Portfolio decarbonation
The data challenge

Michèle Lacroix
SCOR Group Head of Sustainability
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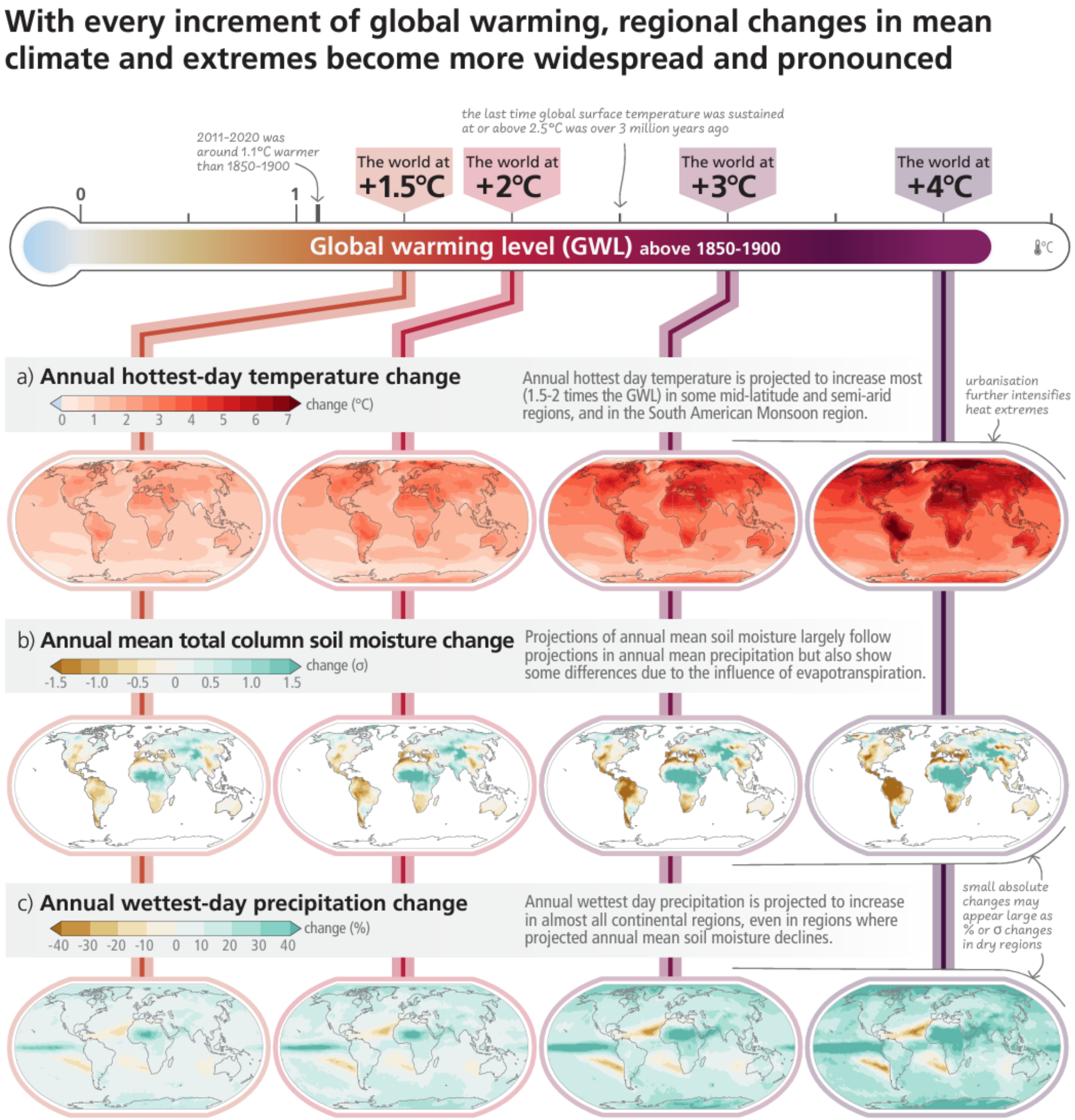
Global warming consequences
Possible futures depend on scenarios



- The 1,5°C limit was set during the Paris Agreement because there is very strong evidence that the impacts would become much more extreme as the world gets closer to 2°C. Some changes could become irreversible

- The **1.5C target** is generally accepted to **mean a 20-year average**, rather than a single year

