Enhancing Data-Driven Decision-Making in the Transport Sector to Support Ambitious NDCs

2025 Caribbean Peer Exchange

08.04.2025

Supported by

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Supported by:

Federal Ministry for Economic Affairs and Climate Action

Federal Foreign Office

IKI INTERNATIONAL CLIMATE INITIATIVE

on the basis of a decision by the German Bundestag

Who we are

Climate Analytics is a global climate science and policy institute engaged around the world in driving and supporting climate action aligned to the 1.5°C warming limit.

We connect science and policy to empower vulnerable countries in international climate negotiations and inform national planning with targeted research, analysis and support.

Outline

- Informing transport sector decarbonization pathways
- Role of transport data in the context of NDC target formulation
- Data requirements for calculating transport sector emissions
- Key takeaways and way forward

The Key Role of Data in informing Transport sector Low-Carbon Transition

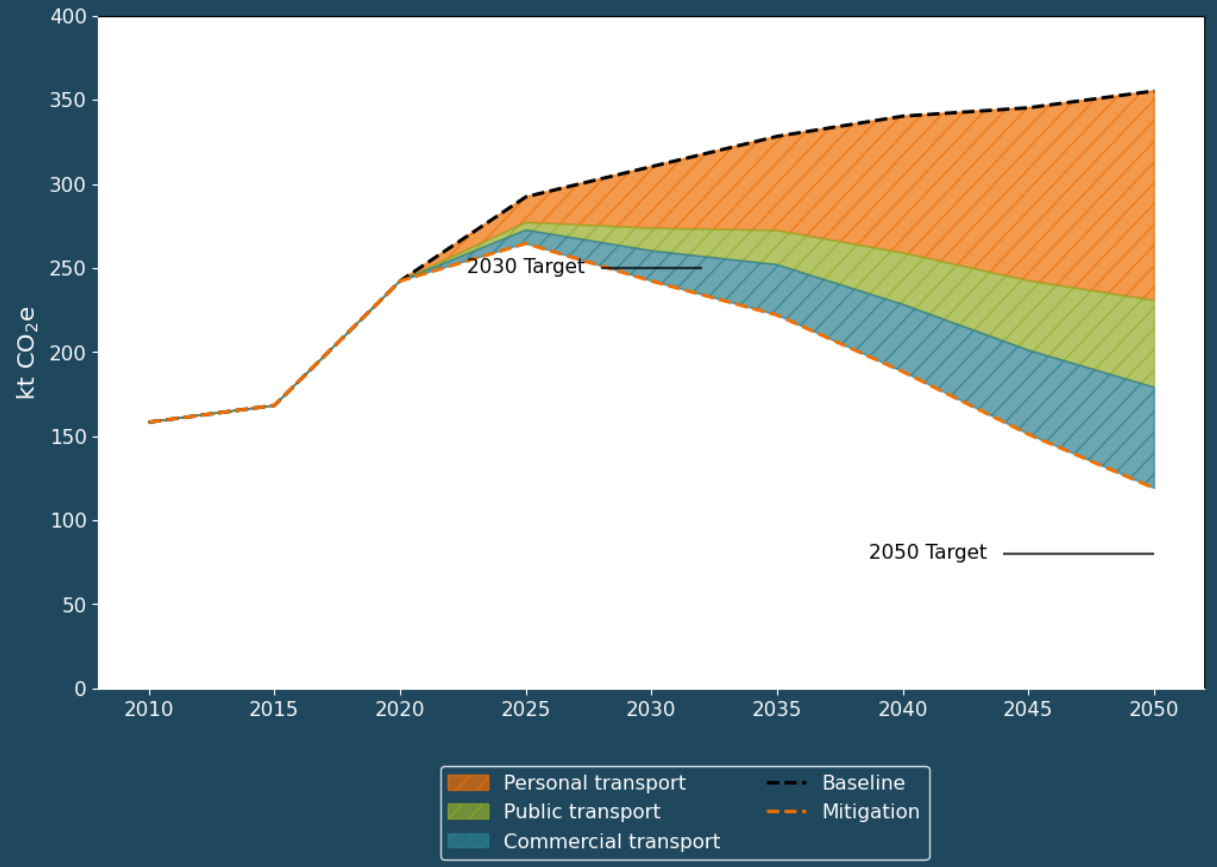
CLIMATE ANALYTICS

- Reliable data is essential for formulating **effective policies, strategies and projects** aimed at promoting **low-carbon transport sector**.
- Solid data systems can support the **formulation of NDC targets** and the monitoring of progress towards their achievement.
- Accurate data can **facilitate financing** and **technology transfer** by providing evidence of the potential benefits of low-carbon transport initiatives.
- Can facilitate private sector investment decision-making.

