



Carbon: The untapped value pool for a new era of Emissions Intelligence

Context



ESG initiatives must deliver value

It is imperative for businesses to understand how implementing the technology required for ESG reporting and to meet NZ Targets, has to be more than a regulatory constraint, but must deliver value as well

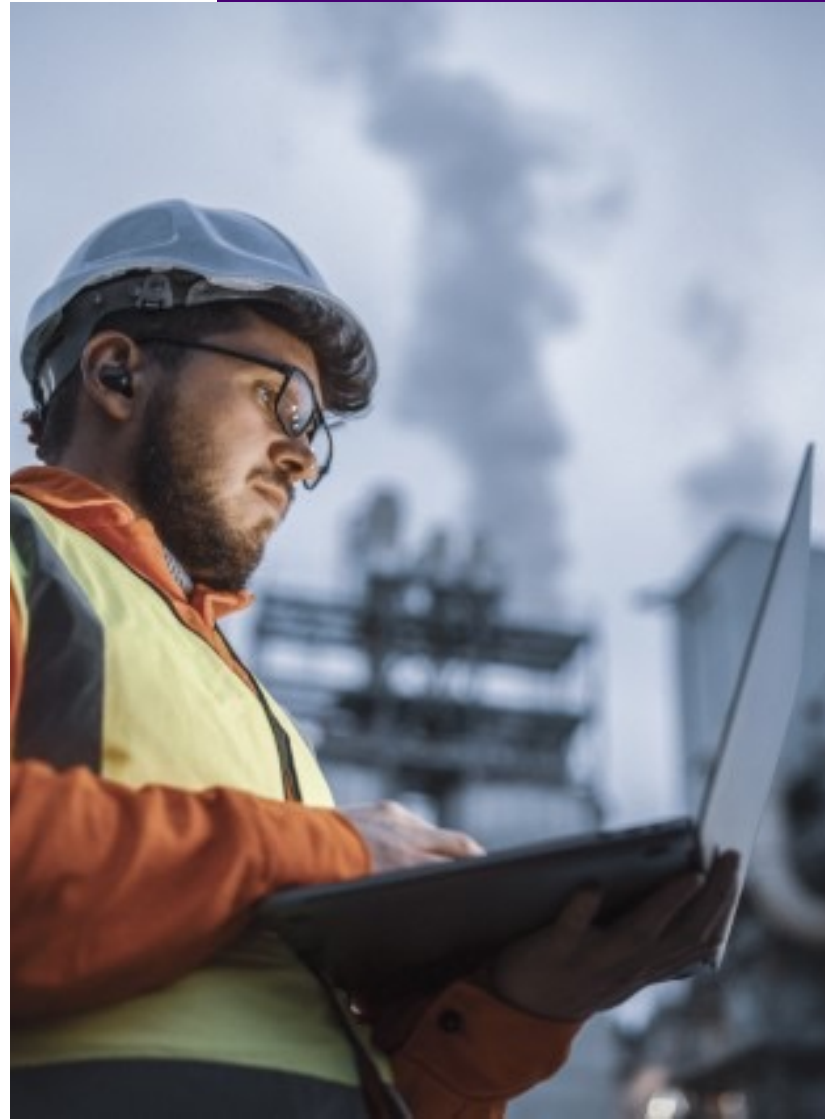


“Making profits and doing right by shareholders... and working on ways to protect the environment and mitigate climate change, are not mutually exclusive”

Adam Selipsky, CEO of cloud leader Amazon Web Services

What Value is available?

Accenture has conducted research to identify the amount of untapped value that can be tapped into in the coming years – and it is sizeable



Accenture Research to quantify CI value pools

POV combines Accenture original research with existing Accenture and 3rd party findings

For original quantification

New Revenues: Commodity price premium	Lower COGS: Cost of capital	Regulatory costs: Carbon markets	Capital Expenditure: Outlay requirements
What could be the potential size of global ETS markets by 2025?	How could decarbonisation improve WACC for oil and gas firms, and what would be the impact on firm value?	What is the value at stake from achieving a price premium from lower carbon products?	How much capital is required to replace current O&G dividends with renewable business models?

