Carbon Pricing and Atmospheric Science

Precios del Carbono y Ciencia Atmosférica

OUTLINE

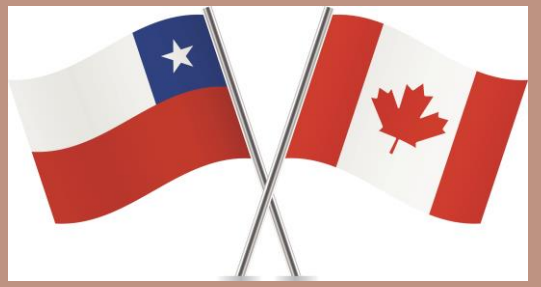
Atmospheric Science

Carbon Pricing Tools

Global, Canadian and Chilean Applications,

Fee and Dividend Carbon Pricing System

Carbon Pricing: Going Forward



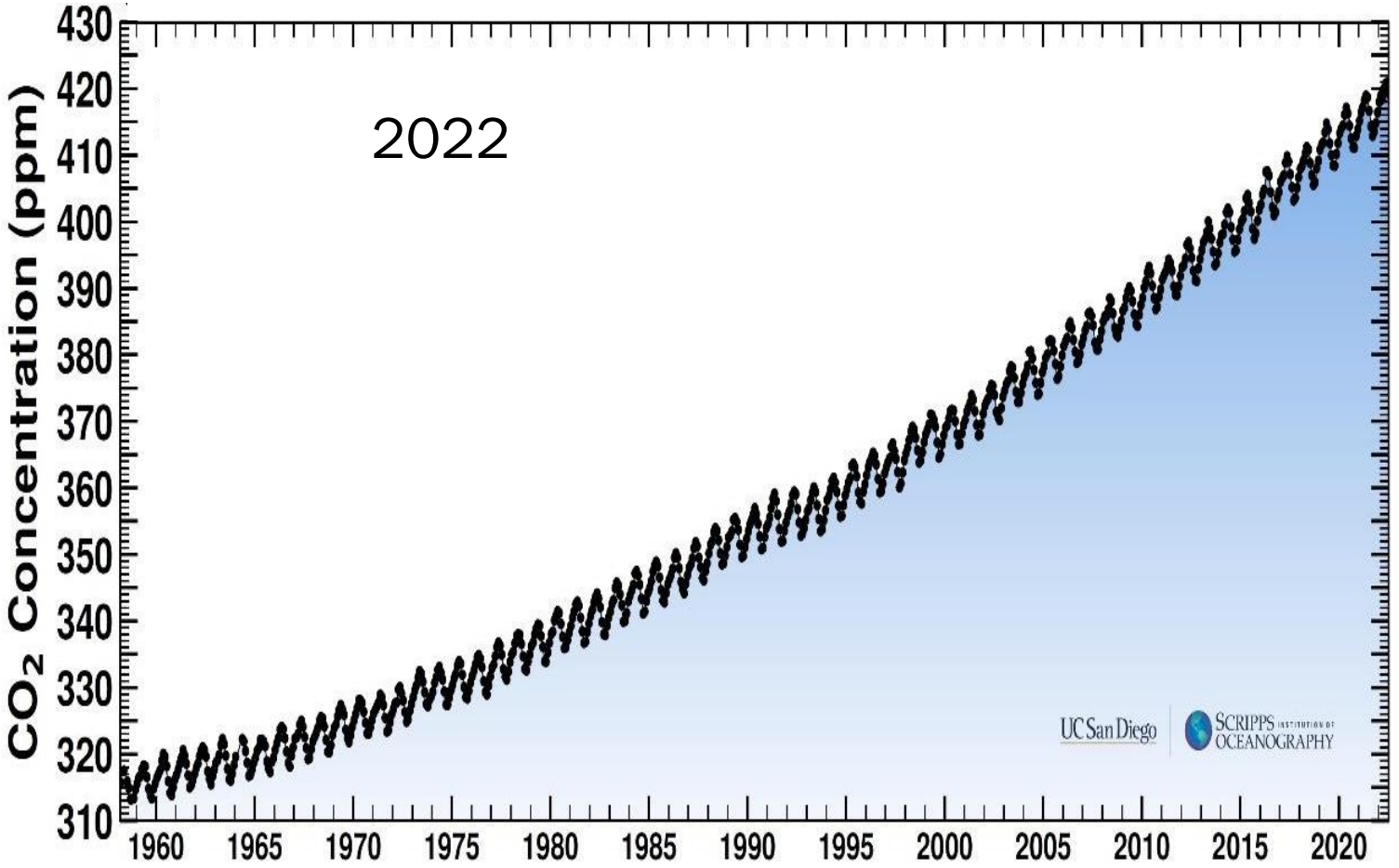
12 de octubre de 2022

Comité Consultivo Publico Conjunto (CCPC)

