Refinement of transport pathways in the Sector Decarbonization Approach

Kick-off meeting – April 25, 2017

WWF | World Wide Fund for Nature
Science Based Targets initiative

April 2017

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Refinement of transport pathways in the Sectoral Decarbonization Approach

1. **Overview (20 Min)**
   - The Science Based Targets initiative
   - Developing decarbonization pathways for the transport sector

2. **WWF transport refinement project (40 Min)**
   - Current SDA tool
   - Deliverables

Overview | Science Based Targets Initiative

SCIENCE BASED TARGETS

Science Based Targets is a joint initiative by CDP, the UN Global Compact (UNGC), the World Resources Institute (WRI) and WWF intended to increase corporate ambition on climate action by changing the conversation on GHG emissions reduction target setting and creating an expectation that companies will set targets consistent with the level of decarbonisation required by science to limit warming to less than 1.5ºC / 2°C compared to pre-industrial temperatures.

CDP DRIVING SUSTAINABLE ECONOMIES

THE GLOBAL COMPACT

WORLD RESOURCES INSTITUTE

WWF

Overview | Science Based Targets Initiative

STRATEGIES

Reduce the barriers to the adoption of science-based targets

Institutionalize the adoption of science-based emission reduction targets

Create a critical mass

PROJECT ACTIVITIES

SDA method

SBT online tool

Target setting manual

Mind the Science Report

Scoring & Tracking

Call to Action

Overview | SBTi Call to Action

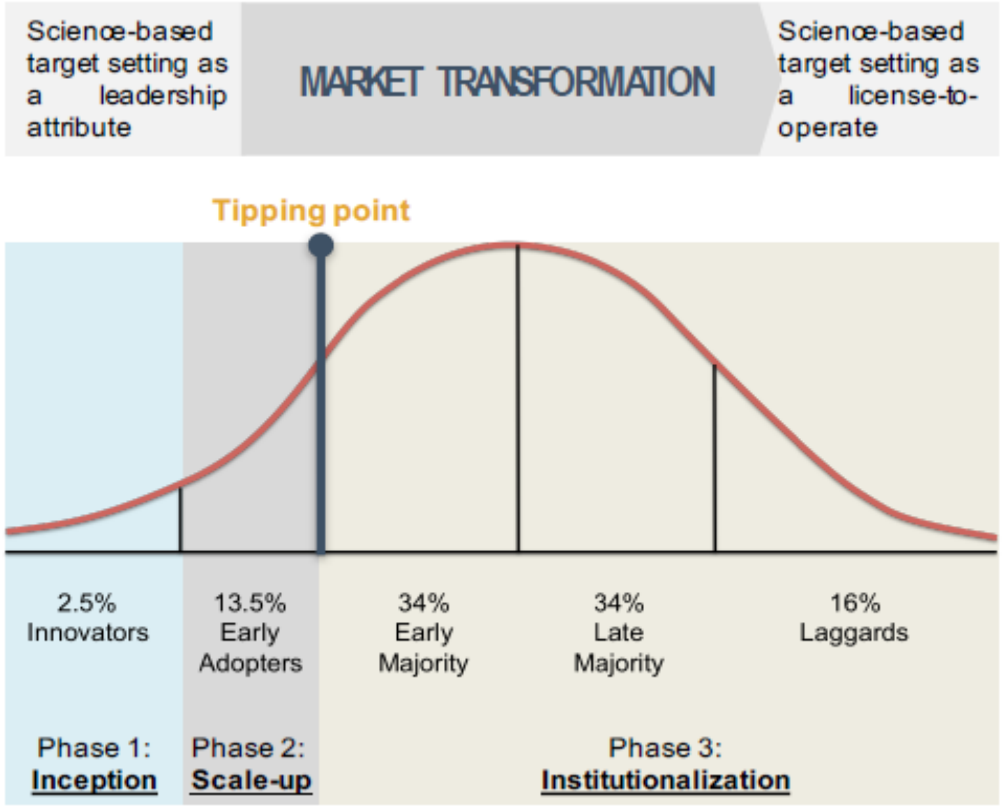
The Science Based Targets initiative is calling on companies to demonstrate their leadership on climate action by publicly committing to science-based greenhouse gas reduction targets.

By 2018, at least 300 high-impact companies, representing at least 2 GT of emissions, will have committed to adopt science-based GHG emission reduction targets and more than 100 of these companies will have approved science-based targets.