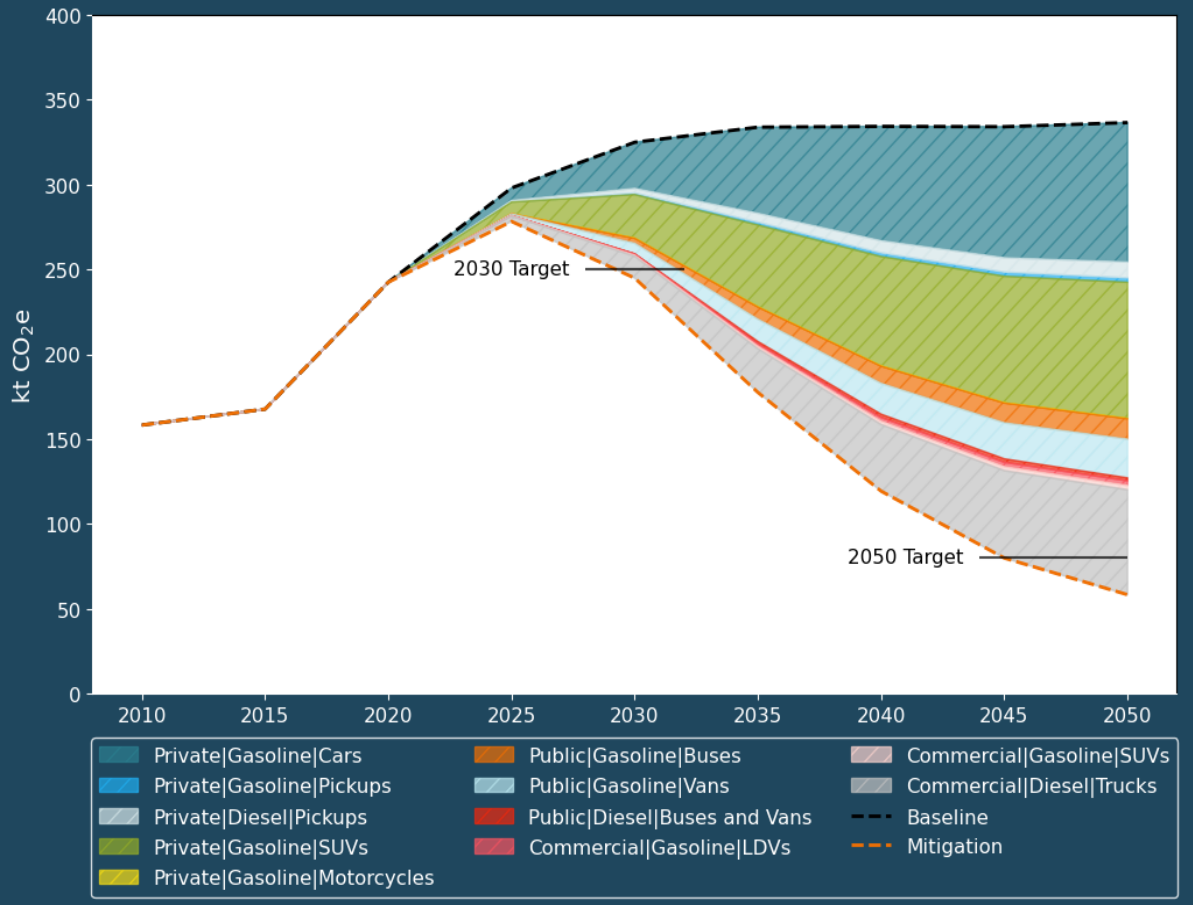
Informing NDC targets

CLIMATE ANALYTICS

Case A: Only “high” level data available



Case B: Granular information on vehicle fleet available



Why not just calculate emissions from consumption numbers?

