Thailand's Taxonomy Framework

Policy Forum – Thailand's Taxonomy Framework
Transitioning towards Environmental Sustainability

Organized by Bank of Thailand and Puey Ungphakorn Institute for Economic Research
13 December 2022

Supported by

GB-TAP Green Bond Technical Assistance Program

IFC International Finance Corporation WORLD BANK GROUP
Creating Markets, Creating Opportunities

IN PARTNERSHIP WITH

Project Supervisors

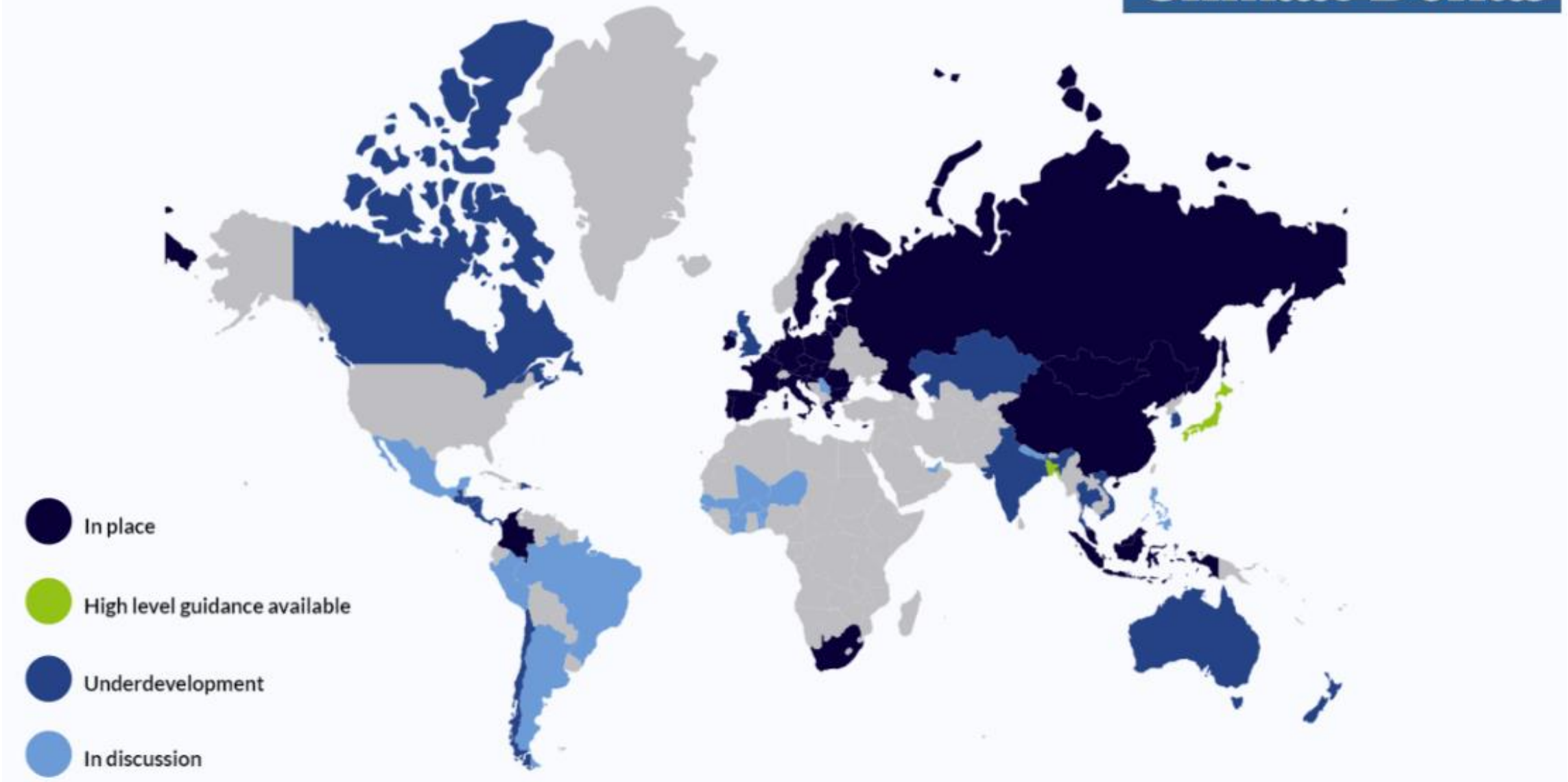
- **Bridget Boulle** – Director of Technical Development
- **Matteo Bigoni** – Head of Taxonomies

CBI Working Team

- **Mikhail Korostikov** – Senior Taxonomy Analyst
- **Dr. Ornsaran Pomme Manuamorn** – Technical Consultant
- **Zalina Shamsuddin** – Head of International Programmes in Asia Pacific
- **Raquel Bonelli** – Taxonomy & Transition Programme Coordinator
- **Chi Xiang Wong** – Senior Analyst on ASEAN

Global Taxonomy Developments

Climate Bonds INITIATIVE



1

Introduction: what a taxonomy is and what it is not

Taxonomy: what it is?