Review of existing research

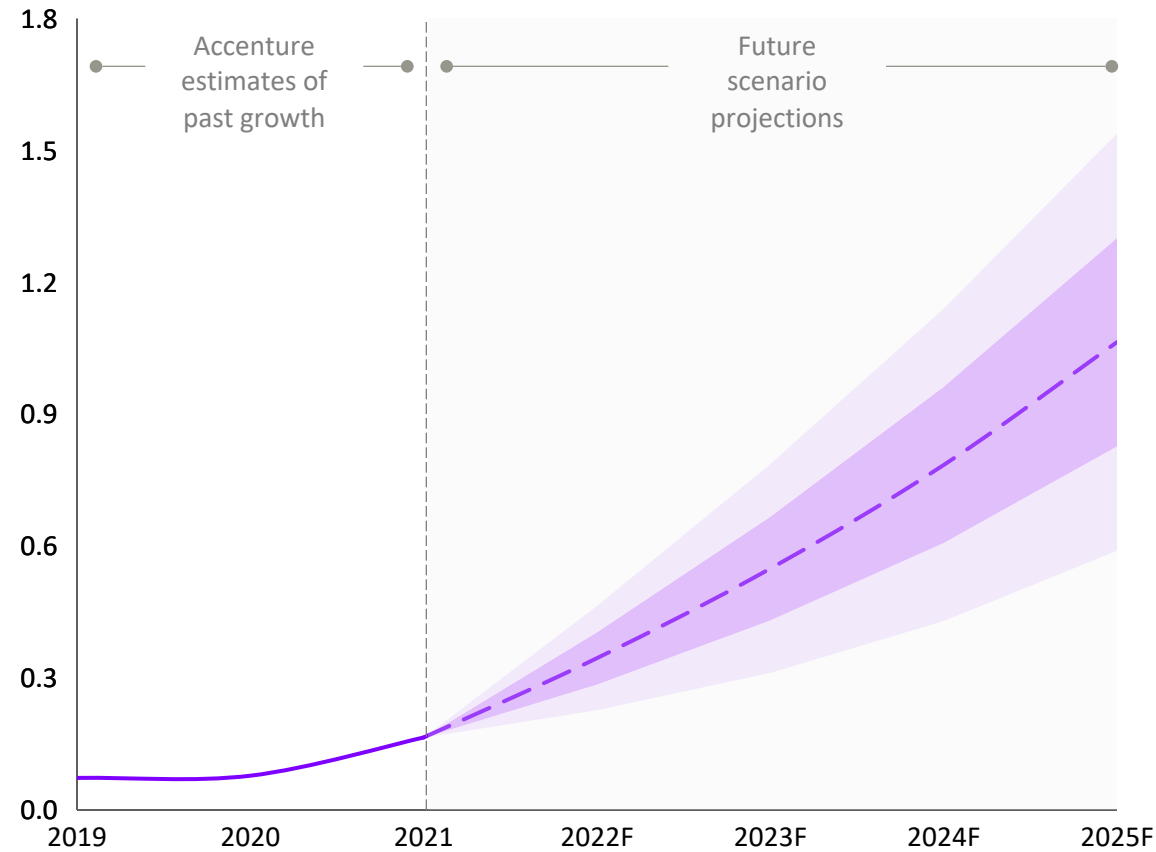
New Revenues: Decarbonisation services	COGS: Talent attraction & productivity	Regulatory costs: Statutory & compliance	Intangible value: Brand value and trust
What could be the potential size of the markets for decarbonisation services?	How could carbon intelligence and improved ESG performance improve talent attraction / productivity?	How could carbon intelligence help to reduce statutory and compliance costs?	To what extent could improved ESG performance boost brand value and trust?



Deep dive: carbon markets

Estimated potential size of ETS markets, 2019 - 2025F

USD trillions



Narrative

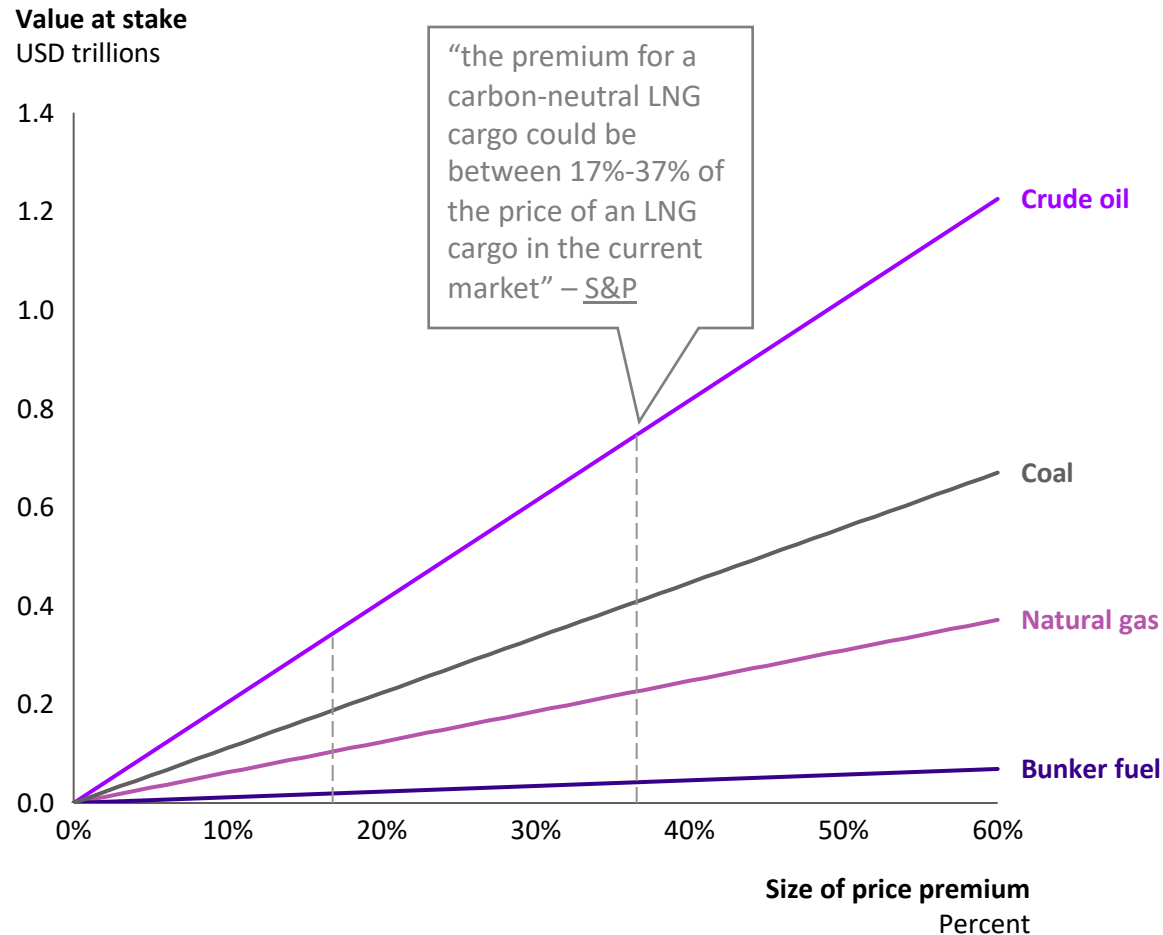
- Under a net zero scenario, the value of global ETS permits in circulation could potentially grow to over USD 1 trillion by 2025
- This provides firms with opportunities to buy and sell the right to emit greenhouse gases
- Such initiatives can help high polluting firms achieve decarbonisation strategies
- And for low emitting firms, the sale of permits could provide novel revenue streams
- Carbon intelligence will be crucial for firms seeking to play in this market

