

# 10 PRINCIPLES FOR THE TRANSITION



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Turning Down the Heat

November 15, 2019



1. Physics do not compromise

2. Crisis is not just climate

3. We can't count on magic

4. No one will do it for us

5. We have lots to gain

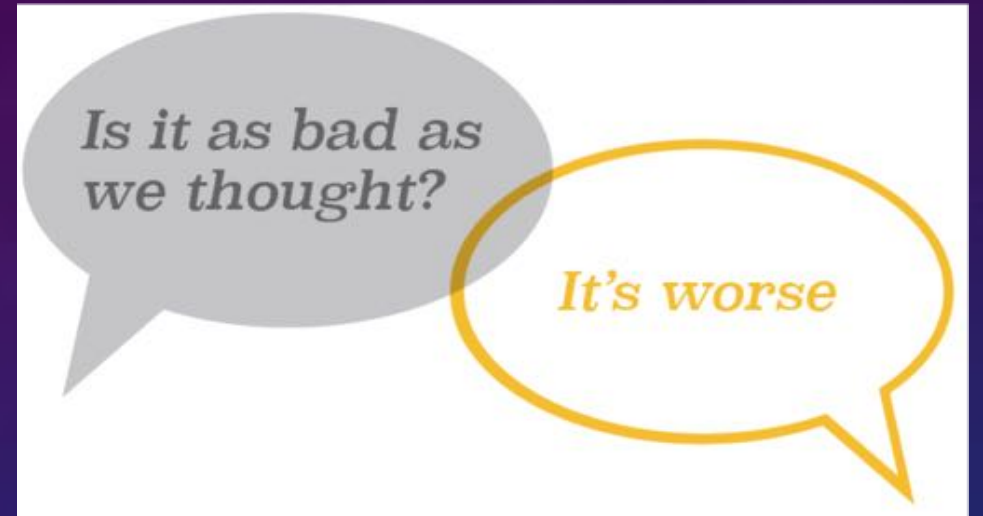
6. The green transition must be big and fast

7. For necessary demand, the cleanest supply

8. Can't do it without indigenous reconciliation

9. Climate justice and equity

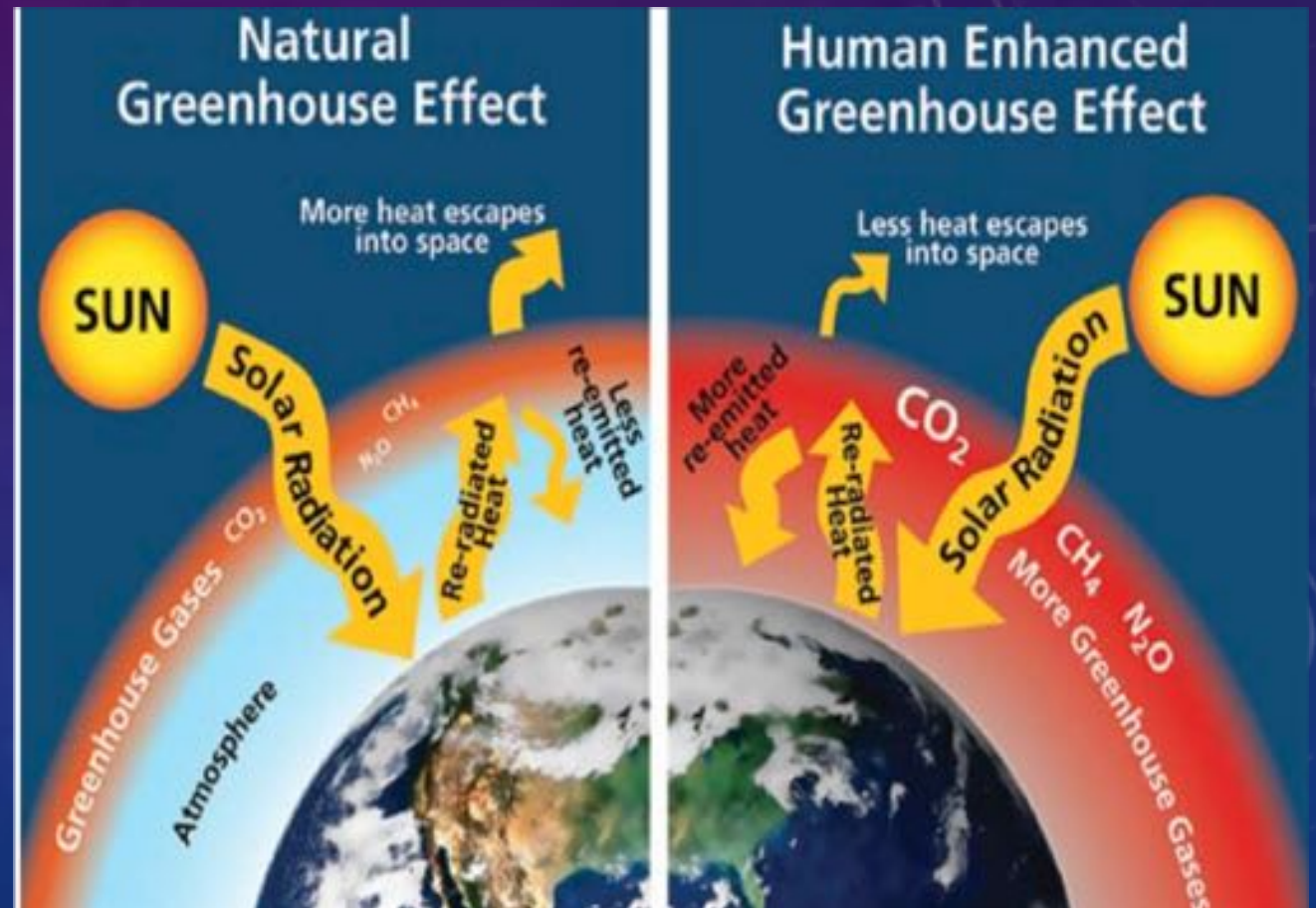
10. Real facts, honest conversations



# 1. PHYSICS DO NOT COMPROMISE

# PEOPLE CAUSE CLIMATE CRISIS BY:

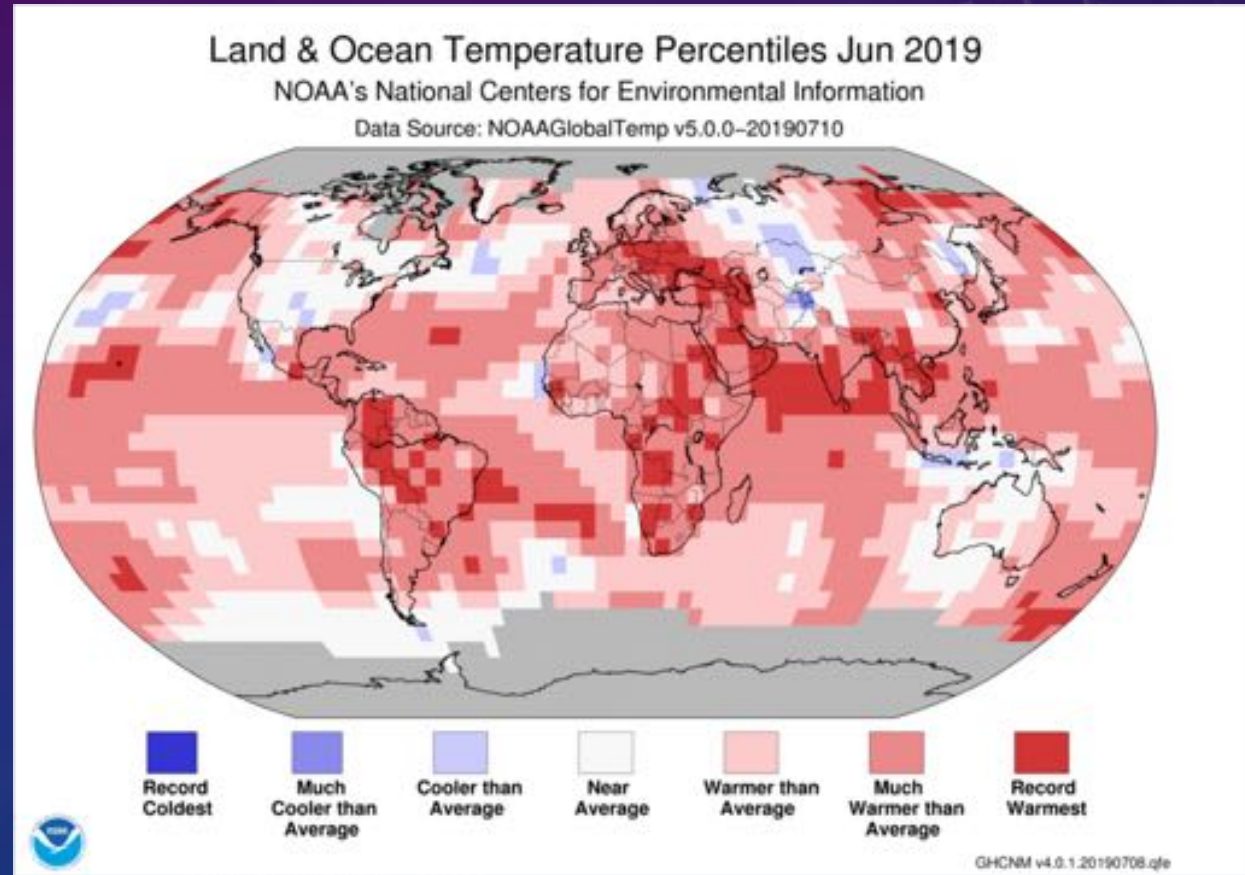
- Putting greenhouse gases in the atmosphere that keep solar heat from escaping
- Mostly CO<sub>2</sub> from burning fossil fuels





