
# Updated Standard for the Clean Development Mechanism (CDM), the Verified Carbon Standard (VCS), the American Carbon Registry (ACR) and the Gold Standard

Voluntary Carbon Market Standards and Regulations Training Course 自願性碳市場的最新標準及規則培訓課程

**第六堂：清潔發展機制 (CDM)、核證碳標準 (VCS)、 美國碳注冊登記處 (ACR) 和 黃金標準 (Gold Standard) 的最新準則**

Alexander TONG | Lesson 6: 10 July 2025

Organiser

香港測檢認證協會有限公司
Hong Kong Association for Testing, Inspection and Certification Limited

Implementation Agent

hkpc 生產力局

Funded by Trade and Industrial Organisation Support Fund, Trade and Industry Department

TSF 工商機構支援基金
Trade and Industrial Organisation Support Fund

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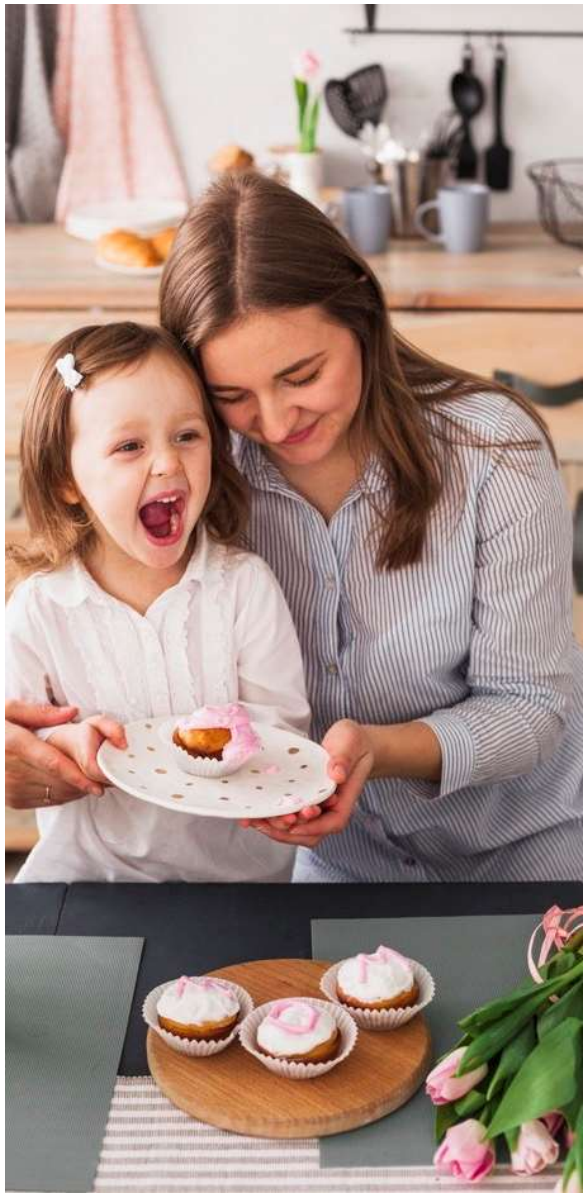
# Agenda



- About us
- M1 Fundamentals of Carbon Credits & Registries
- M2 Verified Carbon Standard (VCS) – Updates & Criteria
- M3 Gold Standard – Updates & Best Practices
- M4 CDM and the US Carbon Registry (ACR, CAR) – Overview & Updates
- M5 Hong Kong's Role and Opportunities
- Wrap-Up & Q&A

# SGS at a glance

## Global service, local expertise

**Swiss-based company**

**Industry leader**

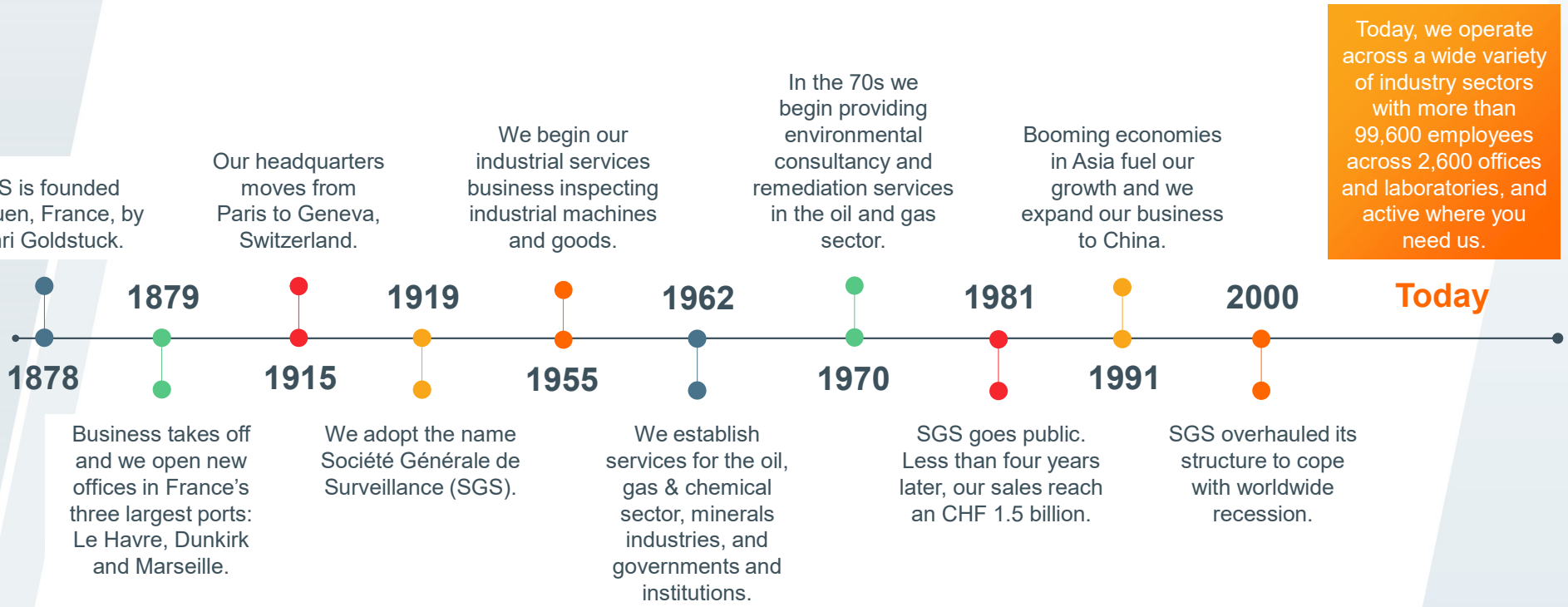
**99,500 employees**

**2,500 offices and laboratories**

**5 business lines**

Wherever you are, whatever your industry, our experts worldwide provide specialized solutions to make your business faster, simpler and more efficient.

# Discover our milestones



# SGS in APAC region

# SGS Hong Kong: gateway to Mainland China

## MAINLAND CHINA

- Established in **1991**
- Joint Venture between SGS Group & China Standard Technology Development Corp
- Over **16,000 Professionals**
- Over 200 Laboratories & 100 Branches

## HONG KONG

- Established in **1959**
- Over **1,000 Professionals**
- Regional Technical Competency Centre
- Regional Customer Management Centre

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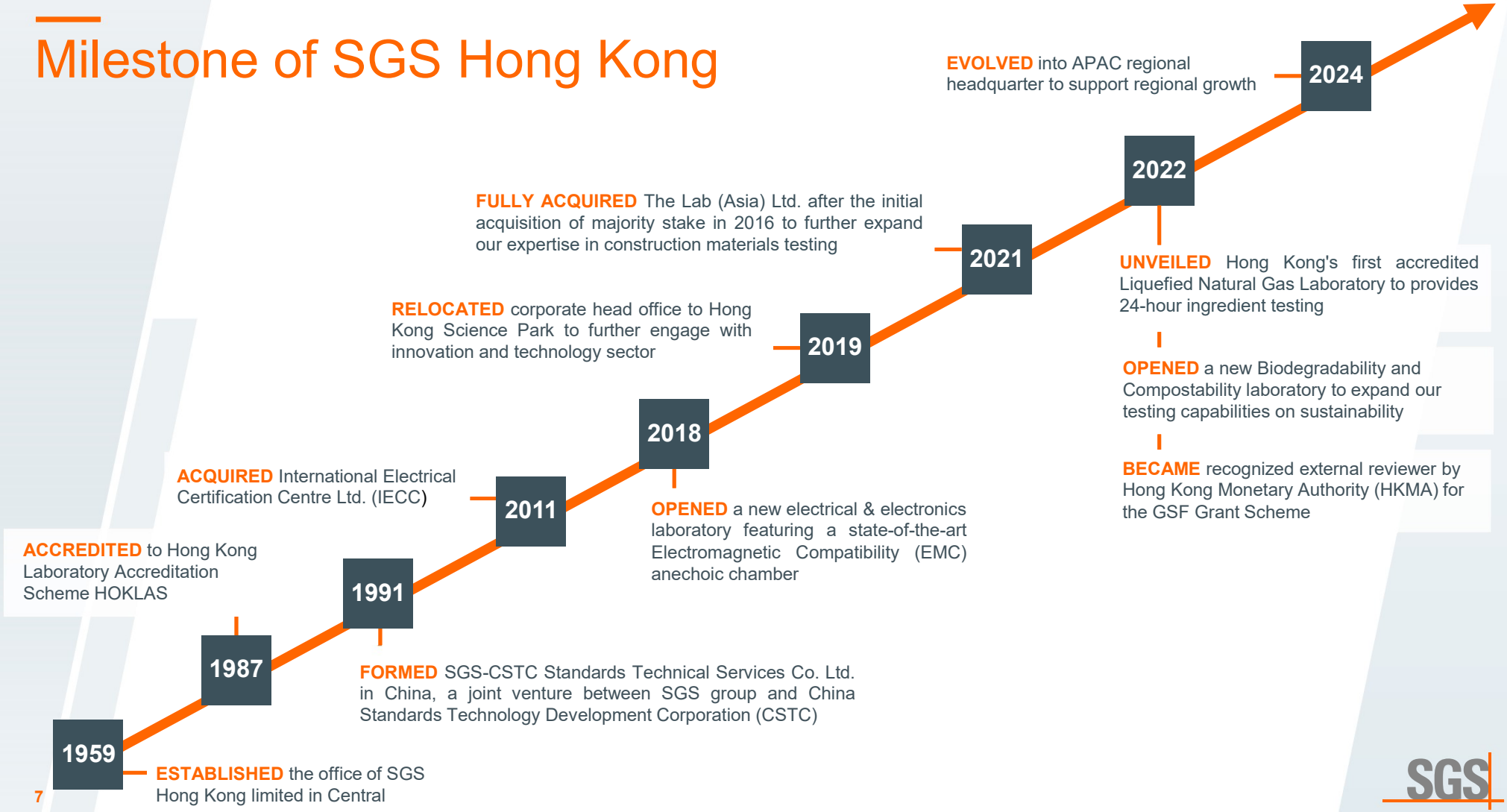
# Milestone of SGS Hong Kong



# SGS Hong Kong locations

**LABORATORY FACILITIES THE LAB (ASIA) LTD.**
- Industries & Environment

**OIL, GAS AND CHEMICALS LABORATORY FACILITIES**
- Nature Resources

**LABORATORY FACILITIES THE LAB (ASIA) LTD.**
- Industries & Environment


**LABORATORY COMPETENCE CENTRE IN FANLING**
- Connectivity & Products
- Health & Nutrition
- Industries & Environment
- Natural Resources

**CORPORATE HEAD OFFICE IN SCIENCE PARK**
- Business Assurance

**ELECTRICAL & ELECTRONICS (CONSUMER) LABORATORY**
- Connectivity & Products

# Why choose SGS?

**We are the point of reference “when you need to be sure”**

**Gold standard solutions provider with over 145 years of experience**

**Local presence combining global expertise**

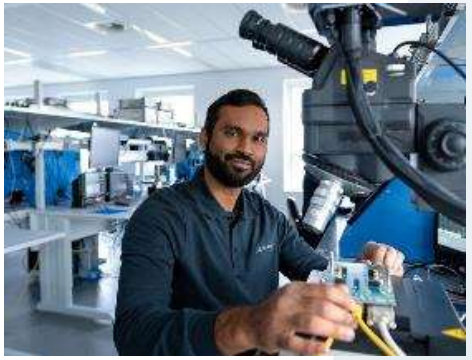
**Largest number of national accreditations globally**

**Largest global network of restricted substances testing, pollutant identification and general chemistry**

**Driving sustainability solutions to support customers**

**A unique expertise in end-to-end supply chain evolution**

**Leading provider of digital trust services**

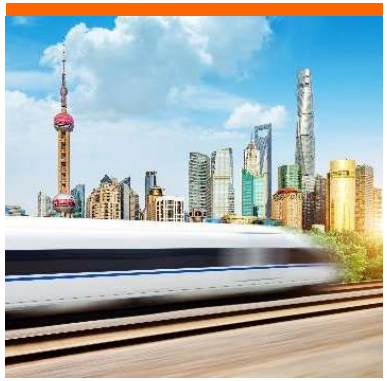


**Largest service portfolio in the TIC industry**

# What make us different in Hong Kong?

Sustainable and driven community caring for the environment and people

Key Account Management & R&D Centre in Asia and around the world



Synergy with China, one of the largest regional platforms


APAC headquarter with passionate team in the region


High commitment to the local market and clients

# Corporate Awards


Awarded the 15 Years Plus Caring Company Logo, in recognition of our continued commitment to corporate social responsibility, and caring for the community, employees and environment


Received the Hong Kong Council for Testing and Certification (HKCTC) testing and certification manpower development corporate award twice in a row to recognize our efforts in talent training and manpower development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for sustainability
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When you need to be sure


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SUSTAINABILITY
The planet needs it
Our customers want it
We have the solutions
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# The need for sustainability is undeniable

- Sustainability is everything, sustainability is everywhere
- Triple planetary crisis with climate change, biodiversity loss, pollution and waste management signal our negative impact on the planet
- A positive impact on people, communities and the environment are now a key buyer demand
- Corporations, ratings agencies and investors need compliance with environmental, social and governance (ESG) criteria
- Governments are introducing legislation to mandate ESG disclosures and product and process sustainability
- SGS has the full suite of sustainability services to support your business to meet its sustainability objectives

# SGS is a sustainability enabler

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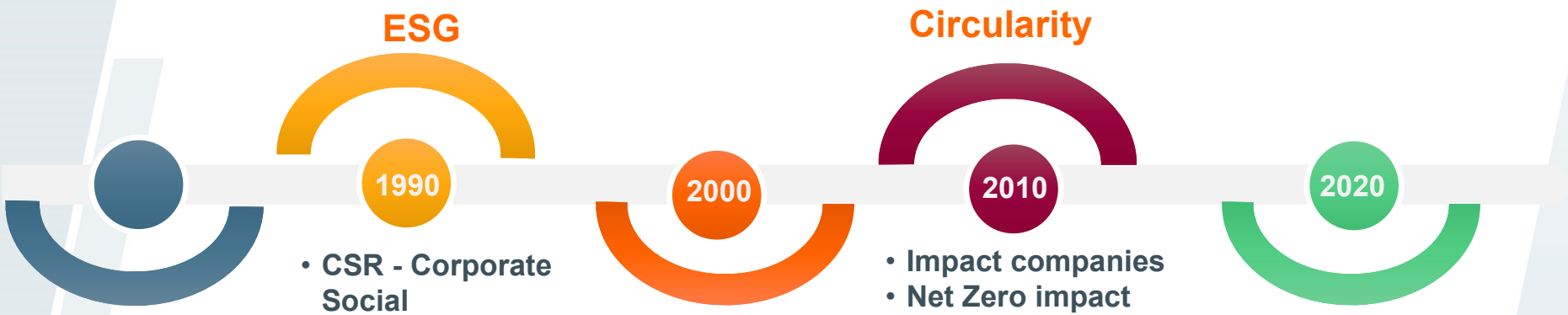
**Supporting our customers to achieve their sustainability ambitions, anticipating upcoming risks and challenges**



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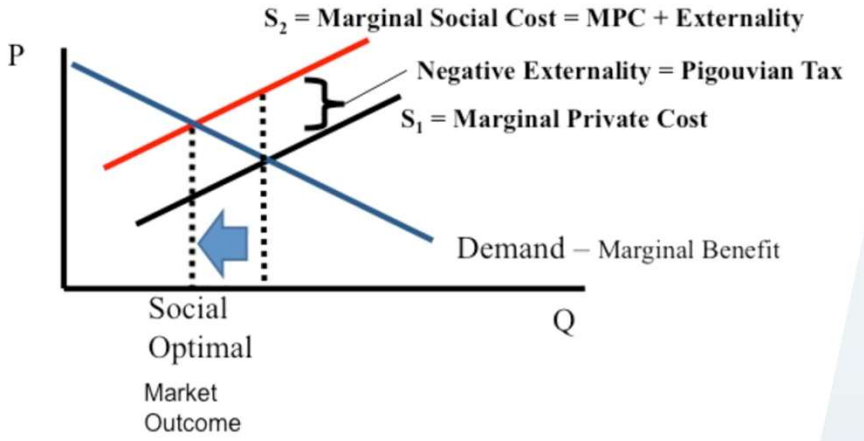
MODULE ONE

# Fundamentals of Carbon Credits & Registries


Alexander TONG | Lesson 6: 10 July 2025

# Carbon Pricing: A Tool for Climate Action

As early as 1920, economist Arthur Pigou proposed that governments should tax activities that create negative externalities. This is the basis of Pigouvian taxation. If emitting $CO_2$ harms society, then emitting should come with a price.

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A price on carbon helps shift the burden for the damage from GHG emissions back to those who are responsible for it and who can avoid it. Instead of dictating who should reduce emissions where and how, a carbon price provides an economic signal to emitters and allows them to decide to either transform their activities and lower their emissions or continue emitting and paying for their emissions.

# What are carbon markets?

A carbon market is where carbon credits are bought and sold between project developers and buyers

Carbon markets are either voluntary markets or compliance markets

A Carbon Credit = 1 ton of $CO_2$ avoided or removed

Markets create financial incentives to reduce or remove carbon

Supports innovation and funding for climate solutions

# Carbon Credits (or carbon offsets) explained

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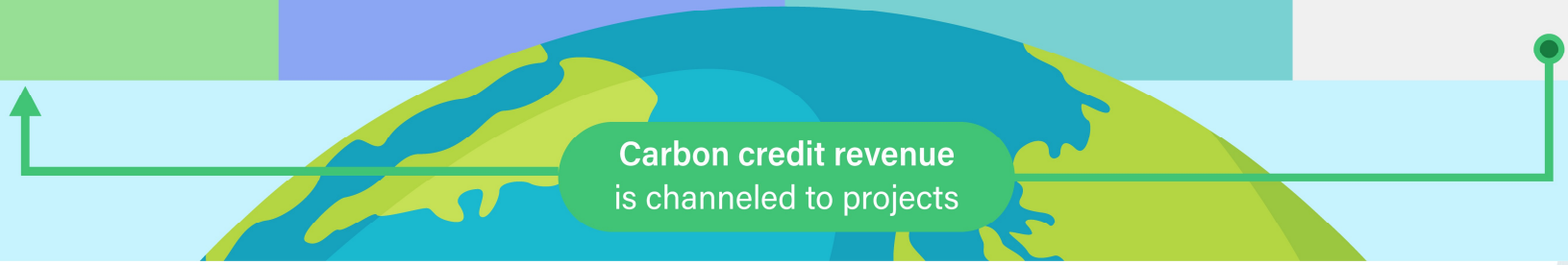
**Carbon credit projects are developed, with activities that result in emissions reductions/removals**. These reduction/ removals are quantified based on a carbon crediting methodology.


**Project is registered under a carbon credit programme** (e.g. Gold Standard, Verra), and the emissions reductions/removals are verified by the programme under their respective processes.


**After verification, the programme issues carbon credits under their registries** that represent the emissions reductions/removals from the project. Carbon credits can be sold directly to buyers, or through agents or exchanges such as carbon trading desks.


**Buyers purchase and retire the carbon credits** in the programme registry to claim the "credit" to the emissions reductions/removals, and offset their carbon footprint.




