

Climate Change: Context and Opportunities

An **overview** of climate change, 'green' finance, benchmarking and reporting for sustainability and impact investing

**MARTA
SIMONETTI**

Meet The Trainer

MARTA SIMONETTI

Marta Simonetti is an experienced green finance director based in London. She worked in the City of London, initially in marketing and then in development and transition banking for the European Bank for Reconstruction and Development. In 2018 she set up her consultancy, Globalfields Ltd, which specializes in advisory, consultancy and training services in green finance and sustainable leadership.

From August 2017 to date Marta has carried out several assignments at senior level for the Green Climate Fund, Asian Development Bank, WWF-US, GIZ, IPC GmbH, Absolute Energy Capital, as well as for private equity companies and governments. She is now focusing on the green transformation of financial markets, working with governments, financial institutions and the consultancy sector in Europe, Africa, Central Asia and south-east Asia. Her main skills are in fund management (legal and institutional structuring), blended finance structuring (mixed participation equity and loans; revolving funds; guarantee funds), resource mobilization, program structuring in climate and environmental finance.

Marta is proficient in five languages: Italian, English, French, Spanish and German. She is also a certified professional coach (CPC), with a Master of Science (MSc) degree in Comparative Politics from the London School of Economics and Political Science (LSE); a Diploma in Management (Birkbeck, University of London); Climate Change Science and Policy specialization (Imperial College); Climate and Sustainability Leadership (Cambridge University). She also recently finishes her Senior Management Programme at the Cambridge Judge Business School.



1 The Science and Policy Context

- Temperature rises and planetary boundaries
- Climate change and global warming
- Regulatory change, the UNFCCC framework and other conventions
- Making it work for business
- Dematerialization, de-growth
- Risks and opportunities:
 - Transition and physical risks
- The types of Innovation



Before We Start... Poll Questions...

In your current function within the organization, do you have:

- 1) A direct role and deliverables linked to climate change, impact and sustainable finance, e.g. a role which specifically works on strategies for alignment of your Bank with international standards and agreements;
- 2) An indirect role, e.g. a back office role supporting other team working in this area of business;
- 3) No role at all in this area of business.

Please share additional views and comments live and / or in the chat room...