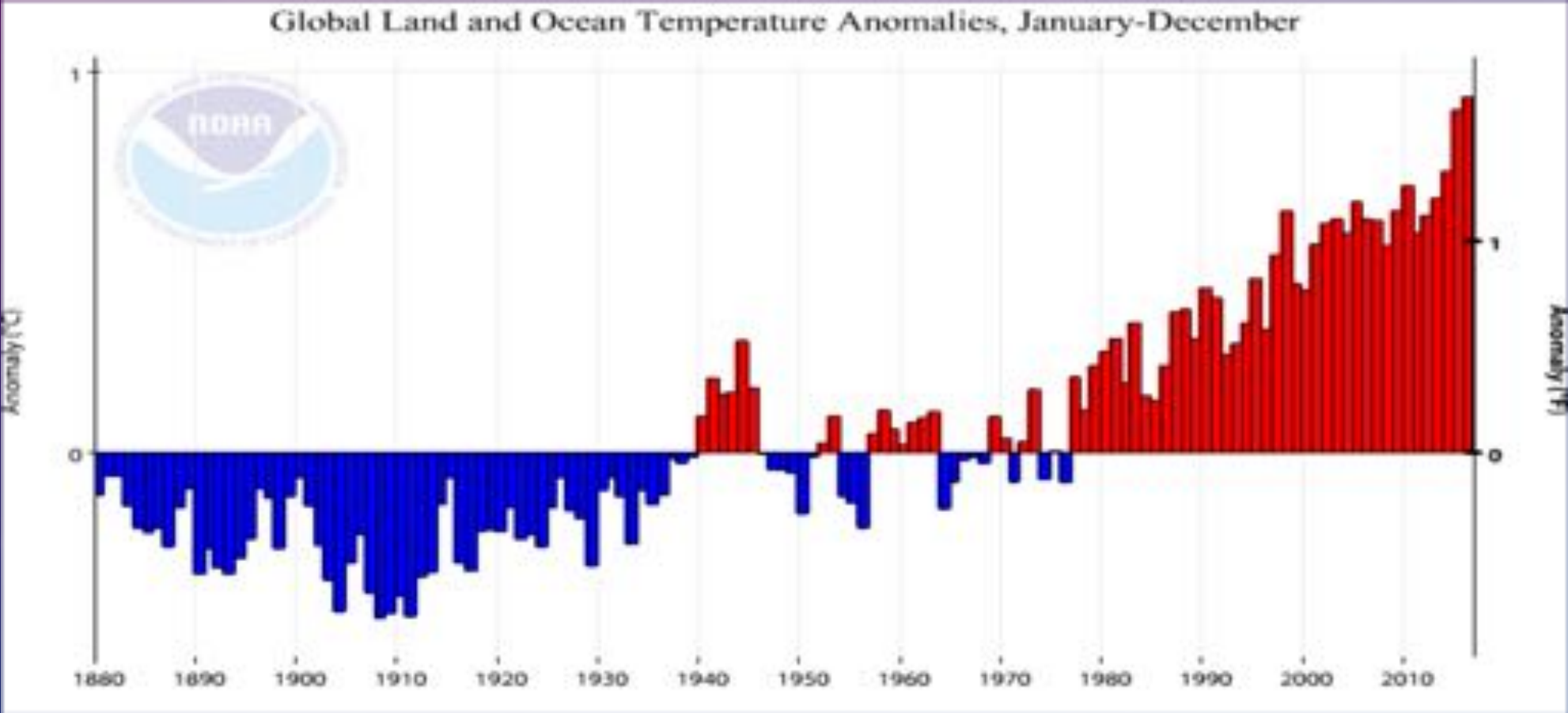
# THIS IS GIVING THE WORLD A FEVER

- Highest recorded:
  - GHG emissions
  - GHGs in atmosphere
  - Temperatures
  - Ocean acidity



[Global Analysis, 2019.](#)

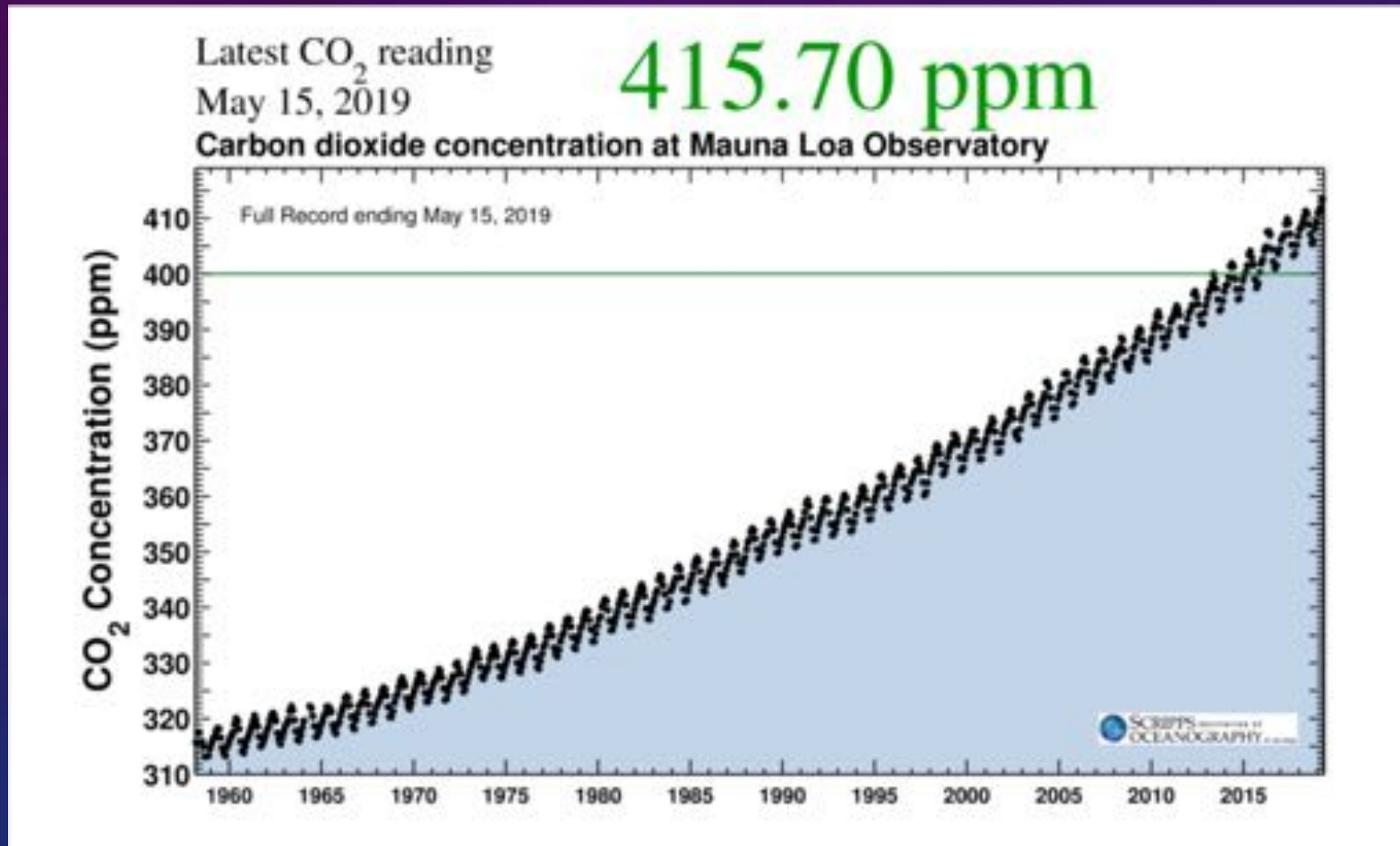
# 20<sup>TH</sup> CENTURY “NORMAL” IS GONE



Source: National Oceanic and Atmospheric Administration, [Climate Change - Global Temperature](#)

