

# A Healthy Response to Climate Change

## *Briefing & Action Plan for the ER Community*

Dr Courtney Howard, MD, CCFP-EM, Twitter: @courtghoward

Emergency Physician, NWTSSA, Yellowknives Dene Territory

Clinical Associate Professor, Cumming School of Medicine, UofC

Community Research Fellow, DahDaleh Institute for Global Health



CAPE  
Canadian Association  
of Physicians  
for the Environment

Association Canadienne  
des Médecins  
pour l'Environnement  
ACME

# Faculty/Presenter Disclosure

- ▶ Faculty: Courtney Howard
- ▶ Relationships with financial sponsors:
  - ▶ Any direct financial relationships including receipt of honoraria: Consultancy fees paid by Lancet Countdown on Health and Climate Change and CODA Change Honoraria from CMA, UBC, SFU, CFPC, SickKids, CAEP, Queens, SRCP, APEC Asia
  - ▶ Memberships on advisory boards or speakers' bureau: Board of Canadian Medical Association, Canadian Assoc of Physicians for the Environment, Global Climate and Health Alliance, WHO-Civil Society WG on Climate and Health, Steering Committee Planetary Health Alliance
  - ▶ Other: financial relationships/investments: Employee of NWT Health and Social Services

# EMERGENCY URGENCE



@courtghoward



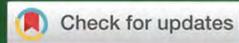
Image @courtghoward

COMMENT | [VOLUME 4, ISSUE 9, E372-E374, SEPTEMBER 01, 2020](#)

## Targeted change making for a healthy recovery

[Courtney Howard](#) 

[Open Access](#) • Published: September, 2020 • DOI: [https://doi.org/10.1016/S2542-5196\(20\)30200-X](https://doi.org/10.1016/S2542-5196(20)30200-X)

A stylized illustration of a forest landscape. The foreground is filled with various shades of green coniferous trees. In the background, a blue horizon line represents a body of water or a distant shore under a light blue sky. The overall style is clean and modern, using flat colors and simple shapes.

**ECOLOGICAL  
DETERMINANTS**



**SOCIAL & STRUCTURAL  
DETERMINANTS**

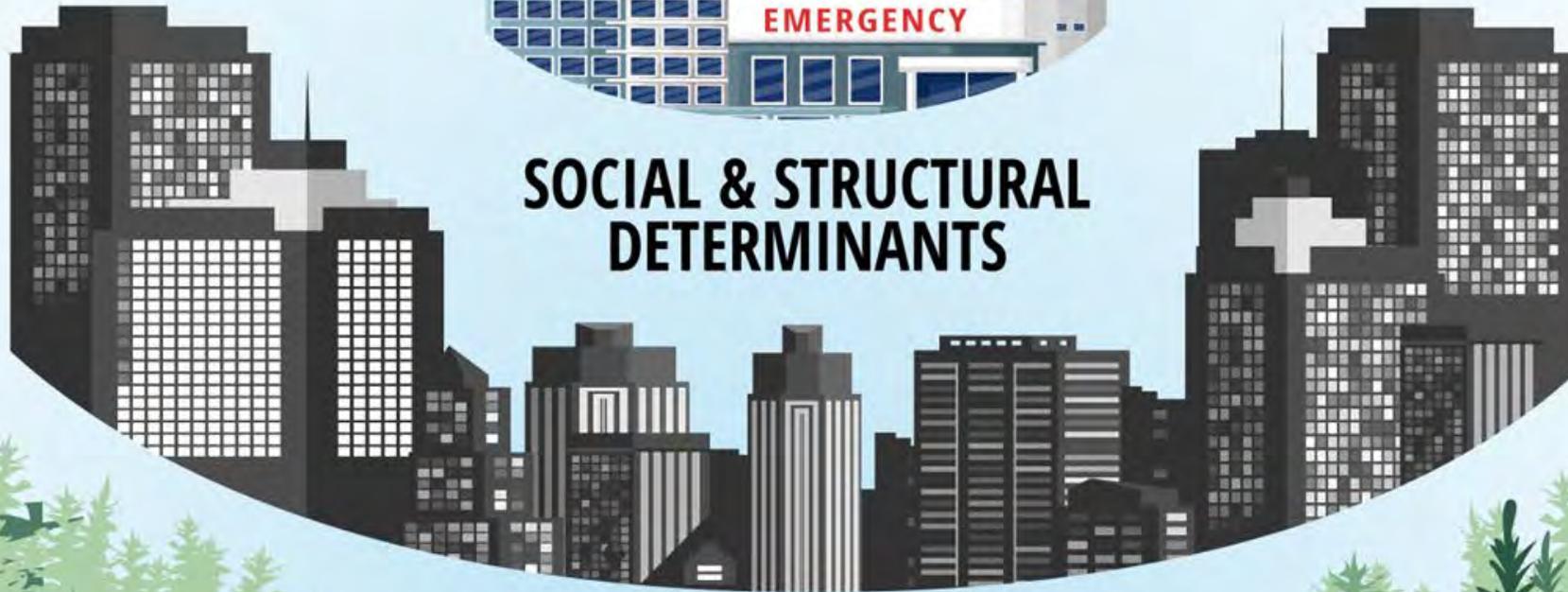
**ECOLOGICAL  
DETERMINANTS**

# HEALTHCARE

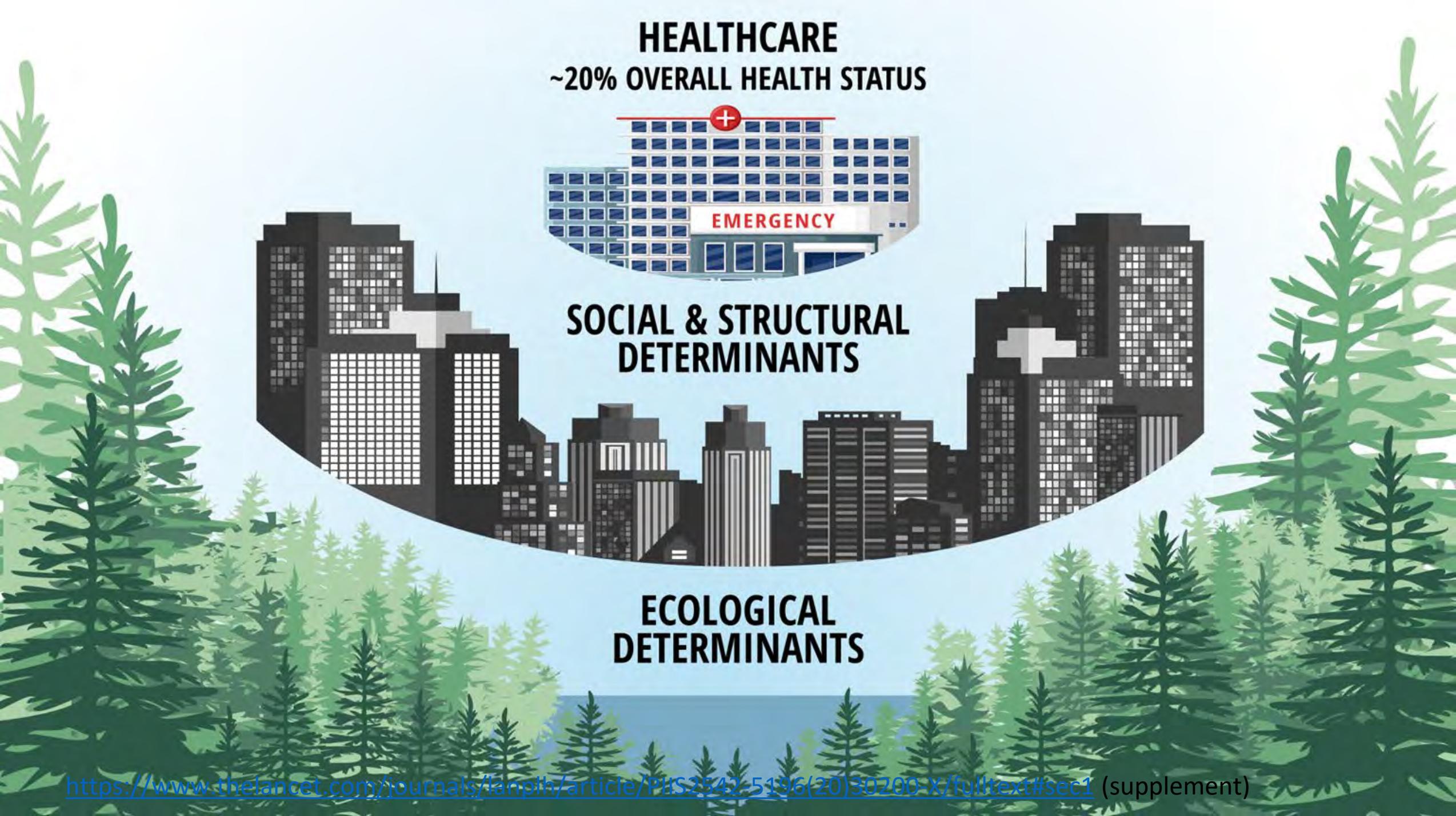
~20% OVERALL HEALTH STATUS



# SOCIAL & STRUCTURAL DETERMINANTS



# ECOLOGICAL DETERMINANTS

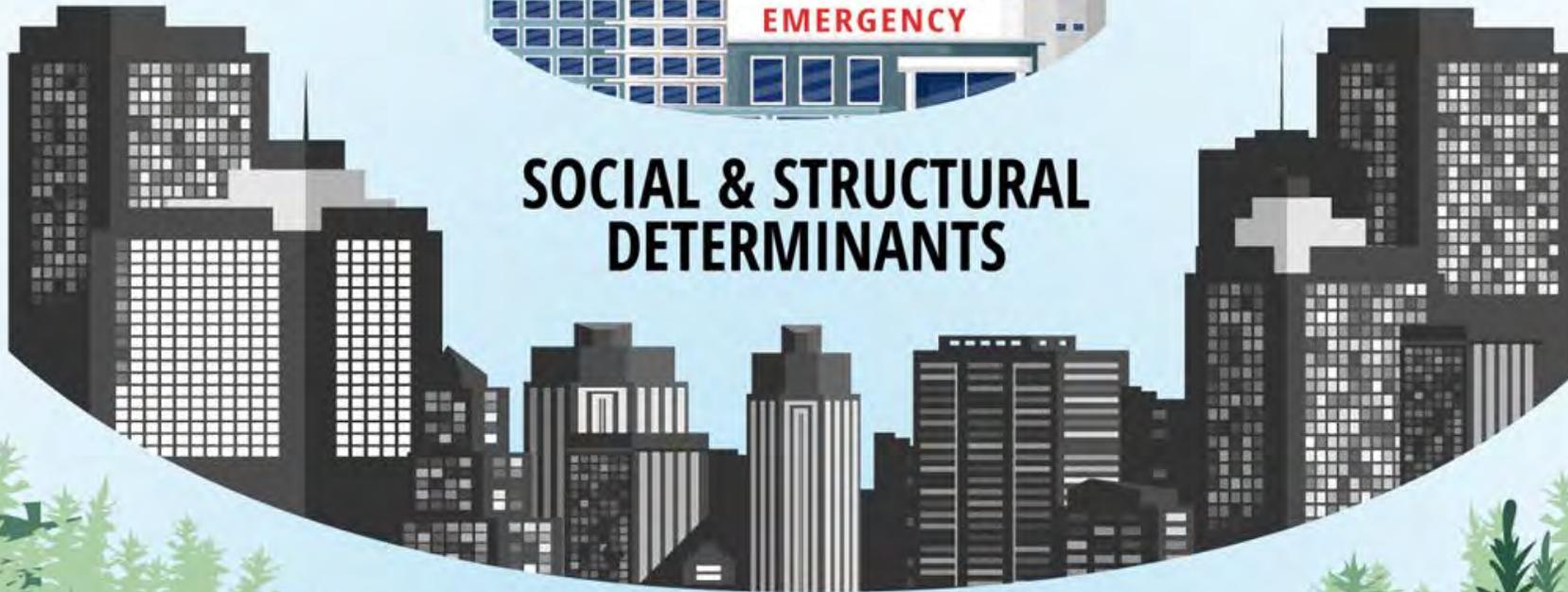


# Healthy Planet, Healthy People

**HEALTHCARE**  
~20% OVERALL HEALTH STATUS



**SOCIAL & STRUCTURAL  
DETERMINANTS**



**ECOLOGICAL  
DETERMINANTS**

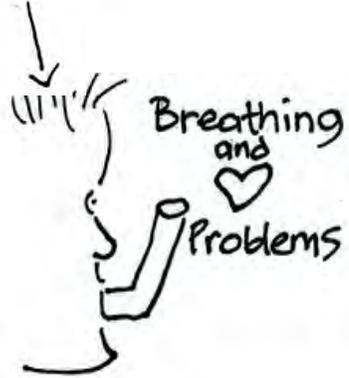
## Immediate and Direct Risks

Heatwaves



Droughts

Wild Fires



Indirect Risks Risks associated with conflict and Environmental Refugee Flows

# 2018 Quebec Heat Wave



**86**

Number of excess heat-related deaths in Quebec during the summer of 2018 - the hottest on record.



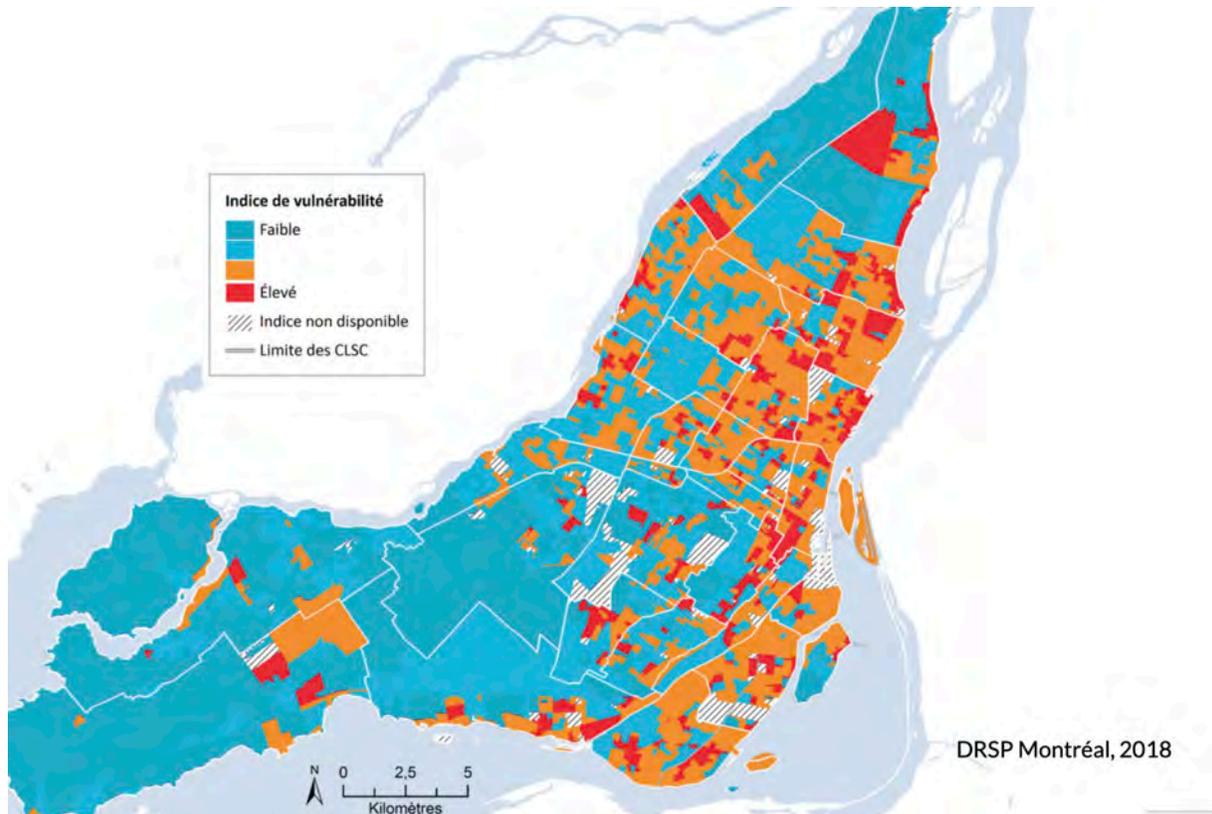
**10-15°C**

How much higher the daytime surface temperatures in urban heat islands can be compared to rural areas.