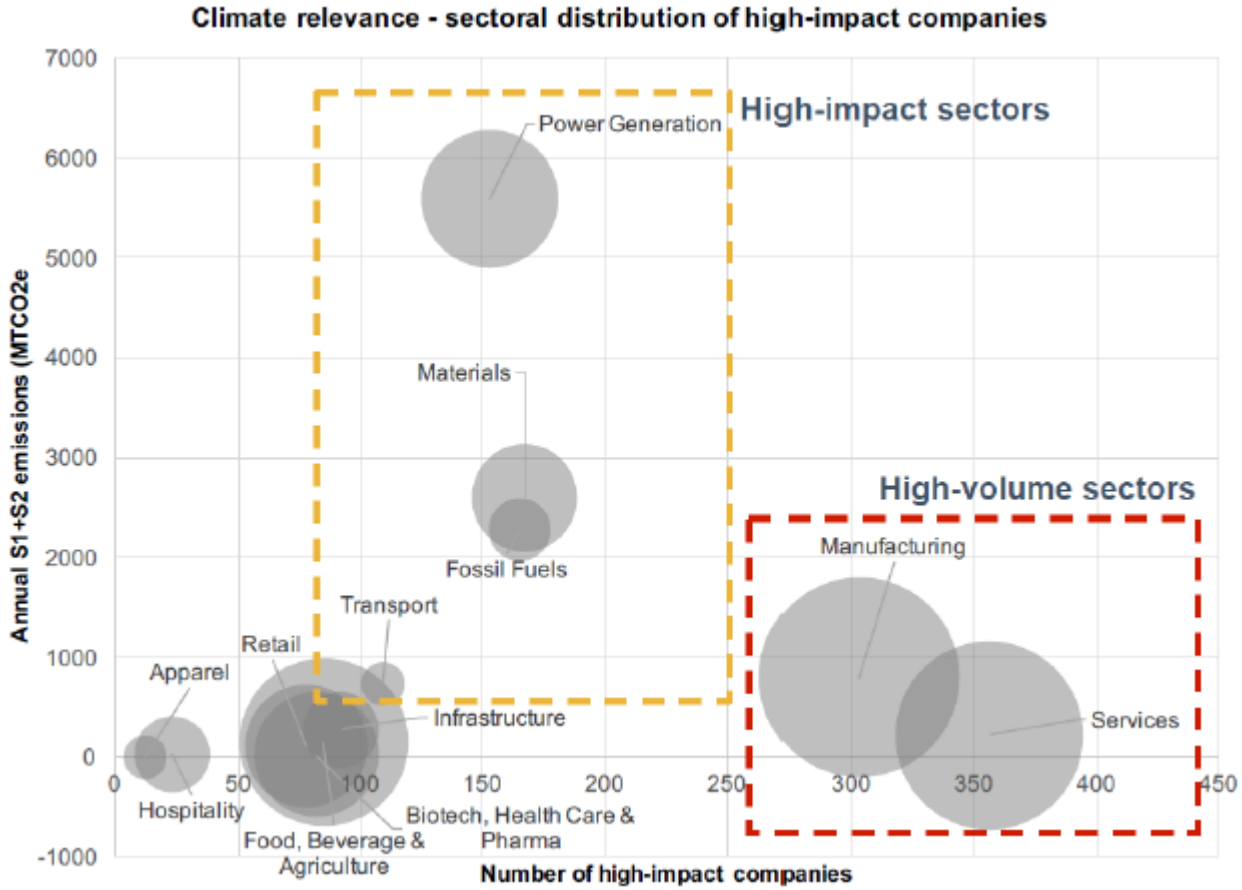
Overview I Our Theory of Change

Our assumption is that the adoption of science-based emission reduction targets follows the 'Diffusion of Innovations' theory developed by Everett Rogers. According to this theory, once an 'innovation' has been adopted by a critical mass of individuals (typically 16% of the target population), then the innovation becomes 'viral' accelerating the adoption of the innovation in an epidemic way.

Our target universe comprises a sample of ~1,840 "high-impact" companies that represent about 20% of the global GHG emissions.



Overview of the SBTi I Our Theory of Change



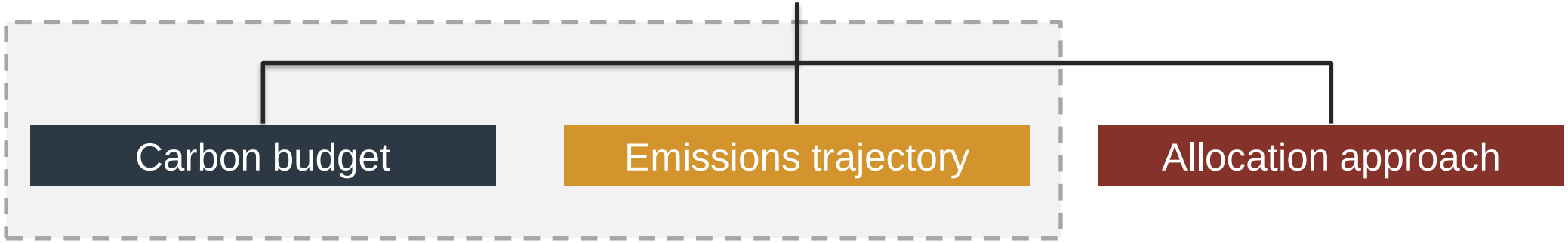
Transport is part of the identified high-impact sectors.