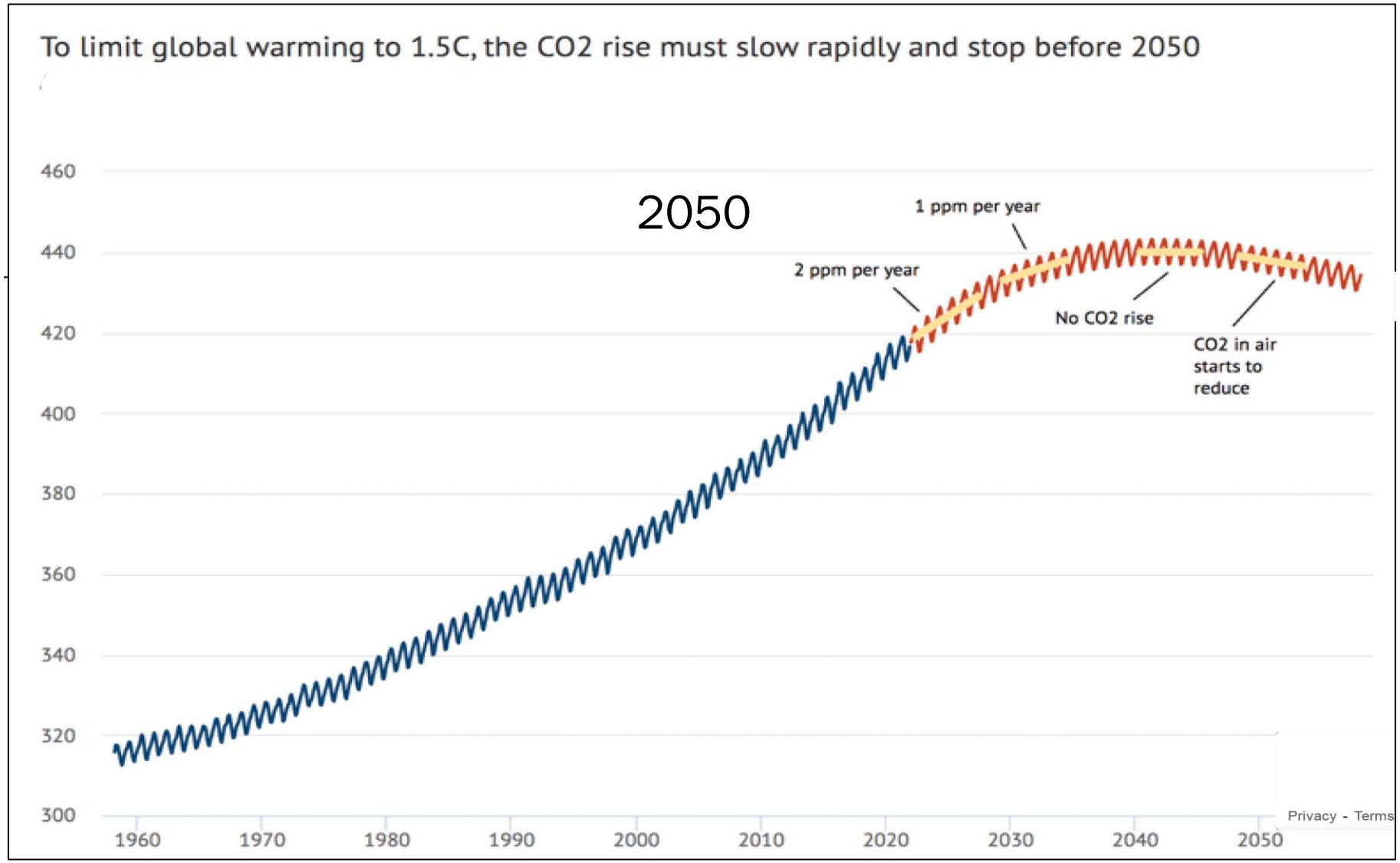
Joint Public Advisory Committee (JPAC)