A taxonomy is a **classification system** identifying activities, assets, and revenue segments that deliver on **key sustainability goals** based on **eligibility conditions** set out by the taxonomy

Taxonomies are usually structured in three different ways

- **Whitelist-based taxonomies**, which identify eligible projects or economic activities under each sector or sub-sector (China, Russia, Mongolia)
- **Technical screening criteria-based taxonomies**, which define thresholds and screening criteria for economic activities and their compliance with the specific objectives (EU, Colombia, South Africa)
- **Principle-based taxonomies** define a set of core principles for the market without specifying eligible activities or thresholds (Japan, Malaysia, ICMA)

* *ASEAN Taxonomy is now principle-based (Foundation Framework Tier), but tier two (Plus Standard) will adopt screening criteria (TBD)*

Source:. CBI 2022. *Global green taxonomy development, alignment and implementation*

Taxonomy: What role can it play?

- **To provide** guidance, frameworks and standards for the investors and stakeholders to define “green” - avoid “green washing”
- **To guide** the development of a green economy
- **To attract** international climate-oriented capital
- **To assess** environmental risks and risk mitigation options
- **To enable** harmonized data collection and disclosures
- **To inform** government policy on green growth and sustainable finance
- **To enhance** implementation plan including a monitoring framework for Thailand’s climate actions

Green bonds' use of proceeds

Evaluation of the use of proceeds allocated for climate aligned investments.

Sustainability-linked bonds and loans

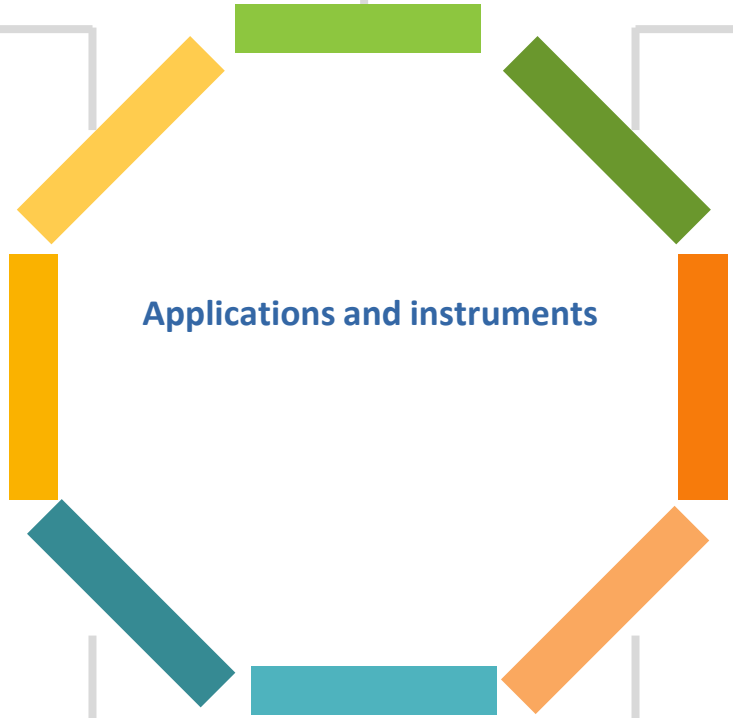
Identification and evaluation of performance benchmarks which are based on science.

Equity

Evaluation of equity investments; assess the turnover of the company with environmental objectives.

Asset-backed securities

Evaluation of the underlying investments with their taxonomy alignment.



Disclosures

TCFD implementation and standard disclosures of companies and assets with sustainable investments.

Regulations, subsidies and incentives

Development of regulations, policies and incentives to channel investments into taxonomy-aligned activities.