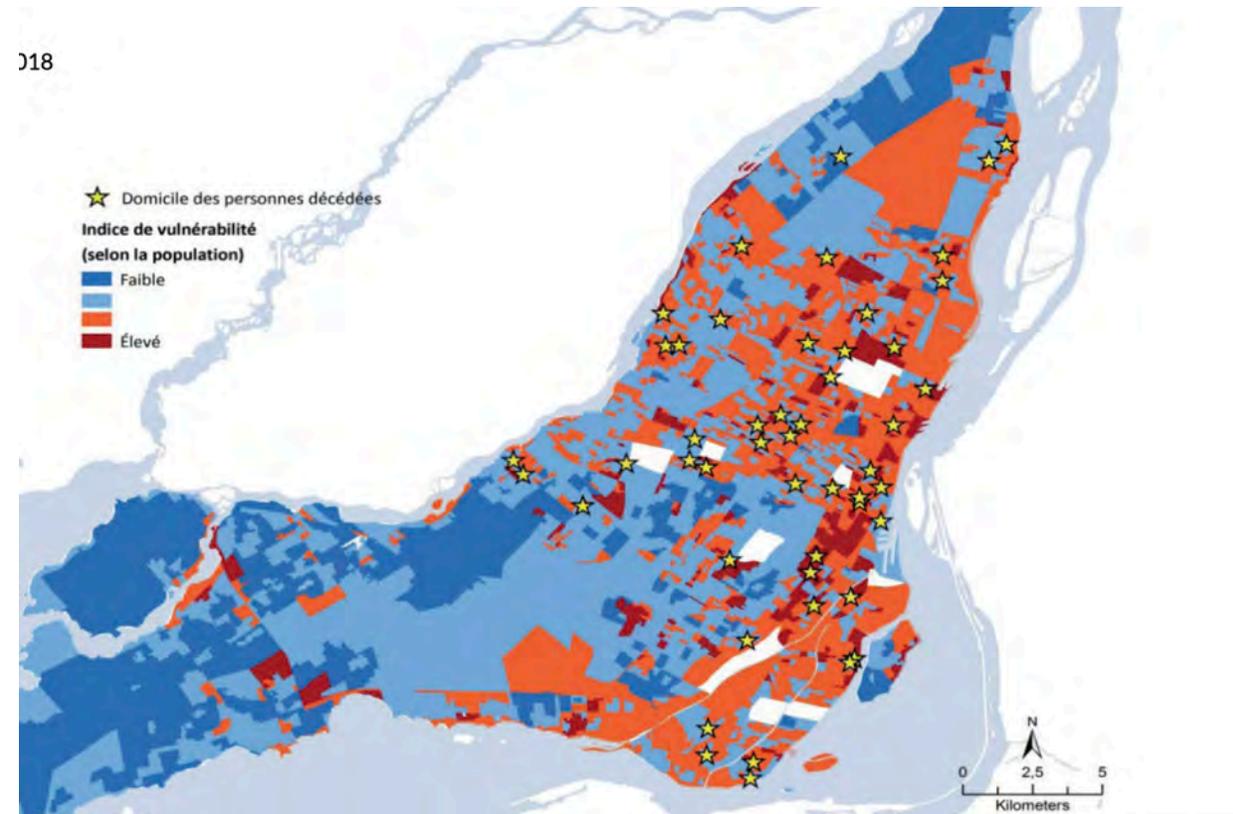


# Montreal

Vulnerability to Heat According to Urban Heat Island Characteristics



Home Address of People Who Died in the 2018 Heat Wave



# Risk

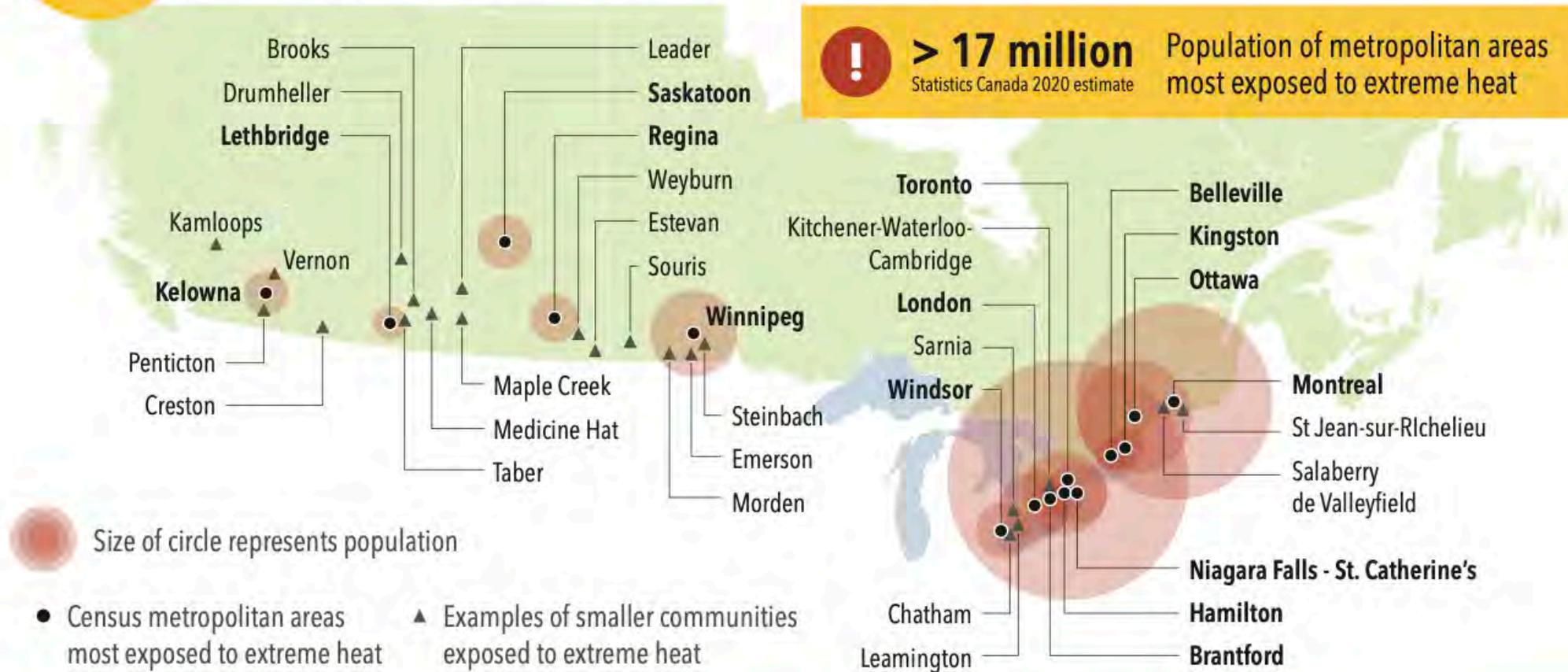
Millions of Canadians live in the metropolitan areas and smaller communities where projected extreme heat indicators are most severe (2051-2080).



**> 17 million**

Statistics Canada 2020 estimate

Population of metropolitan areas most exposed to extreme heat



# 2021 BC Heat Dome + Wildfires

## BC CORONERS SERVICE ANALYSIS OF HEAT DOME

HEAT-RELATED DEATHS JUNE 18 TO AUG 12

595



TOWN OF LYTTON BURNED: 2  
DEATHS,

[https://www2.gov.bc.ca/assets/gov/birth-adoption-death-marriage-and-divorce/deaths/coroners-service/statistical/heat\\_related\\_deaths\\_in\\_bc\\_knowledge\\_update.pdf](https://www2.gov.bc.ca/assets/gov/birth-adoption-death-marriage-and-divorce/deaths/coroners-service/statistical/heat_related_deaths_in_bc_knowledge_update.pdf)

# Heat

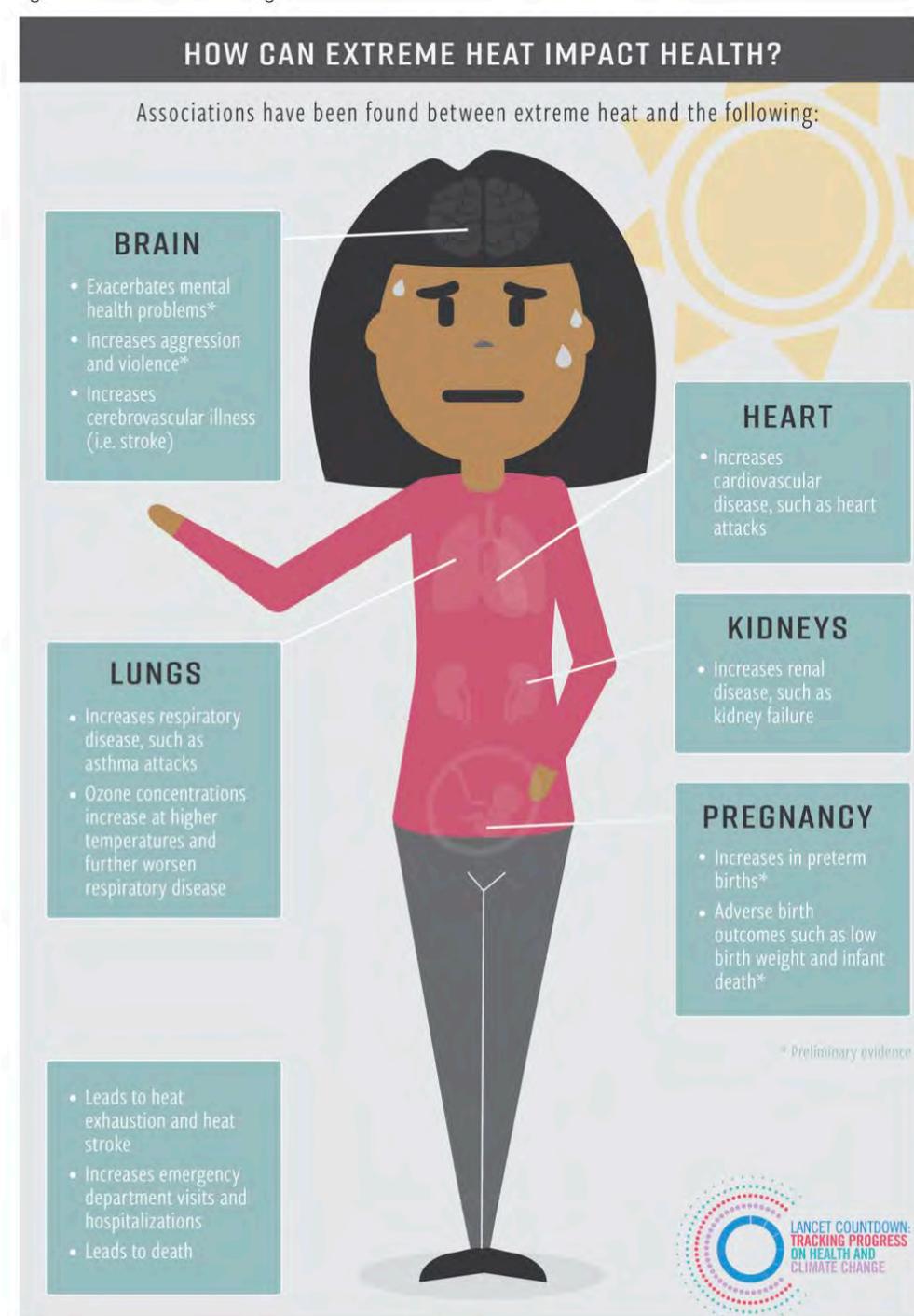
## How can heat illness be prevented?

Understand where to get local heat warnings.

Understand resources available in your community (cooling shelters, etc)

Identify vulnerable patients and educate them before summer begins as to how they can identify signs of heat illness and protect themselves.

Lancet Countdown, 2018: 2018 Lancet Countdown on Health and Climate Change Brief for the United State of America. Salas RN, Knappenberger P, Hess JJ. Lancet Countdown U.S. Brief, London, United Kingdom.



# 2014 Yellowknife: SOS-Summer of Smoke

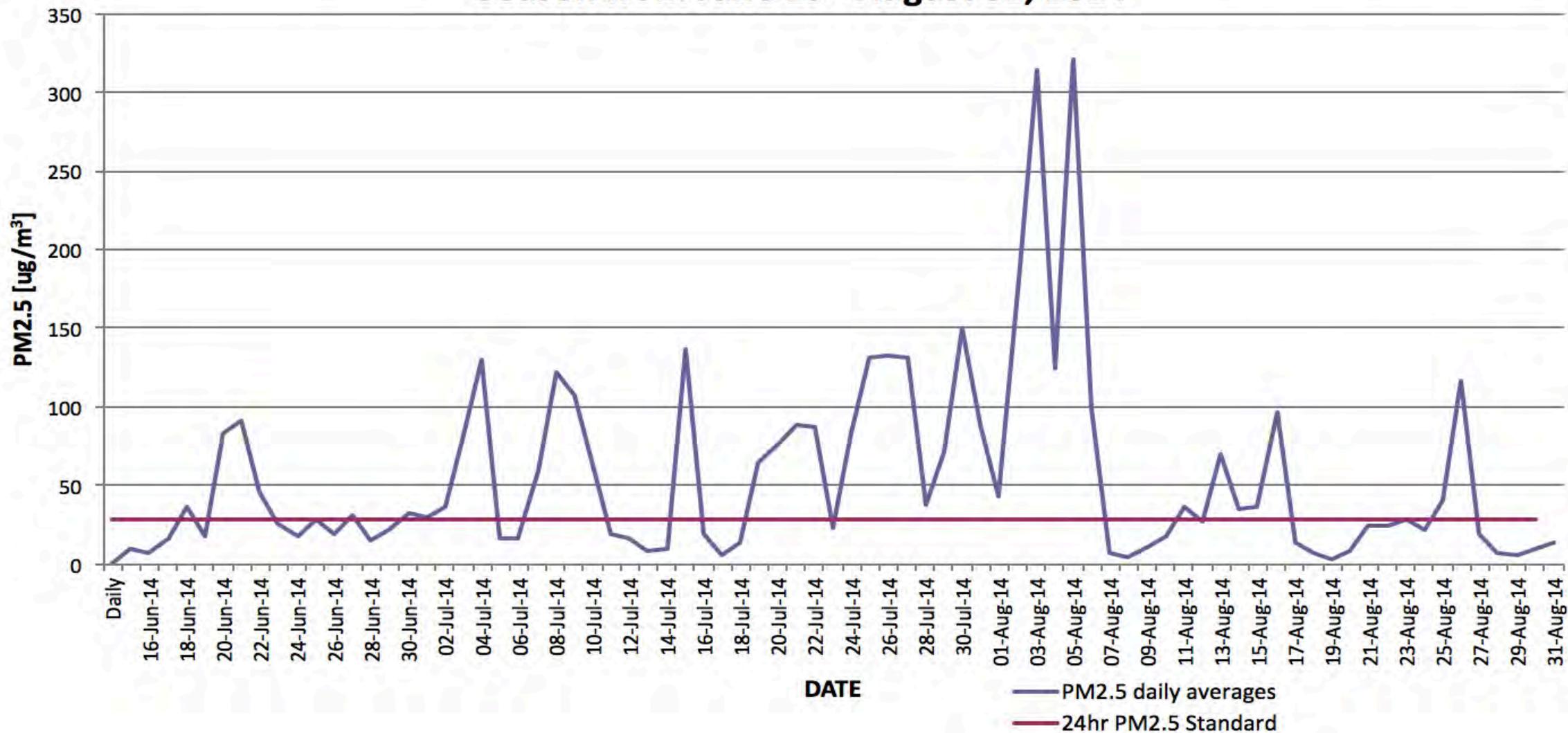
2x usual ER visits for asthma over 2.5 months<sup>1</sup>  
Separation from the land, loneliness, reduction in  
physical activity, pride at adaptation manoeuvres,  
+ ecoanxiety & ecological grief

1-<https://pubmed.ncbi.nlm.nih.gov/29981098/>

2-<https://pubmed.ncbi.nlm.nih.gov/29981098/>

• @courtghoward

## Daily Average PM2.5 Concentration in Yellowknife, NT During Wildfire Season from June 15 - August 31, 2014



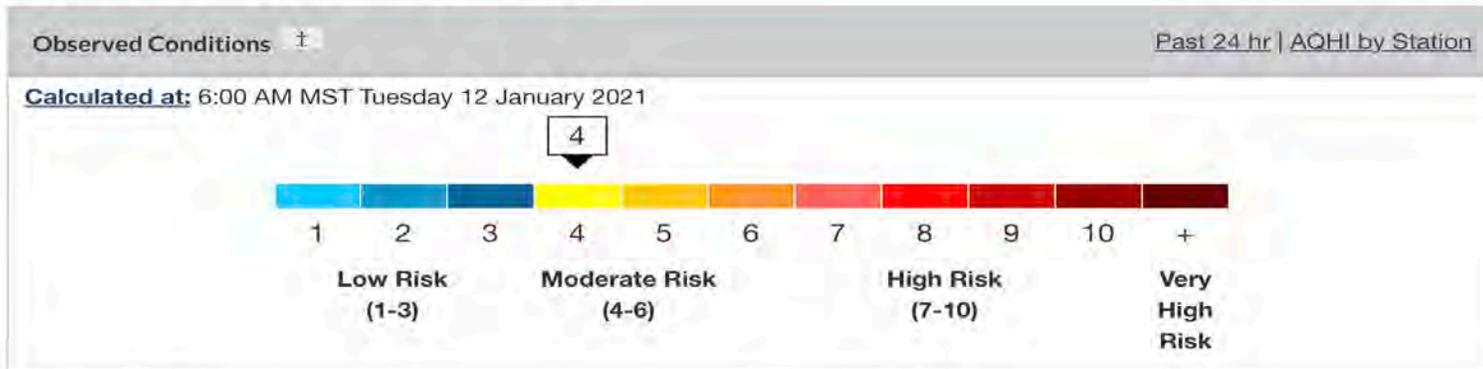
Howard C, Rose C, Dodd W, *et al*

SOS! Summer of Smoke: a retrospective cohort study examining the cardiorespiratory impacts of a severe and prolonged wildfire season in Canada's high subarctic  
*BMJ Open* 2021;**11**:e037029. doi: 10.1136/bmjopen-2020-037029

# Air Quality Health Index (AQHI):

Calculated based on levels of [nitrogen dioxide](#) (NO<sub>2</sub>), ground-level [ozone](#) (O<sub>3</sub>) and [fine particulate matter](#) (PM<sub>2.5</sub>)

## Calgary - Air Quality Health Index



### At-Risk Population:

- Consider reducing or rescheduling strenuous activities outdoors if you are experiencing symptoms.
- [Find out if you are at risk](#)

### General Population:

- No need to modify your usual outdoor activities unless you experience symptoms such as coughing and throat irritation.



# 2016-Fort McMurray Fire

>100 bed hospital + 80,000 people evacuated

\$11 Billion in losses



# Wildfires

Preparation feels good and does good:

- refill inhalers before wildfire season
- N95 masks are now recommended to reduce particulate exposure
- consider at-home HEPA air filters for vulnerable patients
- familiarize communities & healthcare facilities with evacuation plans
- create clean air shelters with recreation programming



# Floods

CNN

Weather

Climate

Storm Tracker

Wildfire Tracker

Video

Audio

Live TV



## A Canadian town is under evacuation after breakaway ice causes flooding

By Sara Smart and Alaa Elassar, CNN

Updated 7:38 PM ET, Fri May 13, 2022



Challenges for both Health and Health Systems

Socioeconomic, employment & displacement-related stressors.