SBT transport readiness: medium

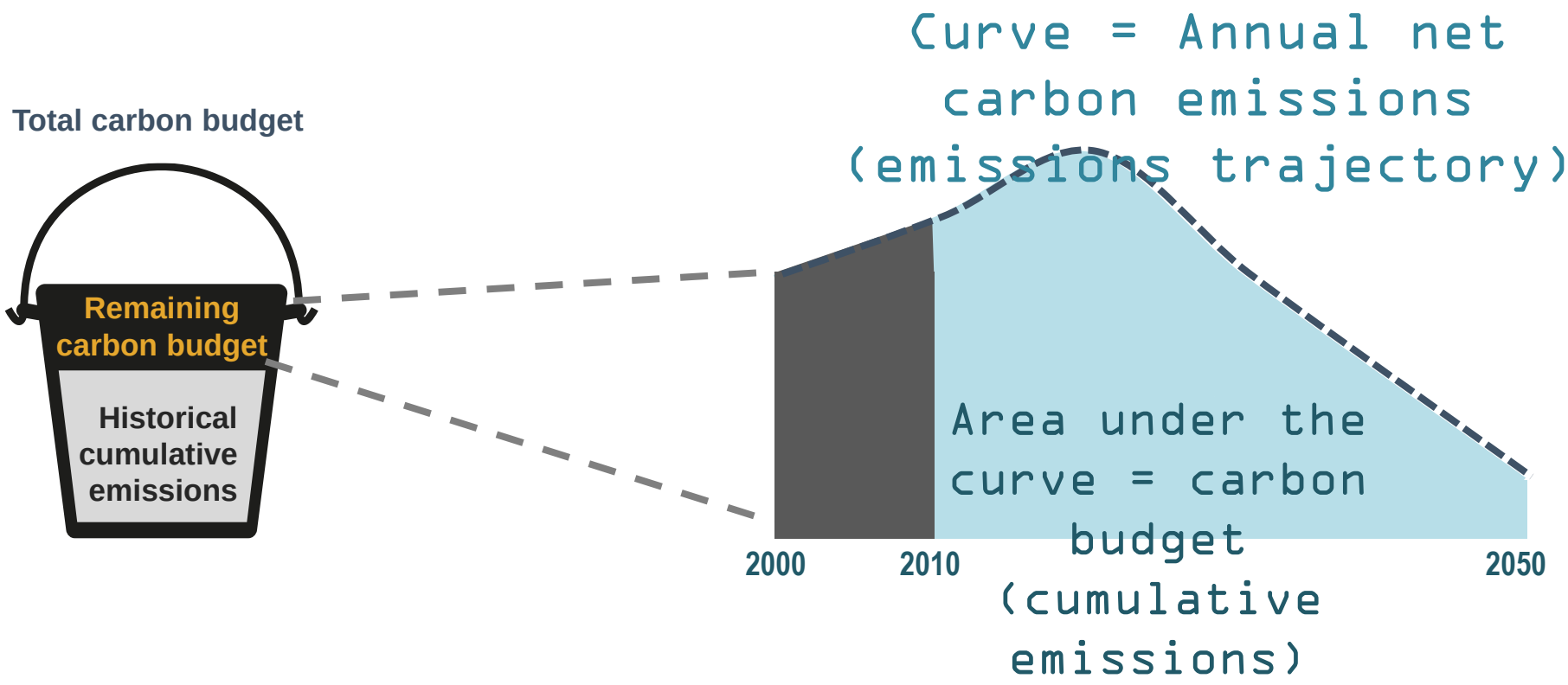
Planned technical work:
Disaggregate pathway for 'other transport' (freight) and disaggregate emissions for new vehicles and existing stock (relevant for vehicle manufacturers) in the Sectoral Decarbonization Approach (SDA) tool

Science-based target setting methods allow companies to set GHG emission reduction targets in line with the level of decarbonization required to keep global temperature increase below 2ºC compared to pre-industrial temperatures.