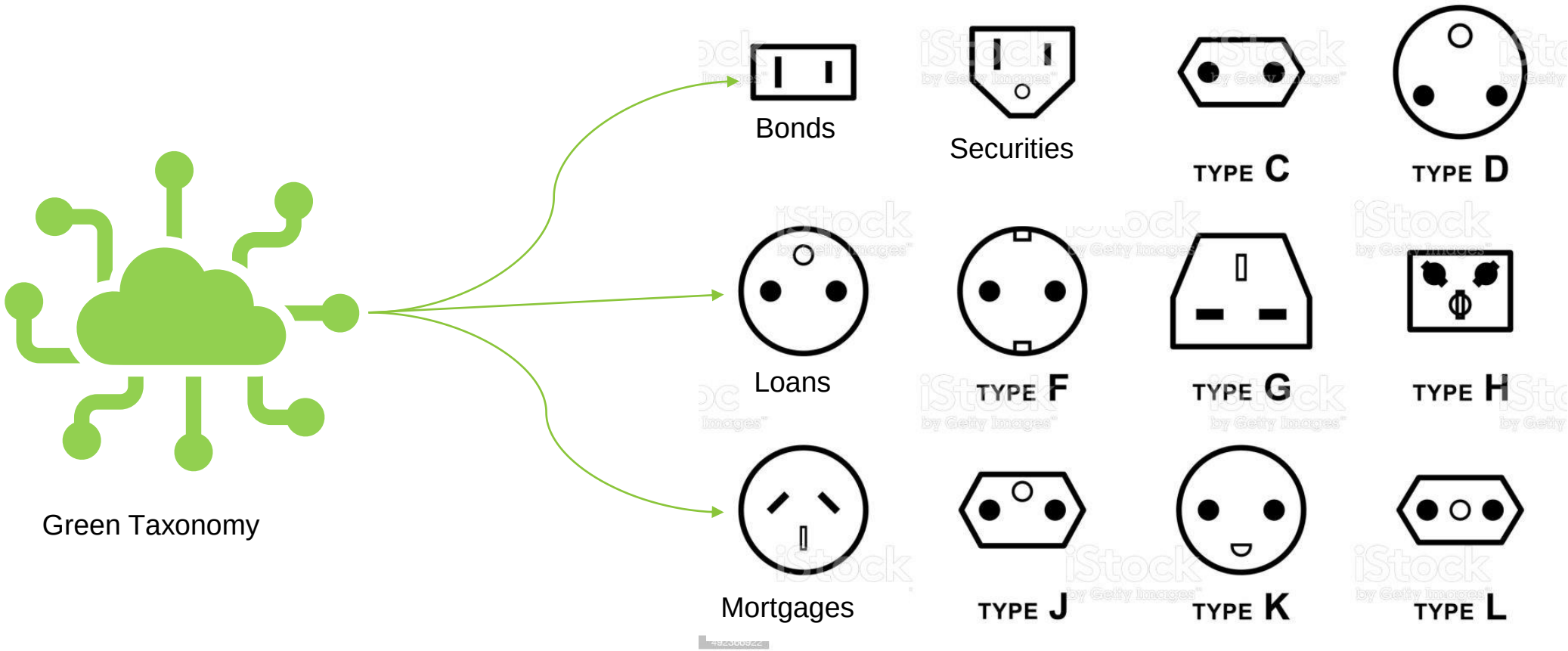
Risk analysis and stress test

Identification of activities and projects with high/low climate risks.

New green financial products

Ecolabels and development of financial products to align with taxonomy definitions of green products.

For each application, you need a separate set of «plug» to fit the «socket»



What a taxonomy is not…

List of good and bad activities

Taxonomy is not a list of "good" activities as opposed to "bad" activities. It just indicates a scientifically proven path to net-zero for those people and organisations who want to follow it

A document frozen in time

Creating a taxonomy is not a one-time endeavor but rather a process of constant amendments and improvements. It must be regularly updated according to the latest climate science

Sufficient to launch green transformation

Taxonomy alone is just the core of the legal framework that can potentially spur up green activities in the country. Additional documents are needed to create a framework for green bonds, loans, disclosure requirements etc.

