Photo by Allan Lissner/OCIC

The Nexus between Climate Action & Gender Equality: A Dialogue
Participant Package

Objectives

- Learn about Project Drawdown climate change sector solutions relating to women and girls, including girls' education, family planning and women smallholders;
- In dialogue with one another, consider what these links between climate change and gender equality could mean for Canadian international development policy, programming, and/or funding/fundraising.

Agenda

2:00-2:30 Registration & Networking
2:30-3:00 Welcome & Circle of introductions
3:00-3:40 Intro to Project Drawdown (TED Talk) and remote Q&A with Dr. Katharine Wilkinson
3:40-4:50 World Café Dialogue Rounds & Report back
4:50-5:00 Closing

World Café Questions

Round 1: Project Drawdown has identified three key ways that equality for women and girls can help stop global warming: girls' education, family planning and equal access to resources for women smallholders. **What are some possibilities that making these links opens up?** (e.g. related to international development policy, programming, and/or funding/fundraising)?

Round 2: What are some things that would make these links stronger in practice? (i.e the links between climate change and girls' education/family planning/women smallholders). You might consider implications for policy, programming, and/or funding/fundraising.

Round 3: What stands out for you in what you've heard so far? Reflecting on what you've heard today, **what are some next steps we might take or contributions we might make?**

UNIFY TORONTO DRAWDOWN TORONTO RYERSON LEADERSHIP LAB >>> CCIC Ontario Council for International Cooperation

Special Guest

Dr. Katharine Wilkinson is an author, strategist, and teacher, bringing focus to what is possible for humanity and our home, this earth. She is Vice President of Communication & Engagement at Project Drawdown and was senior writer for the *New York Times* bestseller *Drawdown: The Most Comprehensive Plan Ever Proposed to Reverse Global Warming*. Her first book, *Between God & Green: How Evangelicals Are Cultivating a Middle Ground on Climate Change*, was dubbed "a vitally important, even subversive, story" by *The Boston Globe*.

Co-Facilitators

Catherine Dyer is an experienced facilitator having offered many innovative workshops and retreats for emerging and established community leaders. She founded The New Mentality provincial network, The Art of Youth Engagement, a participatory leadership training program, and today she is playing a key role in launching Stella's Place, a new mental health centre for people, 16-29.

Natalie Zend is an IAF Certified Professional Facilitator with experience in facilitating strategic conversations and multi-stakeholder processes. Her international development experience of over 15 years includes program planning, project management, facilitation and training with a focus on children's rights and gender equality. She is a founding member of Unify Toronto and Drawdown Toronto. www.zendialogue.ca

Drawdown Toronto Organizers

Satya Robinson is a certified somatic personal development coach, teacher and strategist. She co-founded JLS Global, Unify Caledon, Unify Toronto, Association of Transformational Leaders and is a founding member playing a key role in Drawdown Toronto. Her focus is to initiate and support Drawdown hubs at the local, city, provincial and national level in Canada. She weaves her deep connection, respect and love of Mother Earth into all the spaces she enters.

Charlene Day is a Holistic Health Expert**,** author, coach and speaker. She works in Toronto as a Lifestyle and Leadership Coach. She currently facilitates the Awakening the Dreamer, Changing the Dream symposium monthly. She is also a graduate of the Game Changer Intensive and co-facilitates the Drawdown Training. www.charleneday.com

Graphic Recorder

Patricia Kambitsch is a graphic facilitator and a partner at Redesign Network, a design and research firm for human system innovation. As a graphic recorder, she sketches words, captures themes, and draws images to map the essential story in a group dialogue. Patricia's work illustrates themes and insights as they emerge, often in the form of a conceptual map that invites participation and inspires future actions. www.playthink.com

Equality for Women in Agriculture, Education and Family Planning: Powerful Solutions to Global Warming

Prepared by Drawdown Toronto, based on Project Drawdown

The gender-climate connection

1. Women are disproportionately impacted by global warming (e.g. disease, natural disaster, displacement);
2. Women and girls are at the heart of powerful climate solutions: girls' education, family planning, women smallholders;
3. Women are pivotal to addressing global warming and dealing with its impacts.

Global Warming Solution: Women Smallholder Farmers

Women make up 43% of the agricultural labour force and produce 60-80% of food crops in poorer parts of the world. Most of them are part of smallholder families who operate on less than 5 acres of land.

Supporting women and girls' equal access to

- Land rights;
- Credit and capital;
- Training;
- Tools and technology,

would mean:

- 20-30% more food from the same garden or field ;
- 2.5-4% higher agricultural output in low-income countries;
- 12-17% fewer undernourished people in the world.

