SUSTAINABILITY LEADS CLUB

Putting a price on carbon

Wednesday 24 January 2024

FRENCH CHAMBER OF GREAT BRITAIN
Established in 1883

Meet the hosts

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Co-Founder and Co-CEO

BARJANE

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FRENCH CHAMBER OF GREAT BRITAIN

Established in 1883

Meet the speakers

Sophie Casenave
Policy Affairs Analyst, STX

Stuart Lemmon
CEO, EcoArt

FRENCH CHAMBER OF GREAT BRITAIN
Established in 1883

Putting a price on carbon

Sophie Casenave

Head of Policy Affairs

STRIVE by STX

Agenda

1. Strive by STX at a glance
   - our credibility
2. Opportunities & Challenges
   - through carbon pricing
3. Corporate Strategies
   - optimising decarbonisation cost
4. Compensation
   - beyond value chain

STX Group & STRIVE by STX at a glance

STX Group

Founded in 2005 as pioneer in CO2 trading, STX Group has become a leading renewable commodity trader with global presence

Employees

600+

- Key Account Managers
- Product experts

Offices

13

- EMEA
- NORTH AMERICA
- LATAM
- APAC

Family of Products

50

- EAC
- Carbon compliance
- Renewable Gas
- VERs
- Energy Efficiency
- Physical Biofuels

Active clients

7000+

- Producers
- Corporates
- Utilities
- O&G majors
- Other

Financials

250m€ equity

Current Ratio	Balance Sheet Size	Debt to Equity Ratio
1.4	1b€	0.07

Environmental Finance Annual Market Rankings Winner 2020, 2021, 2022

CDP GOLD ACCREDITED PROVIDER 2024

ICROA

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STRIVE by STX

Our mission is to empower organizations worldwide to address our most important environmental challenges

STX

Wholesale & Supply of Environmental Products

STRIVE by STX

Decarbonization Solutions for Corporates

VERTIS

EU and UK ETS for Corporates (Licensed MIFID II)

STX Group offers a holistic decarbonization service for corporate

Beyond optimized ETS compliance, we can help you understand and reduce your climate exposure

STX

STRIVE by STX

VERTIS

UNDERSTAND | **TAKE ACTION** | **COMPLY**

Measure & Commit	Reduce				Compensate	Decarbonize Supply Chain	Emission Trading Scheme
Inventory, target setting & Decarb Roadmap	Energy efficiency	Renewable electricity	Renewable gas	Renewable fuels	Carbon removals and reductions	Carbon insets	EU & UK ETS strategy & procurement

Opportunities & Challenges
- impact on carbon pricing

Decarbonization is a strategic topic worldwide

70%

of the global emissions have been covered by National Net Zero pledges, in order to reach net zero by 2050

$125 trillion

is the amount of investment in low carbon technology and infrastructure required to reach net zero by 2050

90% renewables

it is expected that by 2050, more than 90% of the energy generated comes from renewable energy solutions

* Source: IEA , United Nations Framework Convention on Climate Change , United Nations

Taking climate action is getting increasingly complex

We help you navigate the complexity of these changes

Complex & tightening regulatory landscape

Requires deep expertise to navigate smoothly

Volatile & increasing environmental prices

Necessitates smart hedging structures

Global markets with wildly diverging prices

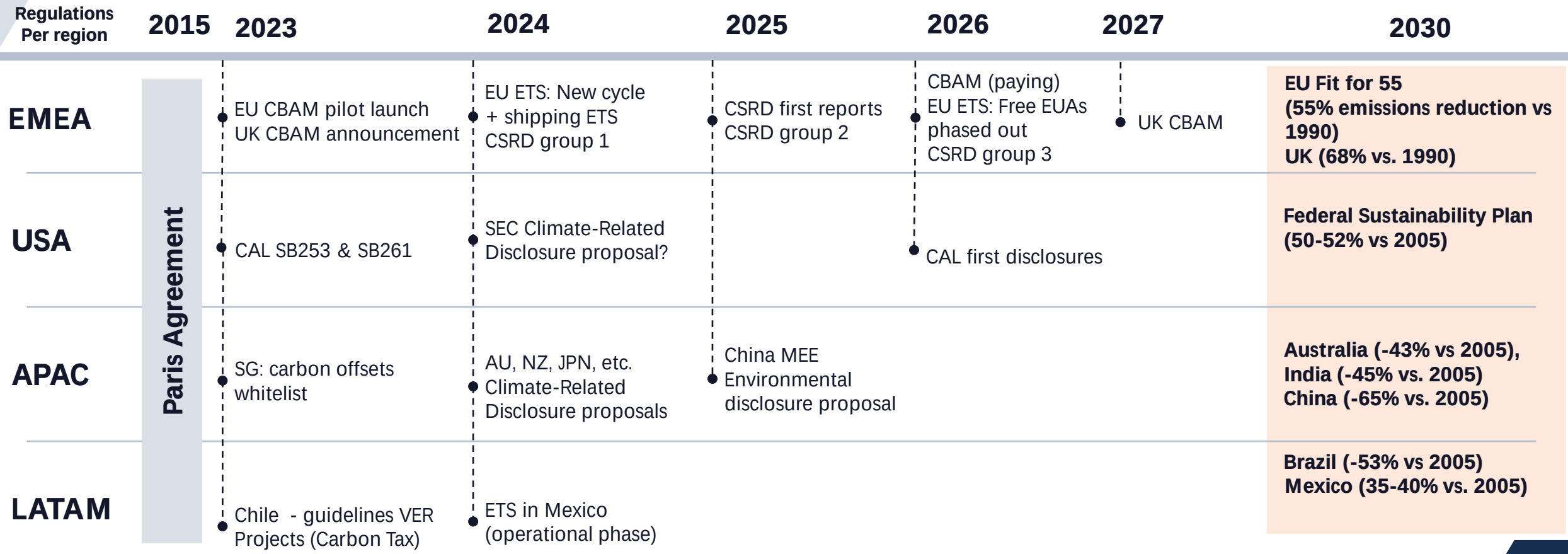
Allows for global optimization potential

Scope 3 is the next climate action frontier

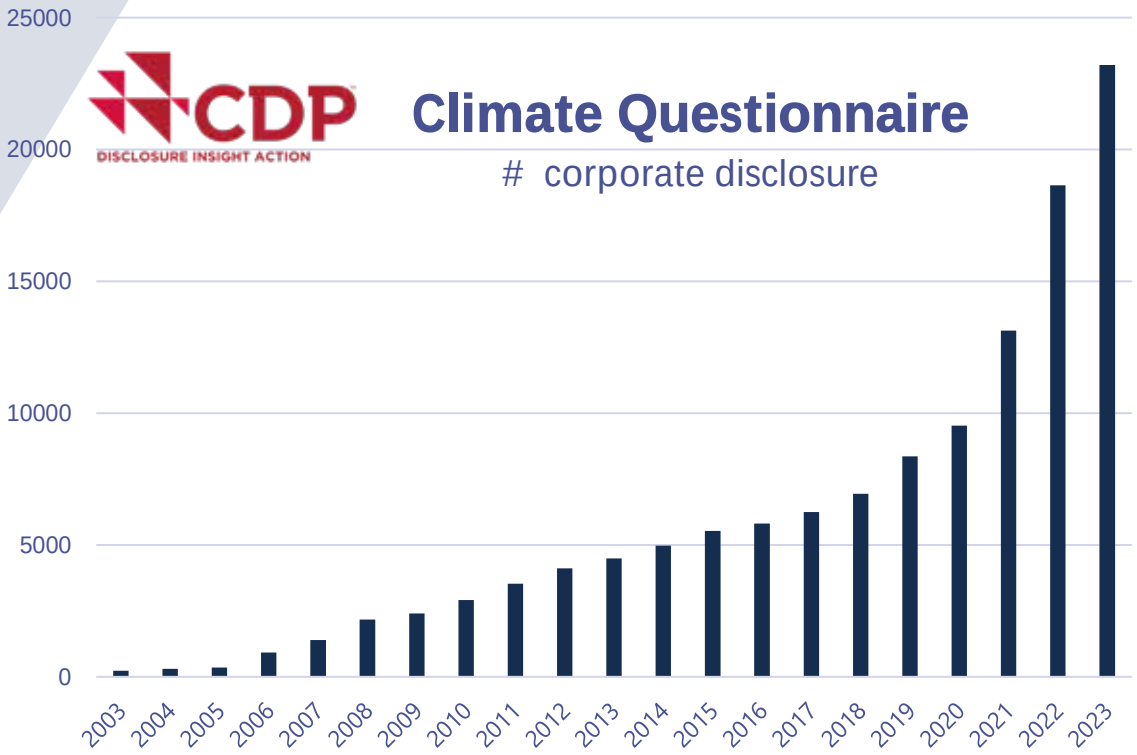
Needs new capabilities & strategies

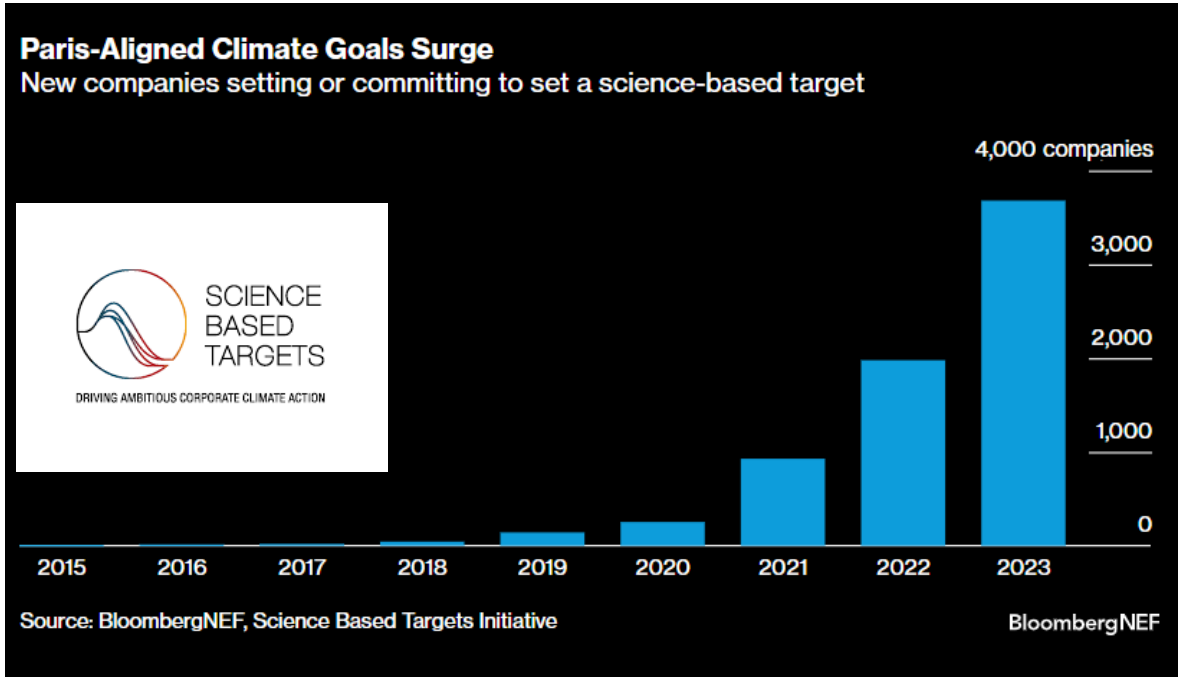
Regulatory landscape is evolving fast & getting increasingly complex