Source: https://www.carbonmarkets-cooperation.gov.sg/our-art6-cooperation/what-are-carbon-credits/



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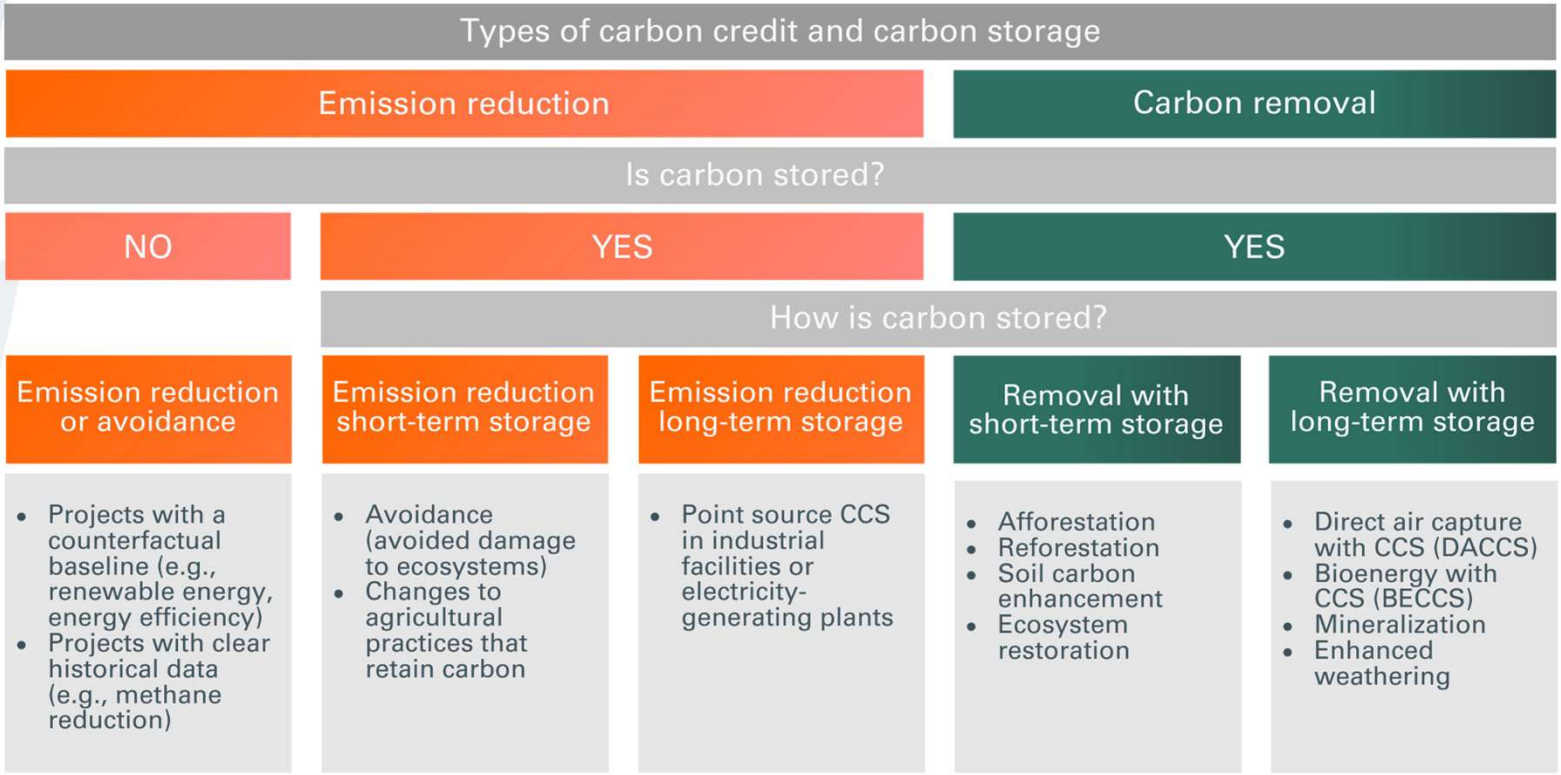
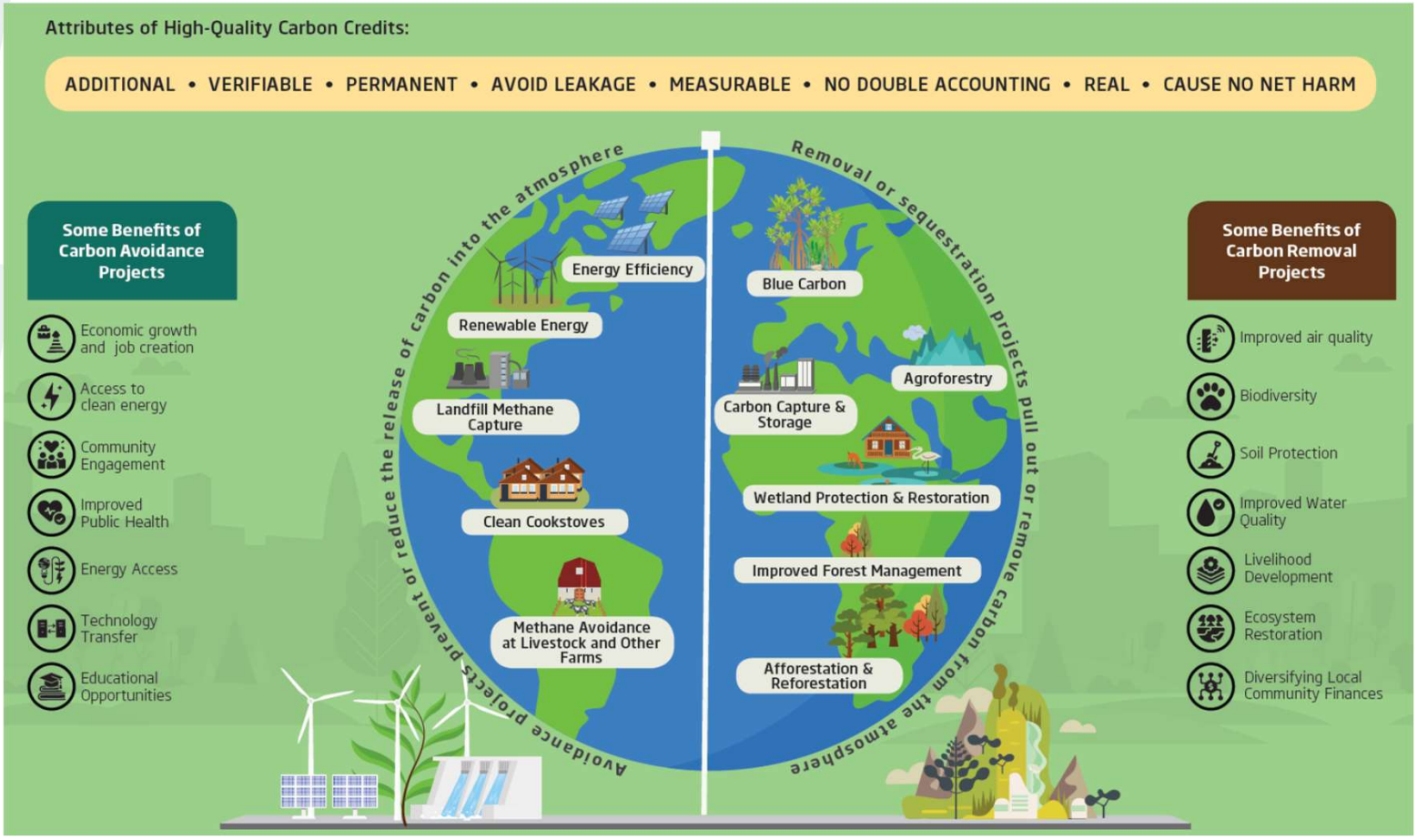
# Types of Carbon Credits




Source: Paul Zakkour, Anwar Gasim, and Mari Luomi, based on Allen et al. (2020).

# Carbon Credits explained




Source: YTL SV Carbon, 2022

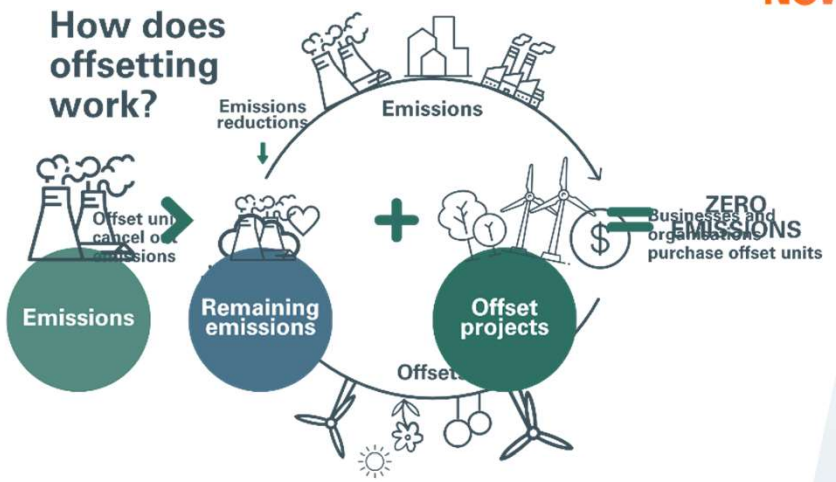
# Why Do Carbon Markets Exist?

- Climate change is driven by carbon dioxide (CO2) emissions
- Some emissions are hard to avoid
- Solution: Reduce where you can, and offset what you can't

**Help fund climate-friendly projects**

**Allow companies to offset emissions to achieve climate neutrality and net-zero**

**Support global climate goals**




- Offsetting emissions helps companies balance what they emit and what they remove.
- This is a key step toward reaching climate neutrality (no net increase of emissions).
- Net zero means companies reduce emissions as much as possible and offset only the remainder.

Carbon offsetting: funding projects (e.g., reforestation, renewable energy) that remove or reduce $CO_2$ to balance out your own emissions.

# History

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## 1997

**Kyoto Protocol**

Kyoto Protocol created the Clean Development Mechanism (CDM), launching the first large-scale carbon crediting system.

## Early 2000s

**Early growth & challenges**

CDM scaled up despite early project quality and scaling challenges

## 2005

**Rise of voluntary markets**

Programs like VCS and Gold Standard emerged, giving flexibility for corporate voluntary offsets

## Late 2000s-early 2010s

**Market expansion & innovation**

EU-ETS launched, Rapid growth of carbon markets, new project types, technologies, and methodologies.

## 2009

**First major crisis**

Global financial downturn and post-Kyoto uncertainty triggered a carbon market crash

## 2010-2015

**Expansion of Compliance markets**

2012: Kyoto Protocol's first commitment period concludes; Doha Amendment for 2nd commitment period

California cap and trade, Korean ETS

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# History continued

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## 2015

**Paris Agreement & Article 6**

New stage for carbon markets supporting national targets

Lays groundwork for international carbon markets and cooperative approaches

## 2019 onwards

**Growth of Voluntary Carbon Markets**

Surge in corporate net-zero pledges drove VCM growth, but scrutiny of credit quality intensified

VCM's value surpassed $1 billion in 2021

## Present

**Rise of Carbon Dioxide removal(CDR) credits**

Natural and tech-based carbon removals (e.g., DAC, reforestation) scale up

## Future

**Exponential growth projections**

Push for stronger standards, transparency, and large-scale carbon removal.



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# Article 6 of the Paris Agreement

### Article 6.2: Voluntary Cooperative Approaches

- Enables transfer of “ITMOs” between countries toward their NDCs
- Key bilateral deals:
  - **Azerbaijan** ↔ **Japan** (JCM Memorandum of Cooperation, 2022)
  - **Georgia** ↔ **Switzerland & Japan** (6.2 ITMO agreements & JCM)
  - **Kuwait** ← **Rwanda** (Rwandan ITMO purchases)
  - **Jordan** ↔ **Norway** (Norway’s NOGER cooperation)
  - **Saudi Arabia** ↔ **Japan** (JCM MoC, 2015)
  - **UAE** ↔ **Japan** (JCM MoC, 2023)

### Article 6.4: Sustainable Development Mechanism

Establishes a UN-supervised carbon-crediting system (successor to the CDM, called Paris agreement Crediting Mechanism) that issues credits for emissions reductions or removals, with a “share of proceeds” to fund adaptation in vulnerable countries.

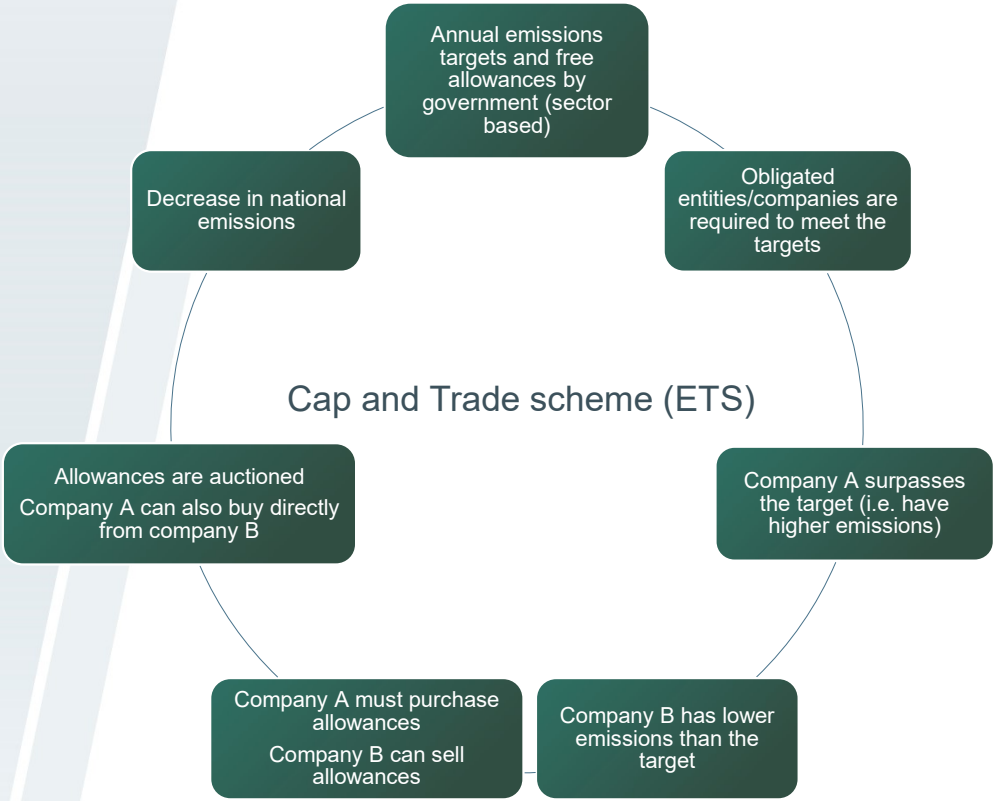
### Article 6.8: Non-Market Approaches

- Encourages cooperation outside carbon trading
- Covers technology transfer, capacity building, and climate finance
- Aims to bolster policy tools and sustainable development

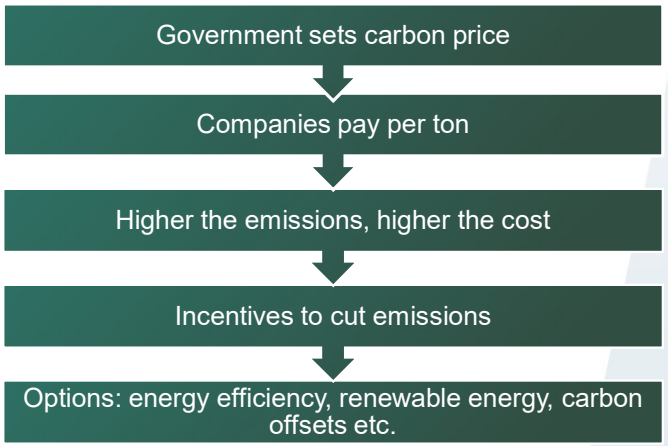
**Countries are aligning voluntary markets with compliance mechanisms under Article 6**

# Compliance Markets

- Created because of national, regional and/or international policy or regulatory requirement




**Carbon tax:** Instead of setting a cap, the government **puts a price (tax)** on every ton of carbon emitted.



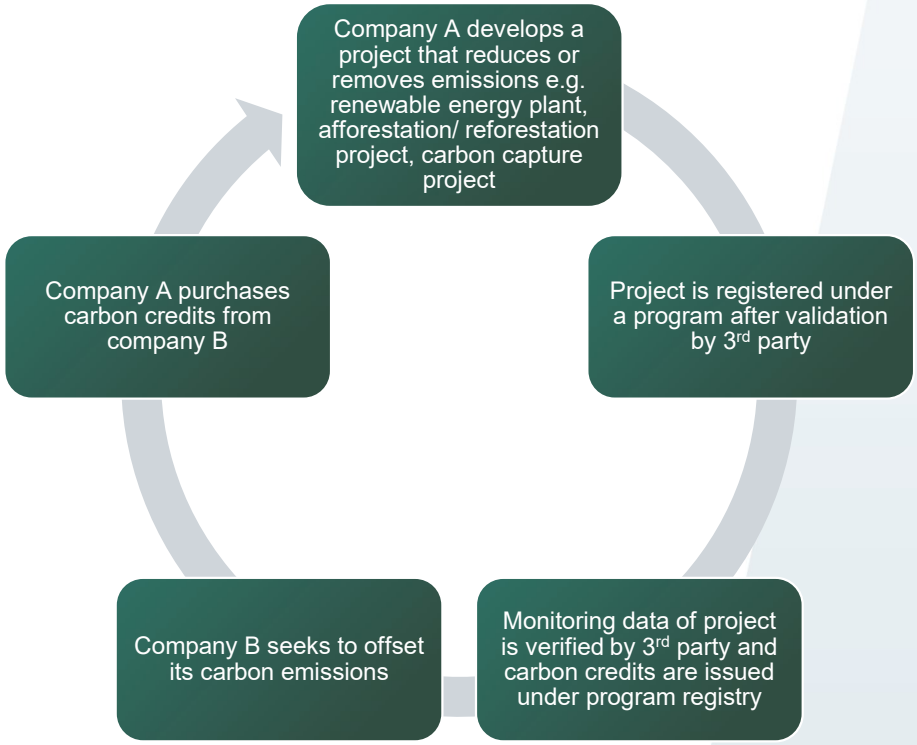

One allowance provides the right to emit one ton of $CO_2$(or $CO_2$ equivalent of other greenhouse gases).

# Voluntary Carbon Markets

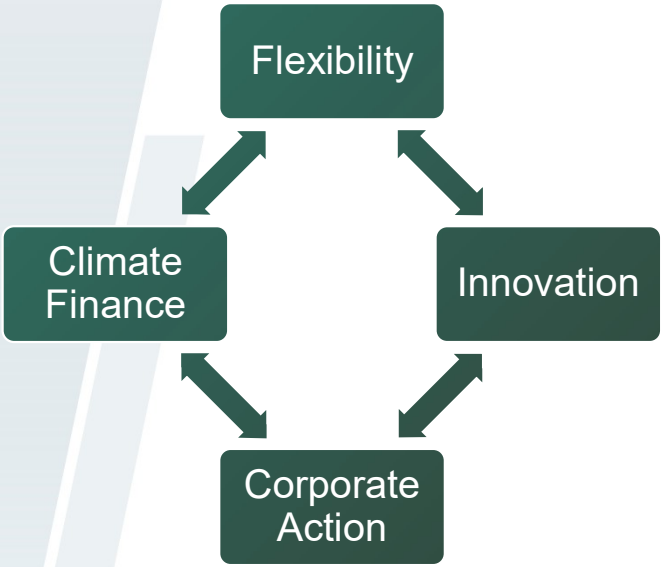
- Issuance, buying and selling of carbon credits, on a voluntary basis.
- Help companies and countries meet climate targets by funding projects that reduce or remove emissions while they work toward eliminating their own carbon footprint.