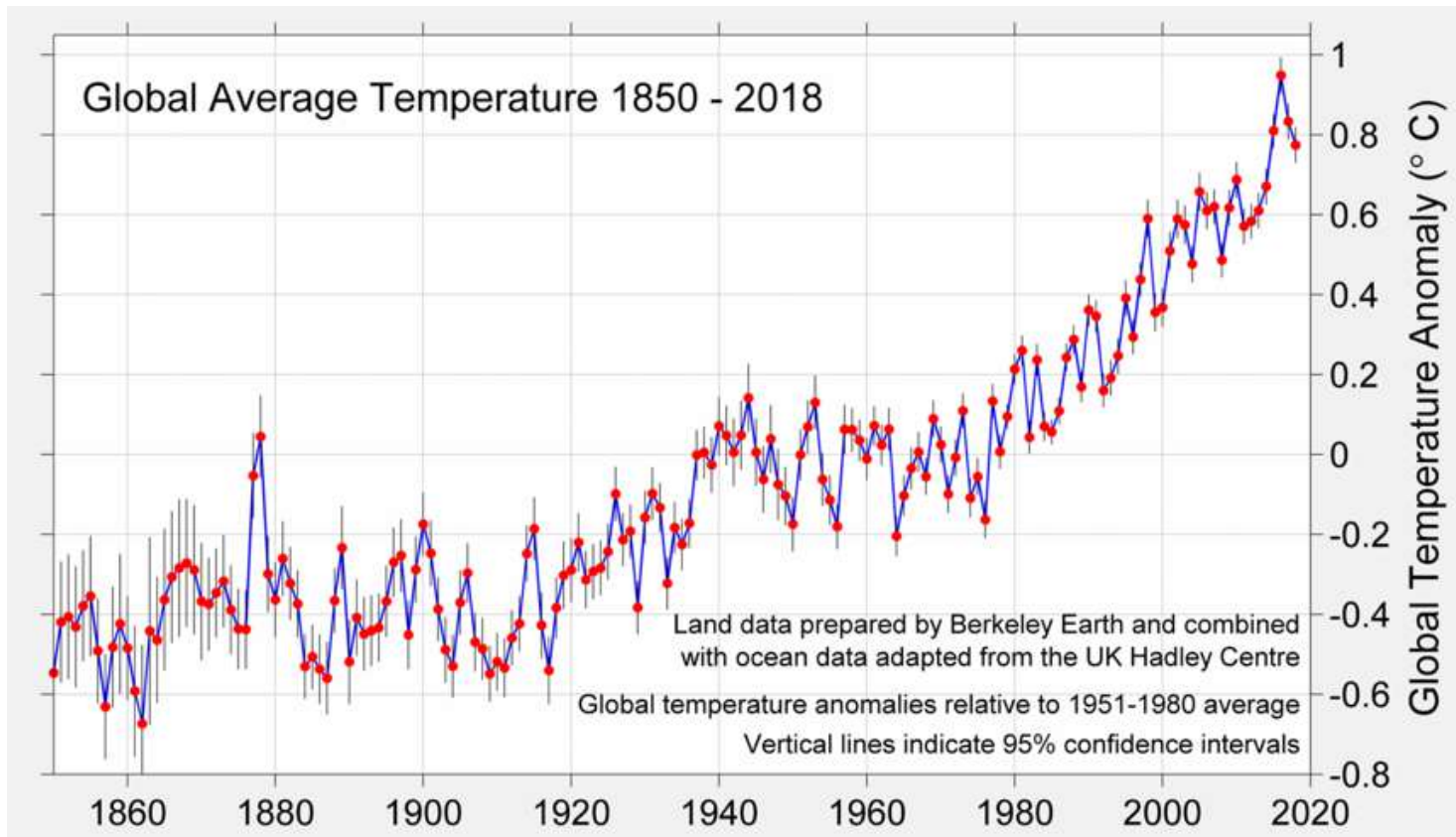


The Science and Policy Context

WEEK 1

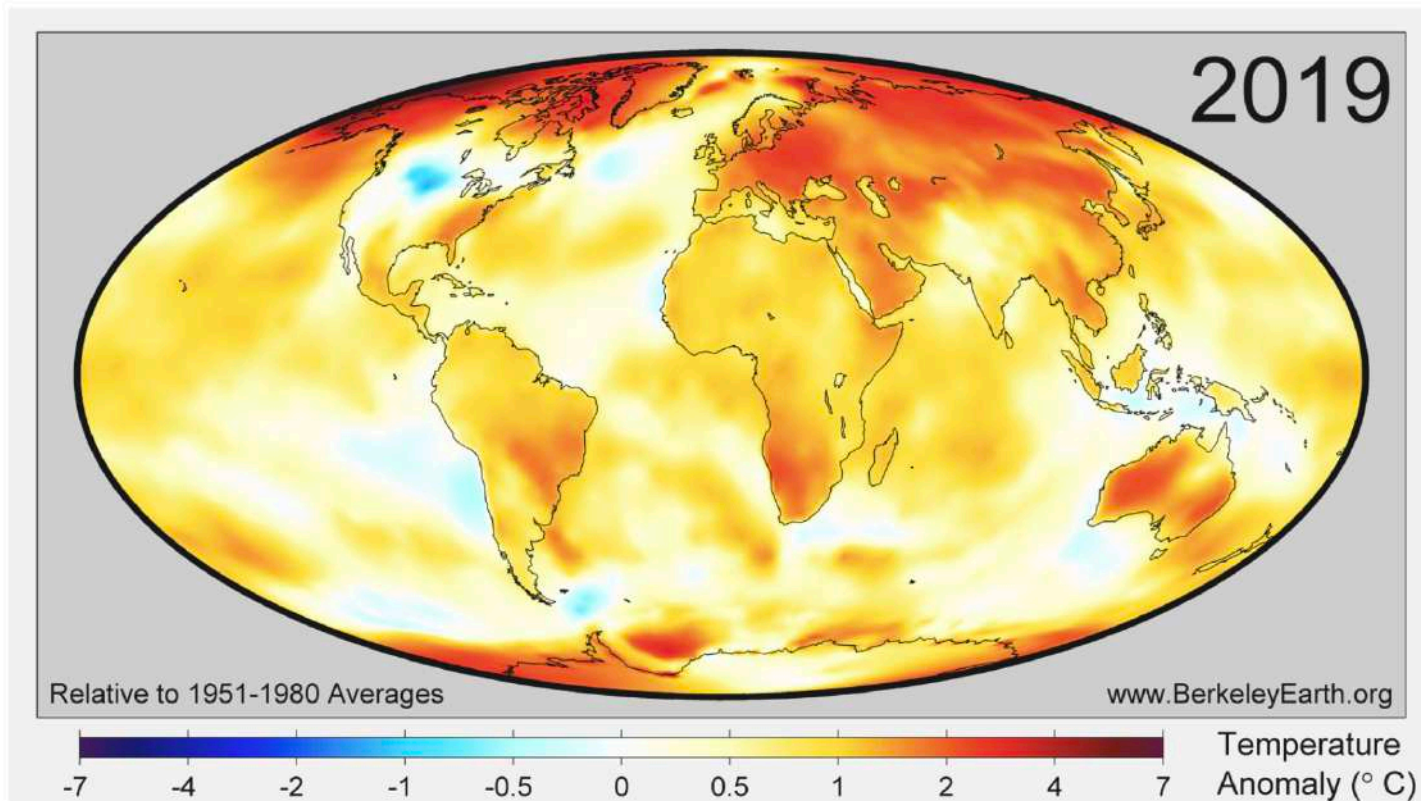
The Scientific Context:

TEMPERATURE RISE



The Scientific Context:

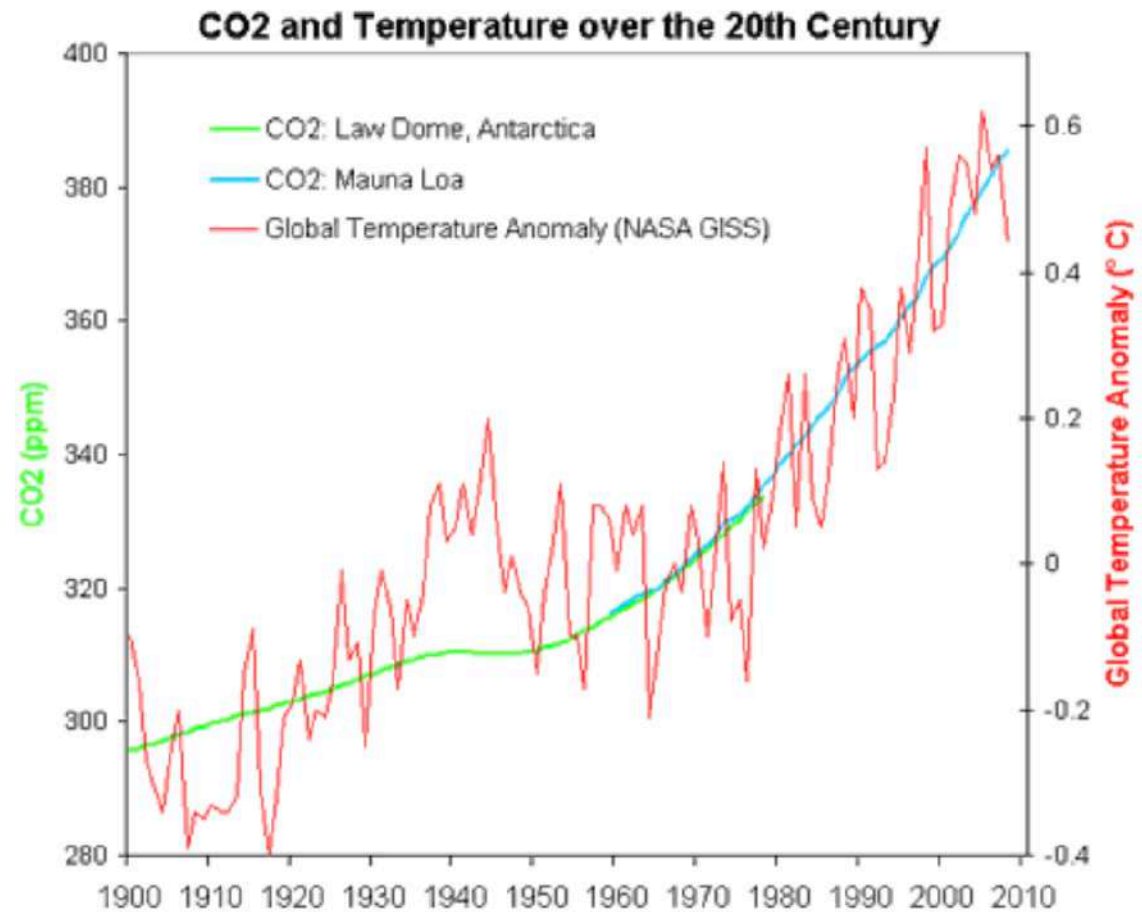
Anomalies



From the *Berkeley Earth* global temperature report – we see the global distribution of temperature changes in 2019 relative to the period 1951 – 1980.

The Scientific Context:

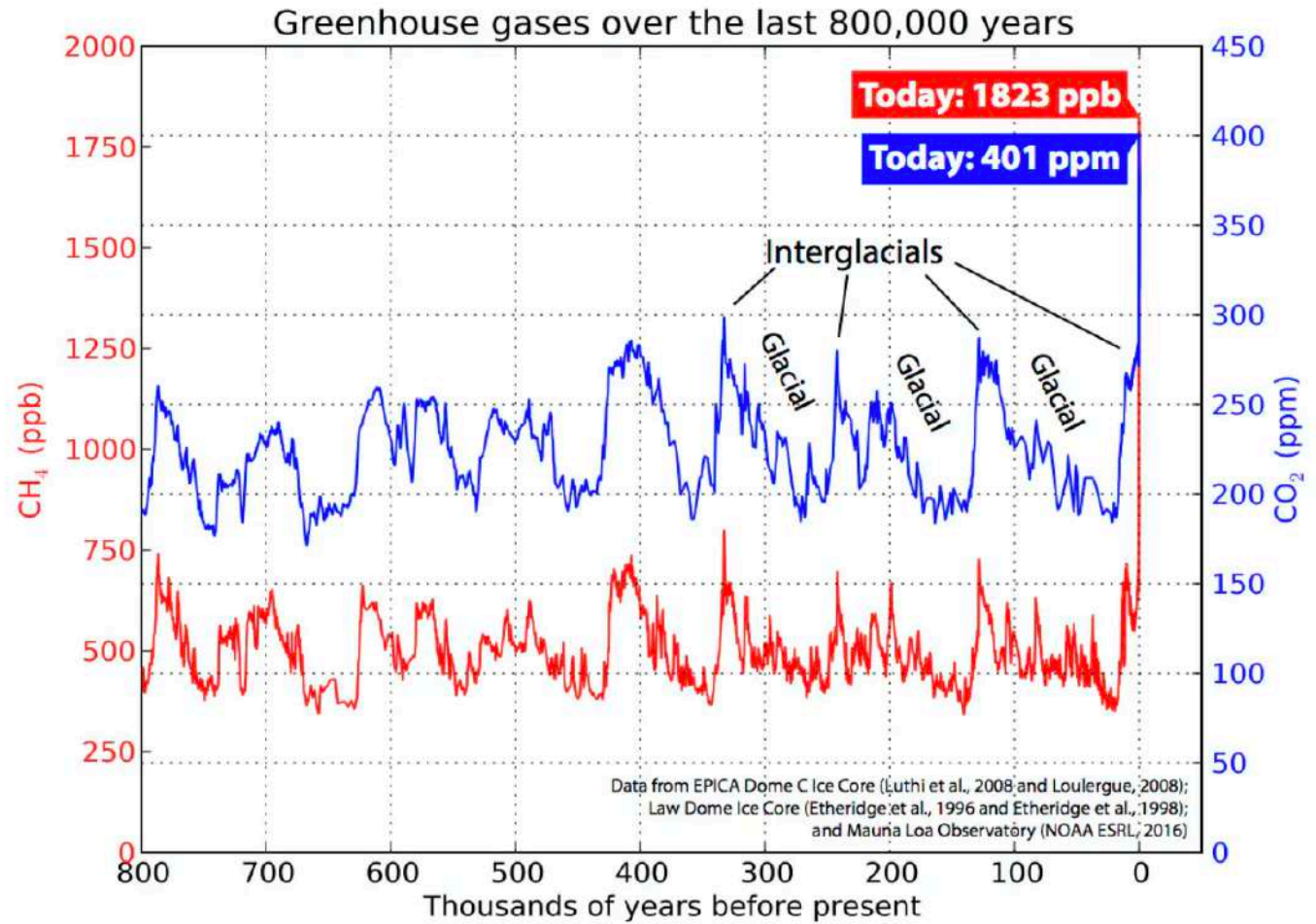
Correlation btw CO₂ and temperature rise