Sources: World Bank, IEA, Refinitiv, Accenture Strategy analysis

Note: Market size is based on volume of emissions covered and does not take into account volume traded / velocity of permits. Net zero scenario is assumed. Range of projections represent varying emissions coverage rate assumptions i.e. share of total emissions covered by ETS schemes

Deep dive: price premium overview

Value at stake for producers

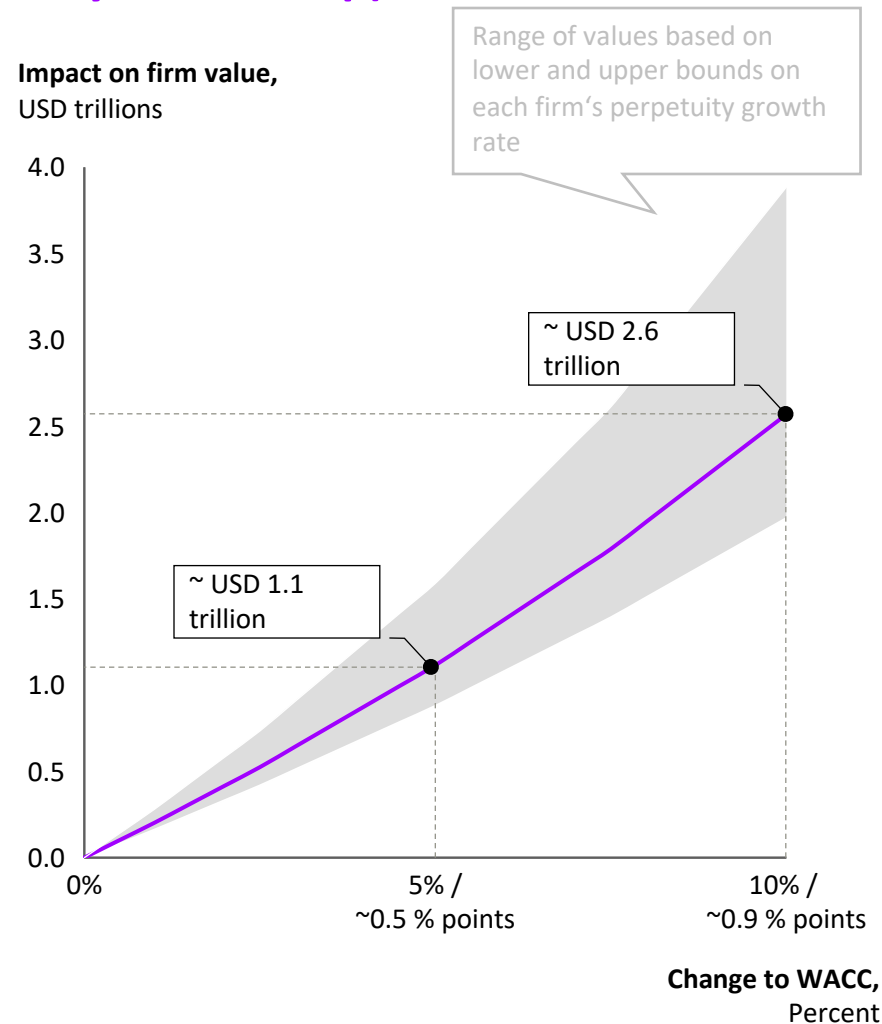


Narrative

- Even under aggressive decarbonisation scenarios, fossil fuels and carbon emitting refined products will likely remain part of the energy mix
- However, different grades of products have varying levels of carbon emissions. And carbon intensity is emerging as a key influence on the price buyers are willing to pay, with a premium on low intensity products
- At 2021 production and pricing levels a 30% premium could drive value across products
 - Crude oil: USD 610 billion
 - Coal: USD 320 billion
 - Natural gas: USD 190 billion
 - Bunker fuel: USD 30 billion
- Producers need to measure the carbon intensity of their products to understand the value at stake from premium pricing
- Carbon intelligence will become critical to corporate strategy and financial planning, as producers prioritise low carbon products

Deep dive: cost of capital

EXAMPLE: Impact to oil and gas industry firm value (top 100 global #firms by market cap)