2

Structure of a taxonomy

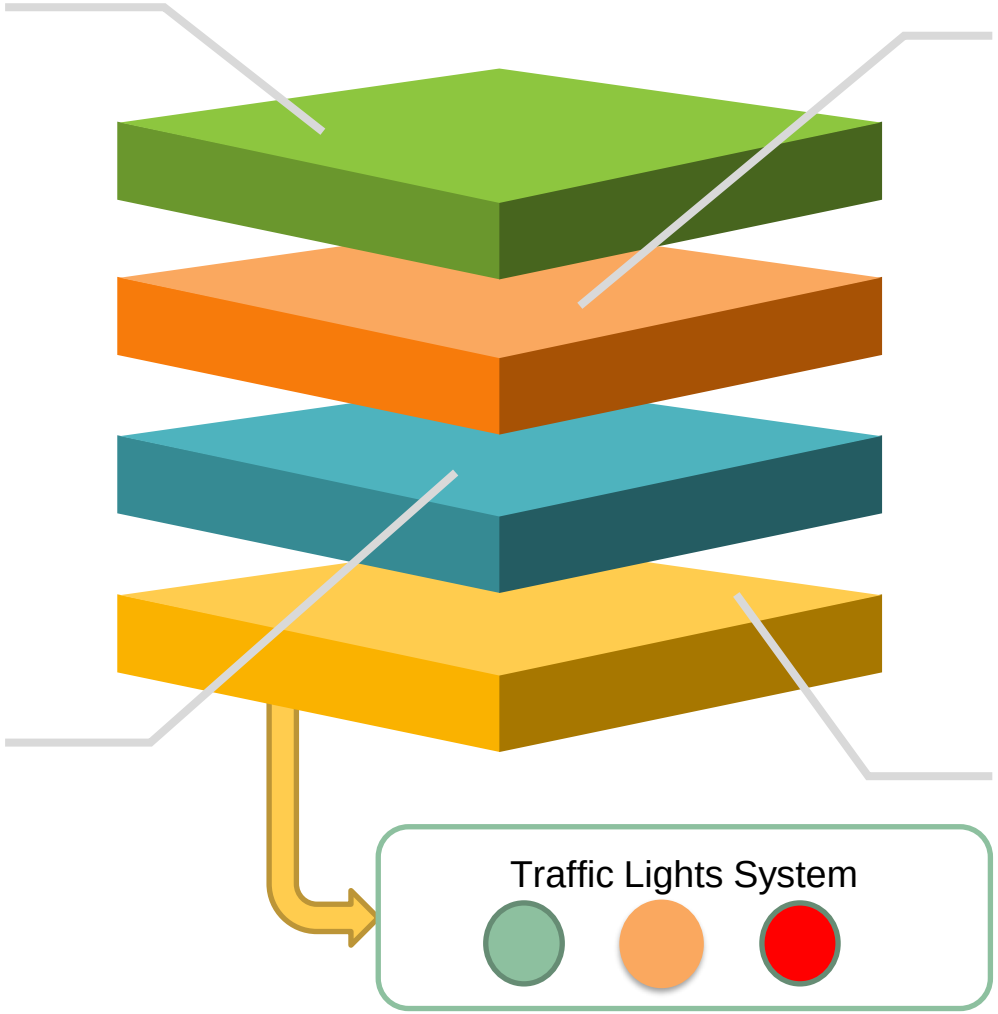
Elements of a taxonomy

OBJECTIVES

Goals and ambitions: The selection of sectors, activities and criteria are focussed on achieving the defined objectives.

ACTIVITIES

Eligible activities should be determined by their contribution towards achieving the objectives.



SECTORS

Include all sectors, except for those that are not climate compatible.

SCREENING CRITERIA

Should be based on science, should be binary and easily quantifiable.