There is an algorithmic relations between Co2 concentrations and temperature rise

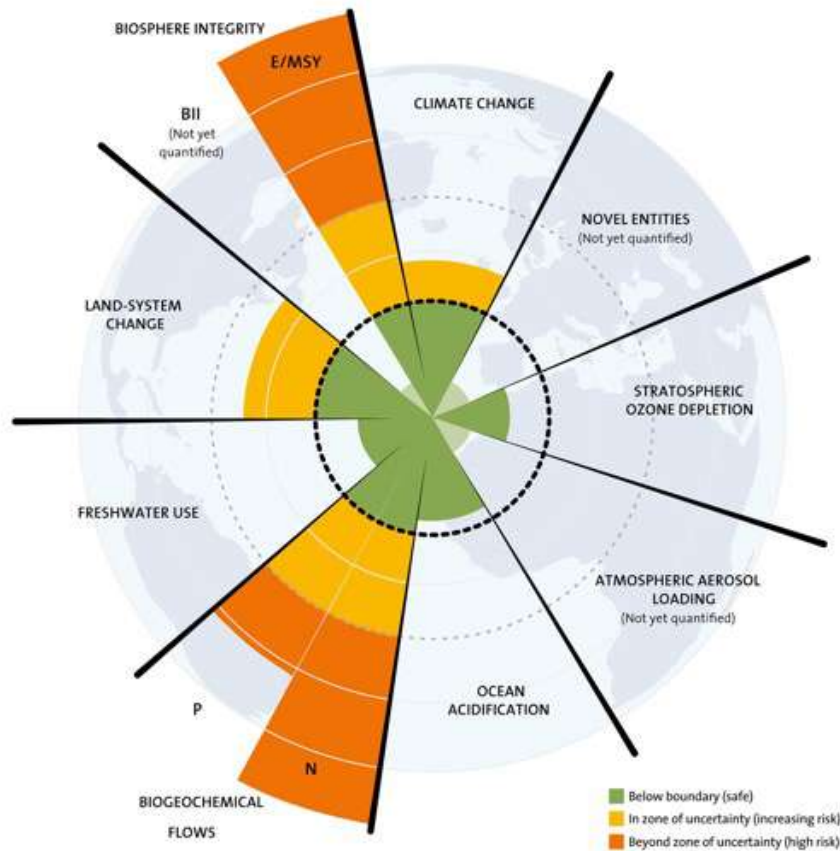
The Scientific Context:

A look into paleo-climate to see the link between CO₂ rise in interglacial years



The Scientific Context:

PLANETARY BOUNDARIES



Paris Agreement (Climate Change)

Montreal Protocol (CFC)

Kigali Amendment (rev. CFC)

Convention on Biological diversity (CBD)

UN Convention to Combat Desertification (UNCCD)

Context Of Change

Climate Change Regime

Climate change: the complex shifts that emerge due to human activity (greenhouse gas emissions into the atmosphere) that affect the planet's weather and climate systems (The National Geographic).

- It encompasses extreme weather events, shifting wildlife populations and habitats, rising seas etc.

Global warming: “Global warming is the long-term heating of Earth's climate system observed since the pre-industrial period (between 1850 and 1900) due to human activities, primarily fossil fuel burning, which increases heat-trapping greenhouse gas levels in the Earth's atmosphere” (NASA).





Context Of Change

Agreed aspirational limit of 1.5 degrees Celsius of warming by the Intergovernmental Panel on Climate Change (IPCC) in order to *limit* the effects of climate change on our ecosystems and existence.

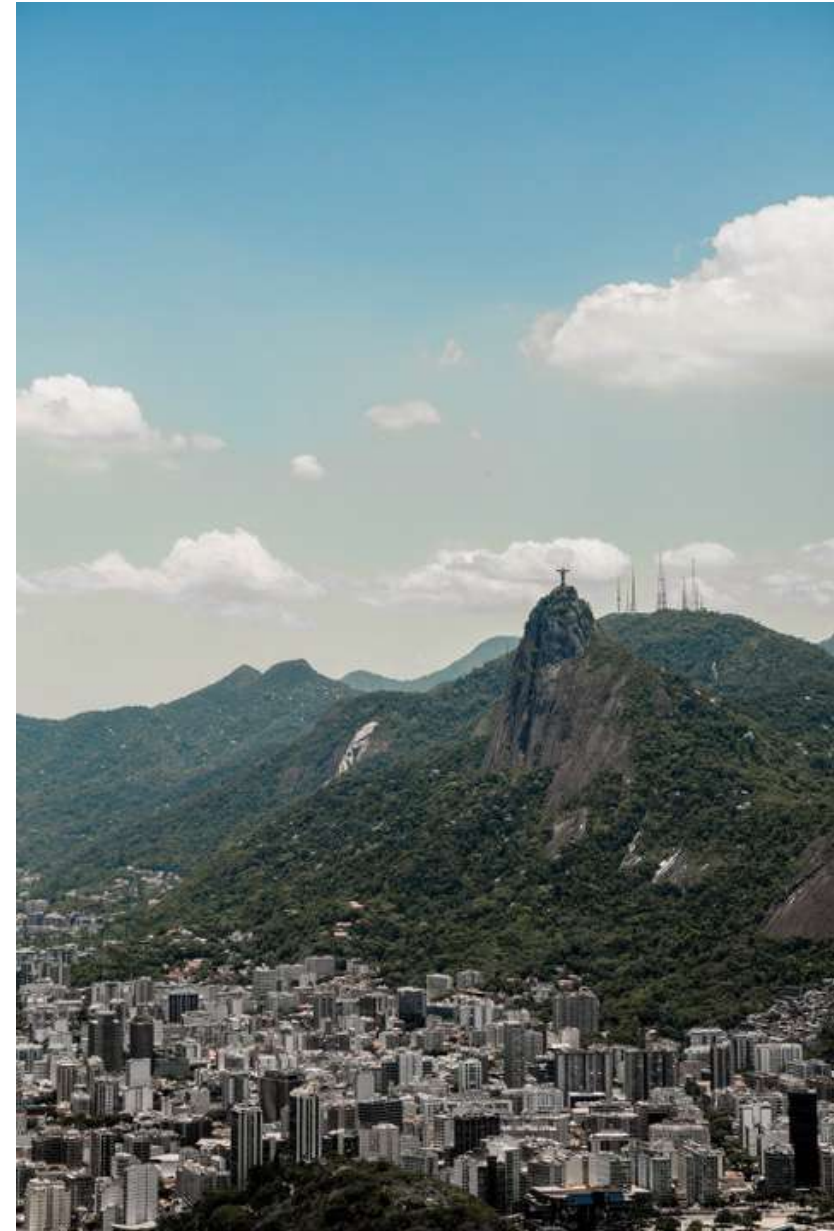
1.5 degrees versus 2 degrees?