**Leading standards**

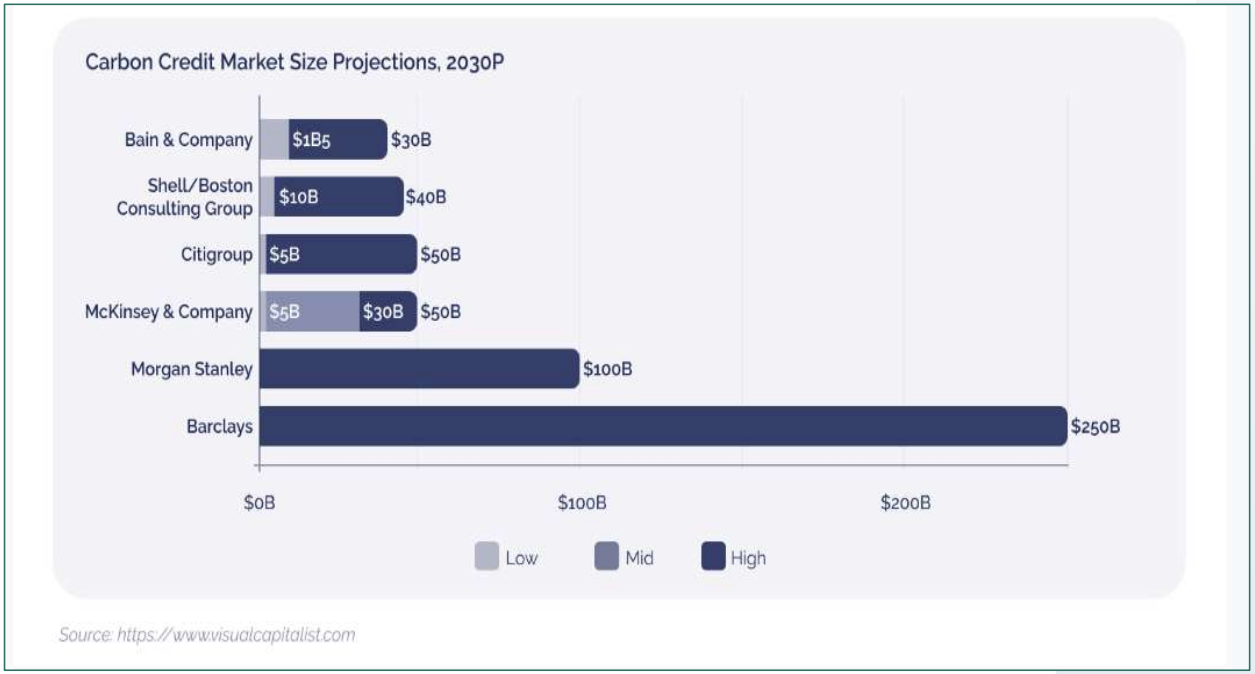
1. **Verified Carbon Standard (Verra)**
2. **Gold Standard for Global Goals**
3. **Global Carbon Council**
4. **American Carbon Registry**
5. **Climate Action Reserve**
6. **Cercarbono**



# Why focus on VCM?

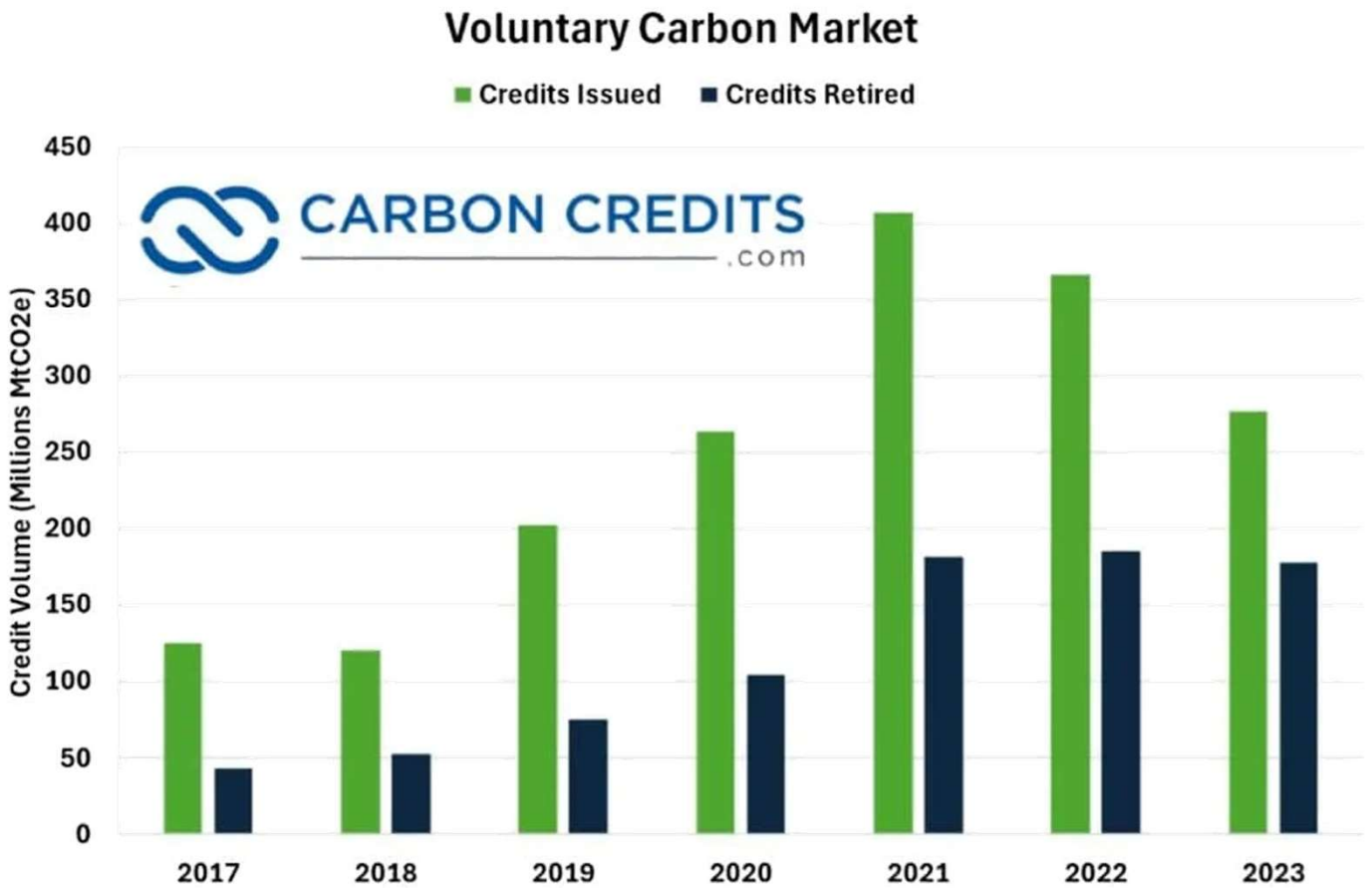


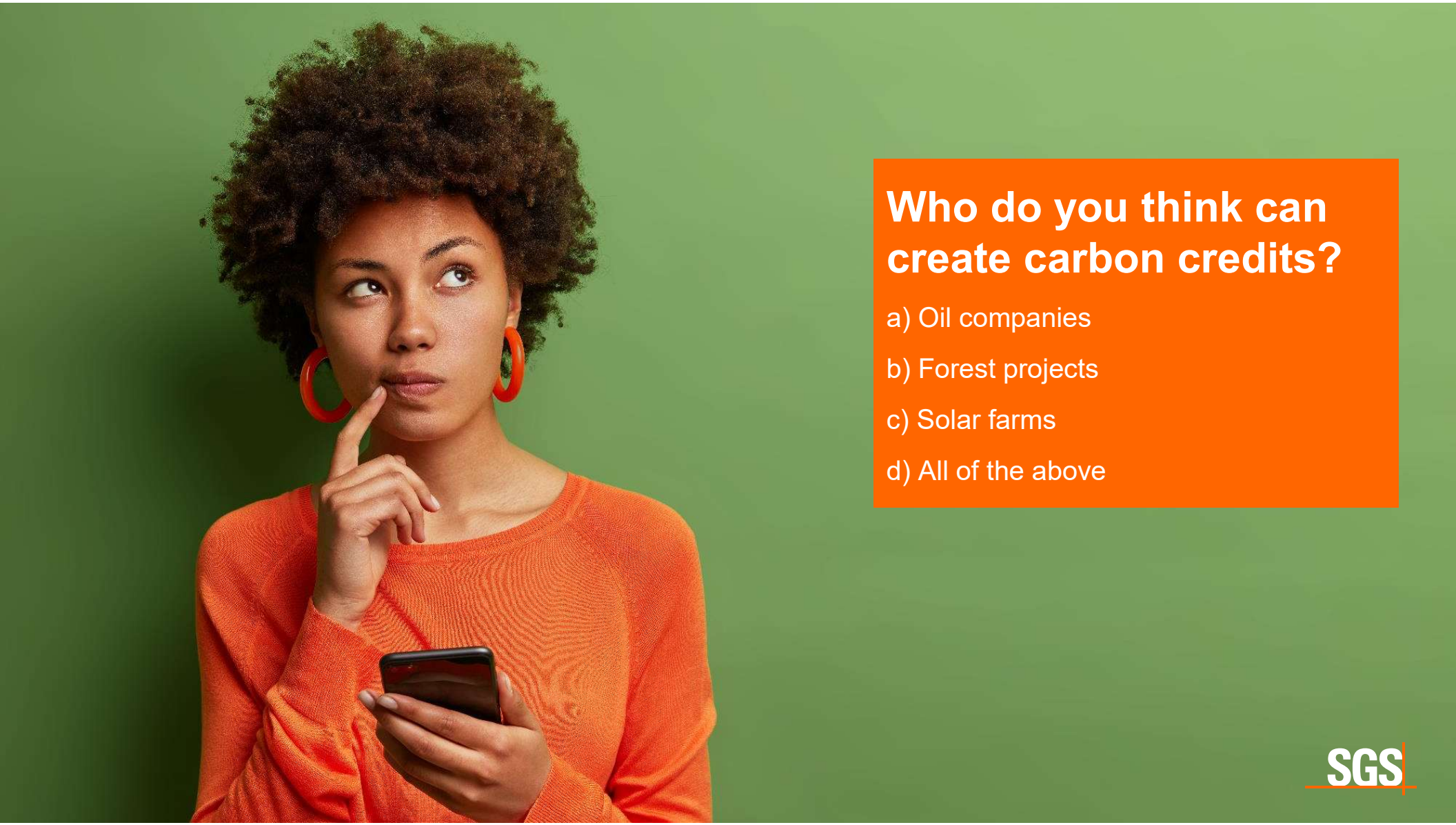

## Growth Projections




Voluntary Carbon Market is projected to grow exponentially by 2030, with estimates ranging from $30B to $250B

# VCM Market Trends




Who do you think can create carbon credits?
a) Oil companies
b) Forest projects
c) Solar farms
d) All of the above
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# Voluntary Carbon Market Value Chain: Key Actors

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## Investors

- Financial institutions e.g., Viridios Capital, Carbon Growth Partners, World Bank

## Project Developers

- Design, implement and manage offset and removal projects
- Includes specialized carbon firms, NGOs/Community based groups, corporates integrating carbon into core operations and tech-based removal companies

## Consultants

- Support project developers and buyers e.g., Southpole, Climate Impact Partners
- They design and structure projects
- Prepare project documentation for registration and verification
- Advice buyers on carbon credit sourcing

## Validation & Verification Bodies (VVBs)

- Independently assess project eligibility and performance against carbon standards
- Conduct validation before project registration
- Perform verification (ongoing emission reduction/removal checks)

## Carbon offset programs/schemes

- Set standards for carbon credit quality, certify and issue carbon credits, and have a registry to track projects, credit issuance and retirements e.g., Verra (VCS), Gold standard

## Carbon Credit Buyers

- Buy carbon credits to offset their own emissions, or emissions in their value chain e.g., Shell, Microsoft, Autodesk, Etsy

## Carbon brokers, retailers and rating agencies

- Offer a range of services that reduce time taken to engage directly with project developers e.g, ACT, STX
- Rating agencies evaluate the quality risk and integrity of projects e.g., Calyx Global, Sylvera, BeZero

## Carbon exchange

- Marketplace where verified credits are listed, bought and sold e.g, Carbon Trade Exchange, Air Carbon Exchange

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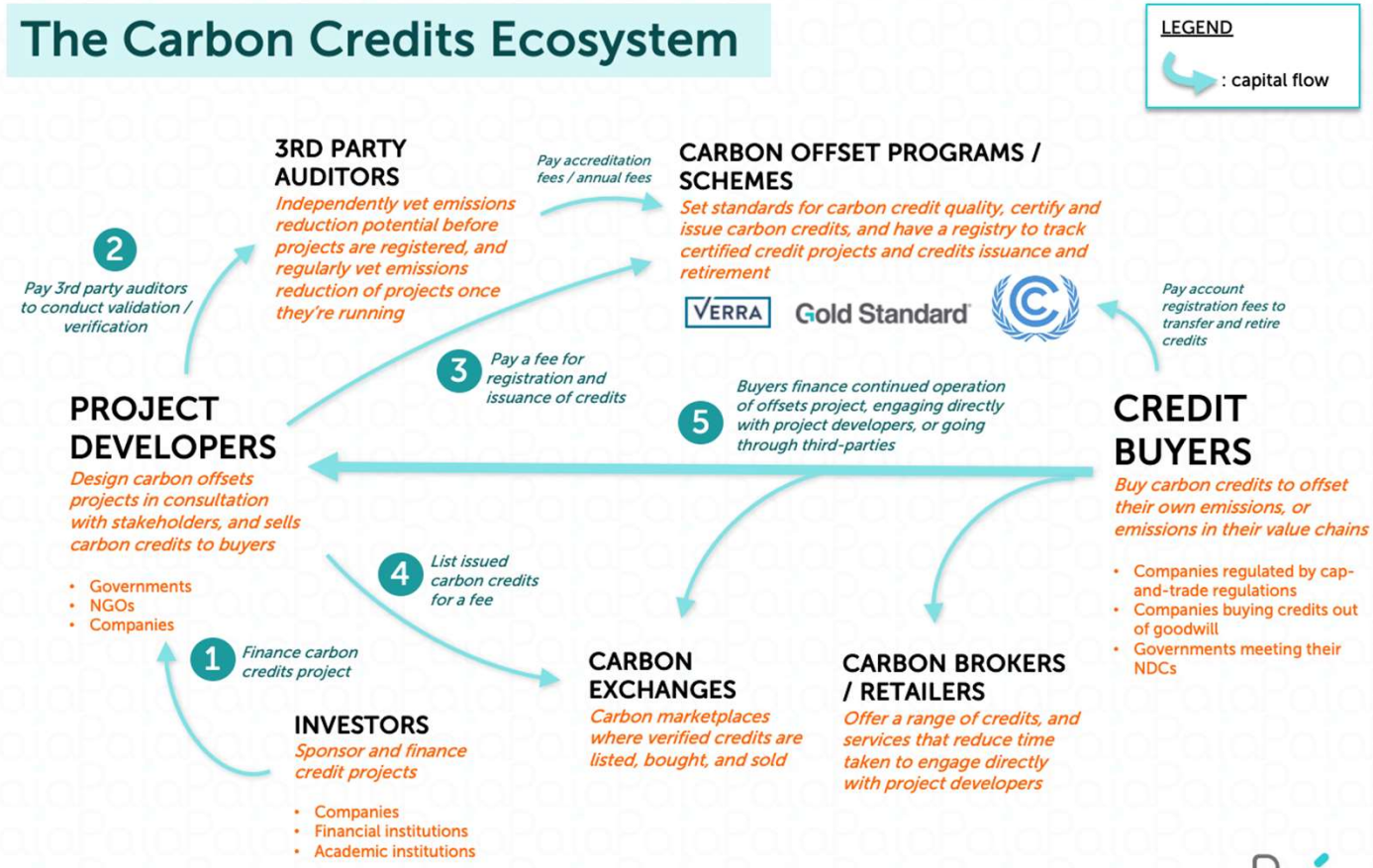
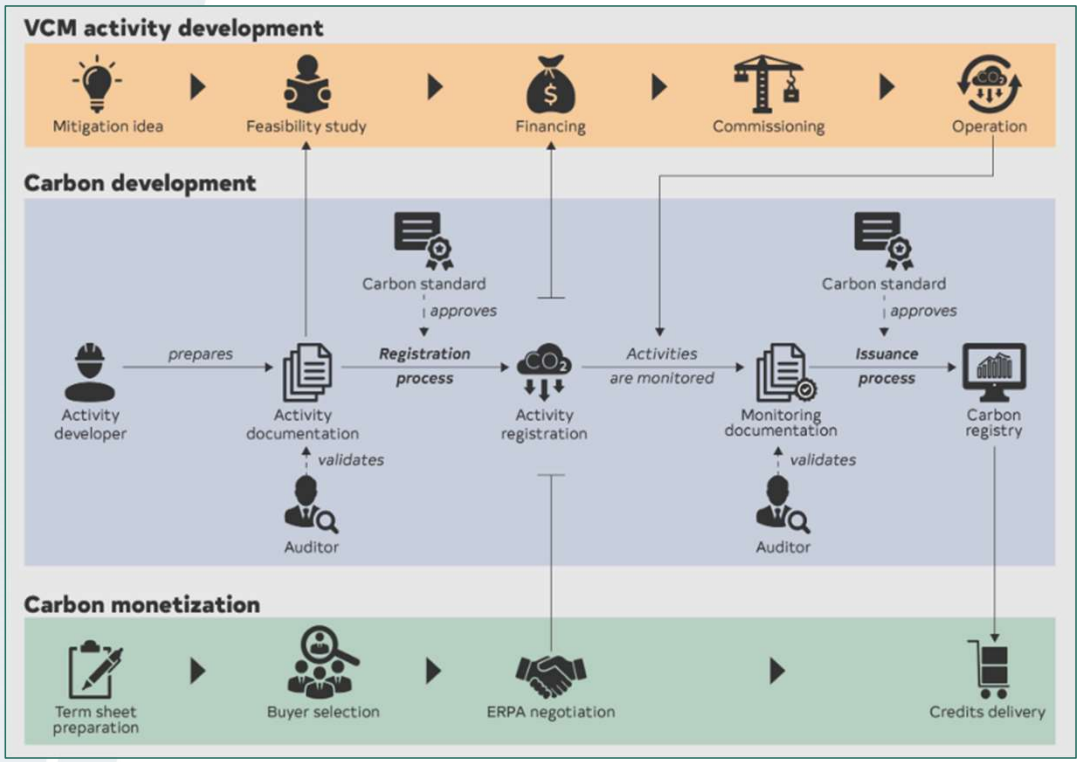
# Voluntary Carbon Market: Visual Outlook




Source: Paia

# How are Carbon Credits created?

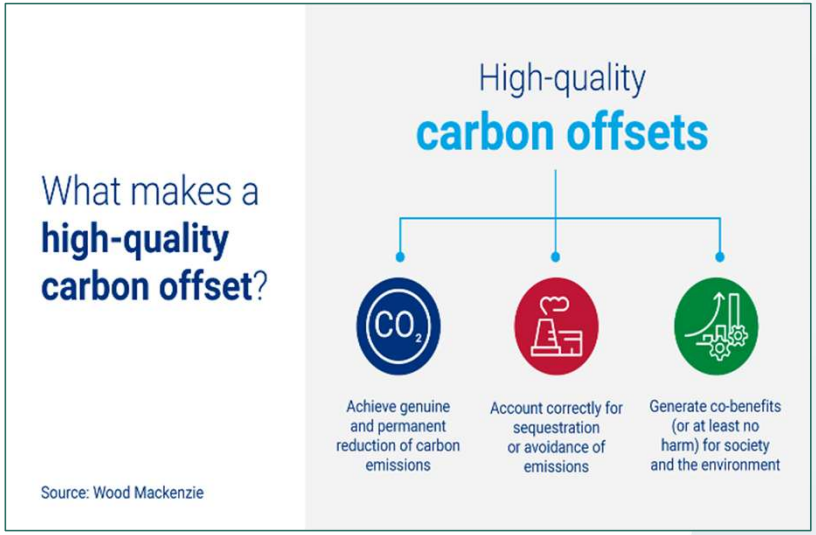



Source: VCM Primer | vcmprimer.org

- ✓ Baseline: Emissions level that would occur without the project, used as a reference
- ✓ Additionality: Proof that reductions wouldn't happen without the financial incentive of selling carbon credits
- ✓ SDG Co-benefits: Project's positive impacts beyond carbon (e.g., poverty reduction, biodiversity)
- ✓ Validation: Third-party review of the project design to ensure it meets the chosen standard
- ✓ Verification: Independent audit of actual emissions reductions against reported data.