- Some countries know how much fuel is imported and consumed by the transportation sector
- This provides a good estimate of current consumption
- Drawbacks
  - Consumption projections not tethered to real drivers of emissions
  - Data collection challenges can lead to inaccurate or inconsistent counts
  - Not very useful for policymaking

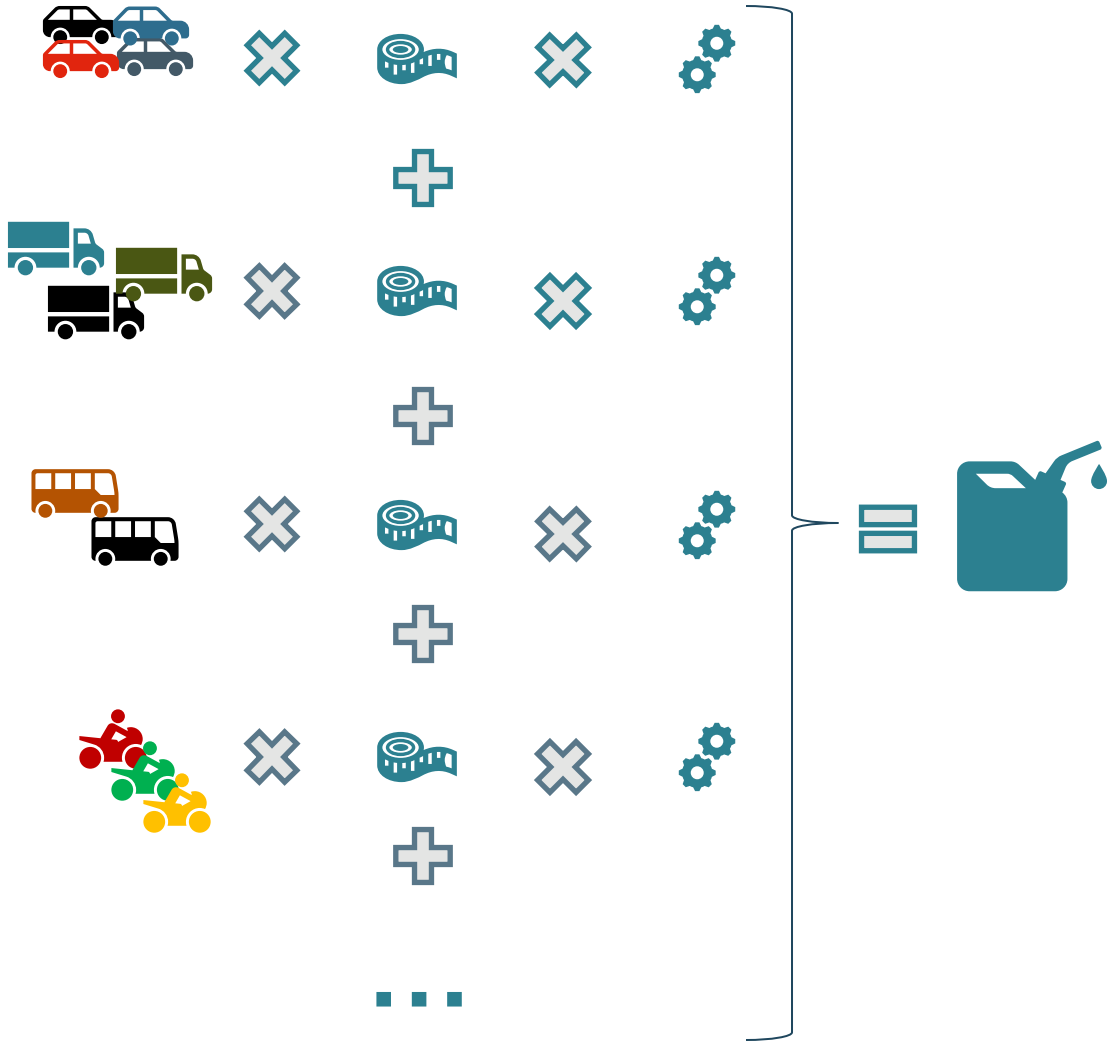
Consumption | Emissions factor | Emissions

Calculating Emissions from Transport

CLIMATE ANALYTICS

Tracking vehicle fleets

- Many countries have a sense of the size of vehicle fleets
- Sometimes it's unclear how many inactive vehicles there are
- Trends in composition of the fleet can have major implications for consumption and emissions
- Sometimes vehicle data collection isn't standardized or cleaned
  - Toyota Forerunner
  - Toyota 4Runner
  - 4Runner Toyota
  - Toyta Foreigner
- It is important to keep classification methods relatively consistent over time



Considering vehicle efficiency

- Modeling future scenarios typically involves making assumptions about average fleet category fuel efficiencies
- This is more feasible when vehicle fleets are well-documented
- If a category (e.g. cars) is dominated by a particular make and model (e.g. Nissan Sentra), data for this vehicle can be used as a proxy for that category
- If there are multiple popular vehicles within a category, with different fuel efficiencies, it may make sense to do a weighted average of these efficiencies