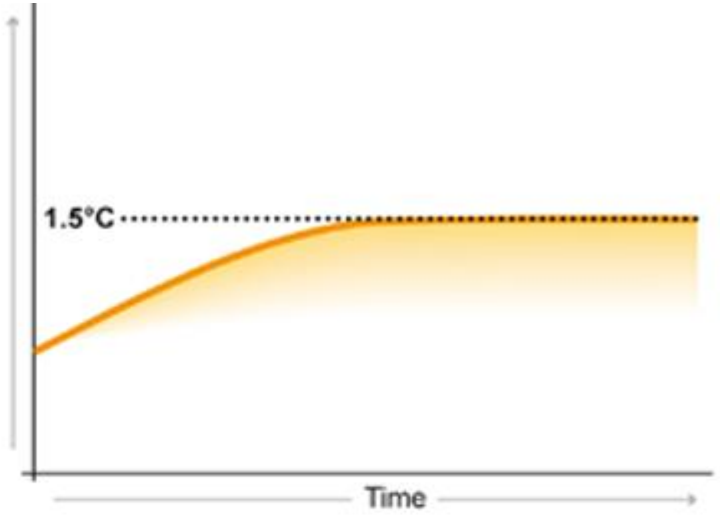
Source: IPCC – AR6

Conceptual pathways that limit global warming to 1,5°C

Different consequences depending on the pathway

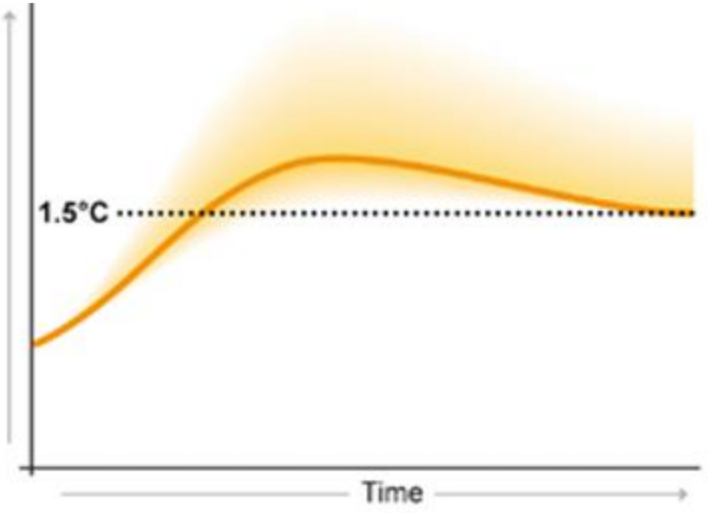
Global temperature stabilises at or below 1,5°C above preindustrial levels

Change in global temperature relative to pre-industrial (°C)



Global temperature temporarily exceeds 1,5°C before returning later in the century

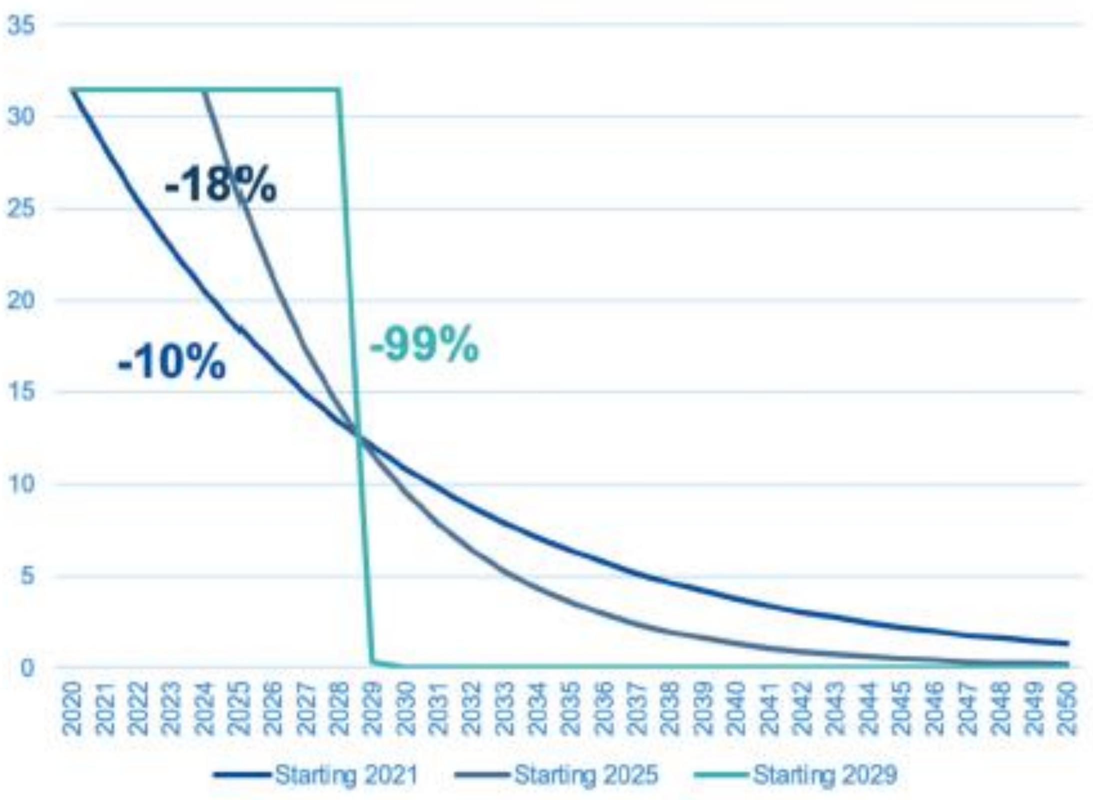
Change in global temperature relative to pre-industrial (°C)