Deep expertise of regional & local regulations required to navigate landscape efficiently



Voluntary disclosure and targets are gaining momentum





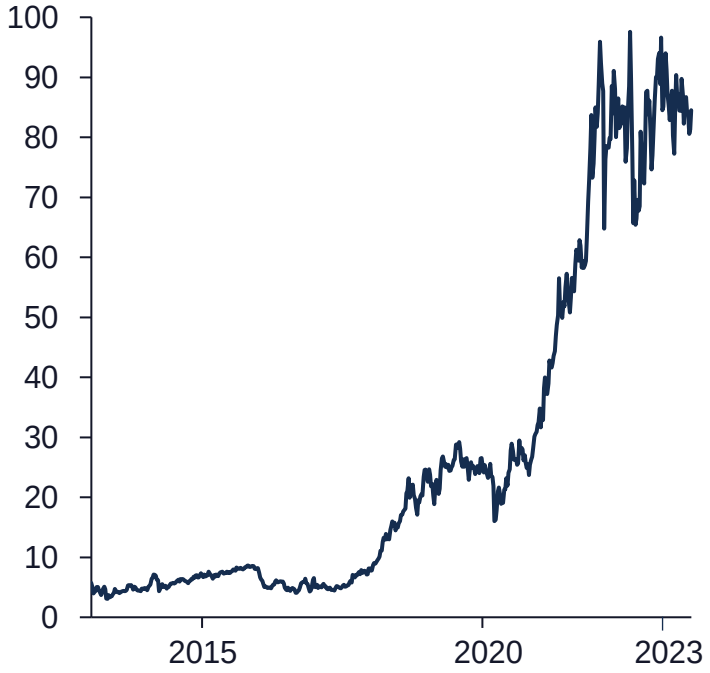
GREENHOUSE GAS PROTOCOL

- Ongoing comprehensive review of Corporate guidance and standards
- Technical Working Groups being set up now (application deadline 31/01)
- Final texts expected by 2025

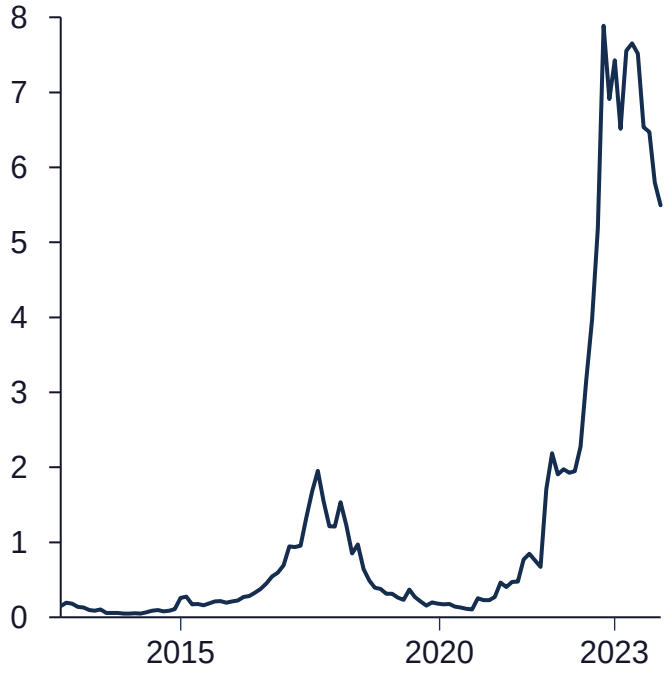
Growing demand is driving environmental commodity prices

Rising prices and significant volatility require increasing attention to the renewable markets

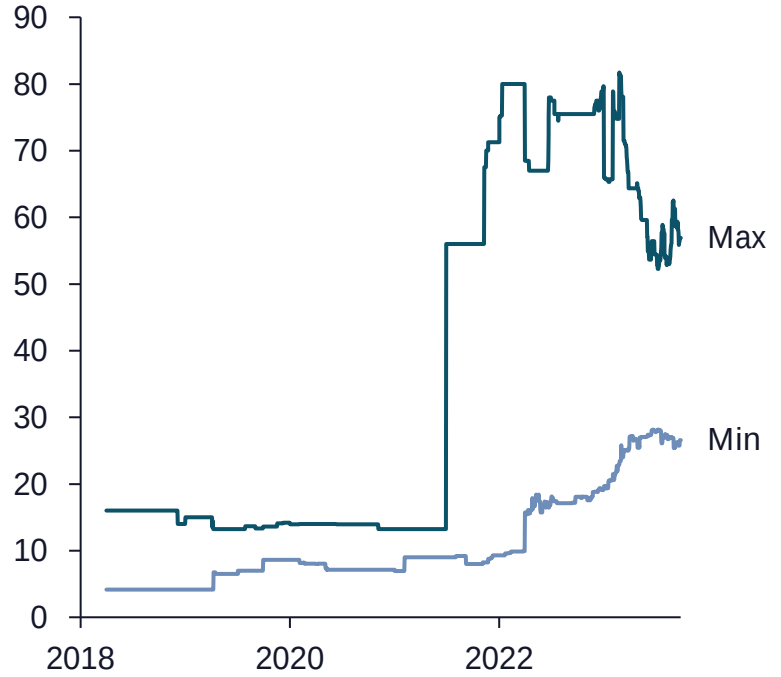
EU ETS price has grown
17x



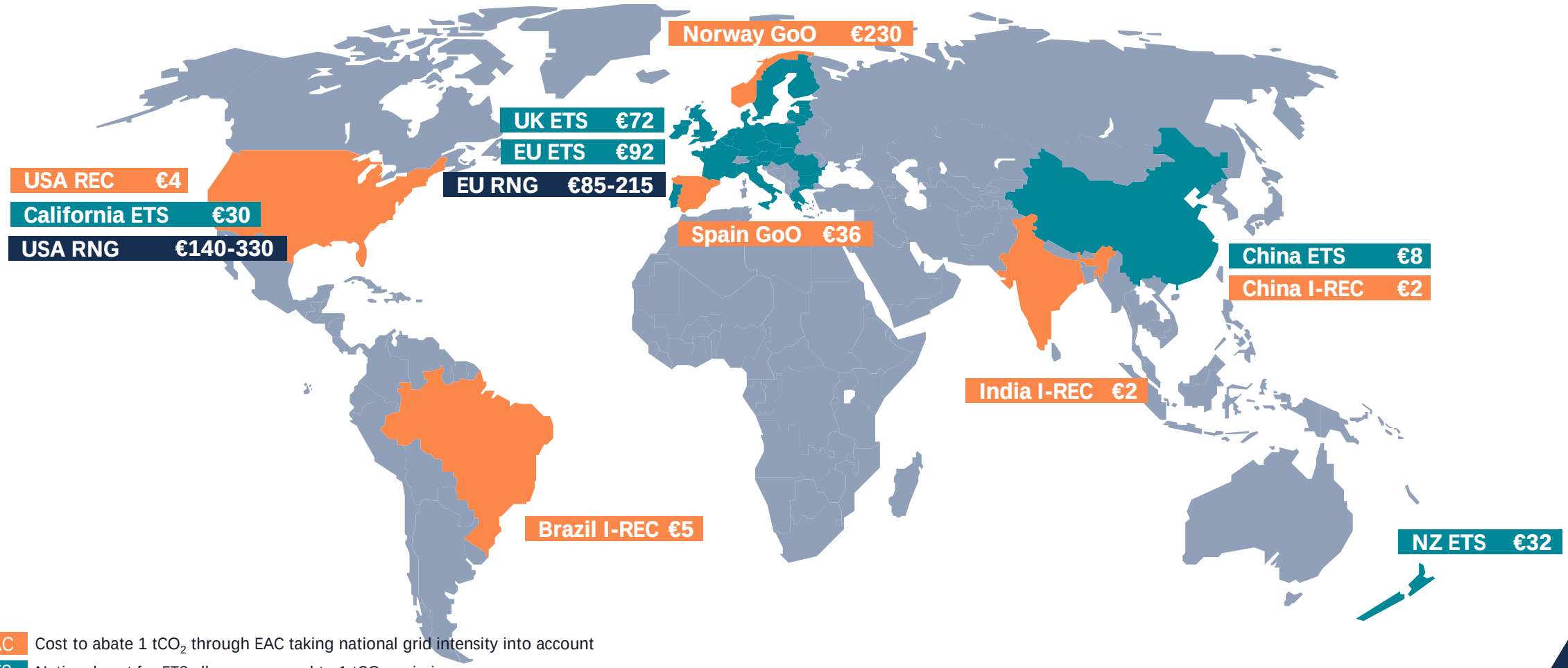
EAC GoO price has grown
>50x



Biomethane price has grown
4-10x



Environmental markets are global, with wildly diverging prices



EAC Cost to abate 1 tCO_2 through EAC taking national grid intensity into account

