



ESG on Business Valuation

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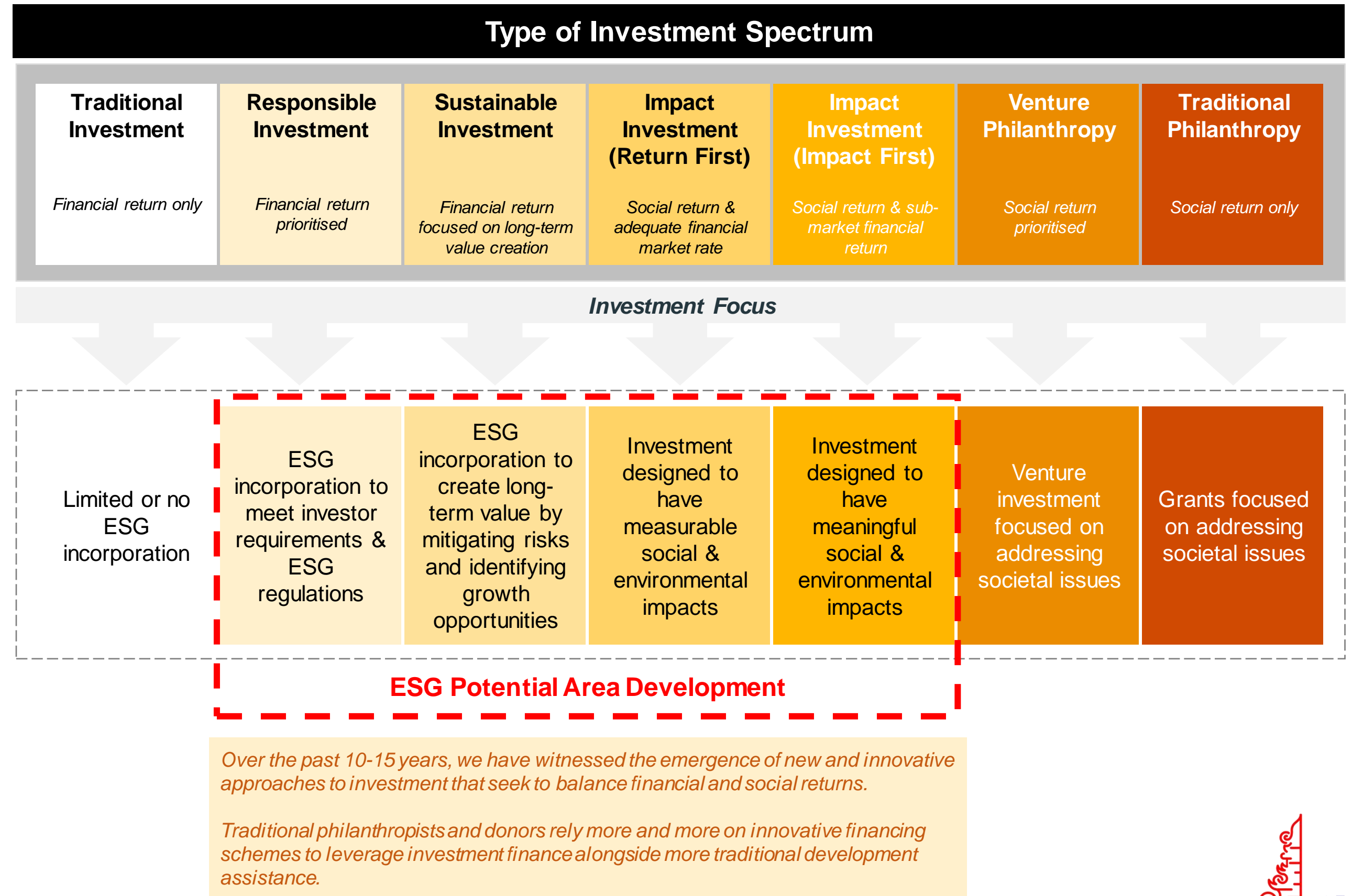


How ESG informs investment decisions?

Historical timeline of ESG

Since the launch of PRI in 2006, additional ESG laws and standards have been published, pushing ESG to enter mainstream finance practices.