- At 2°C, extreme heat will be 2.6x worse, the world will experience 10x more ice-free summers, there will be 2x more species loss, ecosystem shifts will be 1.86x worse, there will be a 2.3x reduction in crop yields, a 29% further decline in coral reefs, and double the decline in marine fisheries.
- Currently, the world is not on track to limit warming to 1.5 degrees, as emissions will need to reach net-zero by mid century.
- The WRI finds that to meet the 1.5 degree goal, investments in low-carbon energy technology and energy efficiency will need increase by roughly a factor of five by 2050 compared to 2015 levels.

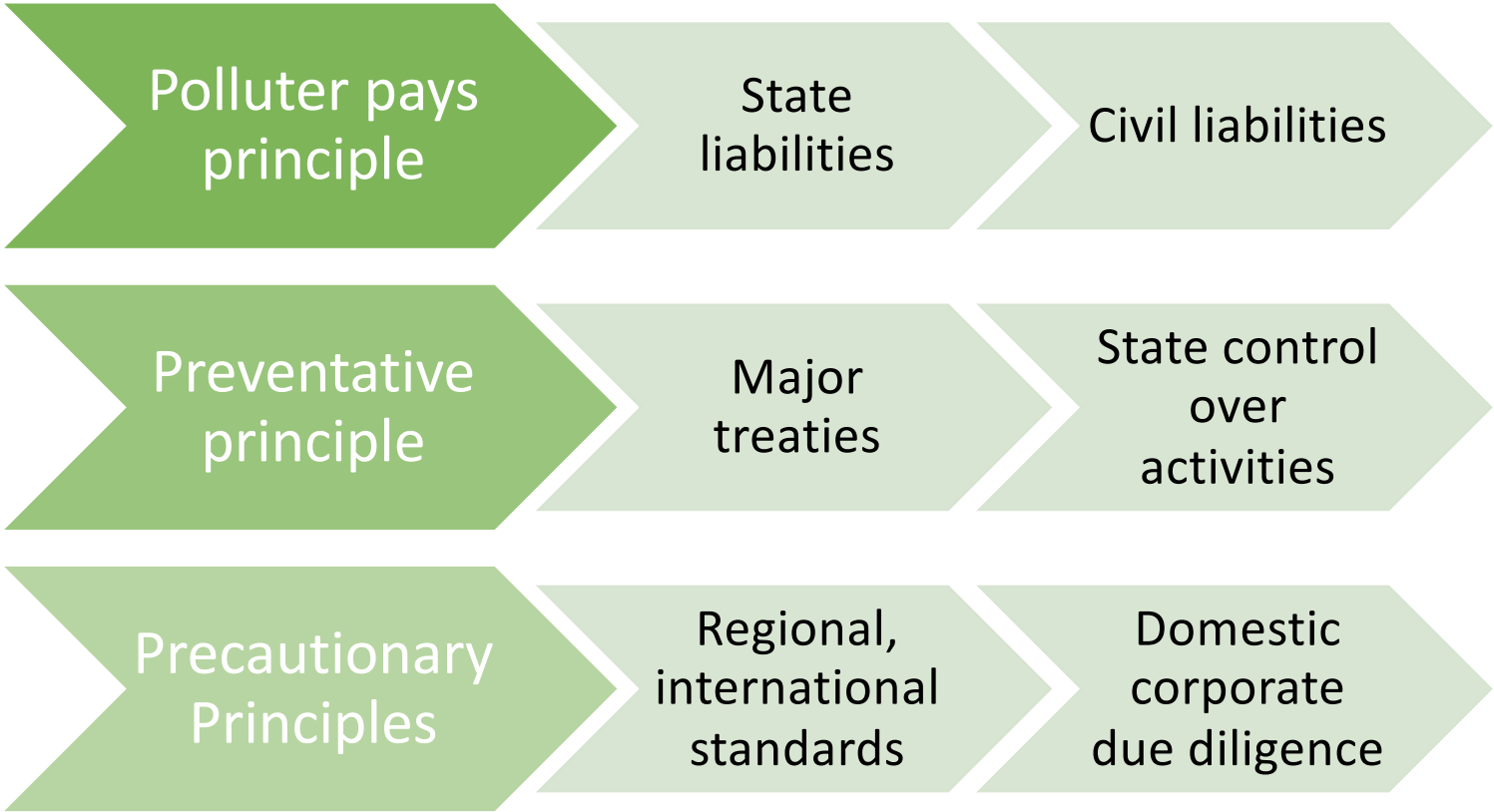
Three Key Conventions

Originating from the Rio Convention of 1992, based upon numerous multilateral exchanges and the Stockholm Declaration (1972) - Declaration of the United Nations Conference on the Human Environment

- * United Nations Convention on Climate Change (**UNFCCC**)
- * Convention on Biological Diversity (**CBD**)
- * United Nations Convention to Combat Desertification (**UNCCD**)

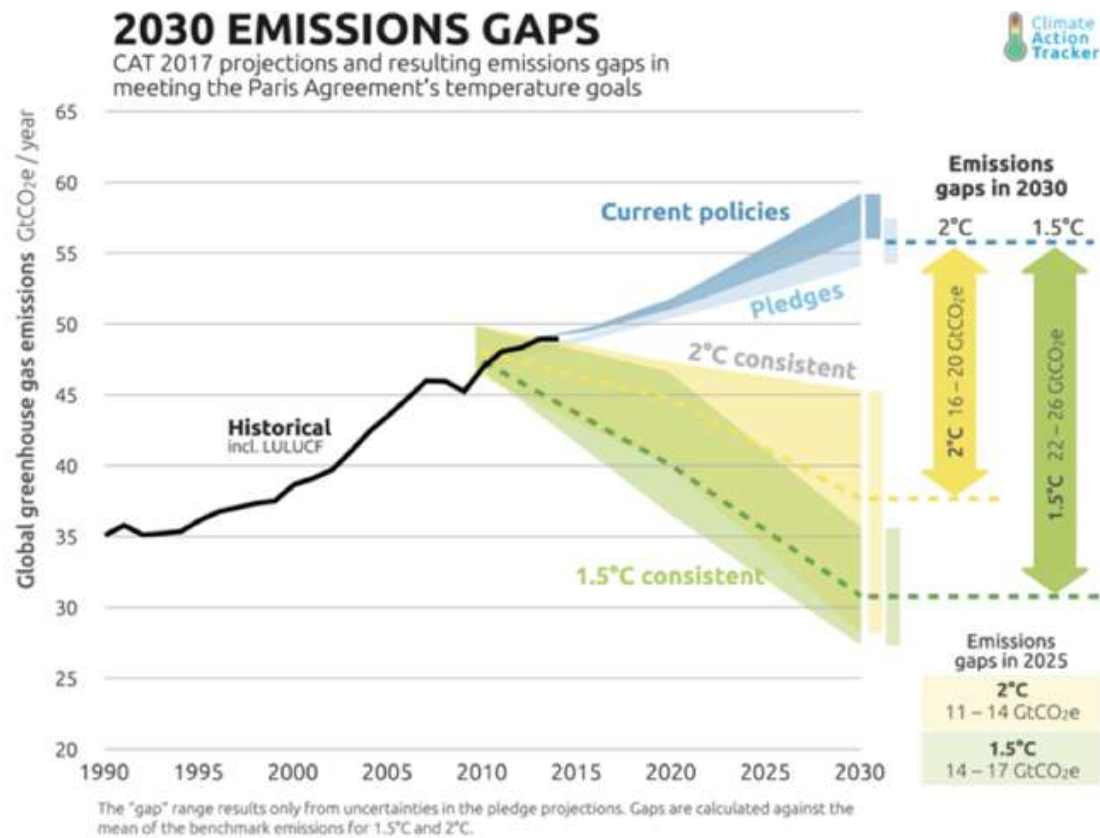


Interaction between international and domestic spheres



Regulatory Change

Parties pledged their best efforts in nationally determined contributions and agreed to report on progress regularly, as well as increase ambition over time. A global stocktake every five years, beginning in 2023, will assess collective progress.