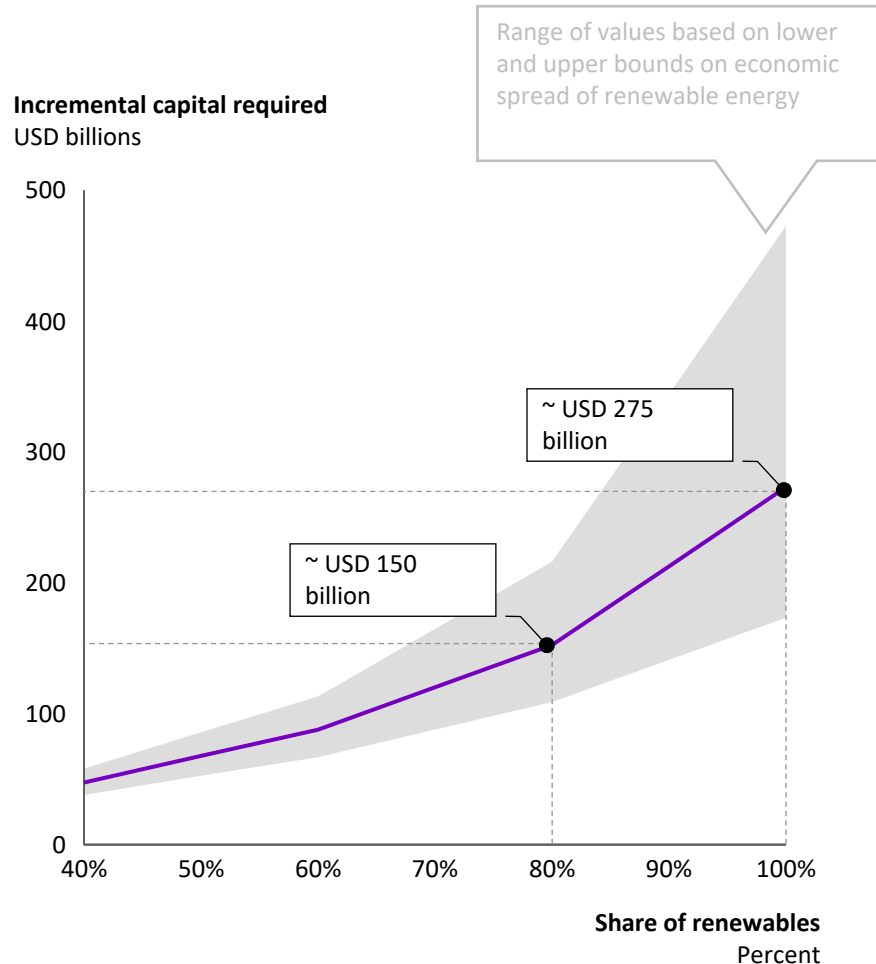


Narrative

- An assessment of the 100 largest oil and gas firms on the globe suggests a 10% shift in WACC could drive ~USD 2.6 trillion in firm value across the industry
- This presents high value at stake, and over the coming years, transparency over ESG issues will become critical to these metrics
- Carbon Intelligence will be essential in showing investors traceable and auditable ESG data that they can rely upon, as the systemic risks of climate change grow
- Those O&G firms lacking in sophisticated carbon intelligence technology risk losing investors and an accelerating cost of capital

Deep dive: capital outlay requirements

Average annual incremental capital requirements for a large oil & gas firm to transition to renewable assets

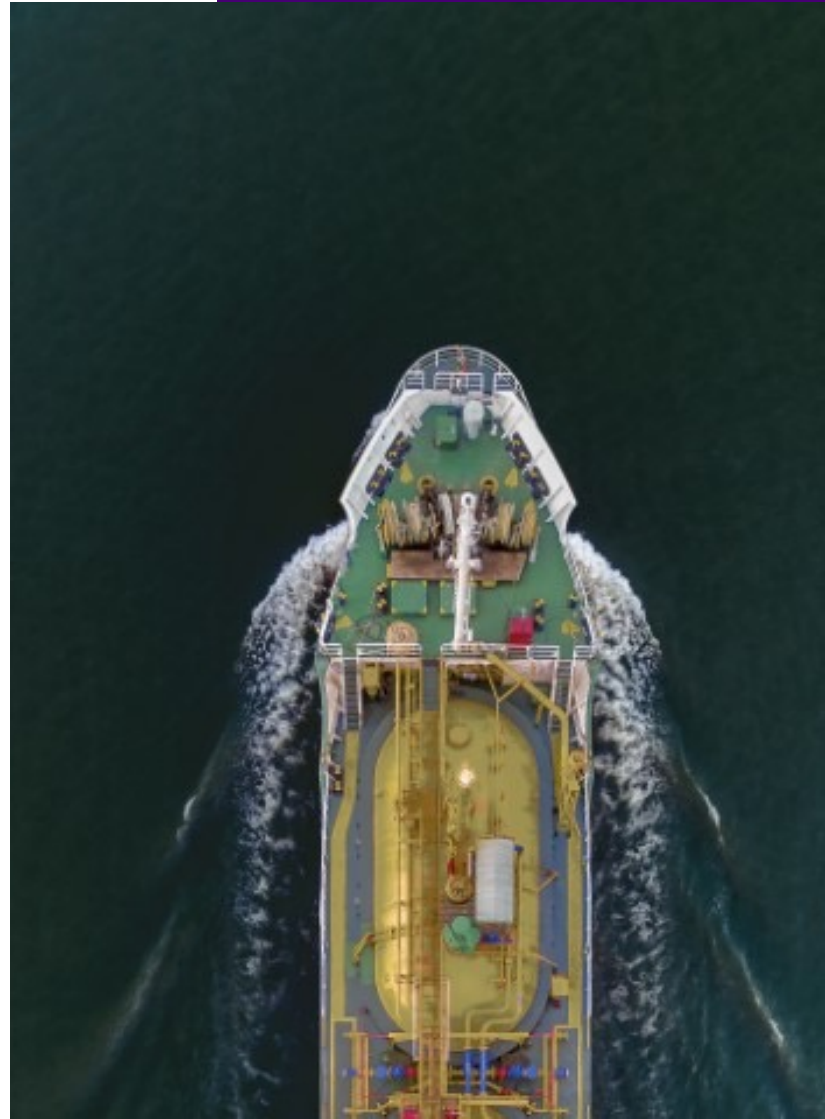


Narrative

- Situation: O&G companies are transitioning away from pure play O&G portfolios towards a mix of O&G and renewable assets
- Complication: Historically, renewable assets command lower ROIC and WACC than more volatile O&G assets. As a result, O&G firms will need to invest additional capital in order to achieve the same financial returns
- Key question: How much additional capital may be required to be invested by an O&G firm annually to maintain the same EVA and reach a certain share of renewable asset mix?
 - 80% : ~USD 150 billion
 - 100%: ~USD 275 billion
- Resolution: O&G firms will require strong Carbon Intelligence capabilities as they shift towards renewables in order to: i) Set out a transition path / strategy; ii) Understand associated investment costs and allocate capital effectively; iii) Identify which assets are most carbon intensive in order to prioritize divestiture / decommissioning plan