SBT methods can be described by three main elements



Science Based Targets | Understanding carbon budgets



Below 2ºC carbon budgets

CO_2 only;
50% probability

CO_2 only;
>66% probability

All GHG;
>66% probability

Science Based Targets | Understanding carbon budgets

CO_2 only;
50% probability

Below 2ºC

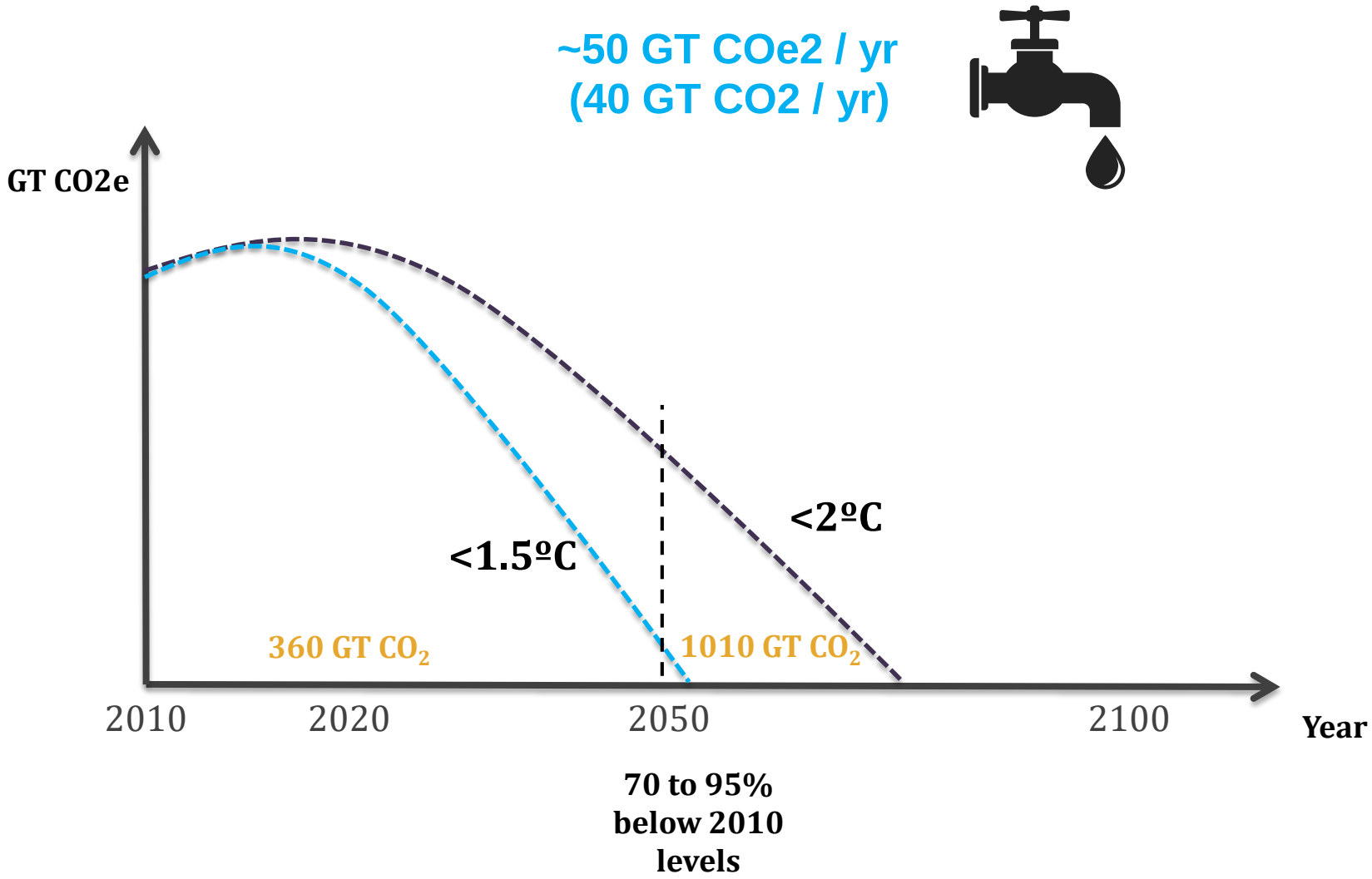
CO_2 only;
50% probability

Well below 2ºC

CO2 only
66% probability

1.5ºC

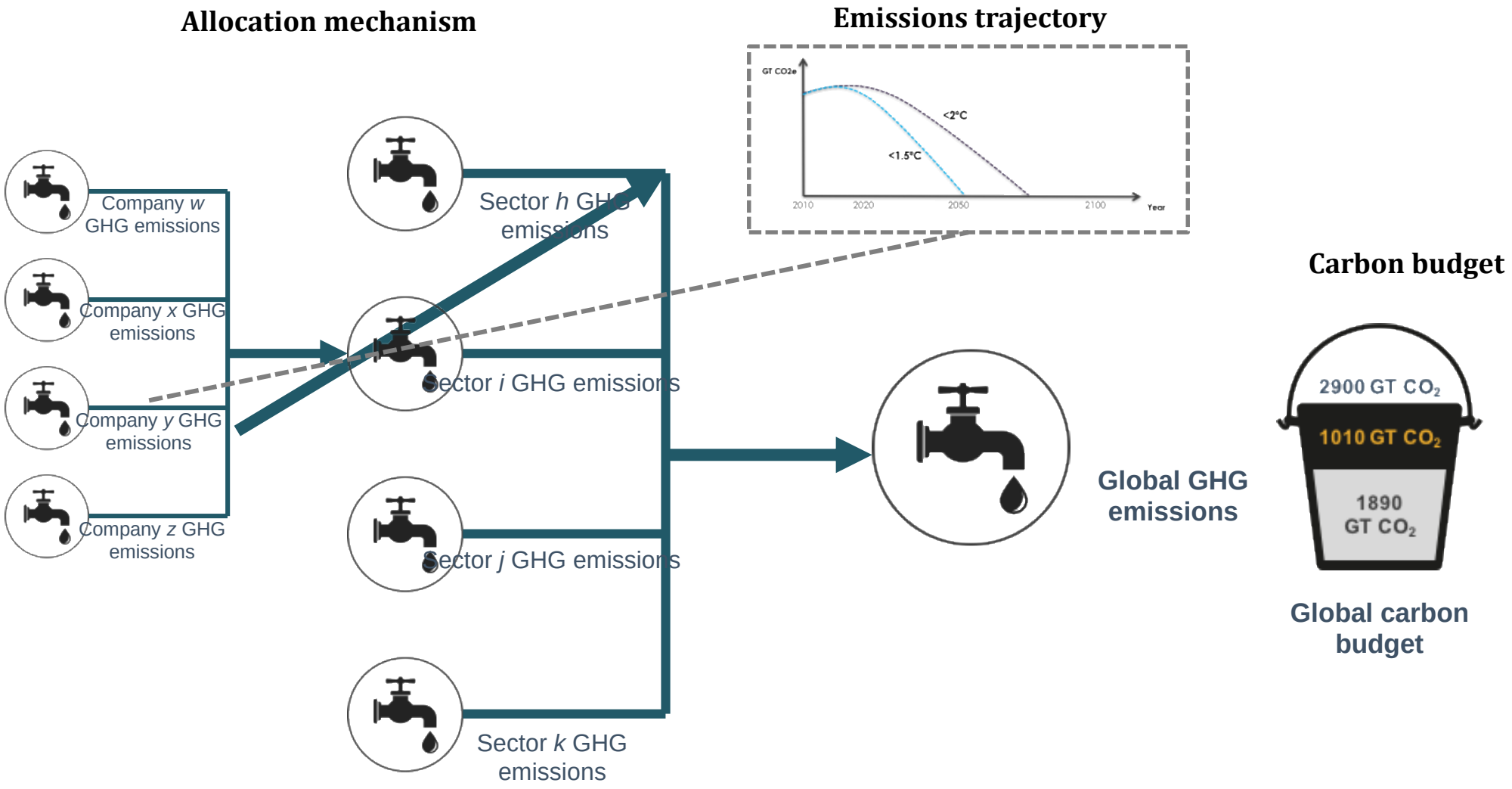
Science Based Targets | Understanding emission trajectories



Understanding 1.5ºC and 2ºC emissions trajectories

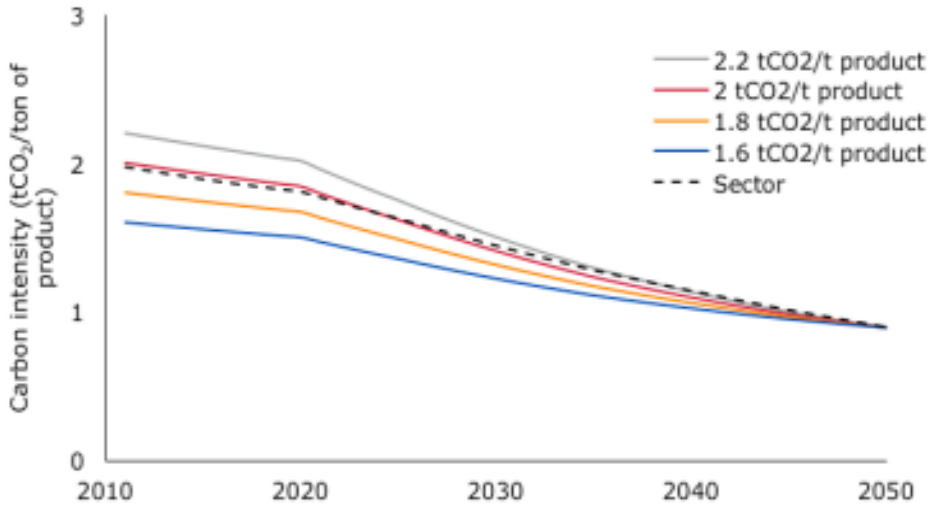
	< 1.5ºC	< 2ºC
Remaining carbon budget	360 GT CO_2	1010 GT CO_2
Global emissions peak	Before 2020	Before 2020
Global GHG emissions by 2050	70 to 95% below 2010 levels	40 (49) to 70% below 2010 levels
Phase out of global energy and industry CO_2 emissions	Between 2045 and 2055	Between 2060 and 2075