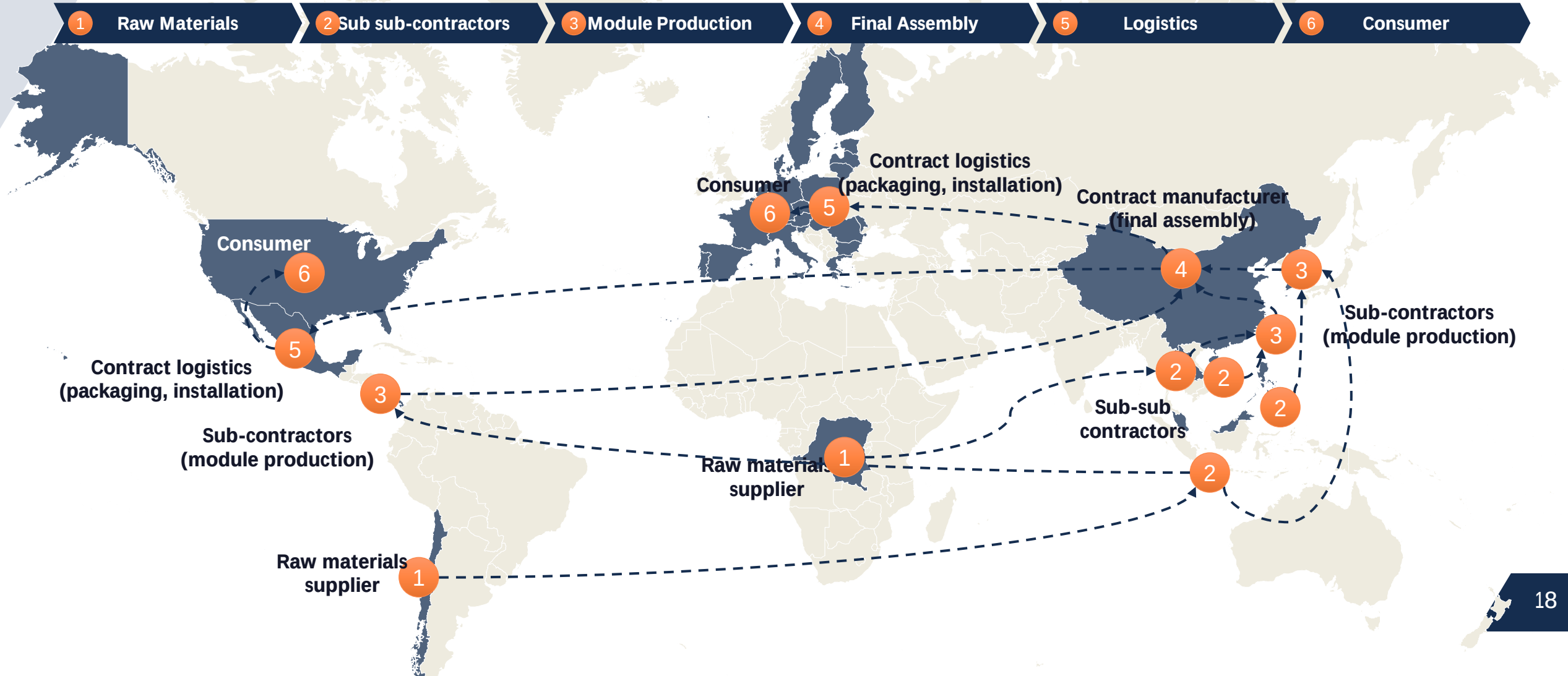
ETS National cost for ETS allowance, equal to 1 tCO_2 emissions

RNG Cost to abate 1 tCO_2 through replacing Natural Gas with Biomethane, range depends on carbon intensity (CI) of biomethane product and CI of natural gas you are replacing

Source: ICAP, 2023, STX analysis

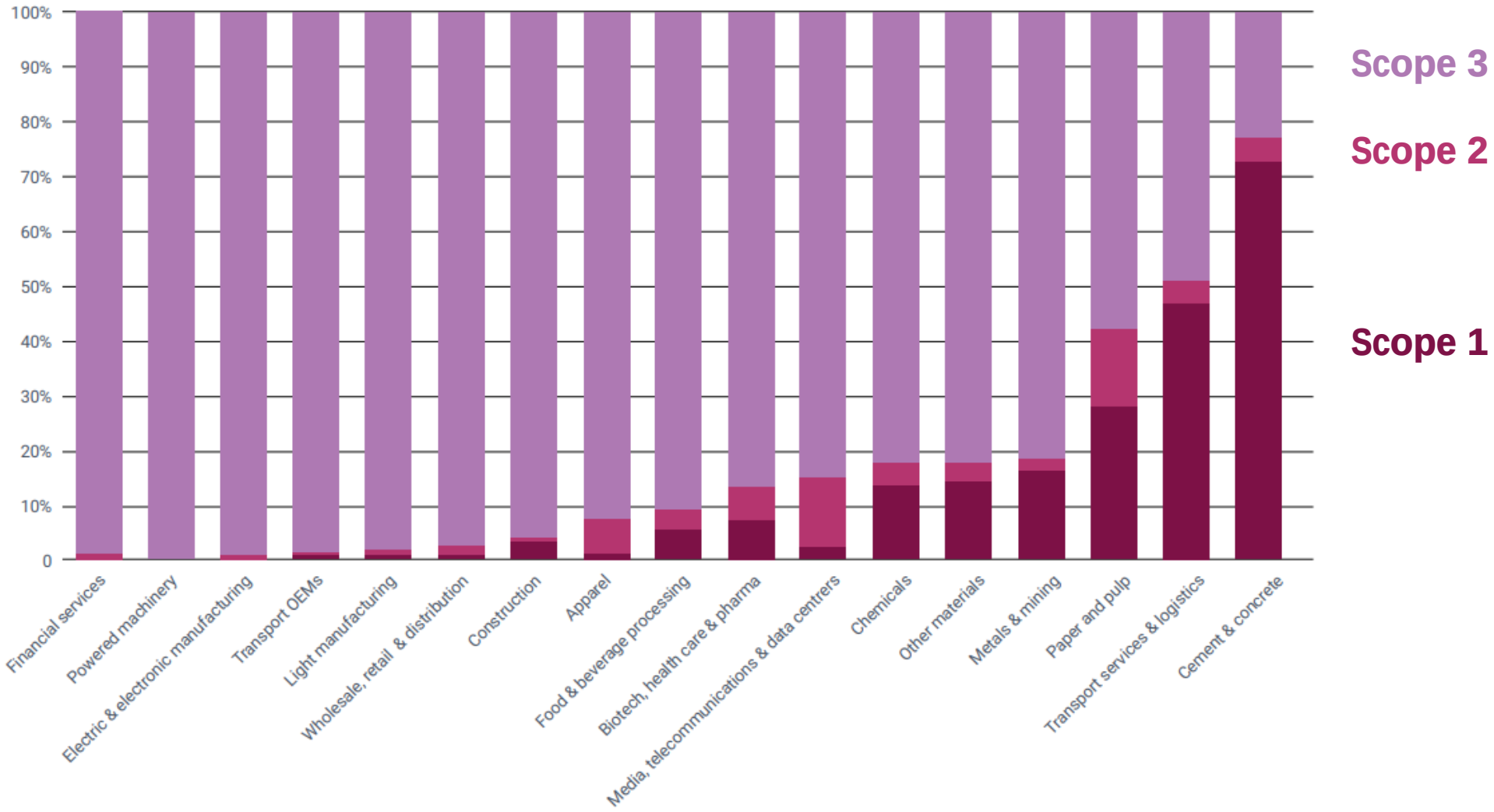
Global value chains create interlinked environmental challenges

Scope 3 is large, complex, global & outside of your direct control



Scope 3 represent >80% of emissions for most global industries

Upstream Scope 3 carbon to be priced through CBAMs or ETSs – creating a competitive angle!