# What is a High-Quality Credit?

- **Quality Indicators**
  - ✓ Additionality: Project delivers reductions that wouldn't have happened otherwise
  - ✓ Permanence: Carbon storage is long-lasting, with measures to guard against reversal
  - ✓ Third-Party Verification: Independent auditors (VVBs) validate & verify the emissions impact.
  - ✓ Leakage Control: Project design ensures no net increase of emissions elsewhere
  - ✓ Robust MRV: Measuring, Reporting & Verification systems are transparent and accurate




- **Governance & Integrity Initiatives**
  - ✓ ICVCM (International Carbon Voluntary Market Initiative): Sets market governance and quality standards
  - ✓ VCMI (Voluntary Carbon Market Integrity Initiative): Ensures transparency, consistent claims, and high integrity
  - ✓ Others like TSVCM (Taskforce for Scaling VCM), IETA (International Emissions Trading Association) etc

# Typical projects

## Renewable Energy

Wind, solar, hydro to replace fossil fuel

**Benefits:** Reduces greenhouse gas emissions from energy production.

## Landfill Gas

Capture methane emissions produced by the natural decomposition of organic waste in landfills, which is over 25x more potent than $CO_2$

**Benefits:** Converts waste gas into usable energy (electricity or heat)

## Efficient Stoves

Replace traditional open-fires or inefficient stoves with cleaner, more efficient cookstoves that use less fuel and burn more completely

**Benefits:** Reduces indoor air pollution, Uses 30–60% less firewood or charcoal

## Nature Based Solutions

Mangrove Restoration, Afforestation and Reforestation, Soil Carbon Projects, Avoided Deforestation (REDD+)

**Benefits:** Carbon sequestration through natural processes.

# Typical projects

## Biochar

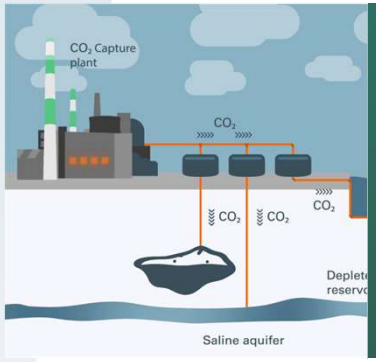
Converts biomass into stable carbon-rich material

**Benefits:** Long-term carbon storage in soils; improves soil health.

## Enhanced Rock Weathering & Ocean Alkalinity Enhancement

Adding minerals on land and oceans to absorb carbon dioxide

Benefits: Natural process, improves soil quality




## Direct Air Capture (DAC)

Pulls carbon dioxide ($CO_2$) directly from the air using chemical filters. The captured $CO_2$ is then either stored underground permanently or used in products like fuels or building materials.

**Benefits:** Captures even the very low concentration of $CO_2$ in the atmosphere

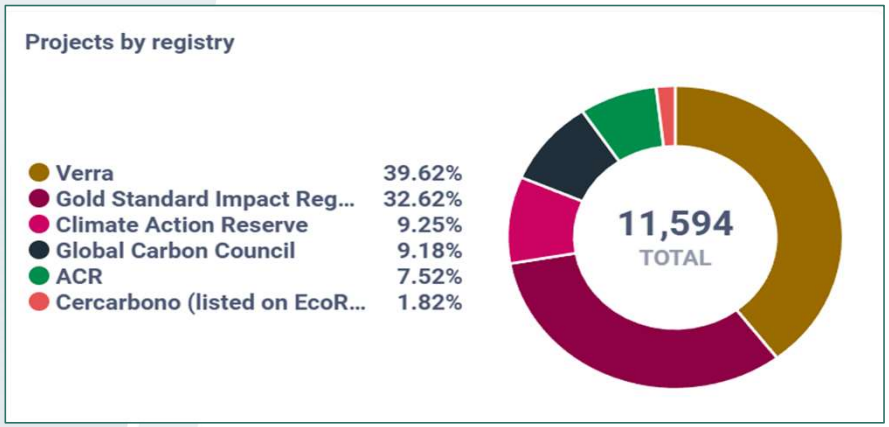
## Bioenergy with Carbon Capture and Storage (BECCS)

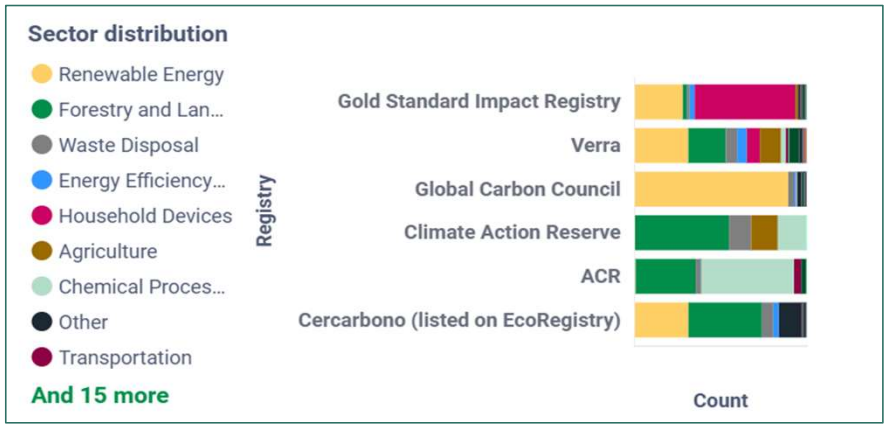
Biomass (like plants) is used to produce energy

Uses biomass for energy; captures and stores $CO_2$ emissions underground

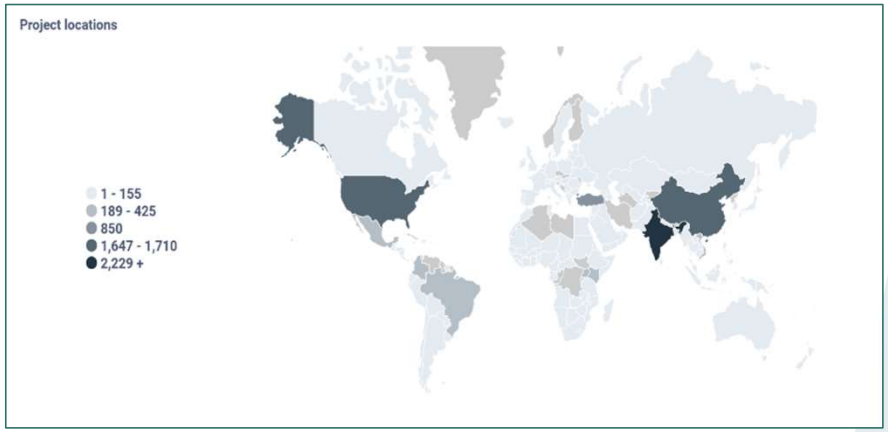
**Benefits:** It removes more $CO_2$ than it emits

# Project Distribution





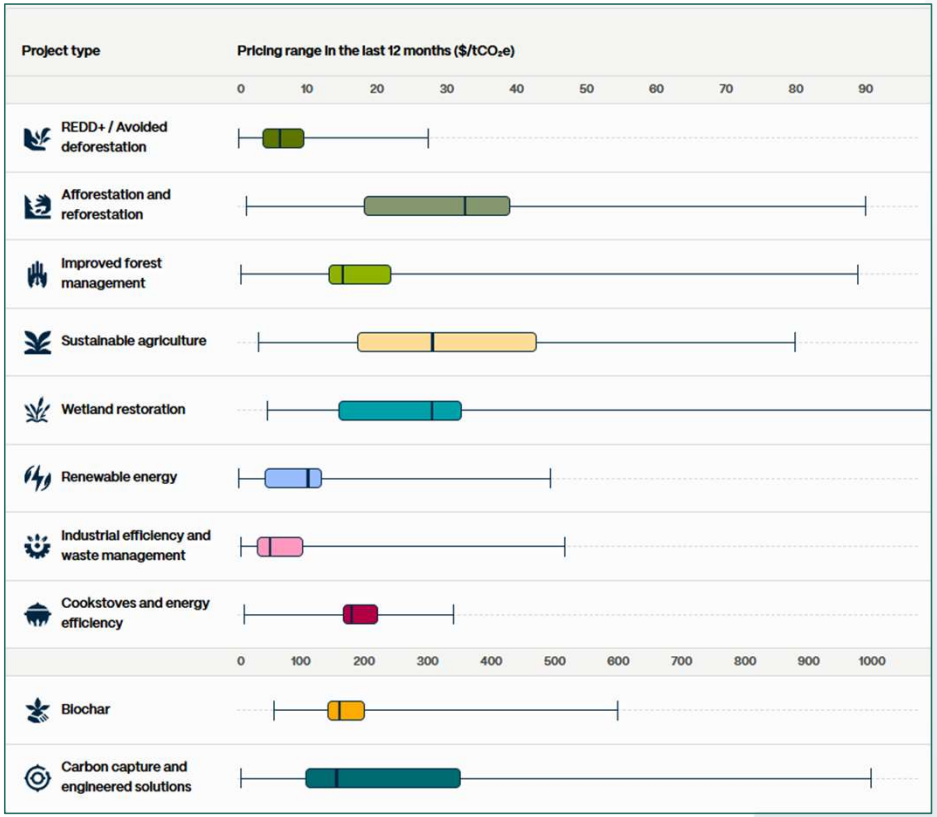



Source: [The Home of Carbon Market Data - AlliedOffsets]

# Market insights

- Investment in carbon market funding deals reached $16.3 billion in 2024, highlighting strong investor confidence in long-term, high-quality carbon credit projects (Abatable, Decoding the Voluntary Carbon Market 2024 and beyond, Feb 2025)
- Projections indicate that by 2030, the annual supply of carbon credits will reach 33 megatonnes $CO_2e$, while demand could range from 40 to 200 megatonnes $CO_2e$, suggesting a potential shortfall (World Economic Forum, 2025)
- High-quality nature-based carbon credits are commanding price premiums, reflecting their increased value in the market (BeZero Carbon, 2024)

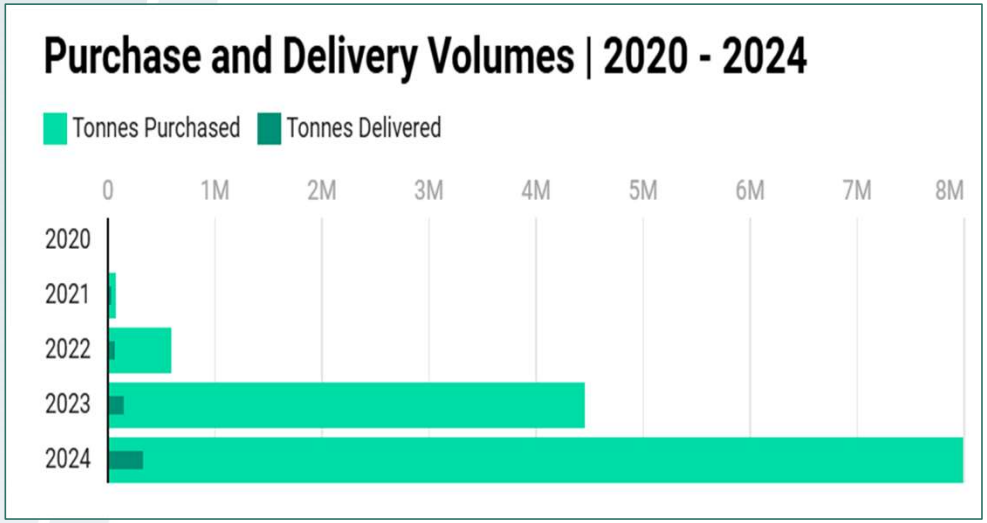
## Pricing Data by Project Type



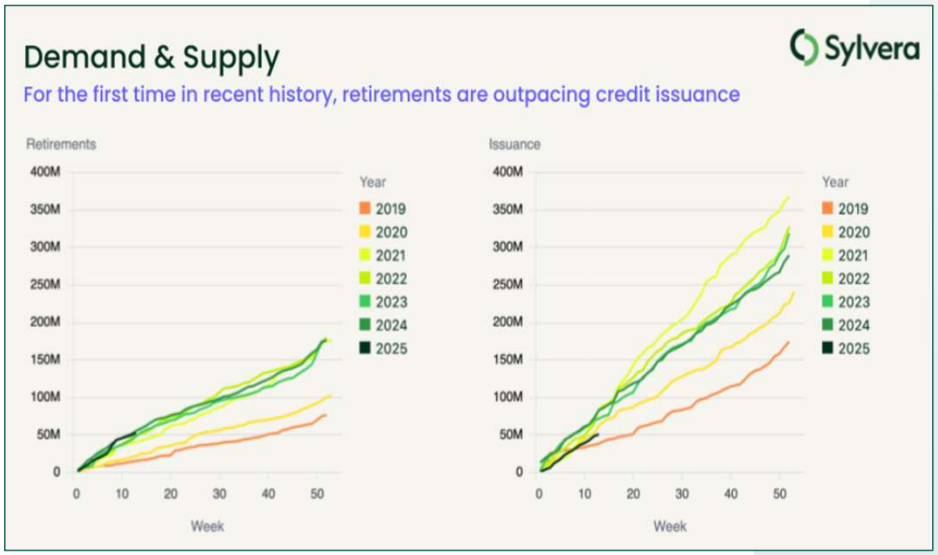

Source: Abateble

# Market insights Continued

- Companies expect removal credits to dominate portfolios by 2030 (BCG, 2023)
- Technology driven credits (e.g. Direct Air Capture, Biochar) gaining traction, reflecting increasing demand
- As demand rises and quality standards improve, carbon credits are expected to become scarcer and more expensive




Source: CDR.fyi




Source: Sylvera

# Challenges

**Supply side:** oversupply; quality of credits
**Demand side:** reputational risk

### Regulatory Uncertainty

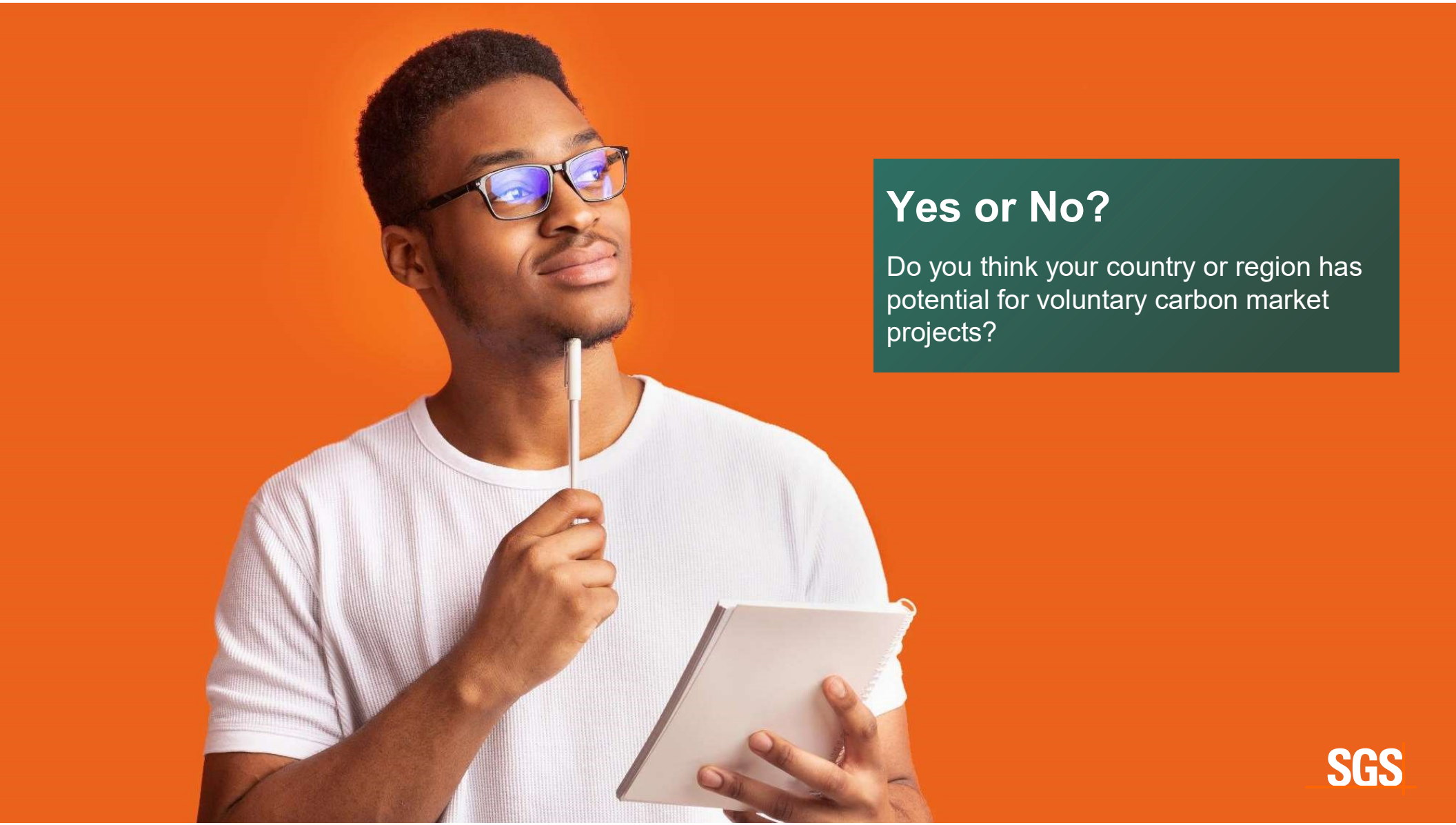
- Fluctuations in regulations across different regions creates uncertainty, potentially deterring investments and participation in carbon trading

### Market Volatility

- Price transparency and variability in standards complicate credit purchases
- The voluntary market remains more volatile compared to the compliance market, posing risks for investors. Stability in pricing is essential for long-term investments

### Quality of Credits

- A limited supply of high-quality, verified carbon credits constrains market growth
- The role of intermediaries is often opaque, complicating financial flows
- Reputational risks may dampen demand for credits
- Ensuring quality assurance to prevent greenwashing is crucial for maintaining market integrity


Yes or No?
Do you think your country or region has potential for voluntary carbon market projects?
SGS

# Regional Opportunities – Asia & the Pacific

IMPACT NOW

## Asia saw the most voluntary carbon offset transactions between 2019 and 2021


Source: State of the Voluntary Carbon Markets 2021 report, Ecosystem Marketplace

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# Regional Opportunities – APAC (Con't)

IMPACT NOW

## Voluntary Carbon Markets in Asia Pacific Today

| Country | Name of credit/allowances | Type of scheme | Marketplaces |
|---|---|---|---|
| China | China certified emissions reduction scheme | Hybrid (companies can use CCERS to offset up to 5% of annual emissions) | • Nine exchanges across China (Beijing, Chongqing, Fujian Guangzhou, Hubei, Shanghai, Shenzhen, Sichuan and Tianjin)<br>• Core Climate (operated by Hong Kong Exchanges) |
| Indonesia | | | Aims to launch carbon exchange in 2023. |
| Japan | J-Credit | Hybrid (Companies can use J-credits to offset emissions) | • **Over the counter**<br>• **Official auctions** |
| Malaysia | | Voluntary | • Bursa Carbon Exchange (operated by Bursa Malaysia) |
| Singapore | | Voluntary | • Climate Impact X (backed by Temasek, DBS Bank and Standard Chartered)<br>• AirCarbon Exchange (international)<br>• MetaVerse Green Exchange (international) |
| South Korea | Korean Offset Credit<br>Korean Credit Unit | Hybrid (companies can use KCUs to offset up to 5% of taxable emissions) | • KRX exchange<br>• Over the counter |
| Thailand | Thailand Voluntary Emission Reduction (TVER) credit | Voluntary | • FTIX (operated by Federation of Thai Industries) |
| Vietnam | | | Aims to launch carbon credit trading floor by 2028. |

Source: Adapted from Shades of Voluntary Carbon Markets in Asia Pacific, S&P Global
Additional sources: HKEX, Reuters, Nomura, Vietnam Briefing

* Note: Cambodia, Laos and Bangladesh produce carbon credits, but do not have their own carbon exchanges or marketplaces.



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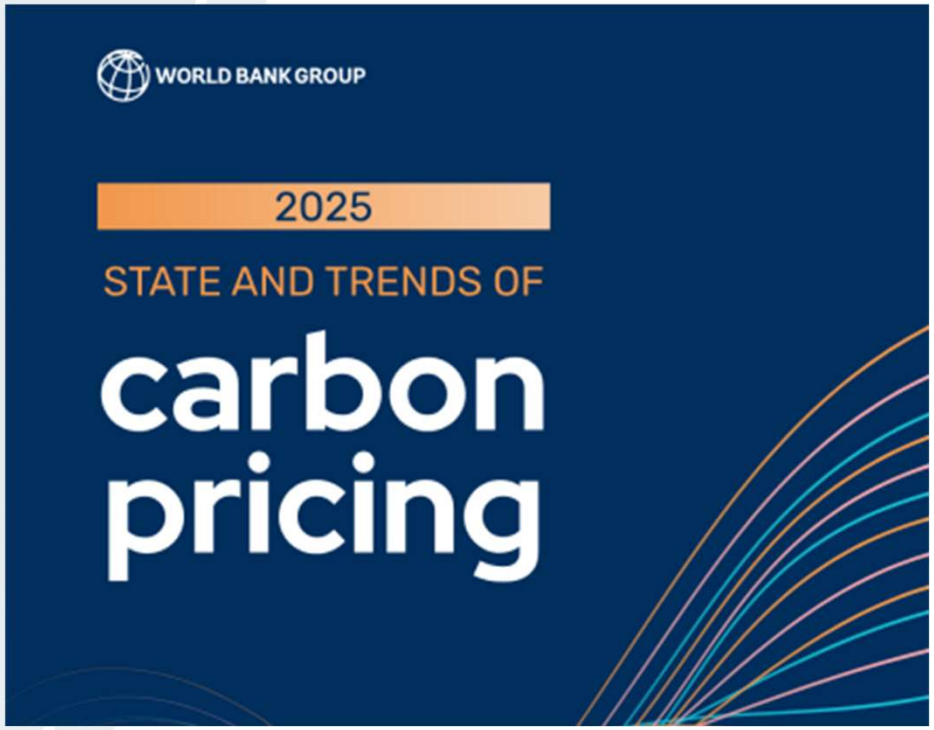
# Regional Opportunities – APAC (Con't)




- China, Indonesia, South Korea, and New Zealand are leading with national Emissions Trading Schemes (ETS), which are increasingly linked to voluntary markets.
- Indonesia's carbon exchange, launched in 2023, is expected to handle tens of millions of credits annually by 2026.
- Japan's GX-ETS and Singapore's Climate Impact X are attracting institutional investors and corporates seeking high-integrity credits

Source: State and Trends of Carbon Pricing 2025

# Regional Opportunities – Asia & the Pacific

IMPACT NOW

- Companies that purchase carbon credits decarbonize at twice the pace of those that don't.
- Firms reporting year-over-year emissions reductions saw $1 billion higher average earnings than their Fortune Global 500 peers.
- REDD+ projects in Asia have shown up to 47% reduction in deforestation and 58% drop in forest degradation within five years.