Science Based Targets | Understanding allocation mechanisms



Overview I Allocation mechanisms

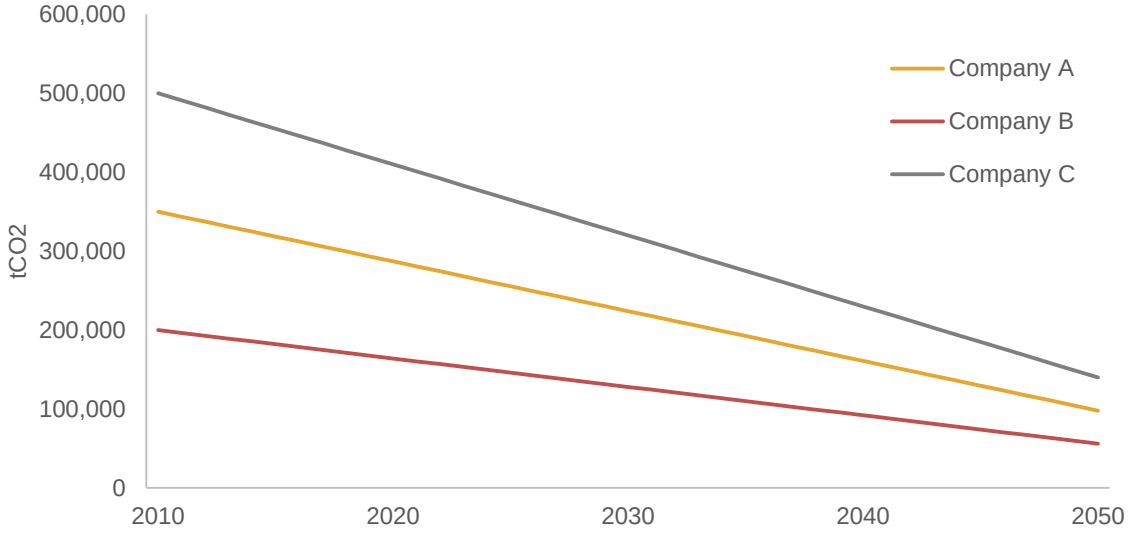
Emissions intensity *convergence*



Homogeneous sectors

- Power generation
- Iron & steel
- Aluminium
- Cement
- Pulp & paper
- Transport (passenger)
- Service/ Commercial buildings

Absolute emissions *contraction*



Heterogeneous sectors

- Chemicals & petrochemicals
- Other industries (manufacturing)
- Other transport (freight)

Overview | The Sector Decarbonization Approach (SDA)

The SDA takes into account inherent differences among sectors, such as mitigation potential and how fast each sector can grow relative to economic and population growth. Using the detailed sector-scenarios from the International Energy Agency's 2°C Scenario (IEA 2DS) model, it is possible to estimate the 2°C compatible carbon intensity for any detailed-sector scenarios by dividing the total direct emissions of the sector in any given year by the total activity of the sector in the same year. This yields a **sector intensity pathway** for sectors considered homogeneous.