- 2006** The United Nations' Principles for Responsible Investment (UNPRI) reporting framework is launched in April 2006.
- 2015** The Sustainable Development Goals (SDGs) are established by the United Nations General Assembly.
- 2018** The Intergovernmental Panel of Climate Change (IPCC), releases its Special Report on Climate Change and the impacts of global warming.
- 2021** The Sustainable Finance Disclosure Regulation (SFDR) covering market participants within the European Union is launched in March 2021. The legislation aims to promote ESG value.



Source: Public Information, PwC Analysis

How to assess ESG factors in investment process?

Various organisations around the world has enabled companies to understand and report on their impacts on the economy, environment and people in a comparable and reliable way.

The numerous frameworks, standards, indices and ratings are built to tackle different problems throughout the sustainability landscape.



Sustainability Frameworks



Sustainability Standards



Sustainability Ratings



Sustainability Indices

Type of Sustainability Standards and Organization

Sustainability Frameworks

- Provides the **baseline metrics** to further **demonstrate current environmental impact**.
- Used to showcase commitment to ESG and Sustainability.
- Allows to define and formulate the metrics to track current ESG progress

Sustainability Standards

- Provides **internal monitoring to external communication** toward the stakeholders.
- Provides transparency – as a response from the government and society toward factors that jeopardize social structure.

Sustainability Ratings

- Provides stock-specific / fund-specific information on **ESG performance / risk management**.
- Used to monitor specific equities and funds.
- Used to construct ESG indices.

Sustainability Indices

- Provides information to investors on **the relative performance** of the companies in the index related to ESG.
- Forms a high-level basis for stock inclusion into the investable universe.

Example of Organization



How does ESG impact valuations?

Good ESG practices positively impact company's valuation and performance, both through the:



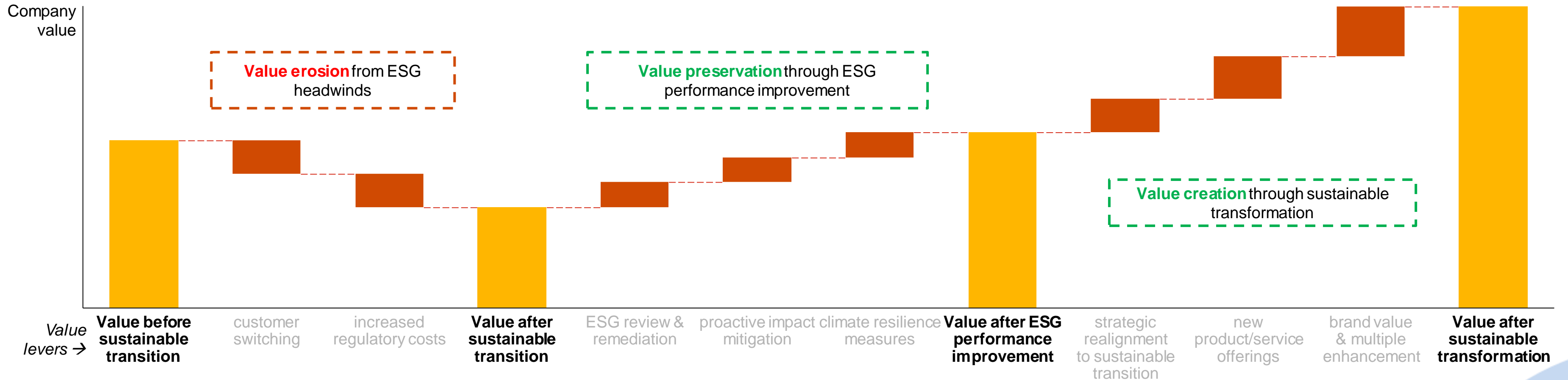
Systematic risk inputs
e.g. lower cost of capital, high valuation multiples



Unsystematic risk profiles
e.g. higher profitability, lower exposures to tail risks

Impacts may be the avoidance of **value destruction** (in the absence of taking action) or **value creation**.