Source: https://verra.org/verra-views/investing-in-carbon-projects-what-you-need-to-know-in-2025/

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# Regional Opportunities – Asia & the Pacific

**Key Sectors for Growth:**

- Forestry and land use: High demand for REDD+ and afforestation credits.
- Renewables and energy efficiency: Especially in India, Vietnam, and the Philippines.
- Blue carbon: Coastal and mangrove restoration in Indonesia and the Pacific Islands.

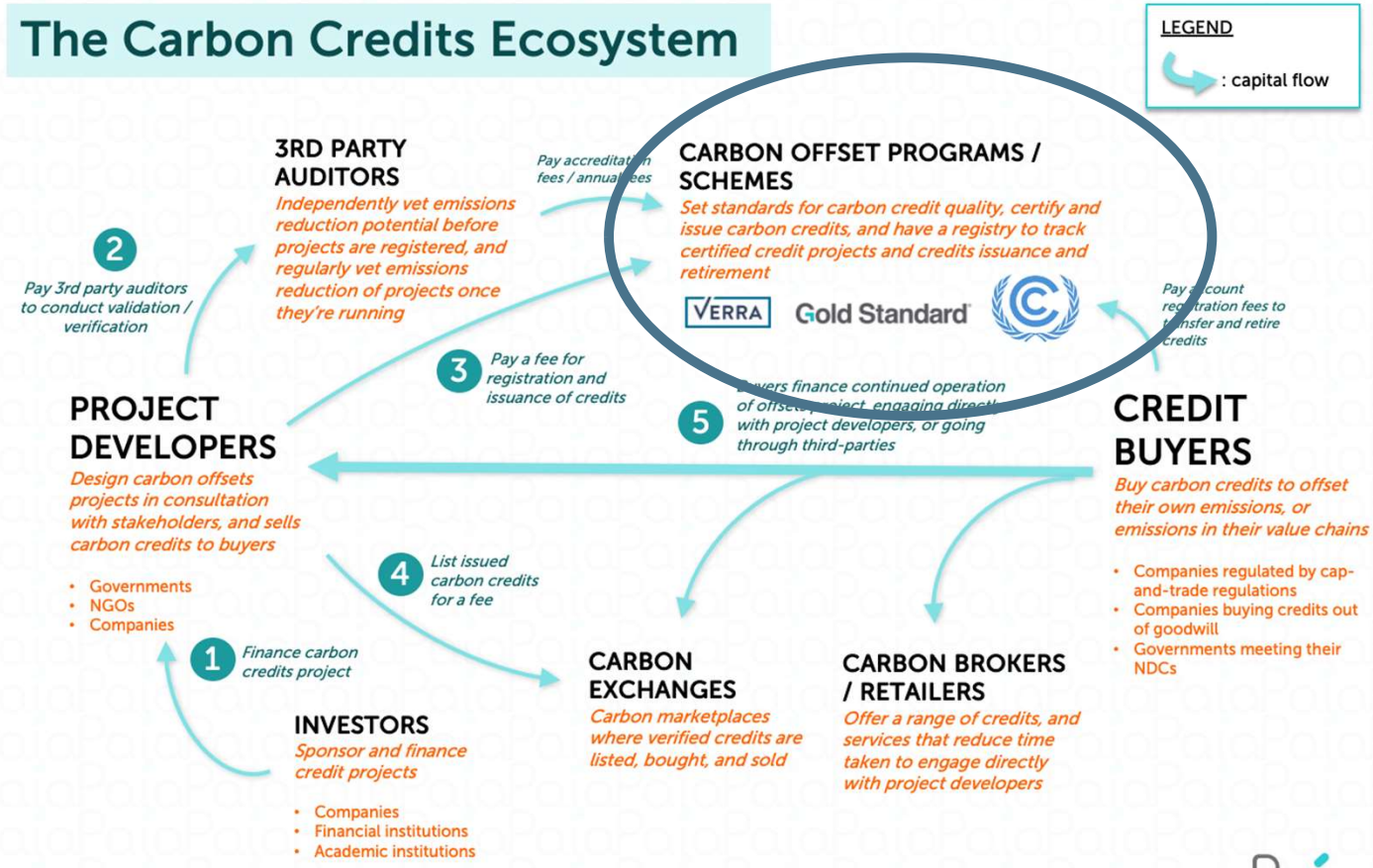
MODULE TWO

# Verified Carbon Standard (VCS) – Updates & Criteria


Solar Panel Inspection, Belgium

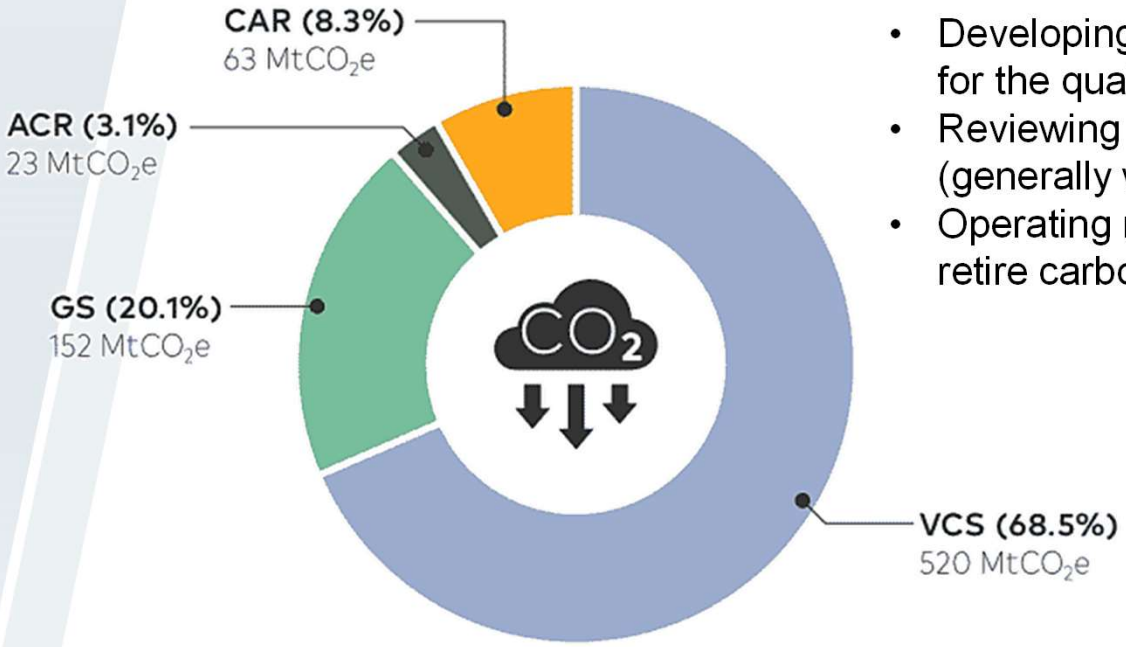
Alexander TONG | Lesson 6: 10 July 2025

# Voluntary Carbon Market Value Chain: Key Actors




Source: Paia

# Carbon Credit Programs




Crediting programs perform three basic functions:

- Developing and approving standards that set criteria for the quality of carbon credits
- Reviewing crediting projects against these standards (generally with the help of third-party auditors)
- Operating registry systems that issue, transfer, and retire carbon credits

# Carbon Credit Programs

| "Compliance" Carbon Credit Programs (run by governmental bodies) | Geographic Coverage | Label Used for Carbon Credits |
|---|---|---|
| Article 6.4 of the Paris Agreement* | Global | Article 6.4 Emission Reduction Units (A6.4ERs) |
| California Compliance Offset Program | United States | Air Resources Board Offset Credit (ARBOC) |
| Korean Offsetting Program** | Global | Korean Offset Credit (KOC) |
| Regional Greenhouse Gas Initiative (RGGI) | Northeast United States | RGGI $CO_2$ Offset Allowance (ROA) |
| Australian Emission Reduction Fund (ERF) | Australia | Australian Carbon Credit Unit (ACCU) |

| "Independent" Carbon Crediting Programs (run by NGOs) | Geographic Coverage | Label Used for Carbon Credits |
|---|---|---|
| ACR | Multiple countries | Emission Reduction Tonne (ERT) |
| Climate Action Reserve (CAR) | Multiple countries | Climate Reserve Tonne (CRT) |
| The Gold Standard | International | Verified Emission Reduction (VER) |
| Plan Vivo | International | Plan Vivo Certificate (PVC) |
| Verra – Verified Carbon Standard | International | Verified Carbon Unit (VCU) |

# Verra's Verified Carbon Standard (VCS)

Founded in 2007 to create greater quality assurance in the voluntary carbon market. Since then, it has become the biggest standard in the market with over 2,000 registered projects.

## As a STANDARD,

- sets rules and requirements for carbon credit projects

## As a REGISTRY,

- keeps a public database of all registered Verra projects

### Project and Credit Summary

| | |
|---|---|
| VCUs Issued<br>**1,327,153,324** | VCUs Retired<br>**830,558,580** |
| VCS Projects Registered<br>**2,474** | Total Available Buffer<br>**76,260,475** |

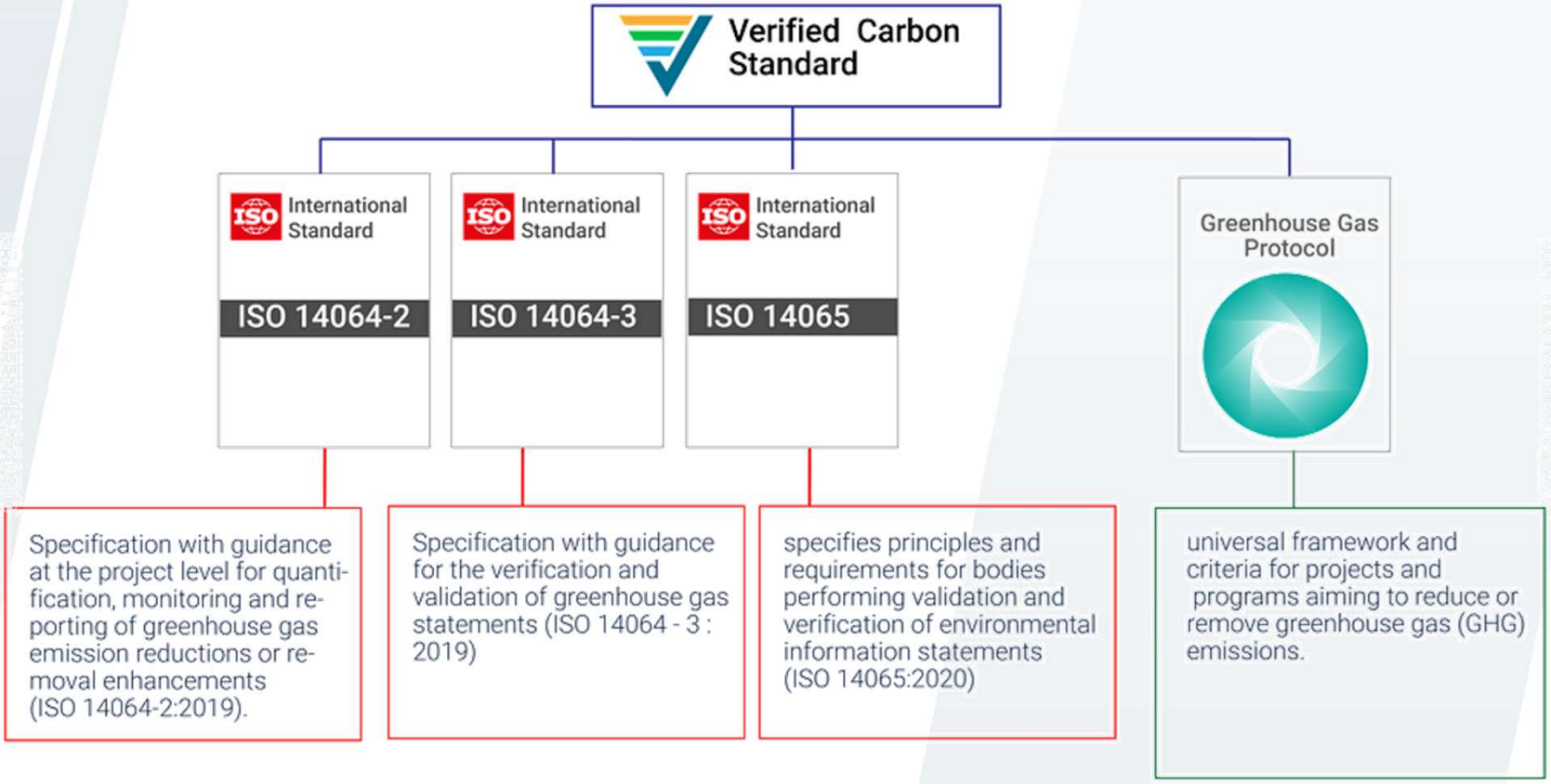
# Verra's Verified Carbon Standard (VCS)


- Version 1 was published jointly in March 2006 by The Climate Group (TCG), the International Emissions Trading Association (IETA), World Business Council for Sustainable Development, and the World Economic Forum (WEF) Global Greenhouse Register.
- VCS Version 4 launched in September 2019
- In 2008, recognized: CDM, JI, Climate Action Reserve

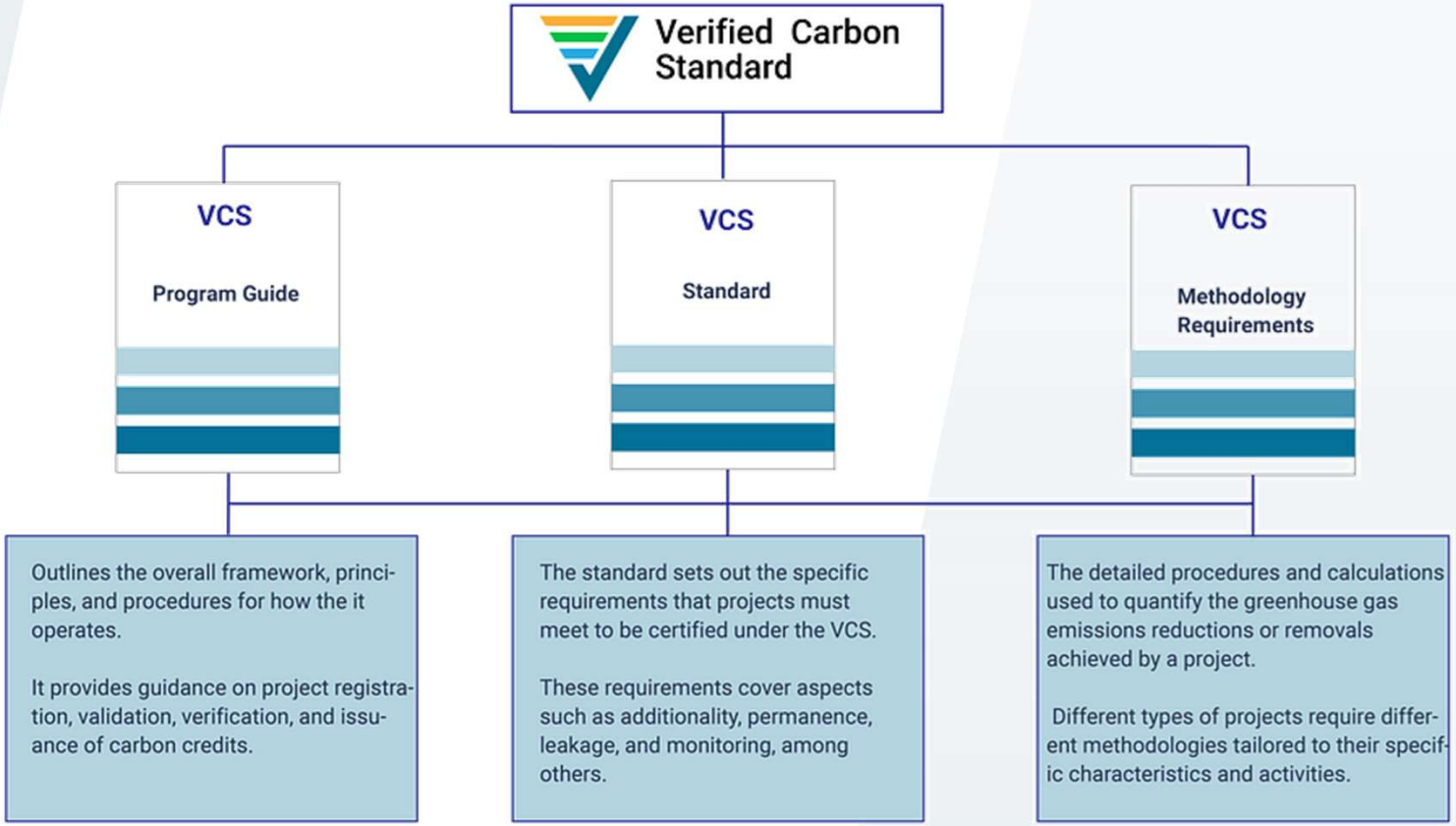
FUN FACTS: What are the process existing for approving GHG programs?