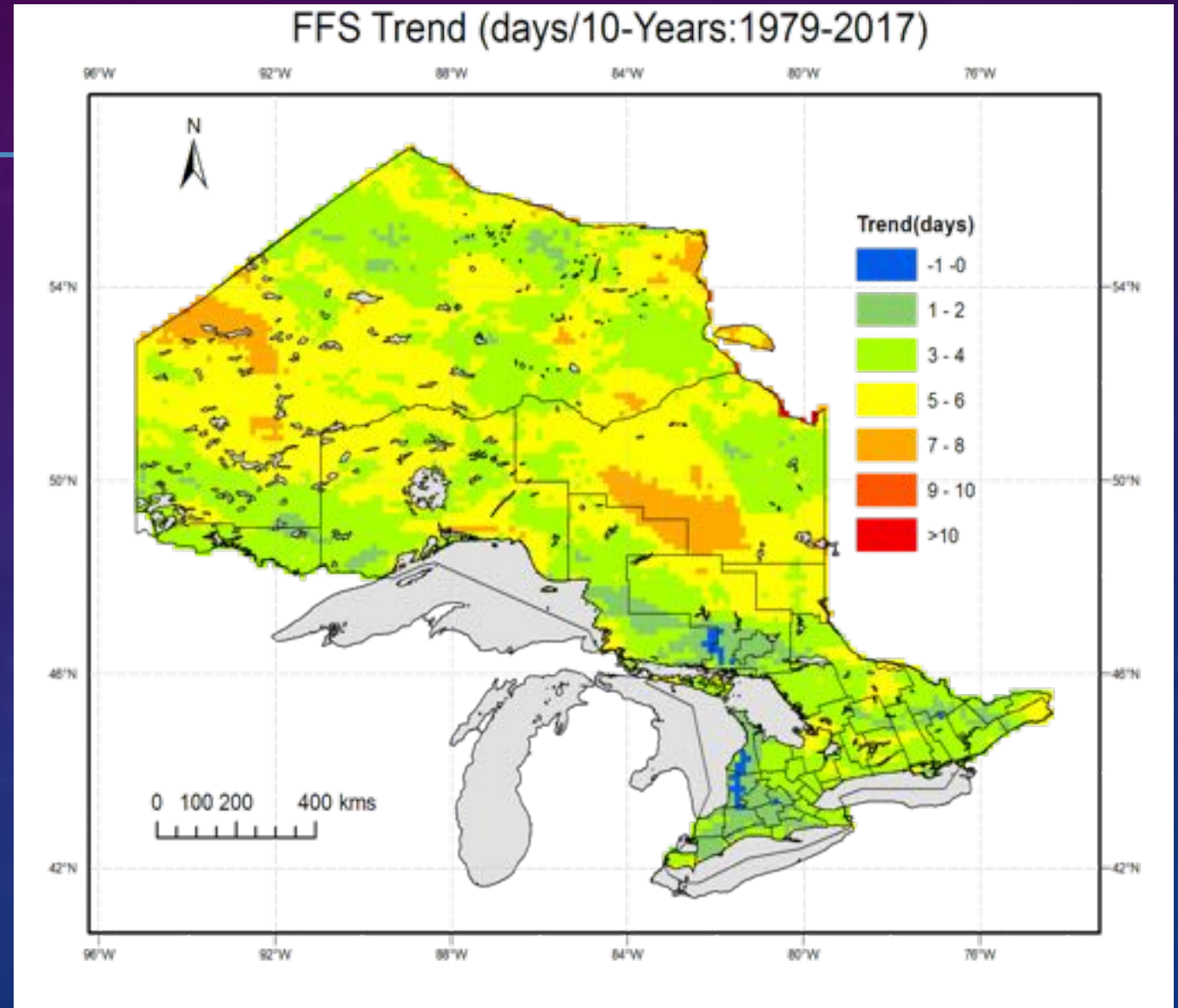


# NO "NEW NORMAL" IN SIGHT



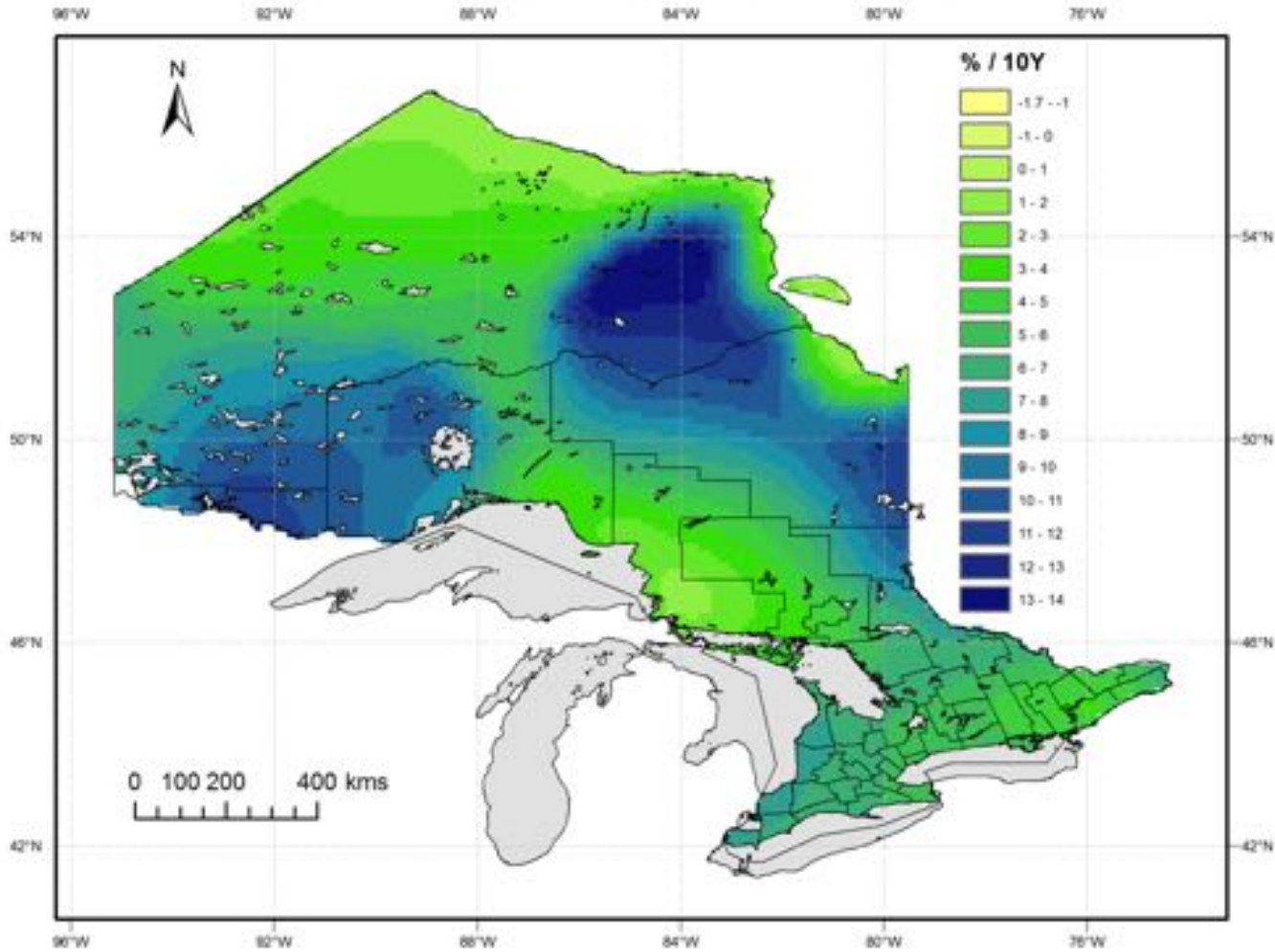
# FASTER HERE

- Canada heating up faster than global average
- 1.7°C warmer since 1948
- 2.5°C to 3.7°C warmer by 2050
- Differs by region
  - latitude, topography, water...





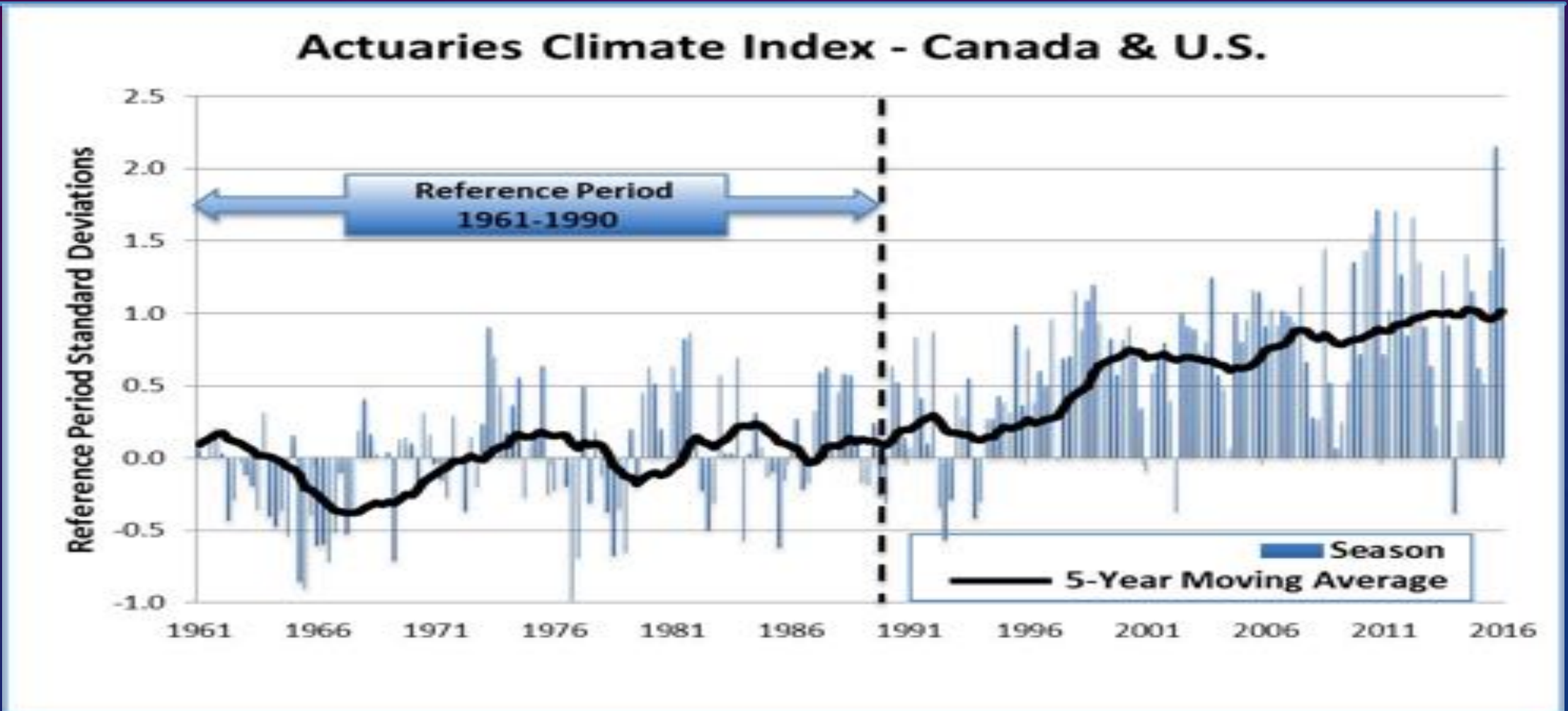
Precipitation Anomaly Percentage Trends (Winter: %/10Y)



Winter is  
already  
wetter

More rain, falling harder  
What does that mean for your  
tailings ponds?

