



ASIA PERSPECTIVE

Sustainability in Supply chain

An Asia Perspective introduction

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Presenting today



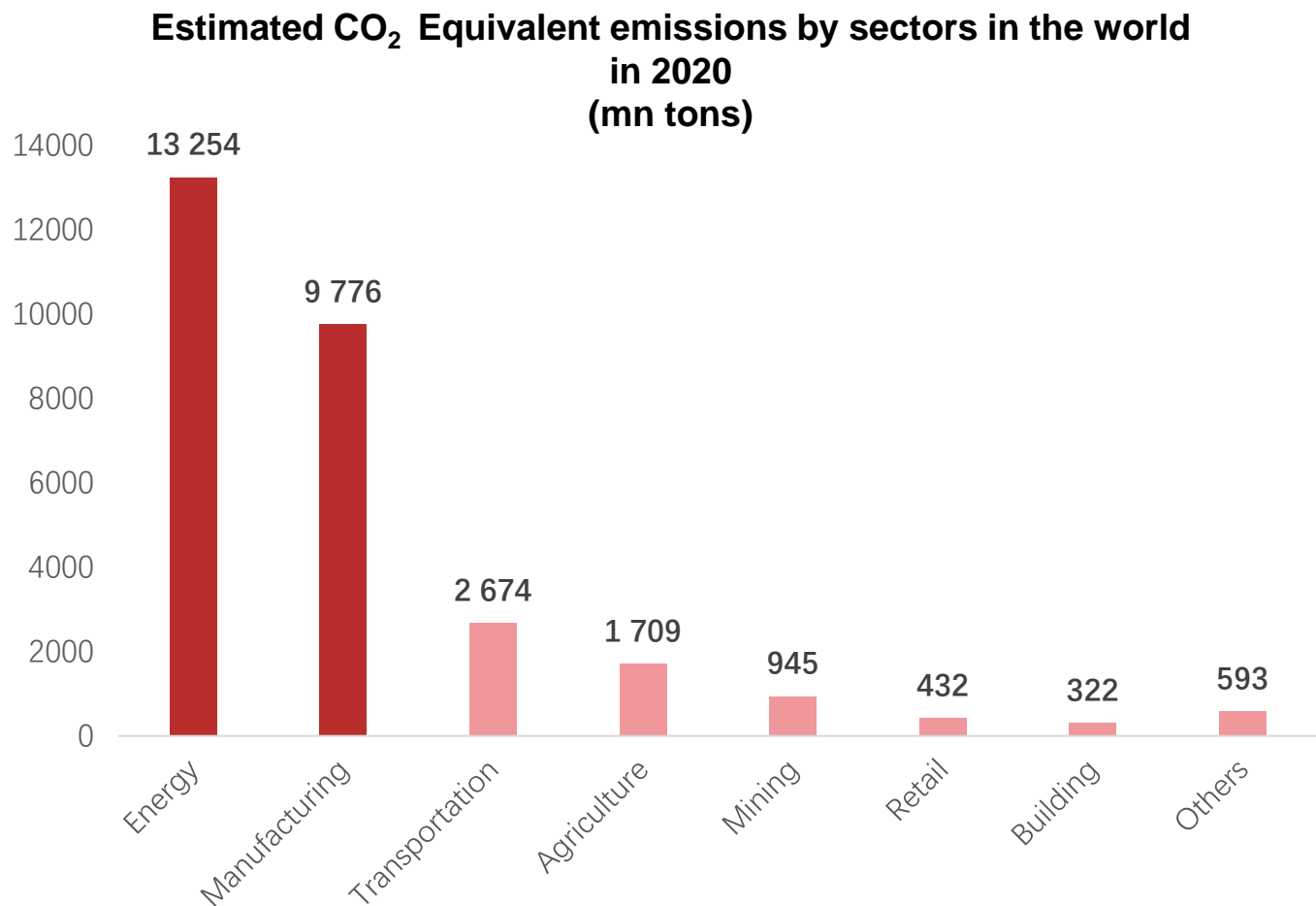
JOHAN ANNELL

PARTNER

Johan Annell is Partner and manages the Beijing branch at Asia Perspective – a Nordic Boutique Management Consultancy

He is fluent in Mandarin and has an M.Sc. in Industrial Engineering & Management from Chalmers University of Technology and a M.Sc. in Financial Economics from Gothenburg University.

Energy and manufacturing sectors contribute to the majority of carbon emissions in the world



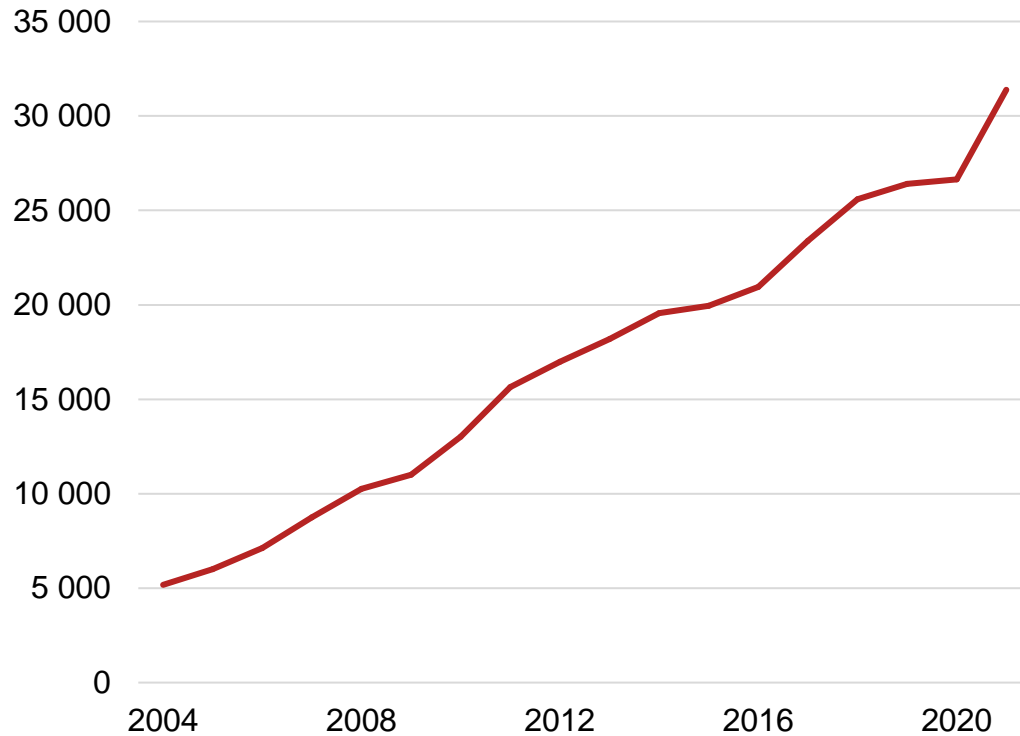
Sources: Global Carbon Project November 2021, UK Environmental Accounts, Oxford Economics, BCG



