



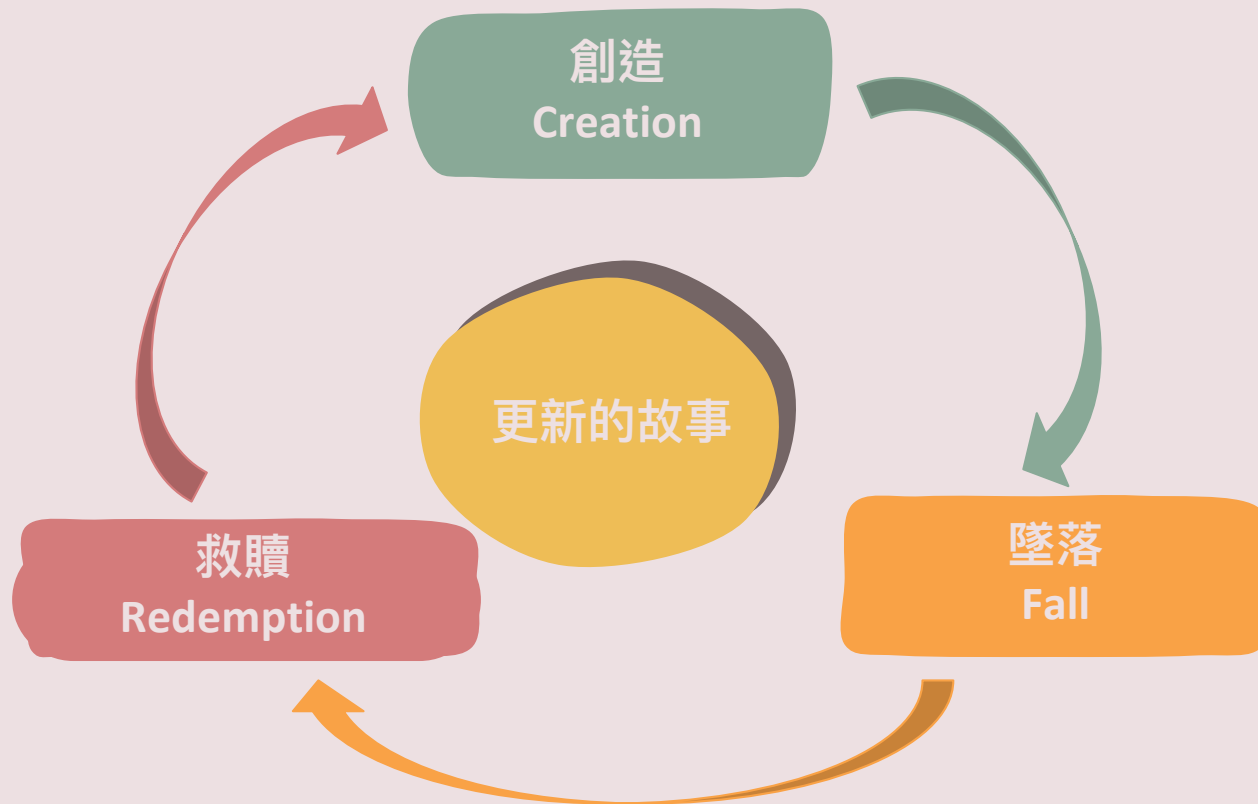
用 #ReformedWorldview 看:

# 氣候變化

我所找到的、只有一件、就是 神造  
人原是正直、但他們尋出許多巧計。

傳道書 7:29

# Reformed Worldview 建基於聖經的 “Grand Narrative” 之上

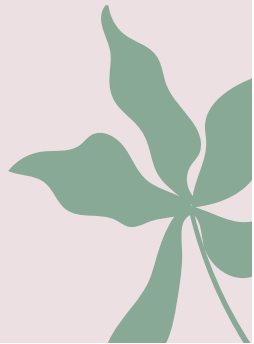


## 神對夏娃說

又對女人說、我必多多加增你懷胎的苦楚、  
你生產兒女必多受苦楚。 你必戀慕你丈夫\*、  
你丈夫必管轄你。

創世紀 3:16

\*參創4: 你若行得不好、罪就伏在門前。他必戀慕你、你  
卻要制伏他。

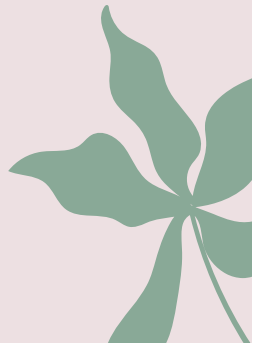


## 神對亞當說

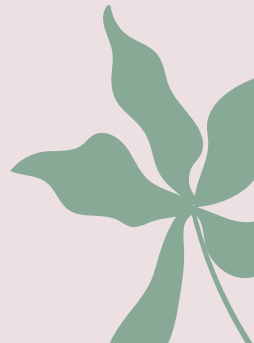
又對亞當說、你既聽從妻子的話、喫了我所吩咐你不可喫的那樹上的果子、地必為你的緣故受咒詛。

你必終身勞苦、纔能從地裡得喫的。地必給你長出荊棘和蒺藜來、你也要喫田間的菜蔬。你必汗流滿面纔得糊口、直到你歸了土、因為你是從土而出的。你本是塵土、仍要歸於塵土。

創世紀 3:17-19

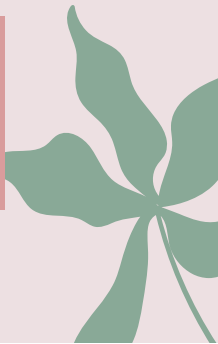


	創造時的祝福	犯罪後的咒詛
男人	從地被造， 人與地有互惠的關係。	地必給你長出荊棘和蒺藜來。
女人	從亞當身上的肋骨造成， 男人與女人有互惠的關係。	女人必戀慕丈夫、 丈夫必管轄女人。



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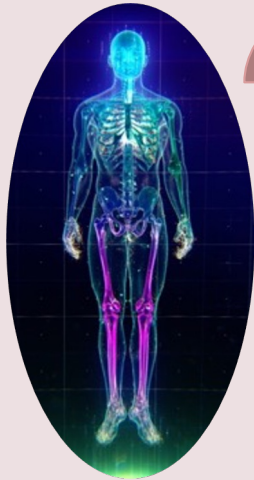
咒詛正正代表著人與自己的生命的源頭隔絕，關係破裂。



# 人與地

神按自己的形像造人、使他們:

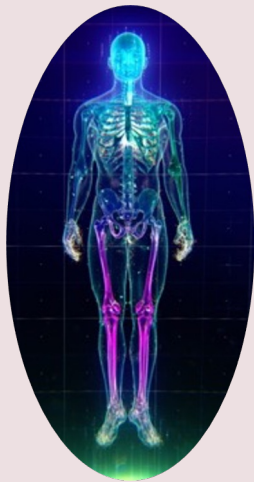
- 管理全地 (“rule over”)
- 修理看守 (“cultivate it and tend it”)



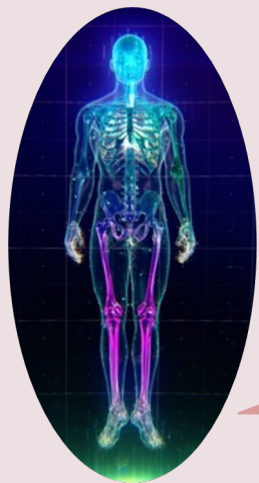
地供給人一切的需要，沒有人耕地，  
，有霧氣從地上騰、滋潤遍地。



# 人與地



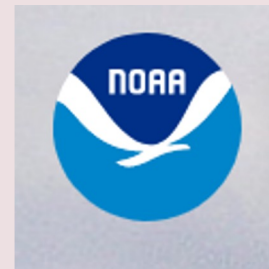
# 人與地



\$\$\$

# 氣候變化

- **NOAA** : National Oceanic and Atmospheric Administration
  - 前身: US Weather Bureau , 於1870成立。
- **IPCC** : The Intergovernmental Panel on Climate Change
  - Jointly established by United Nations Environment Programme (UNEP) and the World Meteorological Organization (WMO) in 1988



# GLOBAL AVERAGE SURFACE TEMPERATURE

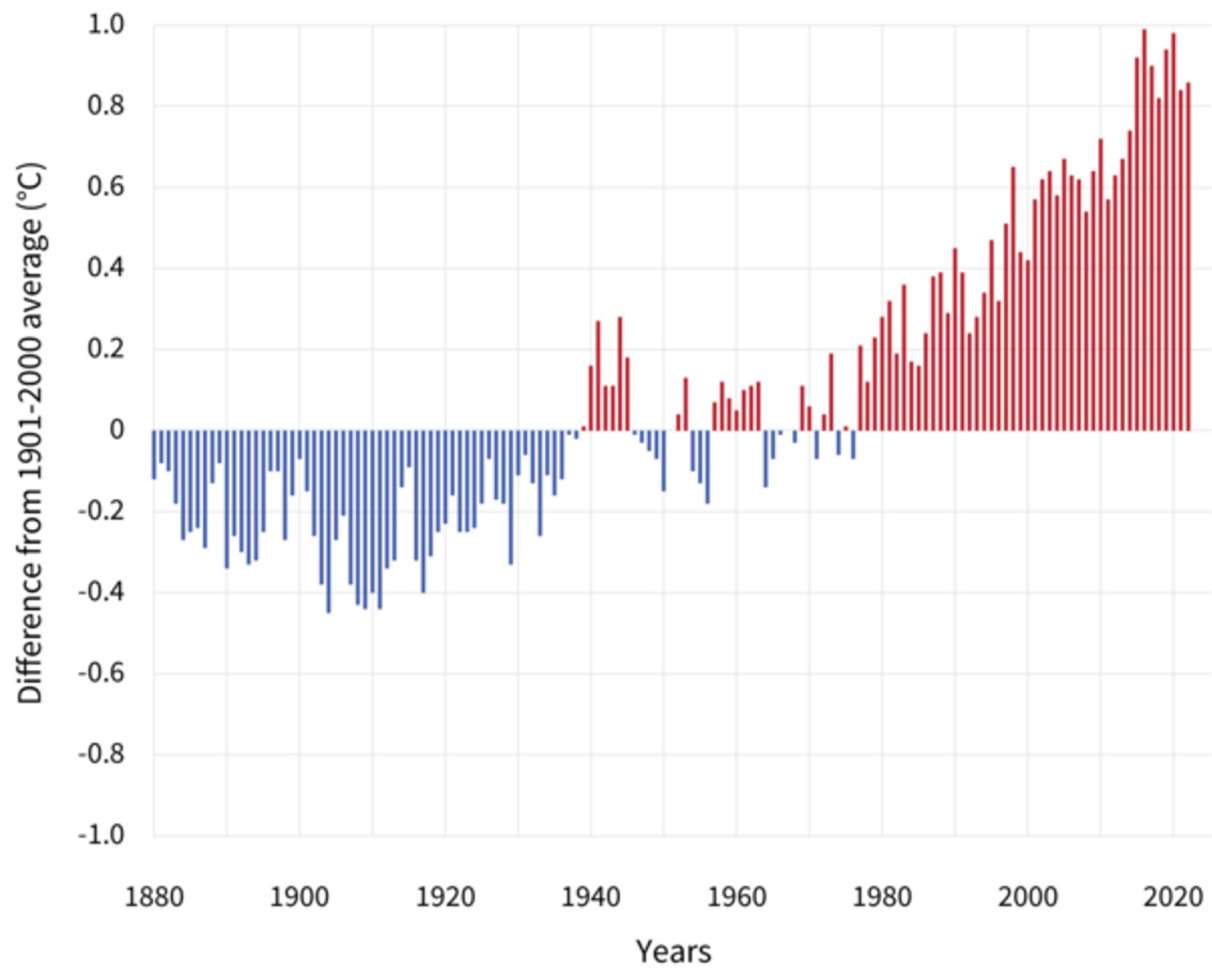
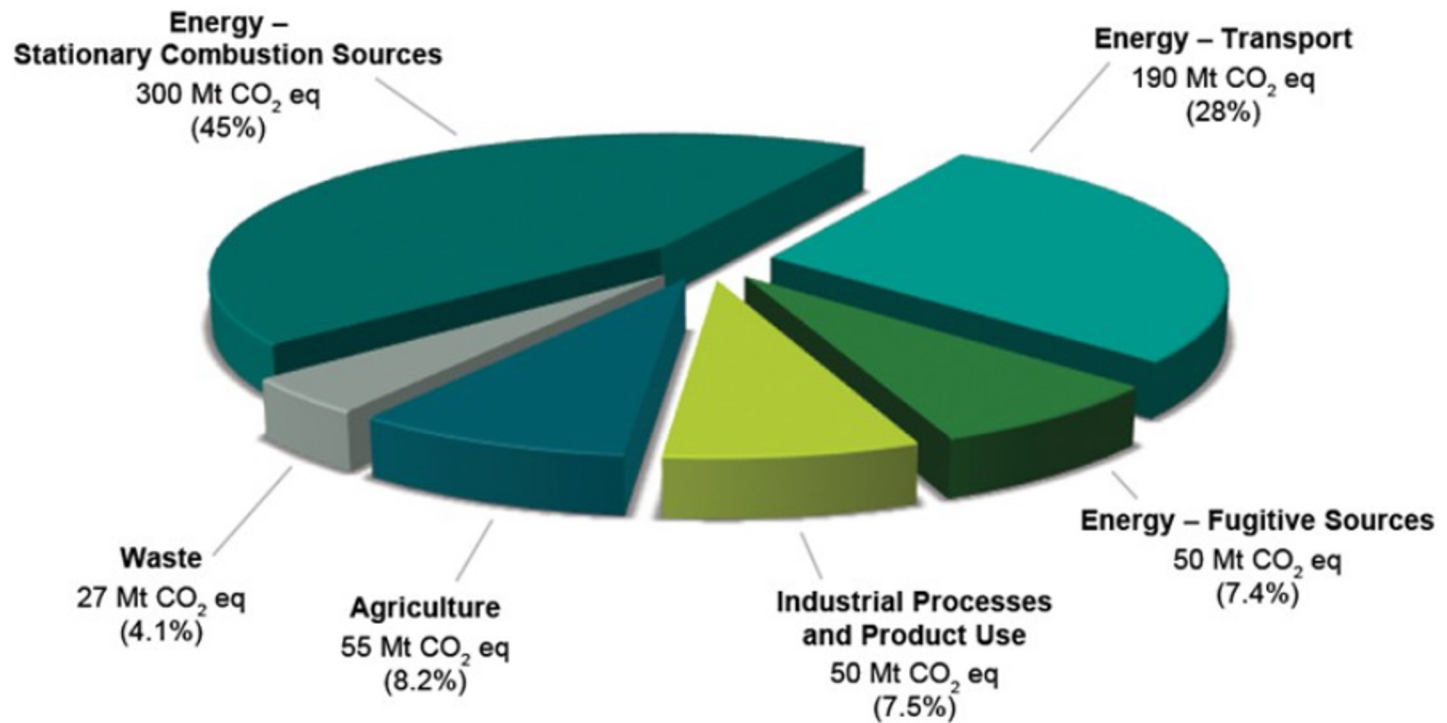


