CLIMATE CHANGE INTEGRATION IN THE INVESTMENT PROCESS

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CLIMATE CHANGE

IT’S JUST PHYSICS

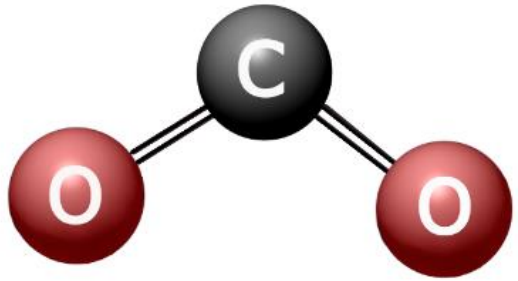
CLIMATE CHANGE – IT'S JUST PHYSICS

CARBON DIOXIDE AND OTHER GREENHOUSE GASES (GHGS) TRAP HEAT

Like a blanket around the earth

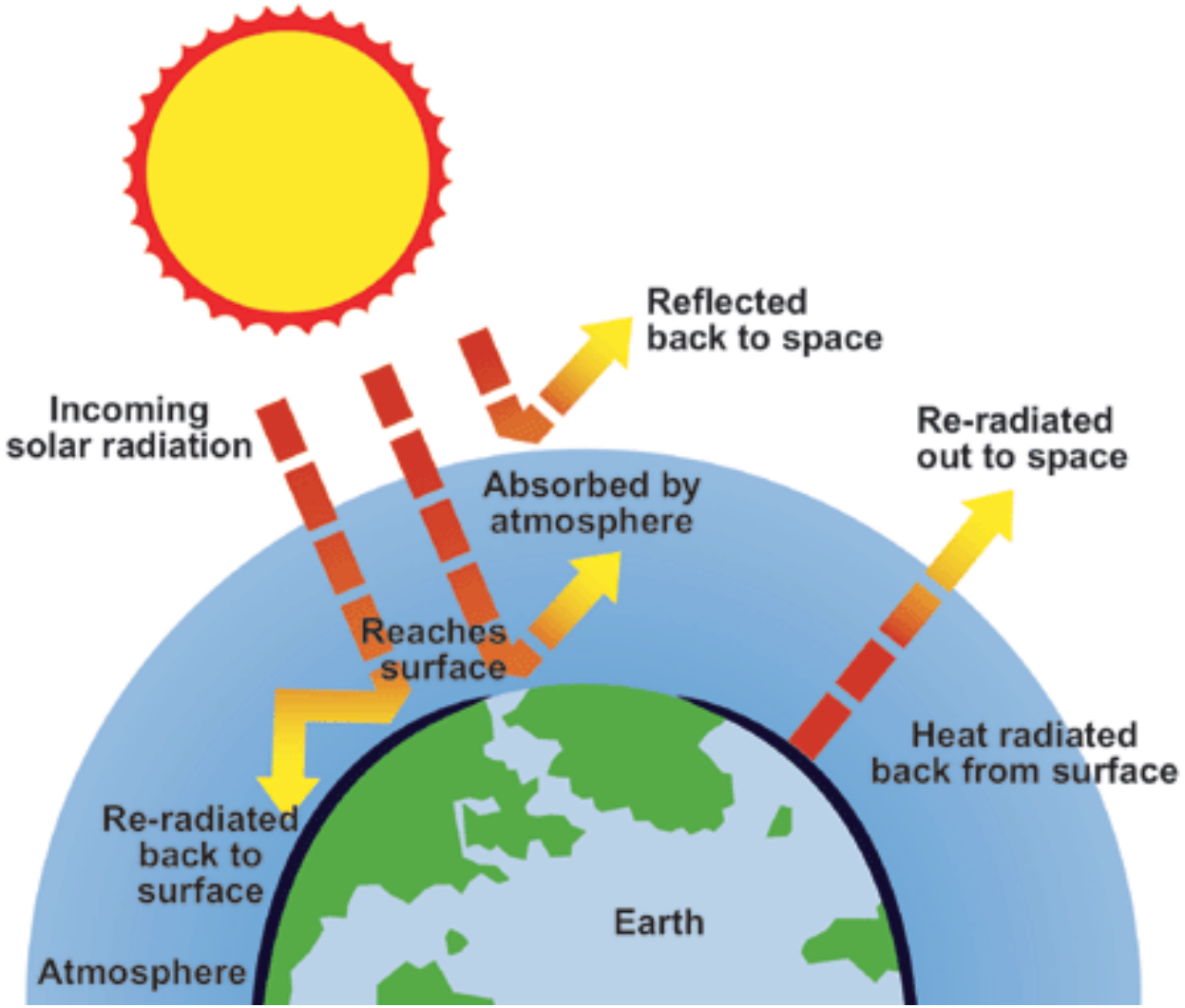
They have the beneficial impact of warming the planet