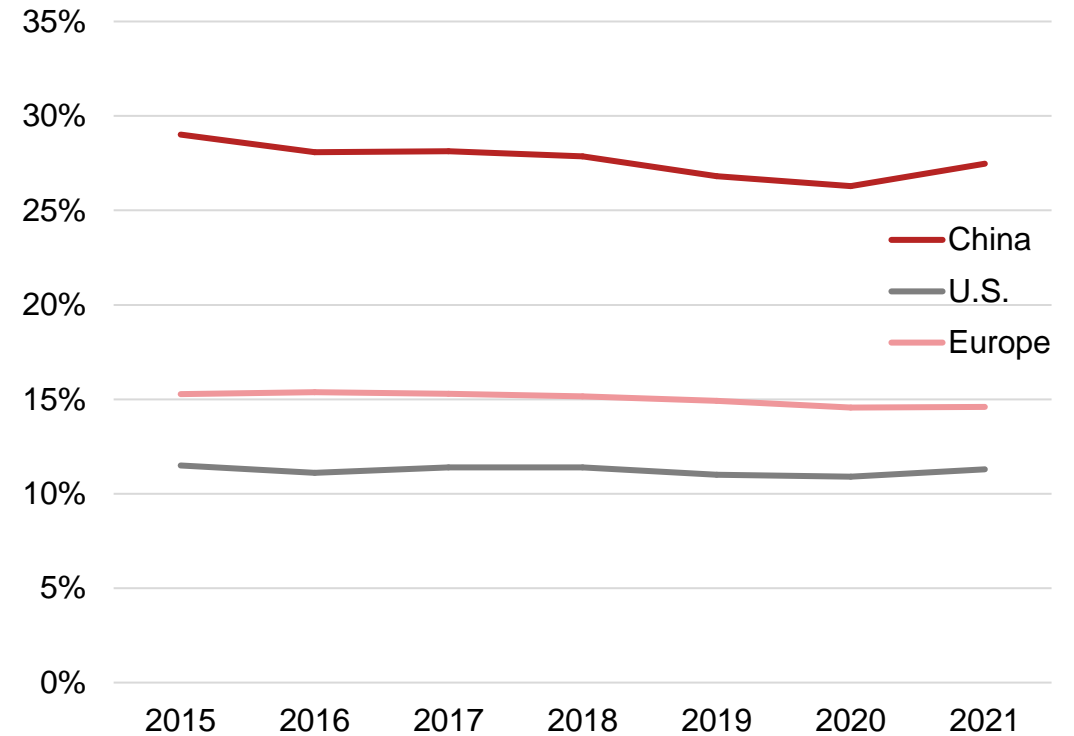
China manufacturing's output has increased six times since 2004

The manufacturing sector in China is still growing in China and remains the largest contributor to GDP, at a much higher percentage than most western countries

China's manufacturing output, 2004 – 2021 (billion RMB)



Manufacturing sector's share of total GDP, 2015-2021



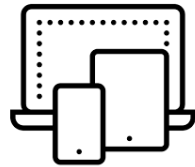
Sources: National Bureau of Statistics of China, Wind, UN COMTRADE database, Trading Economics, FRED Economic Data

Chinese government priorities for industrial development coming decade

Foreign companies can expect more favorable opportunities in sectors highlighted in policy and public reports



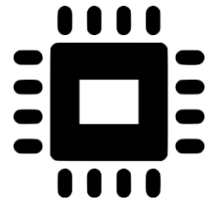
Manufacturing



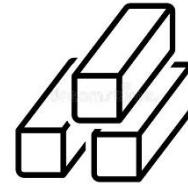
Electronics



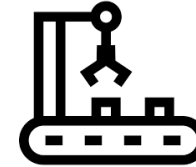
New energy vehicles



Semiconductors



Metallic and non-metallic products



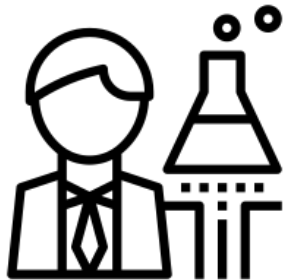
Machinery



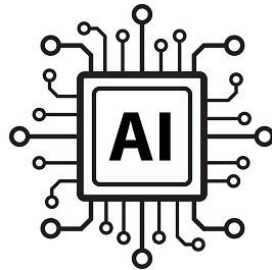
Chemical



Biomedicine



Scientific research & technical services



AI technology



IoT technology



Chemical & biological



Industrial sustainability

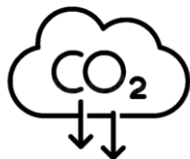
Sources: National Development and Reform Commission

Policy changes on carbon, the energy crisis, and greater transparency demands has made 2022 a year of change for supply chains



- **EU Carbon Border Tax**

The European Commission put forward plans for the world's first **carbon border tax** and will start to demand carbon footprint data from 2023 and introduce a carbon border tax from January 2026.