Temperature goal
 Limit the global rise to as close as possible to 1.5 °C.



Pre-2020 action and support
 Encourage action between now and 2020 by all actors, including non-Party stakeholders.



Transparency and the global stocktake
 Robust transparency and accounting, supported by international review and global stocktakes.



Finance, technology and capacity-building
 International cooperation to support a low-carbon and climate-resilient future.



Mitigation and voluntary cooperation
 All Parties must prepare nationally determined contributions (NDCs) and work to achieve them, reporting on progress, and regularly enhancing ambition.

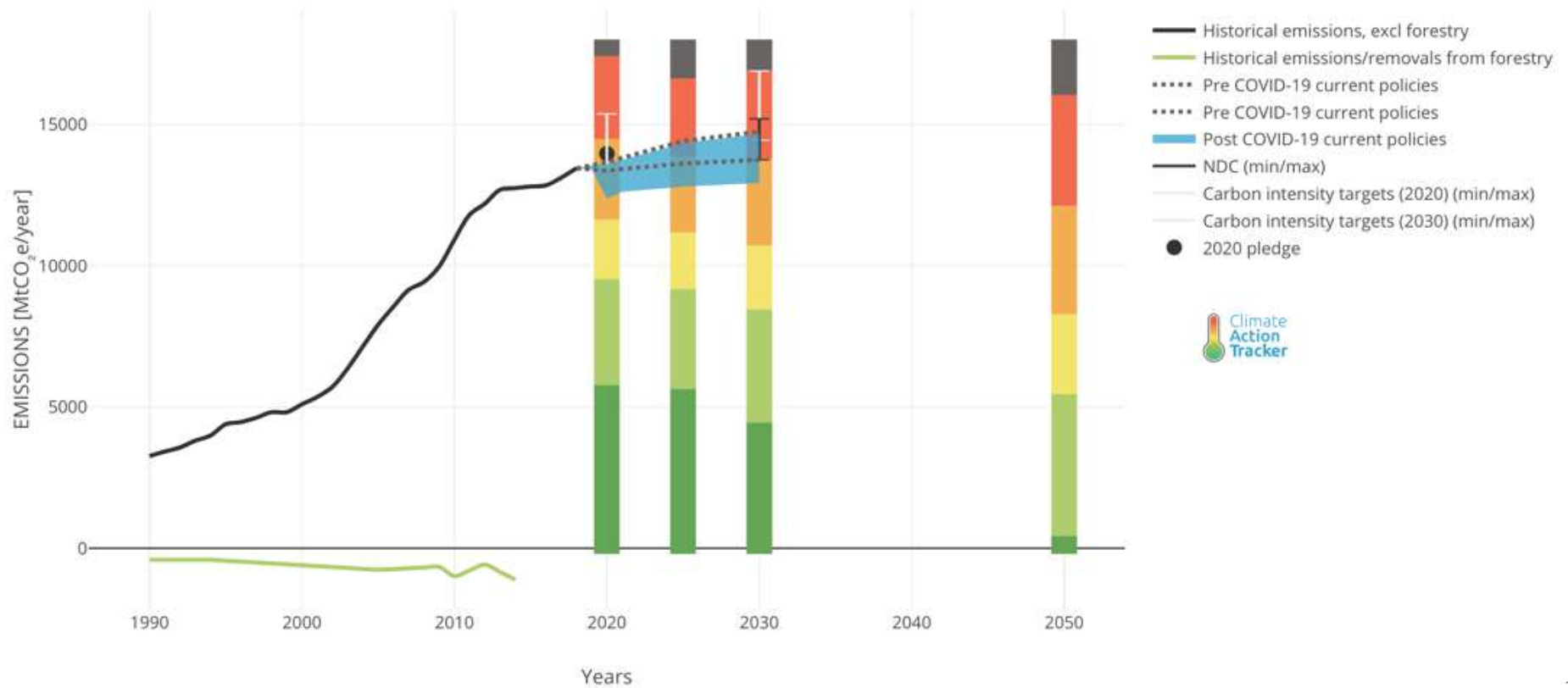


Adaptation and loss and damage
 Strengthen national adaptation efforts and support vulnerable countries to cope with climate change effects.

Context Of Change - NDCs

- 2015 was a historic year in which 196 Parties came together under the **Paris Agreement** to transform their development trajectories so that they set the world on a course towards sustainable development, aiming at **limiting warming to 1.5 to 2 degrees C above pre-industrial levels**.
- Through the Paris Agreement, Parties also agreed to a **long-term goal for adaptation** – to increase the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production.
- Additionally, they agreed to **work towards making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development**.
- **Nationally determined contributions (NDCs)** are at the heart of the Paris Agreement and the achievement of these long-term goals. NDCs embody efforts by each country to reduce national emissions and adapt to the impacts of climate change.
- The Paris Agreement (Article 4, paragraph 2) requires each Party to **prepare, communicate and maintain** successive nationally determined contributions (NDCs) that it intends to achieve. Parties shall pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions.