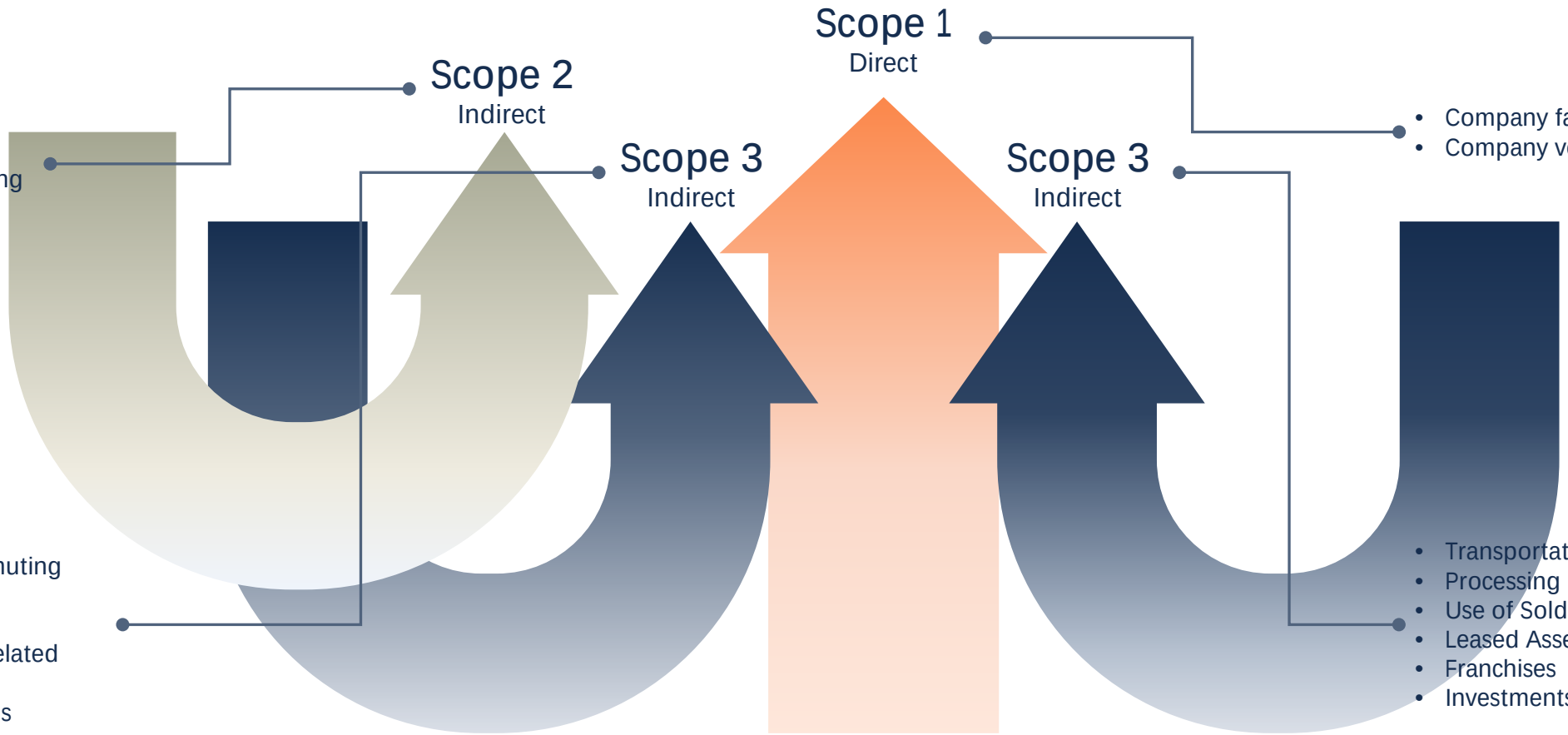


Source: SBTi , 2022

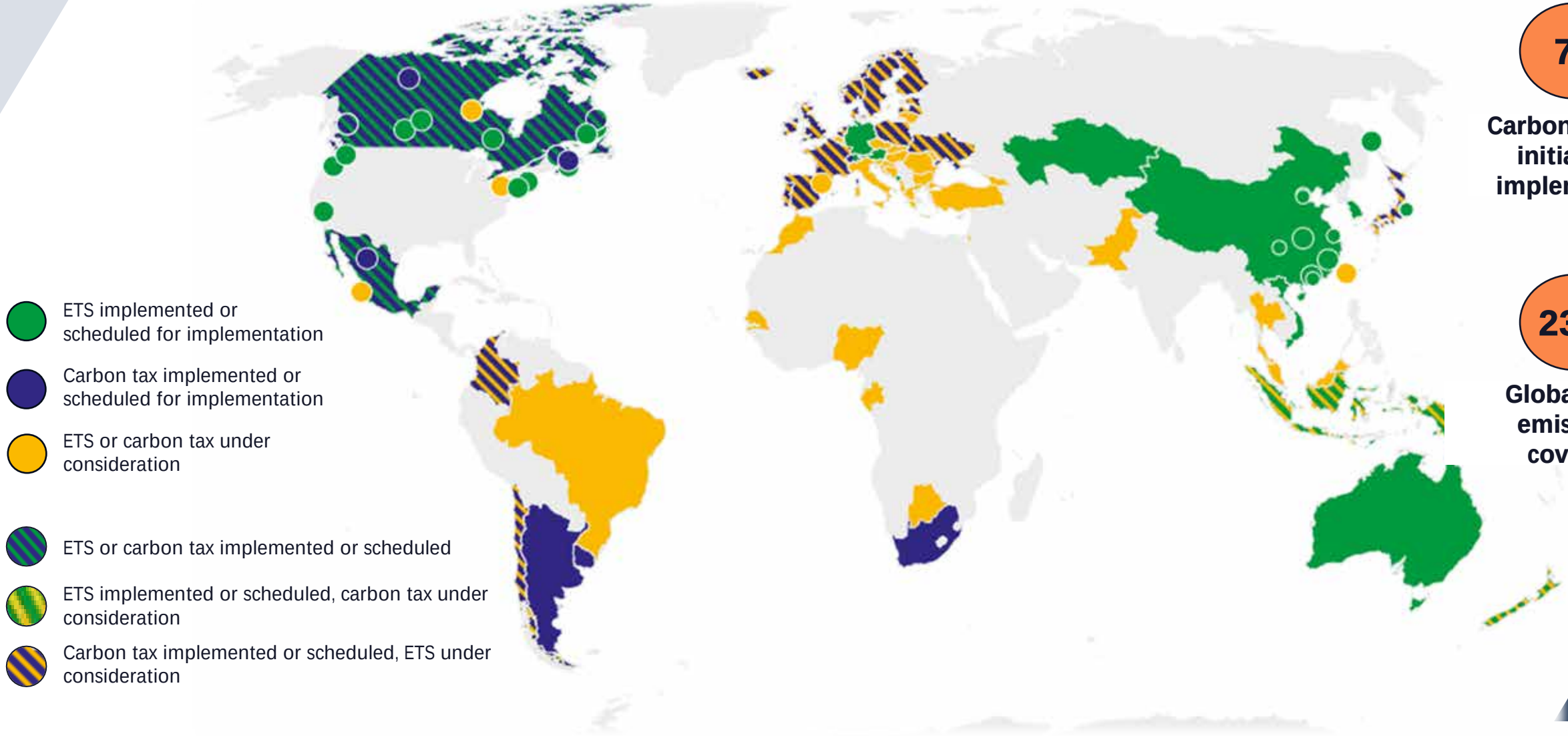
Corporate strategies to optimise decarbonisation cost - within supply chain

1. Understand your scopes

The scopes of a company's emissions are the direct and indirect sources of greenhouse gas (GHG) emissions



2. Understand your compliance obligations (current and future)



73

Carbon pricing initiatives implemented

23%

Global GHG emissions covered

Source: World Bank

3. Take mitigation action with tradable environmental commodities

More than 50 climate solutions available to mitigate emissions at all levels

Reduce

Energy Efficiency

Certify energy consumption reduction in your operations through customized solutions to lower your energy usage and costs

SCOPE 1 & 2

Renewable Gas

Invest in a circular economy through drop-in replacements for fossil natural gas, without additional infrastructure investments

SCOPE 1 & 3

Renewable Electricity

Diminish remaining emissions on your path to electrification with certified renewable power, through EACs, VPPAs and other solutions

SCOPE 2

Renewable Fuels

Reduce direct emissions through drop-in replacements for fossil diesel fuels, without additional capital investments

SCOPE 1

Blending / EV tickets

Tradeable GHG reduction certificates that road fuel blenders receive for each ton of CO2 equivalent (CO2e) saved

SCOPE 1

Compensate

Carbon Removals & Reductions

Balance and abate your organization's emissions by funding climate projects that reduce emissions elsewhere

ALL SCOPES

Supply Chain Decarbonization

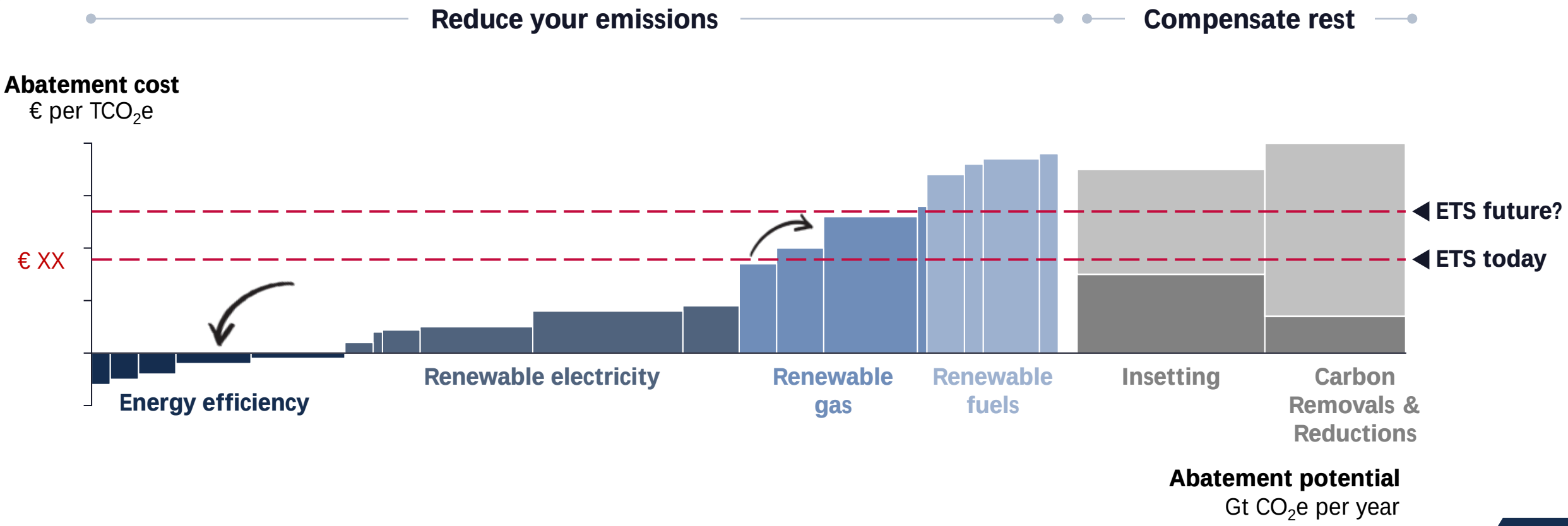
Carbon Insetting

Uncover customized energy solutions to reduce emissions along your company's own value chain

SCOPE 1 or 3

Meet your climate ambitions in the most cost-efficient way

We optimize across obligations & reduction opportunities



Energy Efficiency (EE) : the first pillar of a decarbonization strategy

EE is key to achieve climate goals…

44%

of emissions reductions by 2040 need to be realized though EE initiatives[1]