Source: IPCC

Understanding the concept of carbon budget: the 7% diet for Net Zero 2050

Impact of starting date on carbon pathways



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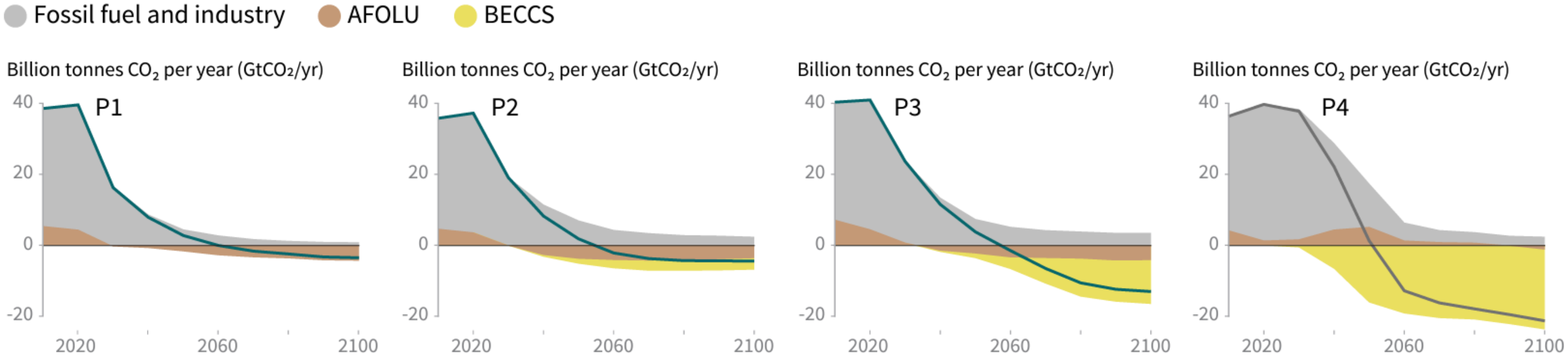
Characteristics of four illustrative model pathways

Breakdown of contribution to global net CO_2 emissions



P1: A scenario in which social, business and technological innovations result in lower energy demand up to 2050 while living standards rise, especially in the global South. A downsized energy system enables rapid decarbonization of energy supply. Afforestation is the only CDR option considered; neither fossil fuels with CCS nor BECCS are used.

P2: A scenario with a broad focus on sustainability including energy intensity, human development, economic convergence and international cooperation, as well as shifts towards sustainable and healthy consumption patterns, low-carbon technology innovation, and well-managed land systems with limited societal acceptability for BECCS.

P3: A middle-of-the-road scenario in which societal as well as technological development follows historical patterns. Emissions reductions are mainly achieved by changing the way in which energy and products are produced, and to a lesser degree by reductions in demand.

P4: A resource- and energy-intensive scenario in which economic growth and globalization lead to widespread adoption of greenhouse-gas-intensive lifestyles, including high demand for transportation fuels and livestock products. Emissions reductions are mainly achieved through technological means, making strong use of CDR through the deployment of BECCS.

