



# CLIMATE CHANGE

## ASSURING OUR FUTURE

Gerald Oakham, Peter Black



Fort McMurry Fire 2016



Quebec+Ontario: Black Legged tick



Ottawa: Tornadoes 2018



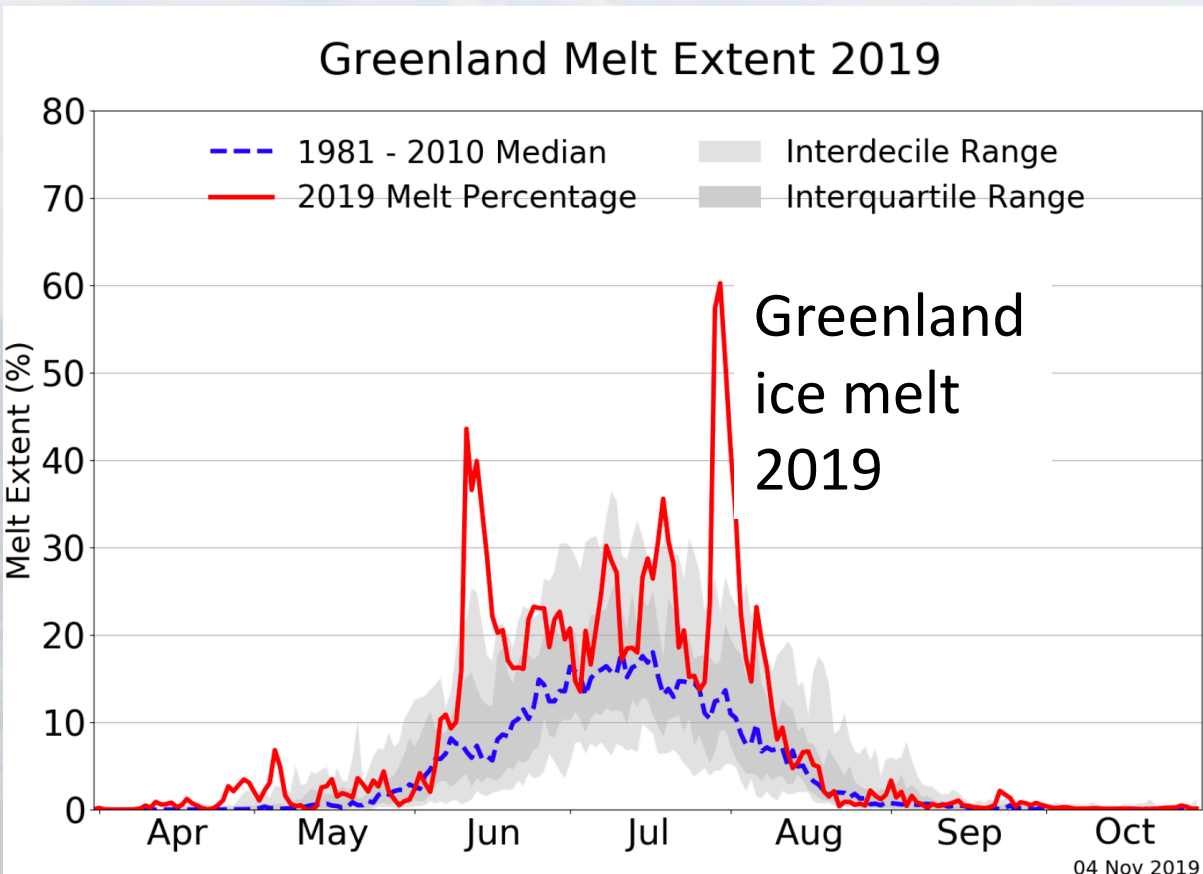
Toronto: Flood 2018





# Worldwide Harm Caused by Global Warming

- Loss of Ice at the poles
- Loss of Coral – ocean acidification
- ....



NSIDC / Thomas Mote, University of Georgia



on Climate Change

Climate Change ...

...is affecting us all



According to a report in the Medical Journal, The Lancet in November 2019

Climate change will risk the health of babies born in Canada and around the world throughout their lifetimes