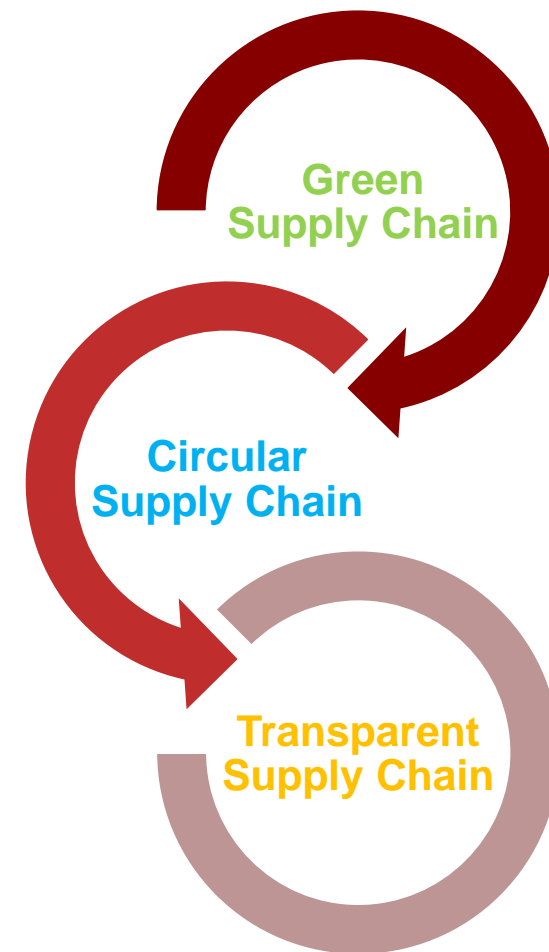
- **2030 Carbon Peak & 2060 Carbon Neutral in China**

China increases focus on **de-carbonization economy**, China put forward dual carbon targets “2030 – Carbon Peak” & “2060 – Carbon Neutral” in late 2020 and now takes many initiatives to implement towards this.



- **Carbon Pricing & Cost Increase**

Starting from 2026, the EU will reduce the free quota for production enterprises by 10% year by year until the free quota is completely abolished in 2035. If the EU carbon tax 2035 scenario is fully implemented, carbon may be taxed at a rate of **60 euro/ton in Europe** and will increase the cost of importing products with significant emissions.



The European carbon border tax will be implemented in 2026, but companies will be required to disclose more data on January 1, 2023



The implementation of the EU carbon border tax will have two stages

Transitional phase (2023-2025): this phase gives companies, who will be subjected to the carbon border tax, an adaptation period. Companies will not pay for their emissions during this phase **but are required to significant reporting obligations.**

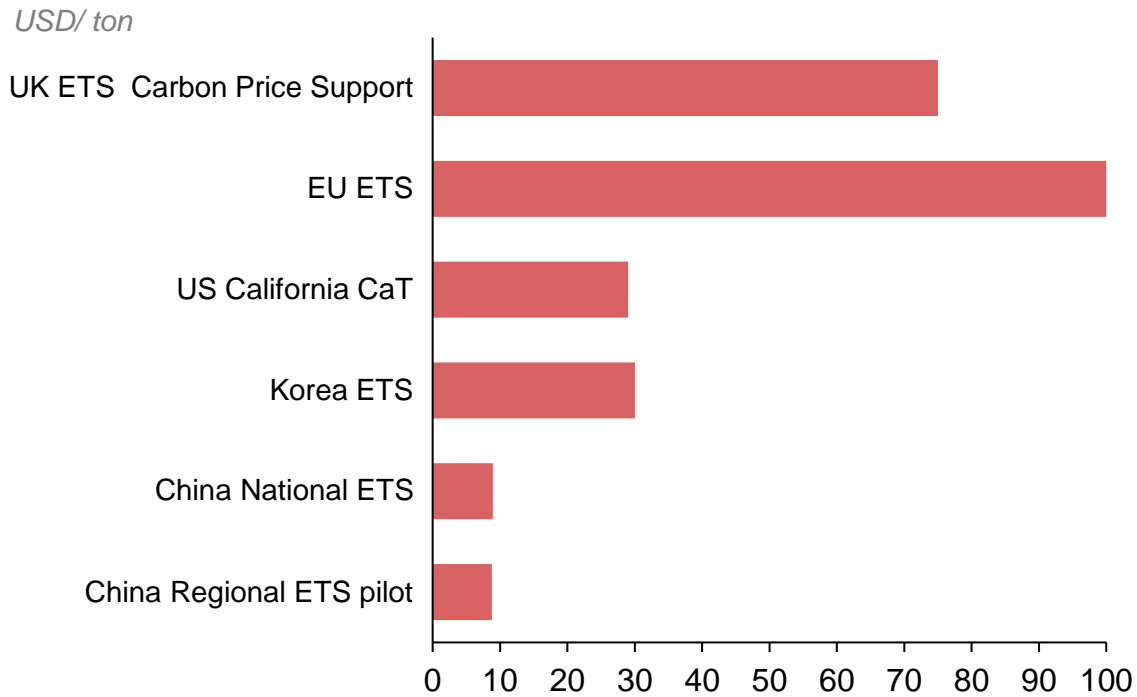
Companies should report on a quarterly basis the actual embedded emissions in goods imported, detailing direct and indirect emissions as well as any carbon price paid abroad

Companies should check with the following to see if their products are subject to reporting obligations

- Annex I of the CBAM (Carbon Border Adjustment Mechanism) Regulation
- IPR (Inward Processing Procedure)
- Outward Processing Procedure

The price of carbon in China is currently much lower than in Europe, and convergence will likely drive price increases on materials & products

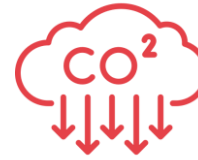
Carbon prices in major carbon markets (May 2022)



Comment

- Emissions are being taxed much lower in China than in Europe.
- A likely outcome of carbon border taxes is that relative costs will increase significantly for emission-intensive imports

Sources: REUTERS, Nikkei, BJX, Tanpaifang.com



Material cost of carbon-intensive producers such as China, Russia and India is expected to increase by **15% to 30%**