Examples of objectives covered in international green taxonomies

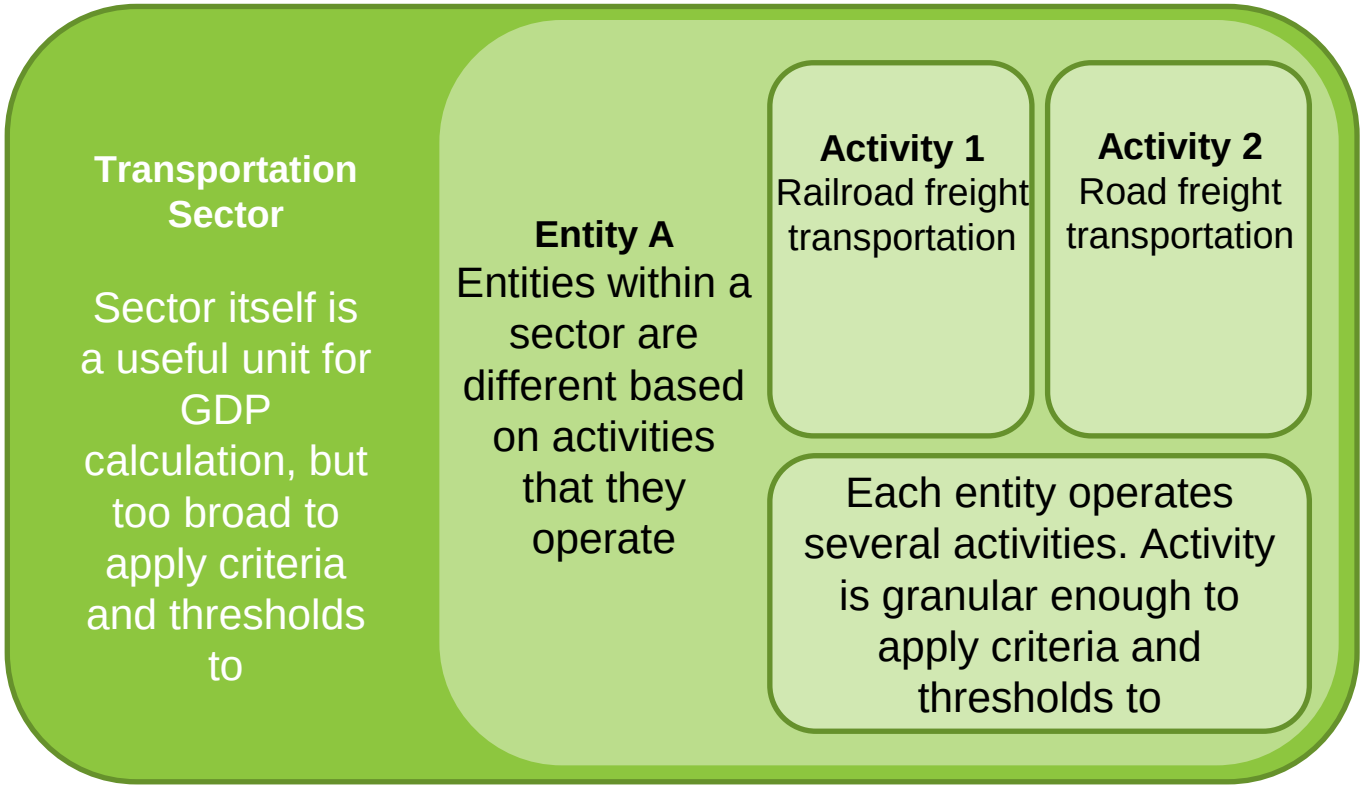
Climate Bonds INITIATIVE

EU Taxonomy	ASEAN Taxonomy	Climate Bonds Taxonomy	ICMA Green Bonds principles	Colombian Taxonomy[1]
Climate change mitigation	Climate change mitigation	Climate change mitigation	Climate change mitigation	Climate change mitigation
Climate change adaptation	Climate change adaptation	Climate change adaptation	Climate change adaptation	Climate change adaptation
Sustainable use and protection of water resources	Preservation of healthy ecosystem & biodiversity		Natural resource conservation	Conservation of ecosystems and biodiversity
Transition to a circular economy	Promote resource resilience & transition to a circular economy		Biodiversity conservation	Water management
Pollution prevention and control			Pollution prevention and control	Land management
Protection and restoration of biodiversity and ecosystems				Circular economy
				Pollution prevention and control

[1] Colombian taxonomy added as it's the last taxonomy produced with CBI assistance that absorbed all the best practices existing in the world as of mid-2022.

Sectors and activities

- Full taxonomy covers all the key sectors and activities
- **Exclude** those that are definitely **not climate-aligned** (e.g., fossil fuel extraction)
- Prioritise and choose the sectors and activities based on their **substantial contribution** to the chosen objectives
- **Activities** provide a more **precise guidance** for the application of screening criteria.
- The International Standard Industrial Classification **(ISIC) is often used as the basis for defining activities in taxonomies**



Screening criteria: principles

Binary

The threshold should be simple and quantifiable. It should **clearly define whether an activity is eligible or not**.

e.g., EU Taxonomy's criteria for Public Transport set a limit for tailpipe emissions of 50 gCO2/km. Thus, any Public Transport with emissions above the threshold, regardless of the technology, does not qualify.

Based on science

The thresholds must be chosen based on s**cientific information aimed at achieving global goals** and not be limited by national policies and plans.

e.g., Public Transport emission criteria should be based on IEA's mobility models.

Revisions

The thresholds must be subjected to **periodic revisions** to achieve the chosen goal over a defined period.

e.g., Declining emission thresholds for freight transport to reach net-zero by 2050.

