



ESG VIEWS

Sustainable Finance, ESG DD and Monetizing Environmental Attributes and Products

DELOITTE FORUM 2022

22 November 2022

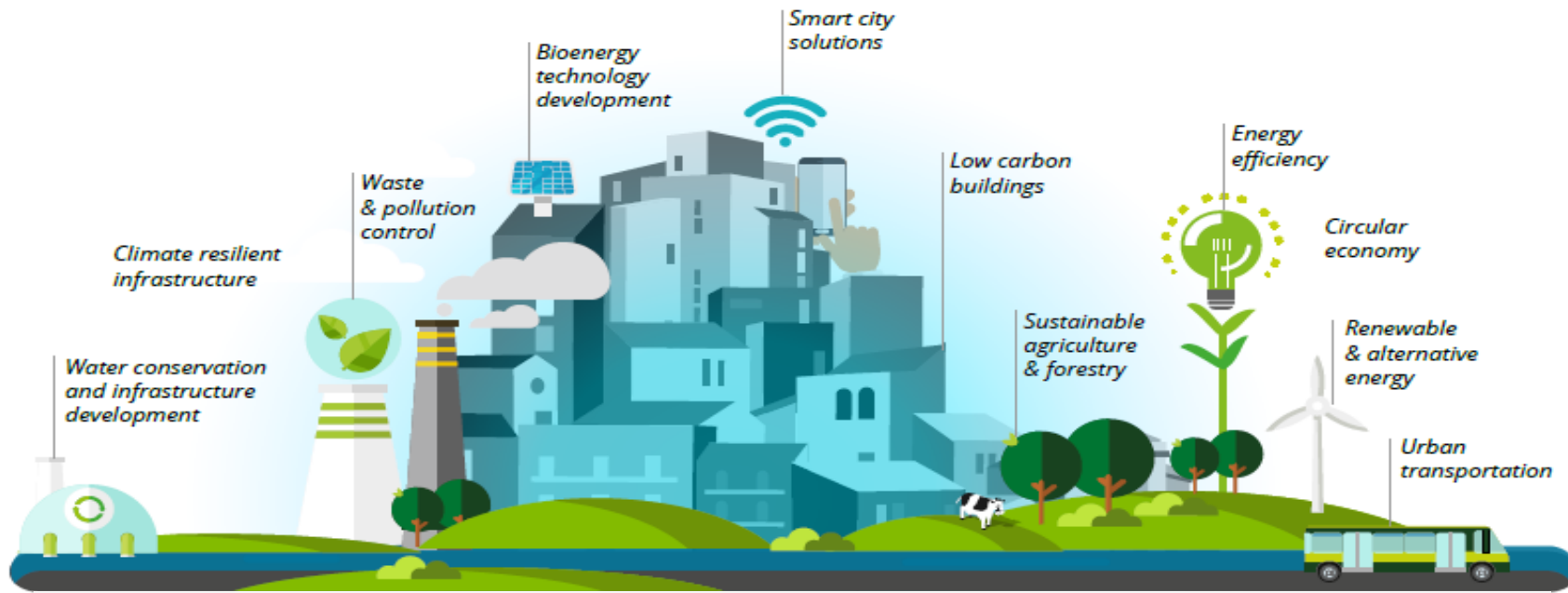
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Can Financing Costs be cheaper if Investments are in Sustainability Linked Portfolios?
- 02 ESG Due Diligence**
How to ensure Targets and Portfolios are delivering Sustainability benefits and Valuation is not exposed to negative ESG externalities?
- 03 Monetizing Environmental Attributes and Products**
Are investments missing any financial value and is there any potential for value enhancement in investments and during portfolio lifetime?

1. Sustainable Finance Eco-System and Opportunities | Sustainable Development needs Sustainable Finance



Drivers

- 01. Growing demand for **sustainable financial instruments**.
- 02. Growing demand for **responsible business practices**
- 03. Expansion of investor pool, through attracting new, **environmentally-oriented investors**.

- 04. The ability to finance **green projects** without the sacrifice of liquidity or credit risk, as would be the case with direct standalone investment.
- 05. **Brand enhancement** and marketing aspects.
- 06. Economic & convenient **financing model**.
- 07. Consolidation of **investment and environmental objectives**.

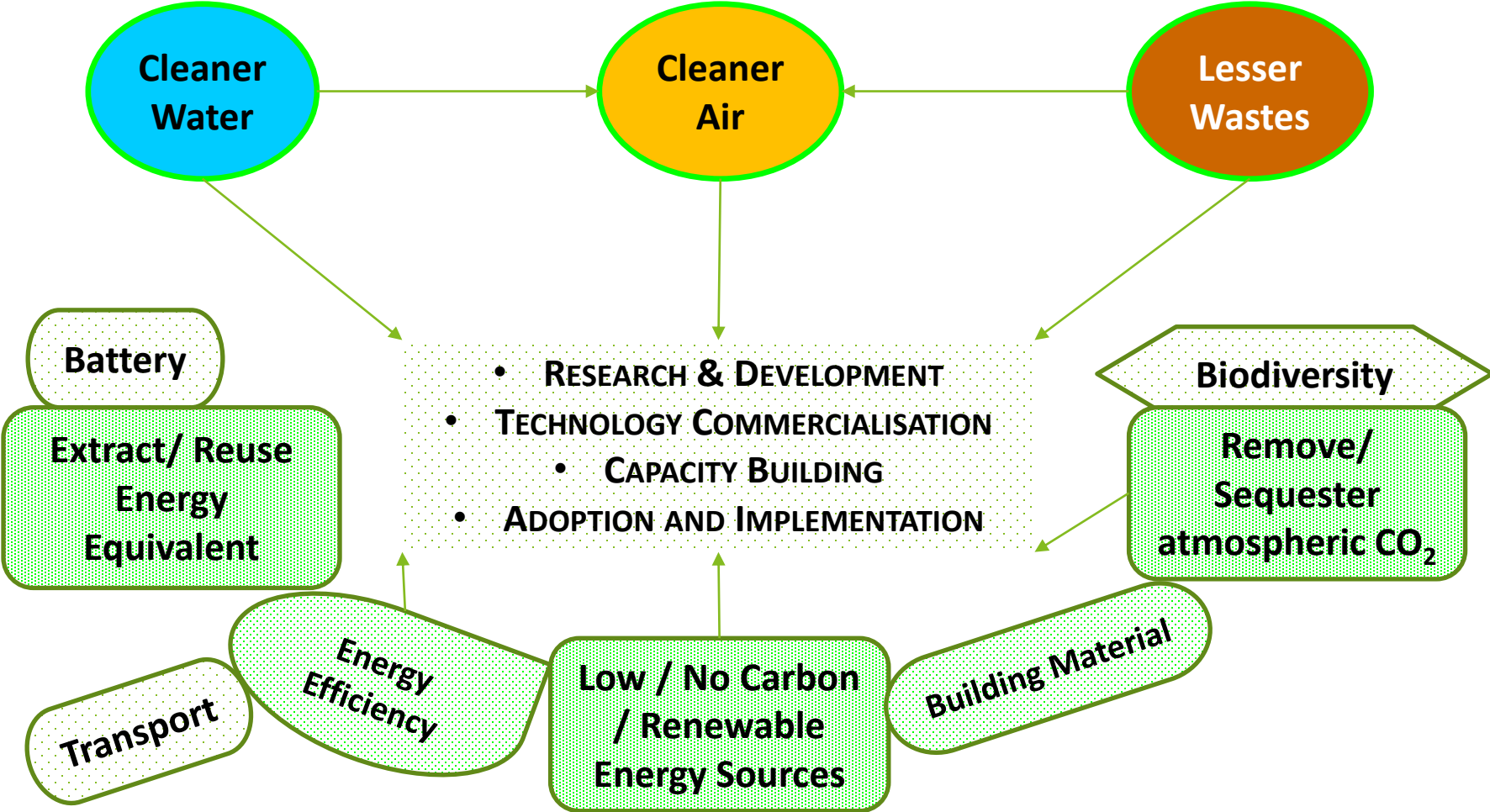
- 08. **Low volatility and steady return**, as with any fixed asset obligation.
- 09. **Pricing advantage potential**, created by order book momentum increasing due to a growing number of green investors.
- 10. **Increased visibility** through inclusion in various Green Bonds Indexes.