Santiago, Chile

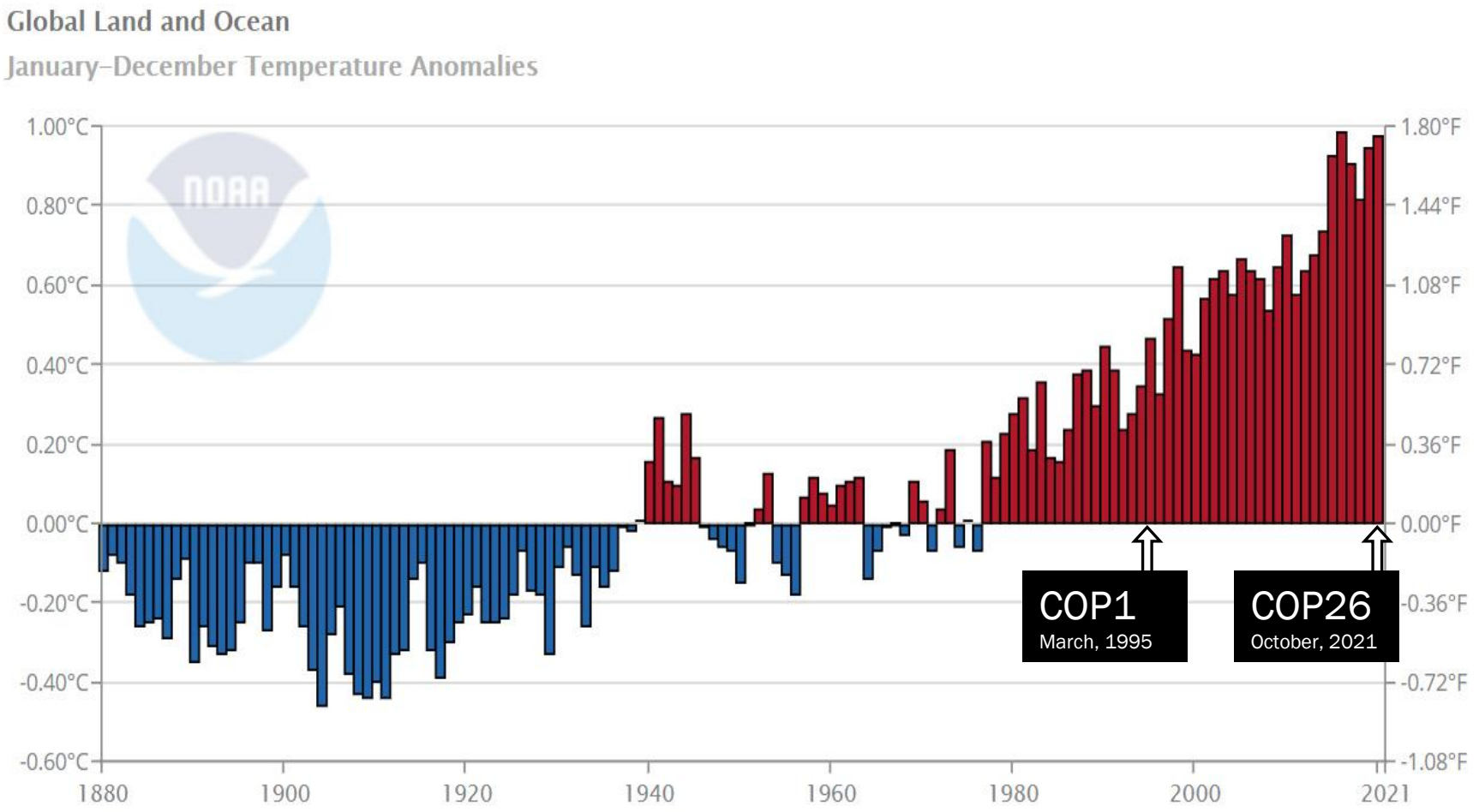
CO_2 in the Atmosphere



Credit: Scripps Institution of Oceanography.