Lasting anxiety and PTSD

BC



NEWFOUNDLAND

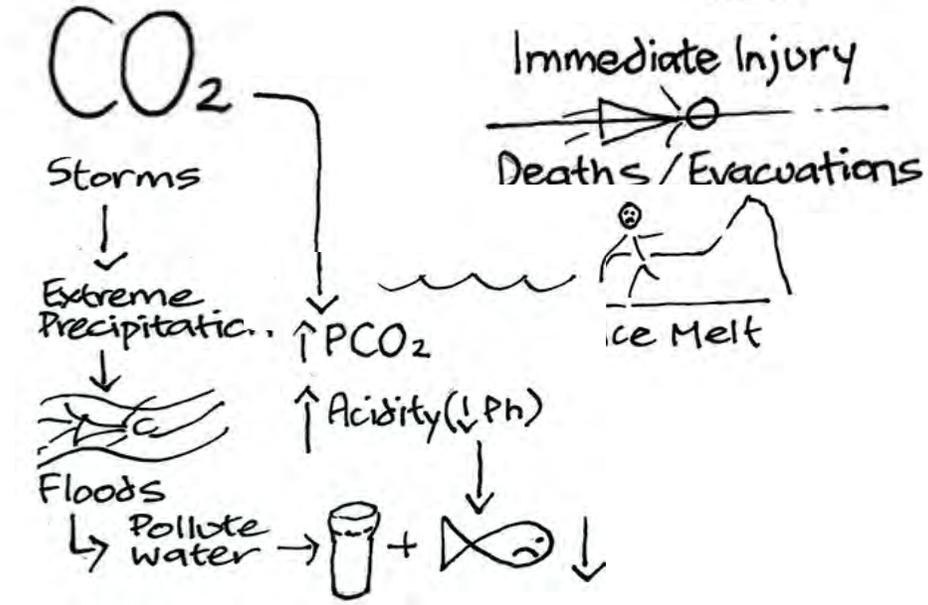
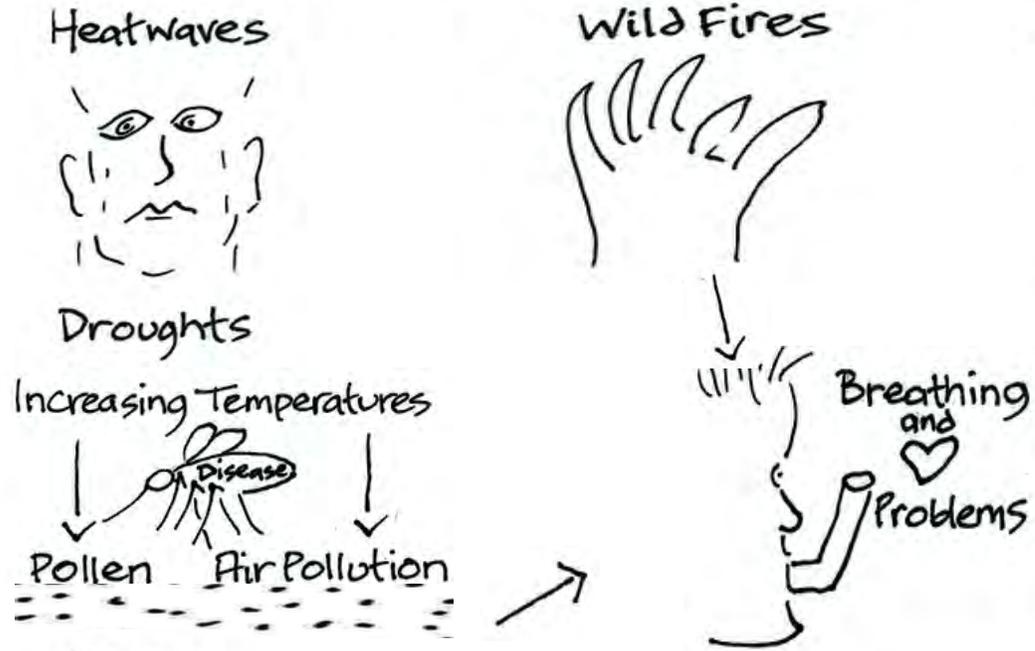


The storm hitting Newfoundland this week has washed away parts of the Trans-Canada Highway. Photo via RCMP Newfoundland and Labrador Twitter

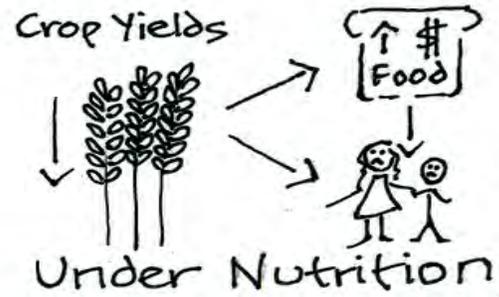
November 2021 BC and Maritime Floods  
Atmospheric Rivers → displacement & infrastructure damage

Homes sell for 8.2 per cent less after catastrophic floods [Treating Water: Impact of Catastrophic Flooding on Canada's Housing Market \(February 2022\)](#)

# Immediate and Direct Risks



# Indirect Risks Risks associated with conflict and Environmental Refugee Flows

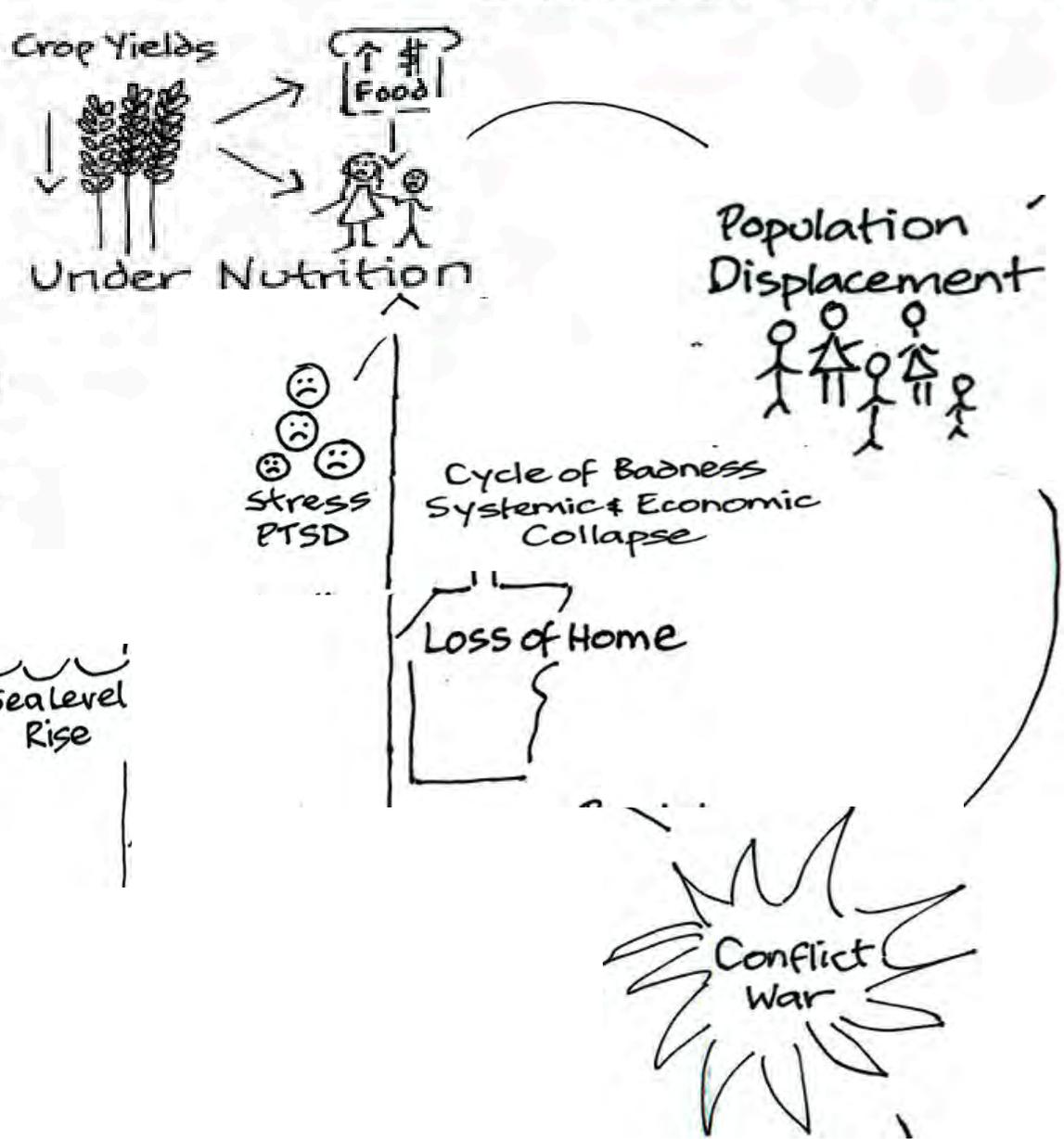
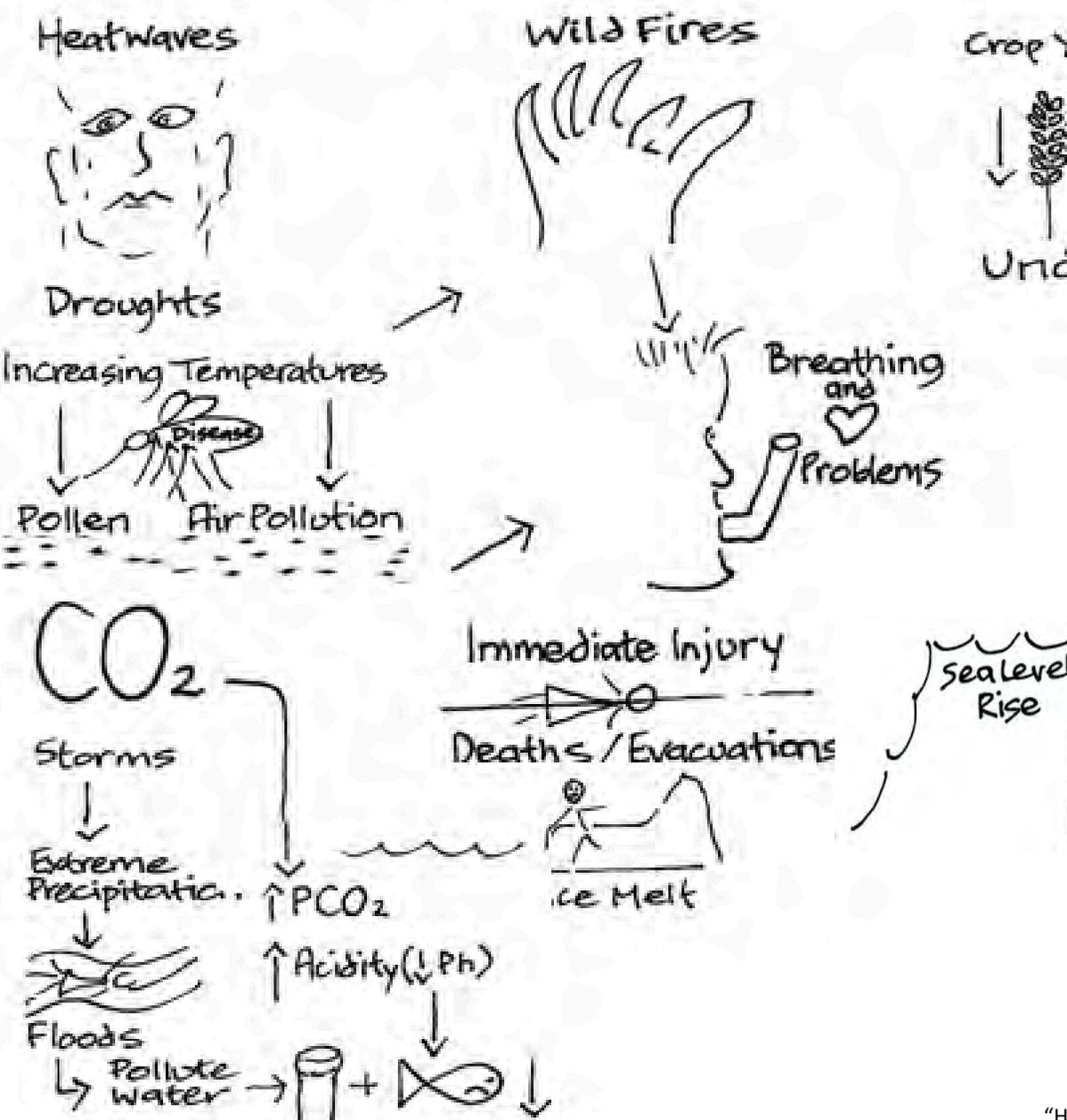




MSF Balballa Slum Pediatric Malnutrition Project, Djibouti, 2010 Photo by MSF National Staff Nurse Abdelkadir Osman Omar,

# Immediate and Direct Risks

# Indirect Risks Risks associated with conflict and Environmental Refugee Flows



A close-up photograph of a baby with light skin and blue eyes, sitting on a green lawn. The baby is smiling slightly and looking towards the camera. The background is a blurred outdoor setting with a concrete wall and some foliage.

Matias  
age 1!

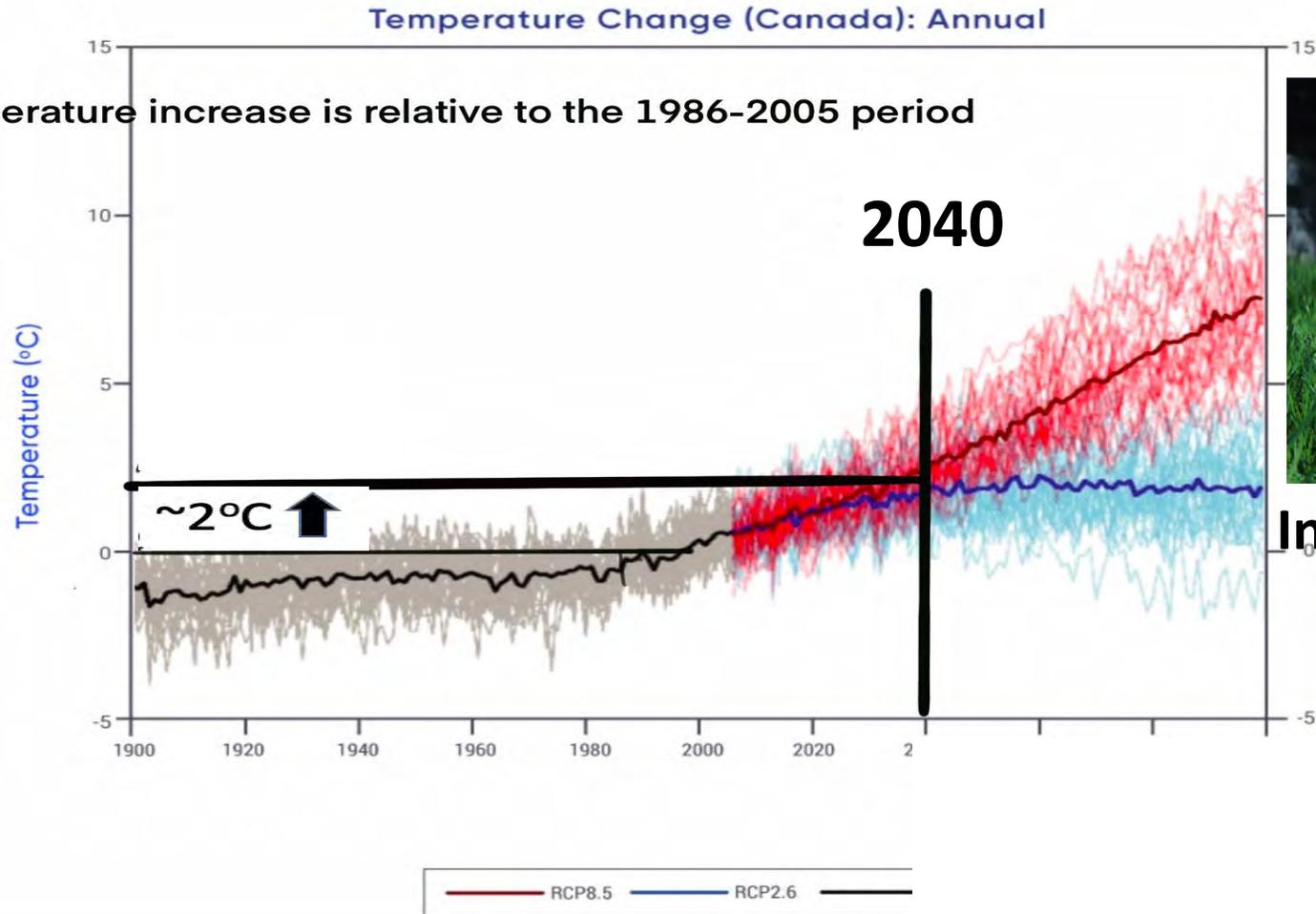
**“The life of every child born today will be profoundly affected by climate change... Without accelerated intervention, this new era will come to define the health of people at every stage of their lives.”** *Lancet Countdown on Health and Climate Change, 2019*



# A Tale of Two Potential Worlds

Projected additional temperature increase is relative to the 1986-2005 period

“Warming globally & for Canada will be similar under all plausible emission pathways over the next two decades” about 2°C warmer in Canada