The average Chinese steel is expected to bear a **25%** cost increase



Aluminum export from China is expected to see an increase in cost of **9%**

China has set ambitious goals on carbon peak by 2030 and neutrality by 2060

President Xi announced “**Dual Carbon Goals**” at the 75th United Nations General Assembly

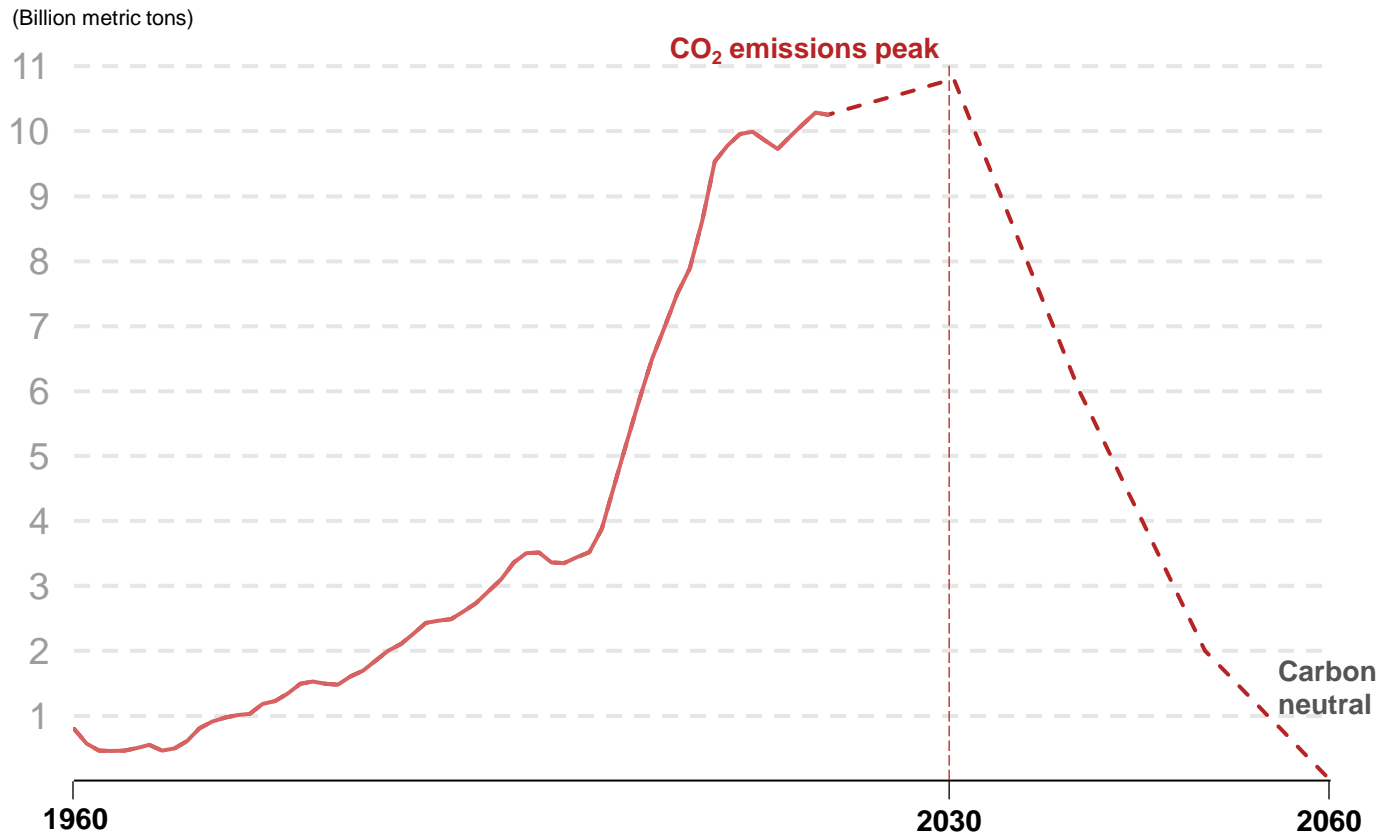
2030

Carbon peak means the historical turning point of carbon dioxide emissions from increasing to decreasing, marking the decoupling of carbon emissions from economic development.

2060

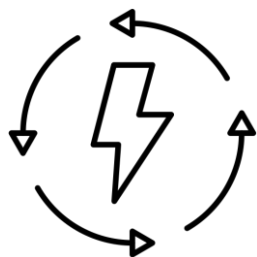
Carbon neutral means that the emitted carbon dioxide and the absorbed carbon dioxide offset each other, achieving "net zero emission" of carbon dioxide.

Cumulative Carbon Dioxide Emission in China 1960-2060



Sources: Global Carbon Project November 2021, State Council of the PRC, Statista

Concrete and detailed plans have been announced by Chinese authorities, impacting manufacturing, which has pressure to peak already in 2025

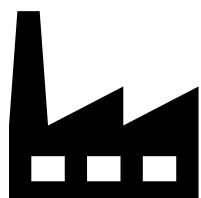


Oct 24th, 2021

Action Plan for Carbon Peaking by 2030

State Council of the PRC

Plan to increase energy utilization efficiency by imposing more restrictions on high energy consumption and high emission industries. By 2025, the energy consumption per unit of GDP will be reduced by 13.5% compared with 2020.



Nov 15th, 2021

Industry Green Development Plan in 14th Five-Year Plan

Ministry of Industry and Information Technology of the People's Republic of China

The plan clearly pointed out that, by 2025, the green and low-carbon transformation of industrial structure and production mode will achieve remarkable results, green and low-carbon technology and equipment will be widely used, the energy efficiency will be greatly improved, and the level of green manufacturing will be comprehensively improved.