# 4 X CLIMATE EXTREMES



# WHEN NOT IF: FLOODS, FIRE, DROUGHT, WIND, HEAT



Photo credit: Ottawa Paramedics



Photo credit: Ryan Forbes



Photo credit: Associated Press



Photo credit: Viv Lynch. Used under CC BY-NC-ND 2.0



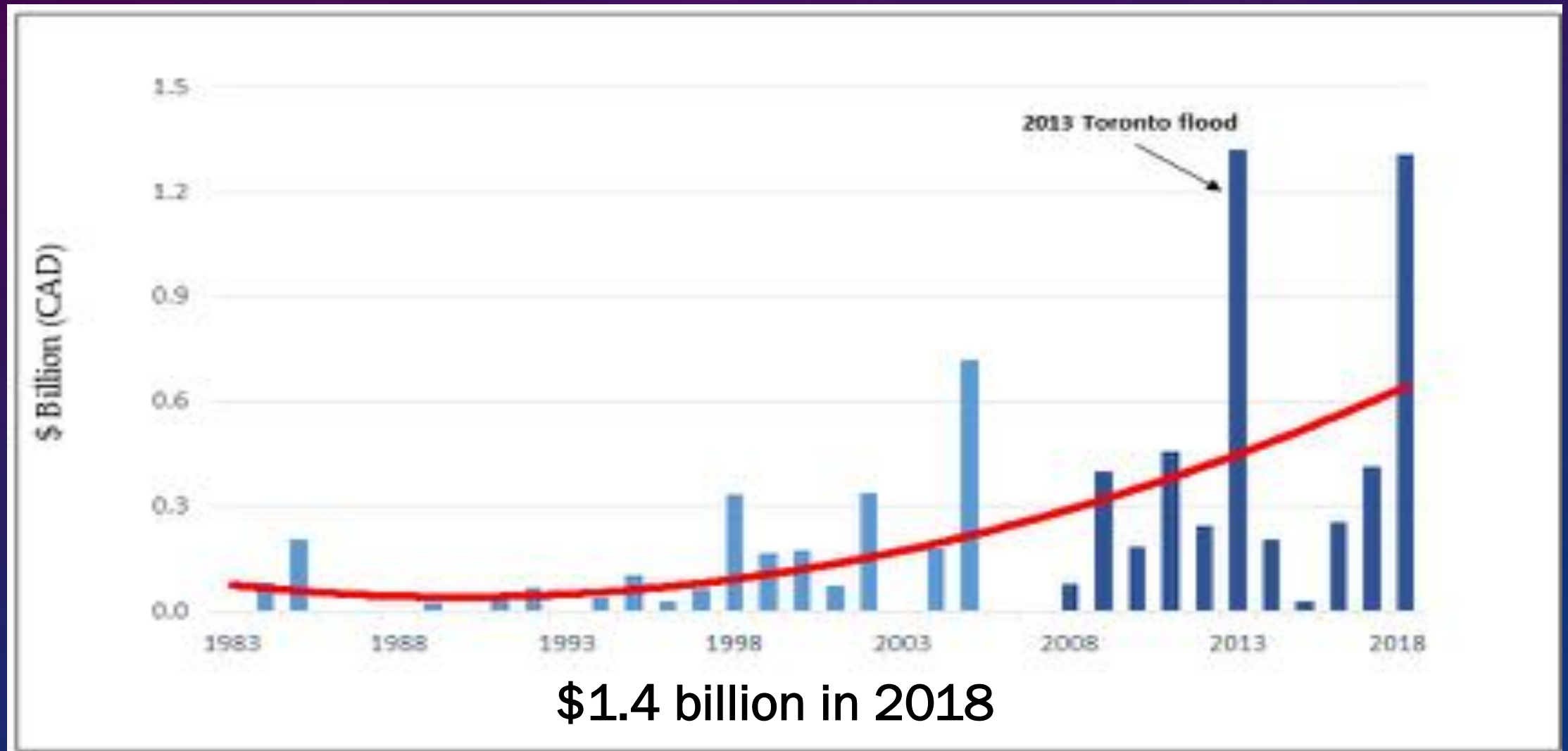
Photo credit: The Canadian Press



Photo credit: OPP North East



# INSURED LOSSES (PLUS...)



**\$1.4 billion in 2018**







WHAT'S  
AHEAD?



# IN THE LIFETIME OF TODAY'S CHILDREN

# EMERGENCY COMING INTO FOCUS

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- Intergovernmental Panel on Climate Change
- Consensus body for reliable science, factual floor
- 5<sup>th</sup> assessment report 2014
- Damning special reports:
  - 1.5° v. 2° - Oct. 2018
  - Land and food – Aug. 2019
  - Ocean and Cryosphere – Sept. 2019

The IPCC logo is displayed in a white rectangular box. The letters 'ipcc' are in a lowercase, blue, sans-serif font.

## 1.5° v. 2°

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- Paris target: well below 2° and if possible 1.5°
- 2° world would be much worse than 1.5°
  - “large, widespread, robust differences”
- Heavy precipitation, extreme heat, drought, sea level
- Ability of human and natural systems to adapt

**THERE IS A HIGH COST TO  
DELAYING ACTION ON CLIMATE  
CHANGE.**



# LAND, FOOD

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- Climate crisis already affects food quality and security
- High risks at 1.5°, very high risks at 2°
- **If we keep delaying:**
  - Food supply less stable, more expensive
  - Rapid declines in agricultural productivity
  - Irreversible damage to land and ecosystems
  - More wildfire, more conflict, more migration



# OCEANS, CRYOSPHERE

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- Everything frozen is melting, faster and faster
- Oceans in crisis
  - Faster-rising sea levels threaten coastal cities, etc.
- Soaring flood damage
- Dire water shortages
- Will likely displace hundreds of millions of people

# A MILLION SPECIES AT RISK

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- And the natural systems on which our lives depend.



## AND WHAT ELSE?

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*“Large-scale uneven impacts of climate change may destabilize existing institutional arrangements, increase incentives to violently redistribute wealth, or generate other forms of **social conflict**.”*