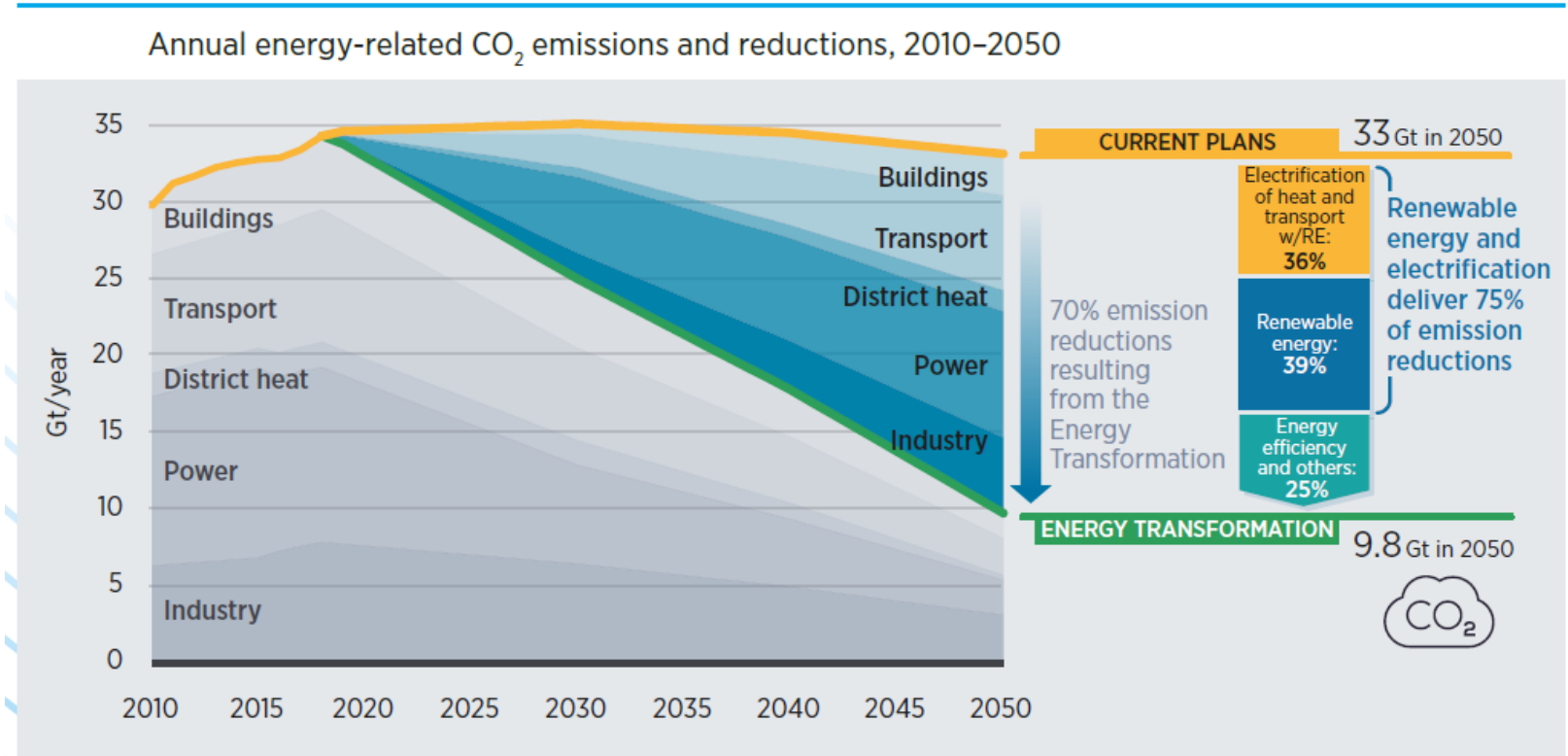
- Directly or Indirectly depend on Energy
- Need to change energy sources away from Fossil Fuels is now driven by several factors working in tandem.
- Harness natural potential of forestry assets to sustain bio-diversity while removing carbon emissions.

Source: Deloitte

1. Sustainable Finance and Market Nexus | Environmentally Beneficial vs Climate Impact Reducer



1. Energy and Carbon Emissions are intrinsically related | Transition away from Fossil Fuels and better Demand Management sets clearer path to Decarbonization



Transition needs:

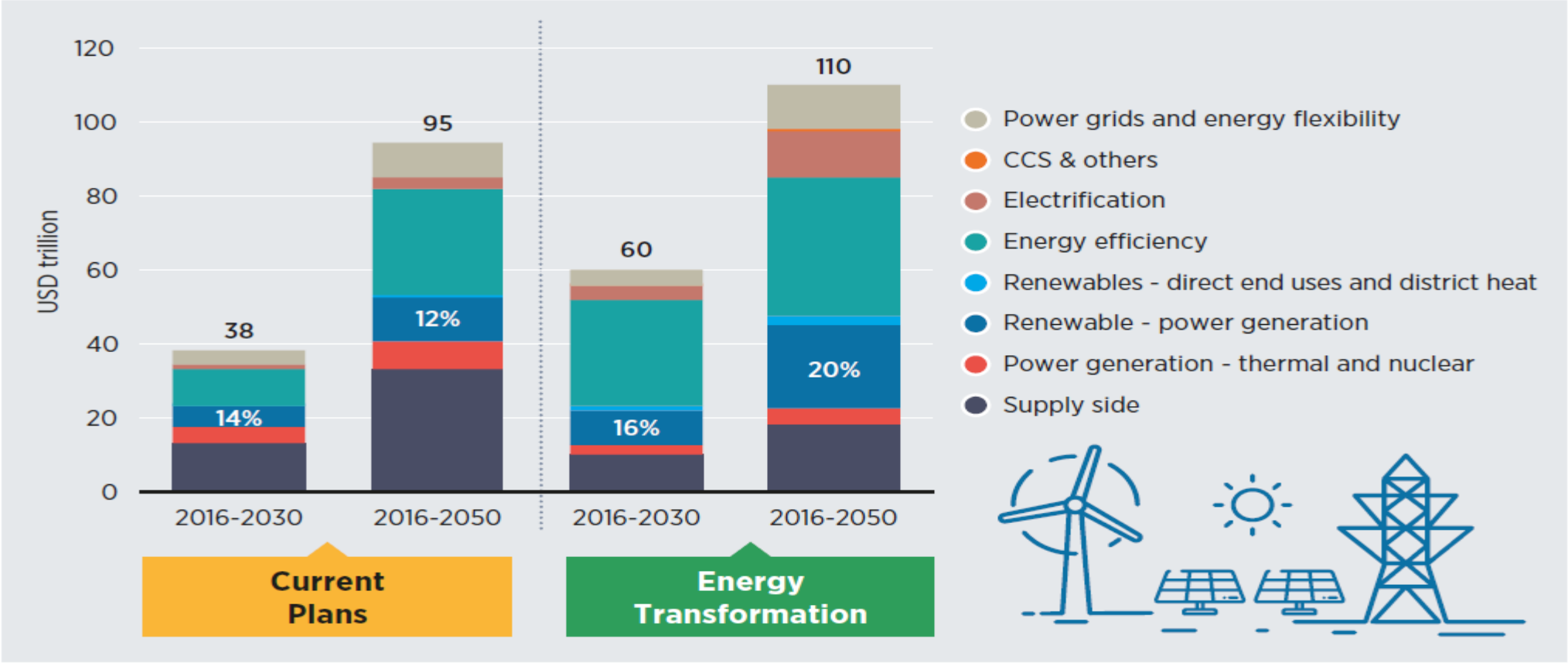
1. cheaper CAPEX funding
2. ability to Monetize Carbon emission reductions and avoidance outcomes