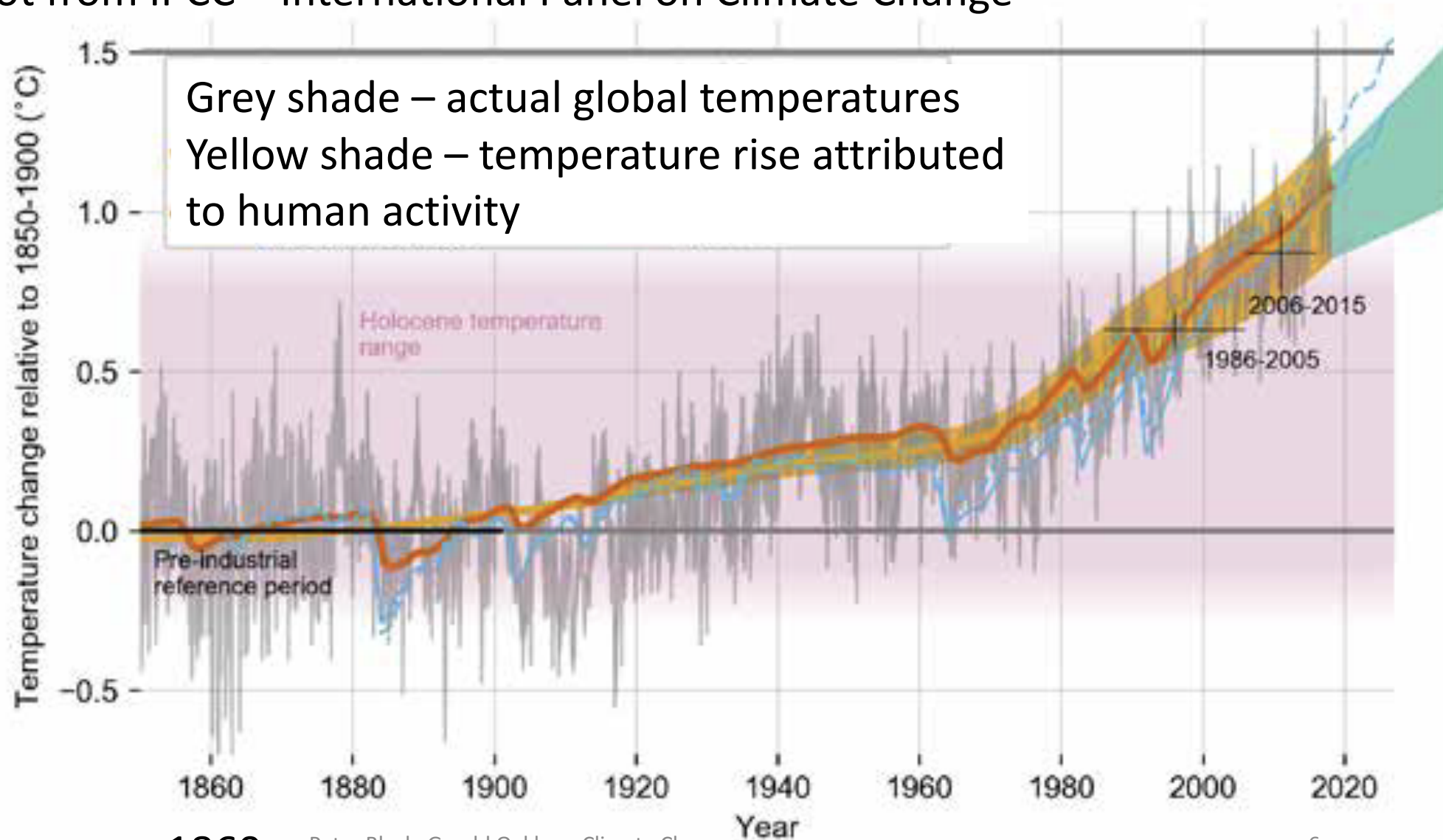


# Global Temperatures

Plot from IPCC = International Panel on Climate Change

Global temperature is average of many readings

Global temperatures have risen 1 degree in past 150 years.