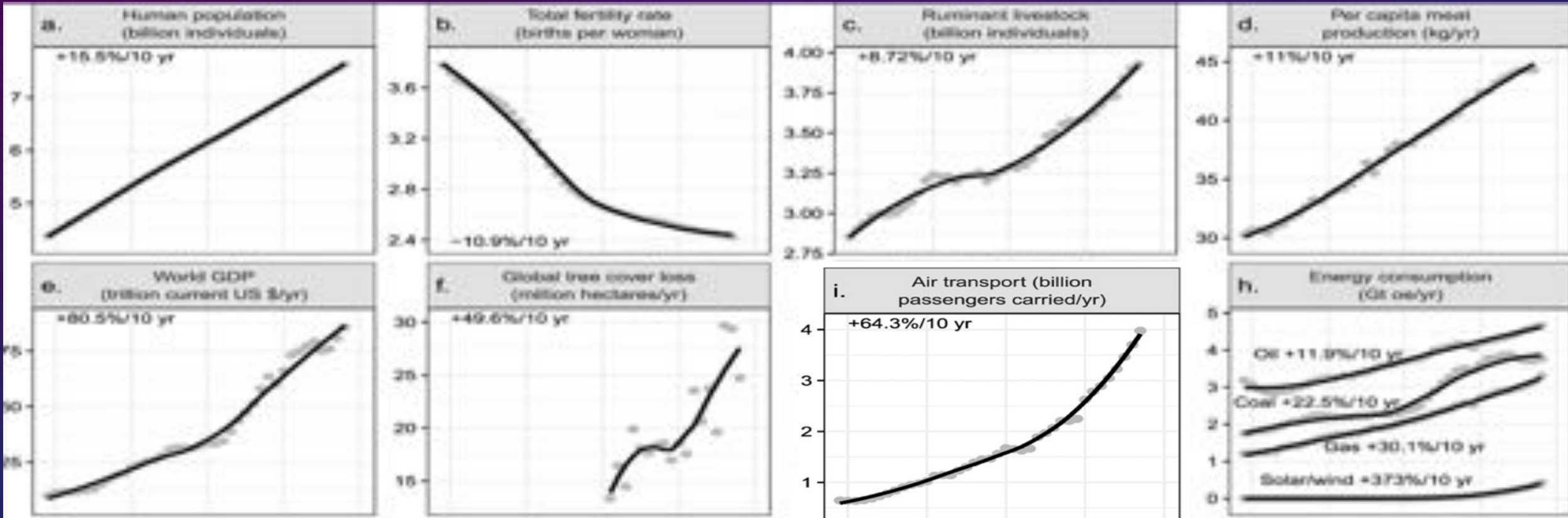
Hsiang, Oliva, Walker 2017



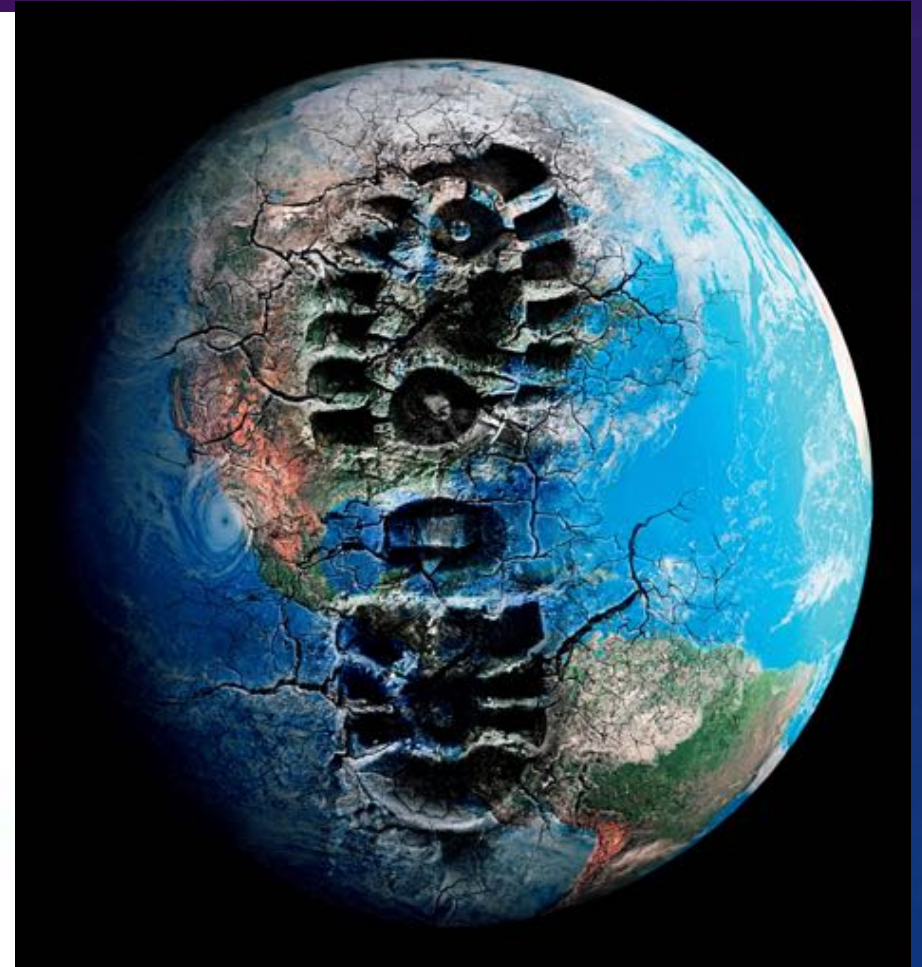
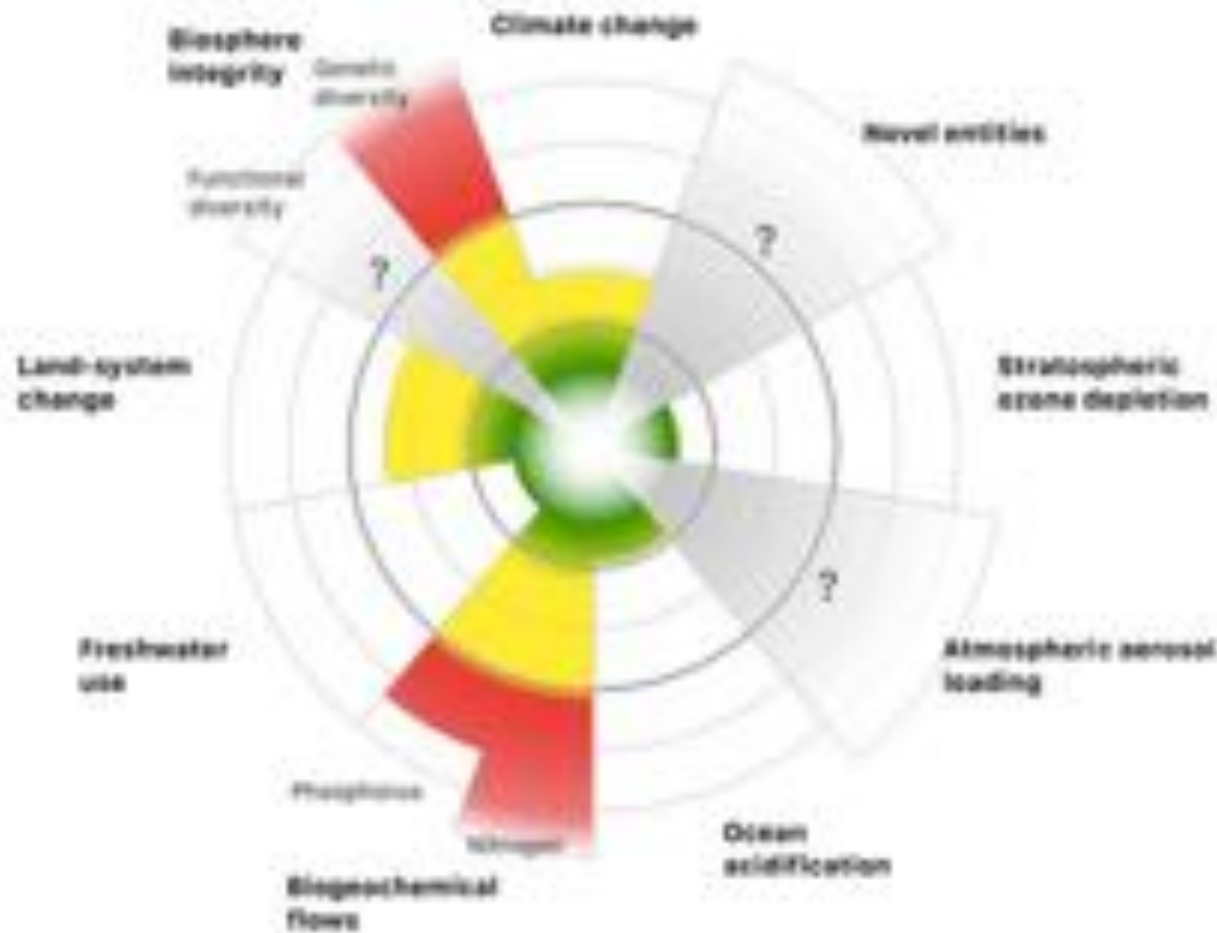
## 2. NOT JUST CLIMATE



# ON A FINITE PLANET, INFINITE GROWTH IS IMPOSSIBLE



# CURRENT CONSUMPTION: ALREADY TRASHING MORE THAN THE CLIMATE



# WHERE ARE WE HEADED?

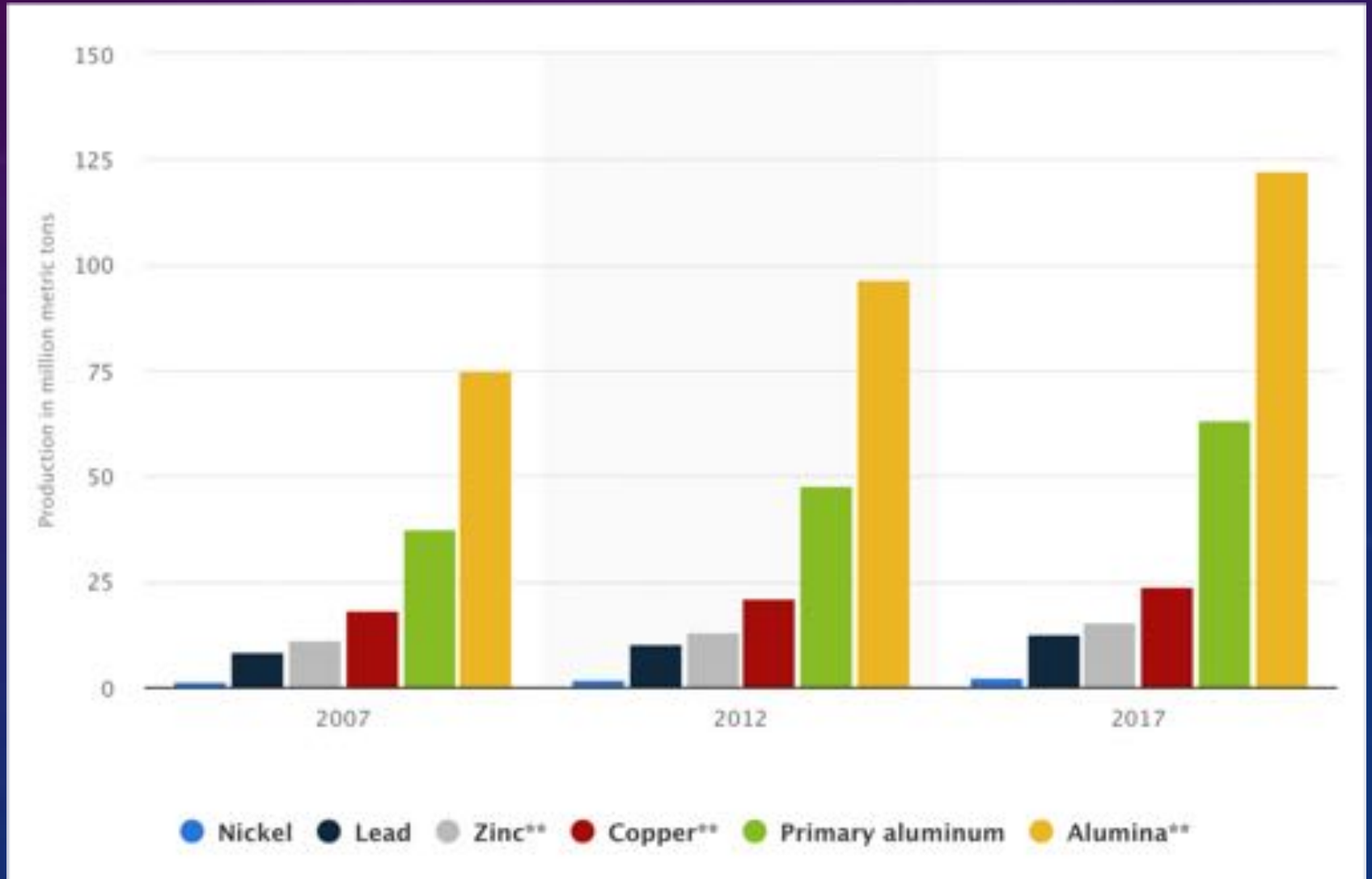
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- If current trends continue, the global per capita use of natural resources will increase by 70 per cent by 2050



# WORLD BASE METAL DEMAND

Horrorific consequences if demand for everything extracted from the earth keeps going up



RESEARCH CONCLUDES:

**WE ARE  
DESTROYING  
EARTH.**

COULD YOU KINDLY  
REPHRASE THAT IN  
EQUINOXIAL, INACCURATE,  
VAGUE, SELF-SERVING AND  
ROUNDABOUT TERMS THAT  
WE CAN ALL UNDERSTAND?



**'Magic bullet' carbon solution**

**Forbes Demands a Manhattan Project to Discover a Magic Climate Energy Solution**

**3. WE CAN'T COUNT ON MAGIC**



# IT WOULD BE LOVELY IF

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- Some cheap, easy gadget that we can deploy everywhere right away would fix everything in time so we don't have to change anything in our lives
- Should we bet the planet on a fantasy?



Will trees do it?



# YES, WE SHOULD PLANT TREES

- Native forests, not tree farms
- Where there is land, soil and water



- But CO<sub>2</sub> from fossil fuels will be in the atmosphere for 1000+ years
- How long will the tree grow?
- And then?