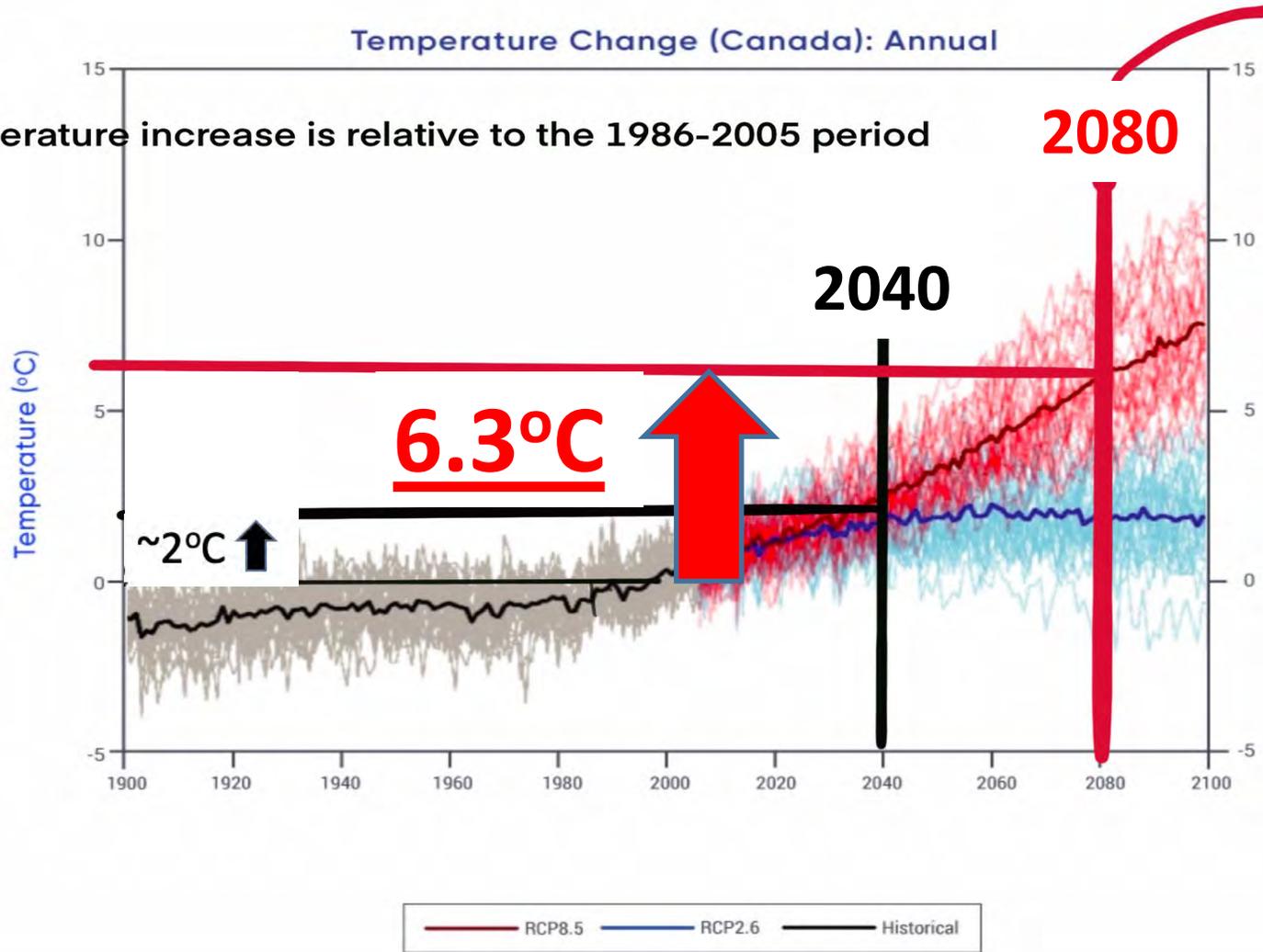
In 2040 Matias will be 22



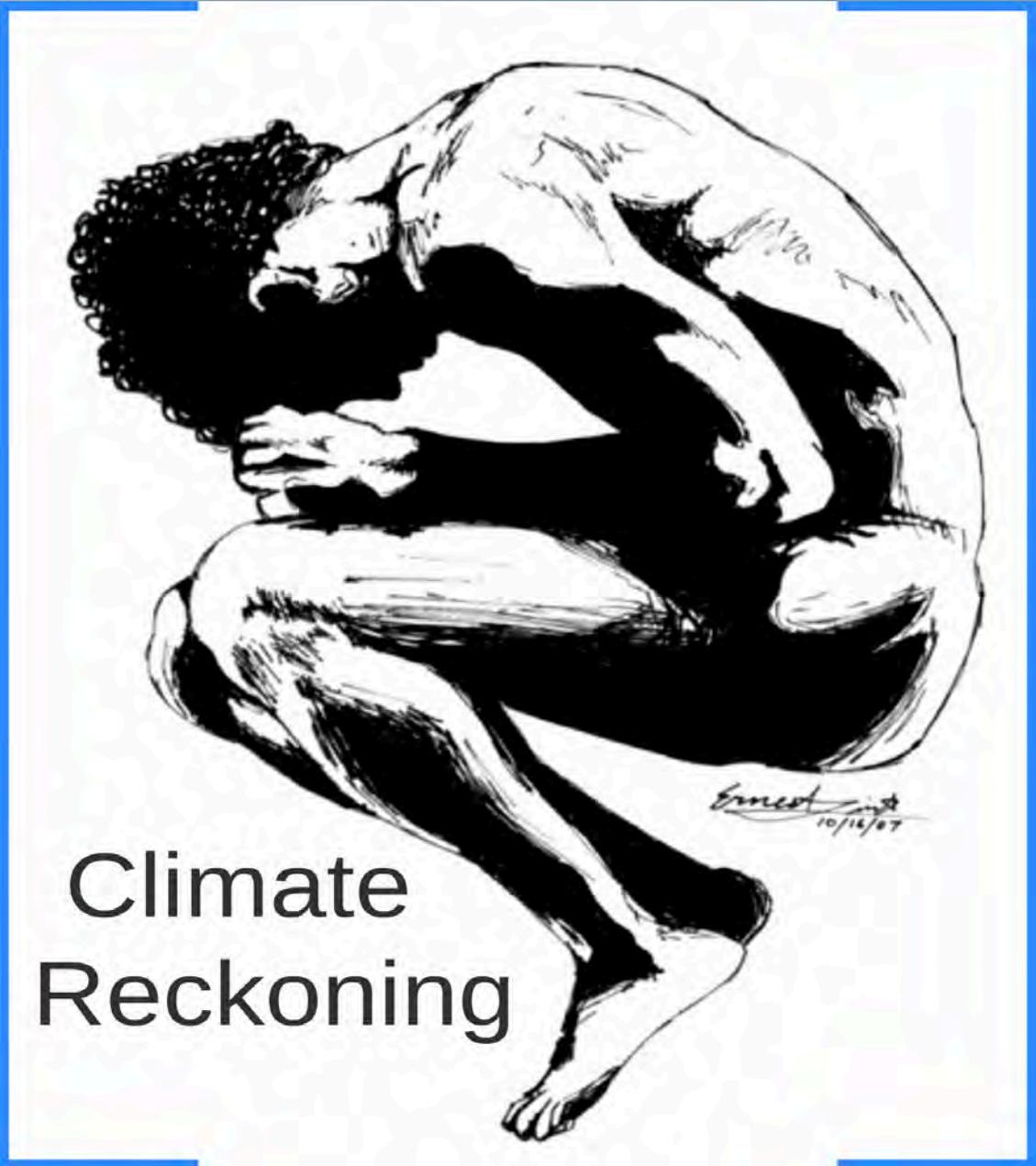
# A Tale of Two Potential Worlds

Projected additional temperature increase is relative to the 1986-2005 period

We are currently tracking along the high-emissions curve (RCP 8.5) which projects 6.3°C for 2081-2100



In 2080  
Matias will be 63



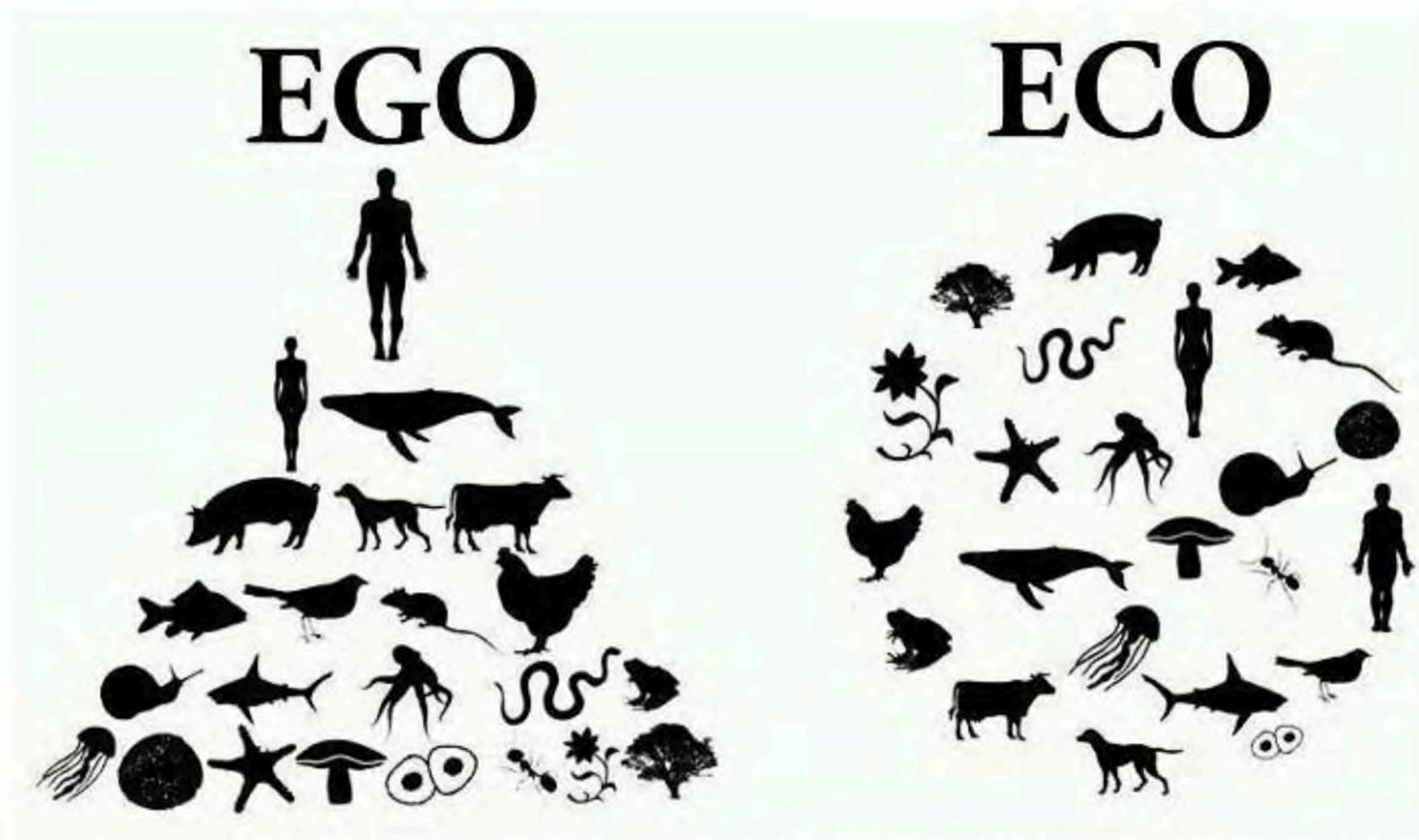
# Climate Reckoning





**Make a Plan:  
Action Alleviates Anxiety**

...and gets stuff done

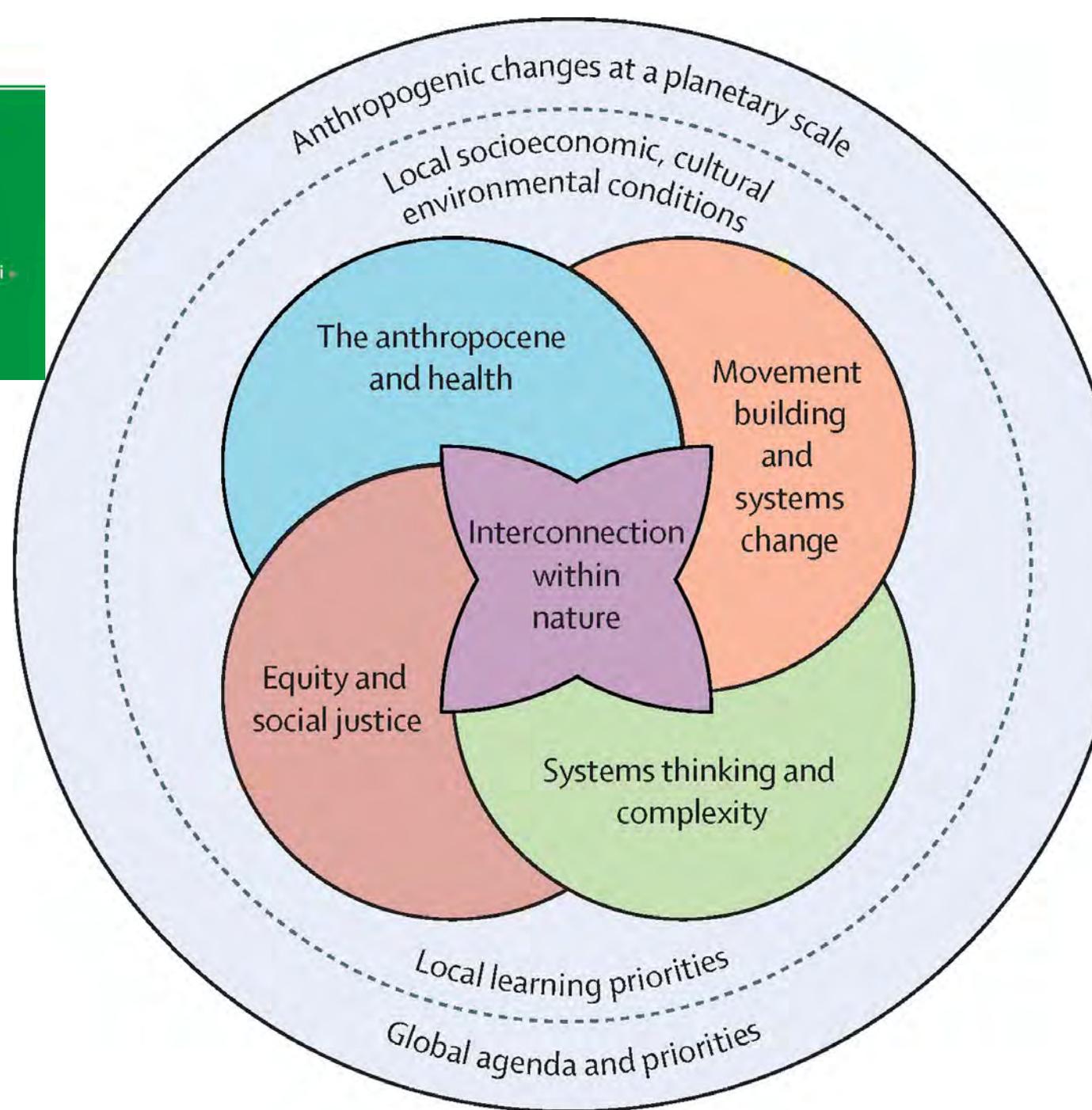


**Figure 1. Diagram 'Ego-Eco' – Humankind is part of the ecosystem, not apart from or above it.** This diagram depicts this simple fact clearly (diagram: S. Lehmann, 2010).

## A framework to guide planetary health education

Carlos A Faerron Guzmán  • A Alonso Aguirre • Barbara Astle • Enrique Barros • Brett Bayles • Moses Chimbari • et al. [Show all authors](#)

[Open Access](#) • Published: April 21, 2021 • DOI: [https://doi.org/10.1016/S2542-5196\(21\)00110-8](https://doi.org/10.1016/S2542-5196(21)00110-8)





**CAPE**  
Canadian Association  
of Physicians  
for the Environment

Association Canadienne  
des Médecins  
pour l'Environnement  
**ACME**



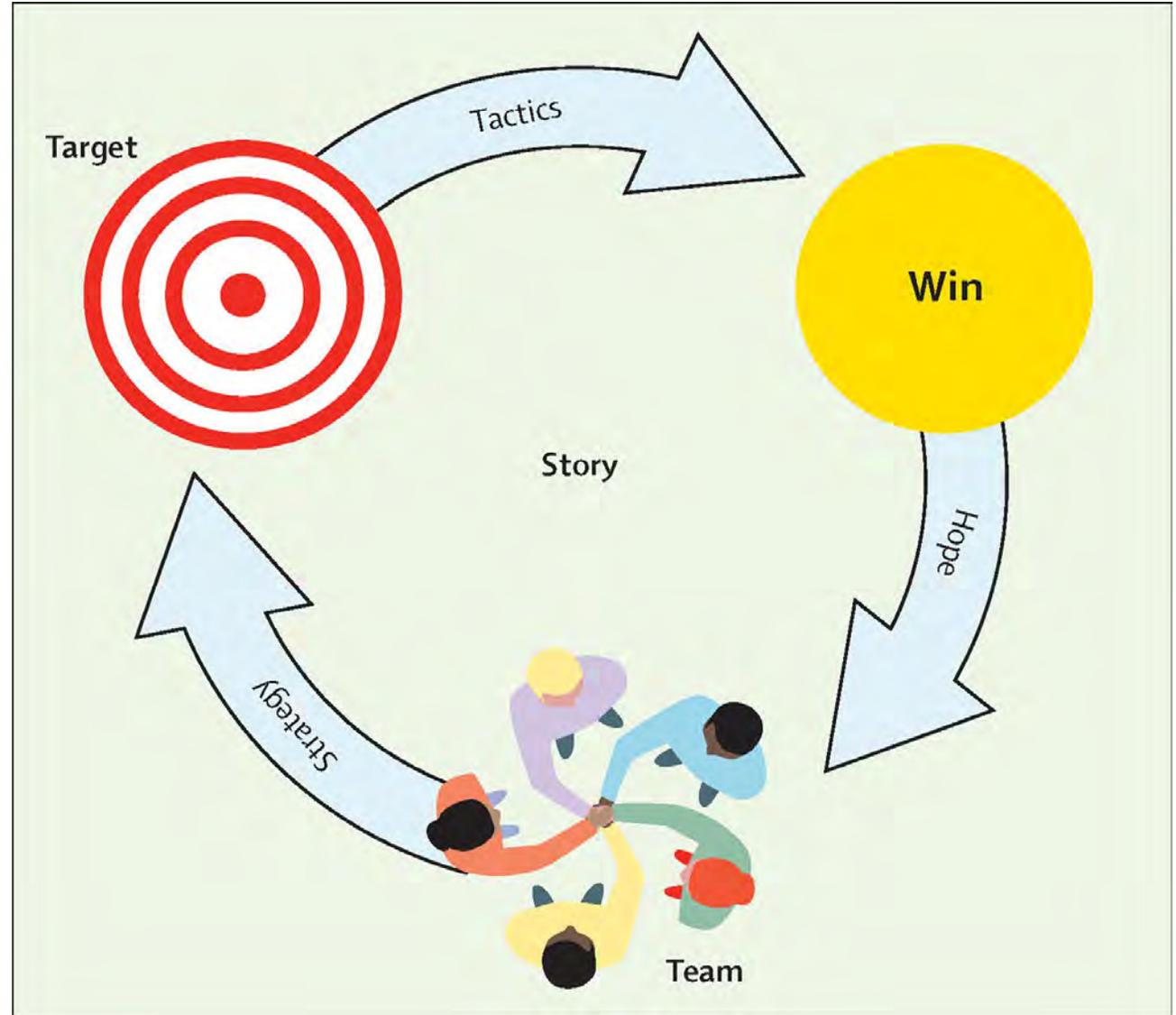
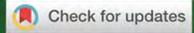
Former ED: Gideon Foreman



## Targeted change making for a healthy recovery

Courtney Howard 

Open Access • Published: September, 2020 • DOI: [https://doi.org/10.1016/S2542-5196\(20\)30200-X](https://doi.org/10.1016/S2542-5196(20)30200-X)



**time  
skill**

**macro**  
subnational/national

**meta**  
impact on systems

**ladder of engagement**

**meso**  
hospital/community

**micro**  
provider level





**Ridding Alberta of coal**

Original Air Date: Tuesday, February 04, 2014

More than half of Alberta's electricity comes from coal, but some groups are calling on the provincial government to phase it out more quickly than they currently are, saying that the health detriments have led to 4-thousand asthma episodes and nearly 100 premature deaths.

We're joined by Don Macdonald, MacEwan University; Donna Kennedy-Glans, associate minister of electricity and renewable energy; Dr. Joe Vipond, Canadian Association of Physicians for the Environment; and Don Wharton, TransAlta.