From IPCC. Figure 2.1  
SR1.5 Chapter 1

1860

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2000

6



# Temperature and CO<sub>2</sub> levels

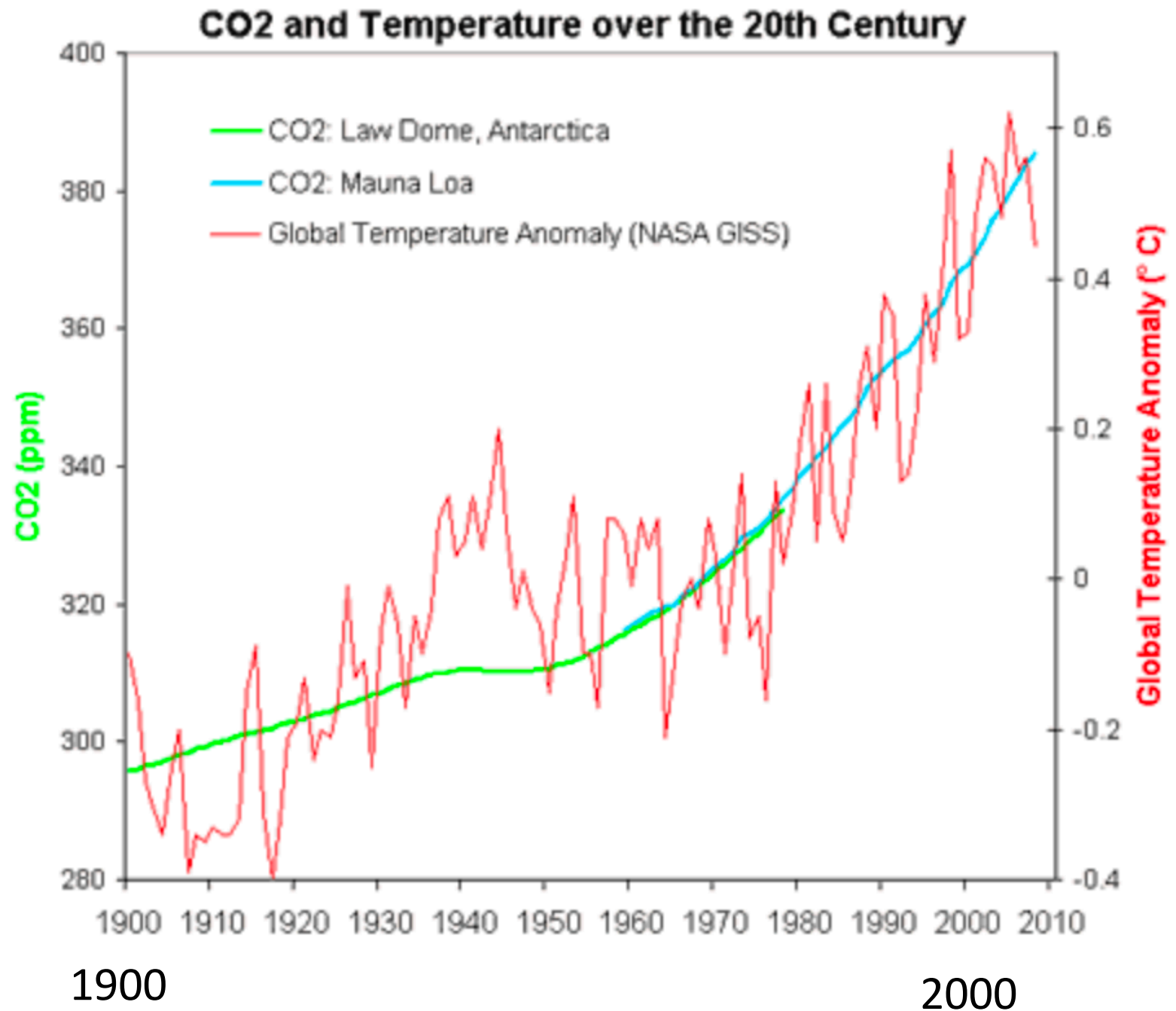
400

Temperature increase due to rise in Green House Gas (GHG) levels including CO<sub>2</sub>

300

CO<sub>2</sub> levels increasing due to human activity

2019-November



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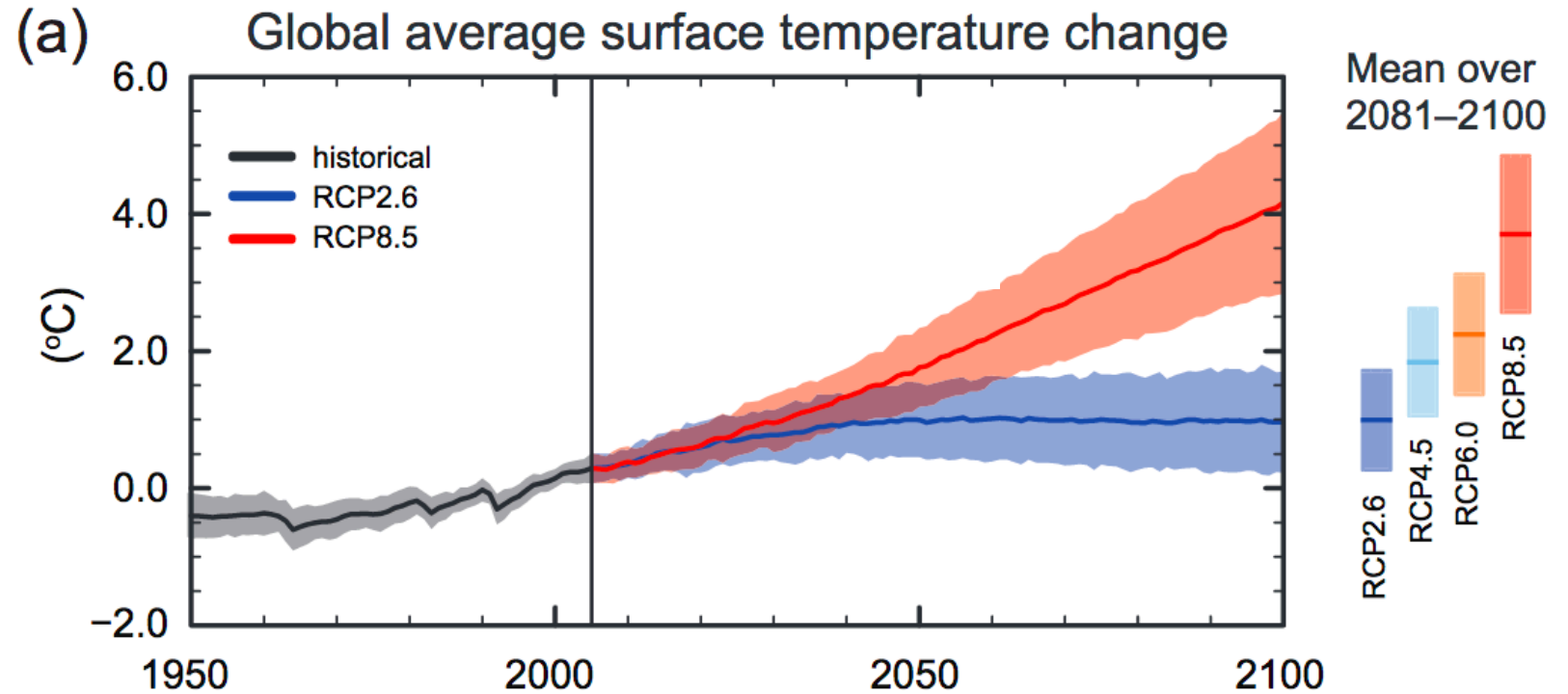
# Projected world temperature rises for different scenarios