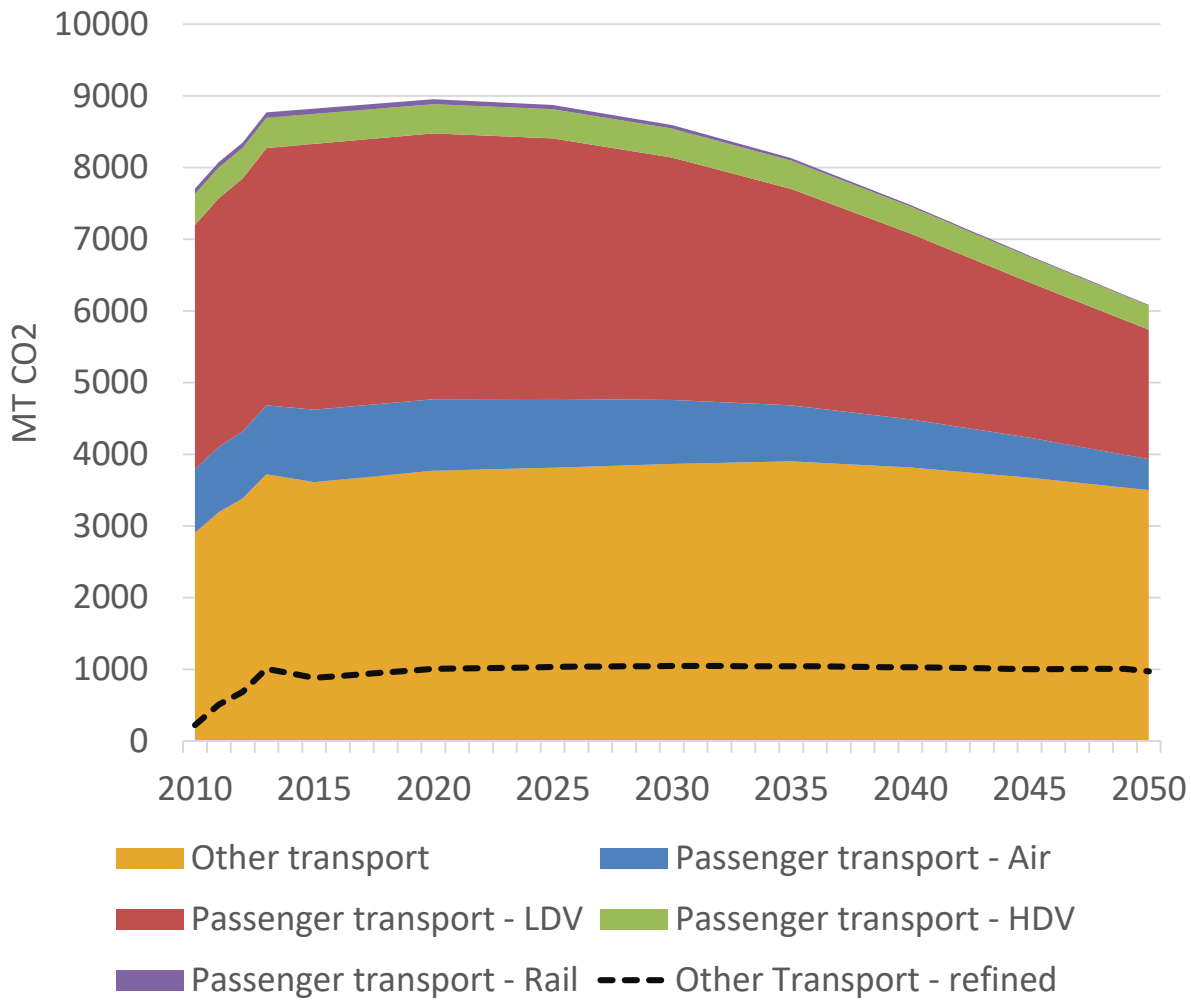
Within each homogeneous sector, companies can derive their science-based emission reduction targets based on their relative contribution to the total sector activity and their carbon intensity relative to the sector's intensity in the base year. This is the so-called **"convergence approach"**, which assumes that the carbon intensity of companies within a homogeneous sector will converge towards the **sector's carbon intensity in 2050**. Therefore, the rate of reduction varies per company depending on how close their intensity is at present compared to the sector.

Overview | Developing decarbonization pathways for the transport sector

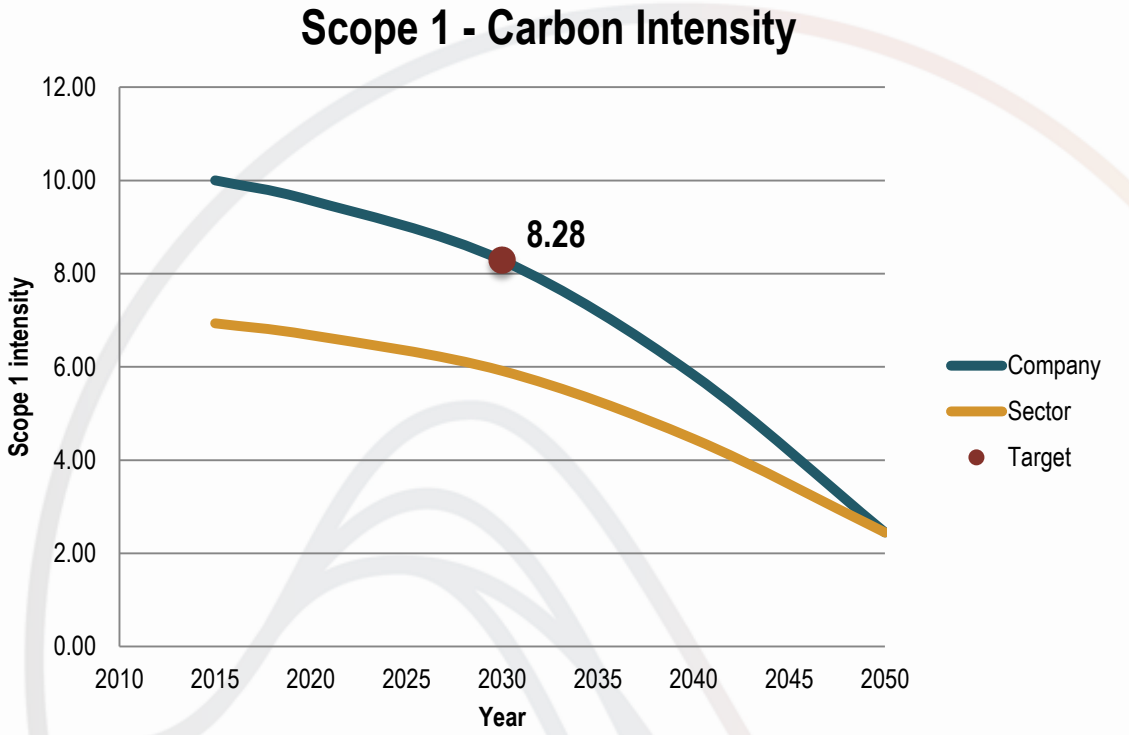
The **SDA tool** contains decarbonization pathways for passenger transport constructed with data of the International Energy Agency in its Energy Technology Perspectives (ETP) Report and its Mobility Model (MoMo). However, the usability of the tool varies for different types of transport companies due to the limited public data for specific transport modes and the lack of clear target-setting guidance.