Share this story:



# Coal Phase-out:



# Ontario Alberta Canada

## 2016: Government Announces 2030 Canadian Coal-Power Phase-out

- cumulative emissions reductions of approximately 100 Mt
- CA\$3.6 billion in avoided climate-related damage
- \$1.3 billion in health and environmental benefits from air quality improvement

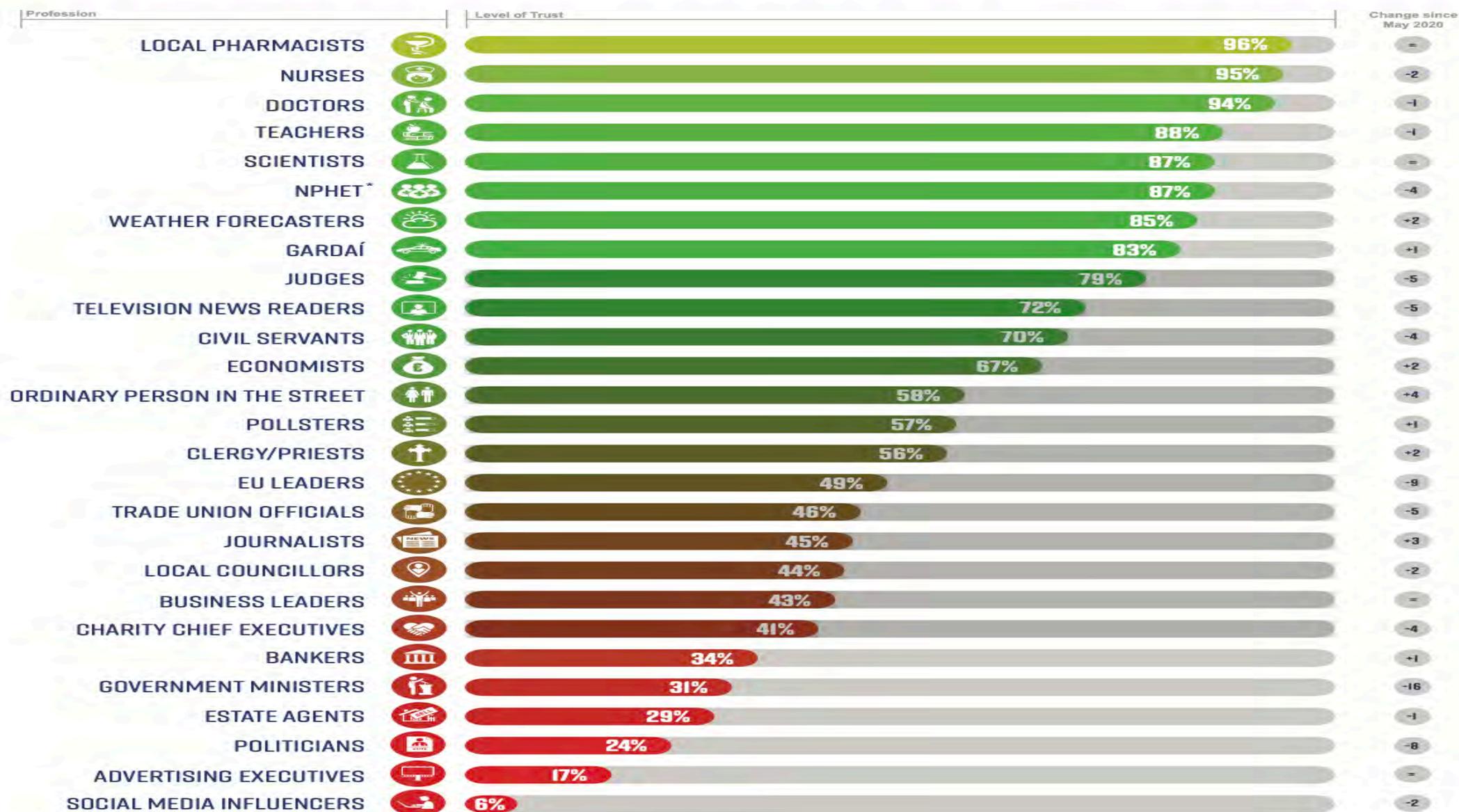
Regulatory impact analysis statement. Regulations amending the reduction of carbon dioxide emissions from coal-fired generation of electricity regulations. Feb 17, 2018.

International:  
Powering Past Coal  
Alliance  
Leveraging Human  
Competitiveness



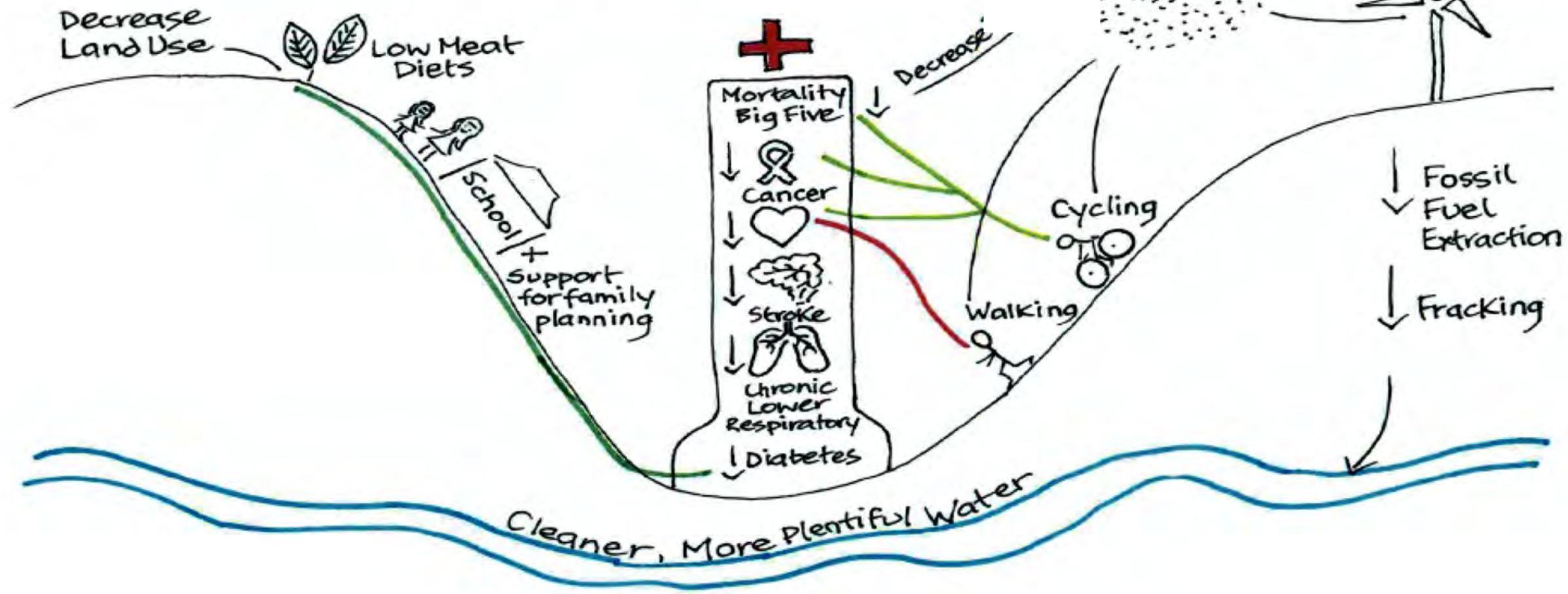
# VERACITY INDEX 2021 - WHO DO WE TRUST THE MOST?

Q. NOW I WILL READ YOU A LIST OF DIFFERENT TYPES OF PEOPLE. FOR EACH WOULD YOU TELL ME IF YOU GENERALLY TRUST THEM TO TELL THE TRUTH, OR NOT?



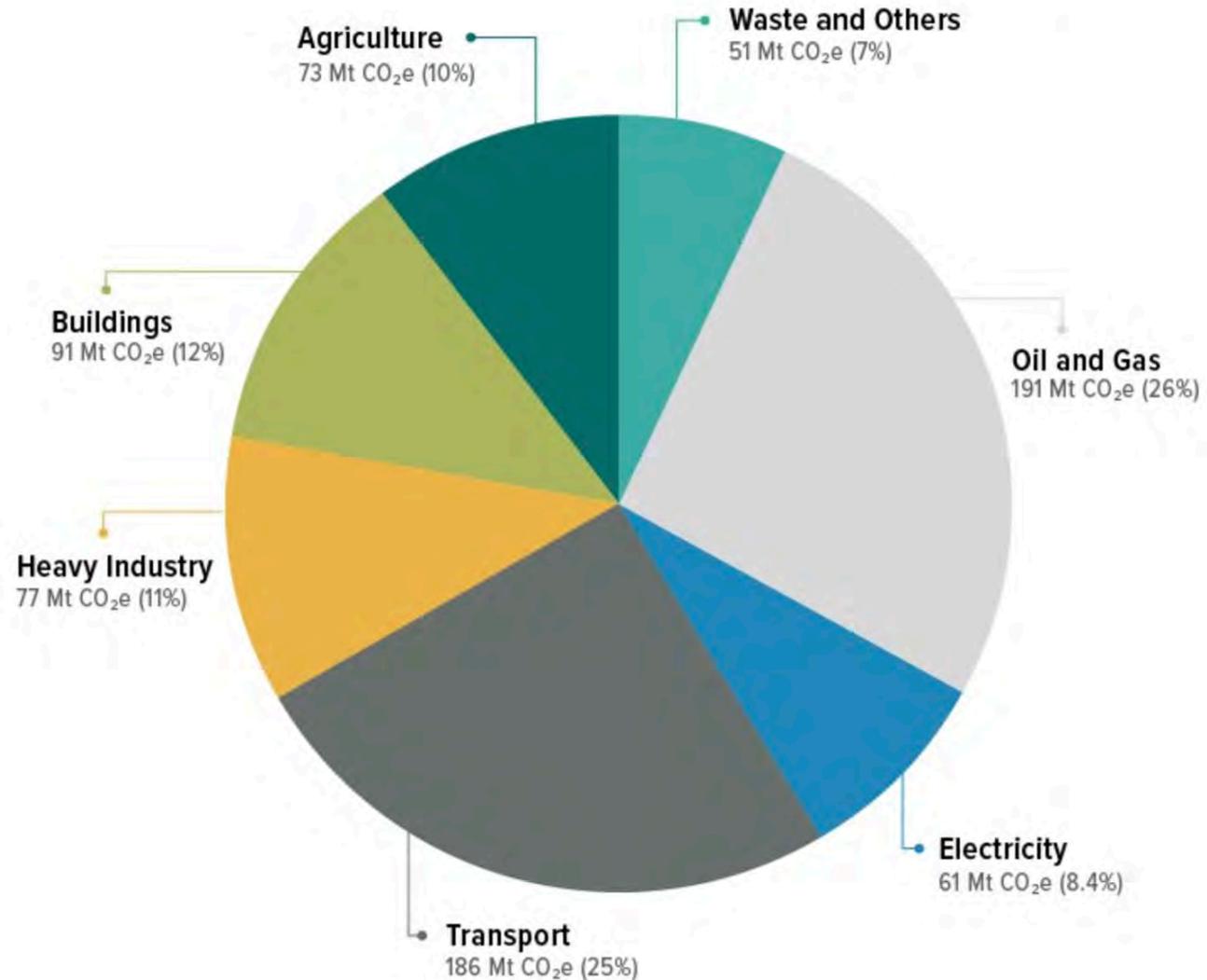
\* NATIONAL PUBLIC HEALTH EMERGENCY TEAM

↑ Health ↓ CO<sub>2</sub>



Canada:  
emissions  
reduction target of  
40-45% below  
2005 levels by  
2030.  
Net-zero  
emissions by 2050

## BREAKDOWN OF CANADA'S GREENHOUSE GAS EMISSIONS BY ECONOMIC SECTOR (2019)



# Canada

(pop 38,223,989 2021 est )

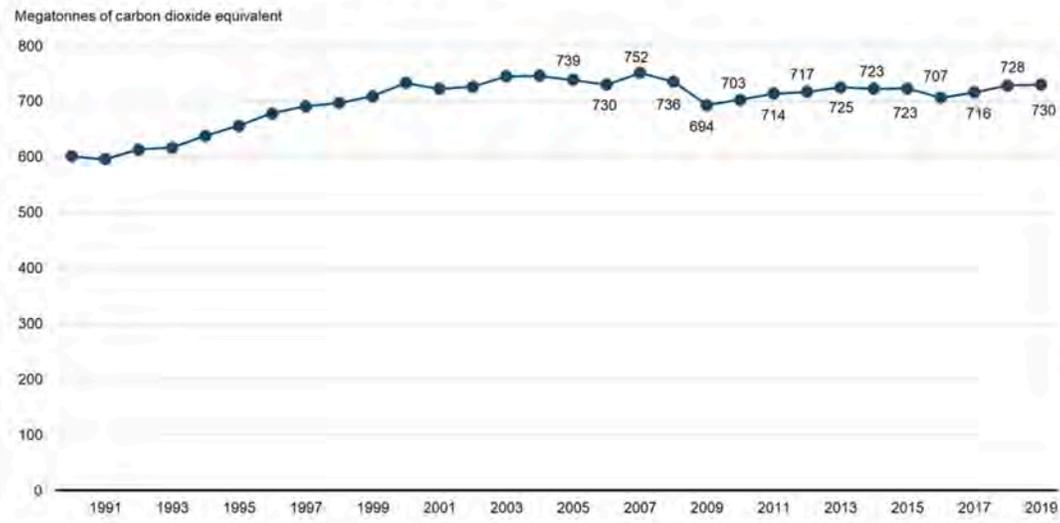
1990--2019, emissions **increased by 21.4%**, or 129 Mt CO<sub>2</sub> eq

”driven primarily by increased emissions from oil and gas extraction as well as transport.”

## Key results

- Canada's total GHG emissions in 2019 were 730 megatonnes of carbon dioxide equivalent (Mt CO<sub>2</sub> eq), a slight increase from 728 Mt CO<sub>2</sub> eq in 2018

## Greenhouse gas emissions, Canada, 1990 to 2019



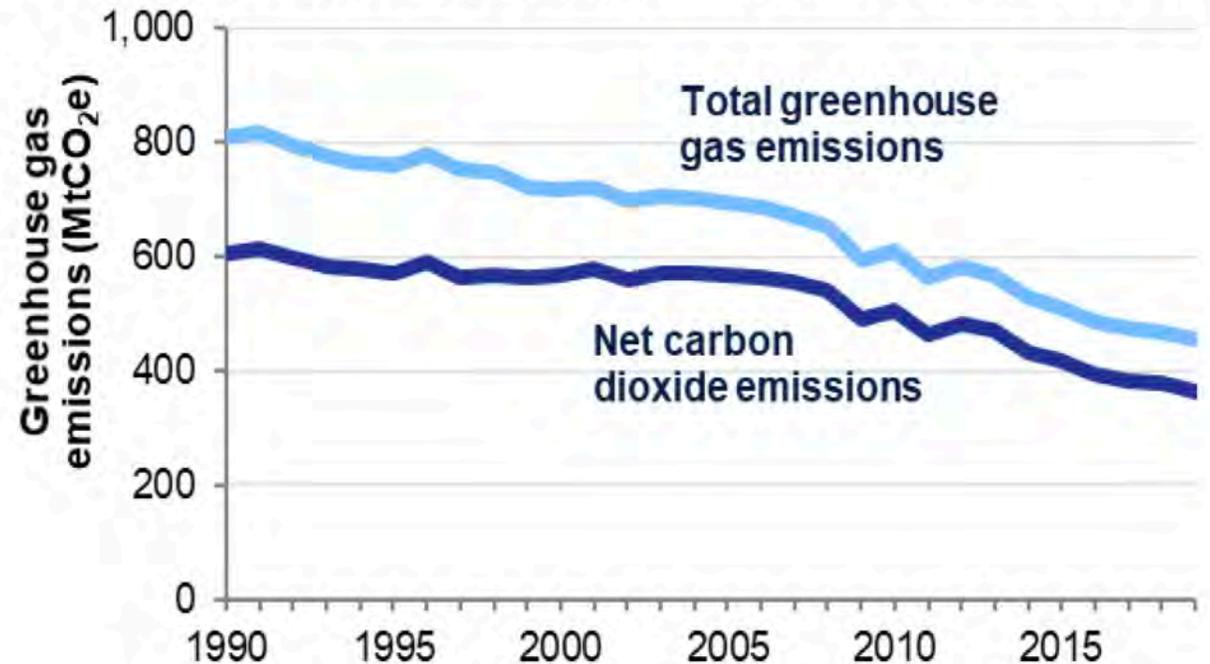
<https://www.canada.ca/en/environment-climate-change/services/climate-change/greenhouse-gas-emissions/sources-sinks-executive-summary-2021.html#toc3>

# UK

(pop: 66,796,800 mid 2019 est)

1990-2019, GHG emissions **decreased by 43.8%**

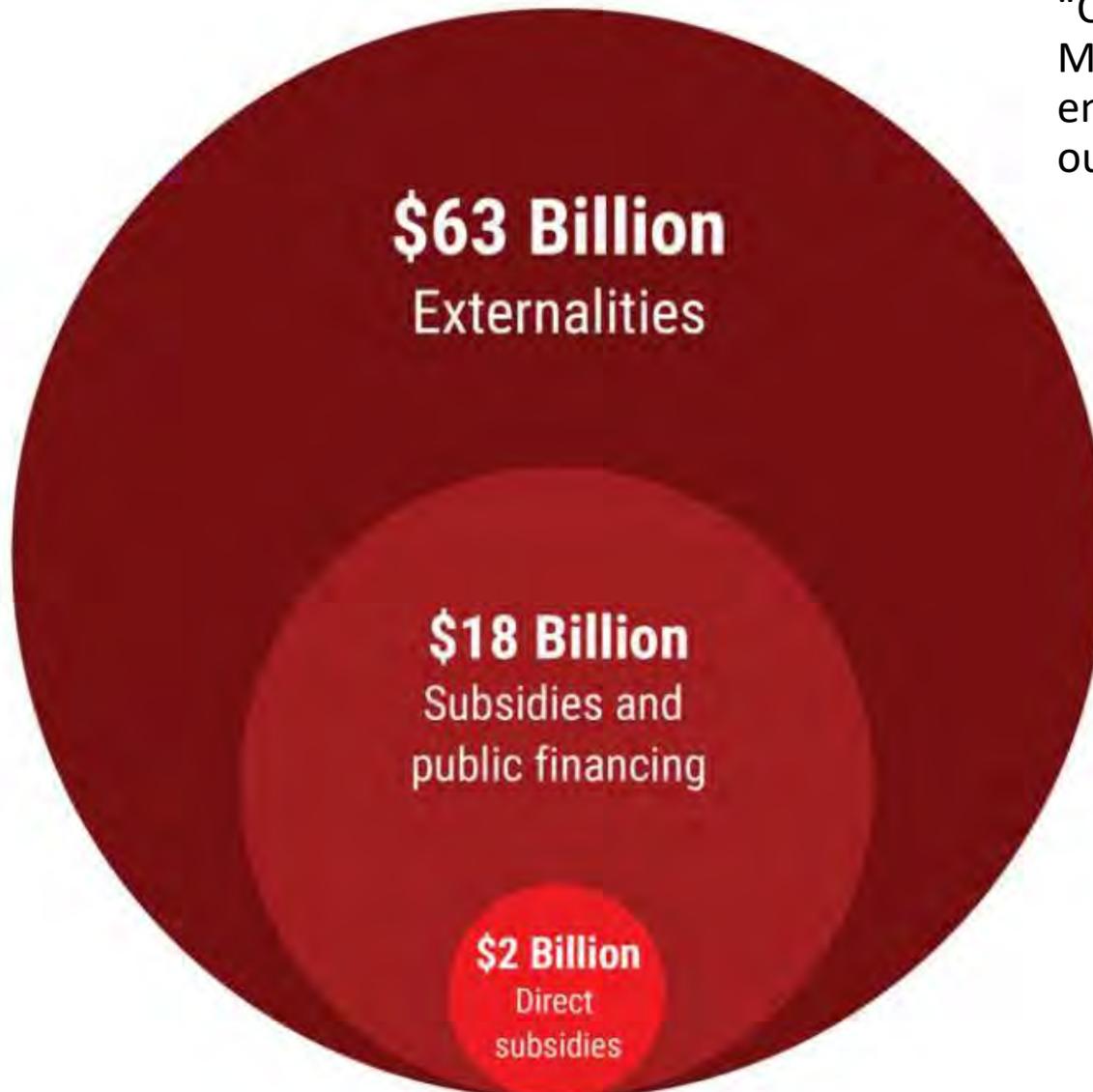
## UK territorial greenhouse gas emissions, 1990-2019



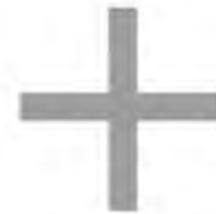
[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/957887/2019\\_Final\\_greenhouse\\_gas\\_emissions\\_statistical\\_release.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/957887/2019_Final_greenhouse_gas_emissions_statistical_release.pdf)

@courtghoward

## Figure 3. Federal support for intensifying oil and gas production



“Correcting Canada’s “one eye shut” climate policy”  
Meeting Canada’s climate commitments requires  
ending supports for, and beginning a gradual phase  
out of, oil and gas production”



Tax expenditures  
Carbon price exemptions  
Tariff exemptions  
Provincial supports  
Wage support  
and more...