Innovation and lower energy demand, with development

Innovation and sustainability focus

Middle of the road, historical patterns of development

Resource and energy intensive

Source: IPCC

AFOLU: Agriculture, Forestry and Other Land Use

BECCS: BioEnergy with Carbon Capture & Storage

CDR: Carbon Dioxide Removal

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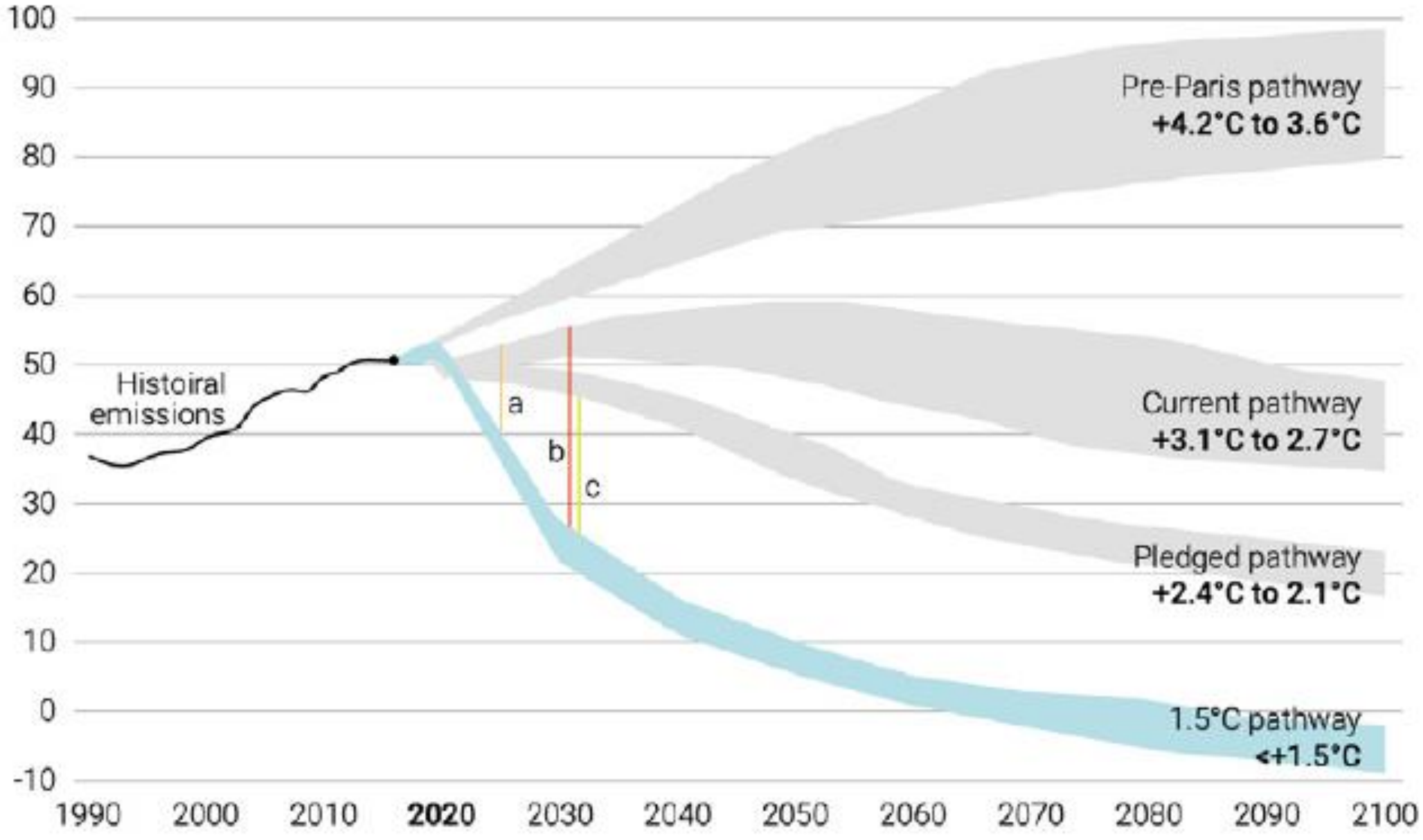
Illustration of scientific and real economy emissions pathway divergence

From the Target Setting Protocol of the Net Zero Asset Owner Alliance



It is important to note that each time an Alliance member adopts its own individual targets following scientific pathways, while the global economy does not move as required by science, the gap between the Alliance member's target setting and the real economy widens

- 2025 gap is depicted in the chart by line 'a',
- 2030 gap is depicted by line 'b'.

Line 'c' indicates a gap smaller than 'b' but persistent even in a scenario where governments follow through on pledges).

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Net Zero: The Theory of Change

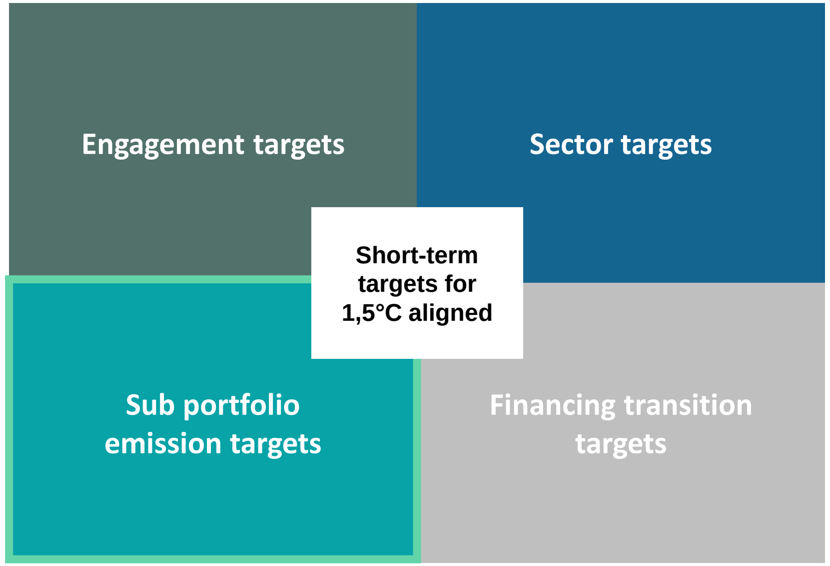
Reducing GHG emissions in the atmosphere