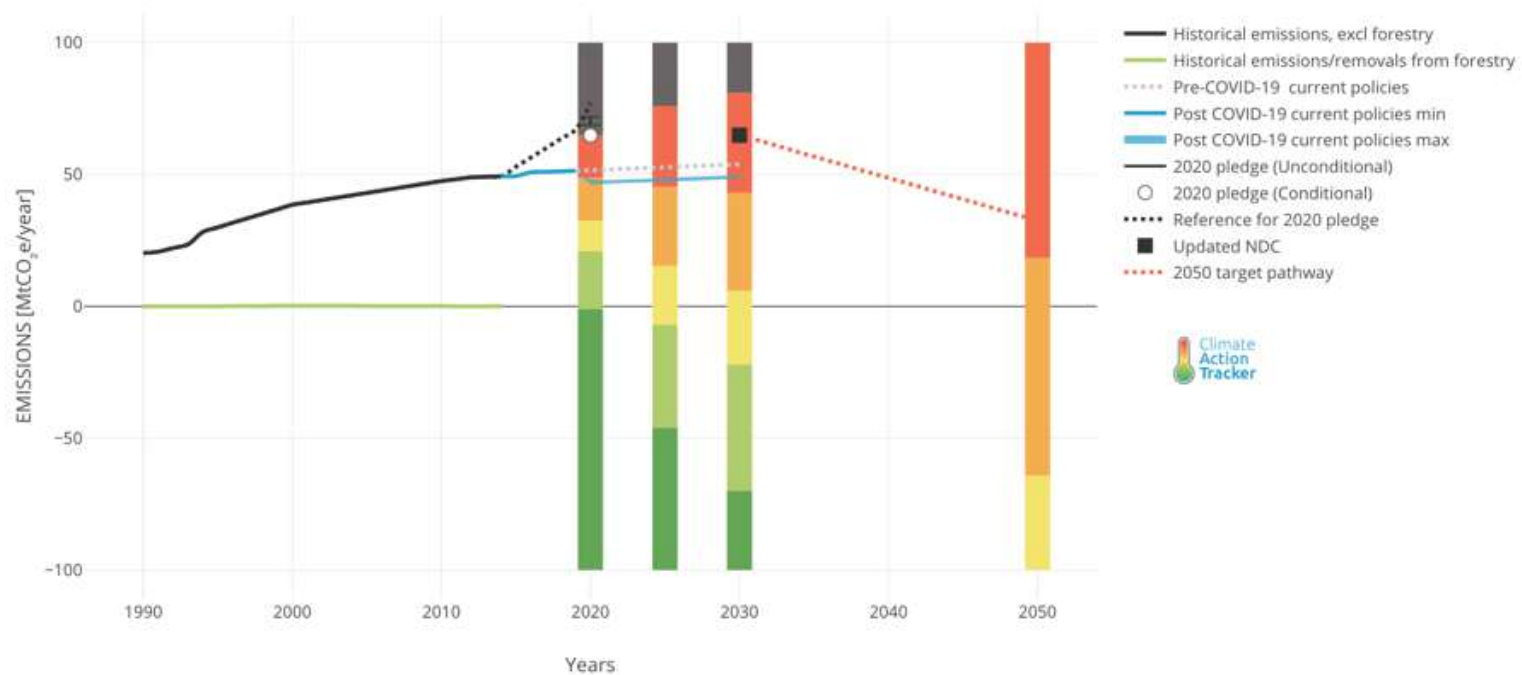
China



China – Some progress but still insufficient

- President Xi Jinping has announced in September 2020 that China will strengthen its 2030 climate target (NDC), peak emissions before 2030 and aim to achieve carbon neutrality before 2060.
- China's COVID-19 response contains elements of a green recovery, showing an improved strategic deviation from the post-2008 financial crisis, but as yet lacks the policies and direction to set China on a low-carbon trajectory.
- Positively, the government has issued broader stimulus packages to double down on existing priorities transitioning industry and labour force towards a modernised digital economy rather than restarting traditional infrastructure strategy, and remains committed to accelerated renewable energy systems and electric vehicles.
- However, recovery activities remain carbon-intensive and require high energy demand from a system run primarily on fossil fuels. Most worryingly, China remains committed to supporting the coal industry while the rest of the world experiences a decline, and is now home to half of the world's coal capacity. The CAT keeps its rating of China as “Highly insufficient”.

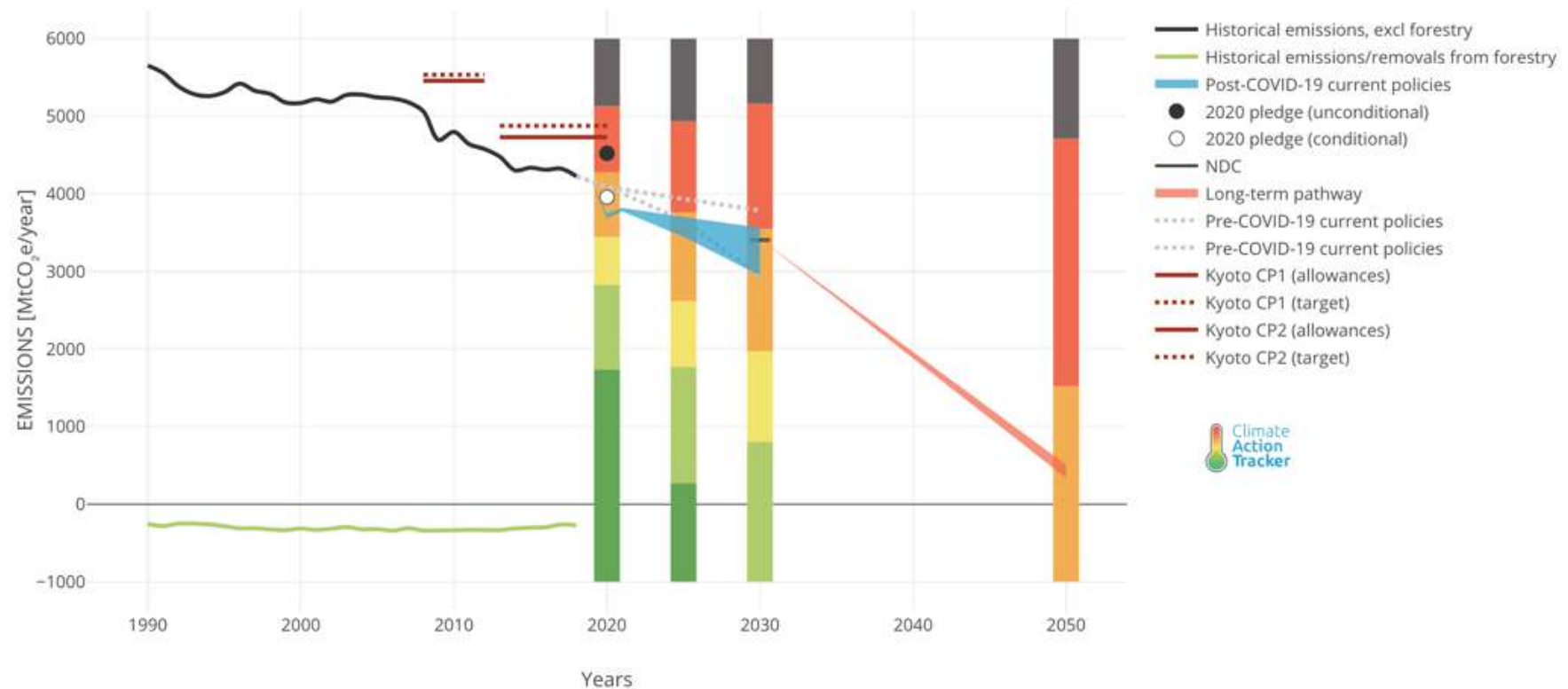
Singapore – Some progress but still insufficient



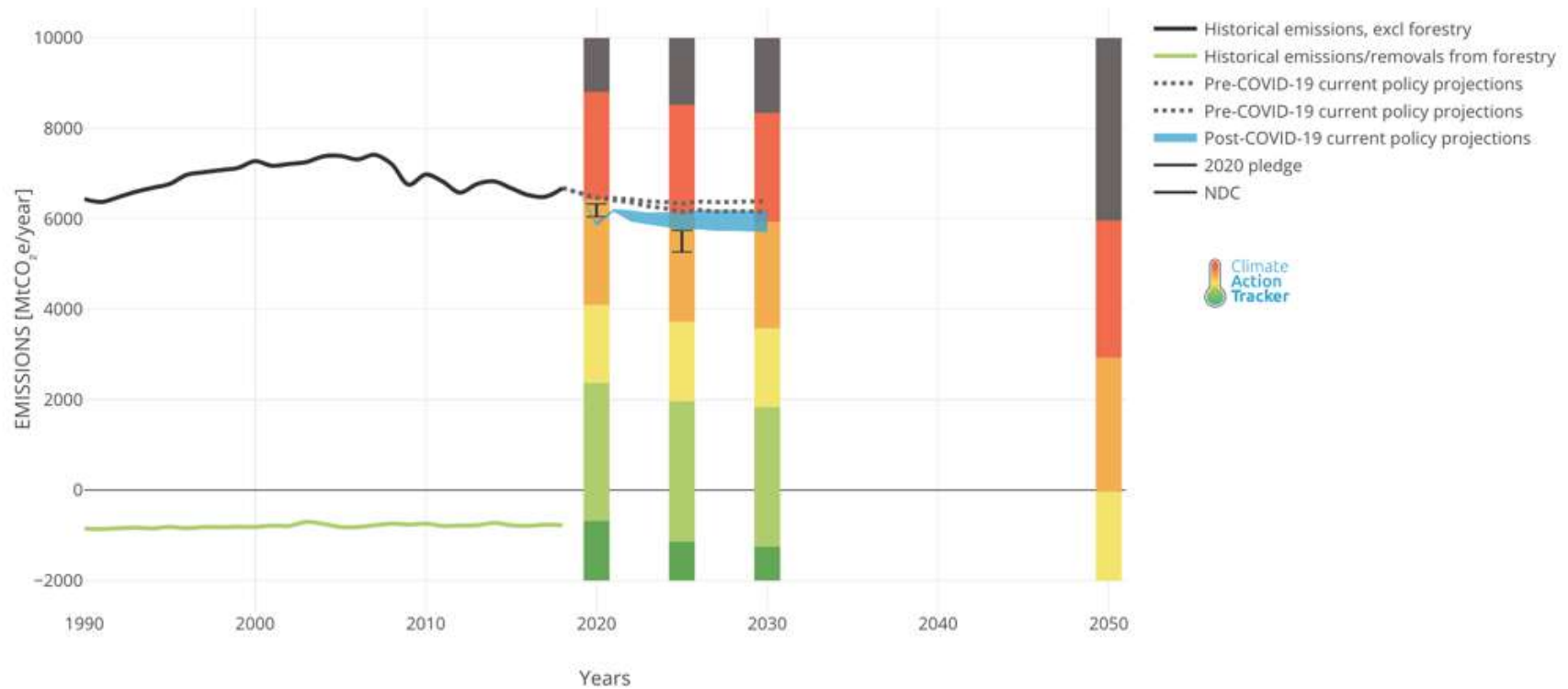
Singapore – Some progress but still insufficient