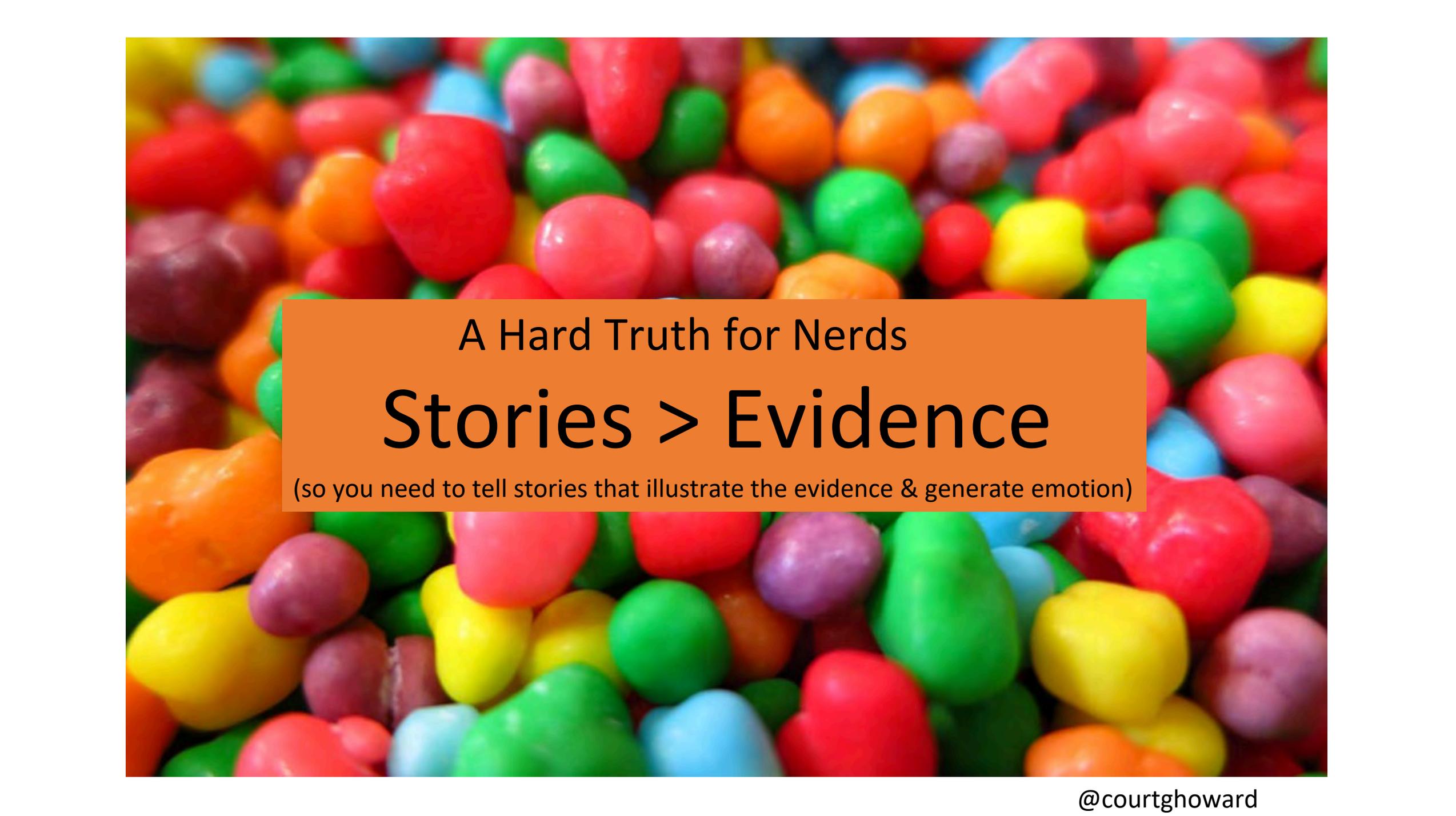
From 2011-2018:  
“Probably in part because of their significantly more modest resources, the amount of lobbying by ENGOs is much lower (about one fifth) than that of fossil fuel corporations”

The oil and gas lobby plays a dominating role in Canadian policy, obstructing supply side policy implementation. In the first year since the onset of the Covid pandemic, fossil fuel industries and associations met with government officials a total of 1,224 times, or more than 4.5 times per working day. <https://cascadeinstitute.org/technical-paper/correcting-canadas-one-eye-shut-climate-policy/>

# LIMITING



# FACTOR?



A Hard Truth for Nerds

# Stories > Evidence

(so you need to tell stories that illustrate the evidence & generate emotion)



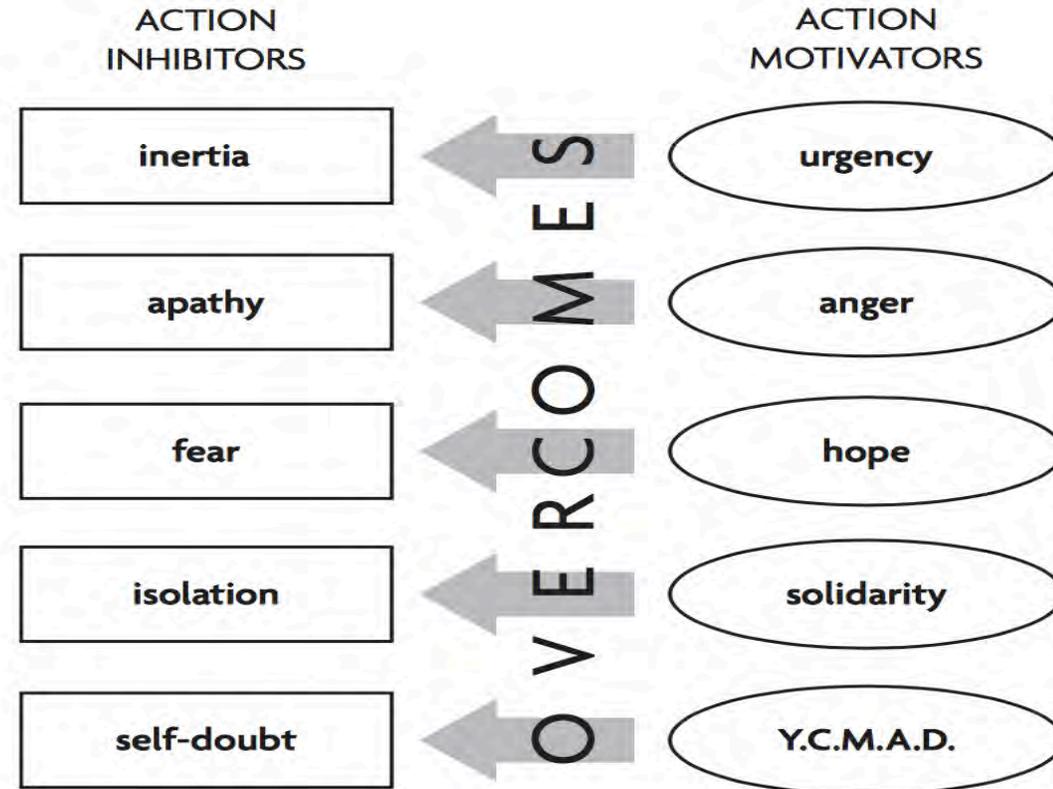
# Watts' 30:70 Rule

30% Problem: 70% Solution in Climate-health presentations



# Marshall Ganz

Figure 18.3. Motivating Action



Source: Zac Willette and the author.

Note: Y.C.M.A.D. = You Can Make A Difference.

# Include Your Story in the Story:

Audiences evaluate intent (warmth) + competence as they decide whether to trust you<sup>1</sup>



James Orbinski re Photo Shoot:  
“It’s part of the job”

1-Fiske 2014: Gaining trust as well as respect in communicating to motivated audiences about science topics

[http://www.pnas.org/content/111/Supplement\\_4/13593.full](http://www.pnas.org/content/111/Supplement_4/13593.full)

# ADAPTATION SPRINT= Providing Care Through Crisis

EMERGENCY  
URGENCE



INFRASTRUCTURE



SUPPLY CHAIN



STAFF HEALTH



LOCAL AGILITY IN  
RESPONSE TO  
EMERGING THREATS

# National Adaptation Strategy



## Key Messages and Recommendations

Climate change is already impacting health and health systems in Canada, and impacts will worsen. Canada needs to prepare and adapt in order to save lives and reduce long-term financial costs.

- 1 Establish and adequately fund a new national body with the authority to work between silos to develop a comprehensive National Climate Adaptation Strategy that includes risk assessments and adaptation planning.
- 2 Recognise that both adaptation and mitigation can save money by saving lives and improving health. Accordingly, at all governmental levels, fund, conduct and publicize cost-benefit analysis calculations for climate change policies that include quantification of health impacts in collaboration with health ministries.

## Canada's National Adaptation Strategy

### We want to hear from you

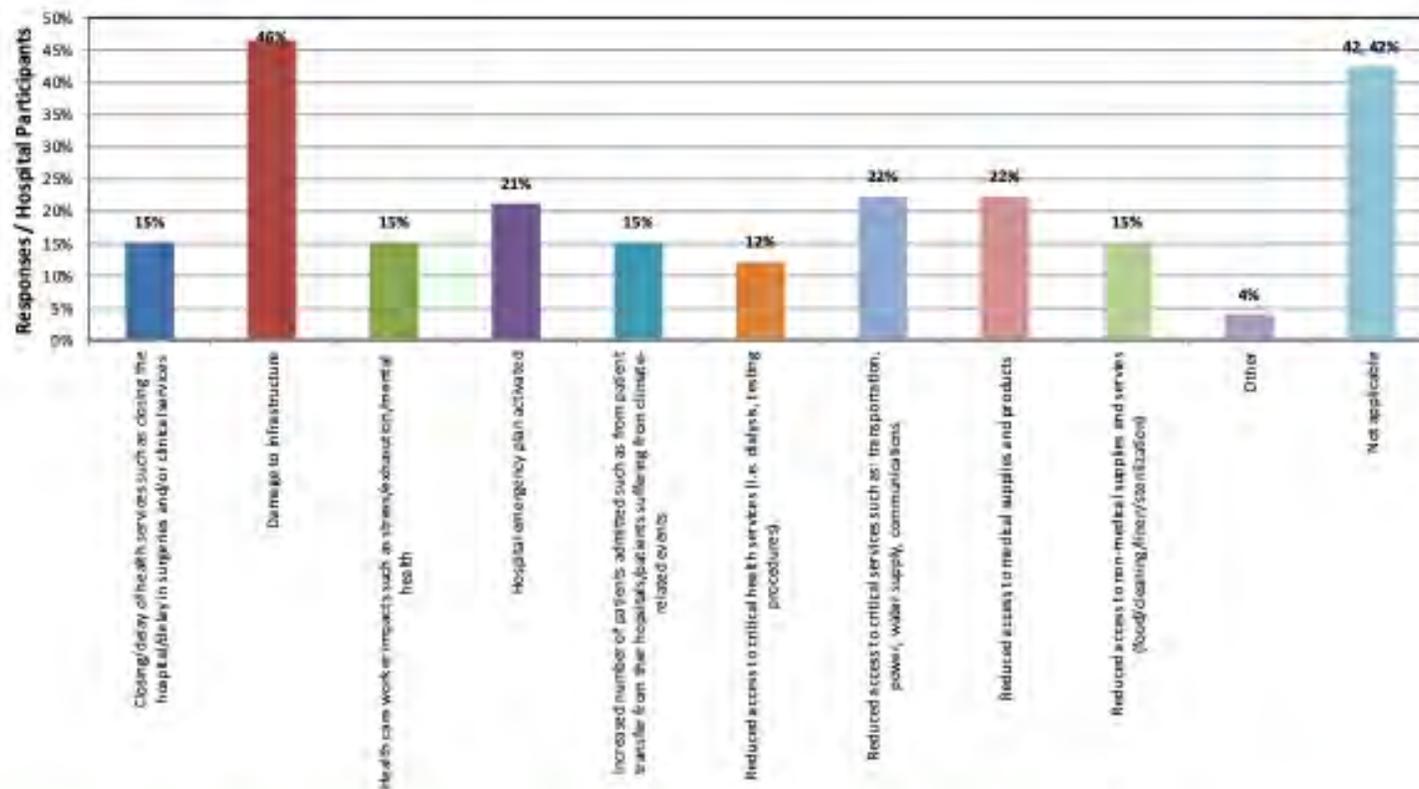
Visit [letstalkadaptation.ca](https://letstalkadaptation.ca) - the National Adaptation Strategy's interactive consultation website (online until July 15).

We want to hear your experiences with climate change impacts and your priorities for action. Your input will help to strengthen the National Adaptation Strategy and ensure that targets, milestones and actions reflect the priorities of people living in Canada. [Learn More](#).



## How Canadian HAs have been affected by climate-related events

Hospitals - 99, Responses - 229



Closing/Delay

Damage to Infrastructure

Stress/Mental Health impacts on Healthcare workers

Hospital Emergency Plan Activated

Increased Admissions Due to Climate-Related Event

Reduced access to services such as dialysis etc

Reduced access to technical services such as water, sanitation

Reduced Access to medical supplies

Reduced Access to Non-Medical Services (sterilization etc)

Source: CCGHC GHS Report, 2018



The Canadian Coalition  
for Green Health Care  
Coalition canadienne pour  
un système de santé écologique



# Talk Supply Chain to Me

[criticaldrugscoalition.ca](http://criticaldrugscoalition.ca)

HOME | End drug shortages

Supported by CAEP—got traction on many asks but not the creation of a domestic, public drug manufacturer... Which I think we likely need

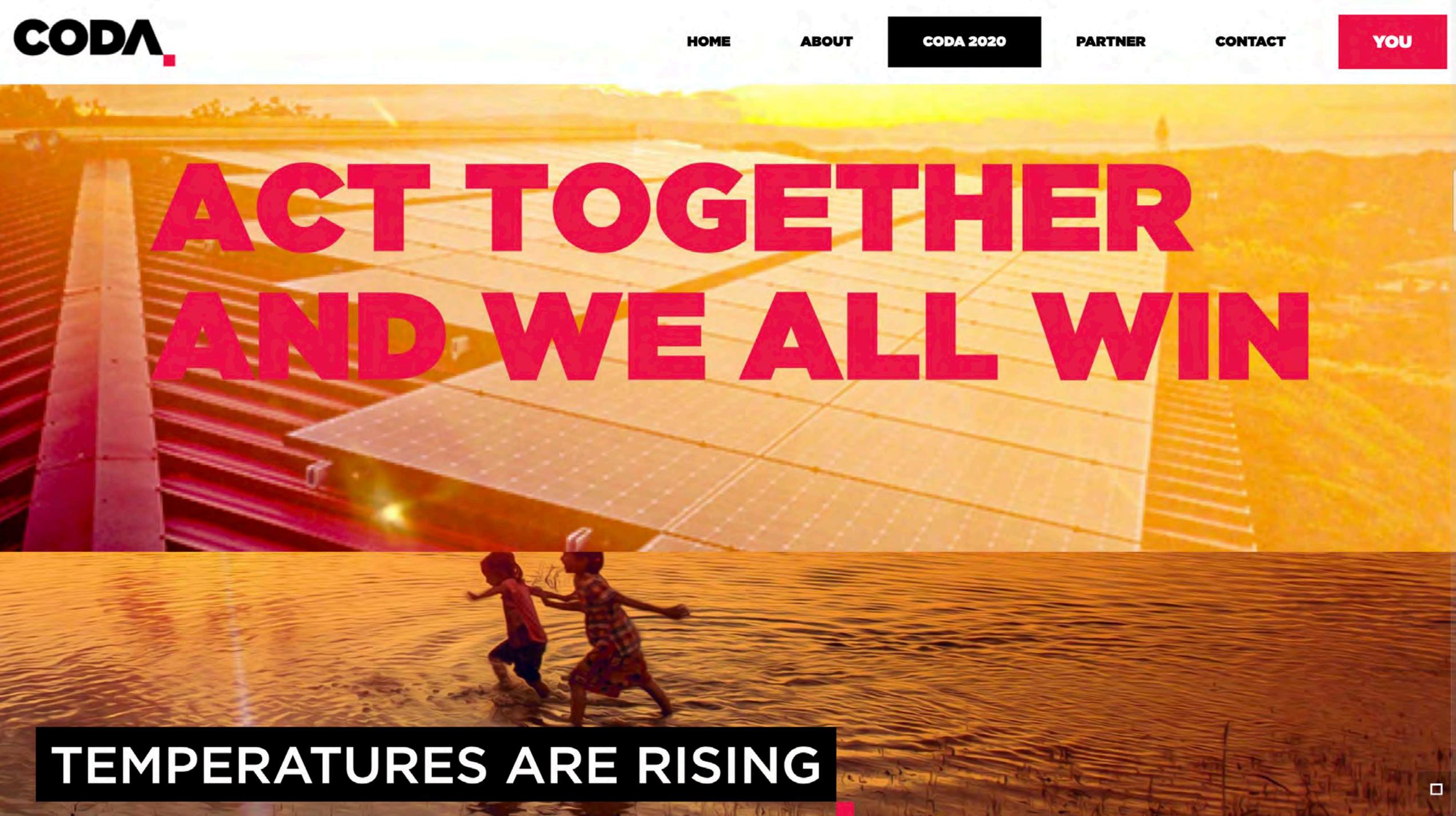
# MITIGATION SPRINT

“Achieving a decarbonized global economy and securing the public health benefits it offers is no longer primarily a technical or economic question” —Watts et al 2015

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# ACT TOGETHER AND WE ALL WIN

TEMPERATURES ARE RISING



**Social tipping intervention:** actions which can accelerate ‘contagious’ spread of new behaviors, social norms, and structural reorganizations leading to a qualitatively different social system.”