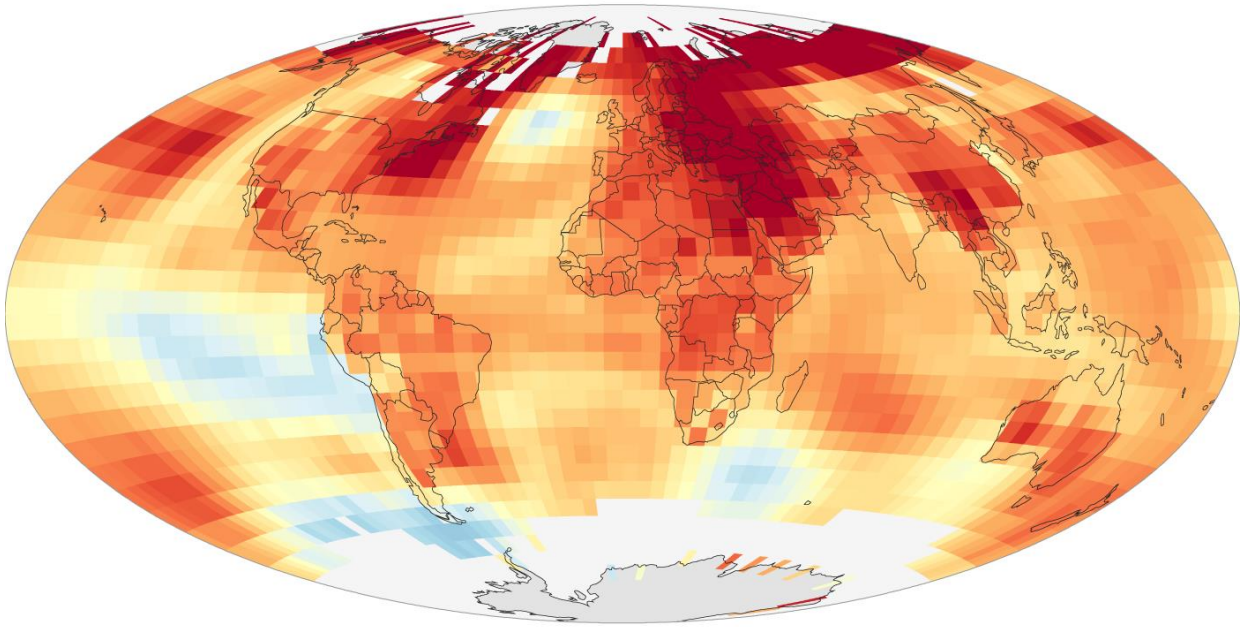


Credit: CarbonBrief. [Bending Over the Keeling Curve]



Credit: NOAA Climate.gov

RECENT TEMPERATURE TRENDS (1990-2021)



1990–2021

Change in temperature (˚F/decade)

-1 0 1

NOAA Climate.gov
Data: NCEI

Carbon Pricing Tools

Carbon pricing requires the integration of the cost of pollution into everyday decisions.

Putting a price on carbon pollution is widely recognized as the most efficient means of reducing greenhouse gas emissions while driving innovation.

1. Cap and Trade
2. Cap and Dividend
3. Fee and Dividend
4. Fee and Tax Offset
5. Cap and Spend
6. Fee and Spend/Block Grant

How does a fee-and-dividend system work?

1. A tariff is applied to fossil fuels at their point of origin in the economy, such as a well, a mine or a port of entry.