Note: "Renewables" in the caption denotes deployment of renewable technologies in the power sector (wind, solar photovoltaic, etc.) and in direct end-use applications (solar thermal, geothermal, biomass). "Energy efficiency" denotes efficiency measures in industry, buildings and transport (e.g., improving insulation of buildings or installing more efficient appliances and equipment). "Electrification" denotes electrification of heat and transport applications, such as heat pumps and electric vehicles. Gt = gigaton; RE = renewable energy.

Source: IRENA (2019a)

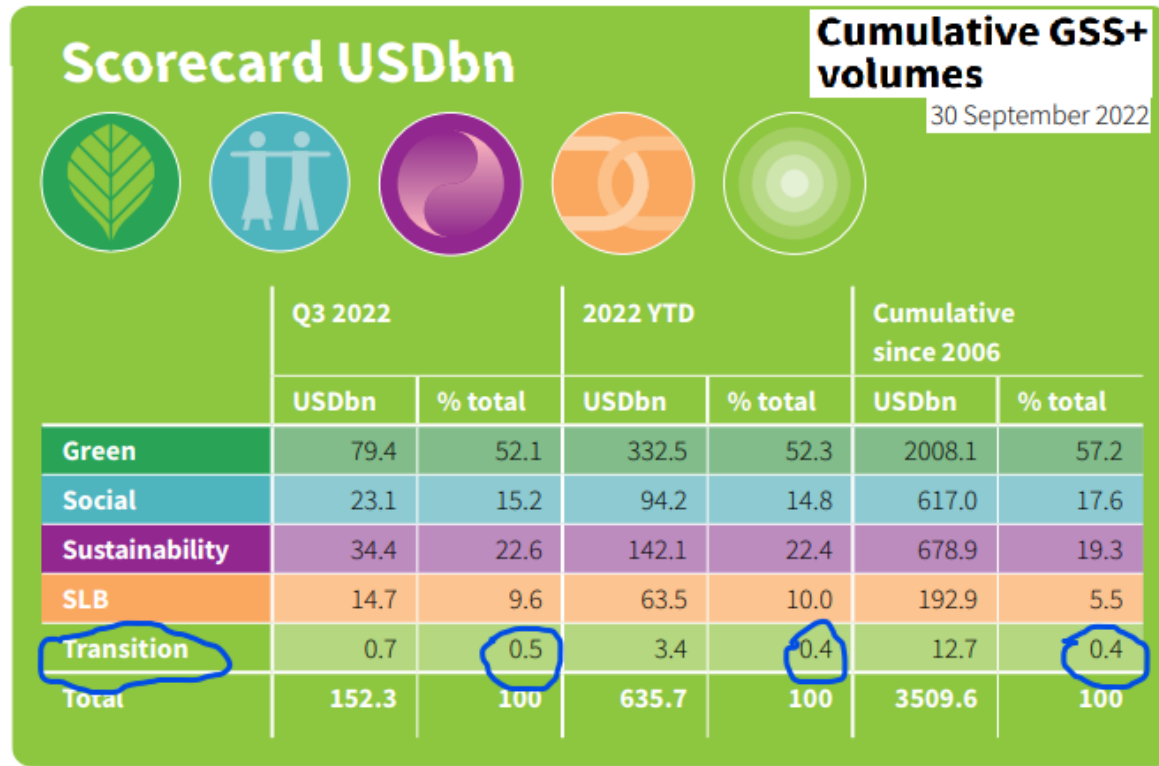
1. Current Global and National Budget Allocation not sufficient | Most of Transitions options are available and applicable in any NDC context

Cumulative investment needed through 2030 and 2050 under Current Plans and Energy Transformation scenarios, USD trillion

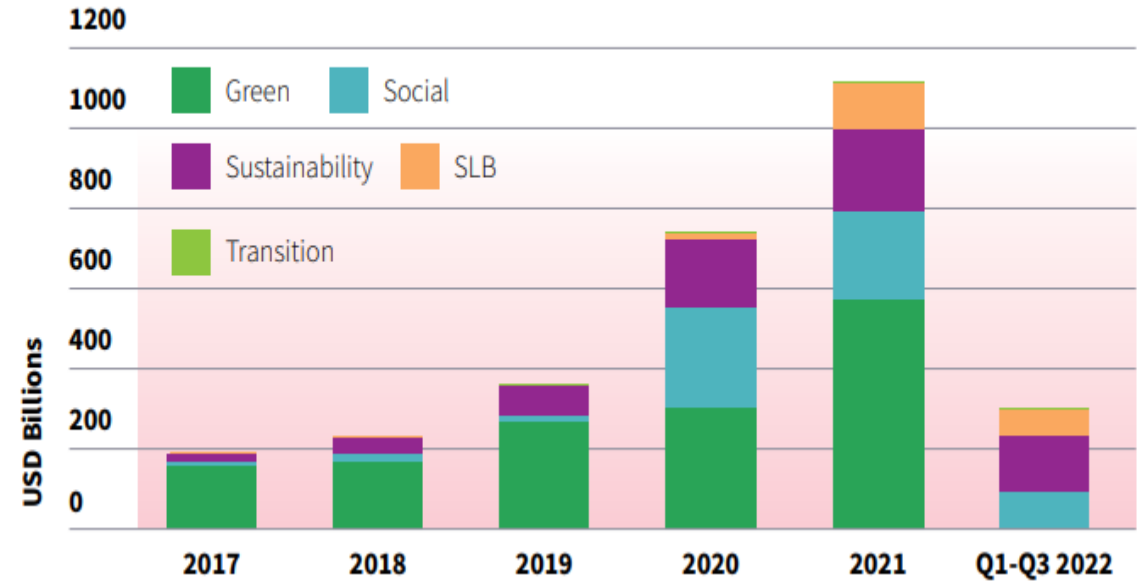


Source: IRENA (2019b)

1. Opportunity with Sustainable Finance | Demand and use growing exponentially and structures getting increasingly aligned with standard capital market with thematic implications



52% of 2022 GSS+ volumes were green



Year-to-date volumes of GSS+ debt had reached USD635.7bn by the end of Q3. More than half of the total (52%) came from green bonds. Sustainability bonds supplied 22.4%, social 14.8%, SLBs 10%, and transition contributed the smallest share at 0.5%.