Link to global warming:

By realizing higher farm yields:

- we avoid deforestation for additional farming land.

Impact of this solution on the climate:

Addressing gender inequality in agriculture could:

- prevent 2 billion tons of CO_2 emissions between now and 2050. This is on par with household recycling globally;
- help women cope with the challenge of growing food as the climate changes.
- Project Drawdown ranks this solution #62 out of 80.

Global Warming Solution: Educating girls

130 million girls are denied their right to attend school. The gaps are the greatest in secondary school classrooms.

Better education means:

- Better health;

- Better financial security;
- Greater agency at home and in society;
- Increased capacity to navigate climate change.

Link to global warming:

- When girls are educated, they typically choose to have fewer children.
- The right to go to school impacts how many people live on the planet and impact its living systems.

Impact of this solution:

- Addressing gender inequality in education could prevent 59.6 billion tons of CO2 emissions between now and 2050
- Project Drawdown ranks this solution #6 out of 80.
- The impact on global warming is not why girls should be educated--it is one meaningful outcome.

Global Warming Solution: Family planning

Access to high quality, voluntary reproductive health care--to have children by choice rather than chance--is a matter of autonomy and dignity. 214 million women in lower income countries say they want to decide whether and when to be pregnant but aren't using contraception.

Family planning is about:

- listening to women's needs,
- addressing those needs,
- advancing equality and well-being.

Link to global warming:

- Curbing population growth is a side effect of family planning, though a potent one. Close the gaps on education for girls and family planning and at mid-century we will have 1 billion fewer people.
- This could dramatically reduce demand for food, transportation, electricity, buildings, goods, etc., thereby reducing emissions.

Impact of this solution:

- Providing women with access to voluntary reproductive health care could prevent 59.6 billion tons of CO2 emissions by 2050.
- Project Drawdown ranks this solution #7 out of 80.

Together, girls' education and family planning make gender equality the top Drawdown solution to restore a climate fit for life—on par with wind turbines, solar panels and forests.

* Population cannot be seen in isolation from production and consumption. The most affluent are the most accountable.

For more information see www.unifytoronto.ca, www.drawdown.org and www.pachamama.org.

Drawdown FAQ's

Prepared by the Pachamama Alliance

The Basics

What is Drawdown - Drawdown is the point in time when the concentration of greenhouse gases in the atmosphere peak and begin to decline on a year to year basis.
Goal of the Drawdown Project - To identify, measure and model the 100 most impactful, substantive solutions to global warming that either reduce emissions or remove greenhouse gases from the atmosphere and to determine whether it is possible to achieve Drawdown within the next 30 years, by 2050.

Drawdown Team - Drawdown is a coalition of over 200 contributors from over 22 countries including 62 researchers, 130 advisors and 49 outside experts.
How to achieve Drawdown - To achieve drawdown we need to draw greenhouse gases down from the atmosphere back to the earth. This already happens every year via photosynthesis but we have to rebalance the quantity of emissions with the earth's capacity to bring those gases back home.
The Mandate - To map, measure and model substantive, technological, ecological, and behavioral solutions and analyze their potential to reduce and draw down greenhouse gases over a 30 year period.

Greenhouse Gases - Greenhouse gases include carbon dioxide, methane, fluorinated gases and several others all with different global warming impacts. To enable consistency, scientists calculate the warming potential of different greenhouse gases and convert it to a carbon equivalent to use as a common 'carbon' currency. In Drawdown, references to carbon dioxide include the impact of other, equivalent greenhouse gases, such as methane or fluorinated gases, based on their global warming potential.

The Science behind Drawdown

Assessment - The project focussed on existing solutions with sufficient data available for global modelling. The solutions were then evaluated based on their current performance, scalability, economic viability, potential to reduce greenhouse gases over 30 years and the balance of other positive/negative impacts.

Three-stage Process - Every solution was researched in a 3 step process: (i) analyzing technical reports with financial and climate data, (ii) reviewing to ensure data integrity (iii) modeling to assess integration of solutions and eliminate double counting.

Modelling - Each solution is measured and modeled to determine its global carbon impact between 2020-2050. The results include the (i) ranking (ii) carbon avoided, reduced, or sequestered (iii) the cost to implement and (iv) net cost/savings over a 30 year period. The impacts are quoted in gigatons of carbon dioxide referenced against a 'business as usual' baseline.