2x

increase in EE targets, requiring emission savings from 2% to 4% p.a. by 2030

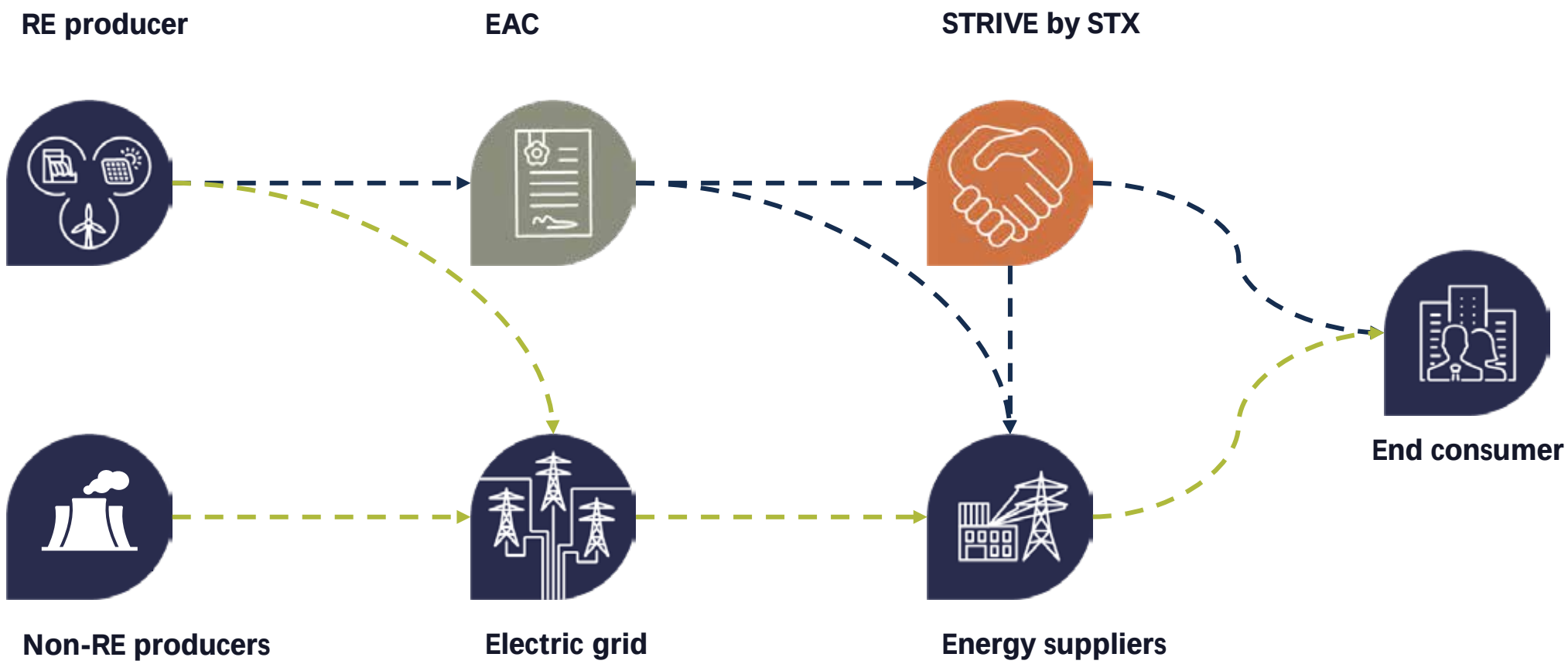
…and a vital business strategy to remain competitive

- **20-50% energy savings** and **GHG reductions**
- **<2-4** years **payback period** for 30-90% of solutions, even lower if your emissions are in scope of EU ETS
- **Financial support** by the governments through **White Certificates** schemes covering up to 100% of CAPEX
- Strengthened **resilience** during times of volatile energy markets and increasing sustainability pressures
- Immediate **reduction of OPEX[2]**, with positive impact on company liquidity

1. According to the IEA Sustainable Development Scenario, 2. Operating Expenses

Sources: EED, IEA

Renewable electricity - what is an Energy Attribute Certificates?



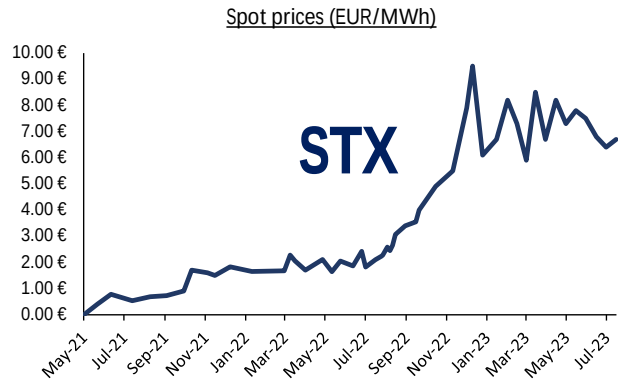
Renewable electricity solutions

Forward Hedging Strategies for EACs

Why should you implement a long-term hedging strategy on renewable electricity procurement?

- **Hedge price exposure** in the long term as corporate sustainability commitments won't stop for decades.
- **Secure EAC volumes now** in an illiquid forward market as more and more end-consumers are committing to 100 % renewable electricity
- Show your supply chain and stakeholders that you have a **long-term commitment in place and have put into place long-term action**

Strong bullish trend in GOs market since 2019 makes long-term hedging a key instrument to secure budget and visibility on achieving environmental targets



Precision: Prices are in EUR /MWh for GO, AIB, Any renewable tech, without Monthly split

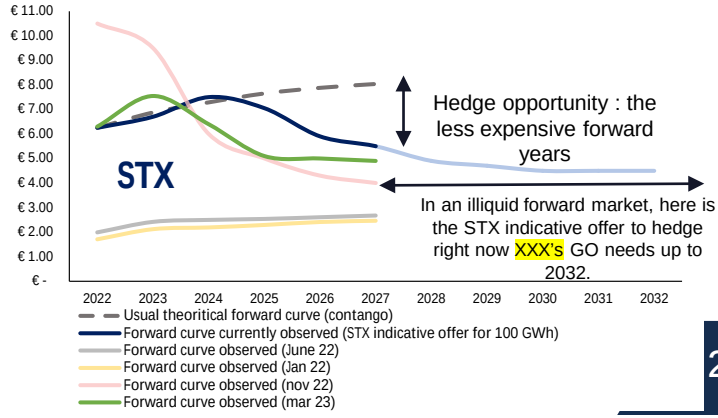
Forward Purchase Agreement

- Long-Term hedge of EAC volumes
- Asset-specific
- New Build
- STX as principal, guaranteed volume
- Up to 12 years

EAC Hedging

- Long-Term hedge of EAC volumes
- Asset diversification
- Volume Flexibility/Ramp-up
- Fixed price / floating price
- Up to 12 years

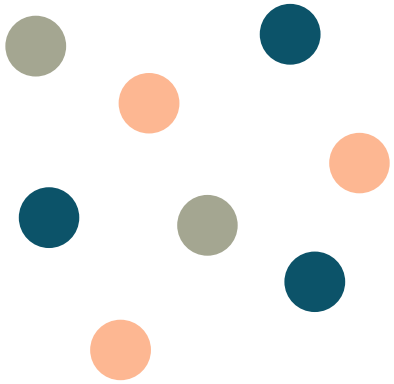
For the first time in history (08/2022), GOs were trading in backwardation (forward year prices are lower than spot), creating a unique opportunity to hedge yourself (up until 12 years with STX engineering)



Biomethane – a complex market

Requiring higher sophistication to be successful

Wide-ranging, competitive and difficult to certify feedstock supply chains



- Wide **variety of different feedstock types** available, often sourced from various smaller scale providers
- **Longer-term supply security often difficult** to achieve and sourcing increasingly competitive
- Range of **different certification schemes** in existence, often requiring **full supply chain** certification

Decentralized production subject to varied local schemes and regulation

- Often **decentralized** and relatively **small-scale;** financing often issue for smaller producers/developers
- **Depending on location and subsidy/regulatory schemes, different contract structures** are preferred or optimal
- **Limited commercial sophistication** for most producers

Diverse set of downstream uses/users leading to illiquid and complex market dynamics

Product uses

- Biomethane
- Bio-LNG
- Bio-methanol
- Scope 3 Insets
- Transport
- Utilities
- Industrial
- Corporate
- Shipping

- Very **broad range of potential offtakers;** often unsophisticated
- **Fragmented and illiquid market** makes hedging and indexation difficult
- **Price drivers from many different adjacent markets** (e.g. biofuels, ETS, LCFS, RINs etc) creates **high price volatility**

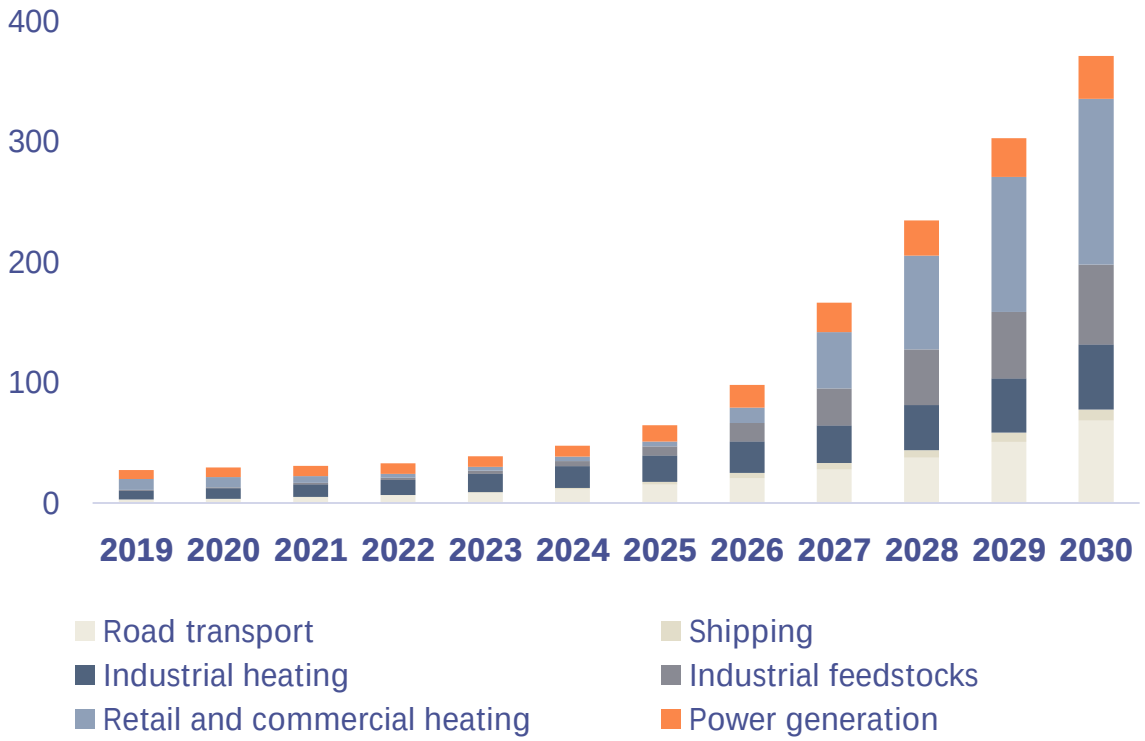
Unpredictable regulatory change is a major risk for long-term deals across full value chain

Required capabilities to effectively optimize and manage risk of a biomethane portfolio