Find the use cases

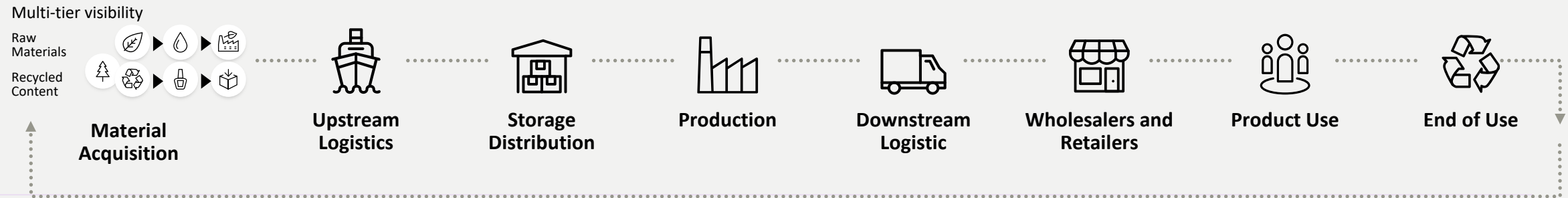
The key to unlocking the value is in identifying the use cases that use CO2e data to deliver value



Foundational use cases for carbon intelligence are emerging...

Illustrative

Foundational Use Cases are focused on compliance driven reporting & E2E requirements



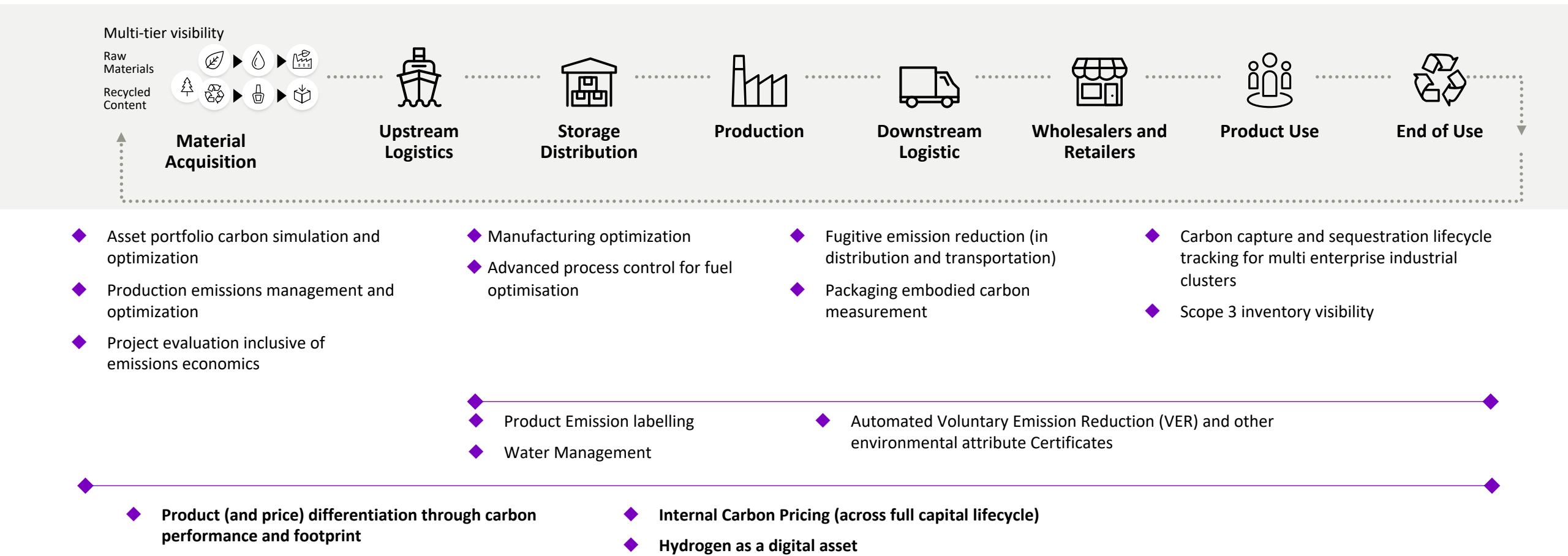
Foundational use cases

- ◆ **Enable visibility on emissions by source**
Direct emissions data collection and/or proxy calculation with tracking of emissions relevant ERP transactions
- ◆ **Energy Management**
Effective planning, optimization, monitoring and accounting of energy to offset the variability within constraints of the energy requirements for asset and energy intensive industry
- ◆ **Sustain compliance with audit and regulatory authorities**
Producing required reporting for management, auditors and regulatory authorities
- ◆ **Sustainable sourcing and procurement**
Possible inclusion of smart contracts (on blockchain)
- ◆ **Set, allocate and track carbon intensity targets**
Definition and management of emissions Targets with allocations across assets and business units through a dynamic dashboard integrated with corporate ESG and balanced scorecards
- ◆ **Actively manage and optimize emissions**
Enterprise-wide carbon ledger with cross-industry benchmarks connected to an operations linked emissions model and simulation. Simulation of interventions and their impact on emissions profile
- ◆ **Cleaner fuels and energy mix optimization**
Ability to identify areas where cleaner fuels can be used in place of fossil fuels, hedge against fuel-price volatility, grid outages etc. with real-time recommendations on optimal fuel mix that can be used