Without CO2 and other GHGs the average temperature on Earth would be …



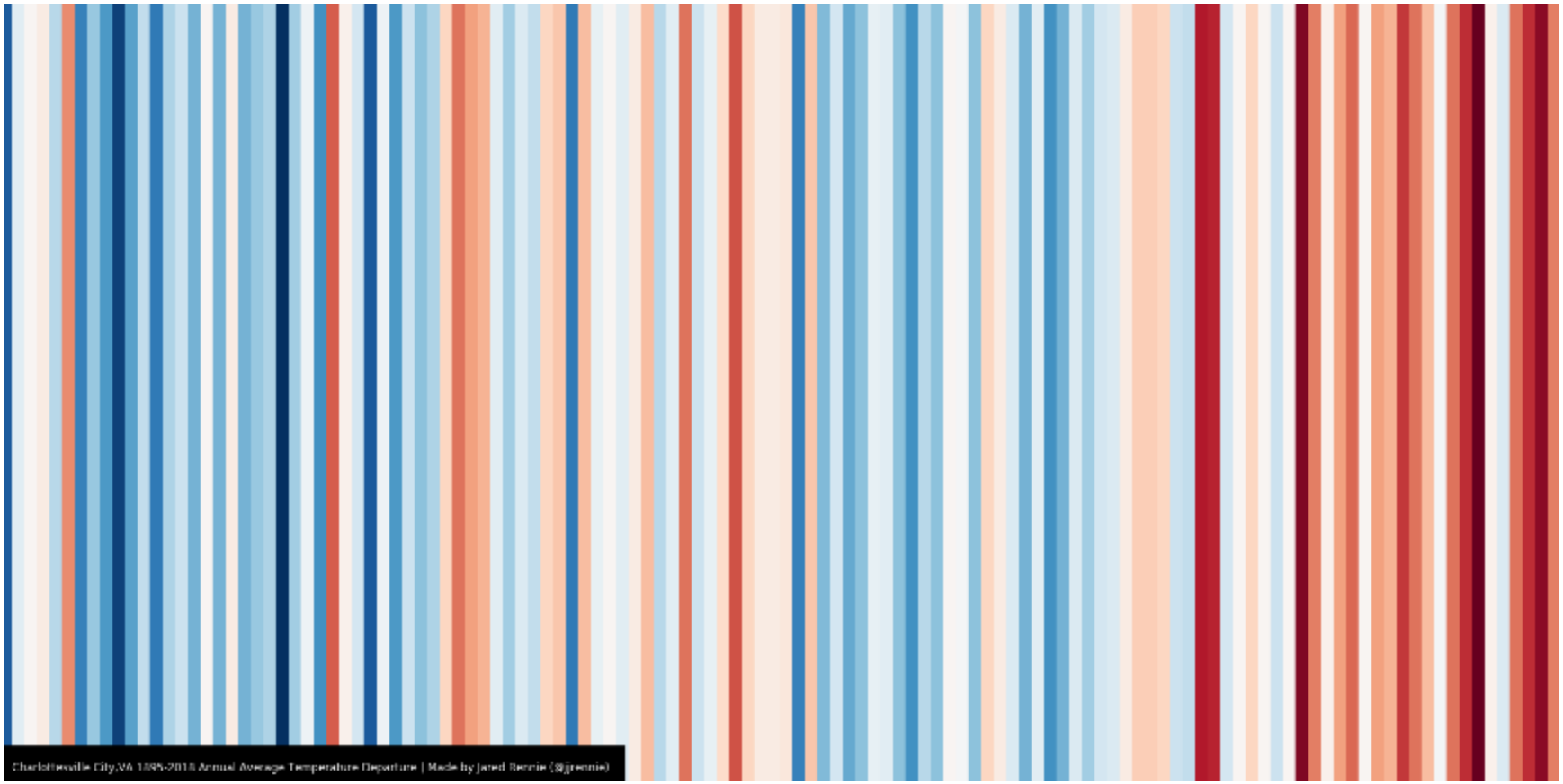
Winnipeg
in deep winter

GLOBAL WARMING AND THE GREENHOUSE EFFECT



THE CAUSE: IT'S US

EARTH'S CHANGING CLIMATE



1895 - 2018 ⟶

TRANSITION RISKS
PHYSICAL RISKS

CLIMATE CHANGE – PHYSICAL AND TRANSITION RISKS

Physical

- Increased heat stresses
- Increased coastal flooding
- Increased and more powerful hurricanes/typhoons
- Extreme weather events
- Ocean warming/acidification
- Loss of biodiversity
- Loss of habitat
- Loss of food
  - Production of staple grains all likely to be stressed in coming decades
- Immigration – Refugee Crisis