# WHAT WILL HAPPEN TO TREES IN A HOTTER WORLD?



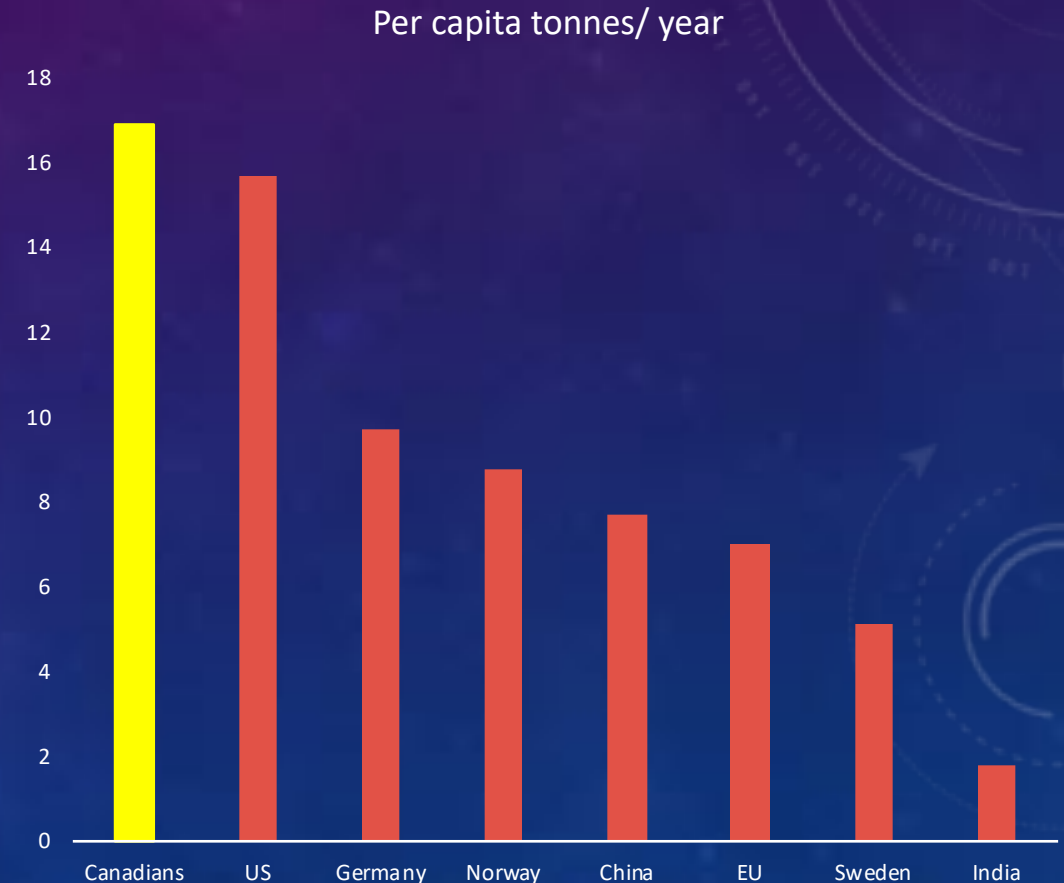




## 4. NO ONE WILL DO IT FOR US

# CANADA IS A BIG POLLUTER

- A Top 10 emitting country
- Now and cumulative
- Among world's largest per capita emitters





# IF WE DON'T CLEAN UP, WHO WILL?

- Poor people?
- Your children?



# 5. WE HAVE A LOT TO GAIN



# MONEY, CLIMATE, WELLBEING

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Source: ECO



- Climate change – “one of the biggest global health threats of this century”
- “Health benefits far outweigh the costs of meeting climate change goals”



# CLIMATE FOCUS: TRIGGER CIRCULAR ECONOMY?

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- CO<sub>2</sub> embodied in goods and materials = massive, under-recognized source of GHGs
  - Extracting raw materials generates GHGs, as well as releases toxic chemicals into the air and water
  - Reusing materials means fewer raw materials extracted from the earth
- Huge economic and employment promise



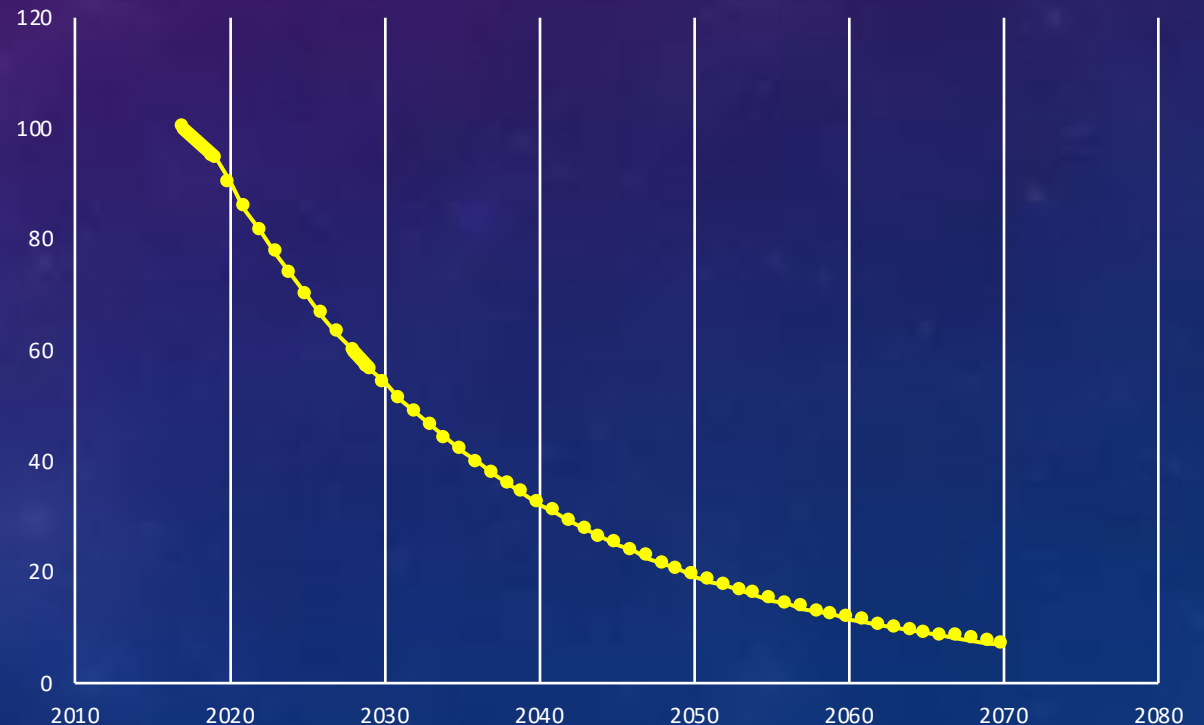
# 6. THE GREEN TRANSFORMATION MUST BE BIG AND FAST



# IF WE WANT A 2° WORLD

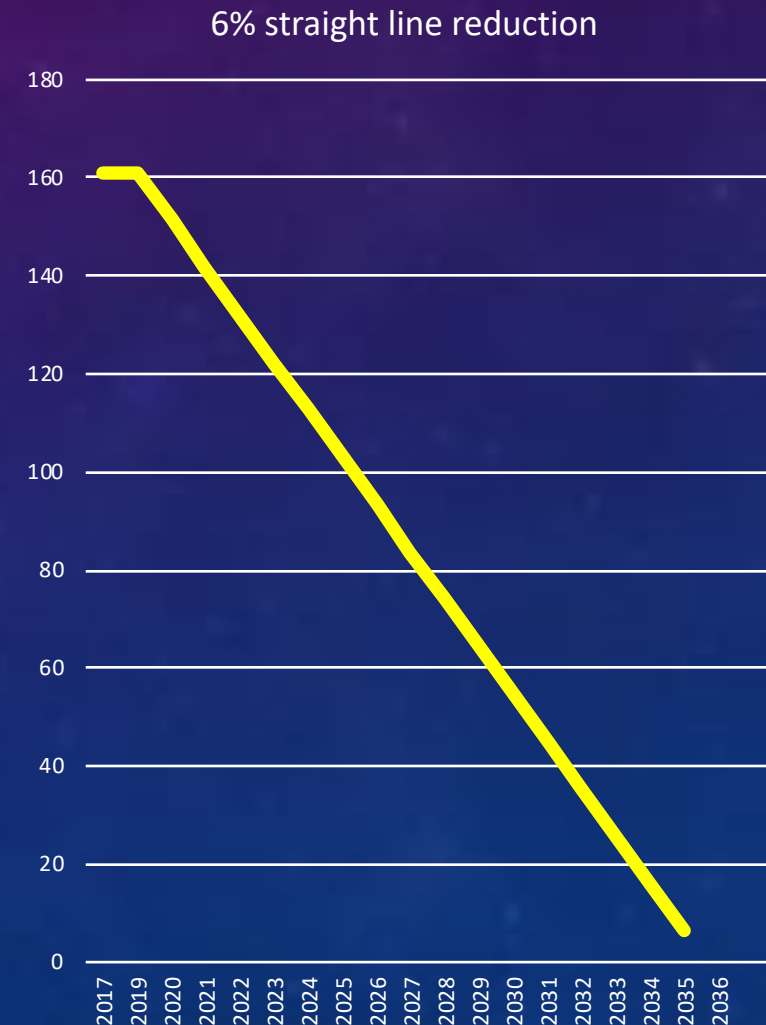
- 2° world: Much less stable and safe than today, major economic damage but survivable for most
- We can only emit:
  - ~75% of 2010 GHGs by 2030
  - Net 0% of 2010 GHGs by ~2070

5% declining balance doesn't get there



# IF WE WANT A 1.5° WORLD

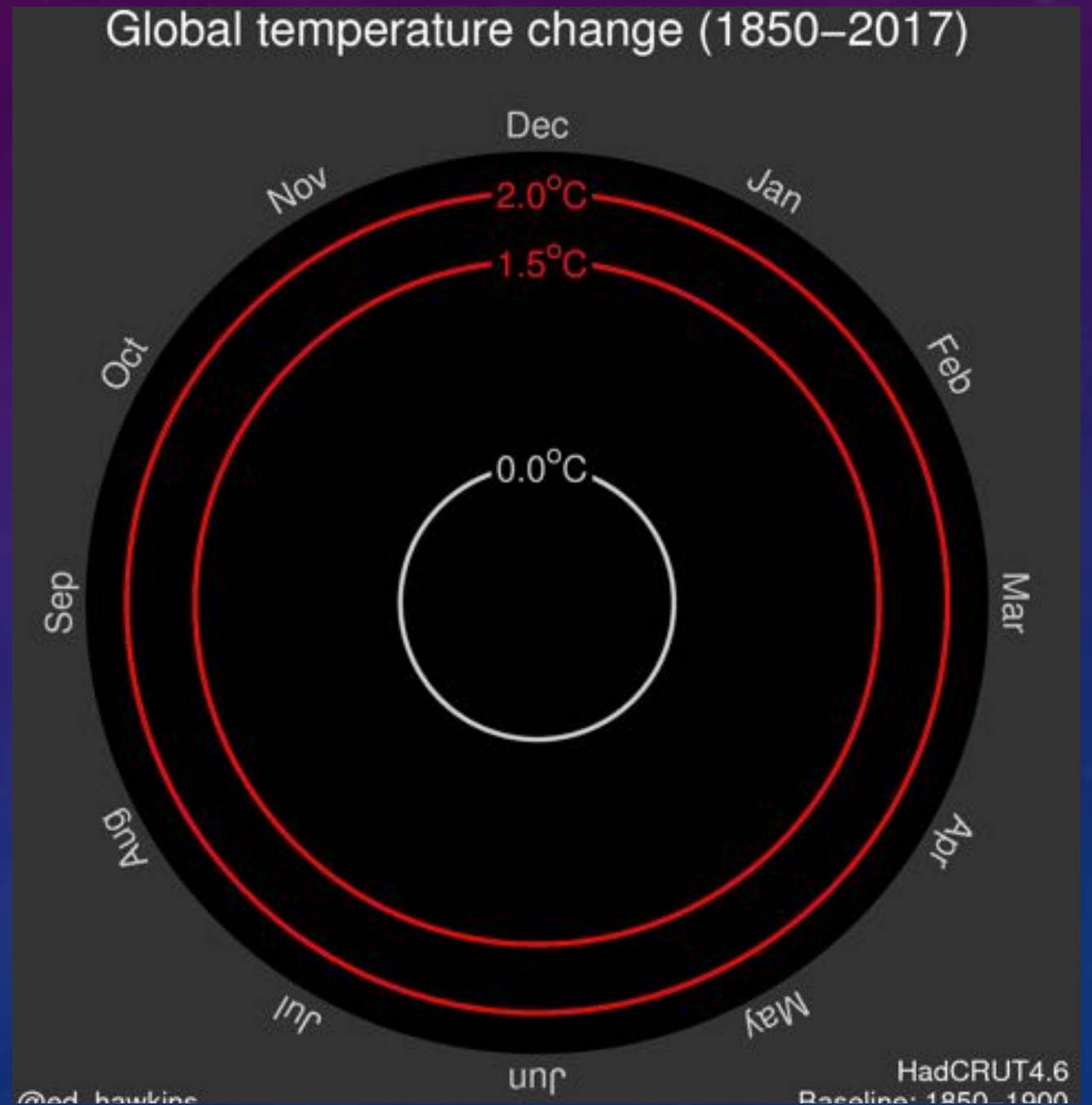
- 1.5° world: Less stable and safe than today, but manageable
- We can only emit:
  - ~55% of 2010 GHGs by 2030
  - Net 0% GHGs by ~2050