Note blue scenario requires both reduction in GHG emissions and removing carbon from the atmosphere or carbon capture

(GHG – Green House Gases)

Plot from  
From IPCC  
AR5 report

2019-November



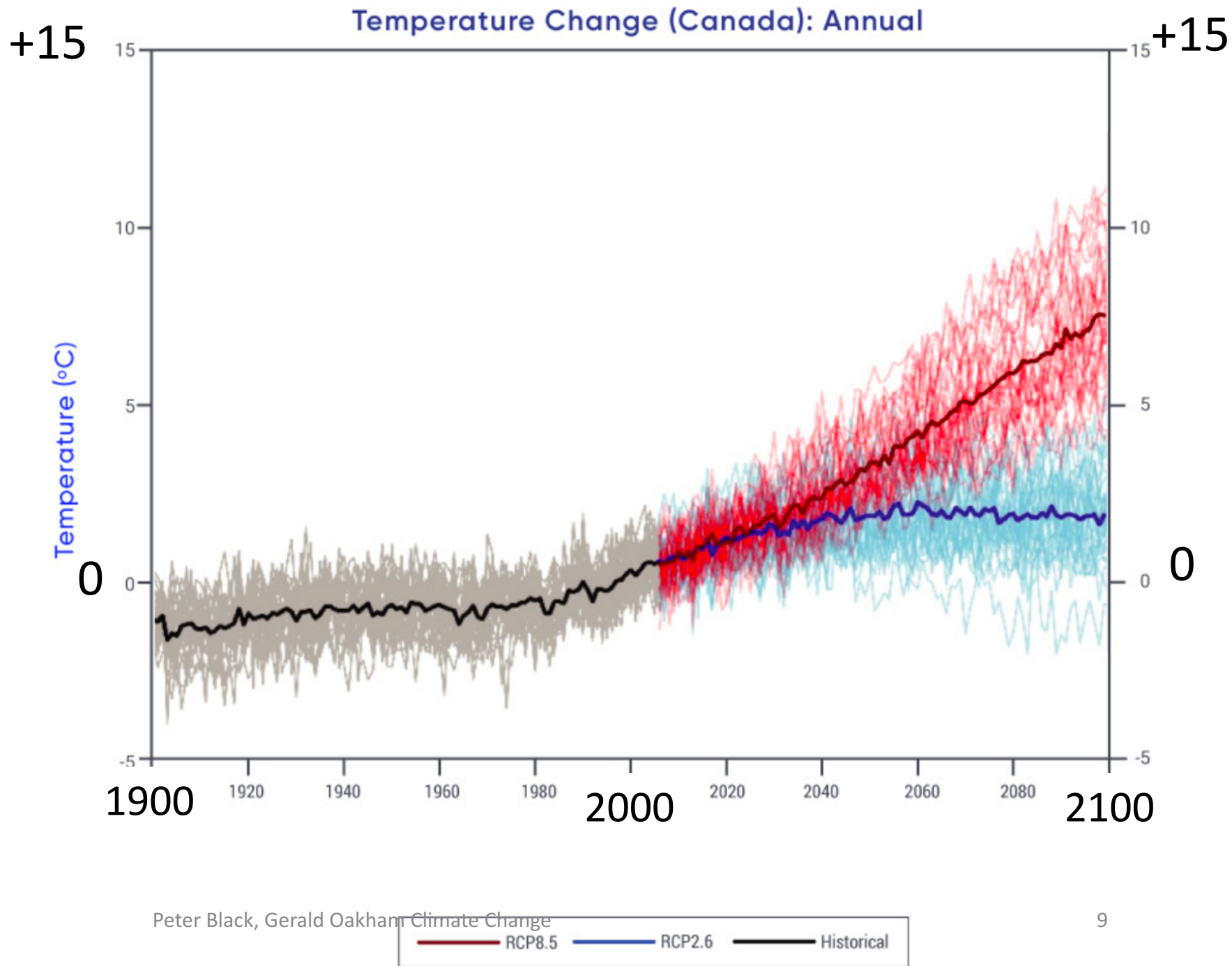
Scenarios:-

Blue – **optimistic** action to reduce GHG emissions

Red – **pessimistic** little action to reduce GHG emissions

Average  
projected  
temperature  
rises for Canada:  
Blue optimistic  
Red - Pessimistic