Distance Travelled

- Estimates of distance travelled by vehicles is **lacking in most countries we have worked in**
- Given the scale of energy use in transport, the assumptions of distance driven an have massive impacts for energy consumption and emissions
- Transport studies should seek to establish these baselines
- Understanding transport patterns can have multiple benefits
  - Improved projection of energy demand and emissions
  - Quantification of impacts of pedestrianisation and/or public transit initiatives

If a tree falls in the forest…

- Limited coordination within government can be an obstacle to accessing relevant information
- Sometimes important data is collected by one arm of government, but another, that could use that information, is unaware
- Without effective knowledge management systems, we rely on individuals' knowledge of the broader data ecosystem. This makes turnover especially damaging to a government
- Shifts in portfolios or responsibilities of ministries can also disrupt data collection or distribution

So, what do we do?

CLIMATE ANALYTICS

- Collect vehicle odometer readings at regular inspection/registration
  - Do not delete previous entries!
- Formulate data entry standards and institute data validation processes
- Engage local institutions - from statistical offices to vehicle registration agencies - to collect data on the transport sector
- Develop robust national and regional data platforms and awareness of those systems
- Share data regionally to identify errors and ground truth data


CLIMATE
ANALYTICS
www.climateanalytics.org

RCC Caribbean
Collaboration for Climate Action

WINDWARD ISLANDS RESEARCH & EDUCATION FOUNDATION

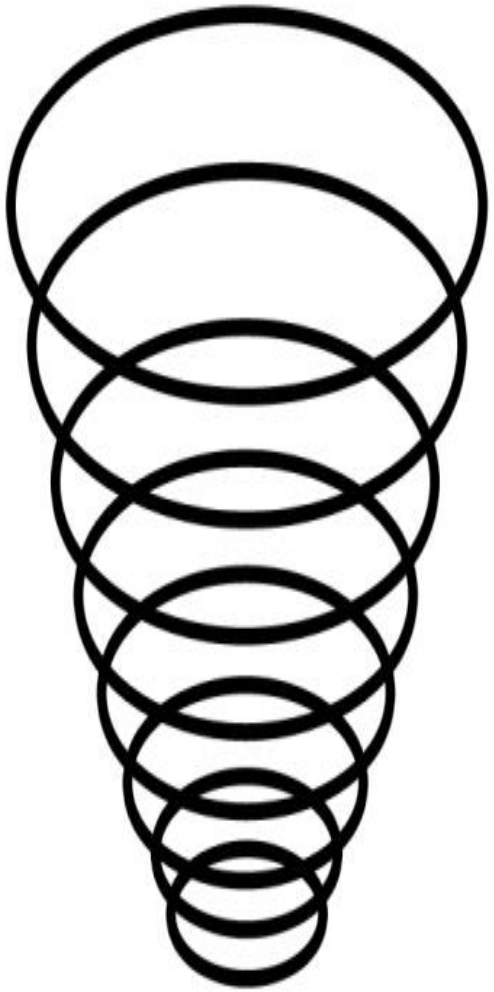
NDC PARTNERSHIP

NDC 3.0: Enhanced Ambition and Needs

Caribbean Electric Mobility Forum
Day 2 - Session 2.I

Jason Paul Williams, NDC and LT-LEDS Regional Specialist, UNFCCC Regional Collaboration Centre for the Caribbean

Nationally Determined Contributions (NDCs) - Increasing ambition over time



- The Paris Agreement recognizes that its objectives will be achieved **through time**
- It builds on aggregate and individual **progression/ambition**
- It establishes a **mandatory cycle of NDCs:**
  - First submission by **2020 with 2030 targets**
  - Enhanced ambition submitted **every 5 years**
  - **Next NDCs are due in 2025**
- Feedback Mechanisms
  - Global Stocktake
  - Enhanced Transparency Framework