- ### Investor Classes
1. Development Banks
 2. Government/Public sector linked Entities
 3. Sovereign/Sub-National/Local Government
 4. Financial and Non-Financial Corporates
 5. Equity/Loan Investors

Source: Climate Bonds Initiative – Sustainable Debt Market, Update Q3 2022

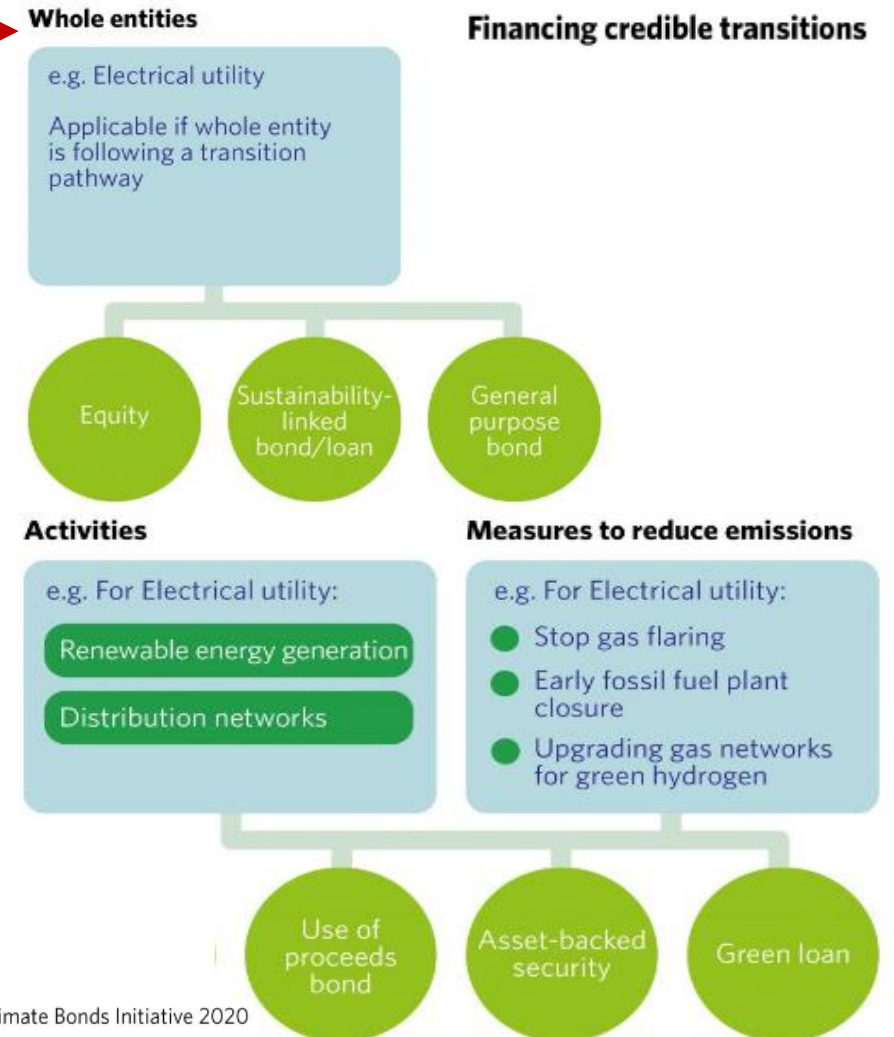
1. Sustainable Finance for Transition Activities not clearly defined and identified |

Real Estate and Utilities have been investors favourites, possibly due to lower risk perception

Green and Vanilla/Traditional Bond Structures were 'Most in use'

Composition of H1 2022 issuance from real estate and utilities

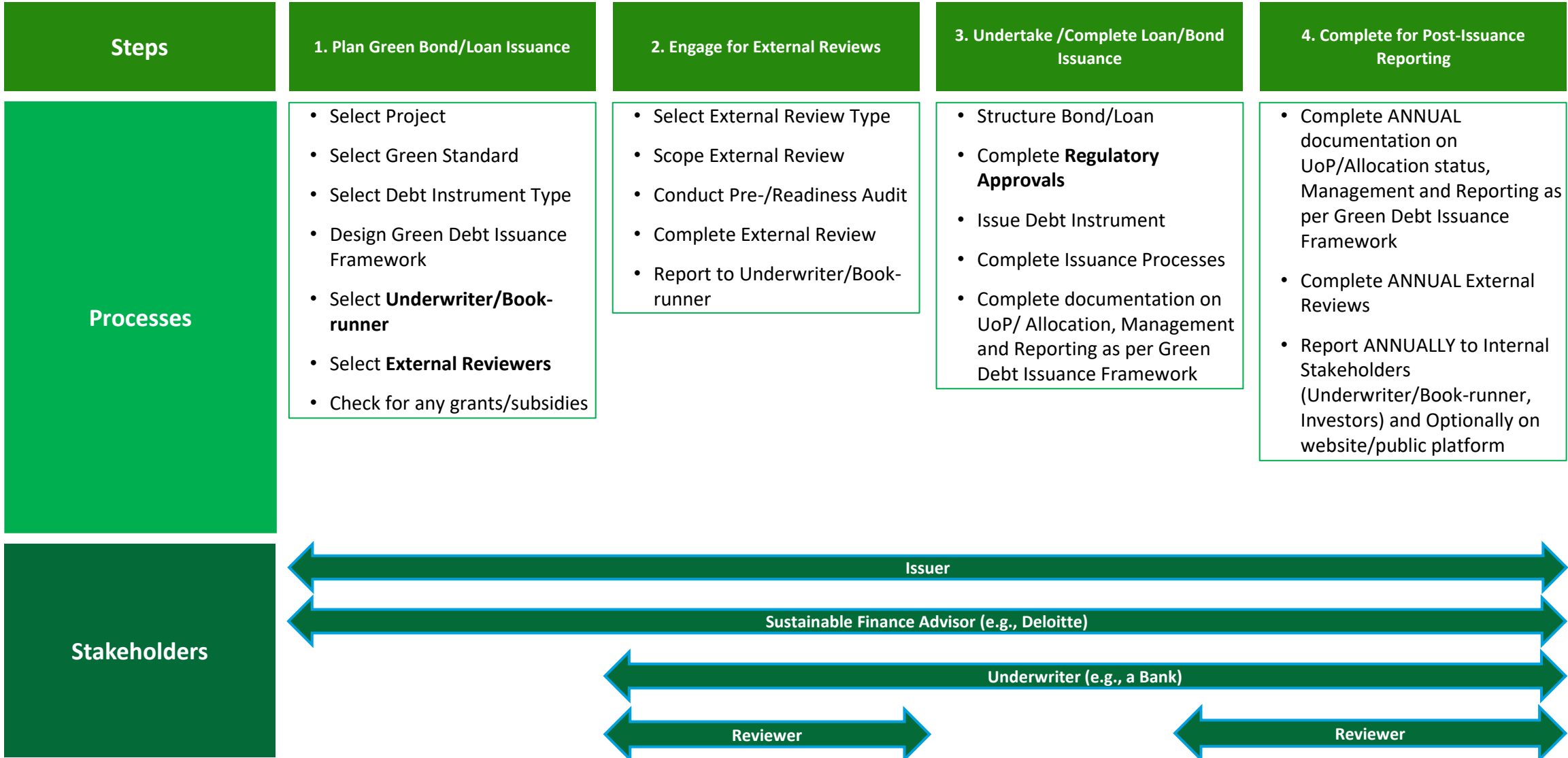
| | Real Estate | | Utilities | |
|----------------|---------------------|--------------------|---------------------|--------------------|
| | H1 volume USD bn | Number of bonds | H1 volume USD bn | Number of bonds |
| EUR | | | | |
| Green | 9.5 | 15 | 20.1 | 23 |
| SLB | 1.4 | 2 | 7.2 | 9 |
| Social | 2.6 | 3 | n/a | n/a |
| Sustainability | 0.6 | 1 | n/a | n/a |
| Vanilla | 10.3 | 16 | 7.6 | 12 |
| Total | 24.4 | 37 | 34.9 | 44 |
| USD | | | | |
| Green | 3.6 | 5 | 4.3 | 8 |
| SLB | 0.5 | 1 | 4.0 | 5 |
| Sustainability | n/a | n/a | 5.4 | 8 |
| Vanilla | 15.4 | 20 | 42.9 | 59 |
| Total | 19.5 | 26 | 56.7 | 80 |