Figure ES-2: Breakdown of Canada's emissions by Intergovernmental Panel on Climate Change sector (2020)



Total: 672 Mt CO<sub>2</sub> eq

Note: Totals may not add up due to rounding.



Human activity is the biggest carbon source



1

The ocean is the biggest carbon sink



Forests are carbon sinks but deforestation can turn them into carbon sources

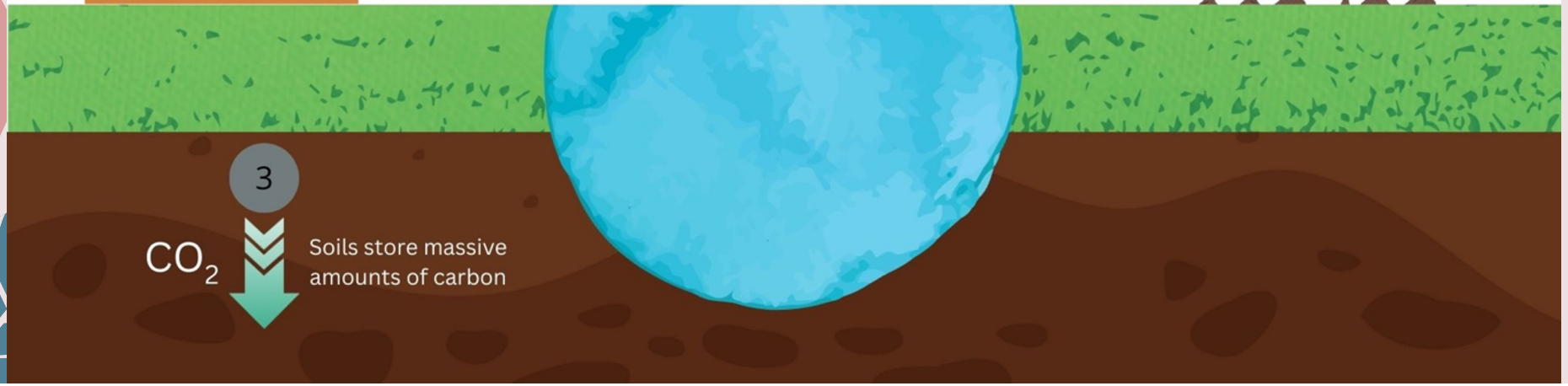


2



3

CO<sub>2</sub> Soils store massive amounts of carbon





September 1964



September 2016



# 氣候變化的影響

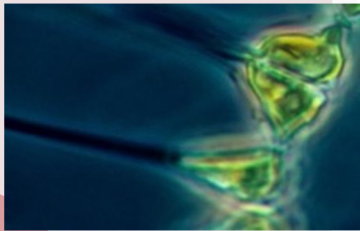
- 食水和糧食短缺
- 極端氣候
- 病媒傳播疾病
- 社會動盪
- 生物多樣性 (Biodiversity)