RCC Caribbean
Collaboration for Climate Action

Arrangements of the Paris Agreement

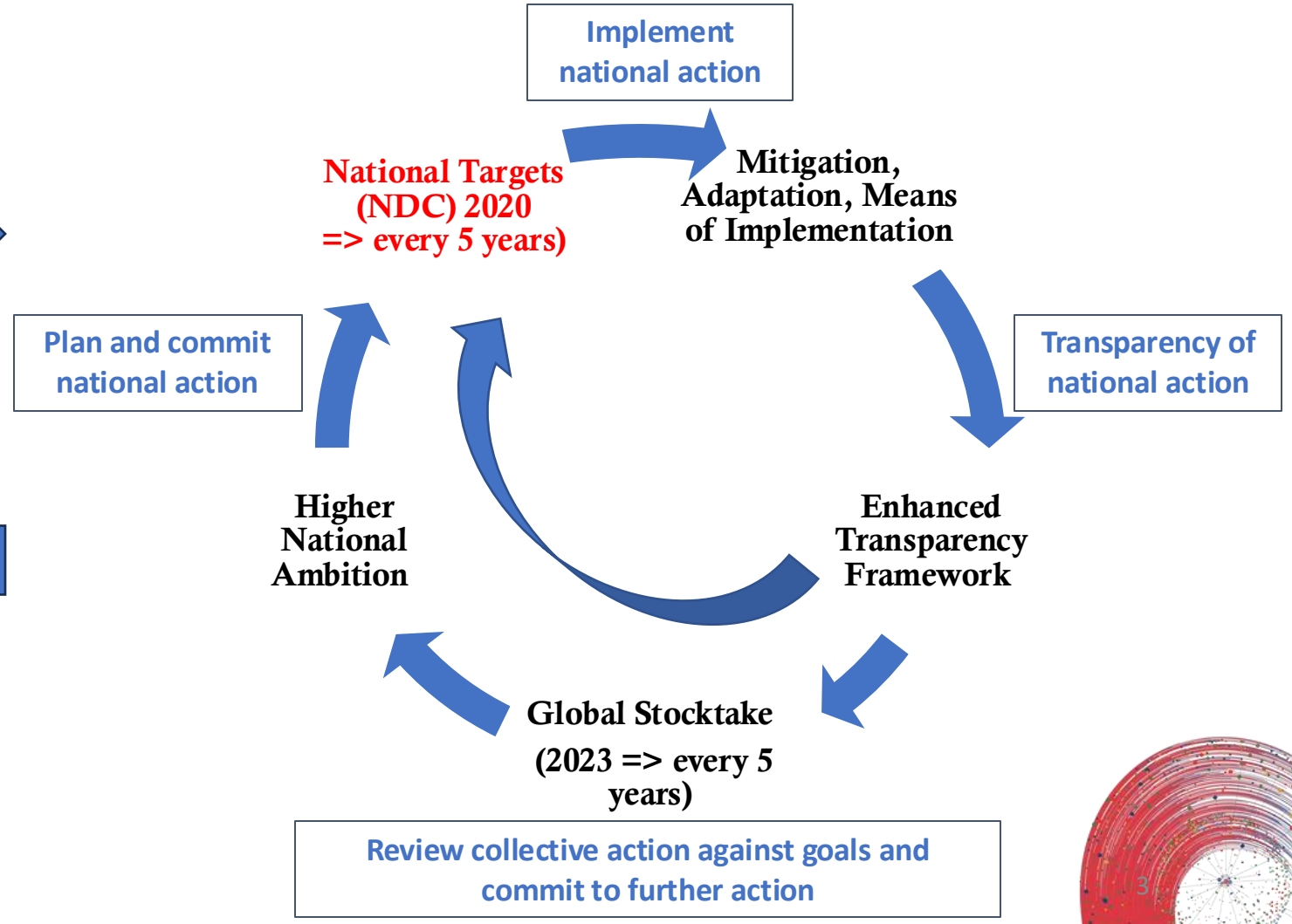
Paris Agreement Goals and Framework

Mitigation
keep temperature increase to well below **2 °C and 1.5 °C**

Adaptation
increase the ability to **adapt and foster resilience**

Finance flows **consistent** with path to low GHG emissions and resilient development

Ambition Cycle



RCC Caribbean
Collaboration for Climate Action

Global Stocktake Guidance for NDCs

- Parties to come forward in their next NDCs with **ambitious, economy wide emission reduction targets, covering all GHGs, sectors** and categories and **aligned with limiting warming to 1.5C**
- Developed countries to lead with economy wide, absolute targets
- Developing countries to enhance mitigation actions, and with time also move towards economy wide targets
- Alignment with LT-LEDS
- **2025 NDCs to:**
  - ✓Be with an **end date of 2035** – *encouraged*
  - ✓Be a **progression** beyond the Party's current NDC and reflect its highest possible **ambition** – *mandatory for all*
  - ✓Provide **ICTU** information – *mandatory for all*
  - ✓2025 NDCs to use adopted **accounting** approaches – *mandatory for all*
  - ✓Provide information on how the preparation of NDC has been informed by the outcomes of the **GST** – *mandatory for all*
  - ✓Next round of NDCs are due in **2025**