...and specific solutions for component parts of the value chain

Illustrative

Point to point use cases are focused on specific areas of value



Initiatives mapping and evaluation

SANITIZED CLIENT EXAMPLE

1

Define macro-scenarios

2

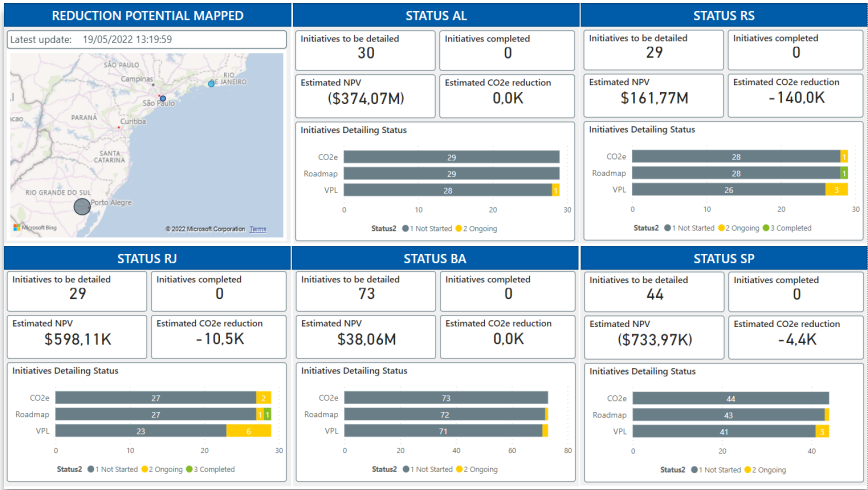
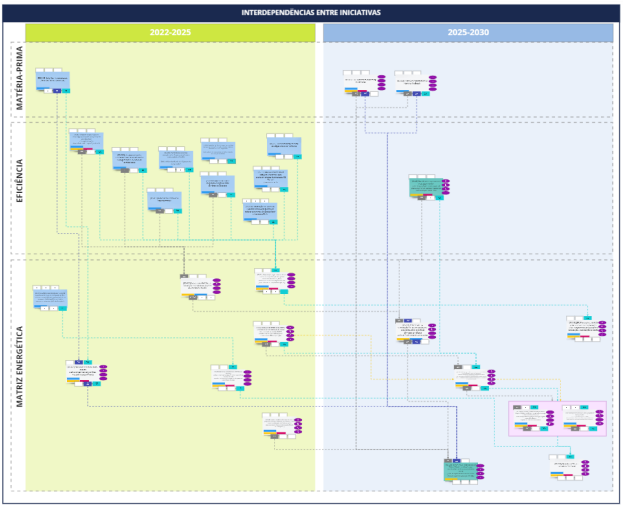
Categorize initiatives