Screening criteria: Traffic lights system

Green Label

Clearly and substantially contributes to GHG emissions mitigation

- The activity operates at or near zero, or has a clear pathway to net zero
- Mostly new assets

Examples: solar energy, wind energy, electric cars

Amber Label

Contributes to credible transition towards green

- ✓ ***Case 1***: Hard-to-abate activities that are needed beyond 2050, but at the present, do not have a clear 1.5-degree decarbonisation pathway to 2050
- ✓ ***Case 2*** interim activities that are currently needed but should be phased out by 2050
- Mostly existing assets (retrofitting)

Examples: long-haul passenger aviation (case 1). energy generation from natural gas (case 2);

Red Label

Not climate-aligned. Out of scope for credible transition

- Stranded assets
- Existing assets
- No future after 2050
- Divestment needed

Examples: coal, oil extraction

Green Thresholds: 1.5-degree pathway

- **Climate science.** Reflects green activities based on latest climate science and technology. This means a 1.5 degree pathway, which requires net zero by 2050.

- **Alignment**. International taxonomies (EU, Climate Bonds, ASEAN) either directly postulate the need to pursue 1.5-degree pathway or consider it strongly preferable.

> ASEAN Taxonomy says that the goal is to *"limit the global average temperature increase to well below 2°C, **preferably 1.5°C**, above preindustrial levels"*.

- **Attractiveness**. International climate-aware investors want to see 1.5-degree compliant projects and this fact needs to be considered if an access to international financial market is an issue.

- **Closing the gap**. Setting the ambition of 1.5 degrees keeps that sense of urgency at the forefront of policy and decision making. To stay within 1.5-degrees requires 50% cut in global emissions by 2030.

- **Cost effectiveness**. The cost of aligning with 1.5 degrees is much lower than the cost of exceeding it.

Amber Thresholds

Transitional activities under the amber label must:

- ✓ Demonstrate an **ambitious and credible** decarbonization pathway, within **a limited timeframe**
- ✓ Significantly **improve their performance over time**, demonstrated by tracking, monitoring, and disclosing CO2 equivalent emissions.
- ✓ Their investments must **not lock in carbon-intensive assets or processes** for the future (thus should be applied to retrofitting, not new assets)
- ✓ They must **not hamper the development and deployment of low-carbon alternatives**

Examples of approaches that can be used together or individually when defining amber thresholds:

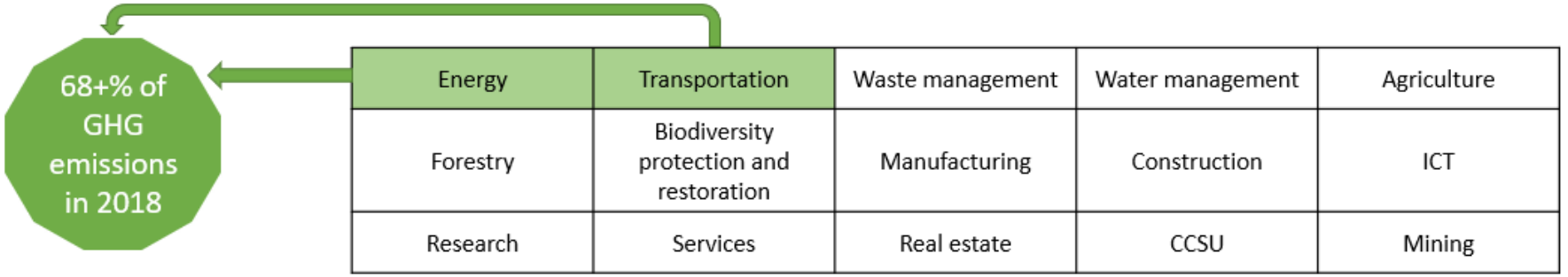
- Sunset dates. The taxonomy establishes a date after which activities cease to be eligible as amber (can't get a transition label anymore)
- Best in class: The threshold for the activity is established as representing the top 10-15% of best installations in the country, region, or globally. This method is widely used in sectors with no clear way to calculate a 1.5-degree aligned path such the manufacturing sector (Cement, Steel, Chemicals).
- Percentage change. If retrofitting or modernisation of the facility is discussed, a fixed percentage change may be an excellent way to establish a threshold.
  - ✓ *For example, in buildings renovation, the point is based on reducing Primary Energy Demand (PED) by at least 30%.*

3

Thailand Taxonomy

Thailand Taxonomy's Basic Parameters

- Aligned with the EU, CBI, ASEAN and Chinese taxonomies
- Pilot version is focused on two sectors: ***energy and transportation***
- Pilot version focuses on only one objective: ***climate change mitigation***



Energy	Transportation	Waste management	Water management	Agriculture
Forestry	Biodiversity protection and restoration	Manufacturing	Construction	ICT
Research	Services	Real estate	CCSU	Mining

- ***Technologically neutral:*** does not rule out the use of any kind of technology as long as it meets established green or amber criteria.
- Taxonomy includes **traffic lights system, numeric thresholds, do no significant harm (DNSH), social safeguards**