Source: Climate Bonds Initiative – Green Bond Pricing in the Primary Market, January - June 2022

© Climate Bonds Initiative 2020

1. How to access Sustainable Finance | Process and Key Stakeholders



2. ESG Transformation in M&A | What concerns Investors

Macro forces

... increasing attention on ESG will drive a wave of M&A activity + open a new dimension of diligence

-  INCREASED ACTIVISM by institutional investors, corporations, and consumers
-  NEW REGULATORY MANDATES for ESG related disclosures, especially in Europe
-  NATURAL CATASTROPHES creating massive economic losses
-  RESILIENT FINANCIAL PERFORMANCES of ESG focused companies during pandemic

Investor impact

ESG transparency is fundamental for corporate and private equity investors (PEI)

- IMPROVED ACCESS TO CAPITAL (lower costs of capital, correlation to credit quality, higher fund growth)
- REDUCED REVENUE IMPACTS from consumer switching preferences, and reverse correlation with bankruptcies
- ENHANCED FINANCIAL RETURNS, with ESG-positive brands outperforming, and reduced costs accompanying a focus on environmental resources with suppliers

Stakeholder Demand

Stakeholder pressures compounding...

...Direct need



**ESG: Environmental,
Social and Governance**

Design of Net Zero Policy

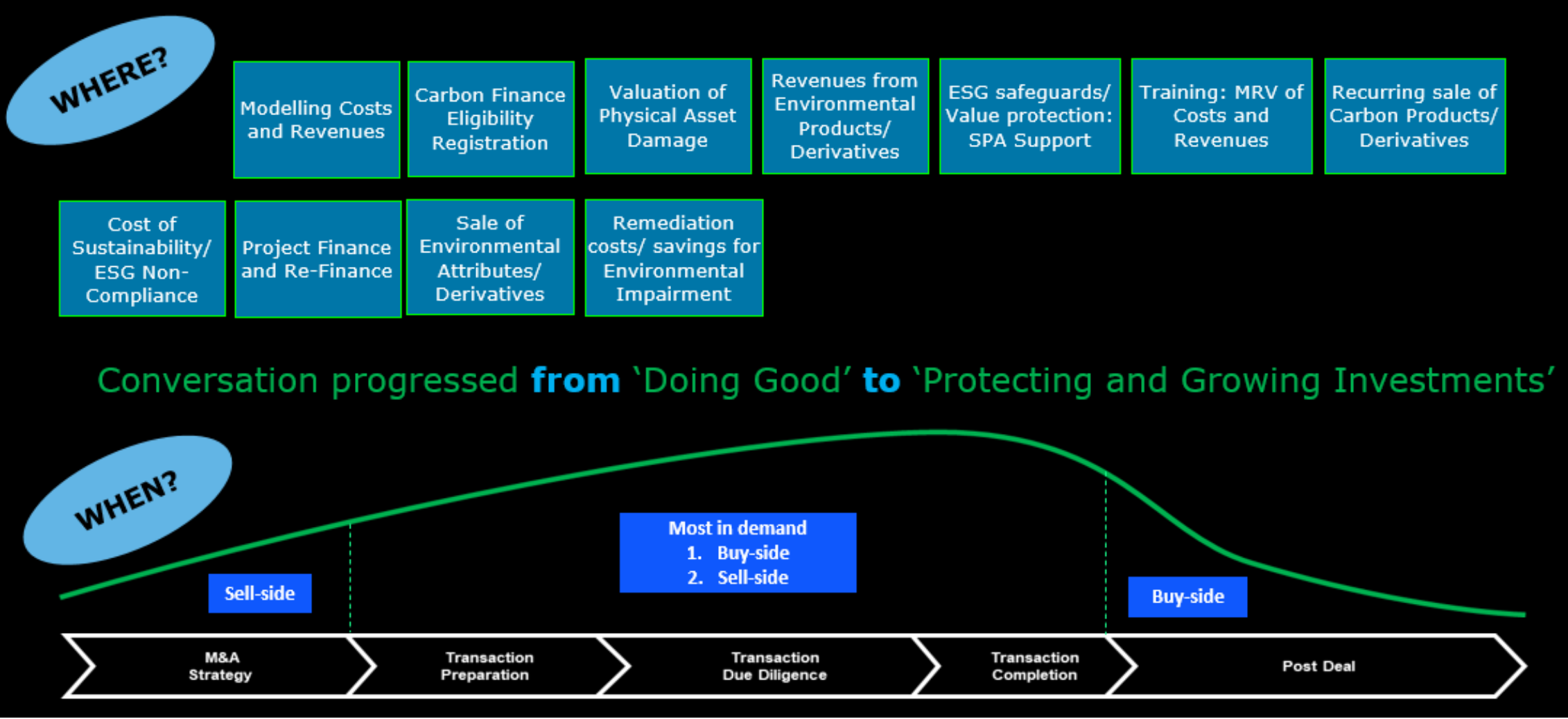
Net Zero Strategy

Green/Sustainable/Impact Financing

Abatement Project Implementation

Climate Investment Strategy

2. ESG Transformation in M&A | E2E Challenges and Opportunities for Investors



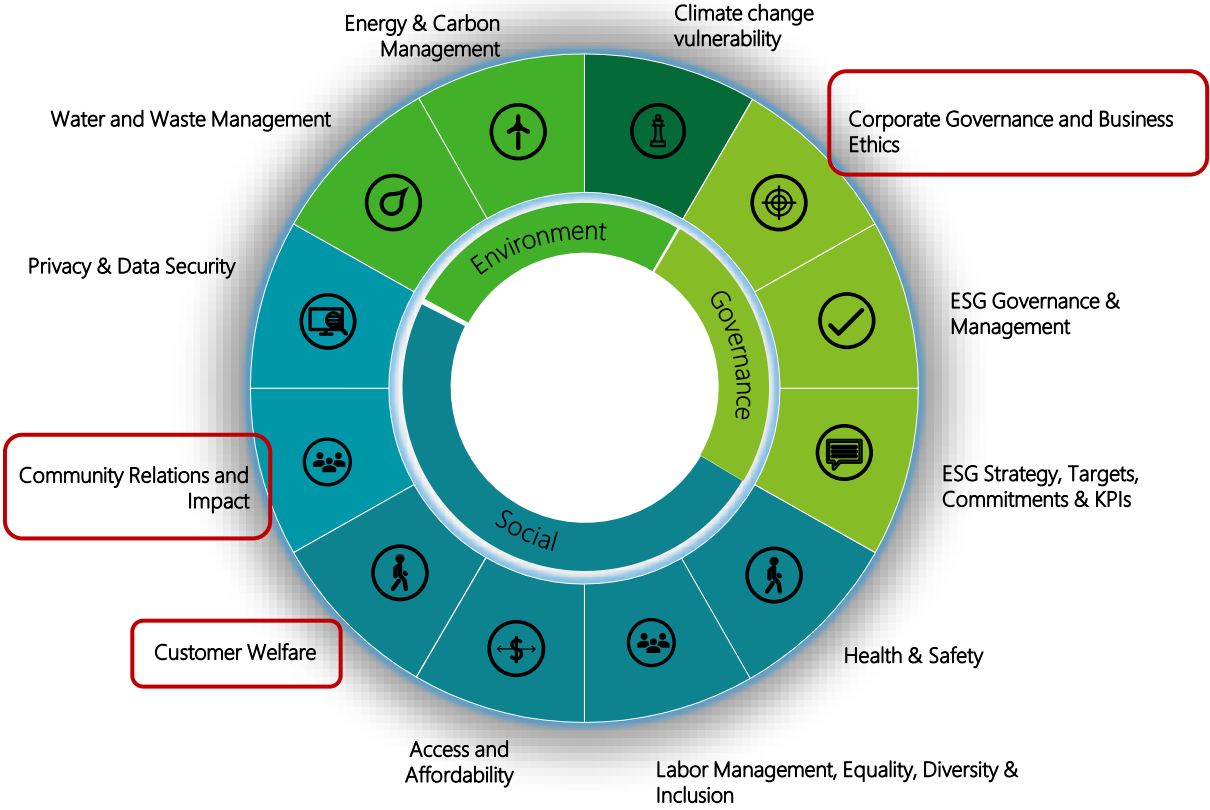
2. ESG Transformation in M&A | Value Retention and Enhancement based on ESG DD