Underwriting

Table 2: Emissions reduction range for various base years

Base year	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Lower bound	34%	31%	29%	26%	23%	20%	17%	14%	11%	7.3%	3.7%	
Upper bound	60%	57%	53%	49%	44%	39%	34%	28%	22%	15%	8.0%	

Investments



As of the third version of the protocol (NZAOA 2023a), the Alliance assessed the IPCC Sixth Assessment Report (AR6) to obtain an updated range for 2020 to 2030. Alliance members will continue to use CO2 pathways as a proxy for all GHG gases, targeting a more ambitious year of net zero for all GHGs. As a result, Alliance members shall **target 40 per cent to 60 per cent reductions by 2030 (compared to YE2019**) in line with IPCC estimates (AR6 Synthesis Report Summary for Policymakers, table SPM.1)

Source: IPCC
NZIA and NZAOA target setting protocols

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What does it mean for portfolios ? The example of SCOR

Net Zero by 2050

Underwriting

SBS portfolio (specific LoBs

23% reduction of carbon intensity by 2030 (per EURm premium)

Investments

Bonds & Equities

- 27% reduction of carbon intensity (per EURm invested) by end of this year
- 55% reduction by 2030

Real Estate

Target: 50% reduction by 2030

Net Zero by 2030

Operations

Own operations

25% reduction of carbon intensity per employee by end of this year

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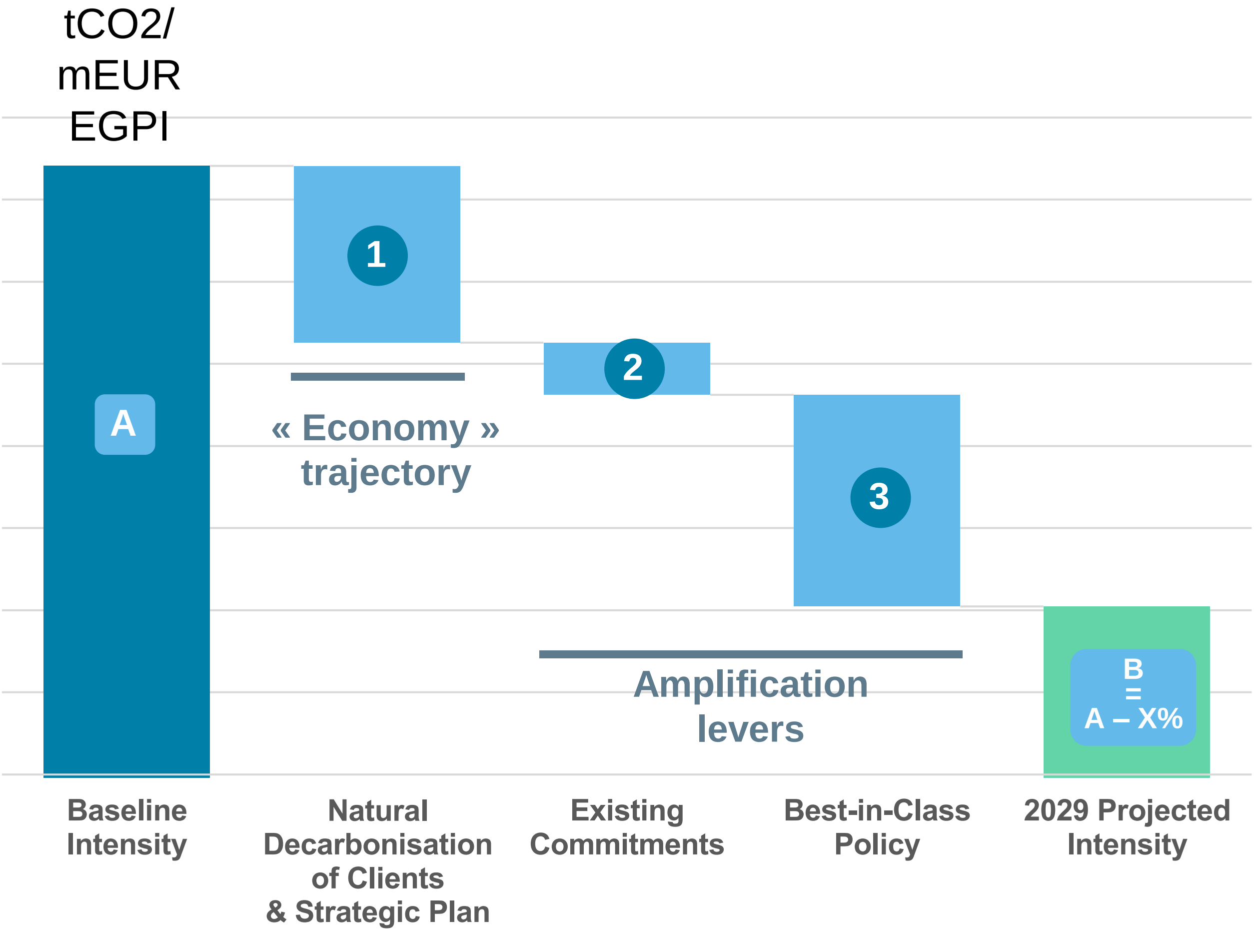
Building a trajectory: levers and projections