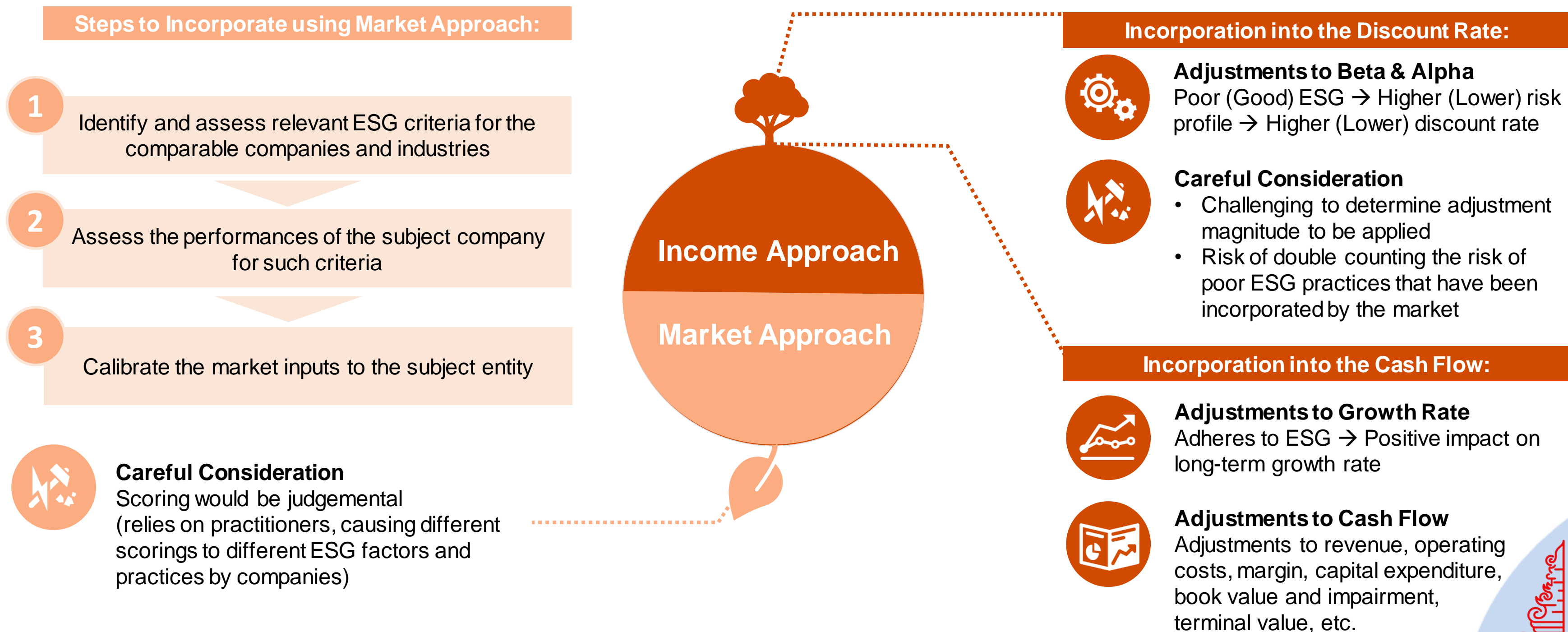
Value Creation Framework



In the **short term** protection against value erosion is key, in the **long term** ESG can be a source of value creation

ESG Aspects on Valuation Approach

There is no specific valuation approach or methodology for ESG, however we could take into account ESG-related risks and opportunities through adjustment on the current valuation approach



ESG Demands of Key Stakeholders

Identify those ESG elements most critical to the company's success and financially model and value these. This approach is the most meaningful, but can be time intensive

Customer

- **Cash flow scenarios:** find out what ESG issues are most material to your customers, then consider price elasticity to estimate potential changes in demand or discounted/premium pricing.
- **Terminal value:** the long term prospects for customers - consider whether they will move to greener substitute products or services that emerge, therefore terminal value beyond the explicit forecast period.



Employee

- **Cash flow scenarios:** find out what ESG issues are most material to your employees. Consider the extent to which this has a meaningful impact on employee retention and talent recruitment, as this will drive cash flow.



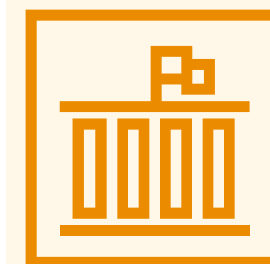
Investors

- **Debt holders (cost of debt):** potential of *greenium* (green premium) to access capital if your company is perceived as working to a more sustainable objective.
- **Equity (cost of equity):** More opportunity to attract investors from the increasing numbers of green funds. Though evidence of this impact is still nascent, we expect this to grow stronger as ESG headwinds build up and more evidence is gathered.



Regulator and Supply Chain

- **Cash flow scenarios:** compare forecast emissions against forecast energy prices, capturing expected changes in carbon taxes for example.