From Canada's  
Changing Climate  
report (2019)





# What harm would 1.5 or 2 degree warming cause

**While precise predictions are difficult, the following is likely:-**

- Ice free Arctic in summer by the 2030s
- Melting Greenland and Antarctic ice sheets and ocean warming cause sea level rise (up to 1m by 2100)
- Increase in major weather events
- Shifting weather patterns (more snow/less snow depending on location), storms
- Habitat loss for animals and humans
- Ecological migration – political unrest

International Panel on Climate Change (U.N.)

In 2018 IPCC stated:-

**We have just 12 years to limit  
devastating global warming**

# The clock is ticking – 11 years left!

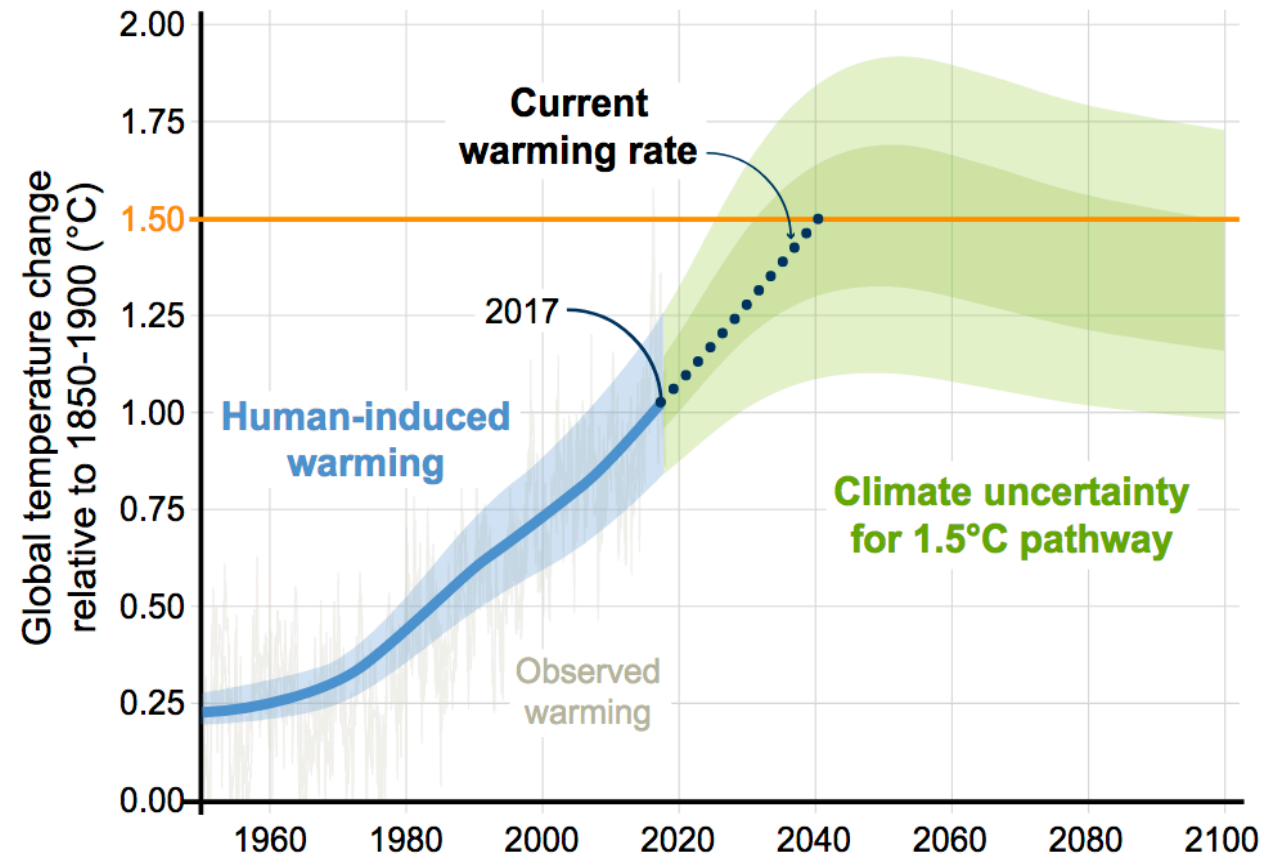
## Paris agreement (2015)

IPCC reports show that initiatives in would lead to global warming exceeding 1.5 degrees

## New requirement (2018)

Cut GHG emissions by 45% from 2010 levels by 2030.