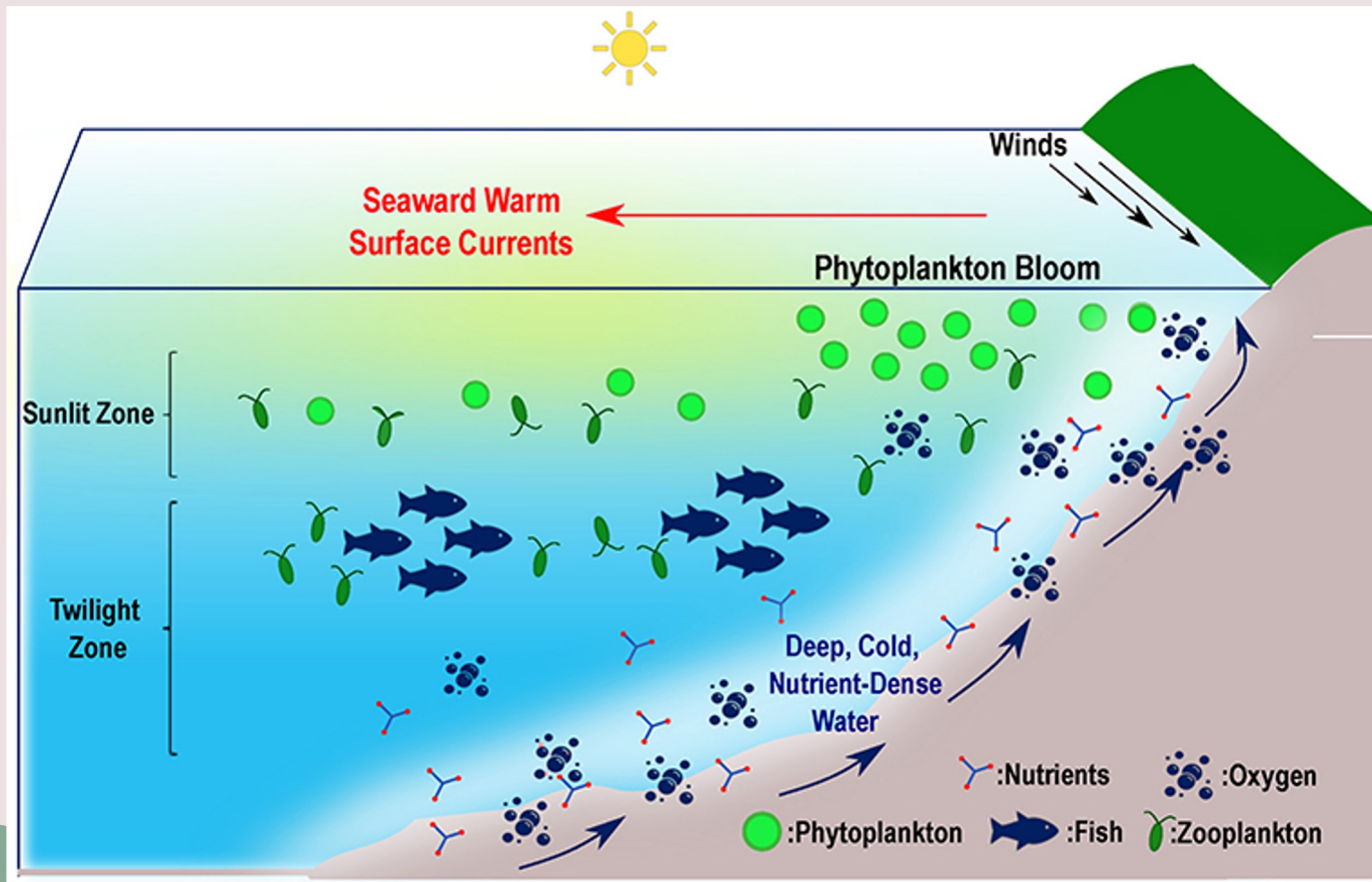


# 藍碳生態系統

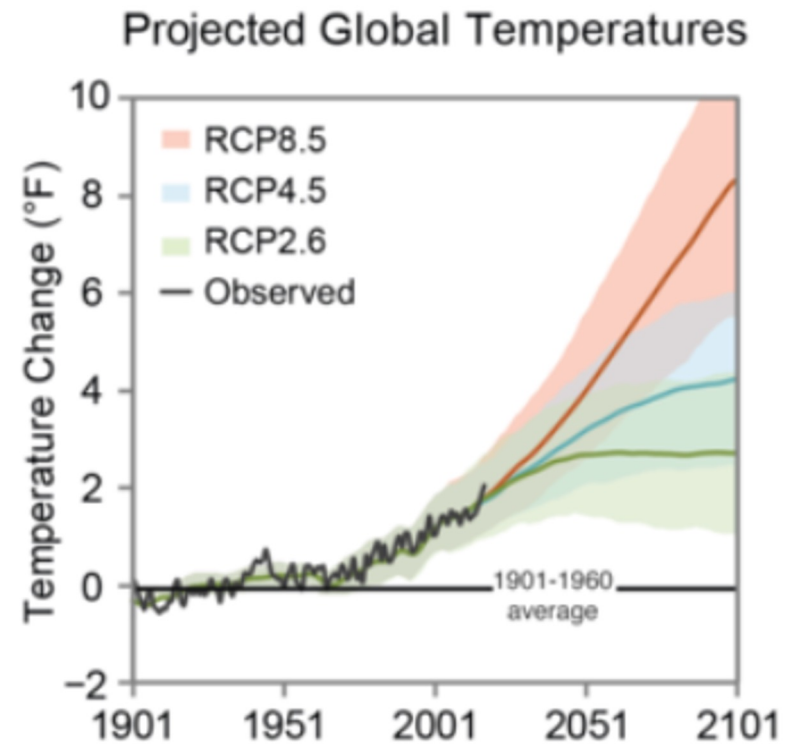
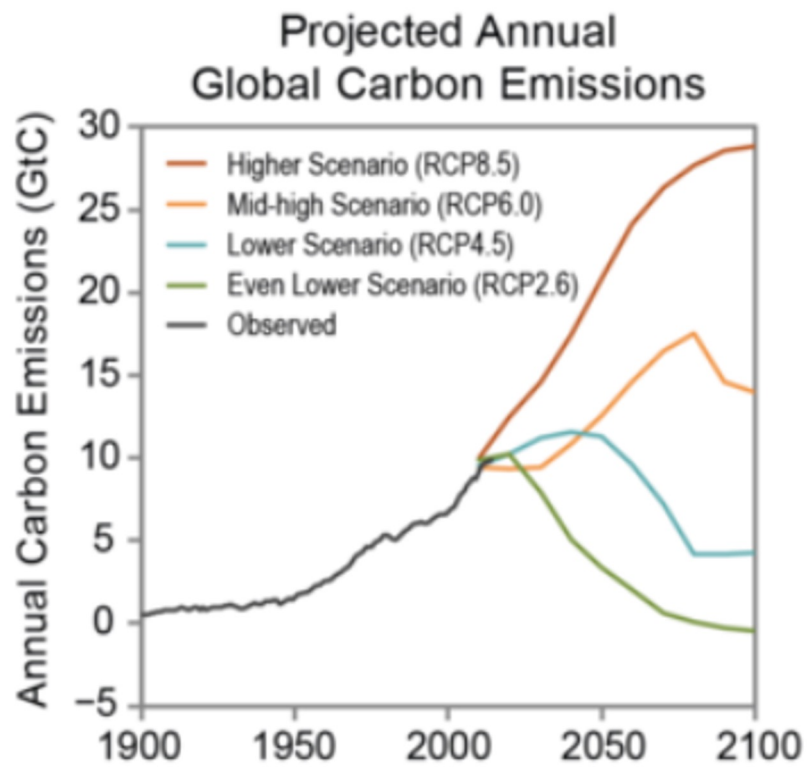
Global Distribution of Blue Carbon Ecosystems