1 Natural decarbonization of clients & strategic plan

- Based on pledges linearized over the period
- Uncertainties linked to turnover projections

2 Existing commitments

- Low carbon energy growth
- Coal exclusion policy and phase out and fossil fuels limitations

3 Best-in-class policy

- Growth (resp. decrease) focused on low intensity (resp. high intensity) clients across IPs (more efficient and coherent than a shift between IPs)
- Aims at unchanged/maintained planned profitability and volatility
- Cannot drop clients whose trajectory will match ours, irrespective of intensity

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Insurance-associated emissions (IAE) Calculation

Per Contract

Insurance-associated emissions (IAE) = **Attribution factor × Emissions**

$$Attribution\ factor_i = \frac{Re/insurance\ Premium_i}{Customer\ Revenue_i}$$

Per LoB/Portfolio

$$IAE_{LoB/Portfolio} = \sum IAE\ \ of\ contracts\ in\ LoB/Portfolio$$

$$GHG\ Intensity_{LoB/Portfolio} = \frac{IAE_{LoB/Portfolio}}{EGPI(in\ millions)_{LoB/Portfolio}}$$

Definitions:

1. **Re/Insurance premium$_i$ (numerator):** Gross written premium minus external acquisition costs.
2. **Customer revenue$_i$ (denominator):** Client revenue obtained from external providers.
3. **GHG Intensity:** The amount of GHG emissions per million Euros of revenue/EGPI. Expressed as tCO_2/mEUR, can be applied to both client's intensity and intensity of a portfolio.

Sources of Data

1. **Re/insurance premium values:** Obtained via extract of portfolio from internal data system.

2. **Client revenue data:** Obtained via external data provider

3. **Client Scope 1 and 2 emissions and emissions intensity:** Obtained via external ESG data provider – which provides both **client reported**, and **ISS modelled emission figures**. Estimated with a proxy when necessary and possible.
   - For now, Scope 3 data from clients are still inconsistent across clients and even across the years for the same client. Accordingly, SCOR decided to focus on client Scope 1 and 2 emissions for now until Scope 3 emissions data becomes more reliable

Mapping Clients to External Data

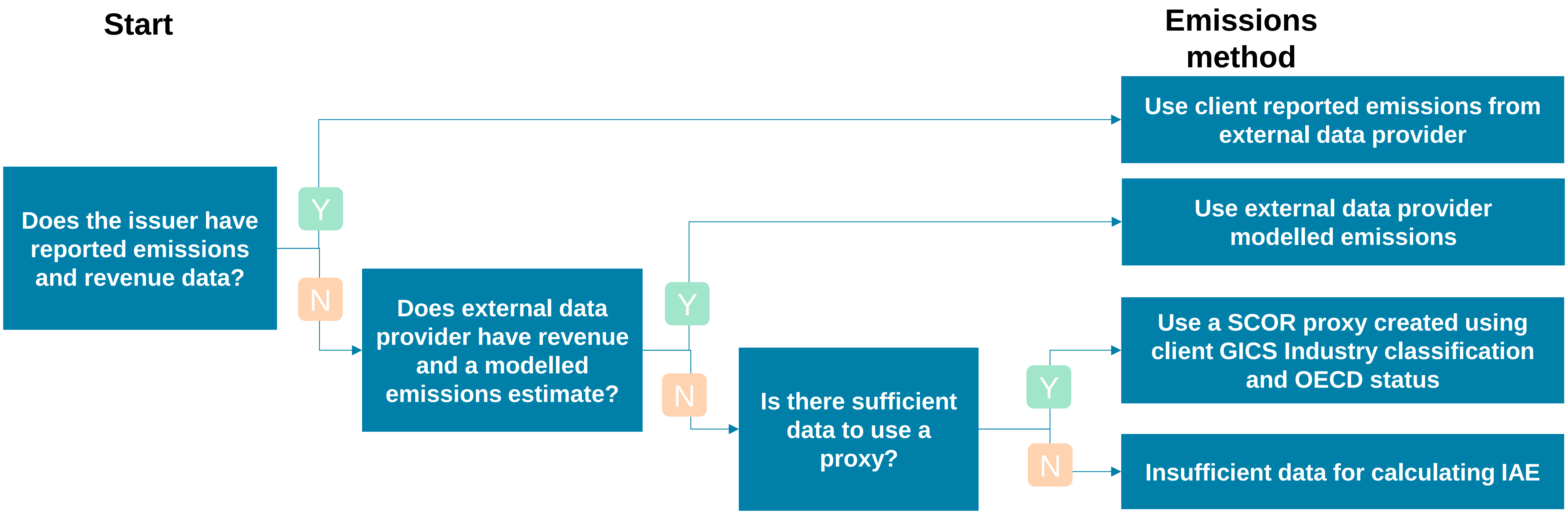
Before any IAE calculations can be made, there is a need to link clients in the underwriting portfolio to entities in the 3rd party data provider database. Ideally this would be done with a mapping table or key which would allow for a one-to-one match between our client and an entity. However, inconsistencies with internal databases, client identifiers, client names, and 3rd party data providers complicates this task.