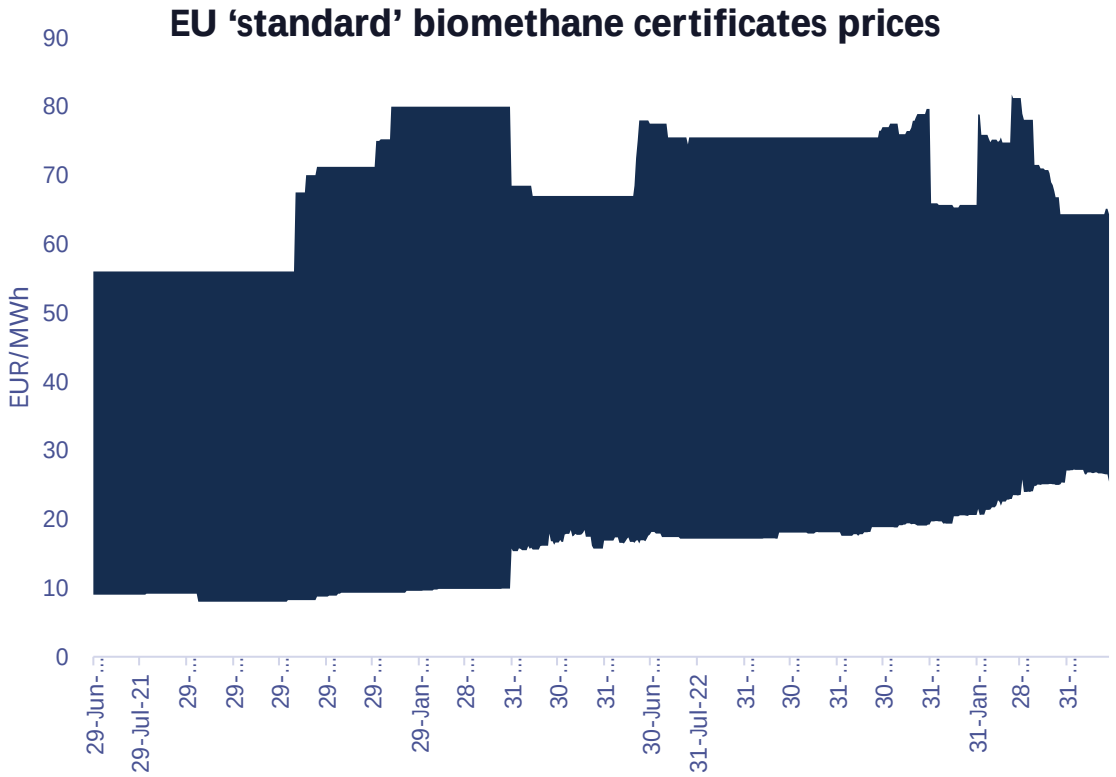
- **Presence across all geographies and access to all up- and downstream players** to be able to de-risk and optimize portfolio
- **Bespoke deal structuring capability** to absorb and provide flexibility as needed and supplier flexibility
- **Trading/commercial presence in adjacent markets** to understand market movements
- **Deep understanding** of different certification schemes and local regulation/subsidy schemes combined with **strong R&A capability**

Biomethane – increasing demand / price hard to predict

EU Biomethane demand



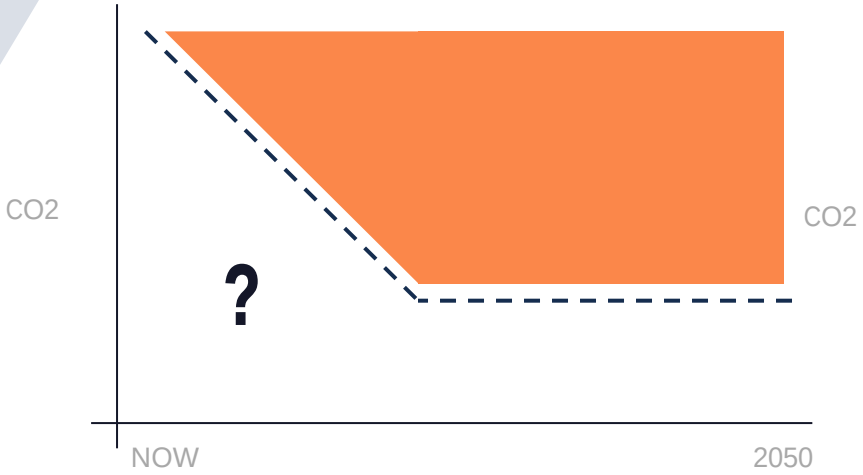
Biomethane certificate pricing is complicated



- Environmental regulations bring **opportunities to those that take action**
- Set targets, build decarbonization roadmaps and **engage with your suppliers and clients**
- **Monitor commodities price and availability globally** to remain competitive
- **Reduce and hedge** CO2 emission exposure across ALL scopes to stay ahead of the game

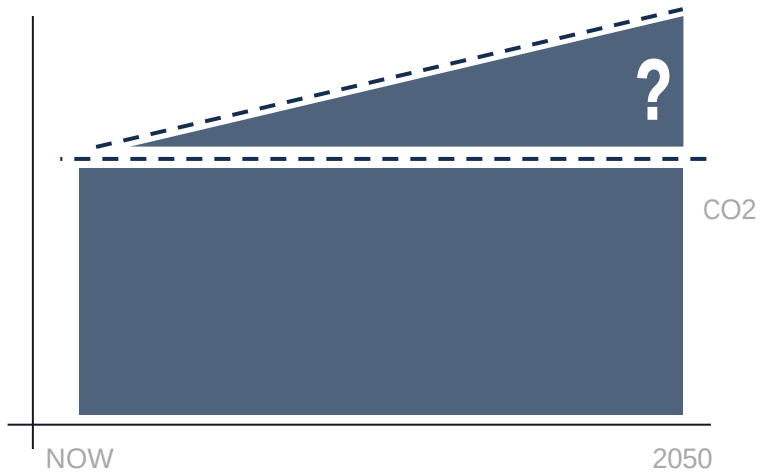
Compensation : Carbon Removals & Reductions - going beyond value chain mitigation (BVCM)

Reducing Emissions vs Compensating Emissions



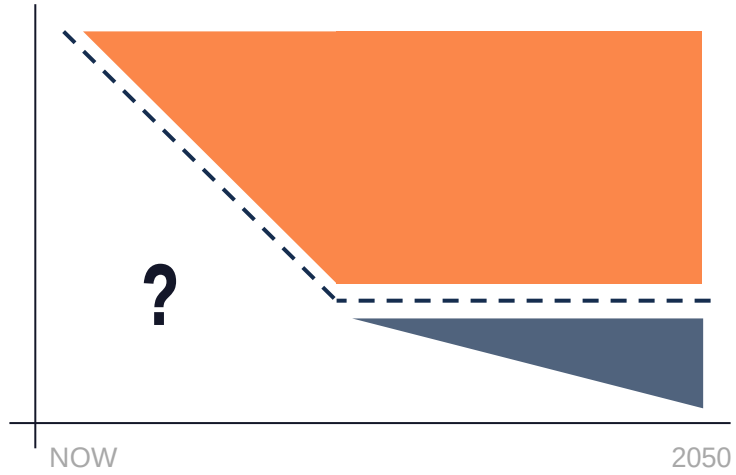
Only **reducing emissions** will not compensate for all emissions, and is too slow

This is good



Merely **compensating for emissions** without tackling the root cause places excessive reliance on compensation mechanisms.

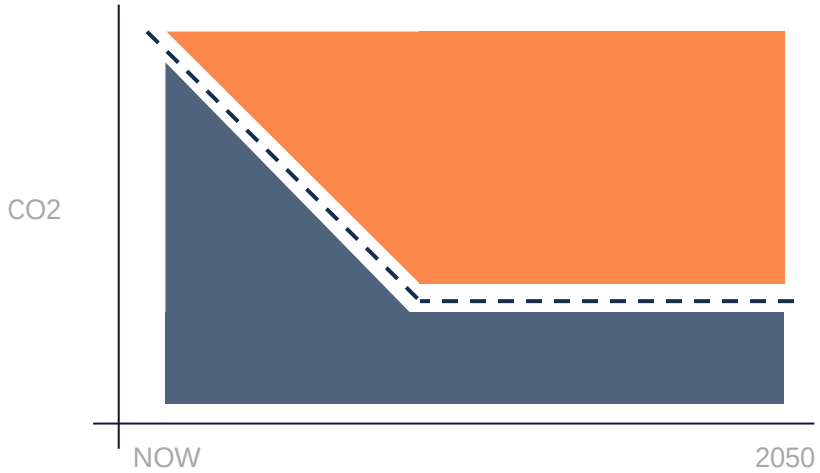
This is seen as greenwashing



Reducing emissions and then **compensating for unavoidable emissions** is very gradual

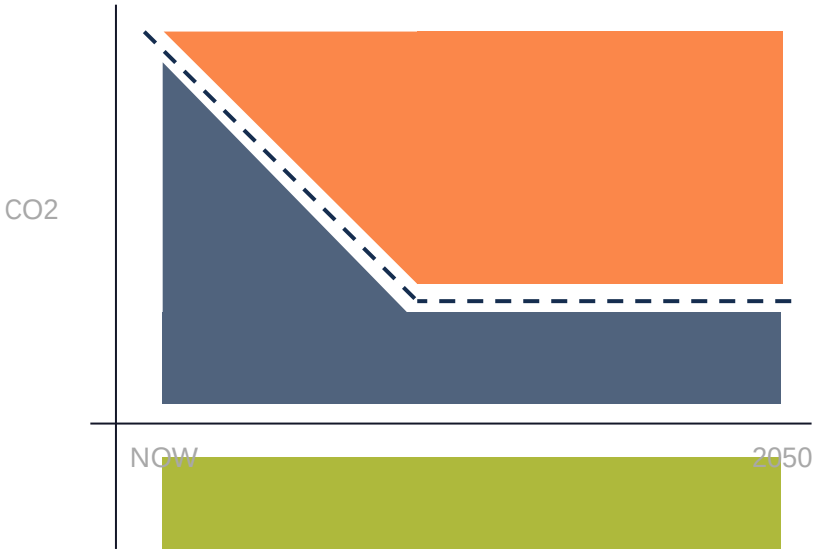
This is great

Reducing Emissions vs Compensating Emissions



Compensating now, and **reducing emissions** towards 2050, aims to address all emissions, and has an immediate impact

This is best!



