.pdf) https://www.un.org/womenwatch/feature/climate_change/downloads/Women_and_Climate_Change_Factsheet.pdf

SUPPLY CHAIN

- [Procurement Contracts](https://sustainabilityadvantage.com/sp/case/) - <https://sustainabilityadvantage.com/sp/case/>
- [Sustainability in Healthcare in the UK](https://youtu.be/VKAgNpH5jTQ) - <https://youtu.be/VKAgNpH5jTQ>

CLIMATE CHANGE AND MENTAL HEALTH

- <https://www.psychiatry.org/patients-families/climate-change-and-mental-health-connections>
- <https://www.nytimes.com/2023/08/10/health/heat-mental-health.html#:~:text=Scientists%20have%20coined%20the%20term%20%E2%80%9Cclimate%20di stress%E2%80%9D%20to%20describe%20a,even%20more%20difficult%20time%20coping.>
- <https://www.psychiatry.org/patients-families/climate-change-and-mental-health-connections>
- <https://climateatlas.ca/mental-health-and-climate-change>

HEALTHCARE AND CLIMATE

- [Deprescribing Strategy](https://www.deprescribingnetwork.ca/) - <https://www.deprescribingnetwork.ca/>
- [Sources of Emissions](https://www.euronews.com/green/2022/08/03/if-healthcare-was-a-country-it-would-be-the-worlds-fifth-largest-emitter-what-needs-to-cha) - <https://www.euronews.com/green/2022/08/03/if-healthcare-was-a-country-it-would-be-the-worlds-fifth-largest-emitter-what-needs-to-cha>

FOOD

- [Plant Forward Diets](https://www.nourishleadership.ca/sustainable-menus) - <https://www.nourishleadership.ca/sustainable-menus>
- [Composting](https://greenhealthcare.ca/wp-content/uploads/2017/07/CCGHC-Organic-Waste-Case-Study-June17-2013-FINAL.pdf) - <https://greenhealthcare.ca/wp-content/uploads/2017/07/CCGHC-Organic-Waste-Case-Study-June17-2013-FINAL.pdf>

REDUCING THE IMPACT OF OUR RESEARCH

- <https://doi.org/10.1016/j.neuron.2020.02.019>

NATURAL SYSTEMS

- [Green Space](https://bcgreencare.ca/wp-content/uploads/2021/10/Green-Design-for-Climate-Resilience-and-Well-being.pdf) - <https://bcgreencare.ca/wp-content/uploads/2021/10/Green-Design-for-Climate-Resilience-and-Well-being.pdf>

RESILIENCY

- [Healthcare Facility Resiliency Toolkit](https://greenhealthcare.ca/climate-change-resiliency-toolkit/) - <https://greenhealthcare.ca/climate-change-resiliency-toolkit/>

MORE KEY GREEN ORGANIZATIONS

- <https://synergiesanteenvironnement.org>
- <https://nordicshc.org/>

CONTRIBUTORS

This Guidebook was created by Nick Kates, Emma Ko, and Neha Mathur.

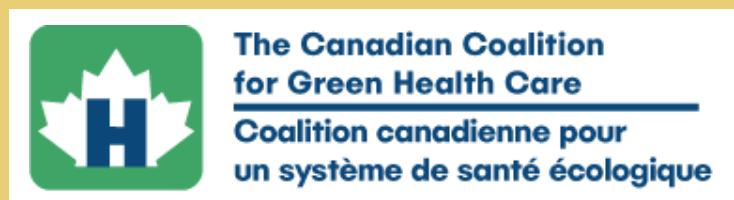
It was designed by Sara Rashighi, Emma Ko, and Neha Mathur and reviewed by members of the McMaster Psychiatry Planetary Mental Health Working Group

The toolkit was based upon CCGHC and PEACH's Sustainability Guidebook for Hospital Leaders which was prepared by Neil Ritchie, Myles Sergeant, Curtis Lavoie, Kim-Chi Tran, Richard Webster, Sujane Kandasamy, Luz Paczka Giorgi, and Linda Varangu.

The original project was conceptualized by NR and MS. NR, MS, CL, KT & RW contributed to background research, discussions, and reaching consensus on presented information. NR, MS, CL, KT, SK, LG, & LV wrote and edited the content. And LG designed the guidebook with input from SK.

THIS IS A LIVING DOCUMENT WHICH WILL BE REVISED AS THIS FIELD EVOLVES. WE WELCOME YOUR COMMENTS AND SUGGESTIONS.

SUPPORTED BY:



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