- ❑ hire an external qualified consultant team to complete a detailed gap analysis of the two programs to evaluate the proposed program
- ❑ The Board decides to either fully adopt or adopt elements of the other crediting program based upon the consultant's analysis report

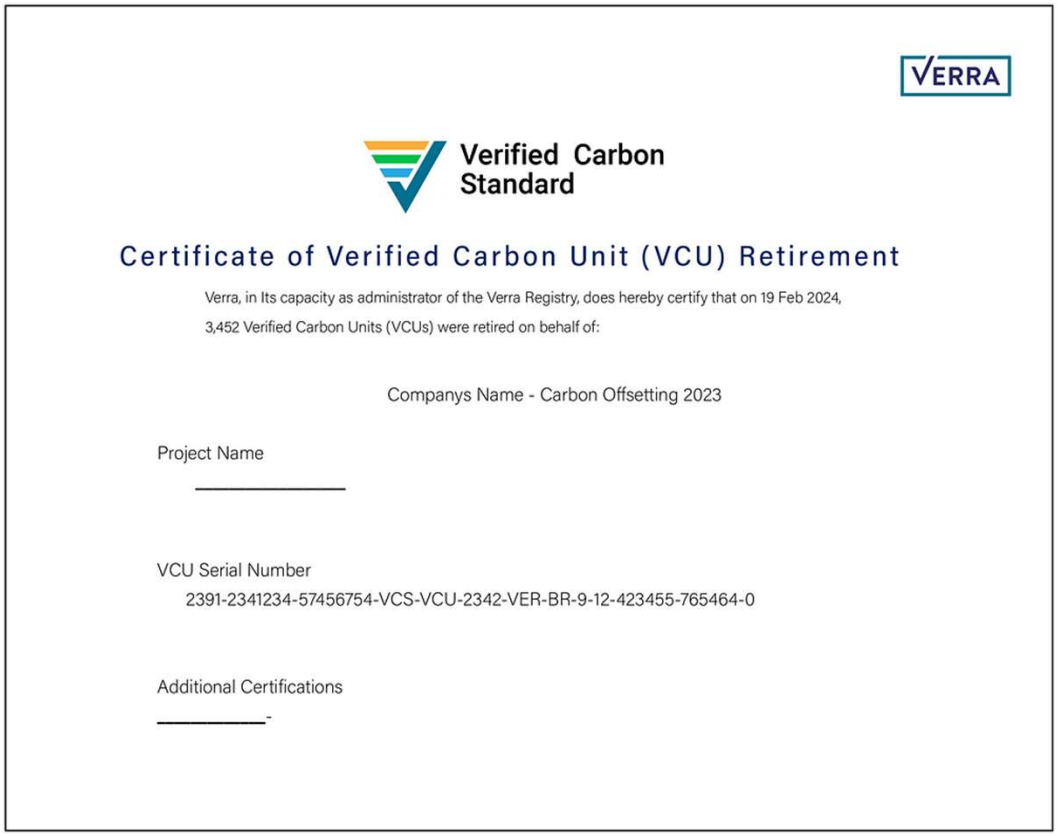
# Verra's Verified Carbon Standard (VCS)



# Components of VCS



# Sample of VCU Retirement Certificate



VERRA

Verified Carbon Standard

## Certificate of Verified Carbon Unit (VCU) Retirement

Verra, in Its capacity as administrator of the Verra Registry, does hereby certify that on 19 Feb 2024, 3,452 Verified Carbon Units (VCUs) were retired on behalf of:

Companys Name - Carbon Offsetting 2023

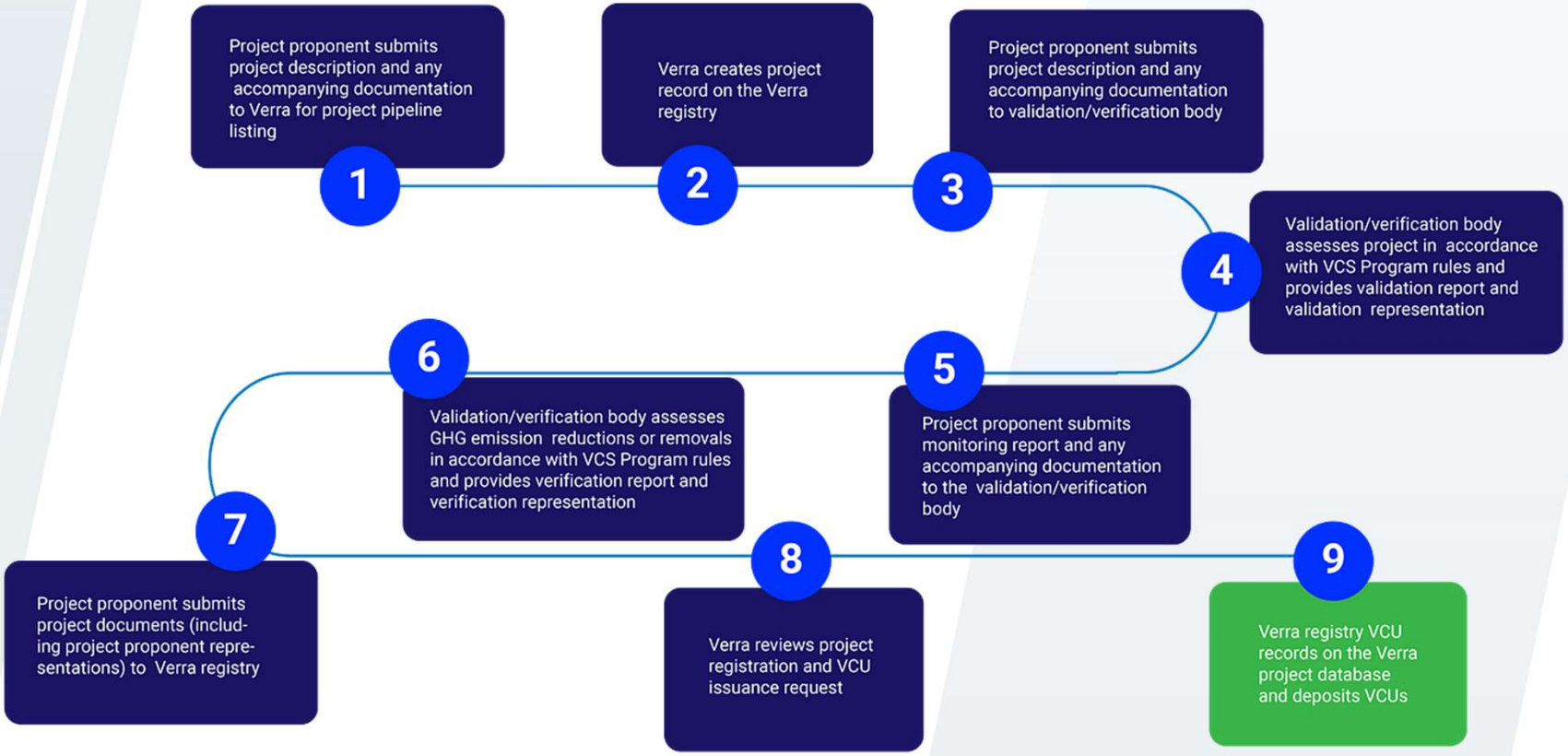
Project Name

VCU Serial Number

2391-2341234-57456754-VCS-VCU-2342-VER-BR-9-12-423455-765464-0

Additional Certifications

# Project Lifecycle of VCS Program



# VCS Program Criteria

- ✓ **REAL**: All GHG emission reductions and removals and the projects or programs that generate them must be proven to have genuinely taken place.
- ✓ **MEASUREABLE**: All GHG emission reductions and removals must be quantifiable using recognized measurement tools (including adjustments for uncertainty and leakage) against a credible emissions baseline.
- ✓ **PERMANENT**: Where GHG emission reductions or removals are generated by projects or programs that carry a risk of reversibility, adequate safeguards must be in place to ensure that the risk of reversal is minimized and that, should any reversal occur, a mechanism is in place that guarantees the reductions or removals will be replaced or compensated.
- ✓ **ADDITIONAL**: GHG emission reductions and removals must be additional to what would have happened under a business-as-usual scenario if the project had not been carried out.
- ✓ **INDEPENDENTLY AUDITED**: All GHG emission reductions and removals must be verified to a reasonable level of assurance by an accredited validation/verification body with the expertise necessary in both the country and sector in which the project is taking place.
- ✓ **UNIQUE**: Each VCU must be unique and must only be associated with a single GHG emission reduction or removal activity. There must be no double counting, or double claiming of the environmental benefit, in respect of the GHG emission reductions or removals.

# VCS Program Criteria

- ✓ **TRANSPARENT**: There must be sufficient and appropriate public disclosure of GHG-related information to allow intended users to make decisions with reasonable confidence.
- ✓ **CONSERVATIVE**: Conservative assumptions, values, and procedures must be used to ensure that the GHG emission reductions or removals are not over-estimated.

# VCS Sectorial Scopes

1. Energy (renewable/non-renewable)
2. Energy distribution
3. Energy demand
4. Manufacturing industries
5. Chemical industry
6. Construction
7. Transport
8. Mining/Mineral Production
9. Metal production
10. Fugitive emissions – from fuels (solid, oil, and gas)
11. Fugitive emissions – from Industrial gases (halocarbons and sulfur hexafluoride)
12. Solvents use
13. Waste handling and disposal
14. Agriculture, forestry, and other land use (AFOLU)
15. Livestock and manure management
16. Carbon capture and storage

# Additionality

An additional project is one that would not have occurred without the incentive provided by carbon credit revenues. In other words, **a project proposed to a crediting program is additional if it would not have taken place without the expected revenue from selling carbon credits**.

Additionality is the property of a project being additional and is typically assessed once by a crediting program when a proposed project is submitted for approval and registration (i.e., ex ante).

In most cases, additionality is assessed only once, when an activity is submitted to a crediting program for approval. Conceptually, one could think of some projects as becoming “non-additional” in the future – e.g., if, in the absence of carbon credit revenue, the same activity would have instead been implemented at a later point in time than proposed by the project developer. Typically, however, crediting programs address this possibility through reassessment of the activity’s baseline (effectively, ceasing credit issuance to the activity, because the activity and its baseline are determined to be identical at a future date) rather than formally determining that an existing project was never additional in the first place.

# How do crediting programs address additionality?

Project-specific approaches rely on an analysis (i.e., “tests”) of an individual project’s characteristics and circumstances to determine whether it is additional. For example, they may involve:

- A demonstration that the proposed project activity is not legally required (or that non-enforcement of the regulatory requirements is widespread); and
- An “investment analysis” of whether the project is financially attractive in the absence of carbon credit revenues; and/or
- A “barriers analysis” demonstrating that the project faces (non-financial) barriers that do not apply to its alternatives;8 and
- A “common practice analysis” demonstrating that the proposed project is not common practice or is distinct from similar types of activities that are common practice.

# What questions can buyers ask about additionality?

## Did the project secure a buyer for carbon credits before implementation?

Given the risks and uncertainties of the carbon market, it is very rare for a project that truly needs carbon credit revenue to go forward without first securing buyers for most or all of the credits it expects to produce. Forward contracts generally take the form of emission reduction purchase agreements (ERPAs). If a project began implementation without an ERPA, its claims to additionality should be further examined.

## How large is the project's carbon credit revenue stream compared to other revenue streams or cost savings achieved by the project?

Claims of additionality are often tenuous if carbon credit revenues constitute a small portion of a project's total revenue plus savings. For example, if 95% of the total revenues for a renewable energy project derive from electricity sales and only 5% are from carbon credit revenue, the project's additionality should be questioned.

# What questions can buyers ask about additionality?

## Would the project cease to avoid emissions (or cease to remove GHGs from the atmosphere) if it did not continue to receive carbon credit revenues

Even if a project's carbon credit revenue is comparable to (or greater than) other revenue streams, for some projects those other revenues may be sufficient to cover costs – meaning that the project may continue avoiding emissions (or removing GHGs) even if it stopped selling carbon credits. While such projects are not necessarily non-additional – the decision to implement the project, for example, may still have been based on the prospect of carbon credit sales – they may pose a higher risk of being non-additional and should face greater scrutiny.

# What questions can buyers ask about additionality?

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# Key Updates in VCS v4.7 (April 2024)

## Alignment with CORSIA & ICVCM

✓ VCS now meets CORSIA Phase 1 (2024–2026) requirements for aviation offsets.
✓ Aligns with ICVCM's Core Carbon Principles for integrity and transparency.

## Anti-Double Counting & Double Selling

✓ New rules prohibit double issuance and double selling of VCUs.
✓ Projects inactive in other registries must be clearly declared.

## Enhanced Safeguards

✓ Stronger requirements for:

- Social and environmental risk assessments
- Worker protections
- Chemical use and biodiversity impacts

# Key Updates in VCS v4.7 (April 2024)

## Updated Templates & Grievance Policy

- ✓ New project templates to reflect updated rules.
- ✓ Clearer procedures for stakeholder complaints and appeals.

### 🌎 Why the Public Should Care

- **Carbon credits fund real-world climate solutions**: from forest protection to clean cookstoves.
- **VCS ensures credibility**: Not all carbon credits are equal—VCS helps identify trustworthy ones.
- **You can be part of the solution**: Individuals and companies can support verified projects to offset their carbon footprint.


# Latest updates on VCS

IMPACT NOW

Verra is finalizing VCS v5, focusing on streamlined rules, enhanced safeguards, and market alignment.

Source: https://verra.org/verra-launches-final-consultation-on-version-5-of-the-vcs-program/

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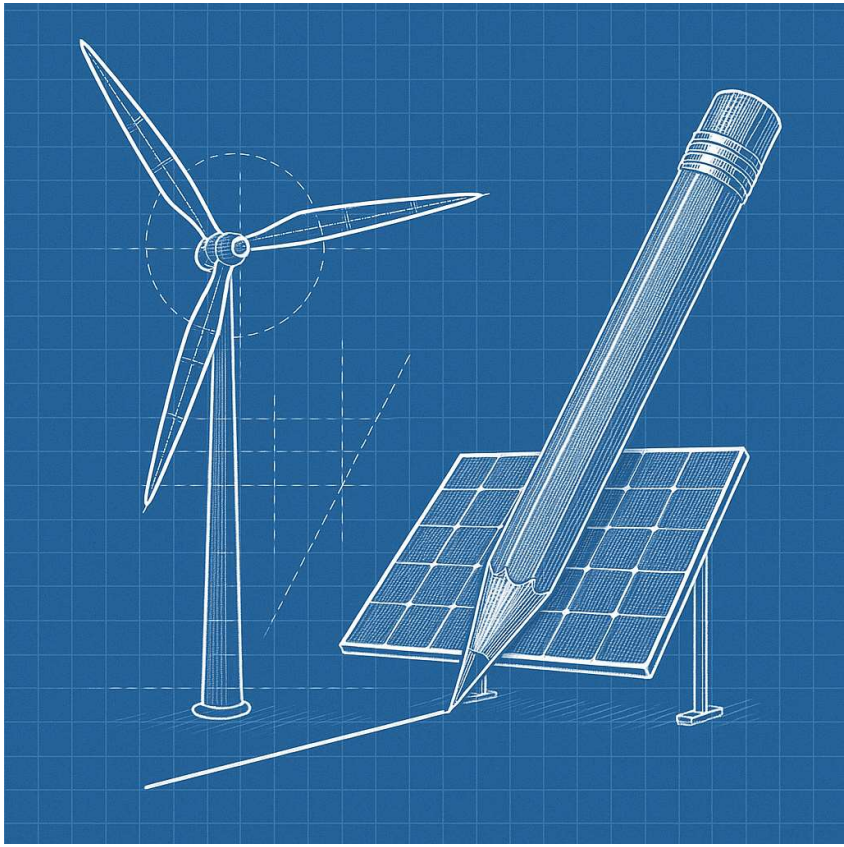
# Latest updates on VCS

Verra is revising the CDM methodology for grid-connected renewables to reflect evolving energy markets and ensure additionality.

Source: https://verra.org/consultation-revision-to-cdm-methodology-for-grid-connected-electricity-generation-from-renewable-sources/



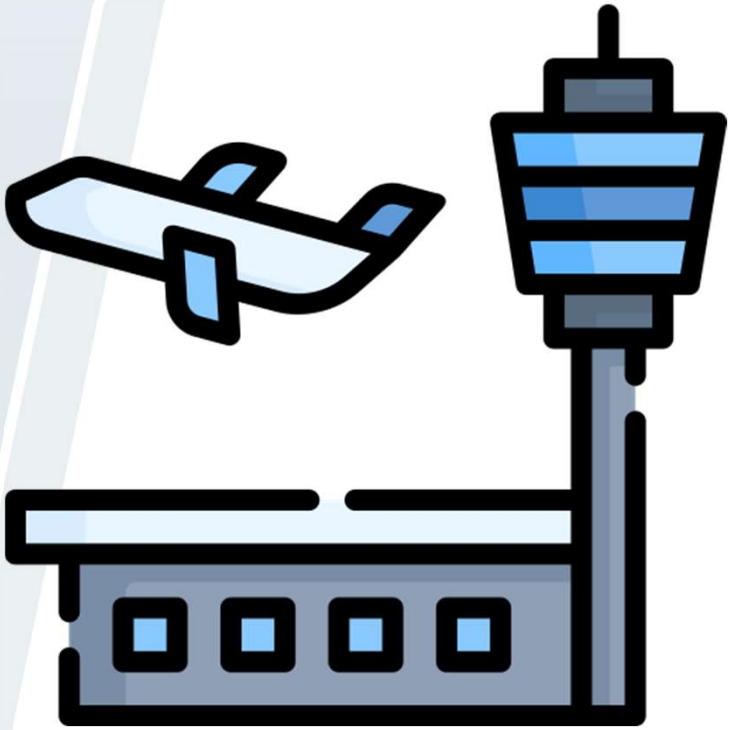
# Latest updates on VCS

🌎 *Clean energy ≠ fully funded*

Despite falling costs, **renewable projects in emerging markets** still face **financial barriers**—carbon finance remains essential.

Source: https://verra.org/verra-views/why-renewable-energy-projects-still-need-climate-finance/

# Latest updates on VCS



📦 *From factory to footprint*

Verra is preparing a **Scope 3 Standard** to help companies track and reduce **value chain emissions**.

Source: https://verra.org/verra-prepares-to-launch-publicly-usable-version-of-scope-3-standard-program-in-late-2025/

When you need
to be sure

MODULE THREE

# Gold Standard – Updates & Best Practices

Alexander TONG | Lesson 6: 10 July 2025

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# Gold Standard (GS)

- Focused on progressing the United Nations Sustainable Development Goals (SDGs)
- Ensuring that project's benefit their neighboring communities
- Can be applied to independent crediting projects supplying the voluntary market and as an add-on standard for CDM projects
- For projects to be accepted by GS they must conduct additional assessment of the project's communal impact and ensure neighboring populations are benefiting.

FUN FACTS: What are the process existing for approving GHG programs?

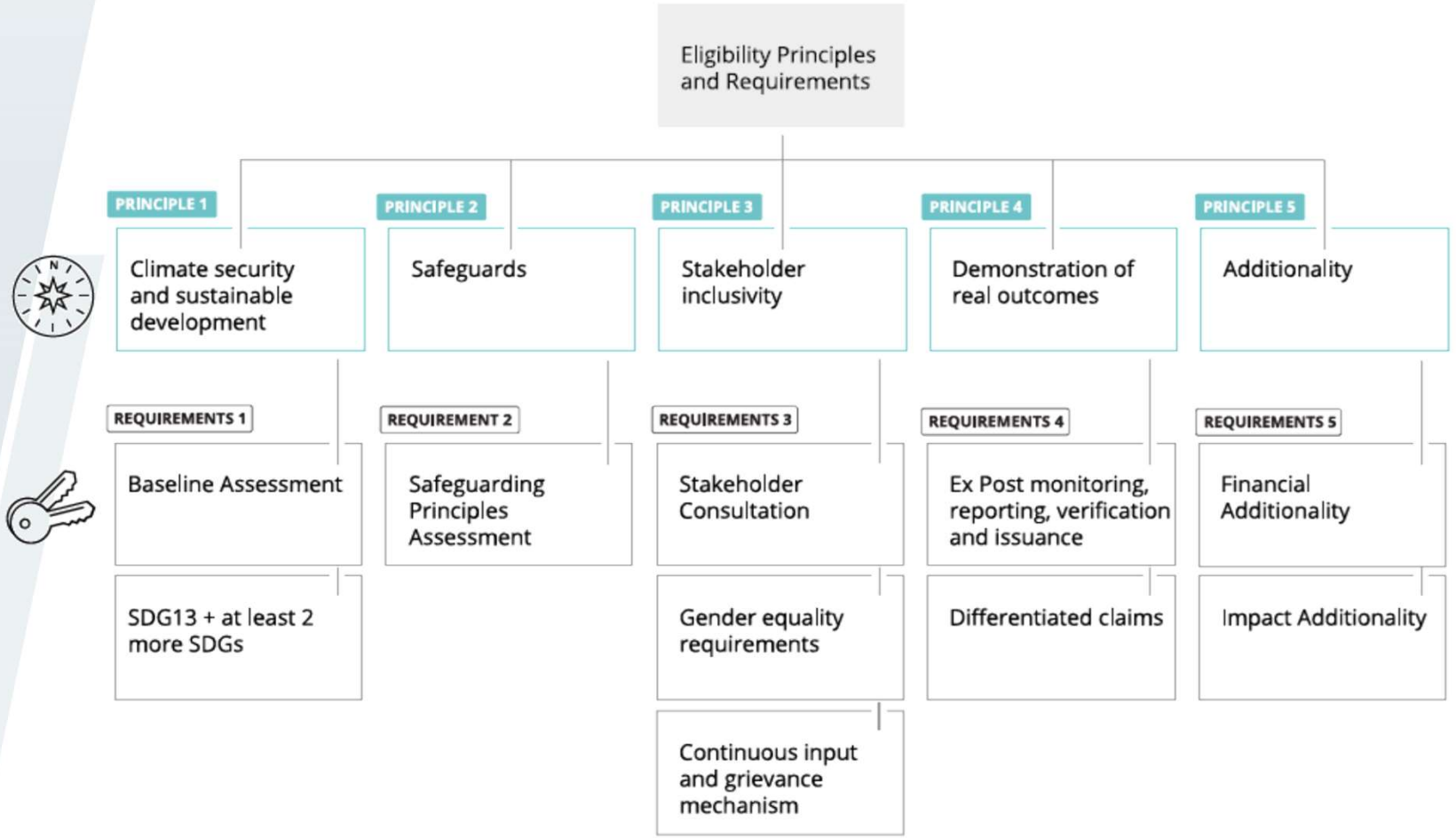
- ❑ hire an external qualified consultant team to complete a detailed gap analysis of the two programs to evaluate the proposed program
- ❑ The Board decides to either fully adopt or adopt elements of the other crediting program based upon the consultant's analysis report

# Gold Standard (GS)

**5 reasons for the emergence of the Gold Standard:**

1. Need for Credibility and Integrity
2. Demand for High-Quality Offsets
3. Desire for Sustainable Development Co-Benefits
4. Leadership from Environmental Organizations
5. Global Efforts to Combat Climate Change