Thailand Taxonomy Objectives

Current version of the taxonomy

- Climate change mitigation
- Climate change adaptation
- Sustainable use and protection of marine and water resources
- Resource resilience and transition to a circular economy
- Pollution prevention and control
- Protection and restoration of biodiversity and ecosystems

National Strategy (thematical grouping)	Climate Change Master Plan	LT-LEDS	NDC
Climate change mitigation	Mitigation and Low Carbon Development	Mitigation	Mitigation
Climate change adaptation	Climate Change Adaptation	Adaptation and Resilience	Adaptation
Sustainable use and protection of marine and water resources	Enabling Environment for Climate Change Management		
Resource resilience and transition to a circular economy			
Pollution prevention and control			
Protection and restoration of biodiversity and ecosystems			

Sector prioritisation

	Sector	IPCC 2006	ISIC 4	Share of GHG emission, % of country total (2018)	Share of FDI, % of total (2021)	Share of GDP, % of total (2021)	Emissions share to GDP share ratio	Comment
	**Agriculture, hunting, fishing, forestry**	3A, 3B, 3G, 3F, 3I	A	15,08%	0,07%	8,54%	1,76	Huge contributor to GHG emissions, small ratio, the most complicated sector for emission reduction due to multiple factors
	**Industrials**	2A, 2B	C, F	9,11%	40,35%	29,81%	0,30	Average emission, but low ratio. Huge FDI Inflow means increasing future emissions
	**Energy**	1A2, 1A1, 1A4,	D, C192	47,59%	1,14%	2,45%	19,45	Biggest ratio, biggest mitigation potential, a lot of available technologies
	**Transportation**	1A3	H49, H50, H51, H52	20,76%	0,93%	4,55%	4,56	Average ratio, but huge potential for decarbonisation due to a vast array of available technologies
	**Water Supply Sewerage, Waste & Remediation Activities**	5A, 5B, 5C, 5D	E	4,62%	N/A	0,43%	10,70	High ratio, but small size and small gross emissions

From sectors to activities

- Substantial contribution to the objectives
- Technological viability
- Aligned with reference taxonomies

Sector (ISIC 4)	Activity
H491 - Transport via railways	Transport via railways
H492 - Other land transport	Other passenger land transport
	Urban and suburban passenger land transport
	Freight transport by road
H493 - Transport via pipeline	Transmission and distribution networks for renewable and low-carbon gases
H501 - Sea and coastal water transport	Sea and coastal water transport
H502 - Inland water transport	Inland water transport
H511 - Passenger air transport	Passenger air transport
H512 - Freight air transport	Freight air transport
C3312 - Repair of machinery	Retrofitting of sea and coastal freight and passenger water transport
Non-ISIC Transport Activities	Enabling infrastructure for low-emission transport
D351 - Electric power generation, transmission, and distribution	Solar energy
	Wind energy
	Hydropower
	Geothermal power
	Bioenergy
	Natural gas
	Ocean energy
	Electricity generation from renewable non-fossil gaseous and liquid fuels
	Storage of electricity and thermal energy
	Transmission and distribution of energy
D352 - Manufacture of gas; distribution of gaseous fuels through mains	Transmission and distribution networks for renewable and low-carbon gases
D353 - Steam and air conditioning supply	Production of heating and cooling using waste heat
	Installation and operation of electric heat pumps
	Heating and cooling distribution

Sources of calculated decarbonization pathways

Transition Pathway Initiative

Sectoral Decarbonisation Pathway (SDA) Methodology

- 2 Degrees Scenario
- 1.5 Degrees Scenario

Nationally Determined Contribution scenario (based on the Thailand's last NDC and other national documents)

International organisations

(Ex. International Maritime Organization)

Sources of green & amber thresholds

International Taxonomies:
EU, Climate Bonds Criteria, China etc.