Milkoreit M. Defining tipping points for social-ecological systems scholarship—ainterdisciplinary literature review. Environ Res Lett 2018; 13(3)

1/5

(18%) of global deaths attributed to fossil fuel related air pollution.<sup>1</sup>

5%

(4.9%) of global Greenhouse Gas Emissions related to healthcare.<sup>2</sup>

10%

of Global World Product allocated by healthcare.<sup>3</sup>

1-Vohra K, Vodonos A, Schwartz J, Marais EA, Sulprizio MP, Mickley LJ. Global mortality from outdoor fine particle pollution generated by fossil fuel combustion: Results from GEOS-Chem. *Environmental research* 2021.

2-Romanello M, McGushin A, Di Napoli C, et al. The 2021 report of the Lancet Countdown on health and climate change: code red for a healthy future. *Lancet* 2021; **398**(10311): 1619-62.

3-World Health Organization. Global Spending on Health: Weathering the Storm, 2021.

More than 500 organisations representing  
46 million doctors, nurses & health workers worldwide  
have signed an open letter calling on world leaders  
to deliver on climate action.

**#ClimatePrescription**

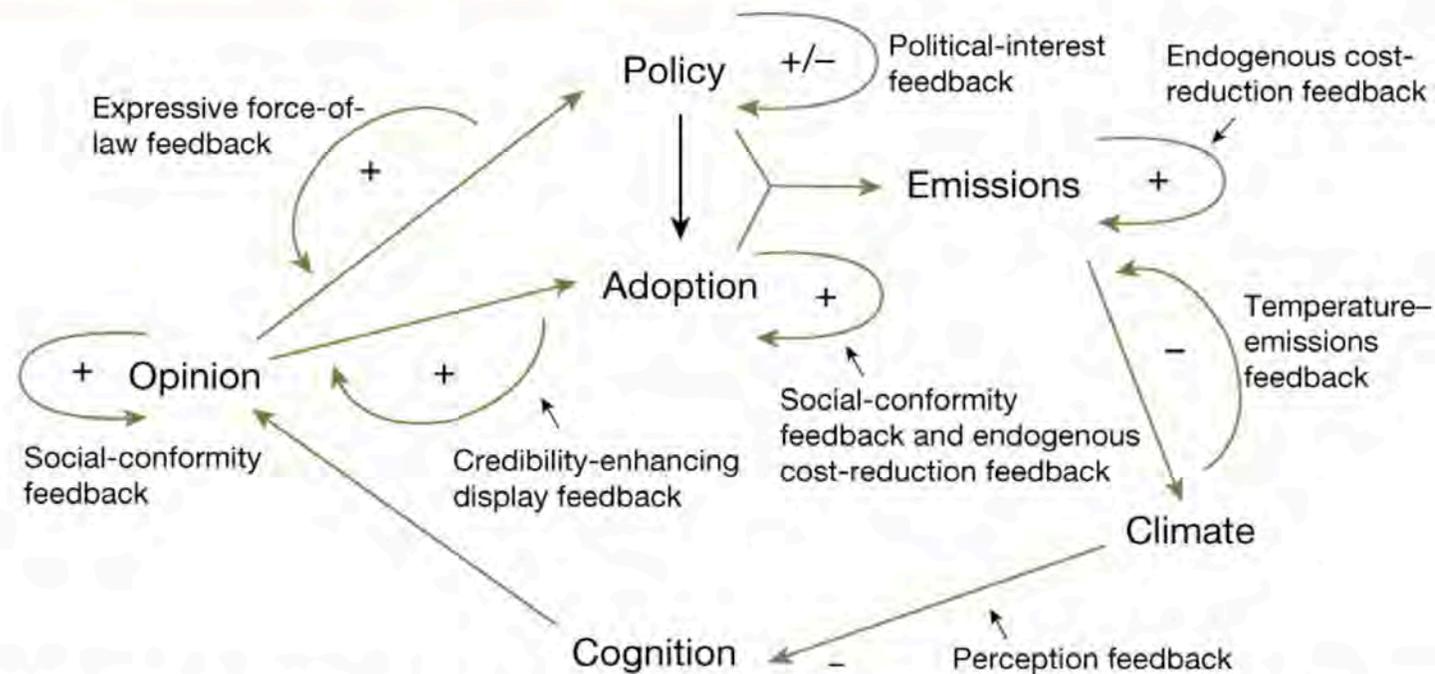
# Determinants of emissions pathways in the coupled climate–social system

[Frances C. Moore](#) , [Katherine Lacasse](#), [Katharine J. Mach](#), [Yoon Ah Shin](#), [Louis J. Gross](#) & [Brian Beckage](#)

[Nature](#) **603**, 103–111 (2022) | [Cite this article](#)

## Fig. 1: The climate–social model components and feedback processes.

From: [Determinants of emissions pathways in the coupled climate–social system](#)



Components are shown in black and the model feedback processes in green. Feedback processes are identified as positive (+) (that is, reinforcing) or negative (-) (that is, dampening). The black arrow shows a connection between components (policy-adoption effect) that is not directly part of a particular feedback process. Descriptions of the components and key parameters governing both feedback strength and component behaviour are given in Table 1.

Do Things  
Show People  
Change Norms  
Shift Policy  
Create Economies of Scale

## Life cycle environmental emissions and health damages from the Canadian healthcare system: An economic-environmental-epidemiological analysis

Matthew J. Eckelman, Jodi D. Sherman, Andrea J. MacNeill 

Published: July 31, 2018 • <https://doi.org/10.1371/journal.pmed.1002623>

33 million tonnes of carbon dioxide equivalents (CO<sub>2</sub>e)-**4.6% of the national total CO<sub>2</sub>eq**

**>200,000 tonnes of other pollutants.**

Est **23,000 disability-adjusted life years (DALYs) lost annually** from direct exposures to hazardous pollutants & from environmental changes caused by pollution



COMMENT | VOLUME 5, ISSUE 2, E66-E68, FEBRUARY 01, 2021

## Planetary health care: a framework for sustainable health systems

Andrea J MacNeill  • Forbes McGain • Jodi D Sherman

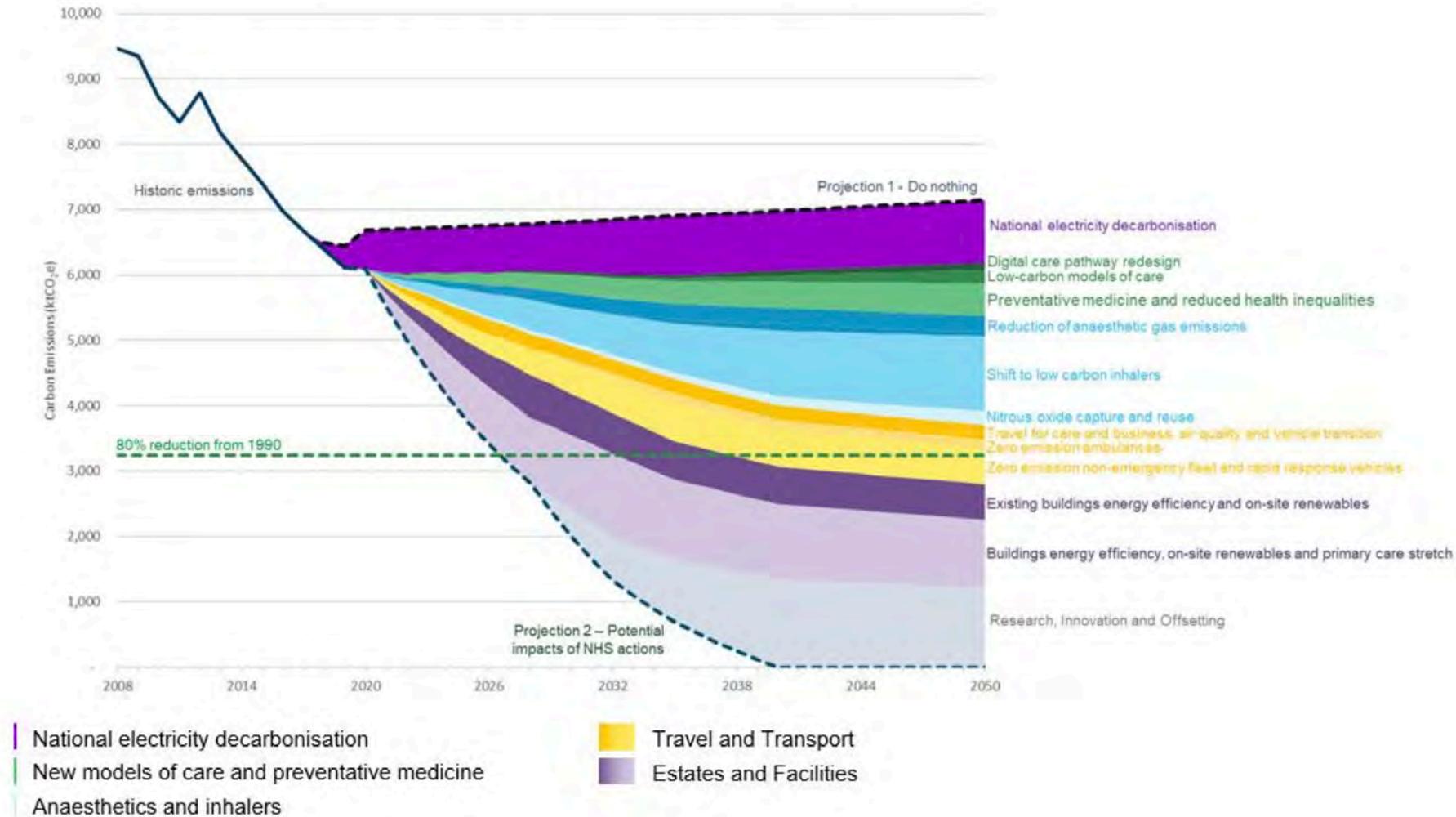
Open Access • Published: February, 2021 • DOI: [https://doi.org/10.1016/S2542-5196\(21\)00005-X](https://doi.org/10.1016/S2542-5196(21)00005-X)

 Check for updates



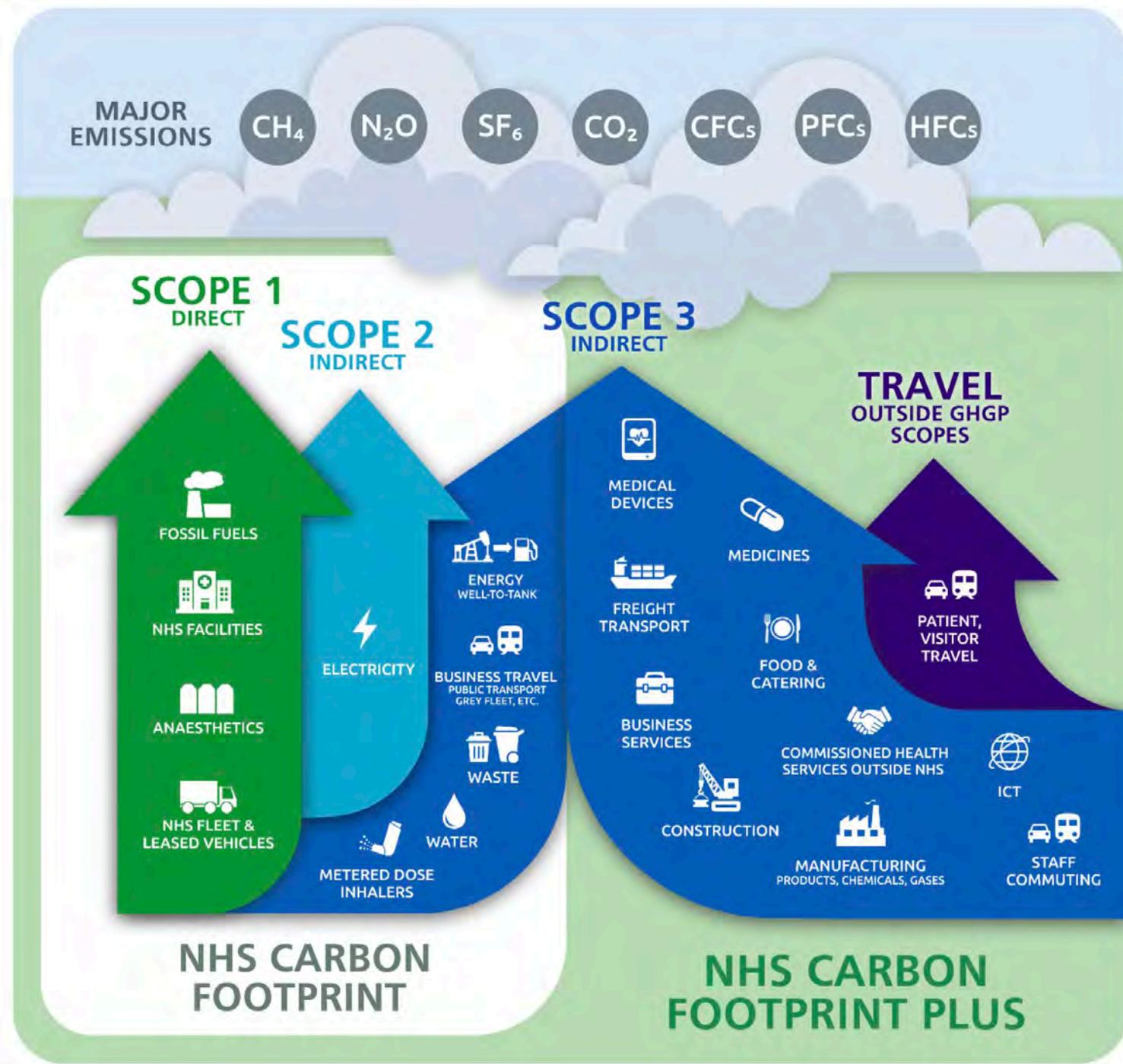
# Communicating an Overarching Plan

Figure 4: Pathway to net zero for the NHS Carbon Footprint Scope



# Net Zero by 2040

with an ambition for an 80% reduction (compared with a 1990 baseline) by 2028 to 2032



# Net Zero by 2045

with an ambition for an 80% reduction (compared with a 1990 baseline) by 2036 to 2039

# Healthier future inspires major NHS suppliers to step-up net zero ambitions

📅 5 November 2021 👤 [Dr Nick Watts](#)

A greener NHS

**As negotiators gather for the United Nations global climate change summit, [COP26](#), an international group of leaders from some of the NHS's largest suppliers have come together to pledge their support for a greener NHS, in recognition of the unequivocal threat to health presented by climate change.**

Left unabated, climate change will disrupt care, with poor environmental health contributing to major illnesses, such as asthma, heart disease and cancer.

The group, including the Chief Executives of Unilever, GSK, AstraZeneca, Biogen, BT Group, Novo Nordisk, Microsoft, Smith and Nephew, Medtronic, and Elis, as well as Apple Vice President for Environment, Policy and Social Initiatives, have committed to reaching net zero emissions by 2045 or earlier across scopes 1, 2, and 3. Their support has been driven by the desire to improve health now and for generations to come.

# Building early wins into your plan



# Leveraging Human Competitiveness & Shifting Norms



**Steven Guilbeault** ✓  
@s\_guilbeault

Canada has signed onto the [@WHO #COP26](#) initiative on resilient, low-carbon health systems. [#climatechange](#) poses significant public health risks & decarbonizing our healthcare systems is an important step on the path to net-zero.

[@jyduclos](#) [@courtghoward](#)

4:06 PM · Nov 9, 2021 · Twitter for iPhone

57 Retweets 19 Quote Tweets 244 Likes

[Reply](#)

**Stephen Cornish** ✓ @Stephen\_Cornish · Nov 10, 2021  
Replying to [@s\\_guilbeault](#) [@WHO](#) and 2 others  
Credit where due! Pleased to see 🇨🇦 join the pledge to decarbonize the Health sector!

[Reply](#)

**Yipeng Ge** 葛义朋 @yipengGe · Nov 9, 2021  
Replying to [@s\\_guilbeault](#) [@WHO](#) and 2 others  
👏👏👏

[Reply](#)

**Sehjal Bhargava** @SehjalB · Nov 9, 2021  
Replying to [@s\\_guilbeault](#) [@WHO](#) and 2 others  
INCREDIBLE NEWS 🍀

[Reply](#)



# COMMIT

## A pledge for planetary health to unite health professionals in the Anthropocene

*“I solemnly pledge to dedicate my life to the service of humanity, and to the protection of natural systems on which human health depends.”<sup>1</sup>*

## Including in teaching & curriculum setting roles.

Wabnitz KJ, Gabrysch S, Guinto R, et al. A pledge for planetary health to unite health professionals in the Anthropocene. *Lancet* 2020; **396**(10261): 1471-3.

### Panel: A planetary health pledge for health professionals in the Anthropocene

- I solemnly pledge to dedicate my life to the service of humanity, and to the protection of natural systems on which human health depends.
- The health of people, their communities, and the planet will be my first consideration and I will maintain the utmost respect for human life, as well as reverence for the diversity of life on Earth.
- I will practise my profession with conscience and dignity and in accordance with good practice, taking into account planetary health values and principles.
- To do no harm, I will respect the autonomy and dignity of all persons in adopting an approach to maintaining and creating health which focuses on prevention of harm to people and planet.
- I will respect and honour the trust that is placed in me and leverage this trust to promote knowledge, values, and behaviours that support the health of humans and the planet.
- I will actively strive to understand the impact that direct, unconscious, and structural bias may have on my patients, communities, and the planet, and for cultural self-awareness in my duty to serve.
- I will advocate for equity and justice by actively addressing environmental, social, and structural determinants of health while protecting the natural systems that underpin a viable planet for future generations.
- I will acknowledge and respect diverse sources of knowledge and knowing regarding individual, community, and planetary health such as from Indigenous traditional knowledge systems while challenging attempts at spreading disinformation that can undermine planetary health.
- I will share and expand my knowledge for the benefit of society and the planet; I will also actively promote transdisciplinary, inclusive action to achieve individual, community, and planetary health.
- I will attend to my own health, wellbeing, and abilities in order to provide care and serve the community to the highest standards.
- I will strive to be a role model for my patients and society by embodying planetary health principles in my own life, acknowledging that this requires maintaining the vitality of our common home.
- I will not use my knowledge to violate human rights and civil liberties, even under threat; recognising that the human right to health necessitates maintaining planetary health.
- I make these promises solemnly, freely, and upon my honour. By taking this pledge, I am committing to a vision of personal, community, and planetary health that will enable the diversity of life on our planet to thrive now and in the future.