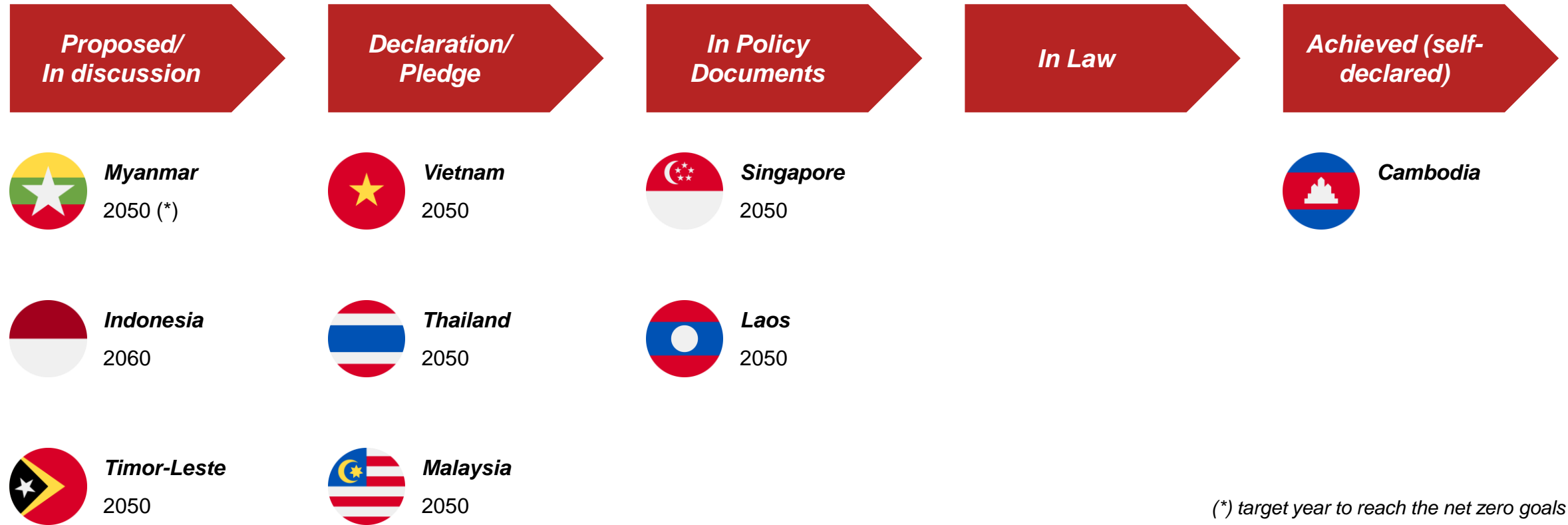
Feb 3rd, 2022

Implementation Guide for Energy-Saving and Carbon-Reducing Renovation and Upgrading in Key High Energy-Consuming Industries

NDRC & MIIT

Detailed guide with clear targets of green transforming and upgrading on 17 high energy-consuming and high emission industries. The industries include oil refining, ethylene, cement, steel, building, coking coal, modern coal chemical industry, etc..

Southeast Asian countries are in different stages of reaching net zero emission status



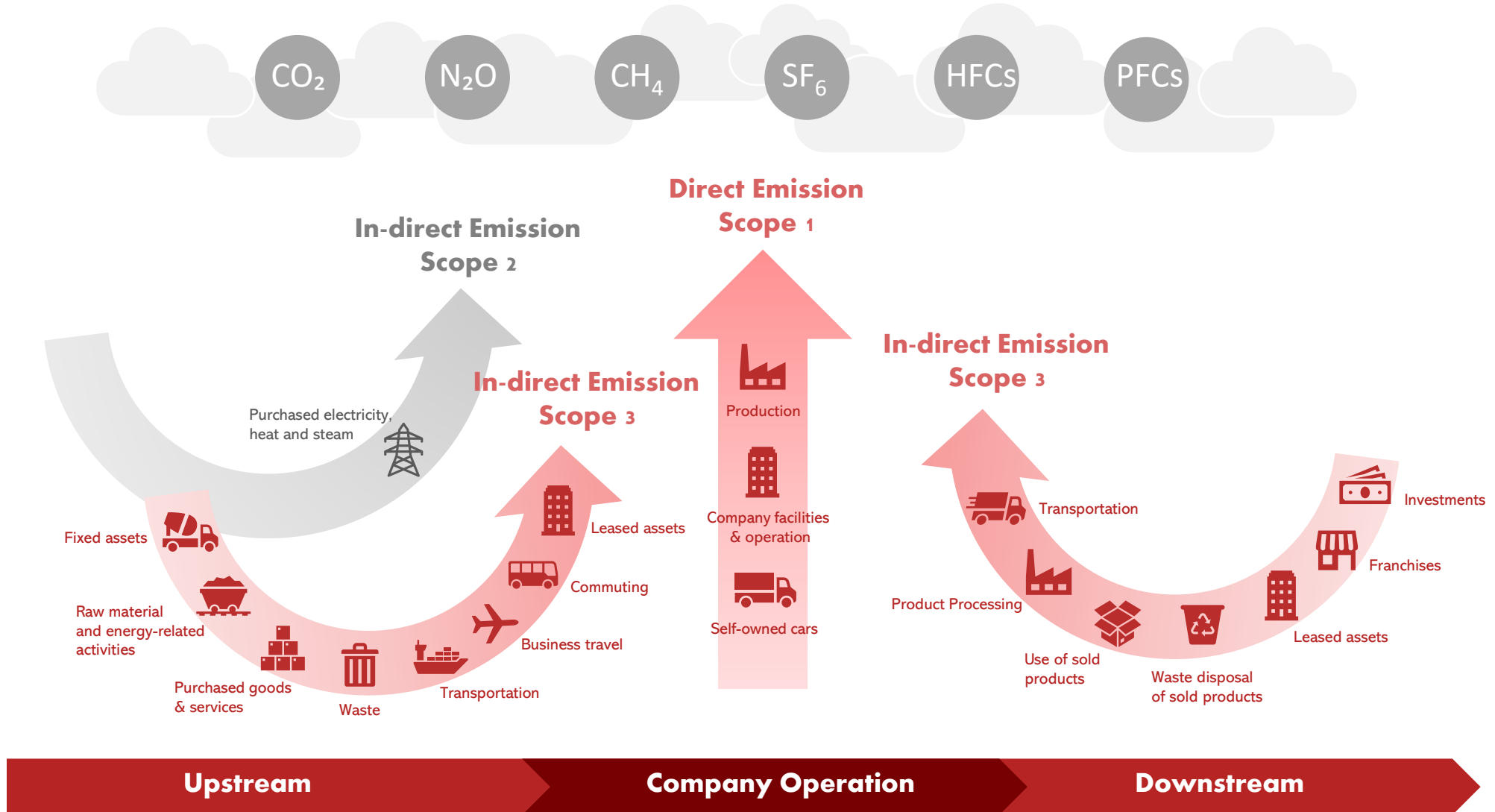
(*) target year to reach the net zero goals