- In most cases **green thresholds** are either EU Taxonomy or Climate Bonds Taxonomy-aligned, because these two taxonomies are based on extensive research and global consultations
- Decarbornization pathways are used to establish **amber thresholds**
- ***For Thai Taxonomy, the NDC-aligned pathway is used to setting amber thresholds (under discussion)***

DNSH and MSS chapters

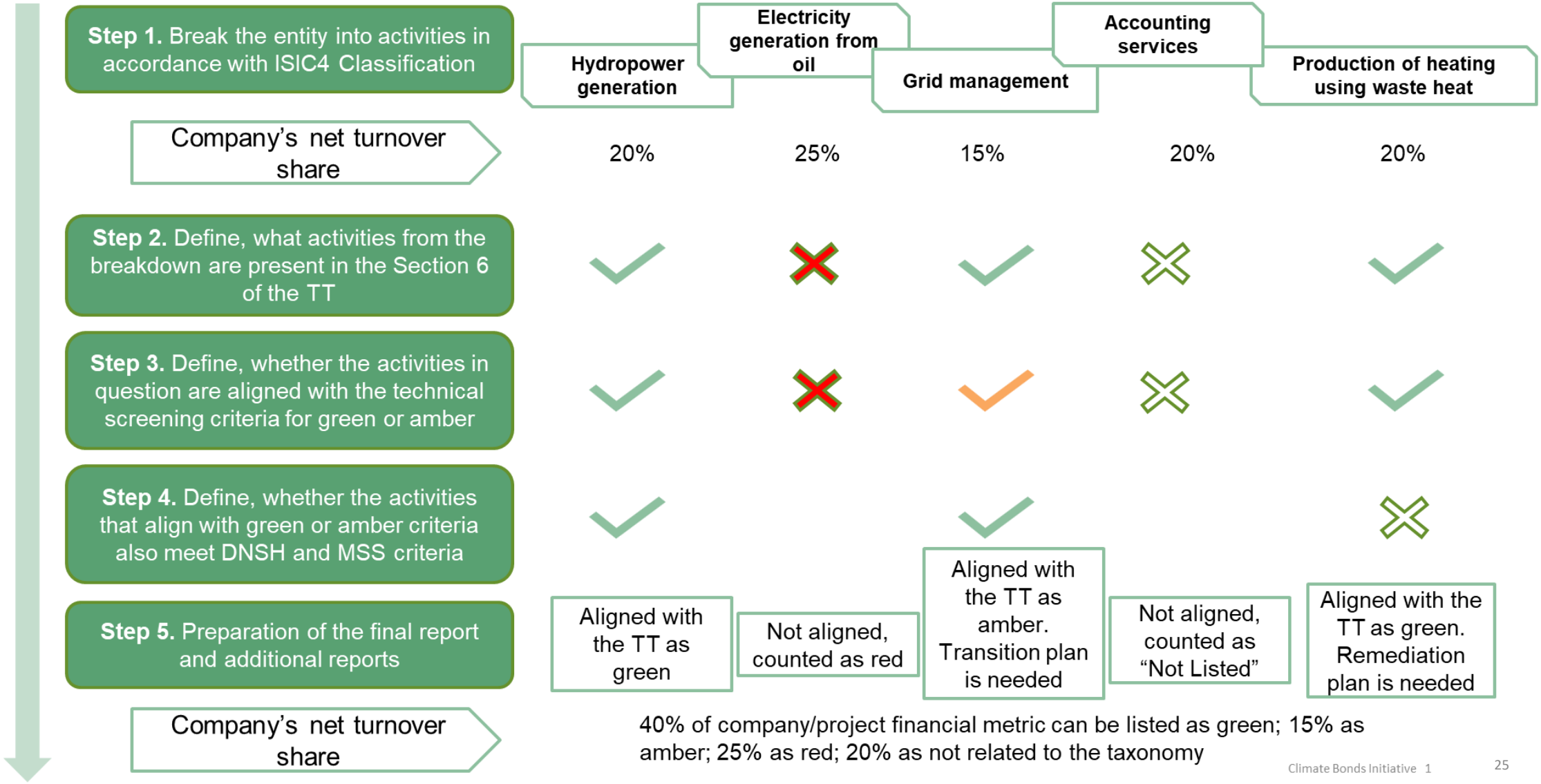
- **Do No Significant Harm (**DNSH) criteria are made against other objectives of the Taxonomy. This version of the Taxonomy has only one objective, so technically it was not possible to make a DNSH. We, however, made a generic DNSH to implement an important principle and leave foundation for the future.

- DNSH and MSS chapters are **made as simple and understandable as possible** in order to avoid overcomplication

- Entities that are ELIGIBLE under Taxonomy Criteria (criteria in Chapter 4) but FAIL to comply with DNSH or **Minimum Social Safeguards (MSS)** are STILL ELIGIBLE under the taxonomy as green or amber IF the company submits a REMEDIATION PLAN on how they're going to remediate their incompliance in the near future. Particular implementation of this part is to be developed in the Green Bond Framework (to be developed)

- Most part of the DNSH and MSS are **fully compliant with generic non-sectoral European Union Taxonomy DNSH and MSS**

Taxonomy alignment assessment scheme (entity level)



Thank you