Case Study: Discount Rate Adjustment

Suzano Pulp and Paper Brazil S.A

Background
 Suzano Pulp and Paper Brazil S.A. is a forestry-based Brazilian company and the world's second largest producer of eucalyptus pulp in the world. In 2016, the company issued a USD 500 million green bond

Green Bonds: proceeds would be allocated to finance eligible green projects investments in Brazil

-  Sustainable Forestry
-  Conservation
-  Water Management
-  Energy Efficiency
-  Renewable Energy

Green Bonds vs Conventional Bond Expected Return

Suzano's Green Bond Yield
Cost of Debt at Issuance: 5.65%
Tenor: 10-year bullet bond Coupon Rate: 5.75% per annum
Conventional Brazilian Bond Yield
Example Bond 1: 8.96% Tenor: 7 years Coupon Rate: 6.85% per annum
Example Bond 2 : 6.82% Tenor: 100 years Coupon Rate: 7% per annum

Impact to Discount Rate

-  **High-ESG rated companies** that comply with corporate governance standards is known to experience **lower default risk**
-  **Greenium (Green Premium):** As positive value is assigned to the green promise, **investors are willing to accept lower yield investment.**
-  Hence, high-ESG rated company have the potential to have **lower discount rate**

Source: Public Information, Bloomberg, PwC Analysis



Case Study: Cash Flow Adjustment

Chemical Specialist Company

Background
 'Company A' is one of the world's leading suppliers of specialty chemicals based on renewable raw materials. Two thirds of the company's raw materials come from natural sources, and 94% of the company's products offer a known sustainability benefit in use

- Company A is well positioned to participate in the transition towards a sustainable economy as:
- 1 Aging population** - Increased demand for health and well-being products
 - 2 Movement towards biodegradable or bio-derived plastics**
 - 3 Customer sensitivity** to 'green' issues
 - 4 Demand for greater crop protection and yield enhancements**

Company A Research & Development towards ESG



Impact to Cashflow

Example of financial impact as a result of ESG implementation:

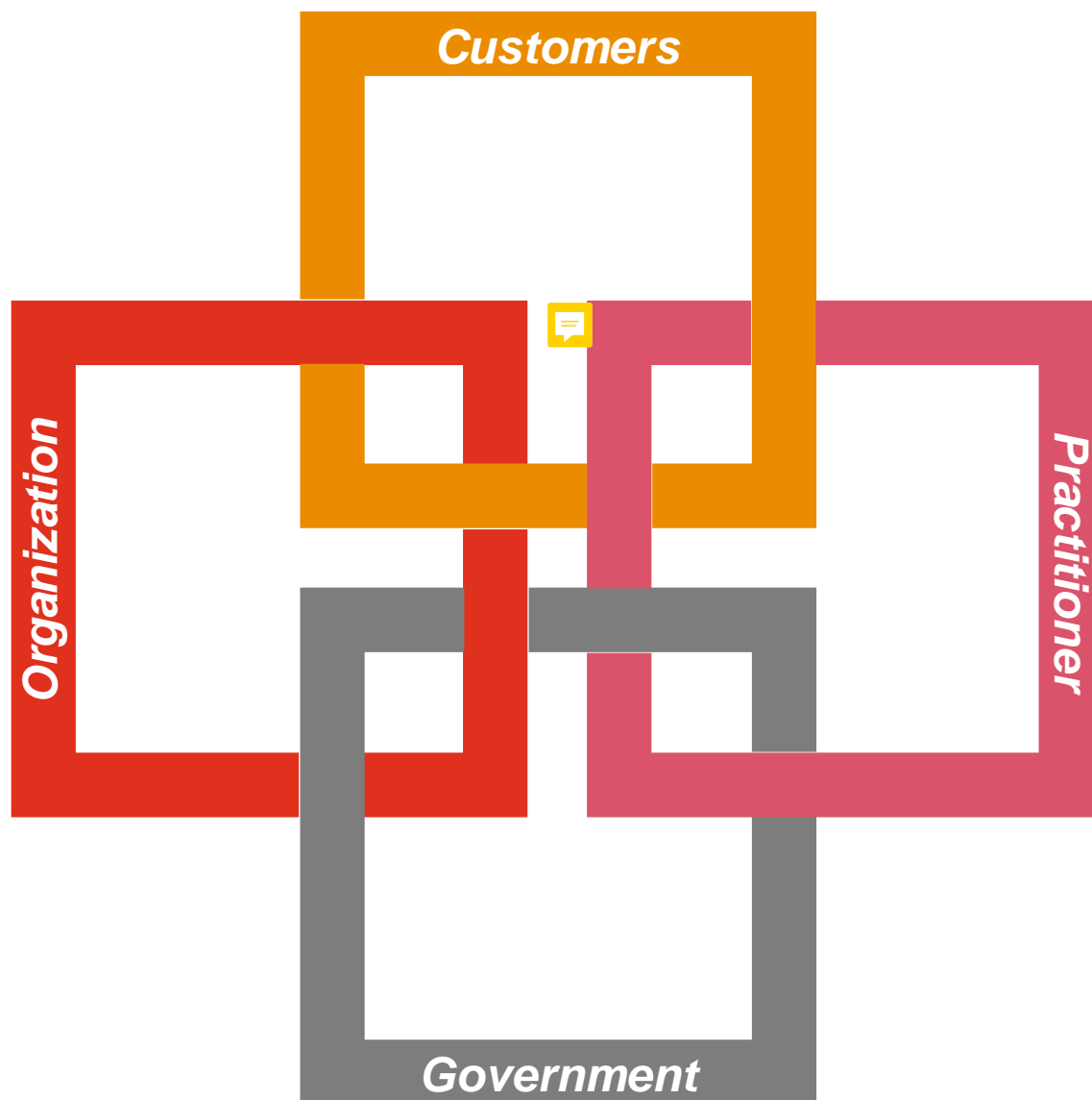
Volume	+0%
Price	+2%
Incremental Organic Growth	+2%
Contribution to Group Organic Growth	+0.3%
Est. Cost of goods sold savings	~£4 m
EBIT	+1%