# HOW CLOSE TO 1.5°?

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We're almost there  
Our house is on fire





# 7. FOR NECESSARY DEMAND, THE CLEANEST SUPPLY



# YOUR FOOTPRINT MATTERS

- Disclosure
- Procurement
- Investment



# ISSUERS MUST DISCLOSE MATERIAL RISKS

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- Companies that sell shares to the public must disclose the material risks affecting their business and, where practicable, the financial impacts of such risks

# TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

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- TCFD “well on their way to becoming the global benchmark”
- “Intensifying pressure on companies and investors to adopt”
- Federal government support in *Budget 2019*





# DISCLOSURE: FLYING BLIND IS DANGEROUS

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- Bank of Canada: **climate change a key vulnerability** in the Canadian financial system
- Expert Panel on Sustainable Finance:
  - “A reliable, consistent and comparable bottom-up view of climate risk exposure is essential to proper assessment and pricing...”
  - Particularly relevant to Canada, given the **severe physical and financial risks** associated with our country’s accelerated rate of warming”

# CSA STAFF NOTICE 51-358

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- *Reporting of Climate Change-related Risks*
- Builds on Staff Notice 51-333 *Environmental Reporting Guidance*
- **Most industries and issuers have some exposure** to these types of risks, even if they are not directly involved in a carbon-intensive industry
- **Current disclosure needs improvement**