Transitions

- Our economies will change
  - Risks/Opportunities

CARBON MARKETS

CARBON TAX VS. CAP AND TRADE – INCENTIVIZE BEHAVIOUR IN DIFFERENT WAYS

Carbon tax is a fee applied to each unit of greenhouse gas emissions.

Finding the right level is key:

- too high, damages economy,
- too low, no behavior change

Cap and Trade system place a cap on total emissions but allow participants to trade carbon thereby setting a market price.

The major carbon markets are large and liquid and will trade in excess of $200 billion in 2019*

About 20% of greenhouse gases are currently covered by some carbon market

* Source CarbonCap

RESOURCES

CLIMATE CHANGE ANALYSIS TOOLS

SUSTAINABILITY ACCOUNTING STANDARDS BOARD
SASB™

TCFD

CDSB
Climate Disclosure Standards Board

CDP™

CLIMATE TOOL – SASB MATERIALITY MAP

SECTORS	Consumption	Financials	Health Care	Infrastructure	Non-Renewable Resources	Renewable Resources & Alternative Energy	Resource Transformation	Services	Technology and Communications	Transportation
ISSUES										
ENVIRONMENT										
GHG emissions	●			●	●	●	●	●	●	●
Air quality				●	●	●	●	●		●
Energy management	●		●	●	●	●	●	●	●	●
Fuel management	●		●	●	●			●		●
Water and wastewater management	●		●	●	●	●	●	●	●	
Waste & hazardous materials management	●		●	●	●	●	●	●	●	●
Biodiversity impacts	●			●	●	●		●		●
SOCIAL CAPITAL										
Human rights and community relations			●	●	●	●				
Access and affordability		●	●	●		●				
Customer welfare	●	●	●	●			●	●		●
Data security and customer privacy	●	●	●				●	●	●	
Fair disclosure and labelling	●		●					●		
Fair marketing and advertising	●	●	●					●		
HUMAN CAPITAL										
Labour relations	●			●	●				●	●
Labour practices	●							●	●	●
Employee health, safety and wellbeing	●		●	●	●	●	●	●	●	●
Diversity and inclusion	●	●						●	●	
Compensation and benefits	●	●						●		
Recruitment, development and retention	●		●					●	●	●
BUSINESS MODEL AND INNOVATION										
Lifecycle impacts of products and service	●	●	●	●	●	●	●	●	●	●
E & S impacts on assets, & ops	●	●	●	●	●	●		●		
Product packaging	●		●				●	●		
Product quality and safety	●		●				●	●		●
LEADERSHIP AND GOVERNANCE										
Systemic risk management		●		●				●	●	
Accident and safety management				●	●	●	●	●		●
Business ethics & transparency of payments		●	●	●	●		●	●		●
Competitive behaviour		●		●	●		●	●	●	●
Regulatory capture and political influence	●			●	●	●	●	●		
Materials sourcing	●		●		●	●	●		●	●
Supply chain management	●		●		●	●	●	●	●	●

● Issue is likely to be material for more than 50% of industries in sector
● Issue is likely to be material for less than 50% of industries in sector
○ Issue is not likely to be material for any of the industries in sector

Governance

Disclose the organization's governance around climate-related risks and opportunities.

Recommended Disclosures

a) Describe the board's oversight of climate-related risks and opportunities.

b) Describe management's role in assessing and managing climate-related risks and opportunities.

Strategy

Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material.

Recommended Disclosures

a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.

b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.

c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.

Risk Management

Disclose how the organization identifies, assesses, and manages climate-related risks.

Recommended Disclosures

a) Describe the organization's processes for identifying and assessing climate-related risks.

b) Describe the organization's processes for managing climate-related risks.

c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.

Metrics and Targets

Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.

Recommended Disclosures

a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.

b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.

c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.