2. The fee increases progressively.

3. A border tax adjustment is applied to imports from countries that do not have their own equivalent carbon fee.

4. Some or all of the fee is returned to households as an energy dividend.

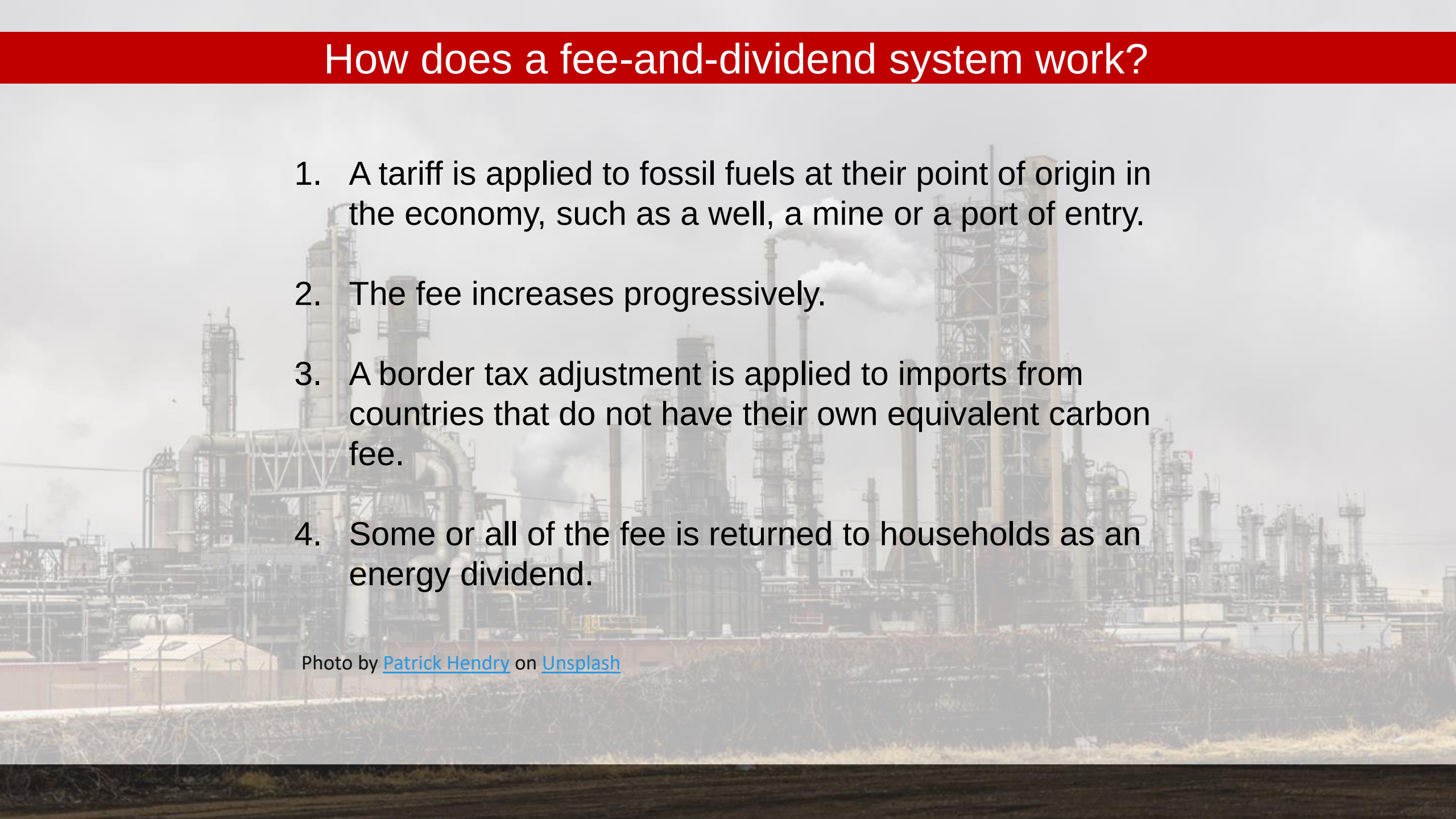


Photo by Patrick Hendry on Unsplash

Dr. James Hansen –the father of climate change

Dr. James Hansen

Photograph: Chip Somodevilla/Getty Images.
Published in the Guardian

Fee and Dividend

United States House of Representatives
Select Committee on the Climate Crisis

Why Fee and Dividend Will Reduce Emissions Faster Than Other Carbon Pricing Policy Options