3

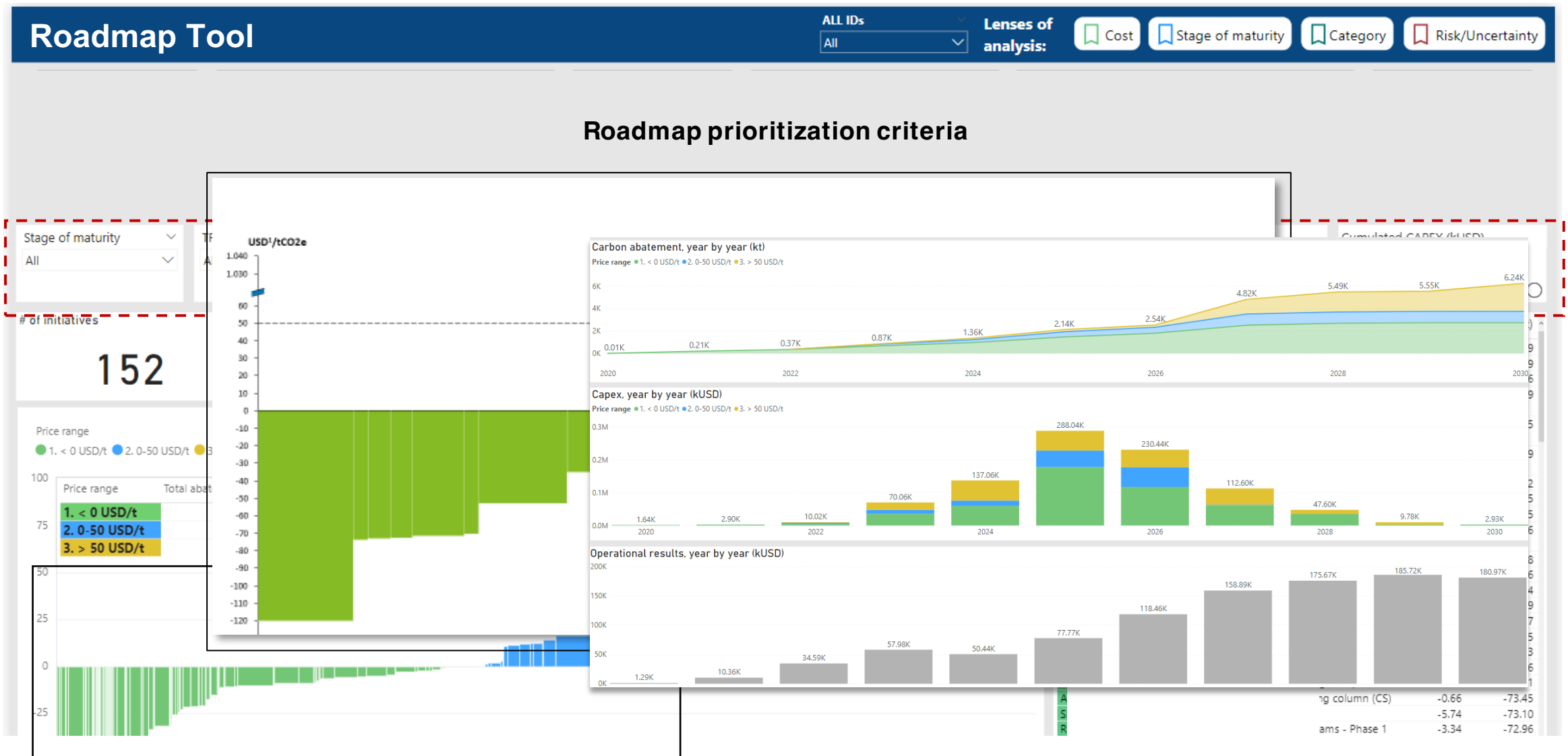
Map impacts among initiatives

4

Detail initiatives' impacts

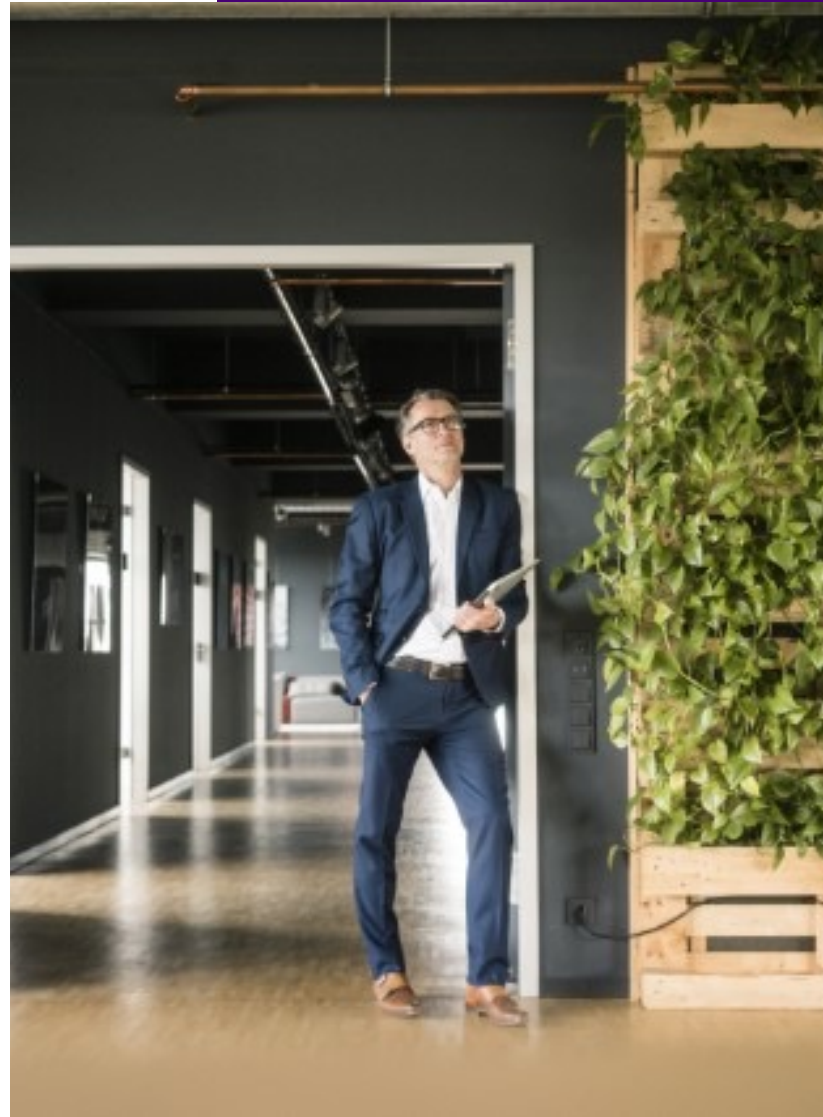


A Roadmap Tool will enables prioritization of initiatives from base case scenario based on several criteria



The 'carbon intelligent' Business

We refer to these business that combine data sources to extract value as carbon intelligent/emissions intelligent business



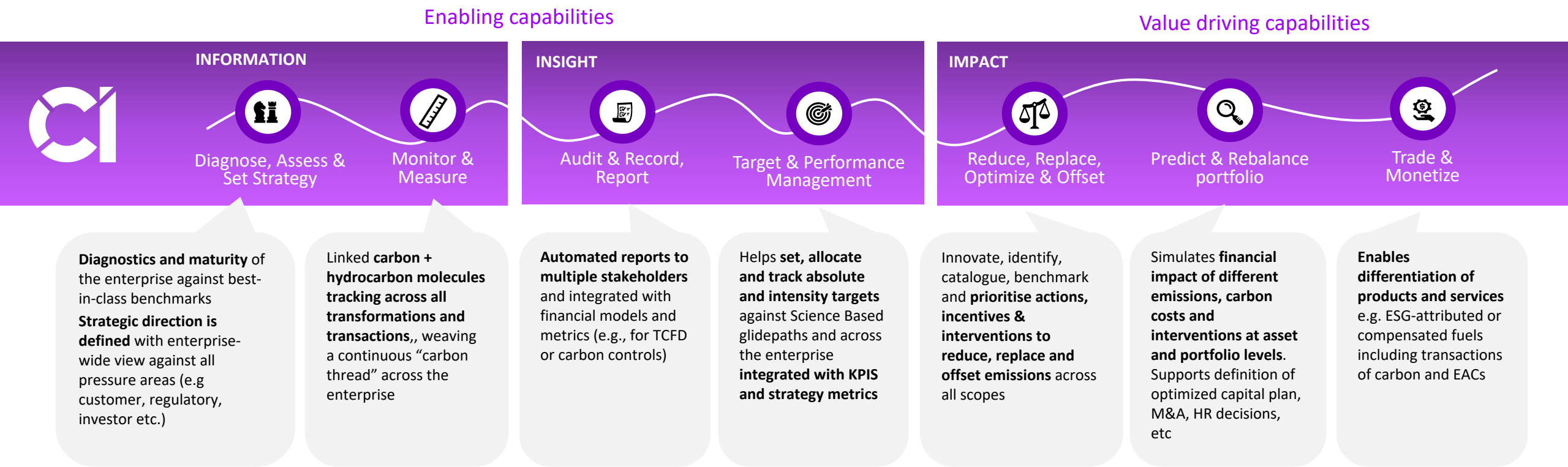
*Focus is on equipping/ embedding
organisation with capabilities across
organisational operating model (people,
process, technology)*