CLIMATE CHANGE ORGANIZATIONS

Climate Action 100+

Global Investors Driving Business Transition

ASIA INVESTOR GROUP ON CLIMATE CHANGE

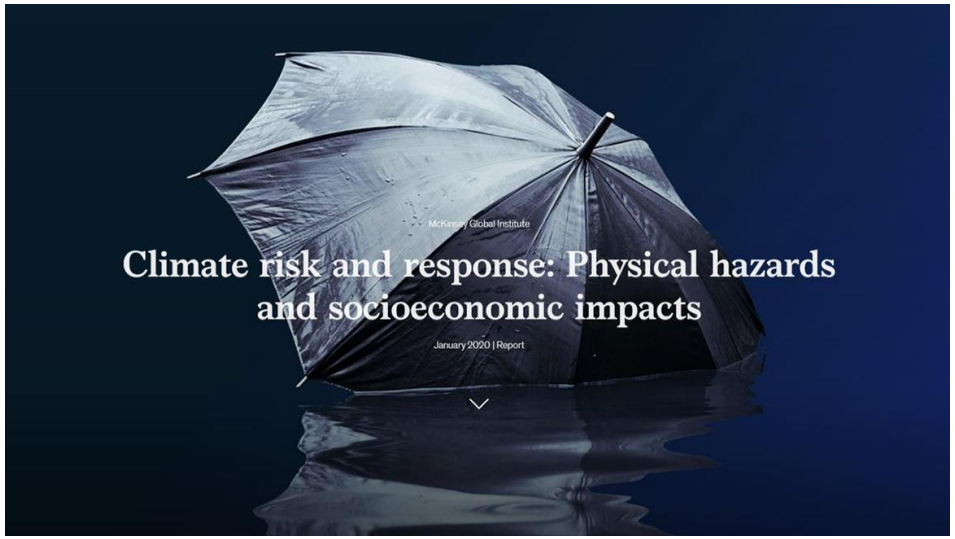
WHAT CAN FINANCE DO?

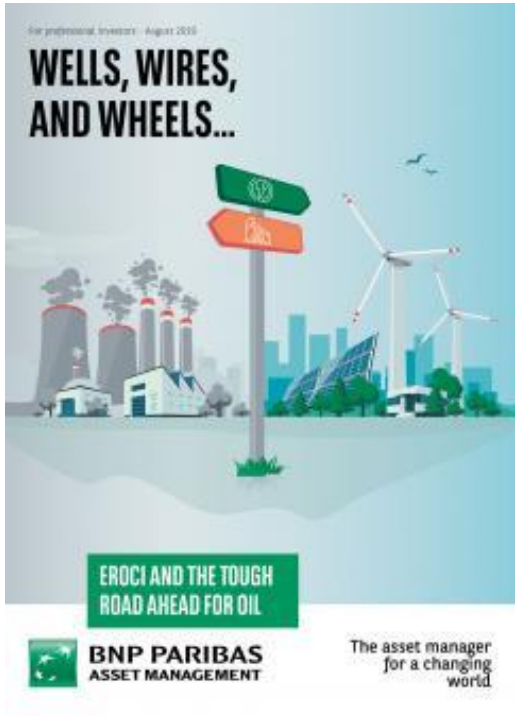
SOLUTIONS – OUR PROFESSION CAN PLAY A ROLE

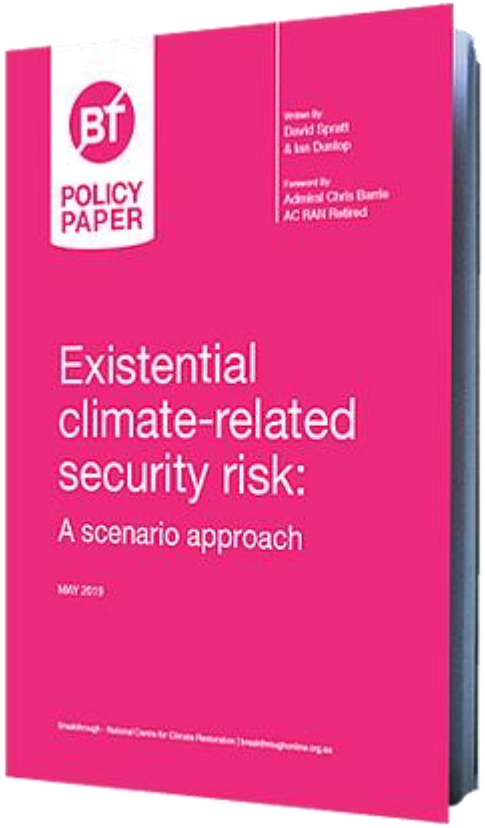
- A Price on Carbon
- Transparency - Metrics to Measure
- Engage with Companies on Carbon/Transition Risks
- Educate our profession
- Policy Has to Compliment Our Efforts