Comments

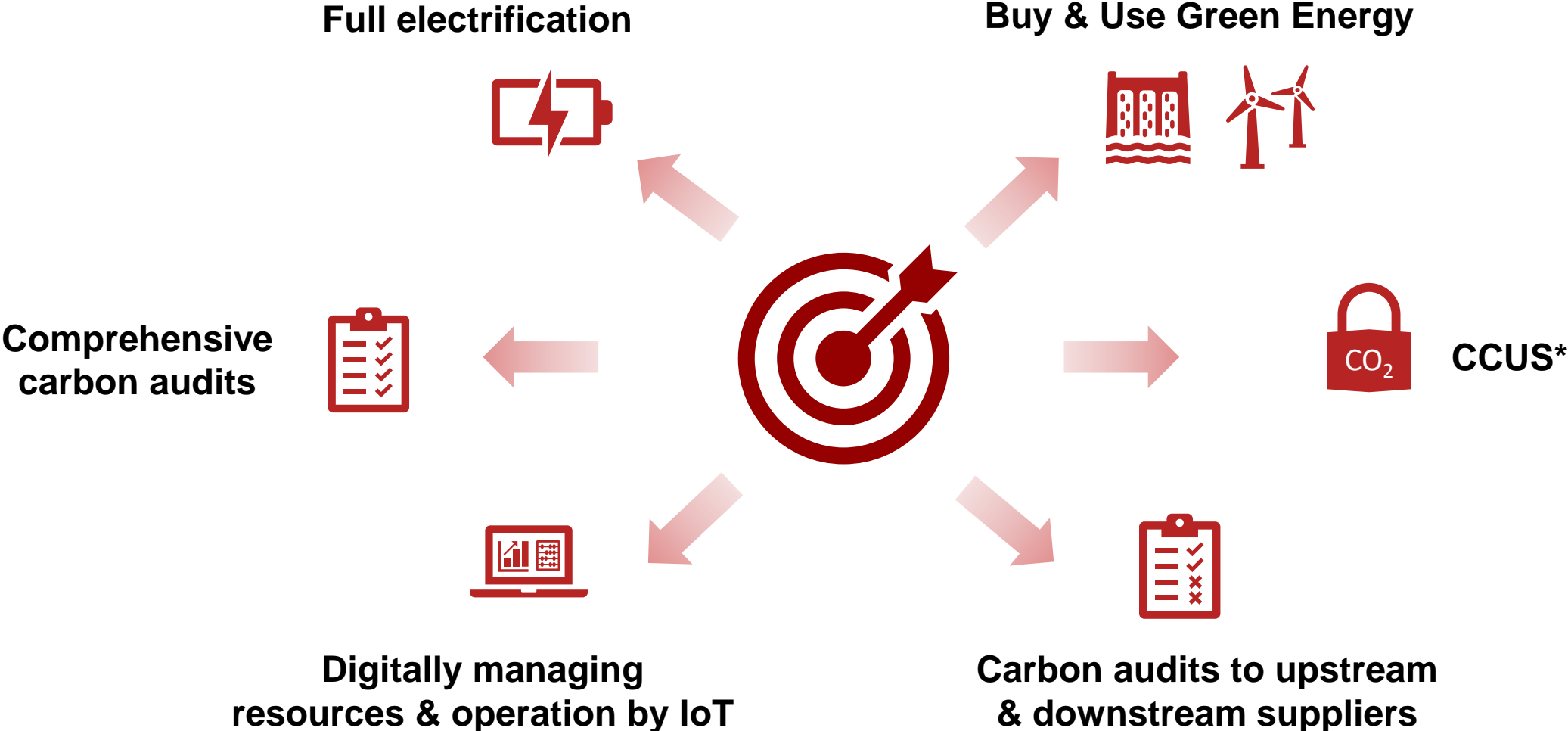
- Brunei has reaffirmed their commitment toward the net-zero status by 2050, said Dato Seri Setia Ir Awang Haji Suhaimi bin Haji Gafar – Minister of Development at the COP26 conference in Glasgow, Scotland.
- The Philippines shows a strong emissions target but has yet to establish the net zero goals.

Sources: Energy & Climate Intelligence Unit, Zero Tracker

It's crucial for companies to evaluate carbon emission from a full lifecycle angle – to be prepared to disclose and to understand risk



Common practices for manufacturing companies to reduce carbon footprint



*CCUS: Carbon capture, utilization and storage

CATL and one of its biggest suppliers, Huayou Cobalt, both already have factories certified as Zero-Carbon Factory in early 2022

CATL aims to apply its Yibin zero-carbon factory model to other factories and suppliers to strengthen its market position



30 Zero-carbon factories

On Jun 13th, 2022, Shanghai government has announced plan to create 30 zero-carbon factories and 5 zero-carbon industrial parks by 2025



Hydroelectric reduces 400,000 tons of carbon emission per year



Real-time monitoring of equipment status and proactive optimization of operation



Electrification of vehicles for green logistics



Green commuting for employees



AI visualization management, greatly reducing process loss



99.3% recycling of nickel, cobalt and manganese

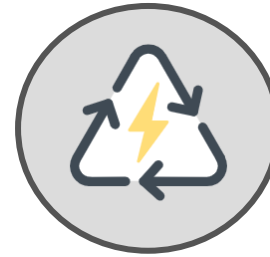
JD Logistics has also announced ambitious carbon reduction plans going beyond own operations

50%

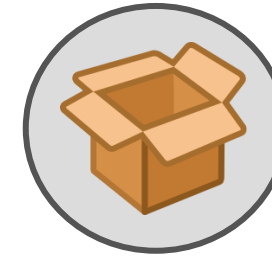
JD Logistics' scientific carbon target: reduce total carbon emissions by 50% by 2030 compared to 2019.