Source: Public Information, CFA Guidance and Case Studies for ESG Integration, PwC Analysis



Future of ESG Valuation

Current ESG development is still on the early stage, which only considered as a minimum requirement. However, ESG aspects might drives the valuation or investment decision as the determining factors in the future



Valuation Practice Customers



Corporate management understand that **ESG implementation** (especially in reporting) will possibly **ease their financial cost** and **expand to the potential sustainable market**



Investors already **consider ESG factors to their assessment** (e.g. ESG due diligence) to ensure the **sustainability of their investment** to ensure their long-term portfolio performance

Valuation Practitioner



Valuation practitioner need to **start consider how to implement ESG to the valuation practice**, as their stakeholders already incorporate ESG on their investment decision



Collaboration with other expert or practitioner in the ESG field will enhance the development of ESG implementation in the valuation sector

Independent/ Self-regulatory Organization



Further discussion and socialisation about **framework or guideline of ESG valuation** will encourage the practitioner to adopt and implement ESG factors into valuation

Government



Further **development and implementation of ESG-matters regulation and roadmap** (e.g. carbon taxation, forestry) as one of the main consideration for all stakeholders towards sustainable finance



Thank you

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List of ESG factors

E



Environmental

- Energy efficiencies;
- Carbon footprints;
- Greenhouse gas emissions;
- Deforestation;
- Biodiversity;
- Climate change;
- Waste management;
- Water utilisation.

e.g. FedEx converts 20% of its fleet to electric/hybrid engines → lower fuel costs

S



Social

- Labour standards;
- Wages and benefits;
- Workplace and board diversity;
- Human rights;
- Talent management;
- Privacy and data protection;
- Health and safety.

e.g. Poor labour conditions and health & safety issues → Extra costs for compensation or lower product sales

G



Governance

- Corporate board composition and structure;
- Strategic sustainability oversight and compliance;
- Executive compensation;
- Political contributions and lobbying;
- Bribery and corruption.

e.g. Google's unethical business practices → Higher taxes imposed by the European Commission

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Potential Environment Impacts on Valuation: *Consumer and Industrial Products and Services Industry*



Volume of Units Sold

- 1 Revenue opportunities from energy efficiency to reduce environmental impact
- 2 Development of products that comply with legislation and reduce costs
- 3 Water scarcity may impact operations, lead to supply disruption and cause reputational risk, thus risking potential loss in sales volume



Operating Costs

- 1 Increase in energy efficiency could decrease operating costs
- 2 Increase in carbon price could increase operating costs
- 3 Investment in supply chains could lead to increased operating costs to ensure sustainable supply chains, by sourcing products in a secure manner



Capital Investment

- 1 Investment into more production facilities
- 2 Investment in environmental technology to make produce more fuel efficient
- 3 Engagement in R&D costs to reformulate products that suit consumers' increased health awareness