  Right now 51 Carbon pricing initiatives covering 20% of global emissions

DO YOUR HOMEWORK



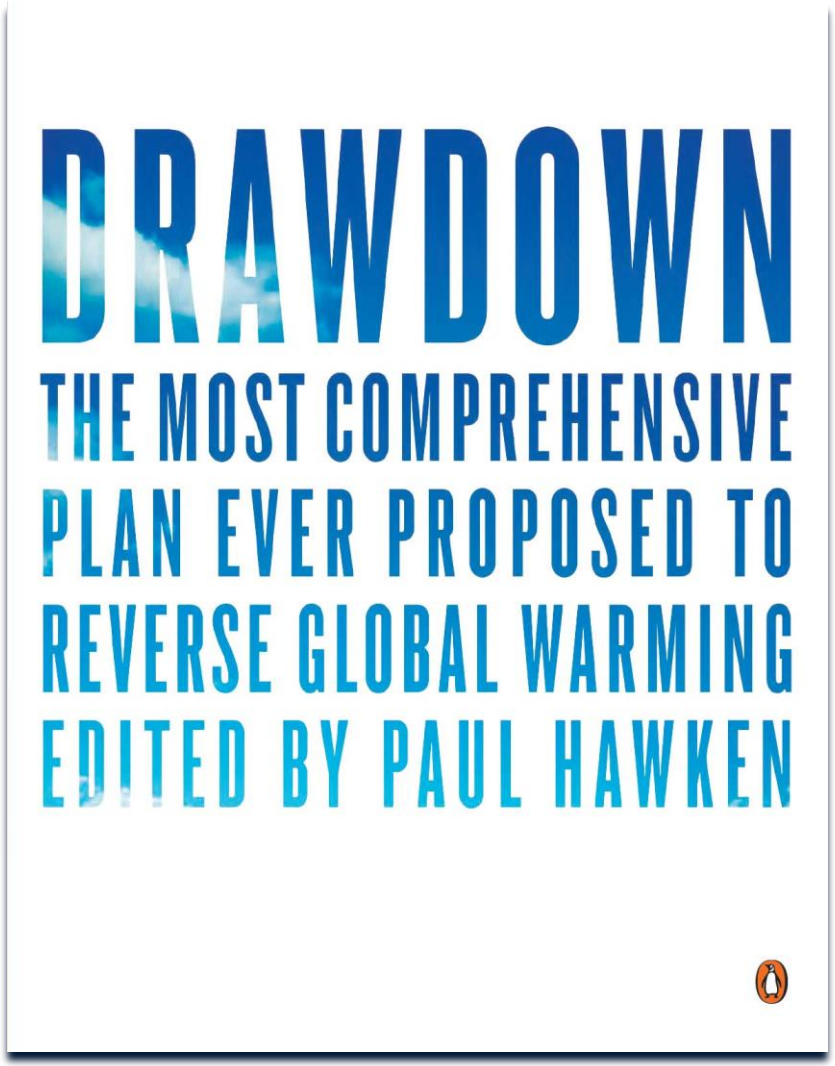




ON A MORE PERSONAL LEVEL

What you can do as an individual

SOLUTIONS – YOUR LIFE



Rank	Solution	Total Atmospheric CO2 Reduction (GT)
1	Refrigerant Management	89.74
2	Wind Turbines (Onshore)	84.60
3	Reduce Food Waste	70.53
4	Plant Rich Diet	66.11
5	Tropical Forests	61.23
6	Educating Girls	51.48
7	Family Planning	51.48
8	Solar Farms	36.90
9	Silvopasture	31.19
10	Rooftop Solar	24.60

WE CAN FIX IT

Technology is not a question
We can do this

- In 40 minutes the sun gives out enough solar energy for a year
- A wind farm the size of Spain could power the planet
- Geothermal: Earth generates 100B times more energy than we need
- Yes, the problem is harnessing it, storage, and transmission
- Carbon capture is just starting as an industry
- Electric vehicles set to be 50% of new global fleet about 2035

Do we have the will?

THANK YOU