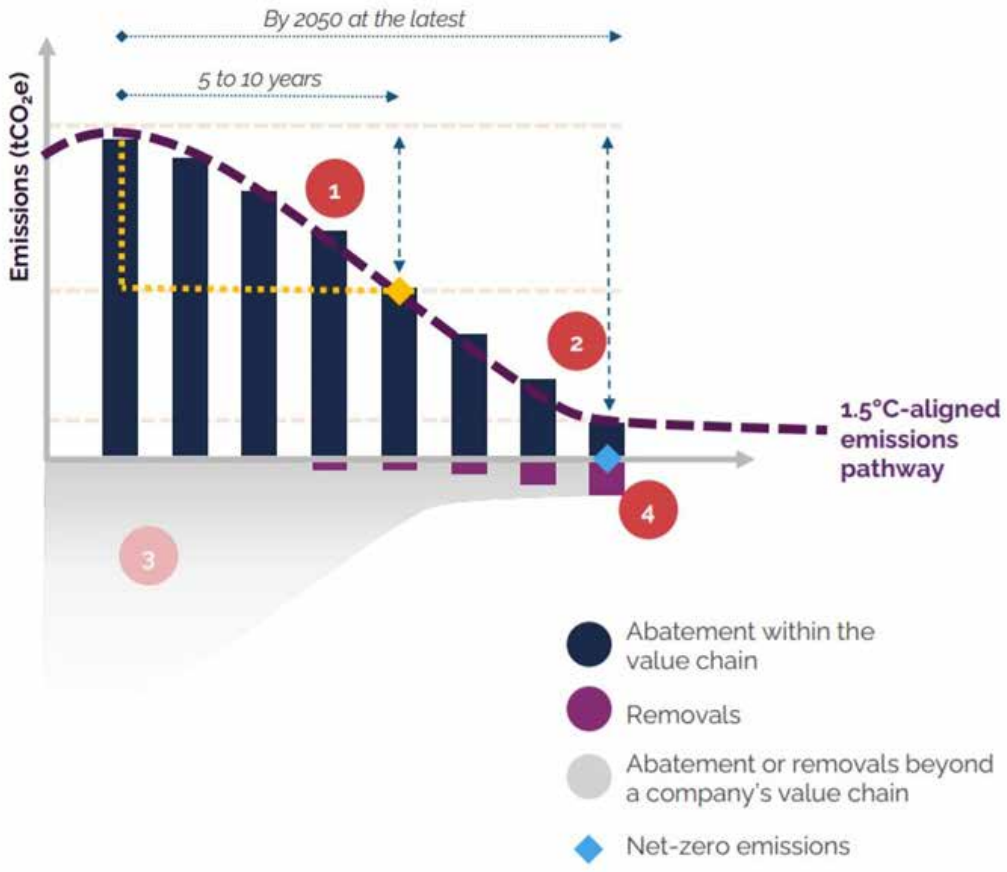
Companies can go **beyond net-zero** by investing in catalytic climate action, over and above ton-for-ton CO2 neutralization

This is even better!

Verified carbon reductions and removals

as part of achieving the Net Zero under SBT

High quality carbon reduction and removal units play important role in achieving Net Zero targets by private sector actors



Four key elements make up the Net-Zero Standard framework:

1. To set near-term science-based targets: 5-10 year emission reduction targets in line with 1.5°C pathways.
2. To set long-term science-based targets: Target to reduce emissions to a residual level in line with 1.5°C scenarios by no later than 2050.
3. **Beyond value chain mitigation**: In the transition to net-zero, companies should take action to mitigate emissions beyond their value chains through voluntary Carbon Credits. **(using verified carbon reductions and removals)**
4. **Neutralization of residual emissions**: GHGs released into the atmosphere when the company has achieved their long-term SBT must be counterbalanced through the permanent removal and storage of carbon from the atmosphere **(using verified carbon removals)**

STRIVE
by STX

We change the legacy, by navigating to new horizons

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Carbon Offsetting

A vital tool in the climate change ‘toolbox’

Stuart Lemmon, CEO, EcoAct

 © EcoAct

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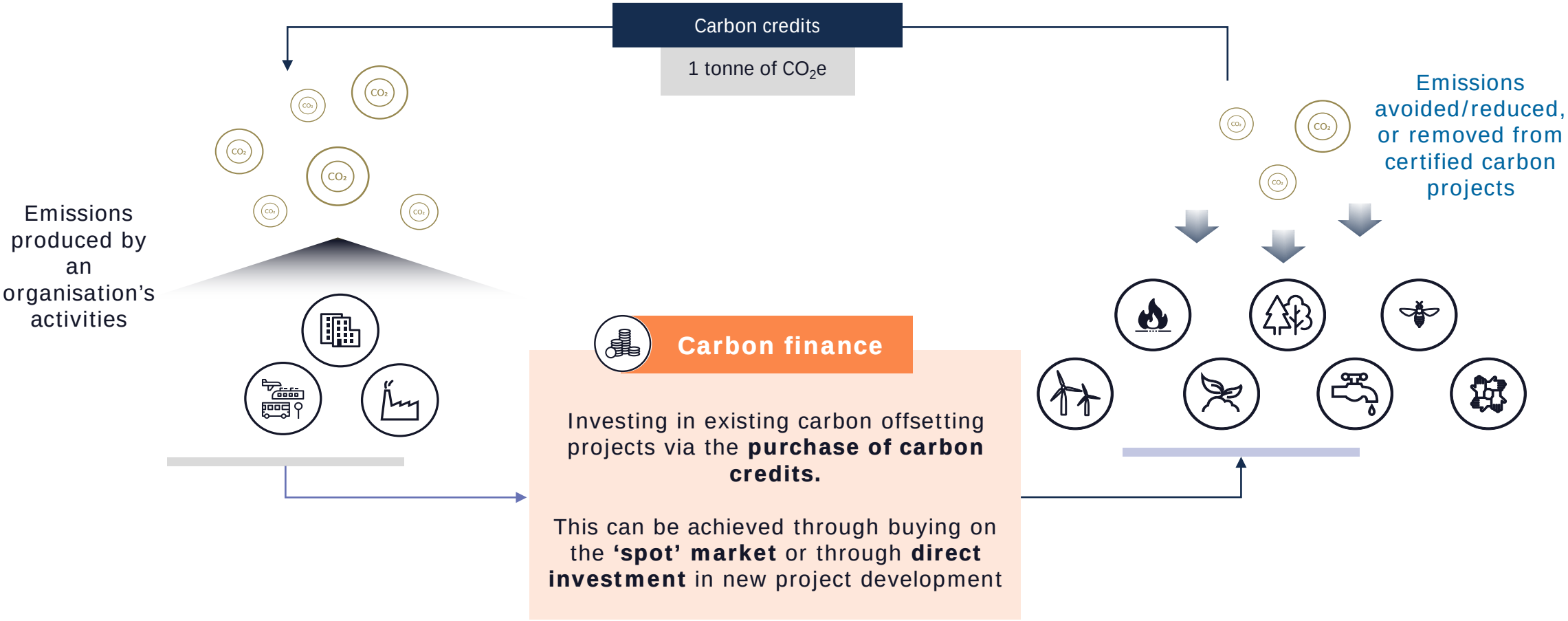
What is carbon offsetting and how does it work? | Counterbalancing a company's residual emissions with certified mitigation actions



*N.b. the unit **tonne of CO_2e** or **tCO_2e** refers to 1 Metric Tonne of Carbon Dioxide equivalent. CO_2e normalises the global warming potential of all greenhouse gases. In other words, the impact of different greenhouse gases is expressed in terms of the amount of CO_2 that would result in the same amount of warming.*

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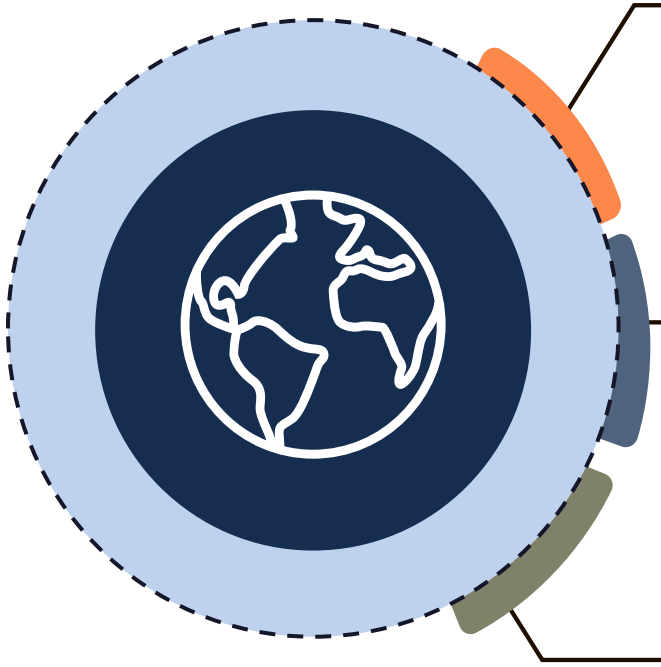
Addressing global gaps | The role of carbon offsetting in climate action



Ambition gap

Global policies, regulations and agreements currently in play lead to 2.7^{0}C+ of warming.

Carbon offsetting helps fast-track policy changes by encouraging voluntary corporate emission reduction efforts.

Timing gap

Current planned action will lead to overshooting the required timeline of achieving Net-Zero by 2050 to limit warming to 1.5^{0}C.

Carbon projects offer immediate, cost-effective ways to reduce and remove emissions.

Finance gap

Existing governmental funding for low-carbon pathways is not enough on its own.

Carbon offsetting can direct investment to underfunded priority areas.