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Potential Environment Impacts on Valuation: *Technology, Media, and Telecommunications Industry*



Volume of Units Sold

- 1 Revenue opportunity by offering digital products that enhance efficiency/productivity
- 2 Opportunity to reduce customers' carbon footprints
- 3 Revenue opportunity by offering centralised computing power through improved resource utilisation and carbon footprint for customers



Operating Costs

- 1 Regulation on emissions could increase waste management costs
- 2 Cost savings from reducing waste to landfill
- 3 Reduced operation costs as digital replacing print makes the sector less resource intensive
- 4 Data centres are large consumers of energy, thus would be affected by higher carbon price



Capital Investment

- 1 Investment in a digital platform
- 2 Investment in water supply and treatment necessary for manufacturing

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Potential Environment Impacts on Valuation: *Energy, Utilities, and Resources Industry*



Volume of Units Sold

- 1 Demand for products that increase efficiency
- 2 License to operate assets influenced by impact on the environment
- 3 Risks of stranded assets or carbon pricing could affect ability to generate revenue
- 4 Customers' energy efficient targets may reduce demand



Operating Costs

- 1 Improving energy & water efficiency will reduce energy & water bills; reducing energy consumption will also limit the negative impact of any future carbon pricing
- 2 Possible cost of assets clean-up, financial penalties, and provisions for site rehabilitation
- 3 Cost of water may increase in areas of water scarcity




Capital Investment

- 1 Investment in projects to help reduce water consumption and effluent
- 2 Risk of stranded assets may impact capital investment decisions

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Potential Environment Impacts on Valuation: *Financial Services*



**Earning
Assets/
Volume of
Unit Sold**

- 1 Recruiting and retaining talented employees can drive volumes and returns
- 2 Demand for innovative products in health insurance
- 3 Loss of key workers could impact market share and profitability
- 4 Demand for innovative products for ageing populations



**Operating
Costs/
Expenses**

- 1 Establishing a good reputation as an employer will attract talent to the firm and reduce the cost of employee recruitment and retention
- 2 Risk of natural catastrophe insurance resulting in losses to the company
- 3 Risk that longevity risk has not been priced appropriately resulting in losses

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Example of ESG Indices (Indonesia)

ESG Indices in Indonesia

The Indonesia Stock Exchange has issued four ESG based Indices

- IDXESGL (ESG LEADERS)**
An index that measures price performance of 15-30 stocks that have good ESG practices and do not have significant controversies.
- SRI-KEHATI**
An index that measures the price performance of 25 stocks, selected by KEHATI Foundation that followed Sustainable and Responsible Investment (SRI) practice.
- ESG SECTOR LEADERS IDX KEHATI**
An index that offers broad market exposure and diversification by choosing representative in each industry with best ESG score
- ESG QUALITY 45 IDX KEHATI**
An index that measures the price performance of 45 stocks that consider the quality of financial and ESG aspects with relatively large market capitalization and high liquidity.

Source: CFA Institute

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Green Bonds Definition

Green Bond

Any type of bond instruments where the proceeds or an equivalent amount will be exclusively applied to finance or re-finance, in part or in full, new and/or existing eligible Green Projects and which are aligned with the four core components of the GBP.

Four core components for alignment with the GBP includes:

1

Use of Proceeds

Proceeds only used for eligible green projects (such as renewable energy, energy efficiency, pollution prevention and control, clean transportation, amongst others).

2

Process for Project Evaluation and Selection

Environmental sustainability objectives of eligible Green projects, process by which the issuer determines how the project fits with eligible Green projects and complementary information through which the issuer identifies and manages perceived social and environmental risks of the projects.

3

Management of Proceeds

The amount equal to the net proceeds of the Green Bond should be credited to a sub-account, moved to a sub-portfolio and attested by the issuer.