No net emissions by 2050-2070 (Carbon capture required)





Why should we combat climate change?

Our Home

The biosphere  
We rely on is  
Under threat.



Action to limit  
climate change  
will give us:-

Clean air to breath  
Growing room for kids  
Protect coastal cities

**There is no planet B**

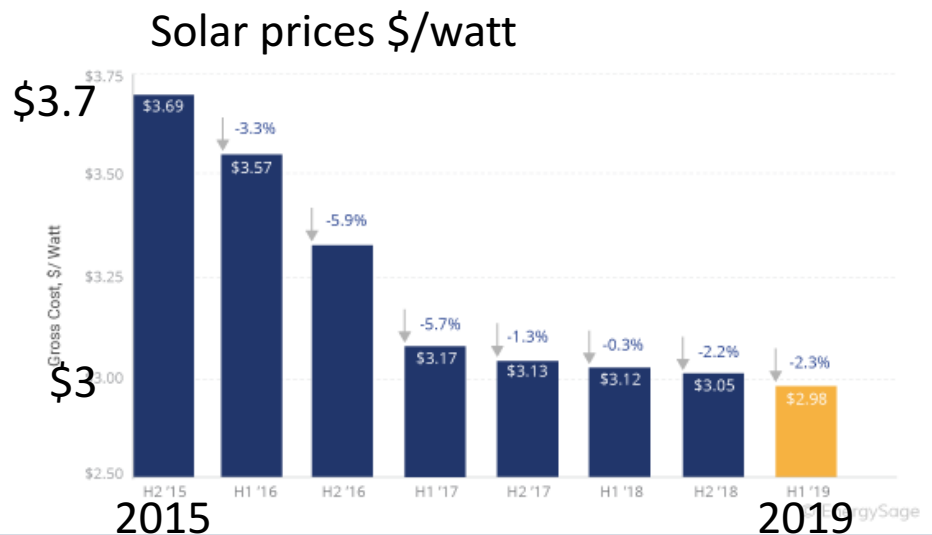
Ensures our survival



# What needs to change



Reduce existing infrastructure based on fossil fuels and the industries that support them