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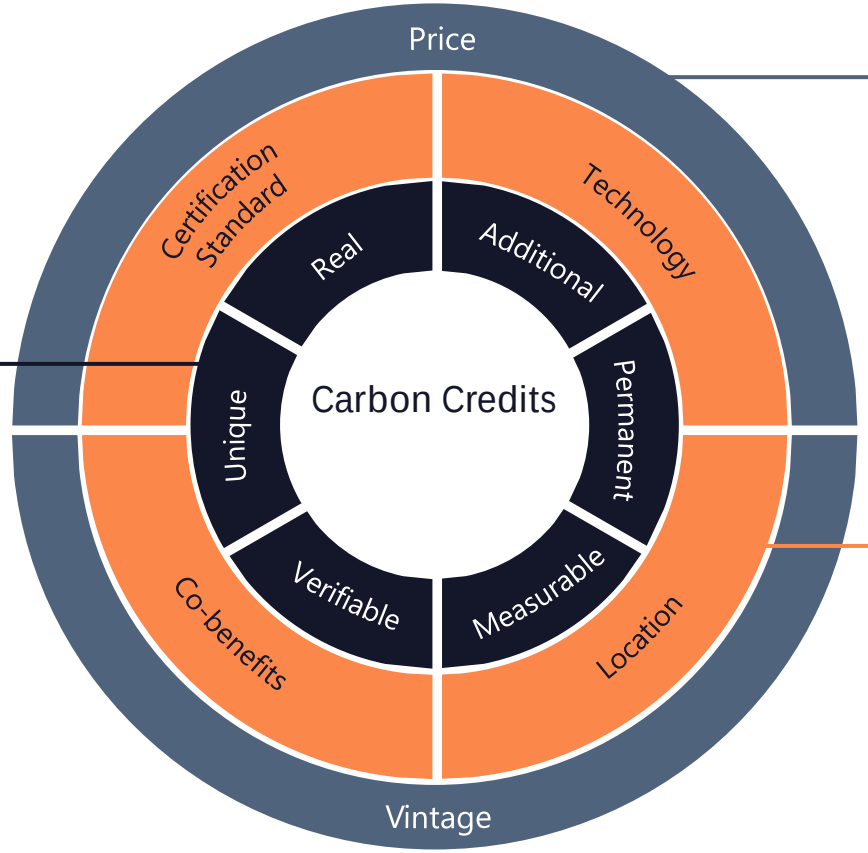
There are key considerations when procuring carbon credits and investing in projects



Market Parameters

Core Principles

Attributes

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Distinguishing types of credits | Carbon offsetting projects either reduce/avoid emissions or remove carbon dioxide from the atmosphere

Carbon Removals

Projects that capture and store carbon by **restoring ecosystems** or **physically removing CO_2 from the atmosphere**.

Example Project types:

Afforestation

Direct Air Capture (DAC)

Carbon Reductions (and avoidance)

Projects that reduce carbon emissions by **replacing carbon-intensive technologies** or **protecting natural carbon sinks.**

Example Project types:

Renewable energy

Forest protection

Both project types can contribute to Carbon Neutrality and SBTi Beyond value-chain mitigation, but only Removals can help meet Net-Zero.

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Summary: Building integrity into voluntary carbon markets | Initiatives advocating for high-quality carbon credits

	Leading organisations	Objective	High-quality principles
THE INTEGRITY COUNCIL FOR THE VOLUNTARY CARBON MARKET	Green Finance Institute; bsi.; C2ES; IETA International Emissions Trading Association	Set new threshold standards for high-quality carbon credits and **define** which **carbon-crediting programs and methodology types** are **CCP-eligible**	• Additionality • No double counting • Permanence • Robust independent third-party validation and verification • Robust quantification of emission reduction and removals • Sustainable development impacts and safeguards
ICROA International Carbon Reduction & Offset Alliance	IETA International Emissions Trading Association	Provides a **framework for responsible corporate climate action** through the integrity in the use of carbon credits and the supply of quality carbon credits	
CCQI Carbon Credit Quality Initiative	EDF Environmental Defense Fund – Finding the ways that work; WWF; Öko-Institut e.V. Institut für angewandte Ökologie Institute for Applied Ecology	Score existing project types across five crediting programs (i.e. ACR, CAR, CDM, GS and VCS)	
VCMI Voluntary Carbon Markets Integrity Initiative	• Representatives from major carbon standards (e.g. Verra, Gold Standard, CAR and ACR), government officials, NGO's and independent carbon market experts.	Promote supply and demand-side integrity to ensure meaningful use of carbon credits and conduct efforts to ensure transparency and assurance	
Rating agencies	Sylvera; BeZero; Calyx Global		

The risks of non-credible offsetting claims

Offsetting is a critical tool for climate action BUT must be done correctly

Below are some potential risks from offsetting:

- **Greenwashing:** Companies may falsely present their offsetting efforts as more effective or comprehensive than they really are, misleading stakeholders about their impact.
- **Ineffectiveness:** Non-credible offset projects may not result in real emissions reductions or environmental benefits, rendering the claimed offsets ineffective in mitigating climate change.
- **Unreliable Verification:** If offset claims are not independently verified by reputable third parties, there is a risk that the reported emission reductions are not accurate or reliable.
- **Regulatory and Reputational Risks:** Non-credible offsetting claims may expose companies to regulatory scrutiny and damage their reputation, especially if stakeholders, investors, or the public perceive the claims as misleading or insincere.

To address these risks, it is crucial for companies engaging in offsetting to adhere to established standards, transparently communicate their methodologies, and undergo rigorous independent verification processes.

Example Avoidance Project

Tanzania Cookstoves

Gold Standard for the Global Goals

Objective

Distribution of 5,000 improved cookstoves to households in rural areas of Kilombero and Malinyi, in the Morogoro region.

Environmental Benefits

Reduced deforestation and emissions. Each cookstove can decrease firewood and charcoal use by almost 70% and save the equivalent of more than 3 tCO_2 per year per cookstove.

Community Benefits

5,000 households benefit from less indoor air pollution. This immediate, clean solution will eliminate harmful climate and health drivers such as deforestation, smoke, and emissions, yielding multiple positive social, economic and environmental impacts.

Project Duration:	15 years
Emissions Reductions*:	~15,000 tCO_2e/year
Crediting Period:	2023-2037

**Emission reductions are indicative and may be subject to change.*

Example Removal Project

Indian Mangroves

Verified Carbon Standard

Gold Standard for the Global Goals

Objective

The aim is to protect 4,500 ha of urban degraded mangroves in the Indian Sundarbans by planting multiple local mangrove species and restoring previous plantations.

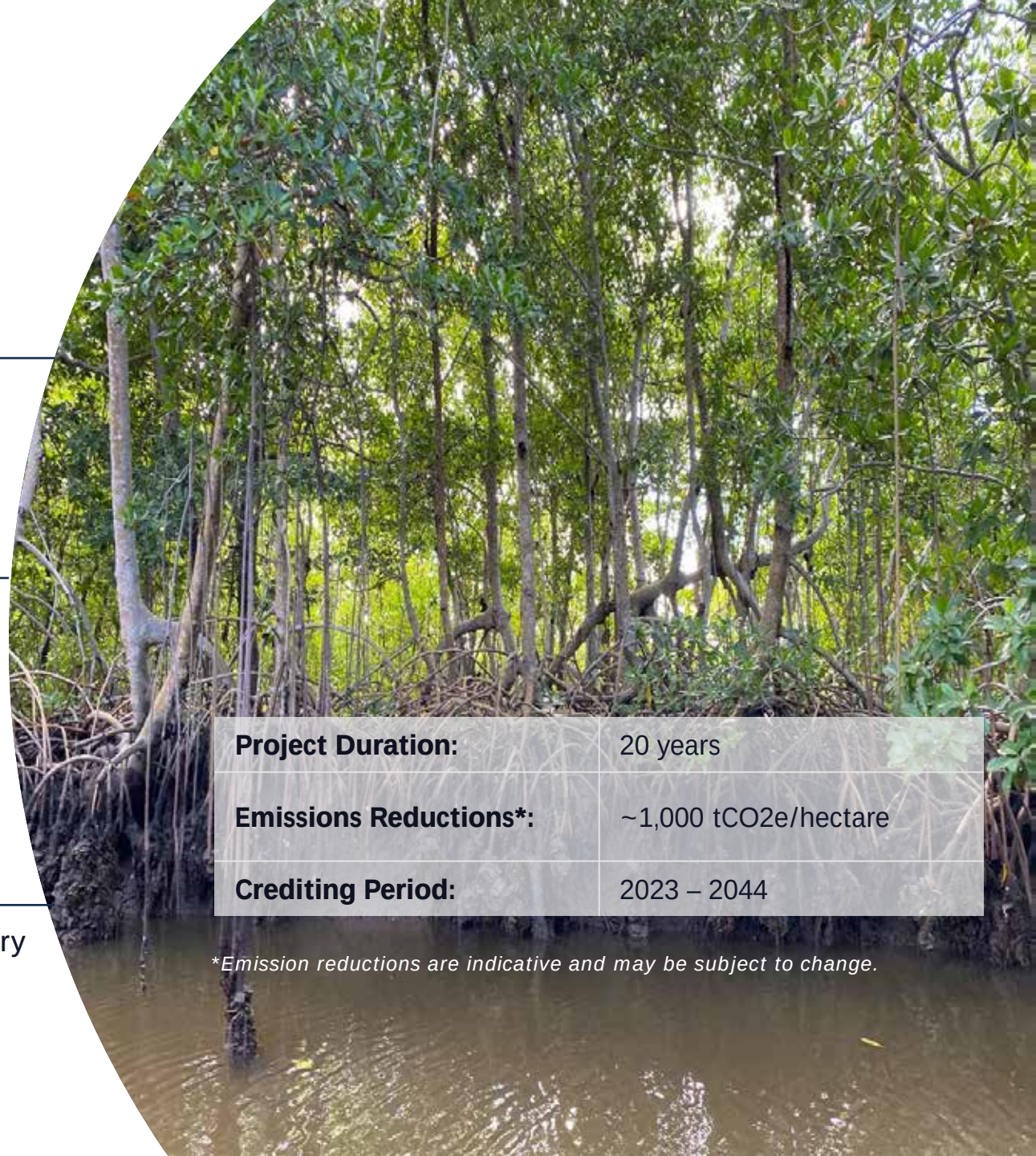
Environmental Benefits

19 mangrove species planted, ~1,500 fauna species indirectly protected.

The project will bring economic opportunities, reduce coastal erosion and environmental impacts, protect a key biodiversity region and local water quality, and improve ecotourism opportunities.

Community Benefits

500 community members engaged (50% women) and 1.5 million beneficiary community members



Project Duration:	20 years
Emissions Reductions*:	~1,000 tCO2e/hectare
Crediting Period:	2023 – 2044

**Emission reductions are indicative and may be subject to change.*

Summary: Best practice carbon offsetting

ü All projects selected **must be certified by standards endorsed by ICROA and meet their code of best practice**.

ü **Decide on dealbreaker and negotiable aspects of your project selection**. **Developing a decision-making tree** for selecting specific projects can help to visualise and quantify your approach to offsetting

ü Consider **key project attributes** (e.g. project type, co-benefits) and **market parameters** (e.g. price, vintage) to manage budget and maximise alignment to wider sustainable development.

ü Team managing carbon credit procurement should ensure alignment with marketing/PR efforts, to **mitigate any possibility of over-claiming or greenwashing.**

ecoact

Q&A session

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What themes would you like to explore in our next session?

- Alternative fuel and the future of air travel
- Leveraging AI for Environmental Sustainability
- Sustainable Supply Chain Management Practices
- Innovations in Waste Reduction and Recycling
- Other suggestions?

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