Provide an independent view on the ESG status of Target's ESG performance in terms of existing and potential for liabilities, costs, savings and earning that could impact its overall valuation and future earnings.

In identifying the ESG themes most relevant to a Target and the key sustainability aspects that are likely to affect its financial condition or operating performance are referenced to the **SASB** (Sustainability Accounting Standards Board) **Materiality Map**, the Global Reporting Initiative ("GRI") and the 'International Finance Corporation ("IFC")'.

Certain ESG topics (e.g. controversial sourcing, selling practices and product labelling, product design and lifecycle management) are considered to be less relevant to certain businesses or due to weak regulatory regimes.

Some ESG themes are broad and include multiple ESG considerations such as ESG governance and management, climate change and GHG/carbon emissions, diversity and inclusion, and data privacy and security.



3. Carbon Credit Overview

Companies employ carbon credits, which also tradeable in the market, to compensate their carbon emission based on government provision and self-commitment

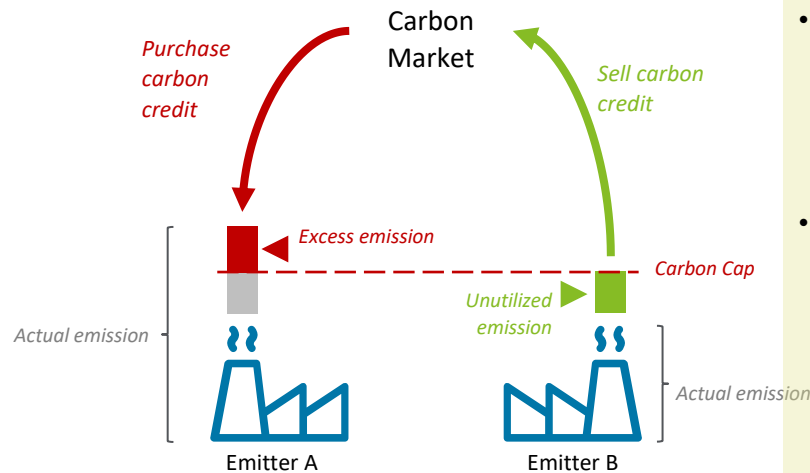
Carbon Credit

- Used by companies to **compensate for their carbon emissions**, by either adhering to emission allowances or contributing to sustainable projects
- **One credit** permits the **emission of one ton of carbon dioxide** or the equivalent in other greenhouse gases

Carbon Credit Market

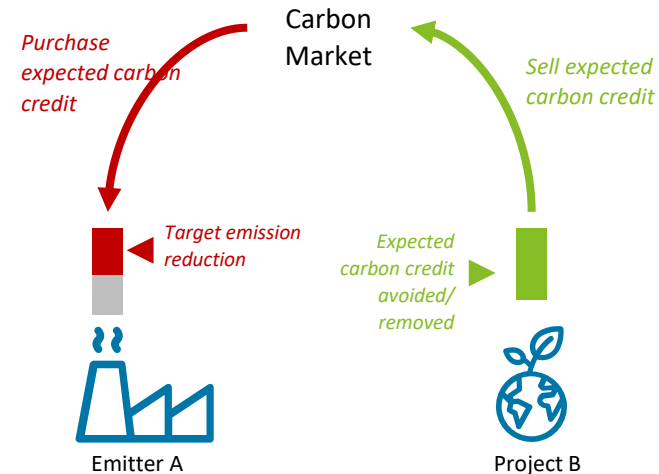
A carbon-credit market function involves a **buyer** who purchases **emission rights** from a **seller** who has the **technical and economic feasibility** to reduce GHG emissions or sequester additional carbon

Mandatory or Compliance Market



- Primarily structured as a **cap-and-trade** system, where participants trade allowances (permits to emit supplied by regulators)
- Driven by **international/ bilateral** and **government** standards

Voluntary Market



- VER typically purchased by **private sectors** for CSR, public relations, certifications, reputation and social/environmental benefits
- Can be purchased from **companies, projects, or carbon funds**

3. Carbon Credit Key Drivers

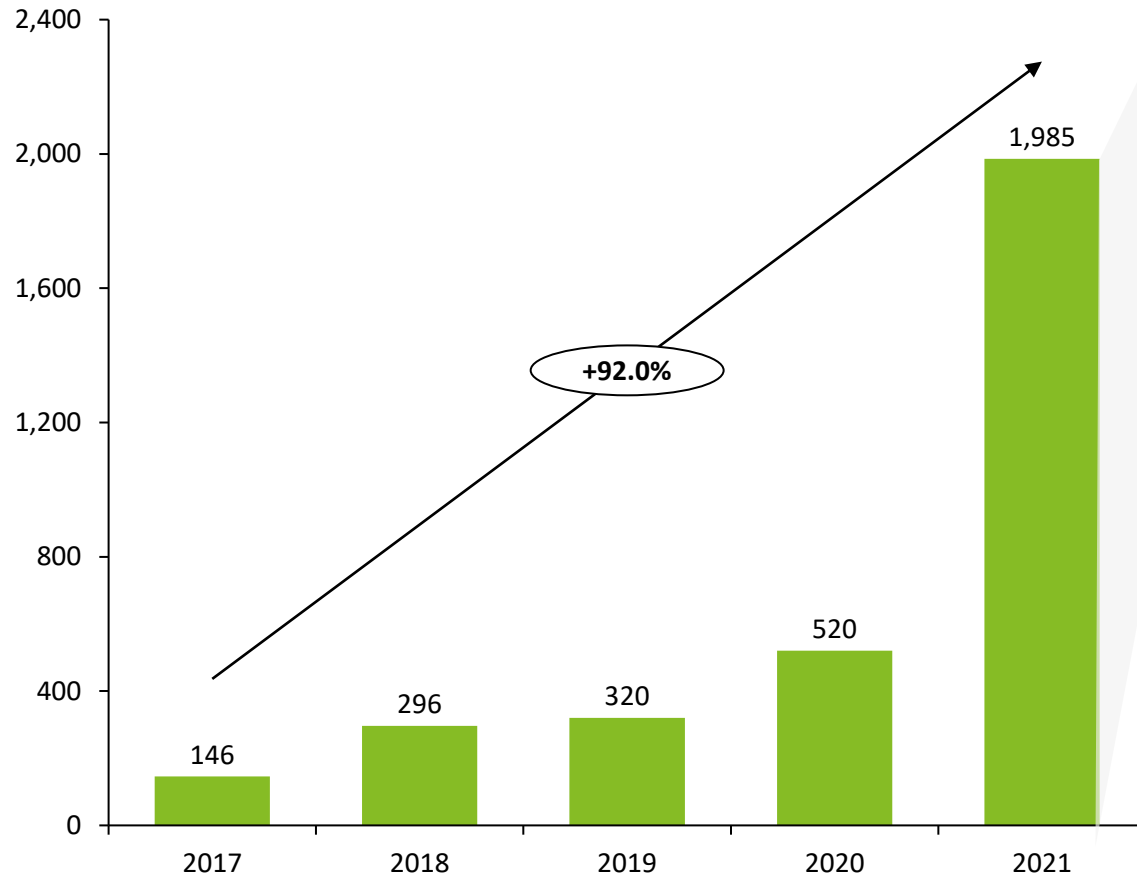
Carbon credit implementation has been driven by international regulations and voluntary commitment up to this point and is expected to persist in the future