Scenarios - Three different scenarios were modelled using different underlying assumptions (e.g. future growth rates, cost reductions, improvements in tech etc). The most conservative scenario (the "plausible' scenario in the book) reaches drawdown by 2060, the middle "drawdown" scenario by 2050 and the more aggressive, or "optimum" scenario, reaches drawdown potentially as early as 2045.

The Findings

Ranking - The solutions are ranked based on total amount of carbon they can potentially avoid or remove from the atmosphere on a global basis over a 30 year period.

Sectors - The top 80 solutions are grouped into seven sectors:
Energy, Food, Women & Girls, Building & Cities, Land Use, Transport & Materials

Top 10 Ranked Solutions

#1 Refrigerant Management	#6 Educating Girls
#2 Wind Turbines (onshore)	#7 Family Planning
#3 Reduced Food Waste	#8 Solar Farms
#4 Plant Rich Diet	#9 Silvopasture
#5 Tropical Forests	#10 Rooftop Solar

Co-Benefits - Nearly all the solutions are 'no regrets' solutions, meaning, they have so many advantages they are commendable irrespective of their impact on greenhouse gases. These co-benefits include saving money, creating jobs, enhancing security, advancing human health, eliminating hunger, preventing pollution and restoring the environment.

The Plan - Of the 80 ranked solutions some have more impact than others, but there is no silver bullet and no 'small' solutions. Reversing global warming is not possible unless we do them all. Under the Drawdown Scenario, over a 30 years period, the 80 solutions would draw down 1,442 GT of carbon equating to a net carbon reduction of .59GT by 2050 - this is drawdown.

Net cost to reverse Global Warming - The total "first cost" to implement all 80 modelled solutions is $129 trillion over 30 years under the plausible scenario. That's $27 trillion over what "business as usual" would cost, for example the cost of using solar instead of coal. The net operating cost for all solutions over 30 years is actually a savings of $78 trillion. So at the point of drawdown in 2050 the total net savings will be $51 trillion!

Coming Attractions - In addition to the top 80 solutions, the book includes 20 "coming attractions". These are 20 emerging solutions that, while they are scientifically valid, as yet there is insufficient economic and/or scientific data to accurately model the net impact on carbon and cost. These innovations include marine permaculture, smart grids, the hyperloop, autonomous vehicles and living buildings.

Glossary

Global Warming: Global Warming refers to the surface temperature of the earth. Climate Change refers to the many changes that will occur due to the increase in greenhouse gases and consequential rise in temperature. Drawdown focusses on the reduction of greenhouse gases to reverse global warming.

Gigaton: The solutions are ranked in terms of gigatons of carbon dioxide removed from the atmosphere. A gigaton is a billion metric tons. To put this in perspective, imagine 400,000 Olympic sized pools. That's about a billion metric tons of water, or 1 gigaton. Or a blanket (~.42 inches deep) covering the entire USA would represent the scale of 1 metric gigaton of carbon emissions.

For more information, see www.drawdown.org and www.pachamama.org

PACHAMAMA ALLIANCE
Drawdown Solutions by Sector

Land Use
Tropical Forests
Temperate Forests
Peatlands
Afforestation
Bamboo
Forest Protection
Indigenous Peoples' Land Management
Perennial Biomass
Coastal Wetlands

Energy
Wind Turbines (Onshore)
Solar Farms
Rooftop Solar
Geothermal
Nuclear
Wind Turbines (Offshore)
Concentrated Solar
Wave and Tidal
Methane Digesters (Large)
Biomass
Solar Water
In-Stream Hydro
Cogeneration
Methane Digesters (Small)
Waste-to-Energy
Micro Wind
Energy Storage (Distributed)
Energy Storage (Utilities)
Grid Flexibility
Microgrids

Food
Reduced Food Waste
Plant-Rich Diet
Silvopasture
Regenerative Agriculture
Tropical Staple Trees
Conservation Agriculture
Tree Intercropping
Managed Grazing
Clean Cookstoves
Farmland Restoration
Improved Rice Cultivation
Multistrata Agroforestry
System of Rice Intensification
Composting
Nutrient Management
Farmland Irrigation
Biochar

Transport
Electric Vehicles
Ships
Mass Transit
Trucks
Airplanes
Cars
Telepresence
High-speed Rail
Electric Bikes
Trains
Ridesharing

Materials
Refrigerant Management
Alternative Cement
Water Saving - Home
Bioplastic
Household Recycling
Industrial Recycling
Recycled Paper

Women and Girls
Educating Girls
Family Planning
Women Smallholders

Building and Cities
District Heating
Insulation
LED Lighting (Household)
Heat Pumps
LED Lighting (Commercial)
Building Automation
Walkable Cities
Smart Thermostats
Landfill Methane
Bike Infrastructure
Smart Glass
Water Distribution
Green Roofs
Net Zero Buildings
Retrofitting

Summary of Drawdown Solutions
By Overall Rank

This table provides the detailed results of the Plausible Scenario, which models the growth solutions on the Drawdown list based on a reasonable, but vigorous rate from 2020-2050.