# 5 Core Principles for Gold Standard (GS)



# 5 Core Principles for Gold Standard (GS)

**Principle 1 – Contribution to Climate Security & Sustainable Development**

- Demonstrate contributions to climate goals and 3+ SDGs
- Use approved methodologies and tools
- No impact, no certification

# 5 Core Principles for Gold Standard (GS)

## Principle 2 – Safeguarding Principles

- Identify and mitigate risks
- Cover human rights, labor, biodiversity, heritage
- Safeguarding Assessment is mandatory

# 5 Core Principles for Gold Standard (GS)

## Principle 3 – Stakeholder Inclusivity

- Early and ongoing engagement
- Transparent communication
- Grievance redress mechanisms

# 5 Core Principles for Gold Standard (GS)

## Principle 4 – Demonstration of Real Outcomes

- Measurable, reportable, verifiable outcomes
- Robust monitoring plans
- Third-party validation

# 5 Core Principles for Gold Standard (GS)

**Principle 5 – Financial Additionality & Ongoing Financial Need**

- Prove project wouldn't happen without carbon finance
- Show financial barriers or ongoing need
- Ensure carbon finance drives real change

# Verra VCS vs. Gold Standard

| Category | Verra VCS (Verified Carbon Standard) | Gold Standard |
|---|---|---|
| Established | 2006 | 2003 |
| Primary Focus | Carbon offsetting and emissions reduction | Carbon offsetting + Sustainable Development Goals (SDGs) |
| Scope & Coverage | Broad: forestry, energy, waste, agriculture, etc. | Focused: energy, community, land use with strong SDG alignment |
| Certification Process | Rigorous, transparent, globally recognized | Rigorous, with strong emphasis on stakeholder engagement |
| Additionality Requirement | Required, with flexible methodologies | Required, with stricter criteria |
| Co-benefits | Encouraged but not mandatory | Mandatory: social, environmental, and economic co-benefits |

# Verra VCS vs. Gold Standard

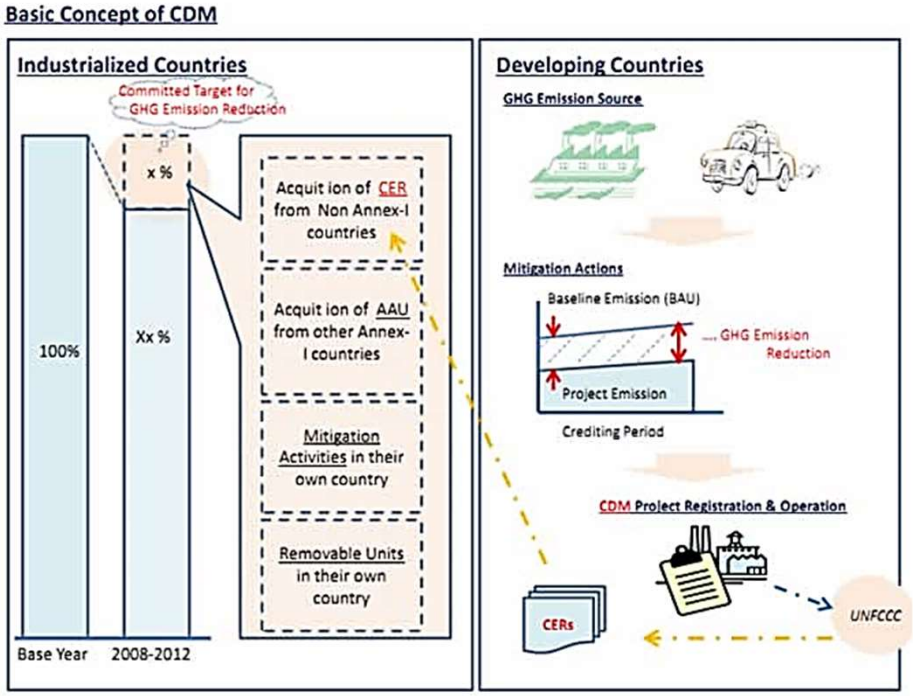
| Category | Verra VCS (Verified Carbon Standard) | Gold Standard |
|---|---|---|
| Credibility & Recognition | High: widely accepted by markets and institutions | High: endorsed by UN, WWF, and others |
| Project Eligibility | Broad, including large-scale industrial projects | More selective, favoring community-based and sustainable projects |
| Monitoring & Reporting | Detailed MRV (Monitoring, Reporting, Verification) requirements | Strong MRV + stakeholder feedback loops |
| Market Acceptance | Very high, especially in voluntary carbon markets | Growing, especially among sustainability-focused buyers |
| Drawbacks | Complex documentation; less focus on SDGs | Stricter eligibility; less market penetration than VCS |


MODULE FOUR

# CDM and the US Carbon Registry (ACR, CAR) – Overview & Updates

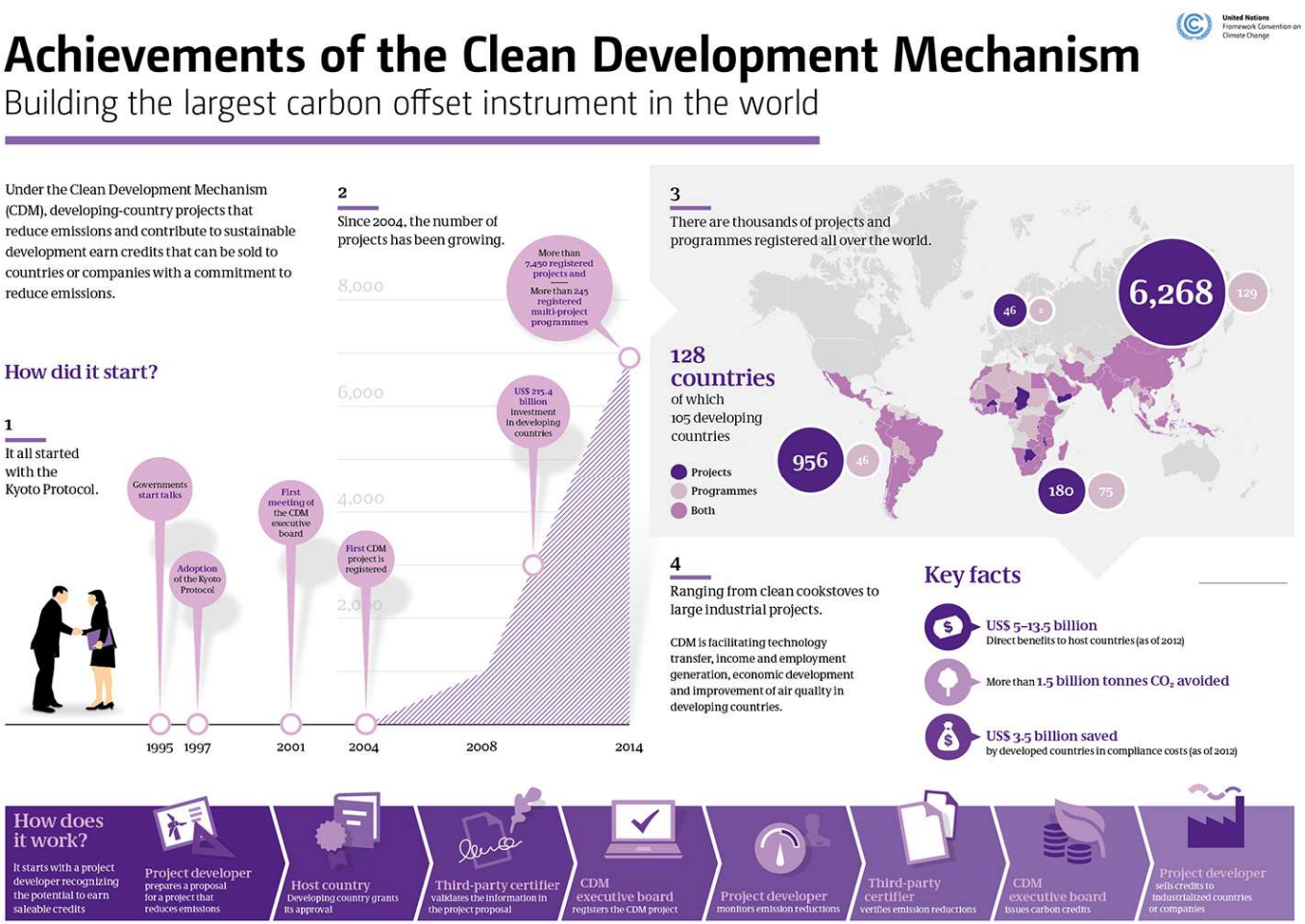
Alexander TONG | Lesson 6: 10 July 2025

# Clean Development Mechanism (CDM)

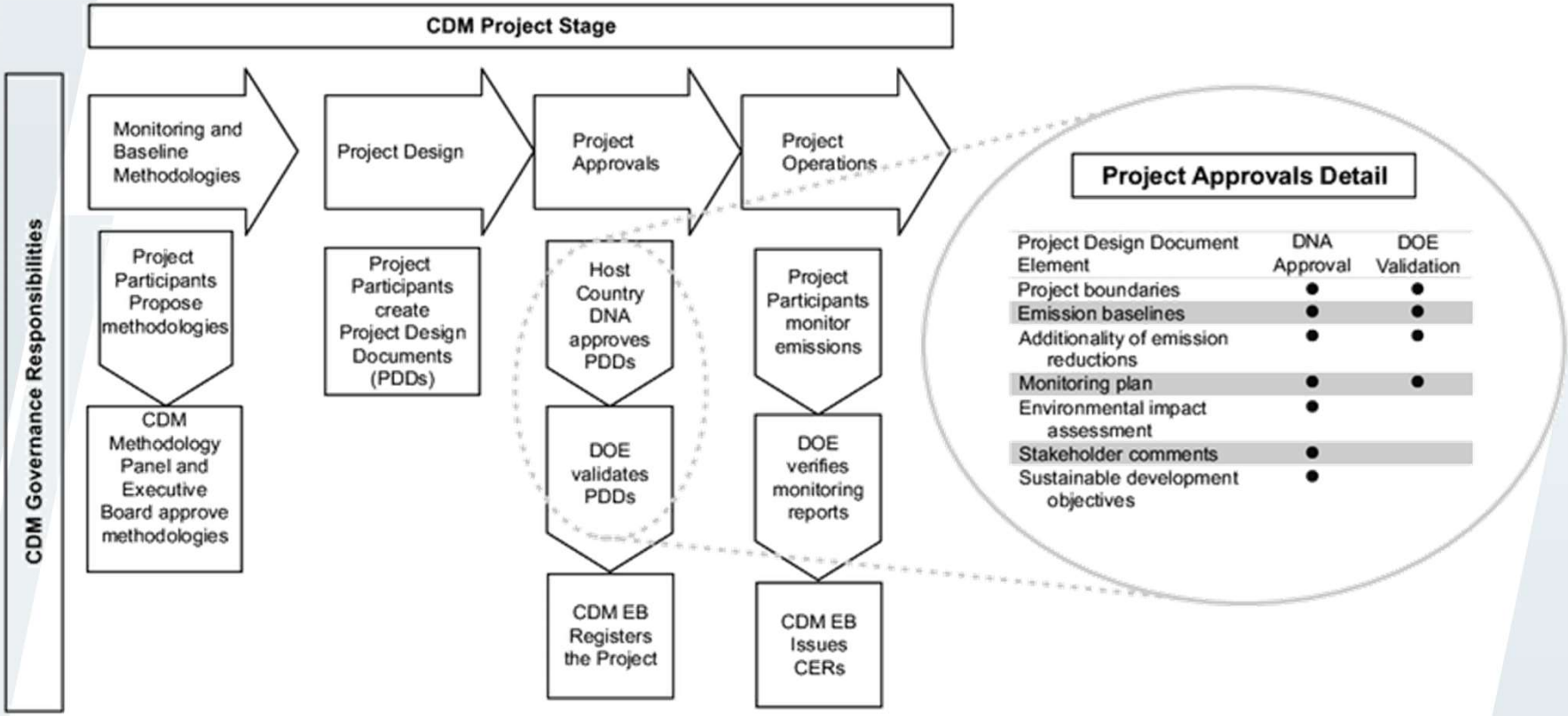



- was the largest project-based crediting program
- offered the public and private sector in high-income nations the opportunity to purchase carbon credits from crediting projects in low or middle-income nations (non-Annex 1)
- was involved in setting standards and overseeing auditing of projects
- Crediting projects were audited by accredited third parties named Designated Operational Entities (DOEs)
- allowed Annex I (developed) countries to partly meet their Kyoto targets by financing avoided emission or enhanced removal crediting projects in low and middle-income countries
- arguably more cost-effective than projects implemented in higher-income nations because lower-income countries on average had lower energy efficiencies, lower labor costs, weaker regulatory requirements, and less advanced technologies.
- was a project-based carbon crediting program under the Kyoto Protocol

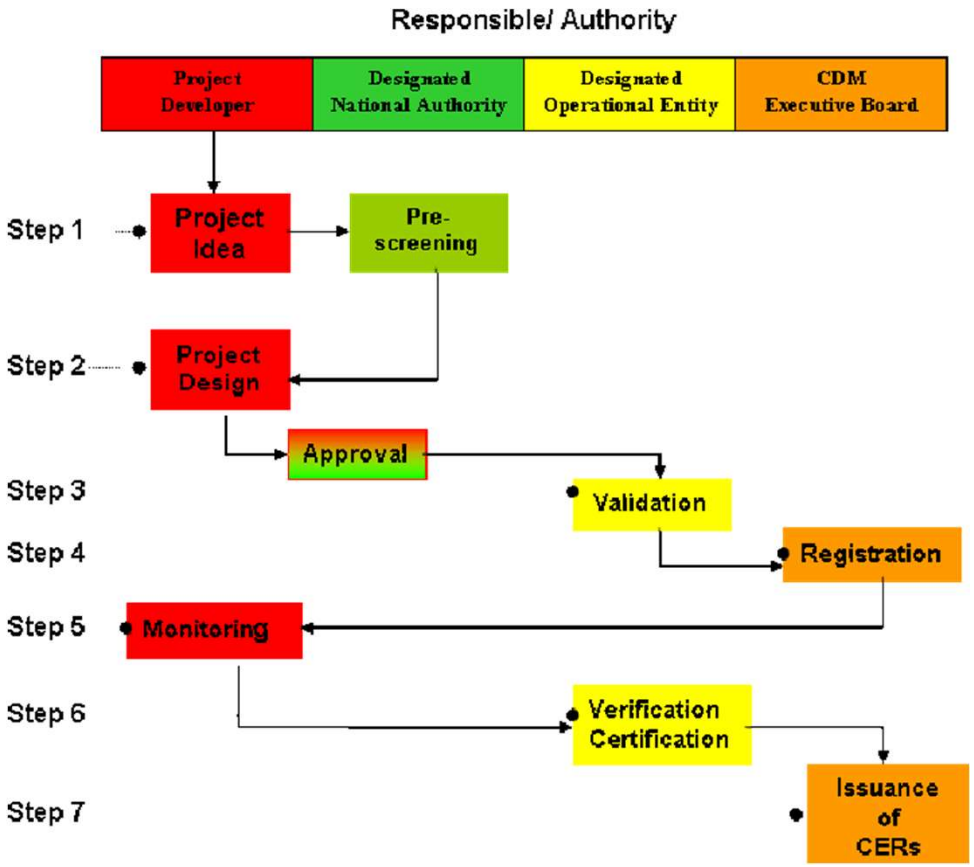
# Clean Development Mechanism (CDM)



# Clean Development Mechanism (CDM)



# Key roles in CDM




Source: Evangelos, Karlopoulos & Skodras, Georgios & Koukouzas, Nikolaos & Kakaras, Emmanuel. The Flexible Mechanisms of Kyoto Protocol and the Implementation of a Potential Clean Development Mechanism Project.

# CDM Recognitions

IMPACT NOW

### Scale & Type of CDM

| Category | Details (Scale & Type) | | |
|---|---|---|---|
| Emission Reduction Projects | CDM (Large Scale) | | |
| | CDM (Small Scale | Type I ; Renewable Energy Projects | <15MW |
| | | Type II ; Energy Efficiency Improvement Projects | <60GW/year |
| | | Type III ; Other Project Activities | <60kt CO2e/year |
| AR Projects | AR CDM (Large Scale) | | |
| | Small Scale AR CDM | | <16,000tCo2/year |

### Sectoral Scope

| | | | |
|---|---|---|---|
| 1 | Energy Industries (Renewable / Non Renewable Sources) | 9 | Metal Production |
| 2 | Energy Distribution | 10 | Energy Distribution |
| 3 | Energy Demand | 11 | Energy Demand |
| 4 | Manufacturing Industries | 12 | Fugitive Emissions from Production and consumption of halocarbons & sulfur hexafluoride |
| 5 | Chemical Industry | 13 | Solvent Use |
| 6 | Construction | 14 | Afforestation and Reforestation |
| 7 | Transport | 15 | Agriculture |
| 8 | Mining / Mineral Production | | |

- Although the tradable units of other schemes could not be used as CDM credits, several other compliance programs, and voluntary standards either recognized or accepted CERs. Such schemes or standards included the EU ETS and the Verified Carbon Standard (VCS). The Gold Standard certifies projects that use CDM methodologies and also comply with additional Gold Standard criteria.

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# Ambitious Climate Results (ACR)


- founded in the USA in 1996, was the first independent GHG crediting registry in the world.
- founded by the environmental non-profit organization Environmental Resources Trust (ERT)
- In 2007, ERT and its registry became part of Winrock International, then rebranded as American Carbon Registry (ACR) in 2008
- In 2012, ACR was accepted as an approved Offset Project Registry by the California Air Resources Board within the California cap-and-trade compliance carbon credit market
- 2023 the crediting program rebranded once again to ACR “Ambitious Climate Results”

ACR Standard
- ✓ Outlines eligibility requirements for registration of project-based carbon credits
- ✓ requirements for methodology approval
- ✓ Requirements for project validation and verification
- ✓ other procedural requirements and information on the general use of the ACR

# Recognition of ACR

- ACR methodologies are all based on International Standards Organization (ISO) 14064
- It allows project developers to use methodologies and tools for GHG measurement from the CDM to the extent that they comply with the ACR's published standards.
- Projects may be transferred between ACR and another registry provided **all unsold, non-transferred, and non-retired carbon credits are canceled**. ACR acts as one of the compliance market registries for the California cap-and-trade regulatory system.

# Life Cycle of ACR Credit

### 1. METHODOLOGY DEVELOPMENT

ACR develops a carbon accounting methodology, detailing requirements for measurement, monitoring, reporting and verification, approved through a process of public consultation and scientific peer review.

### 2. FEASIBILITY ASSESSMENT

Project developer invests in feasibility assessment based on the methodology.

### 3. PROJECT LISTING

After ACR review and approval of the project listing form for completeness and alignment with requirements of the ACR Standard and methodology, a project can be listed on the ACR registry.

# Life Cycle of ACR Credit (con't)

### 6. REVIEW

ACR reviews the project and verification documents, and provides feedback. ACR's review results in (a) acceptance, (b) acceptance contingent on requested corrections or clarifications, or (c) rejection.

### 5. VALIDATION AND VERIFICATION

Following successful screening for Conflicts of Interest, an independent, accredited third-party validation and verification body (VVB) validates the project plan and verifies the emission statements, including review of any public comments received.

### 4. PUBLIC COMMENT

The project developer submits project documents and initiates selection of a validation and verification body (VVB). The project is publicly listed on the ACR Registry for a 30-day public comment period.

# Life Cycle of ACR Credit (con't)

### 7. PROJECT REGISTRATION

Upon ACR acceptance of VVB documentation, project documents, including the validated GHG Project Plan and verified monitoring report, are made publicly available.

### 8. CARBON CREDIT ISSUANCE

ACR issues the appropriate quantity and vintage of verified Emission Reduction Tons (ERTs) as serialized emission reduction or removal credits to the project proponent for the reporting period.

### 9. RETIREMENT

A carbon credit is permanently removed from the registry as a tradeable emission reduction or removal unit when it is retired. A retired credit may be applied toward an emission reduction target of the ACR account holder that retired the credit or on behalf of a third party.