| | | |
|--------------------------|--|--|
| Regulatory and Framework | Paris Agreement | <ul style="list-style-type: none"> Compliance regime starts from 2021 and is expected to last until 2035 or further Over 180 countries have ratified it, and committed to individual voluntary ‘Nationally Determined Contributions (NDCs)’ GHG emission mitigation |
| | Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) | <ul style="list-style-type: none"> Administered by the ‘International Civil Aviation Organization (ICAO)’, it requires international airlines to progressively reduce GHG emissions through a combination of various measures including improved efficiency (operational and fuel), and use of less GHG emissive fuels and GHG offsets (or, carbon credits) |
| | IMO requirement for GHG Emission Reductions | <ul style="list-style-type: none"> The International Maritime Organisation (IMO) is working on a framework to enable the shipping industry reduce GHG emissions by 50% compared to a baseline in Year 2008 |
| | Joint Crediting Mechanism (JCM) | <ul style="list-style-type: none"> Launched by the Japanese government in 2015, bilateral agreements were signed with governments of 17 countries, including Indonesia to assist with GHG mitigation As per the JCM REDD+ Model Project scheme, a Japanese company with GHG emission reduction compliance requirements in Japan can collaborate with an overseas company to implement a project overseas |
| | Korea ETS | <ul style="list-style-type: none"> In operation since 2014 with an initial target set to Year 2030 and to be extended subsequently to Year 2050 in line with Paris Agreement commitments by South Korea Using a combination of Paris Agreement and forest carbon sinks, a national target of 4.5% GHG emission reduction is set |
| Volunteer | Voluntary Carbon Footprint Reductions | <ul style="list-style-type: none"> Many large GHG emitters voluntarily reduce own GHG emissions (or Carbon Footprint) beyond any required by regulations Forward targets are set to continue with voluntarily reducing entity/organization level carbon footprints |

3. Voluntary Carbon Credit Market

The market has enjoyed healthy growth (92% CAGR 2017-21), in which Agriculture and Forestry & Land Use demonstrated higher avg. carbon credit price in 2021

Global Voluntary Carbon Market Size (in USD million)



Note: 1) Other categories consist of renewable energy, energy efficiency & fuel switching, and transportation
Source: Ecosystem Marketplace Report, Deloitte Analysis

2021 Global Voluntary Carbon Market by Category

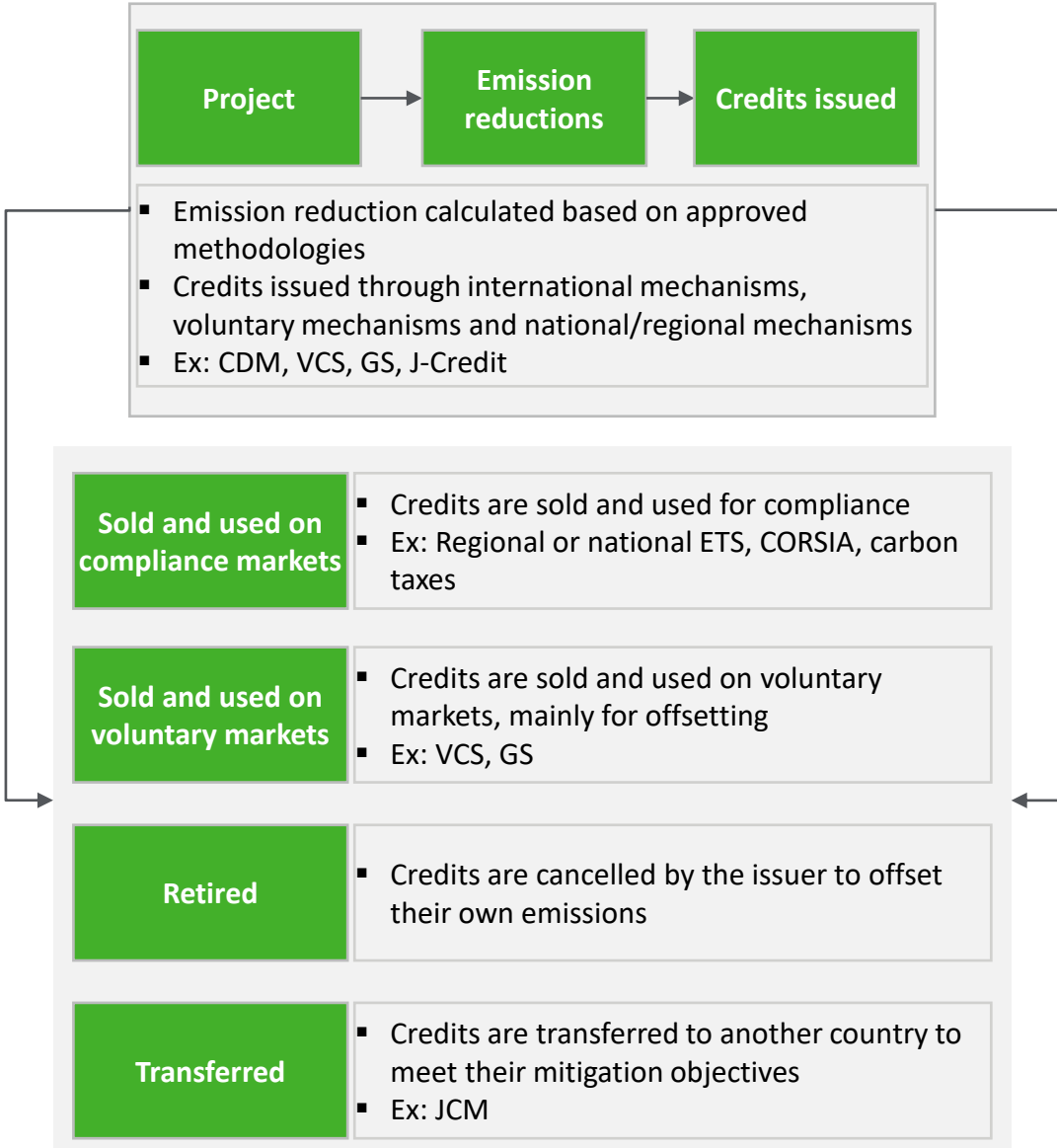
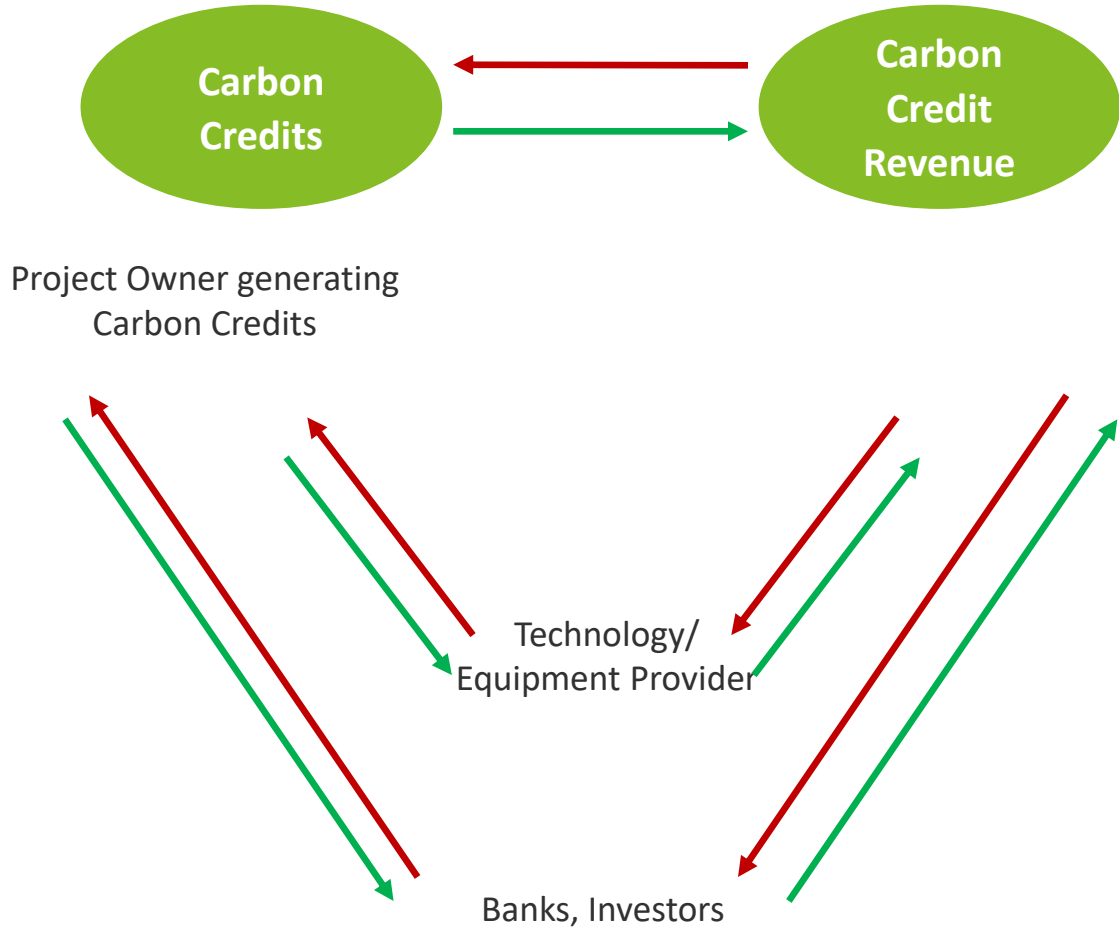
| Category | Average Price (USD per ton) | Value (USD mn) |
|--|-----------------------------|----------------|
| Agriculture | 8.81 | 8.7 |
| Forestry and Land Use | 5.80 | 1,327.5 |
| Household/ Community Devices | 5.36 | 43.3 |
| Waste Disposal | 3.62 | 41.2 |
| Industrial Mfg. and Chemical Processes | 3.12 | 53.9 |
| Other ¹ | 1.80 | 511.4 |