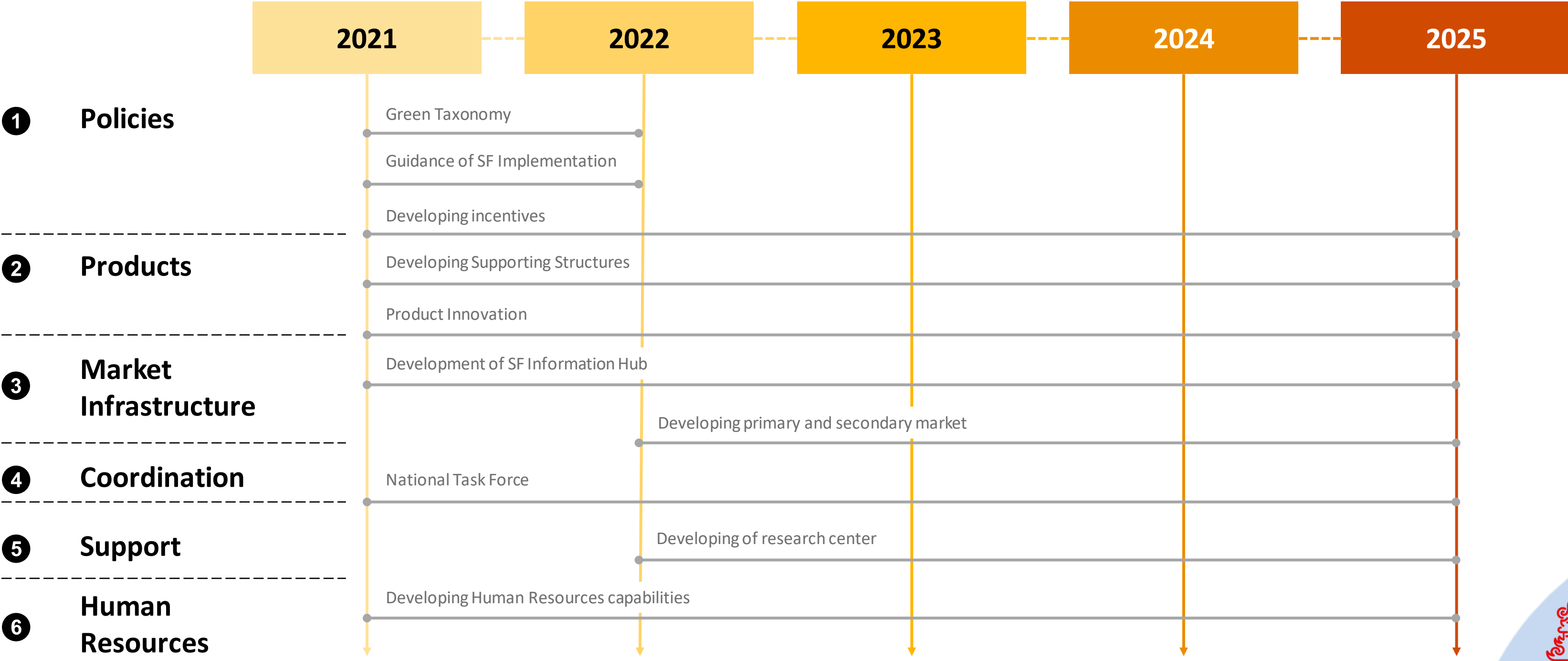
4

Reporting

Readily available up to date information on the use of proceeds must be made and kept and renewed annually until full allocation.

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Sustainable Finance (“SF”) Roadmap by OJK



Source: Sustainable Finance Roadmap Phase II (2021 -2025), Otoritas Jasa Keuangan (OJK), CFA Institute



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Indonesia's Net Zero Carbon Roadmap (Ministry of Energy and Mineral Resources)

2021: Perpres EBT, Perpres Retirement Coal, co-firing PLTU, CCT, Konversi PLTD ke gas & EBT

2022: UU EBT, Kompor listrik 2 juta RT/y

2024: Interkoneksi, smart grid & smart meter

2025: EBT 23% didominasi PLTS

- Rasio Elektrifikasi 100%,
- Listrik 1.217 kWh/kapita,
- Pumped storage mulai COD
- Penurunan emisi 198 Juta ton CO₂.

2031: Retirement PLTU tahap pertama sub-critical, interkoneksi antar pulau mulai COD

- Tidak ada PLTD lagi
- Mulai pemanfaatan Hidrogen untuk listrik
- Penggunaan Baterai semakin besar

2035: EBT 57% dominasi PLTS, Hidro, panas bumi

- Listrik 2.085 kWh/kapita,
- Penurunan emisi 475 Juta ton CO₂.

2048: PLTAL skala besar mulai COD

2049: PLTN pertama mulai COD

2050: EBT 93% didominasi PLTS, Hidro dan Bioenergi

- Penurunan penjualan mobil konvensional,
- Listrik 4.299 kWh/kapita,
- Penurunan emisi 956 Juta ton CO₂.