# ACR Methodology Updates

| ANAB Sectoral Scope | Methodology | Version |
|---|---|---|
| 2. GHG emission reductions from industrial processes | Advanced Refrigeration Systems | 3.0 |
| 2. GHG emission reductions from industrial processes | Certified Reclaimed HFC Refrigerants, Propellants, and Fire Suppressants | 2.0 |
| 2. GHG emission reductions from industrial processes | Destruction of Ozone Depleting Substances and High-GWP Foam | 2.0 |
| 2. GHG emission reductions from industrial processes | Destruction of Ozone Depleting Substances from International Sources | 1.0 |
| 3. Land Use, Land Use Change and Forestry | Afforestation and Reforestation of Degraded Lands | 1.2 |
| 3. Land Use, Land Use Change and Forestry | Active Conservation and Sustainable Management on U.S. Forestlands | 1.0 |
| 3. Land Use, Land Use Change and Forestry | Improved Forest Management (IFM) on Canadian Forestlands | 1.0 |
| 3. Land Use, Land Use Change and Forestry | Improved Forest Management (IFM) on Non-Federal U.S. Forestlands | 2.1 |
| 3. Land Use, Land Use Change and Forestry | Improved Forest Management (IFM) on Small Non-Industrial Private Forestlands | 1.0 |
| 3. Land Use, Land Use Change and Forestry | Restoration of Pocosin Wetlands | 1.0 |
| 4. Carbon Capture and Storage | Carbon Capture and Storage Projects | 1.1 |
| 6. Waste Handling and Disposal | Capturing and Destroying Methane from Coal and Trona Mines in North America | 1.1 |
| 6. Waste Handling and Disposal | Landfill Gas Destruction and Beneficial Use Projects | 2.0 |

# Climate Action Reserve (CAR)


- Launched in 2008, CAR is a USA based independent program whose projects are implemented within North America.
- Establishes standards for quantifying and verifying GHG emissions reduction projects, provides oversight to independent third-party verification bodies, and issues and tracks carbon credits, called Climate Reserve Tonnes (CRTs).

- The reserve uses the term “protocol” instead of methodology
- The California Climate Action Registry (California Registry) is the predecessor organization and legacy program of the Climate Action Reserve.

In 2007, CCAR worked with other regional non-governmental organizations to build and launch The Climate Registry, an independent corporate GHG emissions registry for the North American region covering states in the USA, Native Sovereign Nations, Canada, and Mexico. The last year for which the California Registry accepted emissions reports was 2009 and, thereafter, members transitioned to The Climate Registry.

# Recognition of CAR

- CAR's crediting program, including its project-specific methodologies, its verifier accreditation and layers of oversight, have been approved under the Verified Carbon Standard. **CRTs issued by the Reserve can be converted into Verified Carbon Units (VCUs) and transferred to a VCS registry. However, VCUs cannot be converted into CRTs**.

Filter by protocol sector:

All | Natural Climate Solutions | Waste Handling and Methane Destruction | Industrial Processes and Gases

NATURAL CLIMATE SOLUTIONS

| Protocols | Active Version | Date Issued | Development Status |
|---|---|---|---|
| Canada Grassland | 1.0 | October 16, 2019 | Approved; undergoing update to V1.1 |
| Guatemala Forest | 1.0 | January 24, 2024 | Approved |
| Mexico Forest | 3.0 | October 5, 2022 | Approved; undergoing update to V3.1 |
| Panama Forest | 1.0 | January 24, 2024 | Approved |
| U.S. and Canada Biochar | 1.0 | March 19, 2024 | Approved; undergoing update to V1.1 |
| U.S. Forest | 5.1 | July 20, 2023 | Approved |
| U.S. Grassland | 2.1 | February 13, 2020 | Approved; undergoing update to V2.2 |
| U.S. Nitrogen Management | 2.1 | December 3, 2021 | Approved |

Protocol finder: https://climateactionreserve.org/how/protocols/

# Crediting Period: CAR

- Definition: the period of time over which a project's GHG reductions are eligible to be verified as CRTs

**NON-SEQUESTRATION PROJECTS**

**10-year crediting period**

**(option for a second 10-year crediting period)**

**SEQUESTRATION PROJECTS**

**Up to 100 years**

**(including renewed crediting periods)**

*A non-forest project may end its crediting period at anytime prior to the limit specified in the protocol but must abide by any monitoring requirements necessary to ensure permanence, if applicable.*

# Key latest milestone on CAR Credits

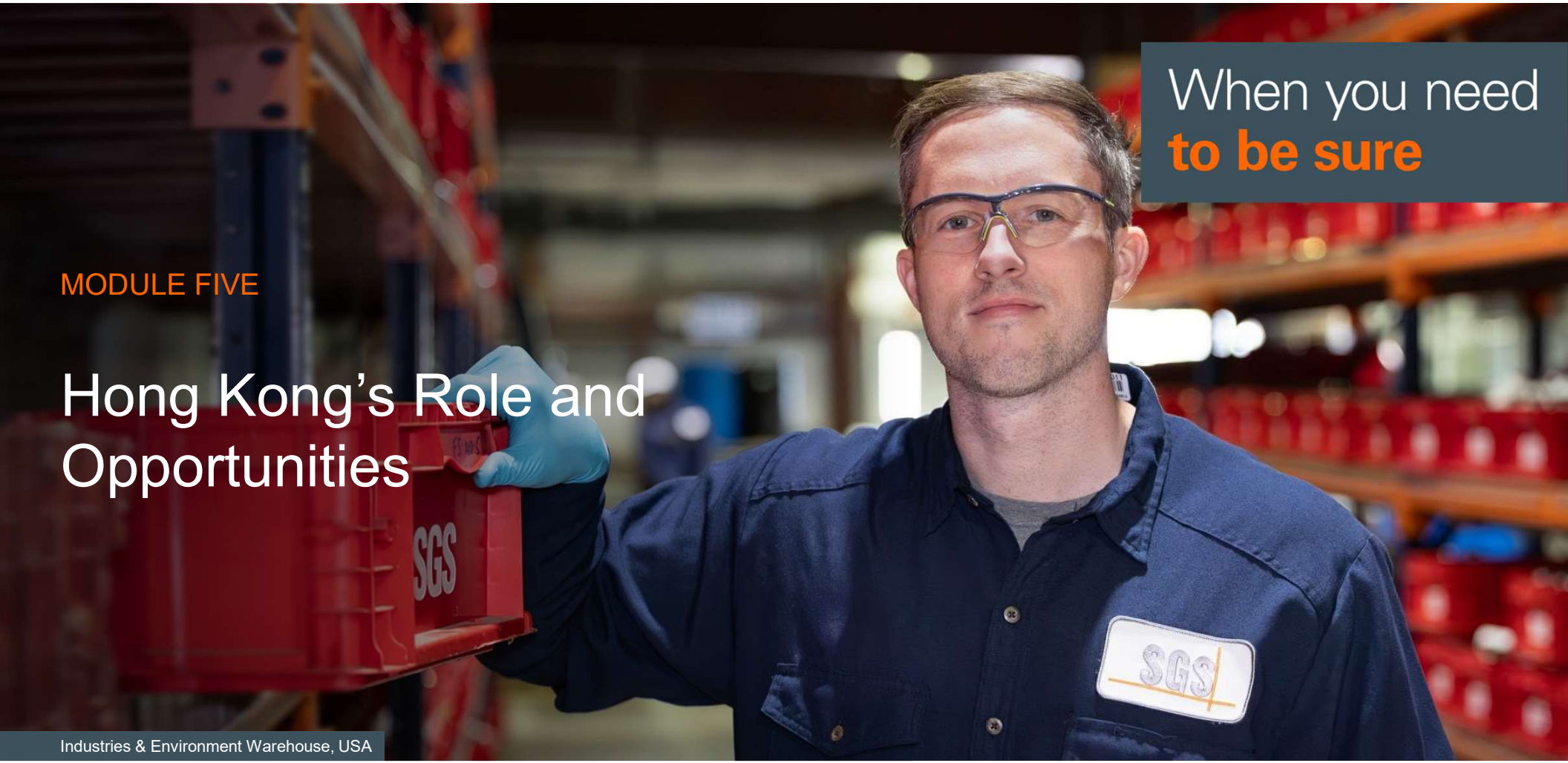
ICAO approved the Reserve for full participation under CORSIA Phase 1, which runs from 2024-26

ICVCM approved the Reserve program as CCP eligible, signifying the Reserve has met the Integrity Council's rules on robust quantification of emission reduction and removals, no double counting, and sustainable benefits and safeguards

# VCM Comparison

| Carbon Offset Program | Market Volume (in M) | Name of carbon credits issued | Project Locations | Projects Sector |
|---|---|---|---|---|
| Verified Carbon Standard (VCS) | 746 M carbon credits (70% share) | Verified Carbon Units (VCUs) | Projects dominant in developing countries | Covers all sectors |
| Gold Standard (GS) | 184 M carbon credits (17% share) | Verified Emission Reductions (VER) | Over 80 countries, mostly developing nations | Covers all sectors, excluding REDD+ projects |
| American Carbon Registry (ACR) | 63 M carbon credits (6% share) | Emission Reduction Tons (ERTs) | United States | Covers AFOLU projects, industrial processes and wastes |
| Climate Action Reserve (CAR) | 66M carbon credits (6.2% share) | Climate Reserve Tonnes (CRTs) | United States, Canada, Mexico | Agriculture, forestry, wastes, energy, and non-carbon emission reductions |

Source: https://carboncredits.com/




MODULE FIVE

# Hong Kong's Role and Opportunities

Industries & Environment Warehouse, USA

Alexander TONG | Lesson 6: 10 July 2025

# Why Hong Kong Is Poised to Lead in the VCM?

## 1. Strategic Position as a Global Financial Superconnector

Hong Kong's unique role as a bridge between **Mainland China and international capital markets** makes it an ideal hub for carbon trading. The **Hong Kong Exchanges and Clearing (HKEX)** has explicitly positioned itself to connect capital with climate-related opportunities across Asia and globally through its **Core Climate platform**

CORE CLIMATE

Core Climate builds on Hong Kong's position as a leading global financial centre, connecting capital with climate-related products and opportunities in Hong Kong, Mainland China and globally.

# Why Hong Kong Is Poised to Lead in the VCM?

## 2. Institutional Infrastructure and Market Readiness

HKEX launched the **Hong Kong International Carbon Market Council** in 2022, bringing together major corporates and financial institutions (e.g., HSBC, Tencent, ICBC, Cathay Pacific) to shape a robust carbon market ecosystem. This council is actively developing infrastructure for **spot and derivatives trading** in carbon credits, aligning with international standards.

The Council gathers insights on what kind of carbon market stakeholders need and how they want to fund new climate projects, technologies and businesses.

# Why Hong Kong Is Poised to Lead in the VCM?

## 3. Policy Support and Government Commitment

At the **2025 International Carbon Markets Summit**, Hong Kong's top financial and environmental officials reaffirmed their commitment to building a **trusted, effective carbon market**. The summit emphasized Hong Kong's role in **cross-border carbon asset trading**, especially in the voluntary space

HK$240B (~US$30.7B) climate investment over 15–20 years

"Our commitment lies in creating a vibrant, trusted carbon marketplace that supports sustainable finance and fosters growth opportunities for global investors in the green economy." — HKEX CEO Bonnie Y Chan

# Why Hong Kong Is Poised to Lead in the VCM?

## 4. Regional Demand and Capital Flow

According to HKEX research, **voluntary carbon markets (VCMs)** are growing rapidly, with global turnover reaching **US$2 billion in 2021** and expected to rise significantly. China's national ETS already covers **4+ billion tonnes of $CO_2e$**, and Hong Kong is well-positioned to serve as the **gateway for international investors** into this massive market

Hong Kong's strong international standing and regulatory regimes could allow it to play a superconnector role linking carbon projects with investors looking to drive the low-carbon transition.

# Why Hong Kong Is Poised to Lead in the VCM?

## 5. Asia's Climate Finance Gap = Hong Kong's Opportunity

Asia faces an **$800 billion annual climate finance gap**, and the private sector is expected to contribute **90% of climate finance by 2030**. Hong Kong's deep capital markets and green finance expertise can help mobilize this capital through VCMs

ADB
ASIAN DEVELOPMENT BANK

Capital markets offer new financing opportunities with emerging instruments such as green, social and sustainability-linked bonds

# Why Hong Kong Is Poised to Lead in the VCM?

Hong Kong is not just participating in the carbon market—it is **architecting the infrastructure** for Asia's low-carbon transition. With strong policy backing, institutional leadership, and regional demand, it is uniquely positioned to become the **VCM hub of Asia**, channeling billions in climate finance and accelerating the path to net zero.

# Questions?

Wind Turbine Inspection, Belgium

# Thank you!

Do you have any questions?

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# IMPACT NOW brings together all SGS sustainability services under four pillars


**Giving you the tools to help you achieve your business sustainability goals.**

# IMPACT NOW

## ON CLIMATE

Drive net zero ambitions.

# Solutions to support the fight against climate change

IMPACT NOW

**Services that help you:**

- Reduce greenhouse gas (GHG) emissions
- Drive energy transition to achieve net-zero

**GHG emissions:**

- GHG emissions consulting and carbon inventory support
- SBTi target setup
- Carbon footprint verification
  Offset and removal project validation and verification
- Carbon neutrality claim verification
- EU/UK Emissions Trading System (ETS) and Carbon Border Adjustment Mechanism (CBAM) compliance

**Energy transition:**

- Renewable energy CAPEX/OPEX assurance
- Asset decarbonization – management systems certification, energy audits and verification of savings
- New fuels – testing and certification
- EV Battery testing – power conversion systems (PCS) for energy storage



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# IMPACT NOW

## ON CIRCULARITY

Transition to the circular economy.

# Solutions to meet the challenges of the circular economy

IMPACT NOW

**Services that:**

- Enable circularity through sustainable design, preferred materials, recyclability and effective waste management
- Reduce plastic pollution

- Recycling technologies: plastic waste characterization, pyrolyze oil testing, chain of custody certification
  - International Sustainability & Carbon Certification (ISCC) PLUS
- Materials and products
  - Life cycle assessment (LCA) studies and environmental product declarations (EPD) verification

  - Recycled and/or biobased content certifications: Global Recycled Standard (GRS)/Recycled Claim Standard (RCS), RecyClass
  - Biodegradability and compostability testing
  - Recyclability testing/assessments
- Supply chain traceability (including Digital Product Passport verification)
- Plastics pollution prevention – Operation Clean Sweep® certification



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# IMPACT NOW

## ON NATURE

**Become nature-positive and improve the health of humans and ecosystems.**

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# Solutions to reduce biodiversity loss and ecosystem damage

IMPACT NOW

**Services that help you:**

- Manage environmental risk
- Target forever chemicals

**Services:**

- Environmental due diligence and impact assessment, soil, water and air testing
- Biodiversity assessment and monitoring E-DNA and microbiome analysis
- PFAS and microplastic solutions
- Forestry supply chain traceability and assurance
  - FSC, PEFC
- EUDR compliance services
  - RSPO, RTRS and other commodities



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# IMPACT NOW

## ON ESG ASSURANCE

**Help clients improve their ESG strategy, mitigate risks and achieve their goals.**

SGS

# Solutions that ensure ESG compliance and risk management

IMPACT NOW

**Services that help:**

- Ensure skillset and strategy align with legislative and corporate objectives
- Meet accountability, accuracy and consistency requirements for ESG disclosures

**Services:**

- CSRD pre-assurance
  - Assurance readiness review
  - Double materiality assessment
  - Sustainability report preparation/generation
- ESG advisory and training
  - ESG Health Check
  - ESG Gap Analysis
- Non-financial report assurance and KPI verification
  - CSRD where permitted, ISSB and other frameworks
- Supplier risk management
- Social and environmental supplier auditing
  - FSSC 24000, SMETA audits, amfori BSCI and Higg Index services



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# SGS ideally positioned to help

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**119**
countries in SGS network, with onsite expertise, end-to-end knowledge of clients' global and value chains

**TIC leader**
leading independent assurance service provider. #1 in key segments including GHG and forestry certification

**SIX Swiss Exchange**
Stock market regulator selected SGS sustainability expert approved reviewer, for the 1.5°C Climate Equity flag

**Scientific excellence**
embedded in our culture, setting the standards and recognized by our clients

**Broadest portfolio**
with most complete capabilities to tackle sustainability challenges

**Early mover**
in sustainability, with proven track record in social audits from the 90s, sustainability report assurance since 2003...



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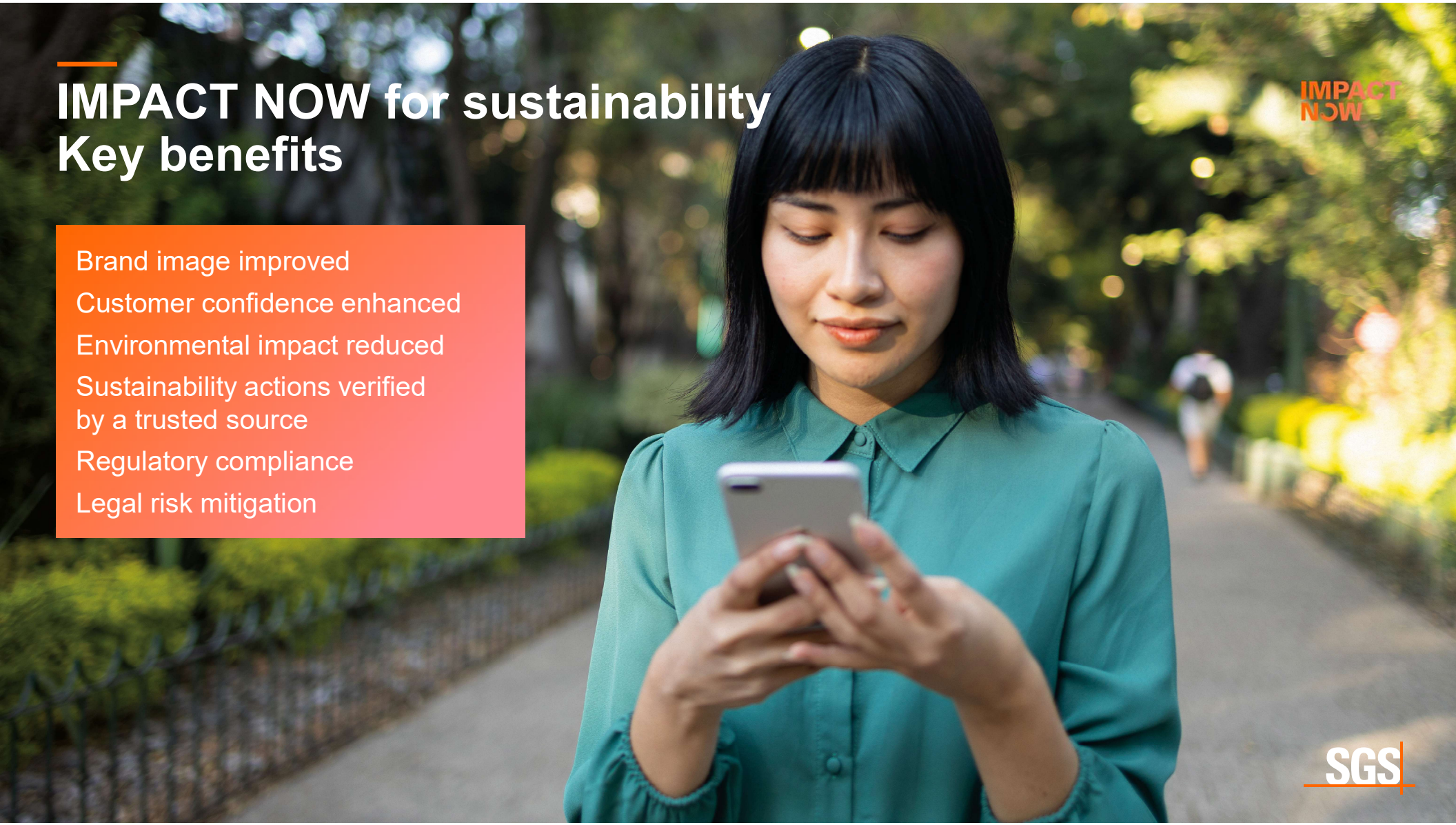
IMPACT NOW for sustainability
Key benefits
Brand image improved
Customer confidence enhanced
Environmental impact reduced
Sustainability actions verified by a trusted source
Regulatory compliance
Legal risk mitigation
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# Why SGS

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With over 30 years of leadership in sustainability and scientific excellence, we are at the forefront of best practices and international standards development.

Our industry-spanning experts deliver a wide array of sustainability services, empowering you to establish a sustainable business model with confidence and credibility.

MSCI ESG RATINGS AAA
CCC B BB BBB A AA AAA

Member of Dow Jones Sustainability Indices
Powered by the S&P Global CSA

Corporate ESG Performance
RATED BY ISS ESG
Prime

REFINITIV®
TOP 100 COMPANY 2023
Diversity and inclusion Index

FTSE4Good

GOLD | Top 5%
ecovadis
Sustainability Rating
AUG 2024

CDP
DISCLOSER
2023

SUSTAINALYTICS

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for sustainability

# TIME IS UP

The planet needs sustainable solutions.
**SGS is here to help – IMPACT NOW for Sustainability**

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# When you need to be sure