- The impact of COVID-19 on the economy is projected to reduce emissions in Singapore in 2020, followed by an upward emissions trajectory - based on current policy. Singapore imposed two months of lockdown and began easing restrictions in June. The period of lockdown is projected to shrink GDP and reduce activity in emissions intensive sectors.
- The CAT's projections for 2020 and 2030 have changed as a result of COVID-19. Singapore's emissions are 8% to 12% lower in 2020 and 2030 when factoring in the economic impact of the pandemic.
- Singapore was already on track to substantially overachieve its very weak 2020 and 2030 targets, without implementing any additional policies. Singapore updated its 2030 target in March 2020, but the updated target is not an increase in climate action, contrary to the Paris Agreement requirement to scale it up.
- Yet, natural gas remains the key energy source.

The European Union... still insufficient



The United States... Critically insufficient



NDCs

- **How can Armenia avoid the most damaging effects of climate change?**
- **How can Armenia best align with a 2°C or even better a 1.5°C pathway?**
- **And more specifically, what can your bank / FI do to support this transition / alignment?**
- Increased ambition compared to 2015 NDC
- Reduction of 40% compared to 1990 by 2030
- Covers adaptation
- Requires additional implementation strategies that need to be formulated
- Financing strategy is under development
- A low-emission development strategy is under development



Discussion points...

Group 1: Clean energy generation

Group 2: Energy efficiency

Group 3: Agriculture

Group 4: Water

How Do We Make This Work For Business – regulation

To avoid the most damaging effects of climate change, countries need to work together to limit pollution and keep global warming to under 1.5°C. National regulation should help push companies toward this goal, but without global support, companies are still prone to polluting abroad.

- Research finds that in countries with tight ***environmental regulation***, companies have 29% lower domestic CO2 emissions on average, but they also have 43% higher emissions abroad.
- Polluting activities are more likely to be performed in countries with more relaxed environmental policies—areas economists refer to as pollution havens.
- Industries most susceptible to polluting abroad are electricity, gas and refineries, steam and air-conditioning supply, air and water transport, and mineral and metal producers.
- While domestic regulations are associated with about 15% lower global CO2 emissions overall, countries still need to take concerted action to ensure that the overall CO2 balance will not increase.

Poll and Discussion Questions...



- 1) Is your company affected by environmental and climate related regulation?
- 2) In your opinion, is (mandatory) regulation an appropriate tool to counter the negative effect of climate change and environmental degradation?

Please share additional views and comments live and / or in the chat room...

How Do We Make This Work For Business

Companies need to mobilize in three ways to deal with the unprecedented global problem of climate change.

- ***Use political influence to demand aggressive climate policies.*** Proactively support laws that make high-carbon products and choices more expensive, mobilize capital toward a clean economy, and help deal with adaptation and the human costs of shifts to clean technology, including resilience planning in cities, relocation of citizens, and retraining workers.
- ***Empower key stakeholders to drive change.*** Limit your suppliers to only those who have low emissions or work with them to create more energy- and carbon-efficient products. Offer your customers products that produce fewer emissions throughout their life cycles and provide ways for them to use less, thereby reducing their carbon footprints. Build sustainability and climate action into incentive structures for your employees by paying everyone (from the C-suite on down) to cut carbon.
- ***Rethink investments and business models to eliminate waste and carbon.*** Think about how all products and services in every sector of your company are created and used, and squeeze carbon out of every step in the value chain. Then, rethink where your company is taking risks and consider new business models.

How Do We Make This Work For Business

Research has revealed a trend of dematerialization in the United States: As the economy is growing, the country is actually using less timber, metals, water, and other resources. And this trend is spreading to other parts of the globe.

- **Dematerialization** may have an important impact for the Economy—and indeed for Climate Change
- Using less resources: New technologies and digitization are helping dematerialization happen. As individuals and companies do more online, for instance, they use fewer resources like paper.
- Quicker urbanization and technological leap: Developing nations that are building their economy and looking to urbanize must build infrastructure, which traditionally has required vast amounts of resources. But these countries may reach urbanization quicker than expected, since they will follow different technology and materials paths than more prosperous nations.
- **Dematerialization and decarbonization**: While dematerialization is a promising development, it is not enough to stop climate change. Decarbonization is also needed, and it isn't happening fast enough. Further action, like effective public policy, is required.



Poll and Discussion Questions...

- 1) Will actions taken today be enough to combat the direct impacts of climate change? Or are they too little too late?
- 2) Discuss how your company can proactively reduce its emissions and invest in resilience while planning for vast change.
- 3) What are all the things your business can do with its resources? What capital—financial, human, brand, and political—can your company bring to bear?
- 4) How can dematerialization lend itself to increased environmental protection when combined with effective public policy?

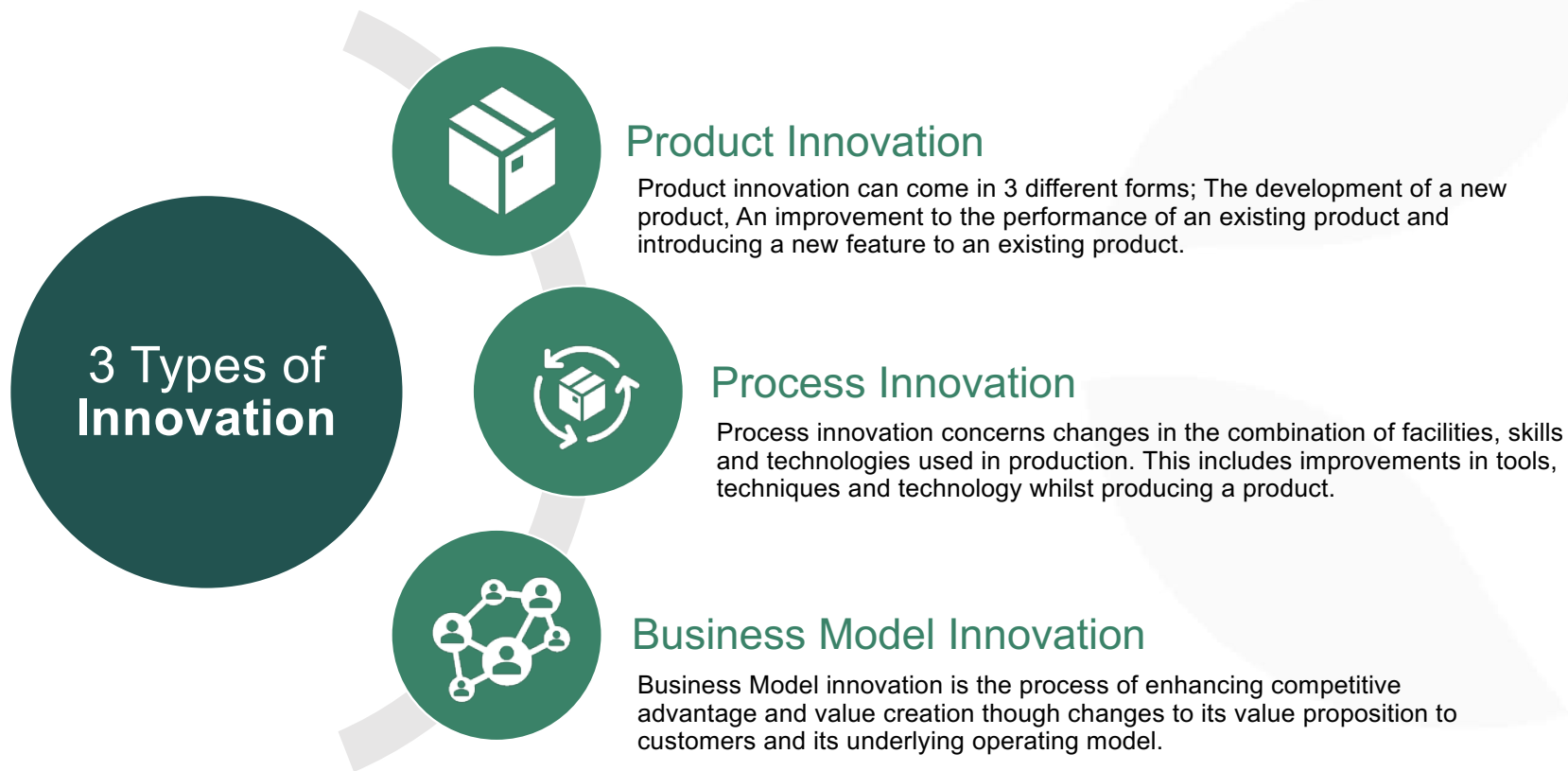
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How Do We Make This Work For Business