Carbon Intelligence is a set of capabilities that enables
organisations to control, improve, and drive value creation
and impact, by embedding carbon (and broader ESG)
business intelligence into decision making across the core
business and value chain

*Moving from carbon & ESG as an
afterthought ad-hoc reporting to
embedding and driving value*

*Further value from unlocking opportunities in upstream and
downstream emissions & ESG intelligence, from suppliers to
customers*

Carbon Intelligent enterprise: 7 core capabilities to transition from compliance to intelligence and unlock value



Examples

Our vision is to be the customer's first choice in sustainable stainless steel.

outokumpu



Updated financial targets for the second phase

Outokumpu has updated its financial targets for the second phase of the strategy to reflect capital allocation priorities. The focus will be increasingly on strong shareholder returns:

- Net debt to EBITDA <1.0 in normal market conditions
- EBITDA run-rate improvement of EUR 200 million
- EUR 600 million of capital expenditure for the coming three years
- Stable and growing dividend

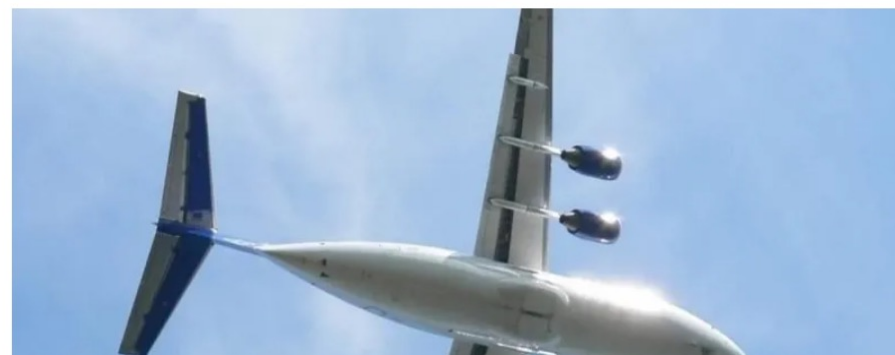
SHELL AND PETROCHINA SIGN WORLD'S FIRST TERM CONTRACT FOR CARBON-NEUTRAL LNG

Jul 12, 2021

Total Delivers its First Carbon Neutral LNG Cargo

The World's First Net Zero Oil Contract Signed By Occidental

by Petya Trendafilova · August 15, 2022 · 2 minute read



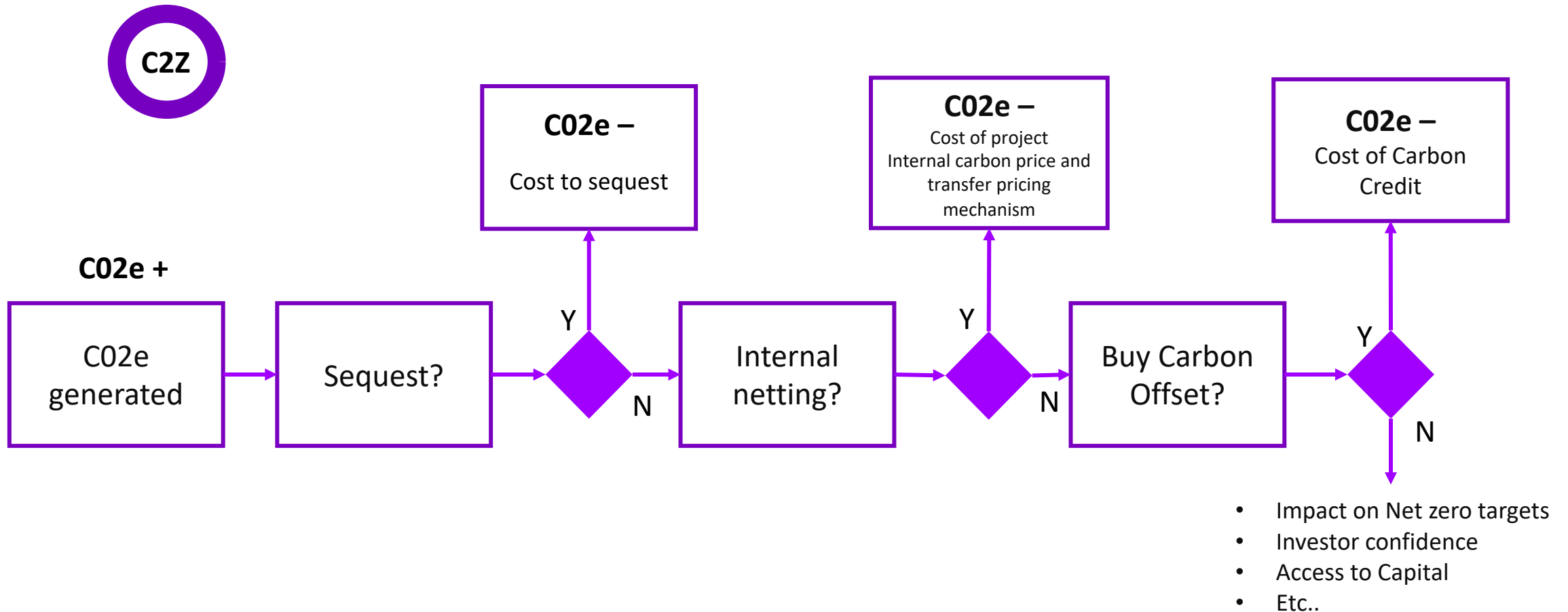
How to progress...

Navigating the journey ahead



Looking ahead

Ownership, integration and alignment: The C2Z concept



Conclusion



- Find the use cases that deliver value
- To release value:
 - Data must come bottom up and not top down
 - Data will need to be integrated with Financial and operational data
- Accenture and SAP can help you navigate the journey and release the potential value



Thank you