August 1, 2019

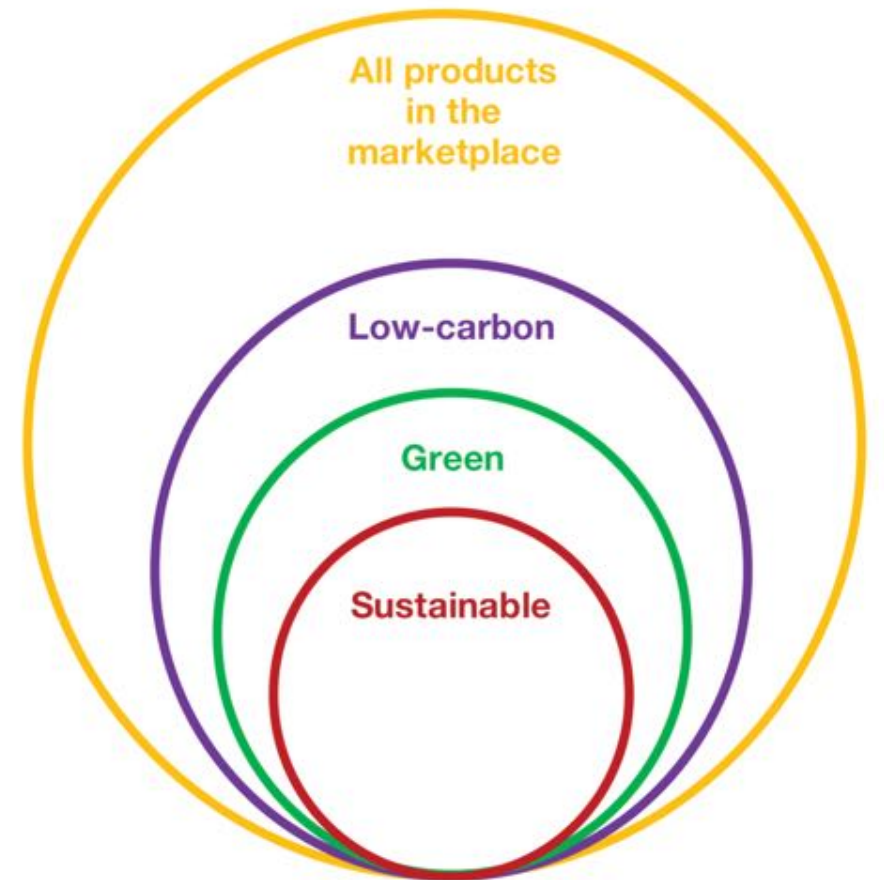


# PROCUREMENT: MORE BUYERS ARE ASKING

The government says it is committed to buying low-carbon products

Great – do it right

## Chapter 8: Low-Carbon Procurement



# MORE INVESTORS ARE ASKING

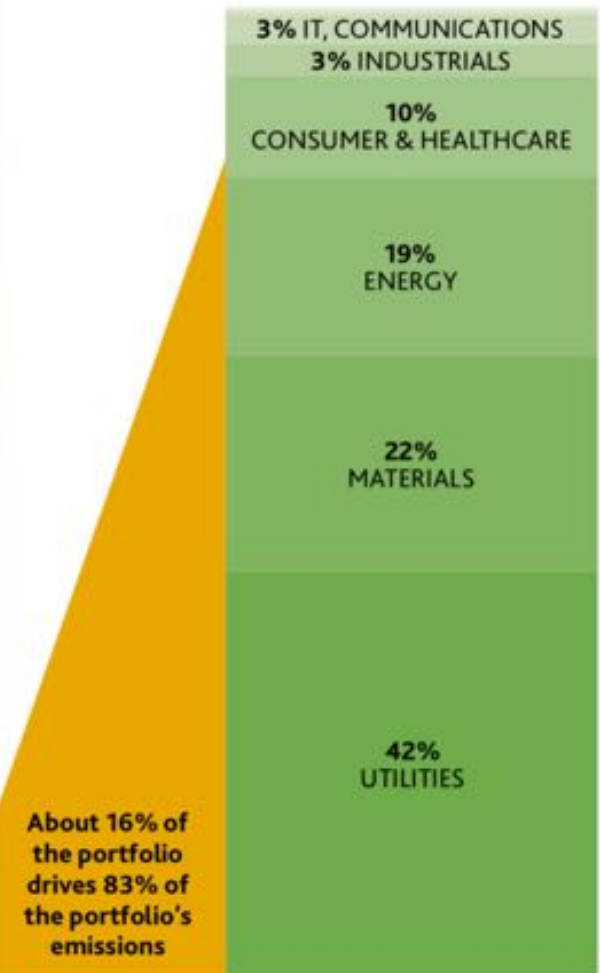
OTPP 2018 CLIMATE REPORT

## Sector-based carbon footprint contribution

### SHARE OF MARKET EXPOSURE



### SHARE OF EMISSIONS



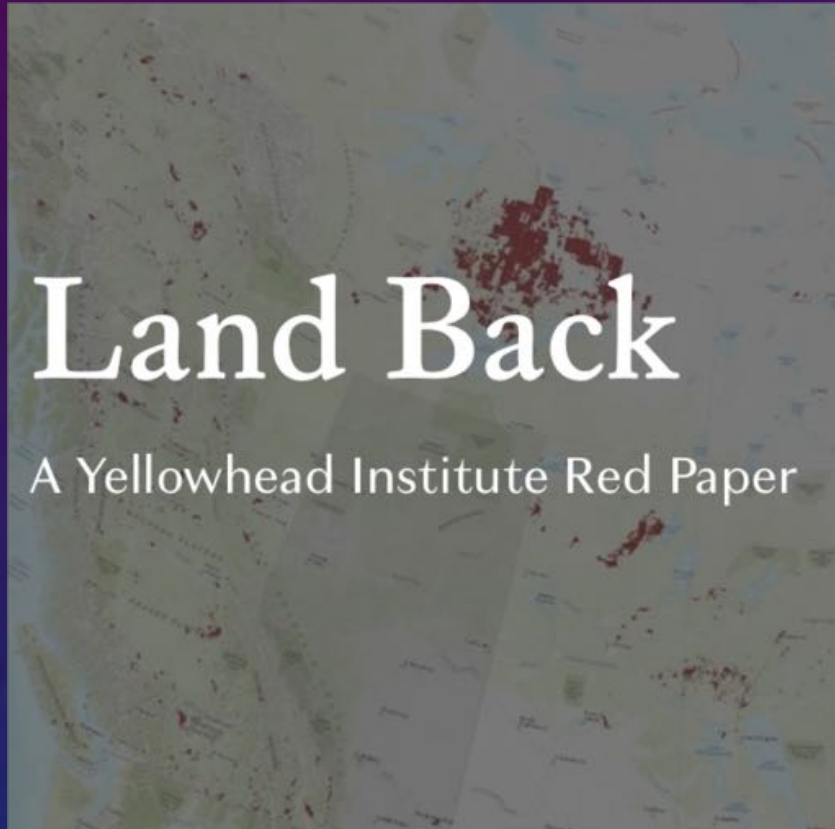




## 8. CAN'T DO IT WITHOUT INDIGENOUS RECONCILIATION

# RECONCILIATION MEANS?

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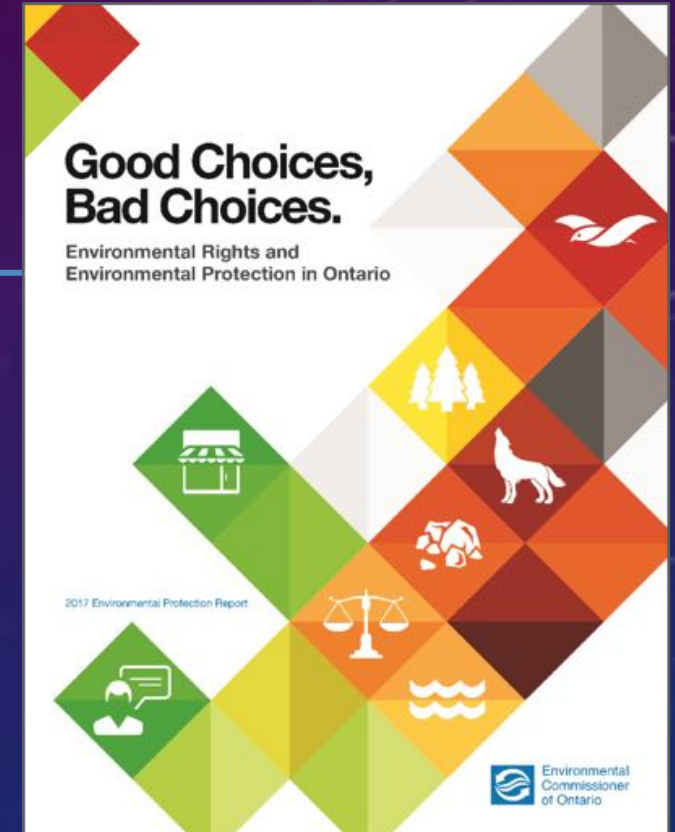


- Honouring of treaty rights
- Restitution
- Self-determination

# WE OWE RECONCILIATION

WORLD

**In Sarnia's Chemical Valley, is 'toxic soup' making people sick?**



**Truth and Reconciliation**  
Commission of Canada



*National Centre for Truth and Reconciliation*

UNIVERSITY OF MANITOBA



# Court allows six Trans Mountain appeals focusing on Indigenous consultation



Plus First Nations have clout





## First Nation trying to stop \$453M Manitoba-Minnesota power line project



Manitoba Hydro power lines are photographed just outside Winnipeg, Monday, May 1, 2018. THE CANADIAN PRESS/John Woods

Growing clout  
and  
sophistication



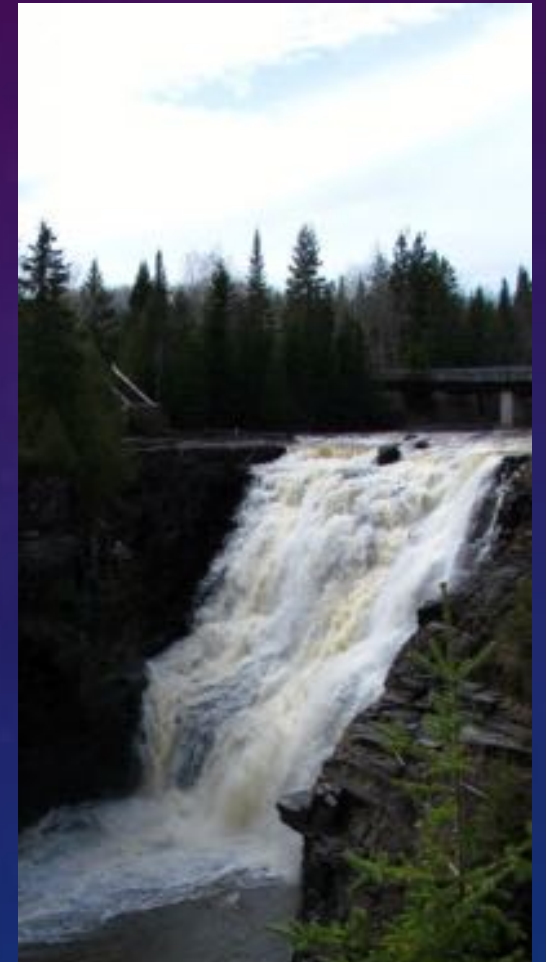
Conclusion

## Continuation of Life

Why Indigenous jurisdiction matters in the midst of an ongoing climate crisis

INDIGENOUS  
CLEAN ENERGY

And many  
strengths



AFFORDABLE AND CLEAN ENERGY

Indigenous-led clean-energy  
projects could power reconciliation

BY THE CONVERSATION CANADA | 04.26.19

# 9. PEOPLE, JUSTICE, EQUITY



# THREE STRONG CLAIMS FOR CLIMATE JUSTICE

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1. Those whose livelihoods have been from fossil fuels (“Just Transition”)
2. Those who can least pay more for energy
3. Those who suffer the most climate damage

Even stronger claims outside Canada



# YES TO THE JUST TRANSITION



Add your name to call for training in renewable energy

SOLAR SKILLS

IRON EARTH

” I’ve been working in **oil & gas** my whole career. It got me to where I am today, but I want to stay ahead of the curve. That’s why **I’m upskilling into renewable energy.**

— KASANDRA SCHOENING, JOURNEYMAN ELECTRICIAN

OPINION

## To the oil workers of Alberta: We care about you

# AND YES TO INTEGRATING CLIMATE AND EQUITY

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- Social housing and low income energy efficiency
- Renewables instead of diesel
- Broader engagement
- Green jobs
- Less pollution burden
- Resilience/ adaptation for local communities
- Restoring nature

# CARBON PRICING CAN HELP

- Can fund families
- Or great projects

- 90% of federal carbon price goes back to households
- Average: \$300 v \$244
- Plus 10% rural / remote



**19,000 social housing units energy efficiency upgrades**



**Energy retrofits at 98 hospitals, 621 schools, 48 universities and colleges**

# 10. REAL FACTS, HONEST CONVERSATIONS





# WHAT CAN WE DO?

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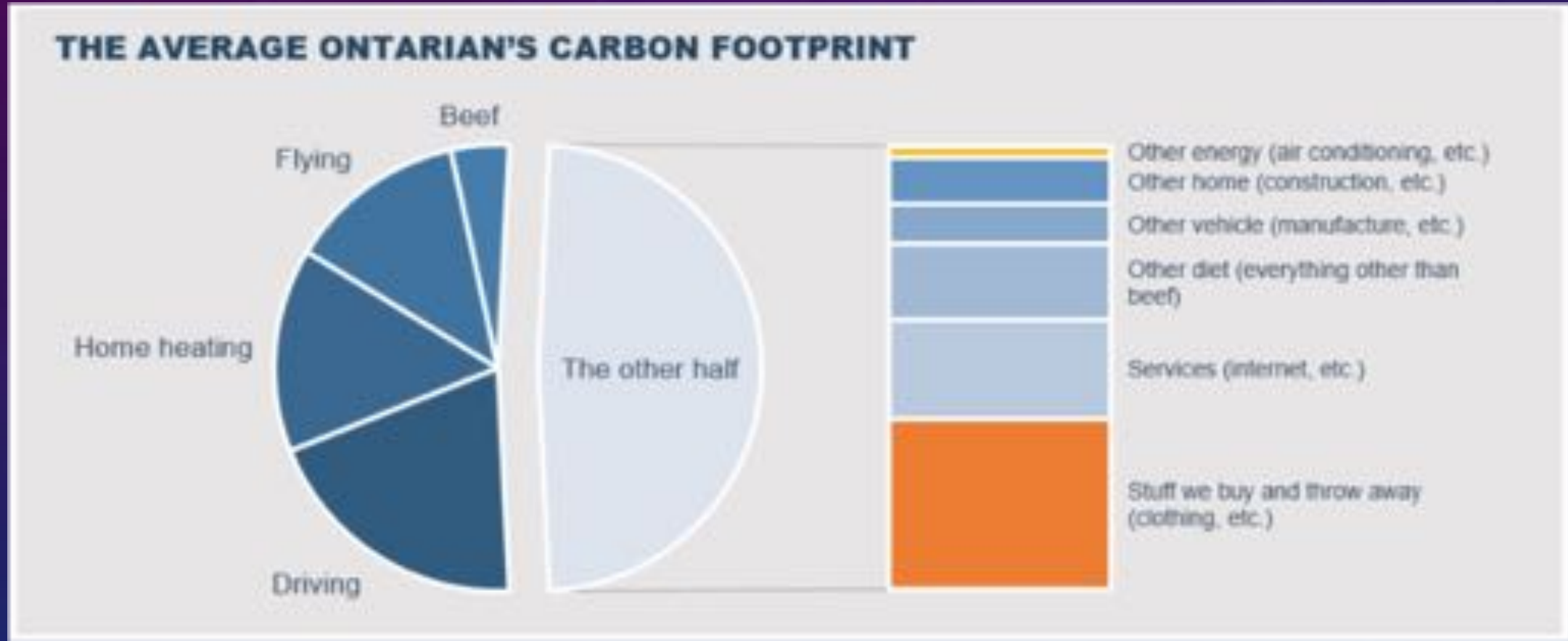
Reduce your carbon footprint

Get ready to adapt

Speak up

- Climate cannot be left entirely up to government

# PERSONAL FOOTPRINT MATTERS



# BUT INDIVIDUAL ACTION IS NOT NEARLY ENOUGH

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- Collective problems need collective action
- That is the job of governments



1. Physics do not compromise

2. Crisis is not just climate

3. We can't count on magic

4. No one will do it for us

5. We have lots to gain

6. The green transition must be big and fast

7. For necessary demand, the cleanest supply

8. Can't do it without indigenous reconciliation

9. Climate justice and equity

10. Real facts, honest conversations





KNOWLEDGE + ACTION = HOPE

NO ONE CAN DO EVERYTHING, BUT EVERYONE CAN DO SOMETHING

# THANK YOU

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