# Examine Your Practices & Lead By Example





# Divestment: personal + professional Canadian Medical Association and Climate-health

“Divestment & financial disclosure has been identified as a potential social tipping interventions which, by influencing the profitability of fossil fuel exploitation, could trigger tipping within hours at scale.”<sup>1</sup>



<sup>1</sup>Otto IM, Donges JF, Cremades R, Bhowmik A, Hewitt RJ, al. e. Social tipping dynamics for stabilizing Earth’s climate by 2050. *PNAS* 2020; **117**(5): 2354-65.



# Healthy Energy



Decentralized energy production has been identified as a social tipping intervention with <10 years estimated time to trigger tipping.<sup>1</sup>

<sup>1</sup>Otto IM, Donges JF, Cremades R, Bhowmik A, Hewitt RJ, al. e. Social tipping dynamics for stabilizing Earth's climate by 2050. *PNAS* 2020; **117**(5): 2354-65.



# Active Transport



CAPE  
Canadian Association  
of Physicians  
for the Environment

Association Canadienne  
des Médecins  
pour l'Environnement  
ACME



Dr Éric Notebaert  
CAPE Board Member  
working on  
Cycling paths in Montréal  
Quebec City  
Vancouver



**Prescribing Active Travel for Healthy  
People and a Healthy Planet:  
A Toolkit for Health Professionals**



# Nature-Based Solutions

## Taiwan | Going Back to Basics: The Green and Healthy Initiatives of Buddhist Tzu Chi Medical Foundation



Tzu Chi hospitals hold their own vegetarian cooking classes



The Da Ai Farm in the Dalin Tzu Chi Hospital compound where the hospital cafeteria's organic produce is cultivated

2 hours a week. That's all it takes.



**Dr. Melissa Lem, MD, CCFP, FCFP**  
PaRx Director

People who spend at least two hours in nature each week report significantly better health and wellbeing.



# Plant-Rich Diets



**Former Min of Health  
Dr Jane Philpott**



**Dr Brent Loken of EAT, and Marlo  
Raynolds at COP24**

Have plenty of  
vegetables and fruits

Eat protein foods

Make water  
your drink  
of choice

Choose  
whole grain  
foods



New Canada Food Guide Plate

EAT-Lancet Planetary Health Plate



# Reducing Fossil Fuel Production

Local Health Impacts of Resource Extraction Understudied.

Environmental racism is understood to be a factor.

*Research is part of Reconciliation*



Eriel Deranger of the Athabasca-Chipewyan First Nation and Elder Francois Paulette of Smith's Landing First Nation at WHO conference at COP



February 3, 2020

**Letter to Minister Wilkinson and PM on Teck Mine**

Dear Minister Wilkinson and Prime Minister Trudeau,

We write today as health professionals, researchers and advocates to ask you to protect the health of present-day and future children by withholding approval for the Teck Resources Limited Frontier Oil Sands Mine Project. We share this message based on deep concern about the local health impacts from the Teck Mine, about the inconclusive nature of existing health assessments and the failures to address knowledge gaps through comprehensive assessments, and also about the health inequities borne by future generations, locally and globally. Each of these concerns are detailed below. (1)

Is this a country that protects the health of and options for future generations? If so, now is the time to generate a response to climate change that gives today's children a chance to thrive.

2020 marks the beginning of a new decade. This is the last time window where we will have the opportunity to choose a low-emissions pathway that will set us on a course for the mid-century plateau of warming that will protect the health of a child born today. We have many courageous choices to make. We urge you to start by withholding approval for the Teck Resources Frontier Mine

Sincerely,

Dr. Courtney Howard, MD, Emergency Physician, Yellowknife, President of the Canadian Association of Physicians for the Environment.

Dr. Margot Parkes, MBChB, PhD, Associate Professor, School of Health Sciences, University of Northern British Columbia

Dr. Yassen Tcholakov, MD, Public Health and Preventive Medicine Resident, McGill University

Dr. Tim Takaro, MD, MPH, MS, Professor, Faculty of Health Sciences, Simon Fraser University

Dr. James Orbinski, OC, MSC, MA, MD, Director and Professor, Dahdaleh Institute for Global Health Research, York University.

Dr. Joe Vipond, MD, Emergency Physician, Calgary, President-Elect Canadian Association of Physicians for the Environment



**Dr Courtney Howard**  
. @jkenney, yes-A

The world in which ranking put 🇨🇦 170 emissions most "t  
#FutureChild #Rej



'Albertans live in  
The Canadian A  
is calling on the  
🔗 calgary.ctvne

🗨️ 5



**Dr Courtney Howard**  
Great to chat with @  
the health of today's  
questions re local he:  
#globalhealth impact  
#RejectTeck #Future



Joe Vipond and 9 oth

🗨️ 1 🔄 2

❤️ 7 📤



**Dr Courtney Howard** @courtghoward · Feb 23  
Sitting at a table in Toronto with my mouth open.



@CAPE\_Doctors

#FutureChild #HealthyClimate #NorthStar



Teck Resources pulling application for Frontier oil sands mine  
The Teck mine had already passed a lengthy regulatory review and  
Ottawa was expected to decide this week whether to approve the ...  
🔗 theglobeandmail.com

🗨️ 2 🔄 4 ❤️ 46 📤 📺

# July 1, 2022—UK Health and Care Act will get Royal Assent.

Enshrines NHS targets into law as contributions towards the Climate Change Act.

Makes adaptation to current or predicted impacts of climate change a duty of the NHS

Places a duty on every hospital, ambulance trust, primary care network and integrated care system to deliver against them.

Gives head of Greener NHS “Powers of Direction” to change pricing structures for healthcare services & award contracts in consideration of carbon.

## “NHS England: duties in relation to climate change etc

After section 13NB of the National Health Service Act 2006 (inserted by section 5(j005) of this Act) insert—

### “13NC Duties as to climate change etc

- (1) NHS England must, in the exercise of its functions, have regard to the need to—
  - (a) contribute towards compliance with—
    - (i) section 1 of the Climate Change Act 2008 (UK net zero emissions target), and
    - (ii) section 5 of the Environment Act 2021 (environmental targets), and
  - (b) adapt to any current or predicted impacts of climate change identified in the most recent report under section 56 of the Climate Change Act 2008.
- (2) In discharging the duty under this section, NHS England must have regard to guidance published by under section 13ND.

### 13ND Guidance about discharge of duty under section 13NC etc

NHS England may publish guidance about the discharge of—

- (a) the duty imposed on it by section 13NC;
- (b) the duty imposed on integrated care boards by section 14Z43A;
- (c) the duty imposed on NHS trusts by section 26B;
- (d) the duty imposed on NHS foundation trusts by section 63B.””



# Supporting Legislation that Enables Systems Change

## Canadian Net-Zero Emissions Accountability Act

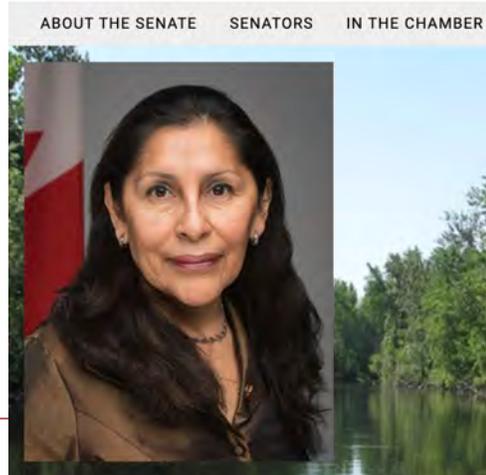
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The *Canadian Net-Zero Emissions Accountability Act* enshrines in legislation the Government of Canada's commitment to achieve net-zero greenhouse gas emissions by 2050, and provides a framework of accountability and transparency to deliver on it.

The Act establishes a legally binding process to set five-year national emissions-reduction targets as well as develop credible, science-based emissions-reduction plans to achieve each target.

It establishes the 2030 greenhouse gas emissions target as Canada's Nationally Determined Contribution (NDC) under the Paris Agreement emissions reductions of 40-45 percent below 2005 levels by 2030.

The Act also establishes a requirement to set national emissions reduction targets for 2035, 2040, and 2045, ten years in advance. Each target will require credible, science-based emissions reduction plans to achieve it.



Quebec Senator  
Dr Rosa Galvez



**MDmoms4HealthyRecovery** @MDmoms4HR · Apr 19, 2021

We are on the frontlines of [#COVID19](#) in this horrible third wave. Our message to you [@JustinTrudeau](#) for the [#EarthDay](#) [#LeadersClimateSummit](#) with [@POTUS](#): 🇨🇦 must [#GoBigForClimate](#) to secure a [#HealthyFuture](#) for today's children. [#StrengthenC12](#) [#Bill230](#) [#HealthyRecovery](#) [#cdnpoli](#)



👤 10

👍 100

💬 106

↑



## MESO

Decrease your community's carbon footprint



Anchor institution



## MICRO

Decrease your carbon footprint



Take Hippocratic oath for the anthropocene

Set intention



**Trigger**

Signals need for change



## MACRO

Decrease your national carbon footprint



Government

Change story  
Change policies  
Change subsidies  
Change investment

## MESO

Decrease your community's carbon footprint



Anchor institution

Business



## MICRO

Decrease your carbon footprint



Take Hippocratic oath for the anthropocene

Set intention



**Trigger**

Signals need for change

## MACRO

Decrease your national carbon footprint



Government

Change story  
Change policies  
Change subsidies  
Change investment

## MESO

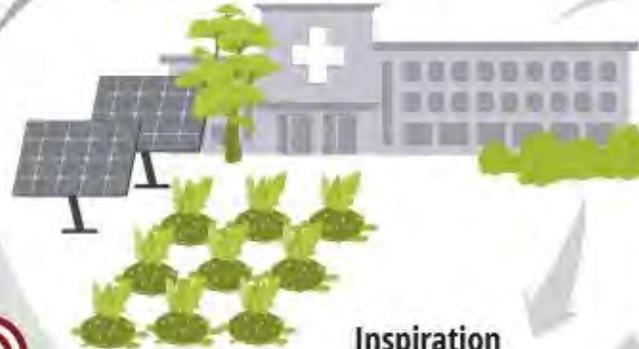
Decrease your community's carbon footprint



Business

A rapid, healthy low-carbon transition is inevitable

Anchor institution



Concrete change  
Success stories  
Best practices  
Inspiration/empowerment  
EV stations, local food, cycle paths

## MICRO

Decrease your carbon footprint



Take Hippocratic oath for the anthropocene

Set intention

Inspiration  
New norms set

Psychological barriers

Structural barriers

Trigger

Signals need for change



## THE CODA ACTION PATHWAY:



# Advocacy & mobilization program (AMP)

AMP is a capacity-building program that aims to empower and enable healthcare professionals to act as environmental and climate leaders through:

- 1 Training on advocacy and organizing skills
- 2 Education on the health impacts of environmental issues
- 3 Opportunities to mobilize on existing campaigns or initiate their own

## AMP features:

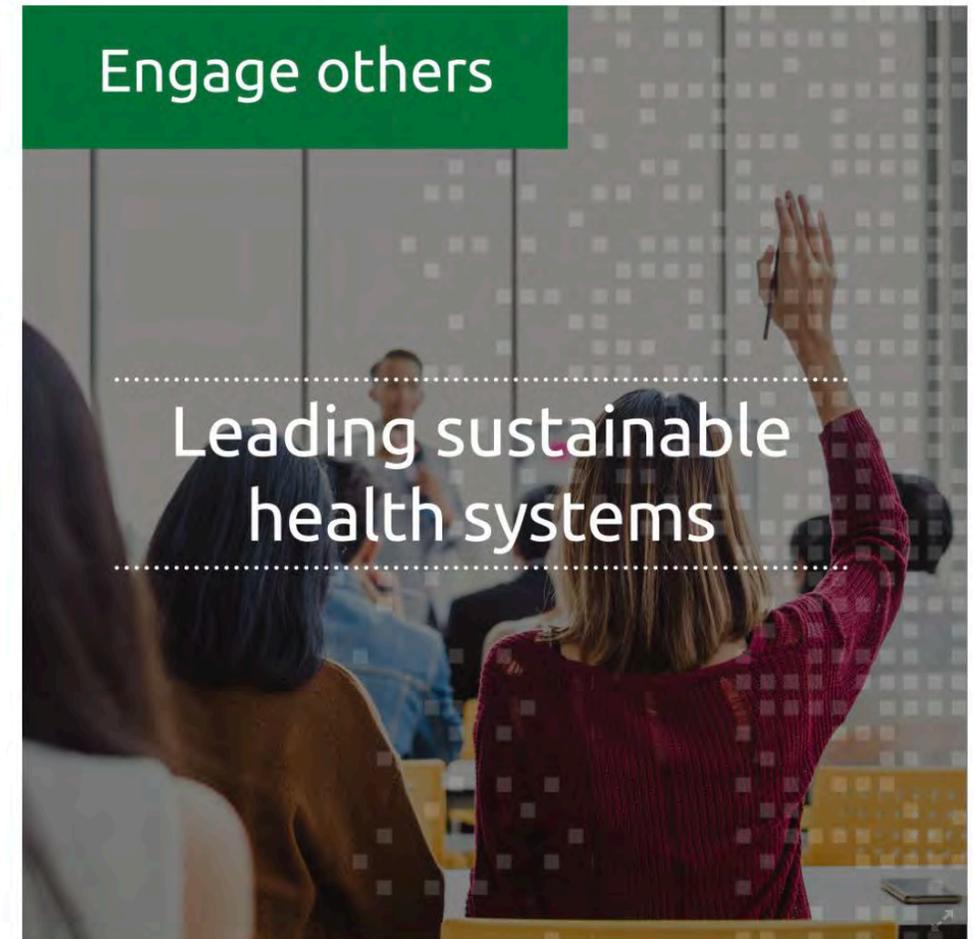
- A 2-day virtual conference June 18-19, 2022 (mandatory)
- Monthly workshops until February 2023
- Federal lobby day February 2023
- Access to micro-grant funding for participant initiatives

<https://cape.ca/focus/advocacy-and-mobilization-program-for-healthcare-professionals/>

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## Leading sustainable health systems

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# bucket fillers

love  
companionship  
sense of purpose  
patience  
kindness  
humour  
practical help  
time in nature  
time with loved ones  
time to create

sleep  
exercise

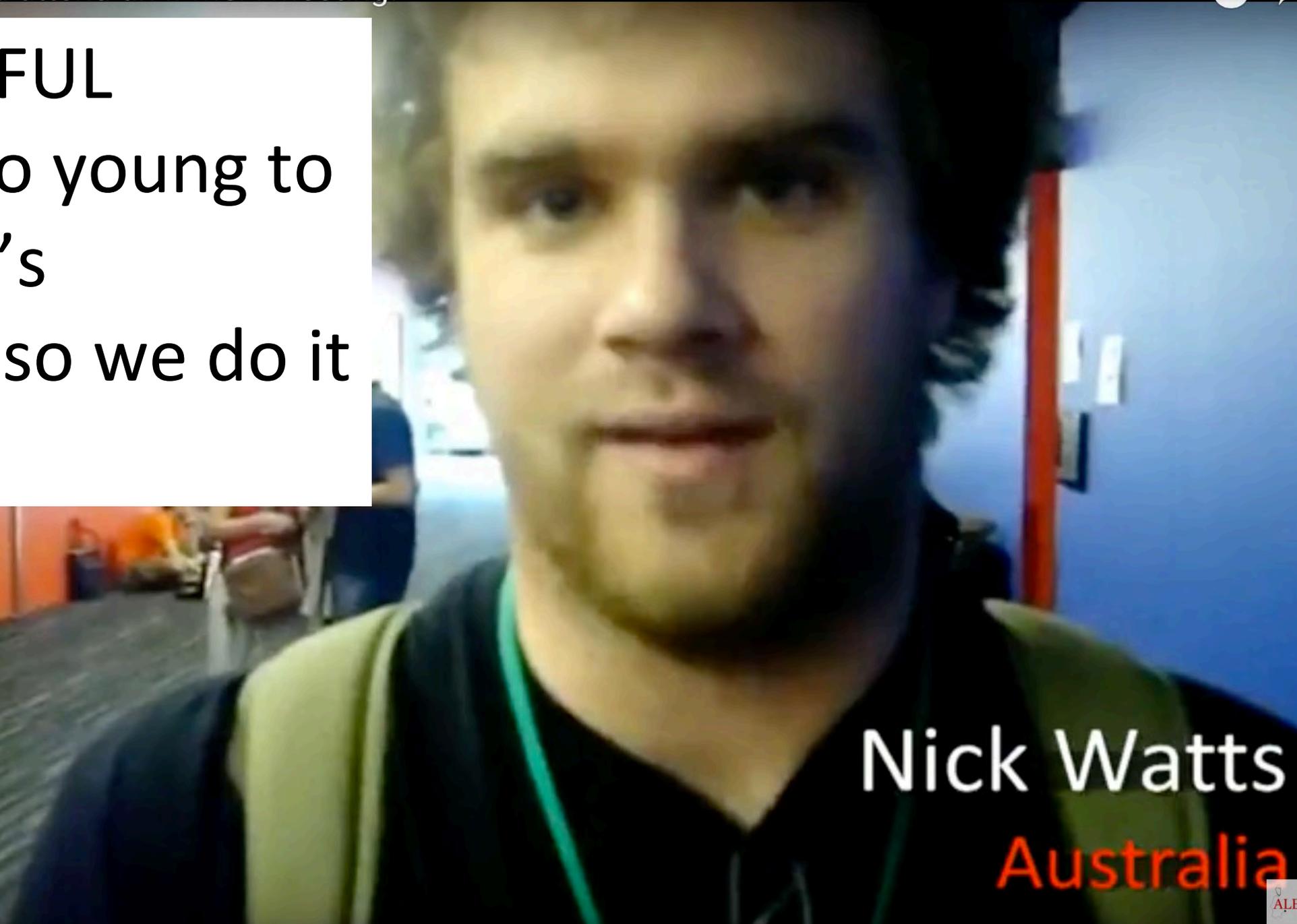


# bucket drainers

uncertainty  
\$ worries  
inefficiencies  
bereavement  
loss of sense of  
place/role in the world



**BE HOPEFUL**  
“We are too young to know what’s impossible so we do it anyway”



**Nick Watts**  
**Australia**

@courtghoward





CAPE  
Canadian Association  
of Physicians  
for the Environment  
Association Canadienne  
des Médecins  
pour l'Environnement  
ACME

Dr Courtney Howard MD, CCFP-EM, Emergency Physician, President, CAPE Twitter: @courtghoward