3rd party data providers often provide a service to match clients in the portfolio with entities in their database. However, this matching is also often not a 100% accurate and prone to errors.

Commonly used entity identification codes include the following:

Identification Key	Pros	Cons
Company Name	• Available for most, if not all clients • Ability to perform a fuzzy search	• The same client may have a different name between the client database and 3rd party data provider database (due to abbreviations, special characters, common vs official names, etc). • Fuzzy searches are often unreliable. • May change from time to time.
Legal Entity Identifier (LEI)	• Generally unique and reliable	• Not always available in our own client database and/or 3rd party data provider database. • May link clients to a subsidiary without emissions data instead of the parent company.
Data provider specific ID (e.g. S&P Capital IQ ID, D.U.N.S Number, etc)	• Generally unique and reliable	• May not be available for all clients especially if 3rd party database is limited. • Builds reliance on specific 3rd party data providers. • Initializing the first mapping will have to rely on other identification keys or manual mapping.
ISIN Code	• Available in most 3rd party data providers	• Not available to all clients as it is limited to clients with securities issued. • May change from time to time. • May link clients to a subsidiary without emissions data instead of the parent company. • Not unique – even listed companies may have more than one ISIN code.

Current Year Emissions Data
Flowchart



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Current Year Emissions Data
SCOR Proxy

Rationale

There were two main reasons for the creation of a proxy to estimate GHG emissions intensity of clients.

- There were many clients within SCOR's SBS portfolio which were within the scope of the PCAF IAE standards but did not have reported or modelled emissions data
- Instead of relying on external data providers which often give a brief overview of their methodology but keep the specifics as a black box, SCOR wanted to have our own proxy calculation so that SCOR could understand and explain the reasons for change in proxy values that lead to changes in IAE for clients which rely on the proxy.
    - Having our own calculation also makes it easier to customise the parameters if needed.
    - This customizability and understanding is also useful when integrating the algorithm into internal data integration platforms.

Methodology

The proxy was created based on the universe of issuers from an external data provider. The issuers were first grouped by their GICS Industry classification and the OECD status of their country of incorporation.

Then, GICS Industry and OECD status combinations with too little datapoints were excluded as the proxy would not be statistically significant enough to be meaningful.

Lastly, the average emissions intensity, in terms of Scope 1 and 2 emissions per million euros of revenue, was calculated for each combination of GICS Industry and OECD status.

This intensity is then applied to clients with the same GICS Industry and OECD combination that did not have other sources of emissions data but had sufficient data to use the proxy.

Current Year Emissions Data
PCAF Data Quality Score

PCAF accounts for the use of different sources of emissions data in the calculation of the insurance associated emissions (IAE) of the portfolio through a data quality score metric.

In its data quality score metric, PCAF regards reported and verified emissions as having the best data quality of 1. While economic-activity based emissions, such as SCOR’s proxy, are regarded as having the worst data quality score of 5.

In between, there are a variety of scores depending on what methodology is used to obtain the emissions value used in calculating the IAE.