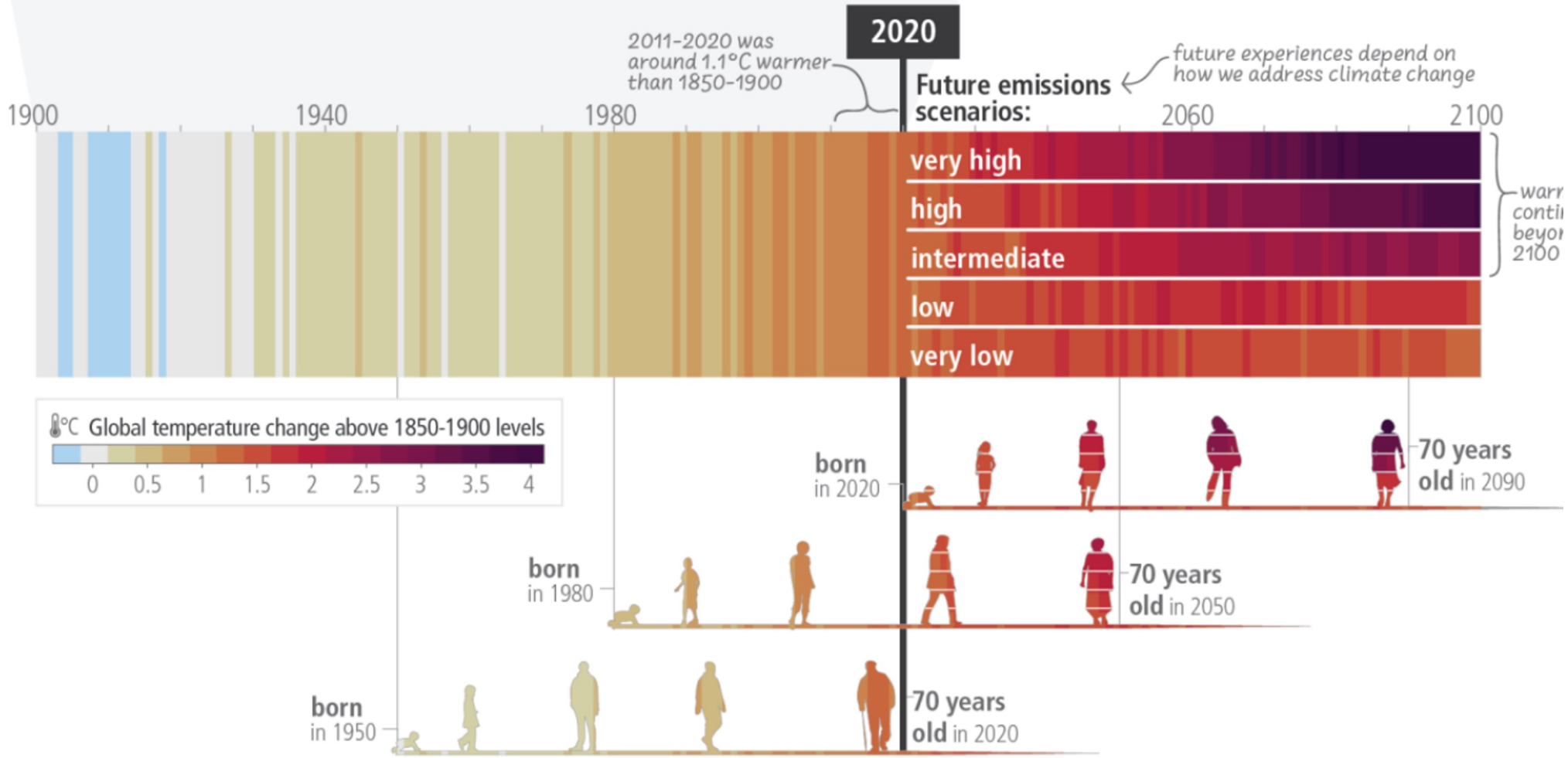
# 藍碳生態系統: 上升流 (Upwelling)



# Representative Concentration Pathways (RPC)



c) The extent to which current and future generations will experience a hotter and different world depends on choices now and in the near-term