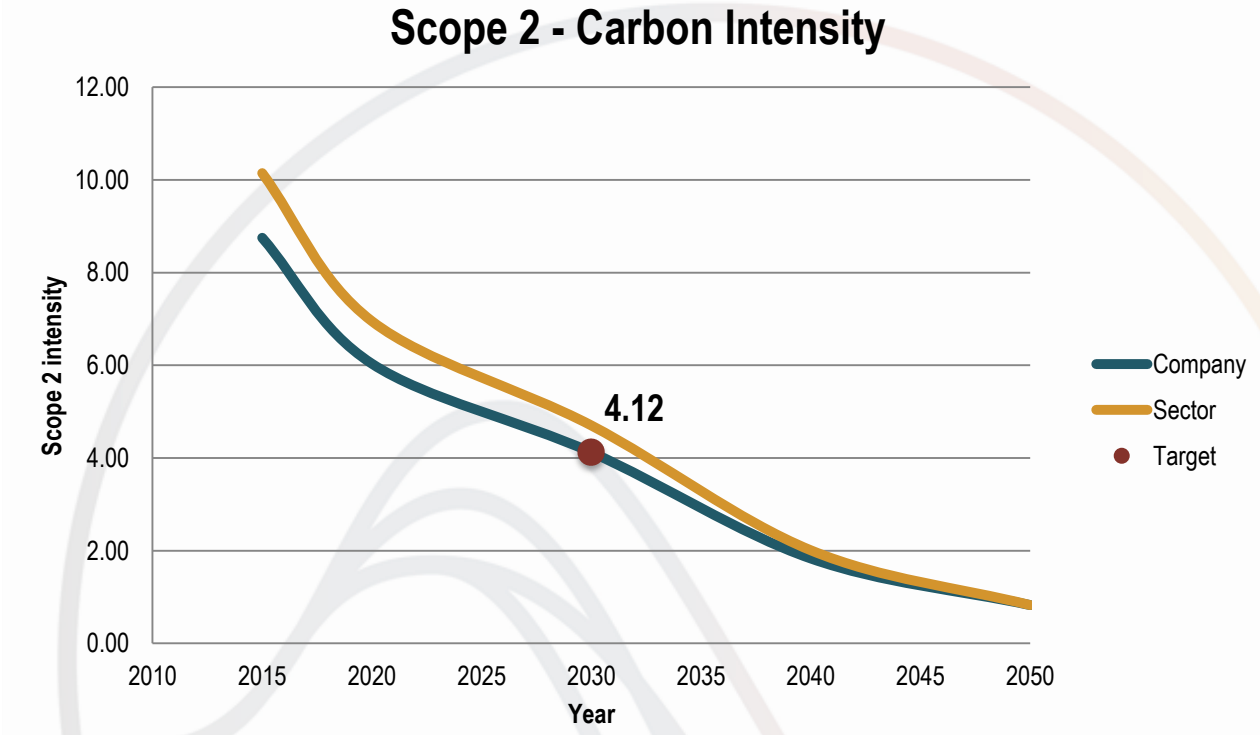
Currently, the subsector **"Other Transport"** in the SDA tool encompasses the decarbonization pathways of maritime freight, rail freight, road freight, combined.

This subsector is a residual budget obtained from the overall transport budget minus the combined passenger transport budget (road, rail and air); it accounts for 46% of the overall transport carbon budget (2010-2050).



Transport project | Current SDA tool





The current Sectoral Decarbonization Approach tool takes into consideration the base year carbon intensity (e.g. gCO2/p.km) and the projected growth of any passenger transport company to calculate GHG reduction targets. The tool does not have yet embedded pathways for freight transport modes.

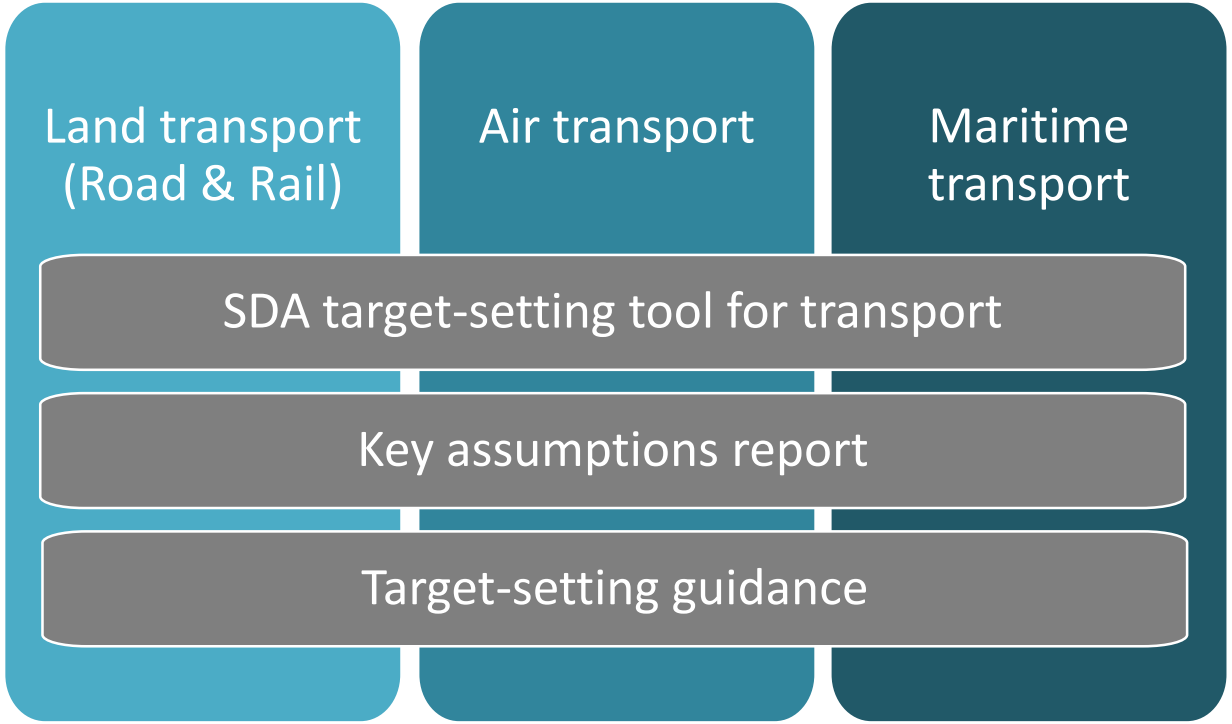
Learn more about the tool: http://sciencebasedtargets.org/science-based-target-setting-tool/

WWF is leading the refinement of this sector on behalf of SBTi partners, as part of a broader effort to further develop available target setting tools and guidance. Our technical partners for this project are: The International Council for Clean Transportation (ICCT) and the Smart Freight Centre (SFC).