1. Refrigerant Management
2. Wind Turbines (Onshore)
3. Reduced Food Waste
4. Plant-Rich Diet
5. Tropical Forests
6. Educating Girls
7. Family Planning
8. Solar Farms
9. Silvopasture
10. Rooftop Solar
11. Regenerative Agriculture
12. Temperate Forests
13. Peatlands
14. Tropical Staple Trees
15. Afforestation
16. Conservation Agriculture
17. Tree Intercropping
18. Geothermal
19. Managed Grazing
20. Nuclear
21. Clean Cookstoves
22. Wind Turbines (Offshore)
23. Farmland Restoration
24. Improved Rice Cultivation
25. Concentrated Solar
26. Electric Vehicles
27. District Heating
28. Multistrata Agroforestry
29. Wave and Tidal
30. Methane Digesters (Large)
31. Insulation
32. Ships
33. LED Lighting (Household)
34. Biomass
35. Bamboo
36. Alternative Cement
37. Mass Transit
38. Forest Protection
39. Indigenous Peoples' Land Management
40. Trucks
41. Solar Water
42. Heat Pumps
43. Airplanes
44. LED Lighting (Commercial)
45. Building Automation
46. Water Saving - Home
47. Bioplastic
48. In-Stream Hydro
49. Cars
50. Cogeneration
51. Perennial Biomass
52. Coastal Wetland
53. System of Rice Intensification
54. Walkable Cities
55. Household Recycling
56. Industrial Recycling
57. Smart Thermostats
58. Landfill Methane
59. Bike Infrastructure
60. Composting
61. Smart Glass
62. Women Smallholders
63. Telepresence
64. Methane Digesters (Small)
65. Nutrient Management
66. High-speed Rail
67. Farmland Irrigation
68. Waste-to-Energy
69. Electric Bikes
70. Recycled Paper
71. Water Distribution
72. Biochar
73. Green Roofs
74. Trains
75. Ridesharing
76. Micro Wind
77a. Energy Storage (Distributed)
77b. Energy Storage (Utilities)
77b. Grid Flexibility
78. Microgrids
79. Net Zero Buildings
80. Retrofitting

Coming Attractions

1. Prepopulating the Mammoth Steppe
2. Pasture Cropping
3. Enhanced Weathering of Minerals
4. Marine Permaculture
5. Intensive Silvopasture
6. Artificial Leaf
7. Autonomous Vehicles
8. Solid-State Wave Energy
9. Living Buildings
10. Direct Air Capture
11. Hydrogen-Boron Fusion
12. Smart Highways
13. Hyperloop
14. Microbial Farming
15. Industrial Hemp
16. Perennial Crops
17. A Cow Walks onto a Beach
18. Ocean Farming
19. Smart Grids
20. Building with Wood

Participant List

Jen Alexis
Emmanuel Baah-Fenning
Stephanie Cabildo
Moah Christensen
Adrianna Couto, Ontario Council for International Cooperation
Charlene Day, Potentials Within
Nadia Djinnit
Catherine Dyer, Stella's Place Assessment & Treatment Centre
Kimberly Gibbons, Ontario Council for International Cooperation
Judy Gilbert
Isabelle Hachette, World Accord
Jocelyn Hajash
Yasmine Hawz
Courtney Hayes, University of Toronto
Johanna Helin, Mamaa Trade
Samir Janmohamed, Ontario Council for International Cooperation
James Kuhns, Toronto Urban Growers
Maxime Matthew, Humber College
Lindsay McDonald, FreshEye Thinking
Kara Mullin
Eugenia Ochoa, Ontario Council for International Cooperation
Hamsha Pathmanathan, comdu.it & OCIC Board Director
Kathy Porter
Susan Reisler
Satya Robinson, DrawdownTO
Gabriela Salinas
Andrea Stephens, DrawdownTO
Lisa Swainston, Ontario Council for International Cooperation
Karine Thibeault, Le groupe-conseil Baastel ltée
Diana Warme
Natalie Zend, ZENDialogue