Key Purchase Considerations

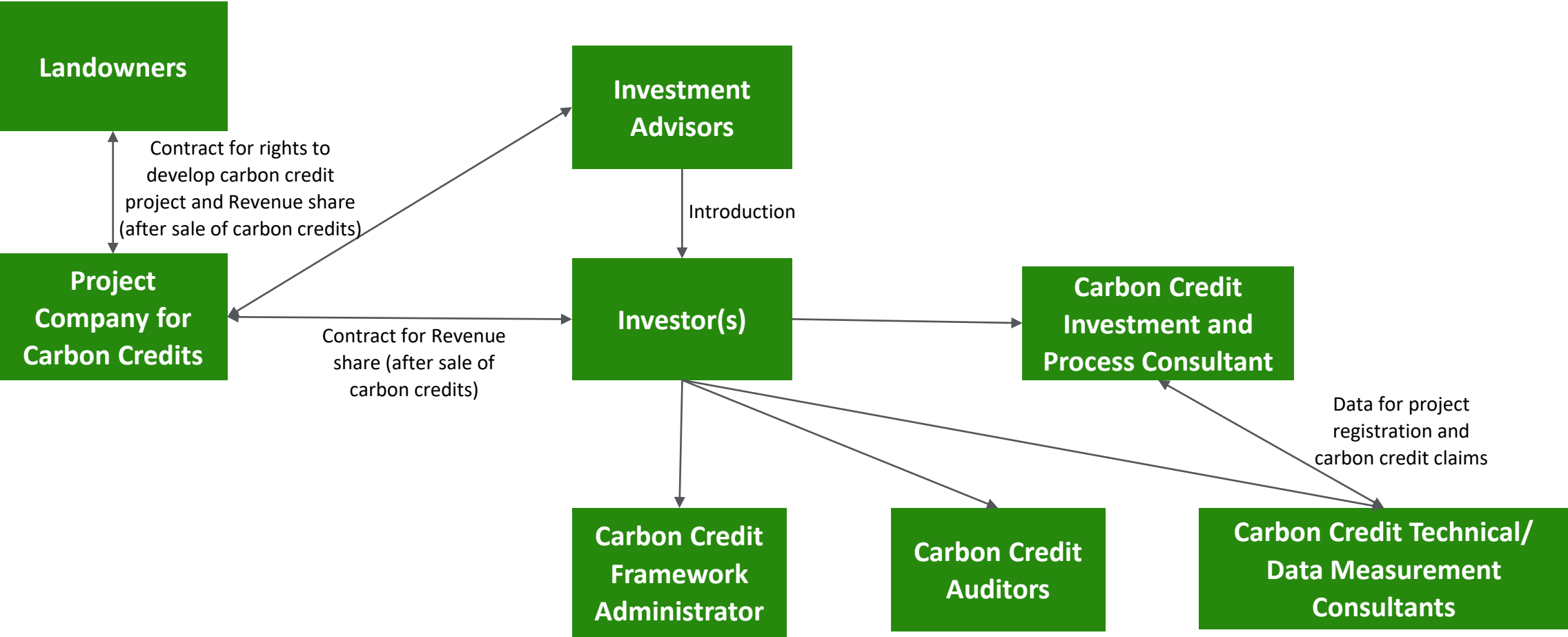
- Quality**
Quality is represented by which standard the carbon credit adheres, ensuring it is auditable and verifiable
- Strategic Alignment**
Alignment of projects generating carbon credits with company core business model or responsible business priorities
- Cost**
The market isn't standardized, so carbon credits can cost be varied. Price is more often an indicator of disparity not quality

3. Monetizing Environmental Attributes and Products | Transaction Structures

Carbon Credit Transaction – How It Works



3. Nature-based Carbon Credit Projects: Implementation Structure (Illustration)





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