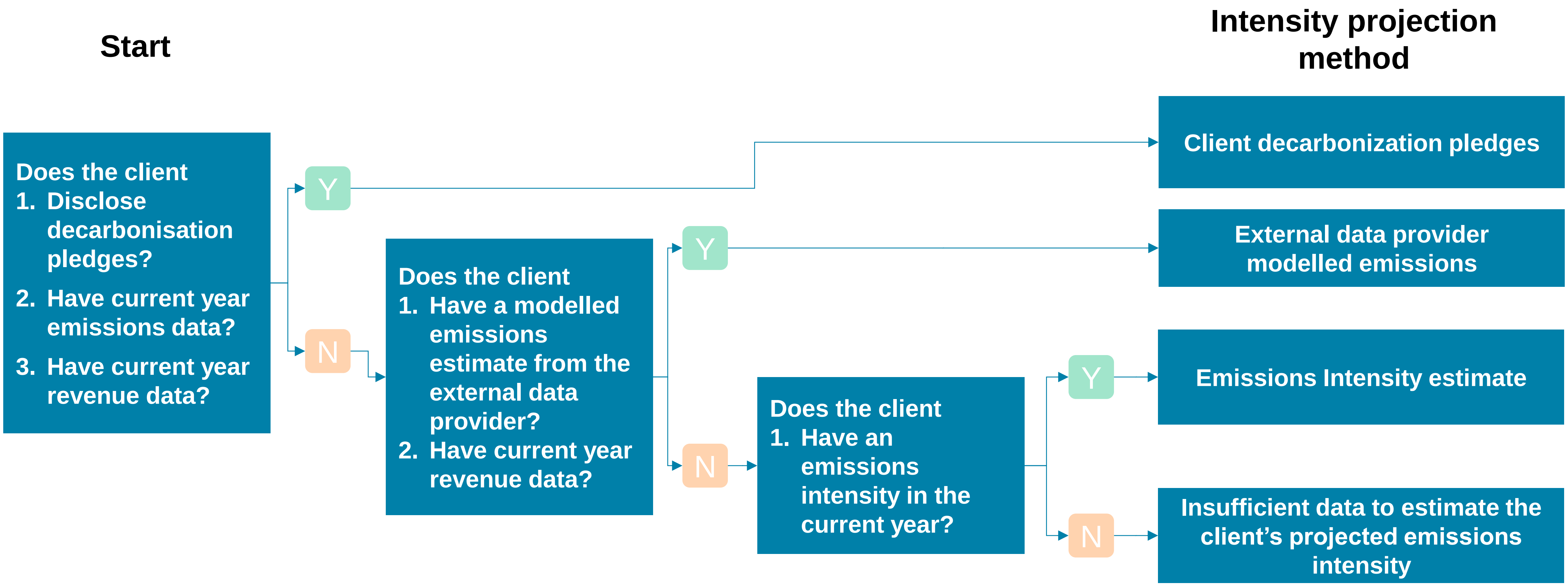
This signifies that GHG accounting standards also value verified reported data the most. However, such data is the hardest to obtain.

Table 5-3. General description of the data quality score table for commercial lines insurance (score 1 = highest data quality; score 5 = lowest data quality)

Data quality	Options to estimate insurance-associated emissions		When to use each option (what data should be available)		
			Attribution factor	Emissions	
				Scope 1	*Scope 2*
Score 1	**Option 1: Reported Emissions**	1a	Re/insurance Premium/Customer Revenue	Reported - Verified	Reported Market Based - Verified
Score 2		1b		Reported - Unverified	Reported Market Based - Unverified Reported Location Based - Unverified Reported Location Based - Verified
	Option 2: Reported or physical activity-based emissions	2a		Energy Consumption x EF (Intensity per MWh of Electricity)	
Score 3		2b		Production Output x EF (Average Sector Emission Intensity per t of Production [output])	
Score 4	**Option 3: Economic-activity based emissions**	3a	Re/Insurance Premium/Customer Revenue not aligned with insured entities	Reported Emissions/Energy Consumption/ Production Output Data not aligned with insured entities	
Score 5		3b	Re/insurance Premium/Average Sector Revenue	Average Sector Revenue x EF (Average Sector Emission Intensity per Revenue)	

Source: PCAF Standard Part C: Insurance-Associated Emission

Emissions Projection Data
Flowchart



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Projections Data
Methodology

Projection method	Inputs required	Data Source(s)	Calculation methodology
Client decarbonization pledges	Client decarbonisation pledges	CDP Other external data providers	1. Apply prorated decarbonisation rate to current year emissions 2. Estimate projected revenue using current revenue and applicable growth rate 3. Use projected revenue and projected emissions to estimate client emissions intensity
	Current year emissions	External data providers	
	Current year revenue	External data providers	
External data provider modelled emissions	Modelled projected emissions	External data providers	1. Estimate projected revenue using current revenue and applicable growth rate 2. Use projected revenue and modelled projected emissions to estimate client emissions intensity
	Current year revenue	External data providers	
Emissions Intensity estimate	Current year emissions intensity	Various. Depends on base year IAE methodology.	1. Using the existing portfolio and external data provider modelled emissions, estimate the average change in intensity of the portfolio for the clients with data 2. Apply an “average” growth rate to the current year intensity to estimated projected intensity
Insufficient data	N/A	N/A	N/A

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Thank You


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