November 2019

Dr James Hansen: Oh, Canada! Show the world the path to carbon fee and dividend

Published on May 12th, 2020

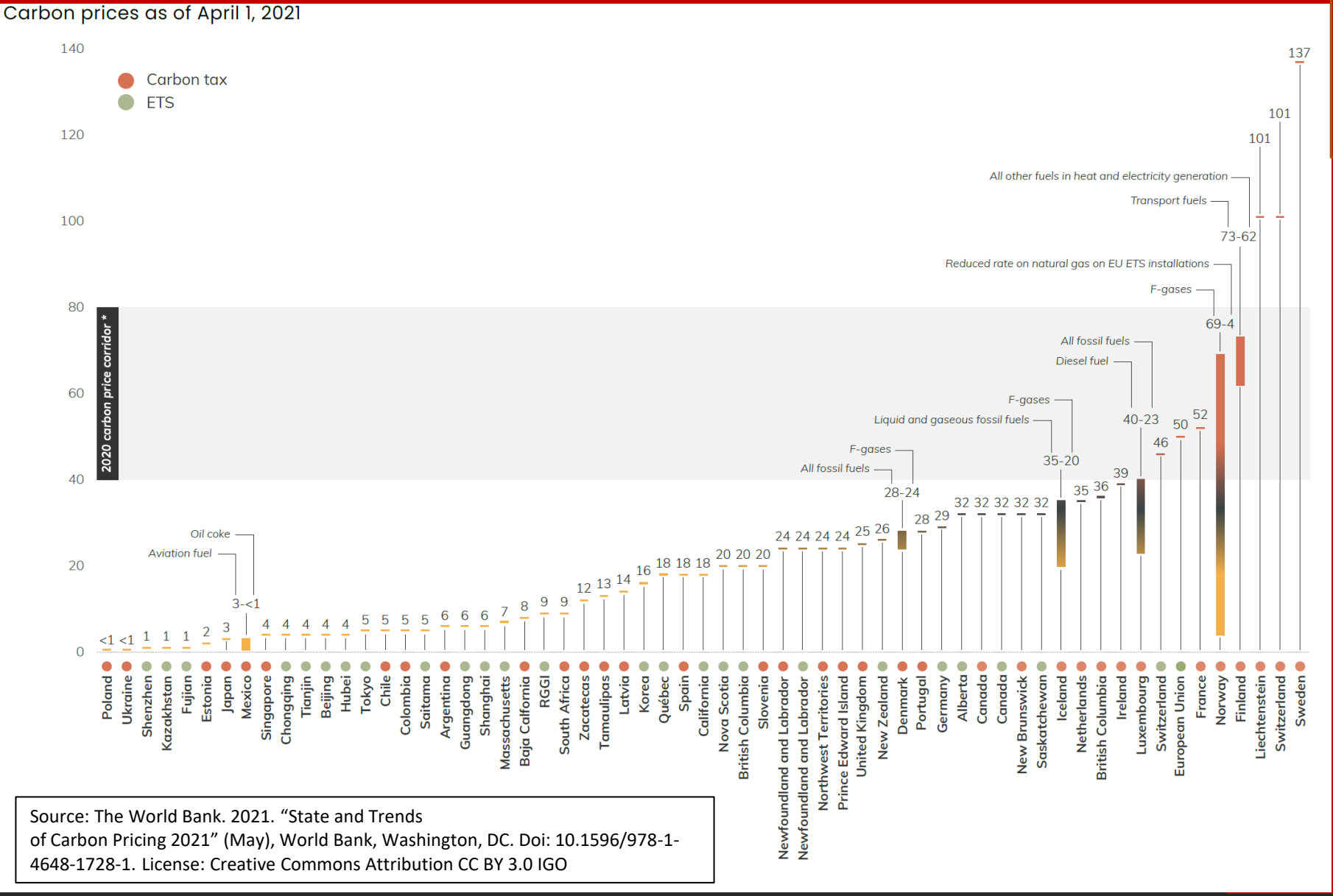
Posted on October 23, 2018 in CCL News

FOR IMMEDIATE RELEASE

Canadian Prime Minister Justin Trudeau announces Canada's carbon pricing policy.
Source: Prime Minister's Office

Canada adopts carbon fee and dividend to rein in climate change

Carbon Pricing



Source: The World Bank. 2021. "State and Trends of Carbon Pricing 2021" (May), World Bank, Washington, DC. Doi: 10.1596/978-1-4648-1728-1. License: Creative Commons Attribution CC BY 3.0 IGO

Canada's carbon price will rise to $50/t in 2022.