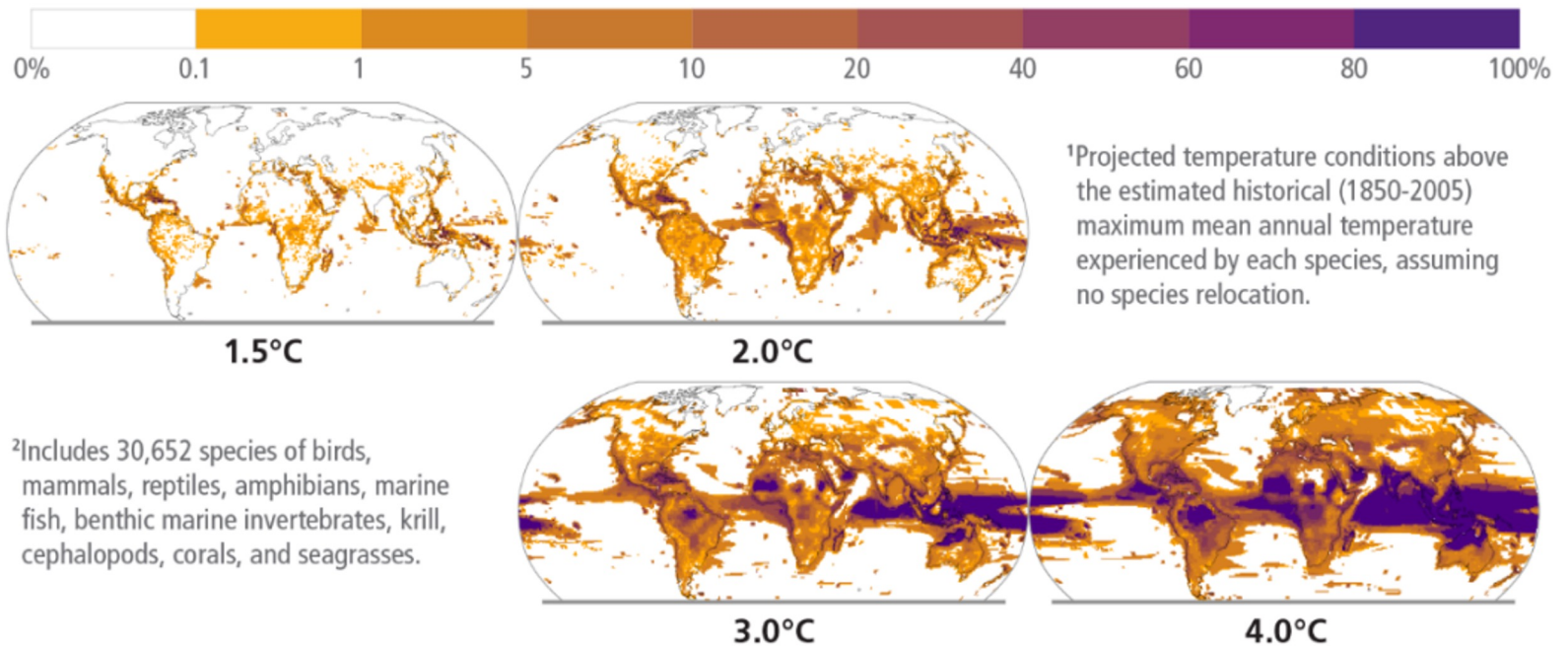




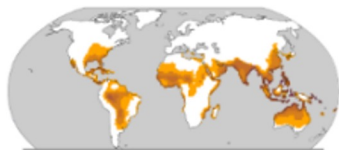
## a) Risk of species losses



Percentage of animal species and seagrasses exposed to potentially dangerous temperature conditions<sup>1,2</sup>

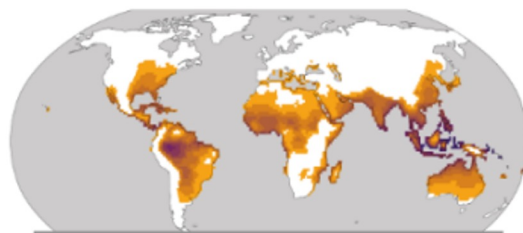


SSS  
b) Heat-humidity risks to human health

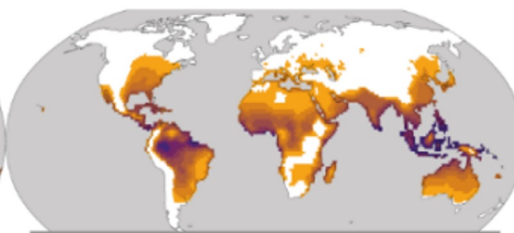


Historical 1991–2005

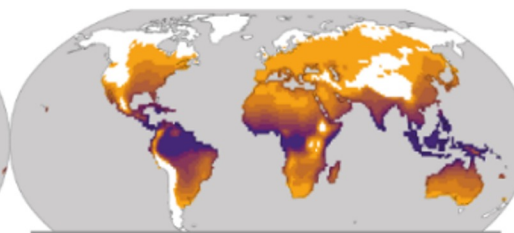
**Days per year** where combined temperature and humidity conditions pose a risk of mortality to individuals<sup>3</sup>



1.7 – 2.3°C



2.4 – 3.1°C



4.2 – 5.4°C

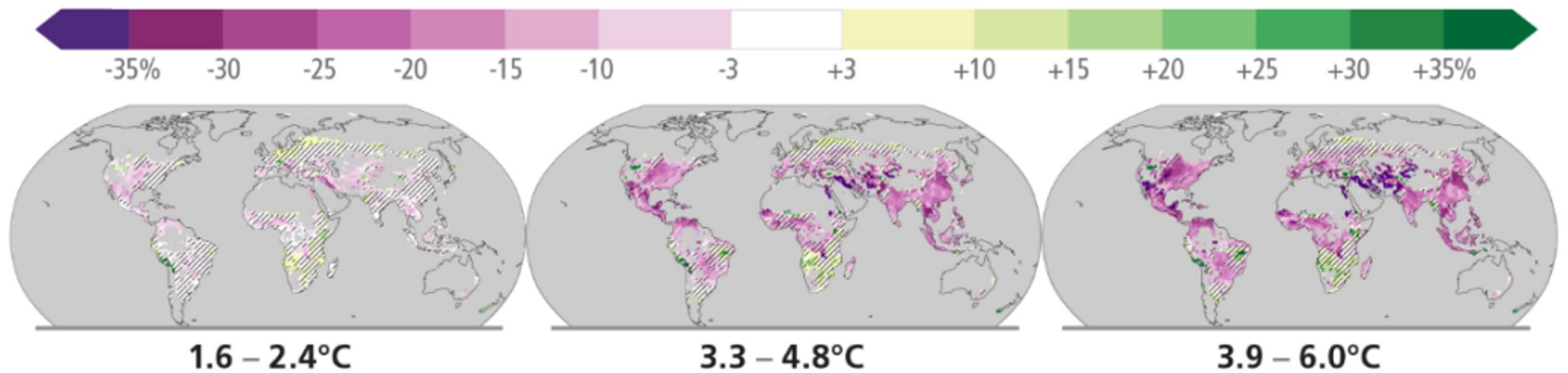
<sup>3</sup>Projected regional impacts utilize a global threshold beyond which daily mean surface air temperature and relative humidity may induce hyperthermia that poses a risk of mortality. The duration and intensity of heatwaves are not presented here. Heat-related health outcomes vary by location and are highly moderated by socio-economic, occupational and other non-climatic determinants of individual health and socio-economic vulnerability. The threshold used in these maps is based on a single study that synthesized data from 783 cases to determine the relationship between heat-humidity conditions and mortality drawn largely from observations in temperate climates.