RCC Caribbean

Collaboration for Climate Action

Thank you

RCCCaribbean@unfccc.int

Discussion (1/2)

- What types of transport data are you currently collecting in your country?
  - Do you collect data on vehicle fleet composition(with info on year.
  - Do you collect data on vehicle mileage?
  - Do you collect data in fuel consumption and how is it disaggregated?
- Is the data collection process centralized? How accessible is the information for other institutions? How do you think that coordination can be improved?
- Have you been able to use national transport data to:
  - Support project proposals or access to climate finance?
  - Inform target setting?
  - Develop public policy?
  - Monitor & reporting progress towards achievement
- Are there national or regional tools/platforms you use for data storage? How effective have they been?

Discussion (2/2)

- What lessons can you share from your country's experience with managing transport sector data? What are the biggest barriers you face in collecting and maintaining quality data in the transport sector?
- How can countries in the Caribbean region work together to strengthen shared approaches to transport data collection and management?
- What kinds of support or collaboration would be most helpful to improve transport data systems in your country or regionally?

Our vision

We want a climate-safe, sustainable and just future for all.

Our mission

We deliver cutting-edge science, analysis and support to accelerate climate action to limit warming below 1.5°C.

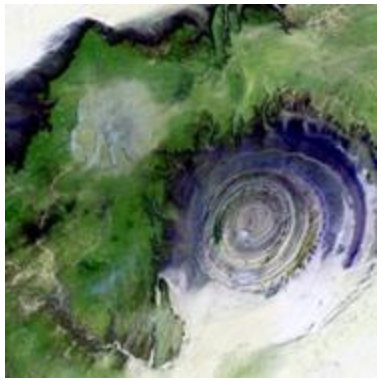
Our work empowers countries, communities and peoples on the frontlines of the climate crisis.

CLIMATE ANALYTICS

Our work

We produce policy-relevant science and analysis, highlighting options to accelerate progress in line with the Paris Agreement.

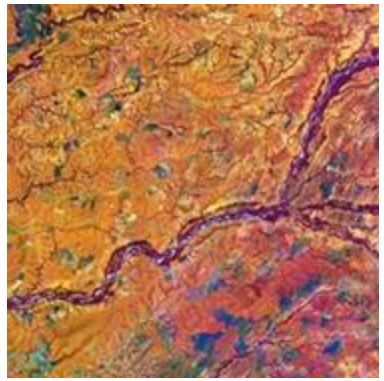
We also provide technical support to climate vulnerable countries for their national implementation work, and in the international climate negotiations.



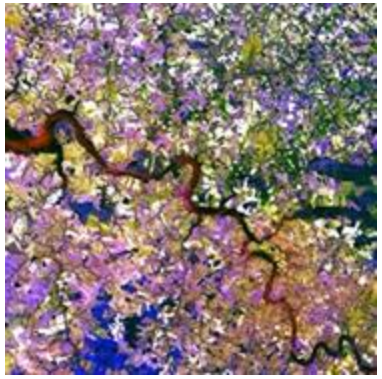
Climate impacts and risks

Adaptation

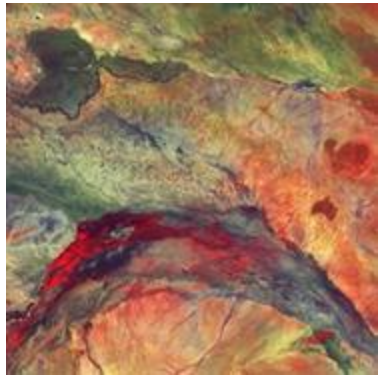
Loss and damage



Decarbonisation targets and 1.5°C pathways

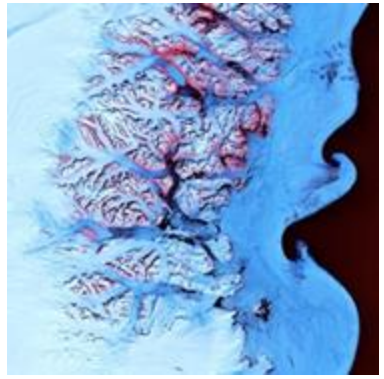


Climate finance



Climate diplomacy

Climate justice



The 1.5°C limit

CLIMATE ANALYTICS

Where we work

Our international team of 130 experts and support staff work from our headquarters in Berlin and our regional offices in Africa, Australia and the Pacific, the Caribbean, North America and South Asia.