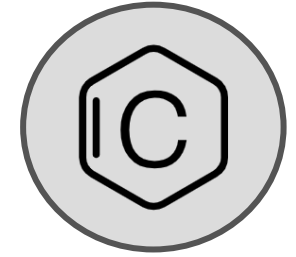
Green Road



Renewable Energy



Green Packaging



Carbon Reduction

JD Logistics will take the following measures in green packaging, green warehousing, and green transportation, etc.

1. **Green Road:** Gas vehicles → Renewable energy vehicles.
2. **Increase the use of renewable energy:** promote **solar energy** in logistics business sites by deploying rooftop distributed photovoltaic power generation systems.
3. **Green Packaging:** reduce the packaging waste and improve the delivery of original packaging.
4. **Supply Chain Carbon Reduction:** “QingLiu plan”, a sustainability initiative developed and adopted by JD, aims to promote the green development of the logistics industry ecosystem on aspects such as **reduced packaging, green logistics technology innovation and application, energy-saving, and emission reduction.**



Companies can carry out initial audit on the carbon emissions both to themselves and their suppliers



Preparation



Define the scope of work and expected outcome



Gather information about the target products or companies



Research relevant regulation on carbon emissions, as well as the market benchmark



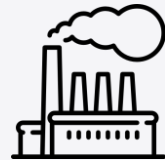
Arrange the schedule for inspection



On-site and Remote Audit



Interview the relevant stakeholders, including the management team, the employees, local authorities



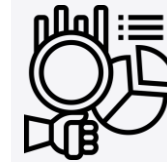
On-site audit at the relevant facilities, such as factories, mining fields, waste control centers, etc.



Gather and review the relevant information, such as machinery specs, certificates manufacturing process, etc.



Analysis & Reporting



Benchmarking the audit findings against the relevant legal requirements and market standards



Categorize the findings to identify areas for improvement



Deliver the final conclusions in a comprehensive written report and/or verbal presentation

European Manufacturing Company – Cost Improvement

The client, European manufacturing company, has components suppliers in China. The client saw that they can save a significant amount of spending from sourcing activities by working in closer partnership with suppliers, supporting higher efficiency in production and increasing transparency



Approach



- Map out the process of manufacturing
- Identify improvement areas



- Collect relevant documents
- Conduct interviews
- Verify supplier statements against third party sources



- Visit to review production site
- Map improvement areas and quantify targets



- Create a list of corrective action plans
- Support commercial negotiation to share savings

Results

- ✓ A comprehensive report of the areas of improvement, together with the action plan for each area
- ✓ The client was fully informed and advised about the impact of the current operation compared to that of the market's average
- ✓ Expected outcomes were presented in a measurable and logical way to ensure the supervision of implementation

Nordic Industrial Company – Sub-supplier Due Diligence

The client, a Nordic company in industrial equipment, wanted to acquire a local production partner

However, the company needed to ensure that the acquired company did not have any conflict minerals or other unethical processes in their supply chain



Approach



- Formulate a suitable framework based on expectations and requirements



- Collect relevant documents
- Conduct interviews



- Collected data was benchmarked against the assessment framework



- Created a risk mitigation strategy
- Assess and identify potential risky suppliers

Results

- ✓ ***A comprehensive report of the entire supply chain and potential risks of the sub-suppliers.***
- ✓ ***Two sub-suppliers identified as high risk and investigated***
- ✓ ***Asia Perspective also advised the client on the methodology, so the client can do the in-depth evaluation themselves.***

Conflict Minerals – What it is, and why it is important

Conflict Minerals and 3TG

- Conflict minerals are natural resources that are extracted in a way that fund or prolong a conflict in the area where they are mined.
- The most common conflict minerals are Tin, Tungsten, Tantalum and Gold, called 3TG, and are widely used in everyday goods such as consumer electronics.
- As of January 2021, the EU introduced a new law regulating the sourcing of 3TG, which require proper due diligence to ensure responsibly sourced minerals.
- However, 34% of companies who use 3TG minerals cannot identify their suppliers, which is why Asia Perspective has designed a thorough methodology to help our clients understand the origins of their mineral sources.

Conflict Minerals' Are Smuggled Through Complicated Supply Chains



- A large part of the world's conflict minerals are sourced in The Republic of Congo and neighboring countries,.
- The mining of 3TG minerals in the area help fund the rebel and militia groups, and heavily abuse the human rights.



- The minerals are smuggled out of Congo through complex supply chains.
- Most of the minerals end up in processing factories in East Asia to be turned into e.g. electronic parts.



- Ultimately, the 3TG minerals end up in the end products.
- Almost all electronics use components with 3TG minerals.

Risk Assessment – Conflict minerals

Our on-the-ground team can assist you to carry out a risk assessment by reviewing the entire supply chain



Conflict Risks at Mines

- ✓ Risks that you are sourcing from or linked to any party committing serious abuses associated with the extraction, transport, or trade of minerals



Conflict Risks at Trading centers & Transportation Routes

- ✓ Risks that you are providing direct or indirect support (e.g. making payment or providing assistance) to non-state armed groups or public or private security forces, who illegally control and extort money at mine sites, trading centers, or transportation routes.



Conflict Risks Associated With Suppliers

- ✓ Risks of an inadequate, inaccurate, and fraudulent chain of custody and/or traceability information.