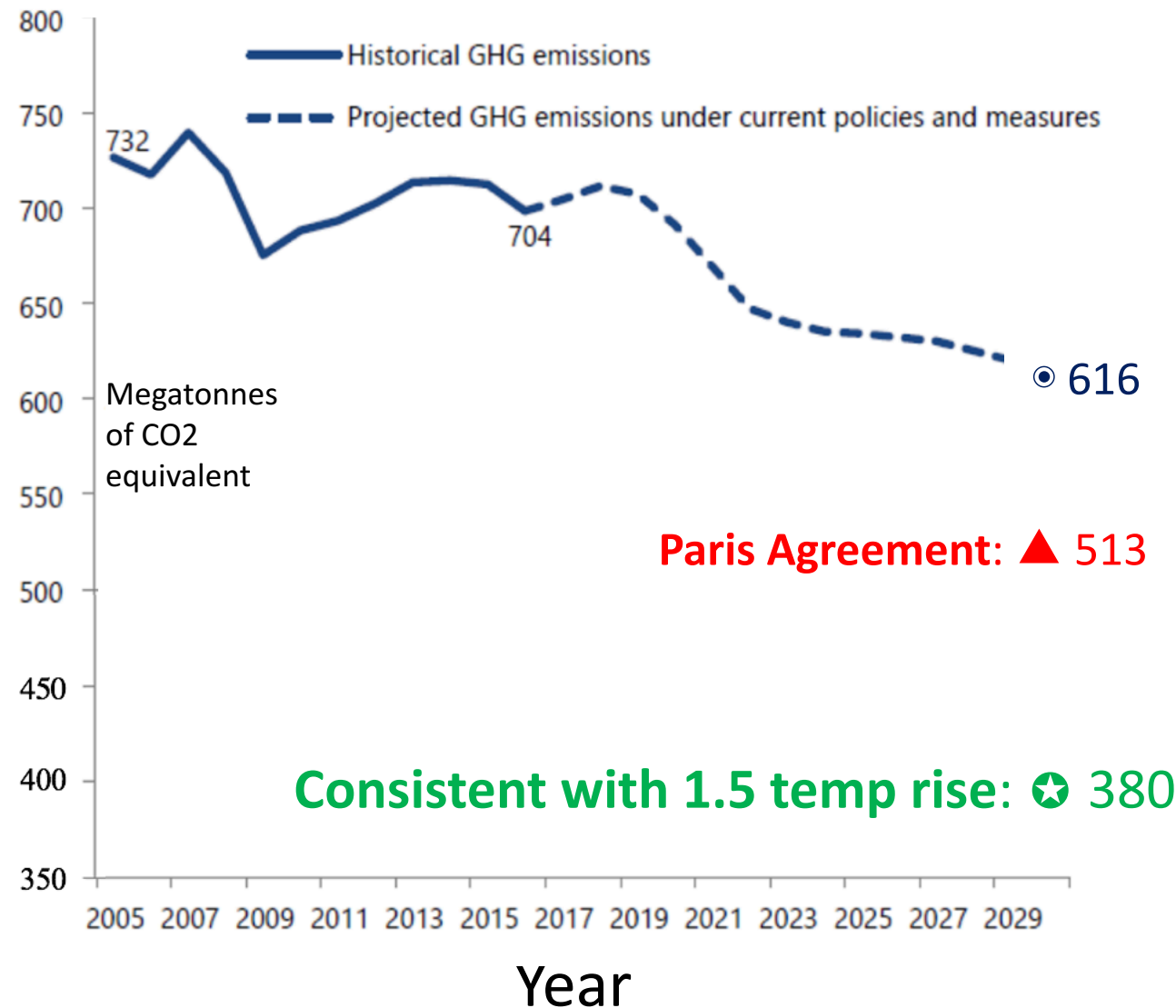


Build new industries based on provision of renewable Energy





# Canada's GHG projected emissions



Source Environment and Climate change Canada  
2019-November

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**Current Canadian policies are not sufficient to limit Canadian CO<sub>2</sub> emissions as required to keep the global temperature rise below 1.5 degrees**





# Solutions

- Individuals need to reduce energy use.
- **BUT**
- **Governmental action is essential to change from a culture based on fossil fuels to one based on renewables**