Deliverables:

1) **SDA target-setting tool for transport.** A tool using refined transport decarbonization pathways, which a broader range of companies can use to model their emissions reduction targets consistent with the long-term temperature goals adopted in the Paris Agreement,
2) **Key assumptions report.** A technical paper explaining main projections and assumptions embedded in the decarbonization models useful for companies to inform their carbon strategies, and,
3) **Target-setting guidance.** A document for transport-related companies with guidance on the applicability of the newly developed disaggregated transport pathways in the SDA tool to set science-based targets.

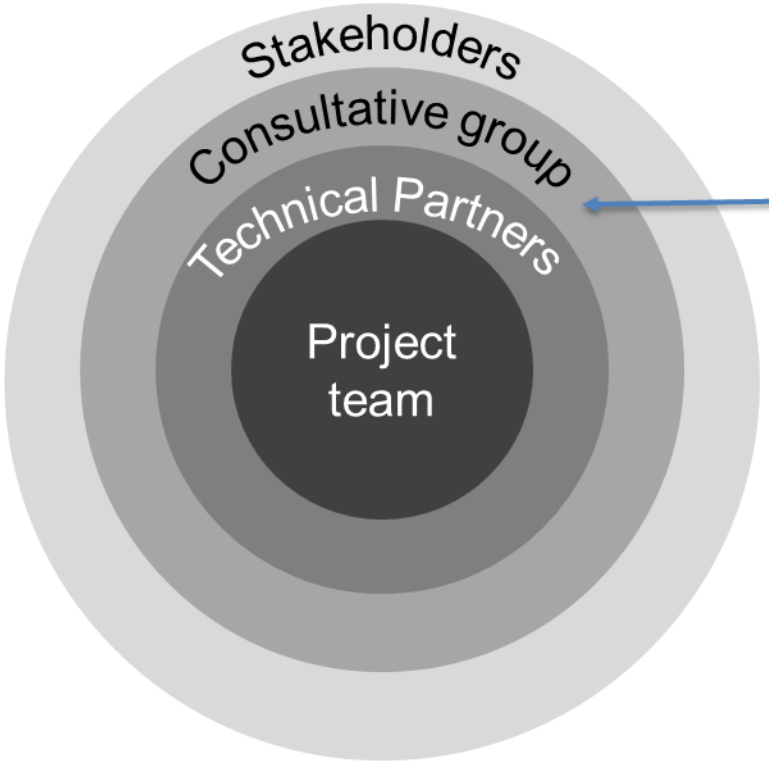
Transport project | Deliverables



The scope of the project includes the refinement of the following decarbonization pathways: Light-duty vehicles (passenger & freight), Heavy-duty vehicles (passenger & freight), Rail (passenger & freight) and Air (passenger). For car manufacturers, a carbon intensity pathway for new vehicles will also be developed.

Related work on decarbonization pathways for Maritime freight and Maritime passenger are welcome for validating and integrating it into the project deliverables.

Transport project | Governance



Project supporters (companies)
+
Non-industry representatives and transport organizations & associations

All the project deliverables will be approved by the Steering Committee of the SBTi

Final products might not represent consensus from the consultative Group and other stakeholders.

Transport project | Governance

	Project team	Technical partners	Consultative Group	Public stakeholders	SBTi Steering Committee
Composition	WWF team + transport expert (Ecofys)	Appointees from ICCT, SFC & SloCaT	Industry & transport organization representatives	Anyone interested in the project	One representative per SBTi partner
Role	Project coordination + development of project deliverables	Provide technical input throughout the project & review of project deliverables	Provide initial feedback to design & drafts of project deliverables	Provide feedback to public drafts	Approval of project deliverables
Frequency of interaction	Regular coordination calls	Consultative Group calls + additional calls	4 calls expected + Stakeholder Consultation Workshop	Webinar(s) + Stakeholder Consultation workshop + survey	Throughout the project

Transport project | Consultative Group

Activities:

- Participate in periodical online calls to discuss the project deliverables, and share relevant research.
- Participate in the public stakeholder consultation workshop. Place: Paris; Date: 06th of July, 2017
- Review draft project deliverables and beta-test the transport tool

Dates of online calls:

Call 1: Designing principles	Tuesday, May 16, 2017
Call 2: Review of 1st draft deliverables	Tuesday, June 20th, 2017
Public stakeholder consultation workshop in Paris, France,	Thursday, July 6th, 2017
Call 3: Review of 2nd draft deliverables	Tuesday, August 15th, 2017
Call 4: Presentation of final deliverables	Tuesday, October 31st, 2017

Notes:

- Materials and central questions will be sent one week in advance to all of the calls, and the deadline to provide written comments is one week after the call.
- All information must be treated as confidential and not be shared with other companies that are not members of the Consultative Group.
- Travel costs for the planned workshop will run at the own cost of the consultative group members and that no fees for time will be paid nor other direct and indirect expenses.
- The working language of the meetings is English (no translation of the discussion or documents will be provided).
- Meetings, workshops and calls will be held during normal working hours, on a weekday and at the location agreed.

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