Canada's goal is to reduce greenhouse gas emissions by 40-45% by 2030

The price of carbon in Chile is $5/t and the goal is $35/t from 2030


Photo by Rafael Garcia on Unsplash

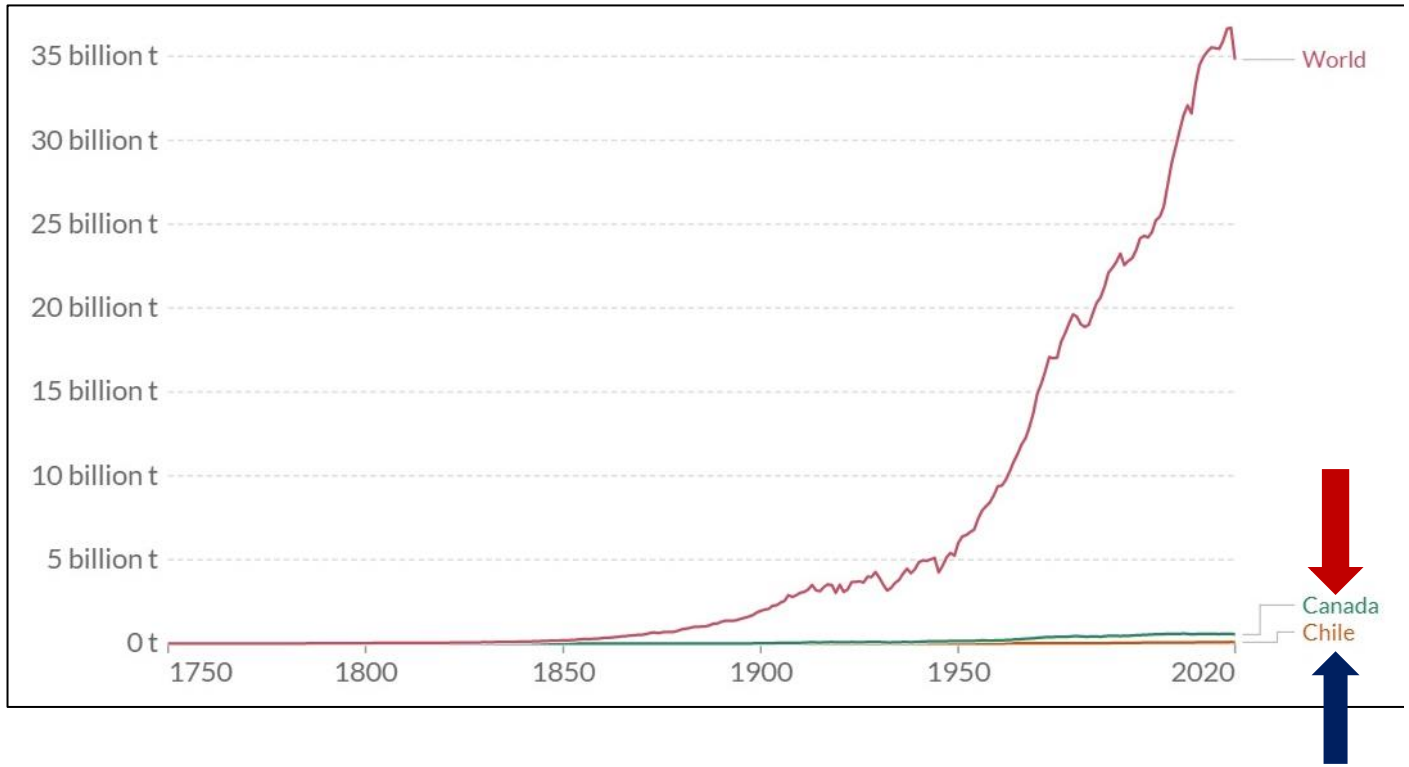
Response to French President Emmanuel Macron's fuel tax

300,000 protesters (les gilets jaunes)