Information for Risk Assessment

Some typical information that will be collected to evaluate risks:

- ✓ Mine of mineral origin
- ✓ Quantities, dates, and method of extraction
- ✓ Locations where minerals are consolidated, traded, processed, upgraded, and exported
- ✓ Transportation routes
- ✓ Governmental taxes and fees
- ✓ Ownership and organizational structure of exporters
- ✓ Record of any serious abuses committed by any party involved in the supply chain
- ✓ Record of any direct or indirect support to non-state armed groups or public or private security forces
- ✓ Record of any irregularity, fraud, and misrepresentation

Collection and validation of supporting documents

Asia Perspective collects supporting documents from both the client and supplier sides and validate their credibility through different techniques

Supporting Document from The Client

- ✓ A complete list of products manufactured during the audit period

Supporting Documents from Suppliers

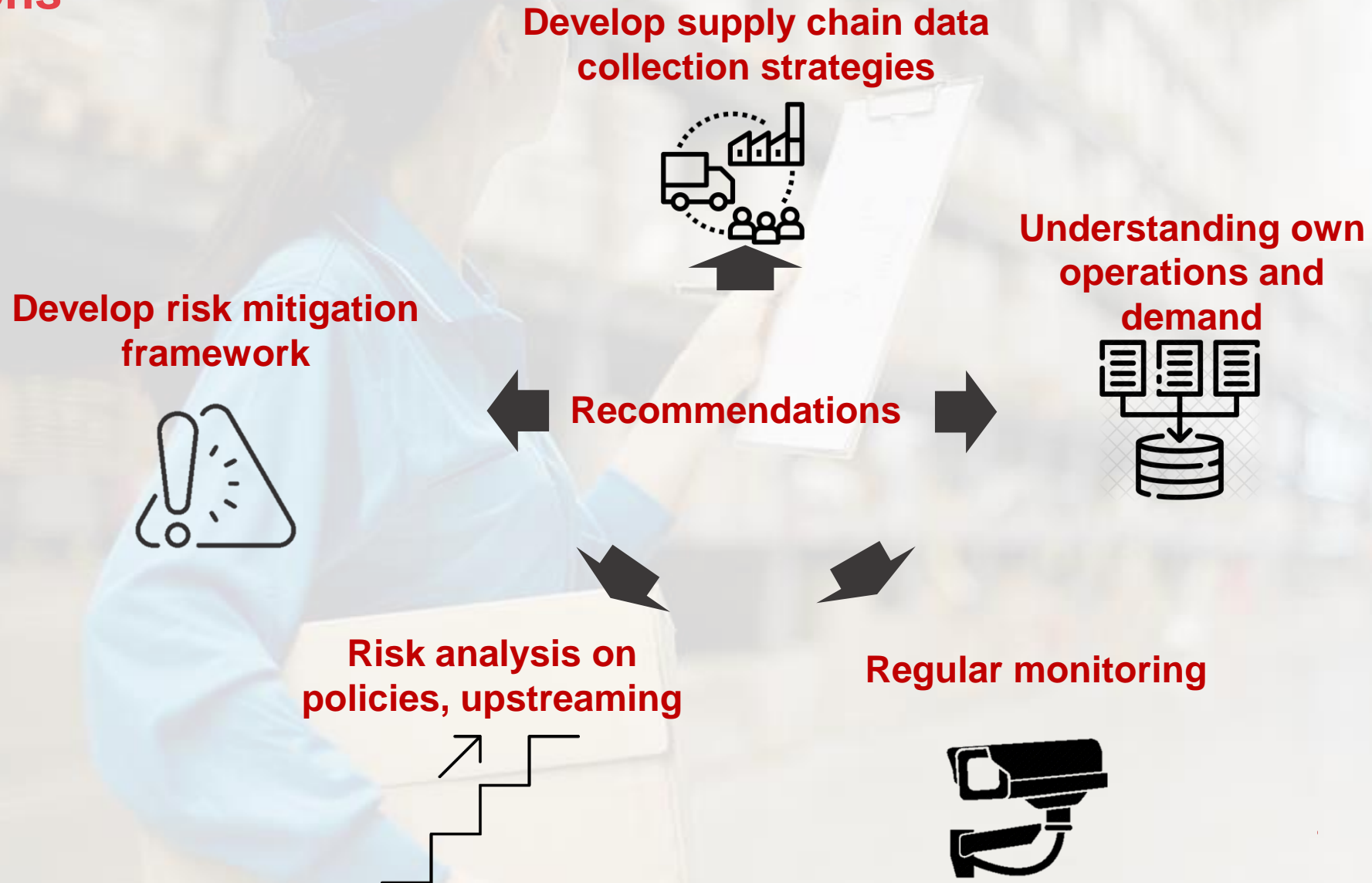
- ✓ Documents supporting the determination that products do/do not contain conflict minerals, such as:
 - Bill of Materials
 - Specification Sheet
 - Material Safety Data Sheets
- ✓ Documents that prove the linkage of a specific product/component with inputs from the company’s suppliers, such as:
 - Linkages in product databases
 - Purchase Order History
- ✓ Completed Conflict Mineral Survey (CMS) designed by Asia Perspective to collect information about the sourcing of 3TG minerals used in the products, including mineral origin, transport, and trade.

Supplier Code	Supplier Name	Product	Country of Origin	SKU No.	Parts Description	Document Checklist		
						Material Safety Standard	Purchase Order History	Conflict Mineral Survey (CMS)
SUXX	A	Product A	China	6160709390	Part A1	V	V	
				8298497115	Part A2	V	V	
				390707494	Part A3		V	
SUXX	B	Product B	China	141135614	Part B1	V	V	V
				5049751334	Part B2	V	V	
				8306225834	Part B3			
SUXX	C	Product C	Indonesia	9363292451	Part C1	V	V	V
				1233913499	Part C2	V	V	
				5866165668	Part C3	V	V	
SUXX	D	Product D	Vietnam	4280000371	Part D1	V	V	V
				5863688215	Part D2	V	V	
				4385516107	Part D3	V	V	

Output by Asia Perspective

- Asia Perspective validates provided information from suppliers through a variety of methods, including on-site audits, interviews with suppliers’ management team and ground staffs, as well as utilizing public records and network connections.
- The information is then used for benchmarking against the defined risk assessment framework as designed together with the client in previous stage.

It is crucial to work in structured way on supply chain and manufacturing operations





ASIA PERSPECTIVE

Thank you for your time

If you have any questions, please feel free to reach out:

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