## c) Food production impacts



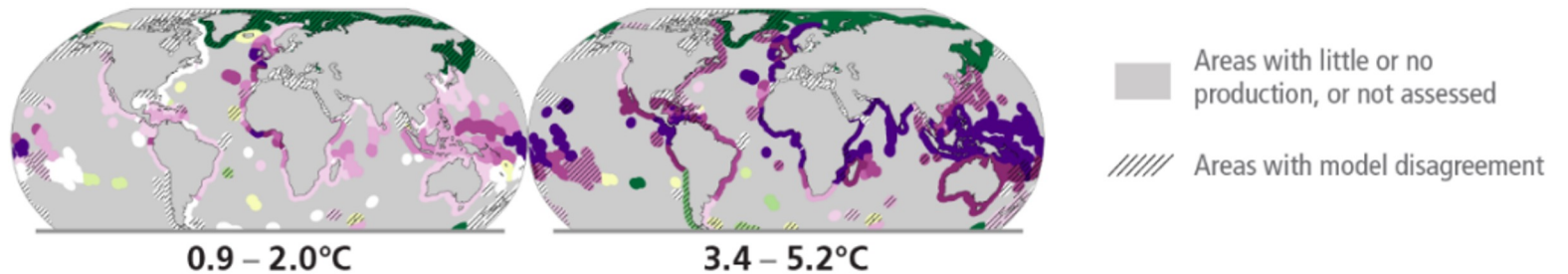
### c1) Maize yield<sup>4</sup>

Changes (%) in yield



### c2) Fisheries yield<sup>5</sup>

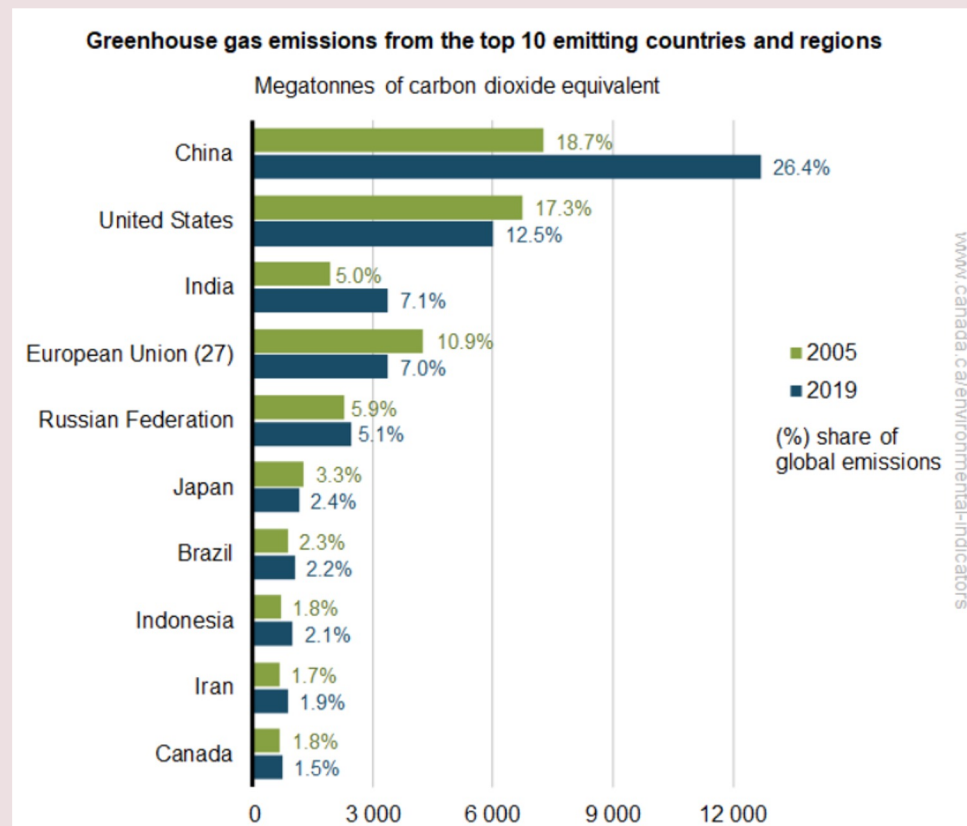
Changes (%) in maximum catch potential



<sup>4</sup>Projected regional impacts reflect biophysical responses to changing temperature, precipitation, solar radiation, humidity, wind, and CO<sub>2</sub> enhancement of growth and water retention in currently cultivated areas. Models assume that irrigated areas are not water-limited. Models do not represent pests, diseases, future agro-technological changes and some extreme climate responses.

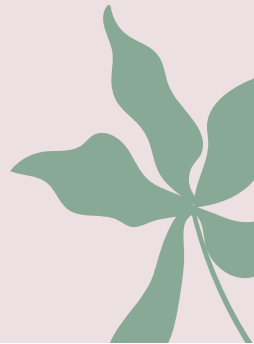
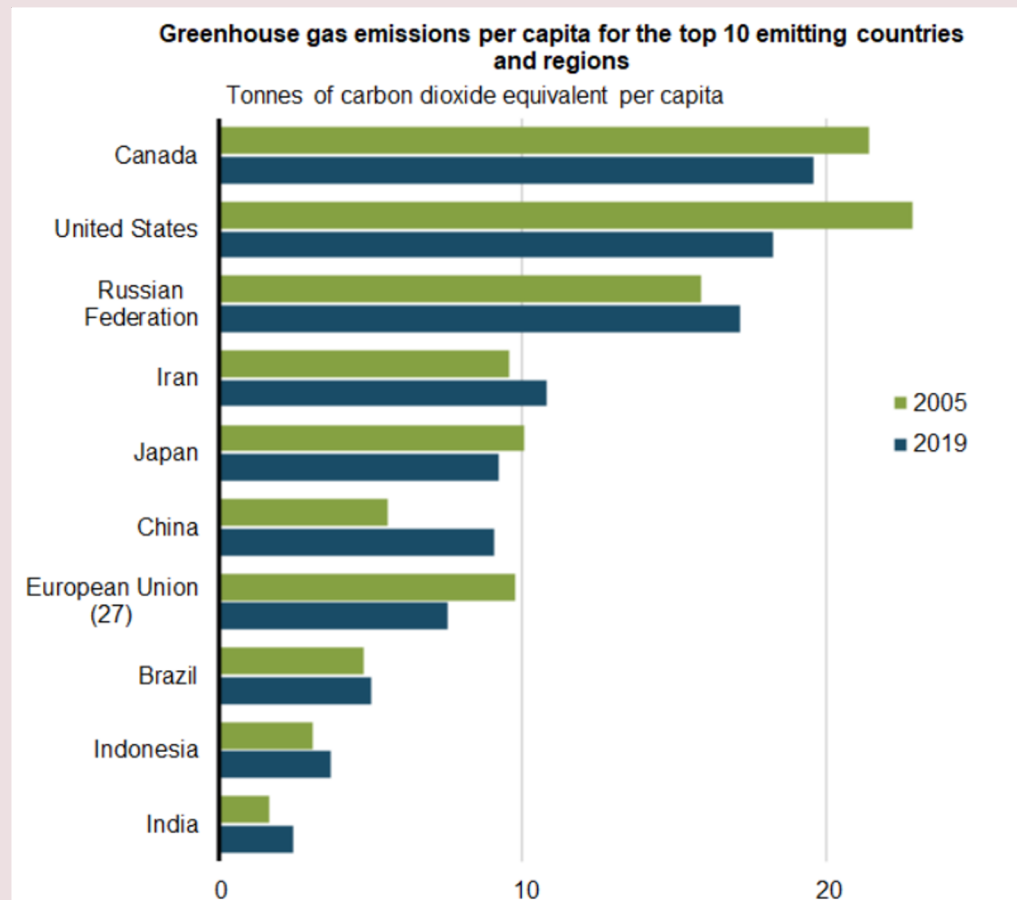
<sup>5</sup>Projected regional impacts reflect fisheries and marine ecosystem responses to ocean physical and biogeochemical conditions such as temperature, oxygen level and net primary production. Models do not represent changes in fishing activities and some extreme climatic conditions. Projected changes in the Arctic regions have low confidence due to uncertainties associated with modelling multiple interacting drivers and ecosystem responses.