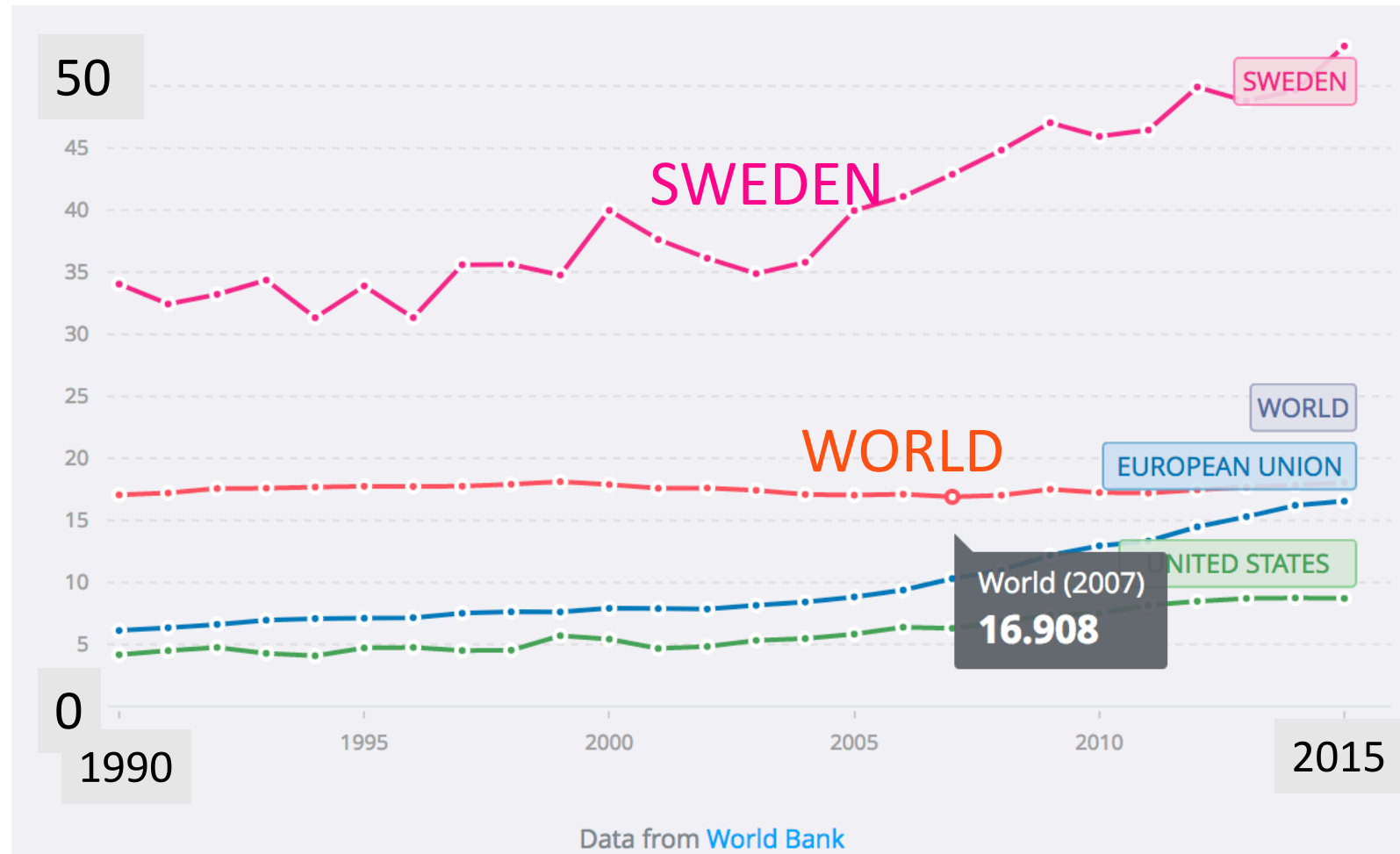
# Change is possible

In 2014

52.6% of final **energy consumption** in **Sweden** is from renewable energy

Canada can enact similar policies

## Renewable energy consumption %



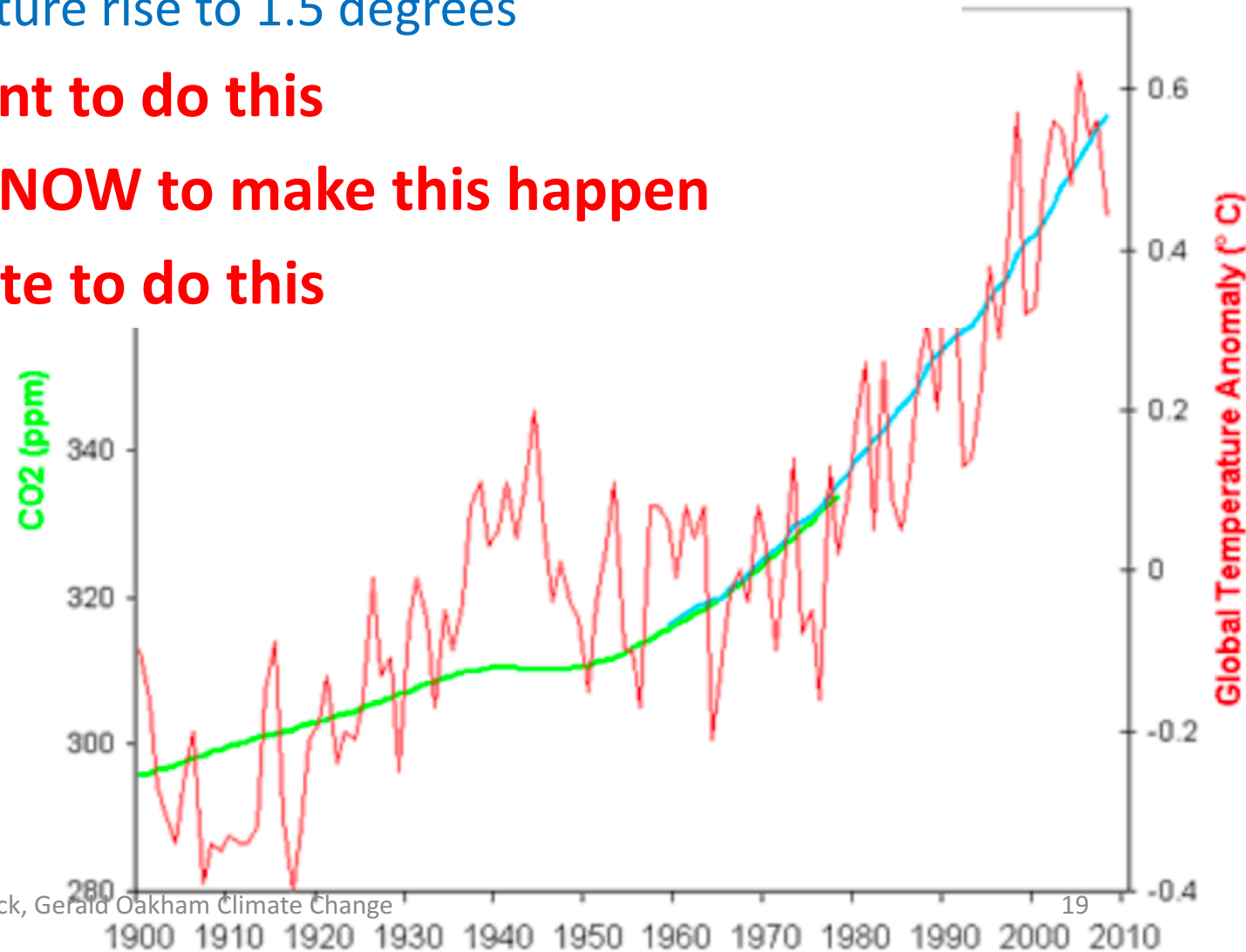


# Climate Change Action is urgently required

- Global warming is not a future event – it is already happening and impacting our lives
- We have 11 years to limit the temperature rise to 1.5 degrees
- **Current policies are NOT sufficient to do this**
- **Legislation must be put in place NOW to make this happen**
- **Our governments need a mandate to do this**

It is critical that we tell our elected representatives at the Federal, Provincial and Municipal level to act to limit climate change

**Your participation is crucial**









# Resources

For sample text to use to contact elected representatives see:-

<http://climatetalkottawa.com>