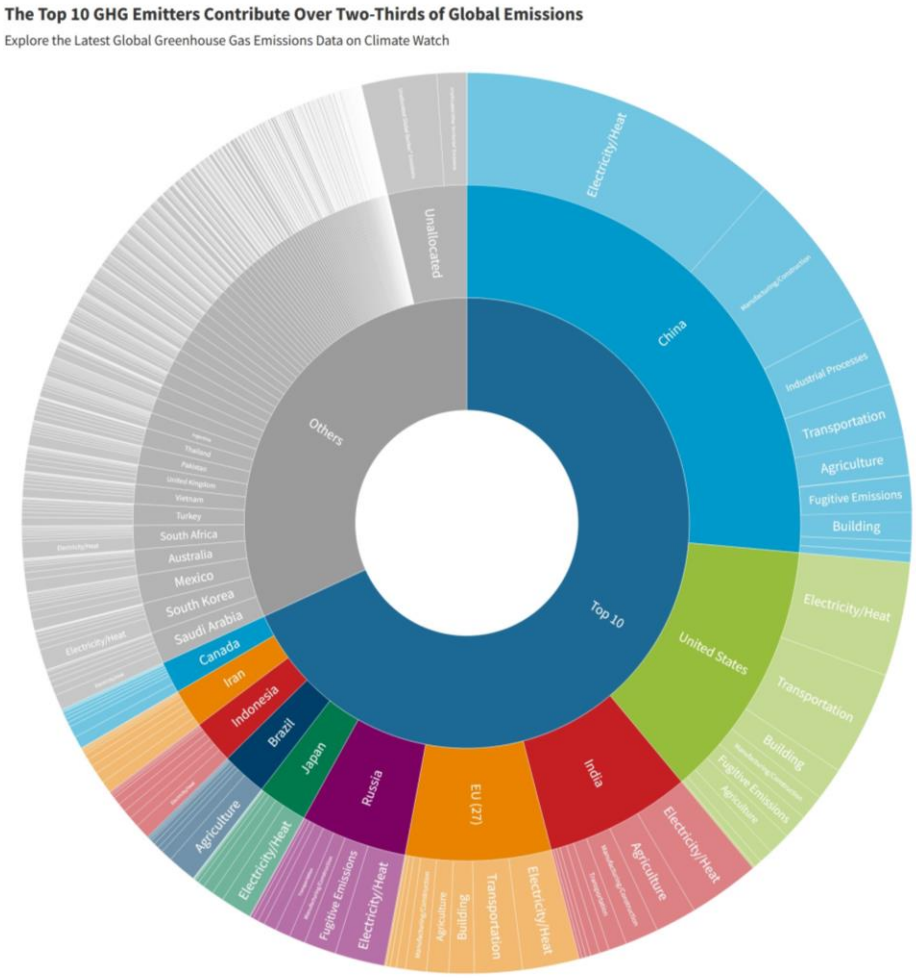
6 dead

Neither Canada nor Chile are Large GHG Emitters on a Global Scale

Annual CO2 Emisions from Fossil Fuels



Source: Our World in Data

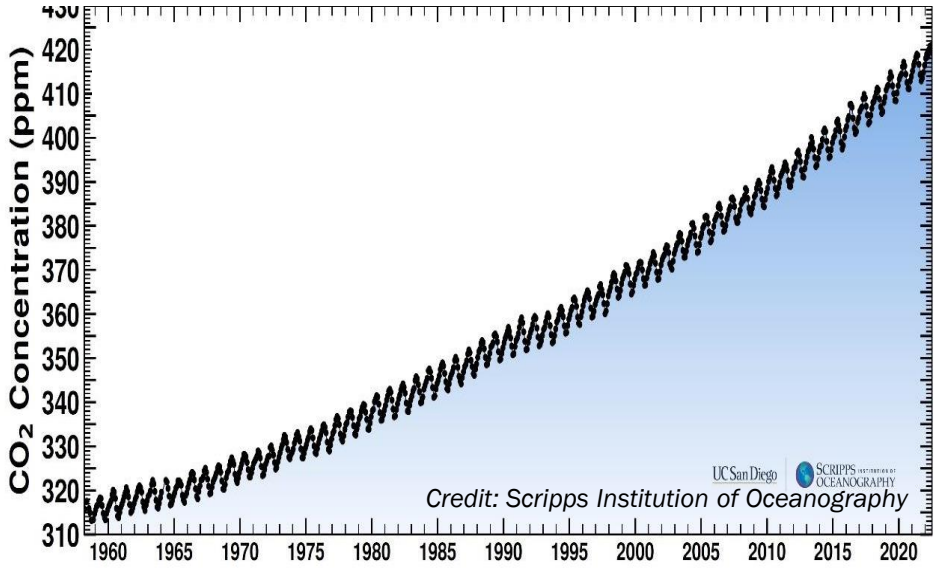


Source: ClimateWatch

"We are stepping forward today - as the foremost student leaders of America's colleges and universities - to endorse the breakthrough, bipartisan climate solution known as carbon dividends."

S4CD

STUDENTS FOR CARBON DIVIDENDS



The main greenhouse gas, carbon dioxide, will continue to rise rapidly as long as the price of fossil fuels does not include their ultimate costs to society.

New climate policies, strategies, and protocols, must directly address how human interventions will draw down atmospheric CO2. Atmospheric CO2 concentration drives the greenhouse effect and is the bottom line for climate change mitigation.