# 我可以如何參與？



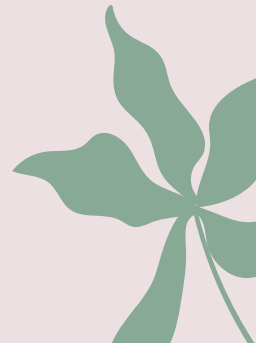


# 我可以如何參與？

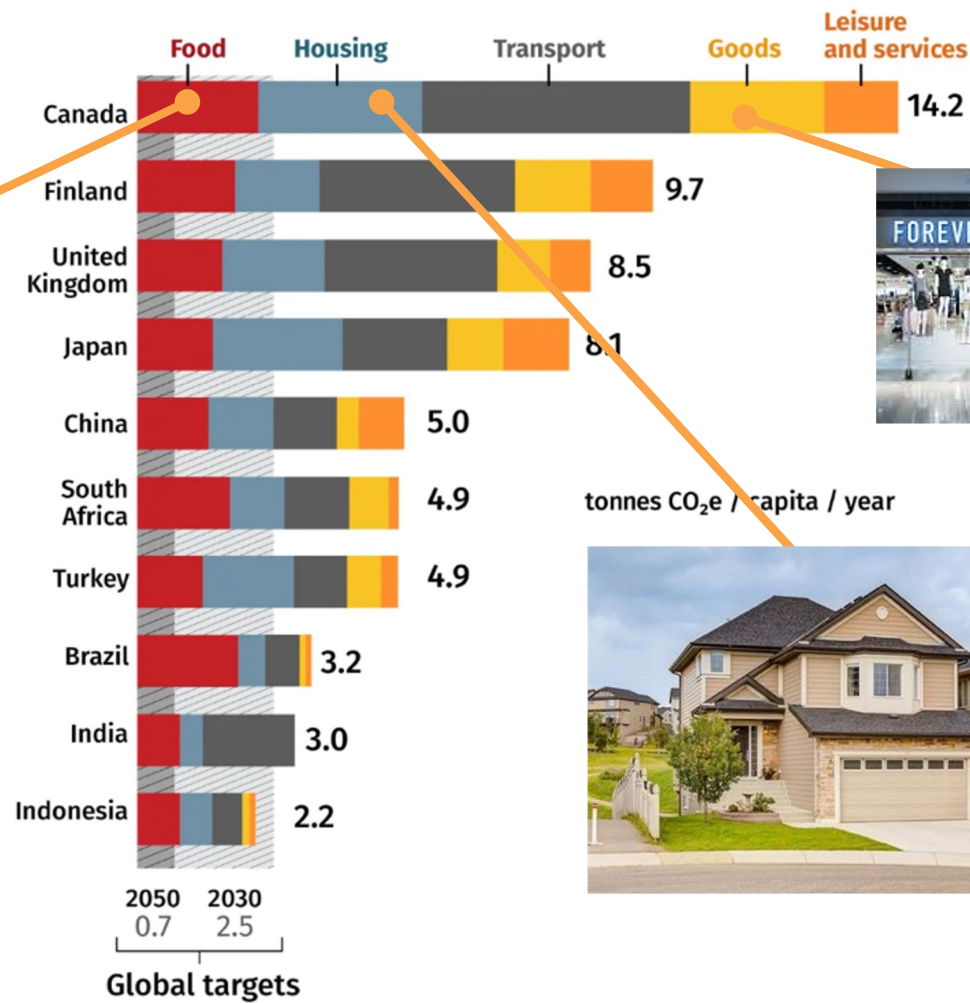


## 我可以如何參與？

# ↑↓	Country	CO2 Emissions per capita (tons)	CO2 Emissions (tons, 2016)	Population (2016)
40	<a href="#">Qatar</a>	37.29	98,990,085	2,654,374
92	<a href="#">Montenegro</a>	25.90	16,249,039	627,264
39	<a href="#">Kuwait</a>	25.65	101,492,225	3,956,875
72	<a href="#">Trinidad and Tobago</a>	25.39	34,974,263	1,377,560
28	<a href="#">United Arab Emirates</a>	23.37	218,788,684	9,360,980
42	<a href="#">Oman</a>	19.61	87,835,773	4,479,219
7	<a href="#">Canada</a>	18.58	675,918,610	36,382,944



## Total per-capita carbon footprint by country and sector



100g of beef =  
78 km of driving

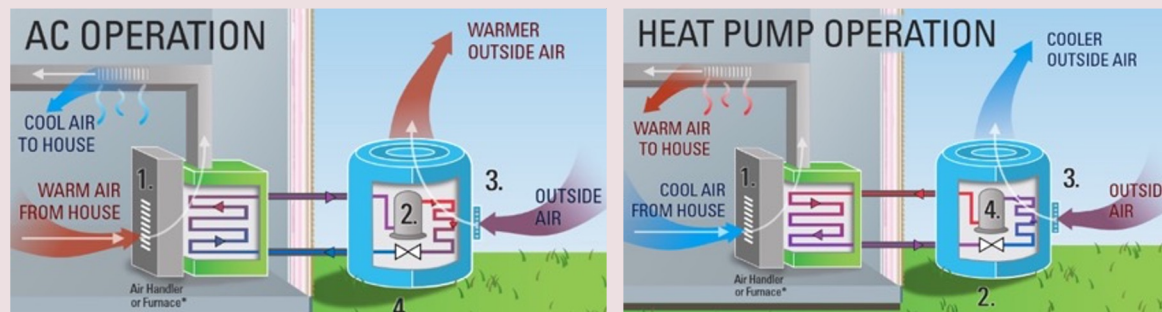


1 shirt =  
56 km of driving



## 我可以如何參與？

- 減少浪費 (包括:食物, 衣著, 能源消耗)
- 多吃蔬菜
- Canada Greener Home Grant
- Federal Zero-Emission Vehicle Incentives



### Space and water heating

Make the switch to more energy-efficient space heating or water heating equipment to save on your utility bill and reduce your carbon footprint.

Up to  
**\$5,000**