Individuals are growing increasingly conscious of the negative consequences of consumerism, leading them to buy less. This consumer-driven degrowth is becoming a concern for companies who see growth as an economic necessity. But three strategies can help.

- ***Degrowth-adapted product design.*** Companies can create products that have longer lifespans, are modular, or are locally produced. For example, Fairphone produces phones that are repairable, which extends their longevity.
- ***Value-chain repositioning.*** Businesses can exit from certain stages of the value chain and delegate tasks to other stakeholders, including the customers themselves. The vehicle manufacturer Local Motors, for instance, uses crowdsourced design and crowdfunding to build new products.
- ***Degrowth-oriented standard setting.*** Companies can create a standard for the rest of the industry to follow. Patagonia, the poster child for this philosophy, has opened a worn-wear store and provides free repairs to offset the concerns about growth in the apparel industry.

Circling back... The 3 Types of Innovation



Final discussion points

Behavioural
Change

Technological
Advance

- 1) What do you think is more important to combat climate change: behavioural change or technological advances? Or both together?
- 2) Can you describe the most innovative product or process you have come across (in your company or elsewhere) to combat climate change and make a difference?



Poll and Discussion Questions...

- 1) Does degrowth open new opportunities, or is growth an economic necessity?
- 2) How can your organization pursue degrowth-adapted product design, engage in value-chain repositioning, or lead through degrowth-oriented standard setting?
- 3) In what other ways can your firm adapt to consumer-driven degrowth?
- 4) What material risks does climate change pose to your business?

Please share additional views and comments live and / or in the chat room...

Moving onto risk: What Are The Impacts On Business

Climate change related risks...

Transition risks : the risks associated with the transition to a lower carbon economy, the most common of which relates to changes in the regulatory framework, legislation and international agreements. For example, compliance with agreements e.g. the Paris Agreement may lead to risk of stranded assets; however weight current cost versus future savings. *Rethinking of the paradigm

Physical risks : those are the very tangible risks arising from acute events that have been rendered 'extreme' by climate change, such as storms, floods, fires. They can also be chronic, as they relate to longer term shifts in weather patterns (changing rains patterns, longer periods droughts) and gradual changes in physical conditions (sea level rise; loss of certain habitats).

<https://www.youtube.com/watch?v=4RQv9VDgQq0>

What are the implications to think about here?
Impacts on financial flows, their direction, liability risks, displacement / replacement

TCFD

- The Taskforce on climate related financial disclosure (TCFD) recommendations are designed to solicit consistent, decision-useful, forward-looking information on the material financial impacts of climate-related risks and opportunities, including those related to the global transition to a lower-carbon economy. They are adoptable by all organizations with public debt or equity in G20 jurisdictions for use in mainstream financial filings.
- Four elements:
 - Governance
 - Strategy
 - Risk management
 - Metrics
- Strategy: The actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning





Transition Risk

- FELICITY II is a multi-country program in central Asia and eastern Europe.
- Multi-instruments: grants and loans
- Risks: energy 'insecurity'; closing approximation with EU standards, in particular for energy and environments, and in aligning with the new EU taxonomy;
- Programming for the greening of urban infrastructure, in particular through energy efficiency measures to reduce energy intensity; through city-scale or district-level clean energy generation; through refurbishment of dilapidated municipal infrastructure, including transportation, water management, waste water treatment and solid waste management.
- EUR 20 million in non reimbursable grants; EUR 800 million in low-interest and long-term financing.

Course Reading

Economics: Annual Review of Environment and Resources The Economics of 1.5° C Climate Change. www.annualreviews.org/doi/pdf/10.1146/annurev-environ-102017-025817

Investopedia Guide to Impact Investing, ESG: <https://www.investopedia.com/terms/i/impact-investing.asp>

IPCC Synthesis Reports: <https://www.ipcc.ch/reports/>

Financial Stability Board (2017), Recommendations of the Task Force on Climate-related Financial Disclosures - <https://www.fsb-tcfd.org/wp-content/uploads/2017/06/FINAL-2017-TCFD-Report-11052018.pdf>

IRENA (2015), From Baseload to Peak: Renewables provide a reliable solution <https://www.irena.org/publications/2015/Jun/From-Baseload-to-Peak-Renewables-provide-a-reliable-solution>

LSEG (2018), Your Guide to ESG reporting, https://www.lseg.com/sites/default/files/content/images/Green_Finance/ESG/2018/February/LSEG_ESG_report_January_2018.pdf

Benoit Mayer, The International Law on Climate Change, Cambridge University Press, 2018.

NASA: <https://climate.nasa.gov/evidence/>

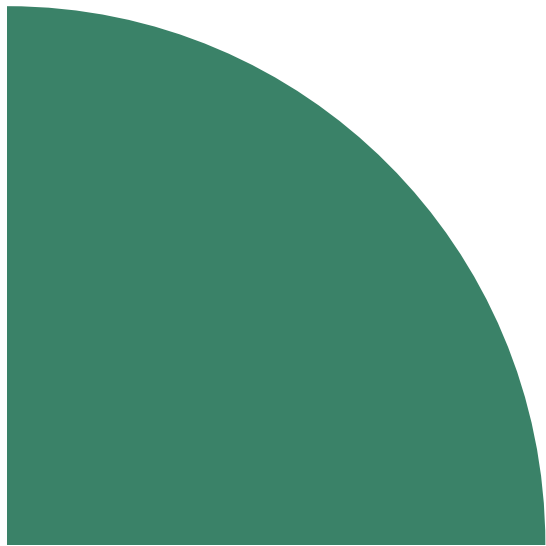
Philippe Sands, Jacqueline Peel, Ruth MacKenzie of International Environmental Law, Cambridge University Press, 2012.

M.Simonetti (2020), “All we need to know about climate change” <https://www.globalfields.co.uk/insights/all-we-need-to-know-about-climate-change>

M.Simonetti (2020) “The sustainability-transition opportunity”, <https://www.globalfields.co.uk/insights/the-sustainability-transition-opportunity>



Your Feedback Matters



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Impacts: Benchmarking and Tools

- Economic and financial analyses: making the business case for investment in green, ESG and SDG
- Paris-Alignment, ESG, TFCO and SDG-alignment
- ESG: what do we expect to see in 'environmental', 'social' and 'governance' benchmarking and reporting
- SDG: Building categories of inclusion, exclusion;
- "green": aligning with global pathways (Paris agreement);
- Building on materiality, relevance, global frameworks: policy statements