

# Carbon Credits – Research Document

Carbon credits are a financial instrument used to reduce greenhouse gas emissions. They are part of a broader approach to managing and mitigating the effects of climate change by creating a market for carbon emissions.

## What Are Carbon Credits?

### Definition:

A carbon credit represents the right to emit one ton of carbon dioxide (CO<sub>2</sub>) or an equivalent amount of another greenhouse gas.

### Purpose:

The primary goal of carbon credits is to provide economic incentives for companies and governments to reduce their carbon emissions. By putting a price on carbon, entities are encouraged to lower their carbon footprint.

## How Carbon Credits Work

### Cap and Trade System:

This is one of the main systems through which carbon credits are utilized. A governing body sets a cap on the total amount of greenhouse gases that can be emitted by all participants. Companies are then allocated or can purchase a certain number of carbon credits. If they emit less than their allowance, they can sell their excess credits to other companies that need more.

### Carbon Offset Credits:

These are generated by projects that reduce or remove CO<sub>2</sub> from the atmosphere, such as reforestation, renewable energy projects, or carbon capture and storage. Companies can buy these credits to offset their own emissions.

## Types of Carbon Markets

### 1. *Compliance Markets:*

These are regulated markets where carbon credits are used to meet mandatory emission reduction targets. Examples include the European Union Emissions Trading System (EU ETS) and the California CapandTrade Program.

### 2. *Voluntary Markets:*

These are markets where companies or individuals voluntarily purchase carbon credits to offset their emissions. These credits are often used for corporate social responsibility (CSR) or marketing purposes.

## Benefits and Challenges

### Benefits:

*Environmental Impact:* Properly managed carbon credit systems can lead to real reductions in global emissions.

*Economic Efficiency:* Markets allow reductions to be made where they are cheapest, lowering the overall cost of achieving emissions targets.

*Incentive for Innovation:* Companies are incentivized to develop new technologies and practices that reduce emissions.

### Challenges:

*Verification and Transparency:* Ensuring that carbon credits represent real, measurable, and permanent emission reductions is challenging.

*Market Volatility:* Prices for carbon credits can be volatile, making it difficult for companies to plan long term investments in emissions reductions.

*Double Counting:* In some cases, the same emission reduction may be counted more than once, undermining the integrity of the system.

### Current Trends

*Increasing Regulation:* Governments worldwide are increasingly adopting carbon pricing mechanisms, either through taxes or capandtrade systems.

*Corporate Adoption:* More companies are committing to netzero emissions targets, leading to increased demand for carbon credits, especially in voluntary markets.

*Technological Innovation:* Advances in technologies like carbon capture and storage (CCS) and renewable energy are becoming critical in generating highquality carbon credits.

Carbon credits are an evolving and complex aspect of global climate policy. They have the potential to play a significant role in mitigating climate change, but they require careful management to ensure their effectiveness and integrity.



# Carbon Credits in Thailand

As of 2023, Thailand's carbon credits market is developing within a broader context of increasing environmental awareness and governmental commitment to mitigating climate change. The country is actively working to establish frameworks and initiatives that support carbon trading, sustainable development, and the transition to a low carbon economy. Below is an overview of the current status of the carbon credits market in Thailand:

## 1. Regulatory Framework

Thailand does not yet have a fully established national carbon trading system akin to the European Union Emissions Trading System (EU ETS). However, the government has been laying the groundwork for carbon market mechanisms through various policies and regulatory measures:

**Nationally Determined Contributions (NDCs):** As part of the Paris Agreement, Thailand has committed to reducing its greenhouse gas (GHG) emissions by 2025% from the business-as-usual scenario by 2030, and up to 40% with international support. Carbon credits are integral to achieving these targets, particularly through international carbon markets and domestic offset projects.

**Energy Policy and Planning:** The Energy Policy and Planning Office (EPPO) is involved in developing strategies that incorporate carbon management and potential carbon trading mechanisms.

## 2. Existing Programs and Platforms

While Thailand does not have a mandatory carbon trading system, several voluntary initiatives and pilot projects are contributing to the development of its carbon credits market:

**Voluntary Carbon Market:** Thai companies and organizations are increasingly participating in voluntary carbon markets to offset their emissions. These initiatives are often linked to corporate social responsibility (CSR) goals and international sustainability commitments.

Clean Development Mechanism (CDM): Although the CDM under the Kyoto Protocol has officially concluded, some legacy projects in Thailand continue to generate Certified Emission Reductions (CERs). These projects contribute to Thailand's carbon credit supply.

### 3. Key Projects and Sectors

Thailand's carbon credit projects span various sectors, reflecting the country's diverse economy and environmental priorities:

**Renewable Energy:** Projects involving solar, wind, and biomass energy generation help reduce reliance on fossil fuels and lower GHG emissions.

**Forestry and Land Use:** Reforestation, afforestation, and sustainable forest management projects are significant sources of carbon credits. These projects not only sequester carbon but also enhance biodiversity and ecosystem services.

**Waste Management:** Initiatives focused on improving waste management, including methane capture from landfills and composting programs, contribute to emission reductions.

**Energy Efficiency:** Projects that enhance energy efficiency in industries, buildings, and transportation reduce overall energy consumption and emissions.

### 4. Market Participants

The carbon credits market in Thailand involves a mix of government agencies, private sector companies, nongovernmental organizations (NGOs), and international partners:

**Government Agencies:** Entities such as the Ministry of Natural Resources and Environment (MNRE) and the EPPO play pivotal roles in policy formulation and project facilitation.

**Private Sector:** Thai corporations, especially those in energy-intensive industries like manufacturing and energy, are active participants seeking to offset their emissions through carbon credits.

NGOs and International Organizations: Organizations like the United Nations Development Programme (UNDP) support Thailand in developing and implementing carbon reduction projects.

## 5. Government Initiatives and Policies

Thailand has launched several initiatives aimed at promoting carbon reduction and supporting the nascent carbon credits market:

**Thailand Climate Change Master Plan:** This comprehensive plan outlines strategies for reducing GHG emissions across various sectors, emphasizing the role of carbon credits and marketbased mechanisms.

**Green Growth Strategy:** Focused on sustainable economic growth, this strategy includes measures to promote renewable energy, energy efficiency, and carbon sequestration projects.

**Carbon Pricing Discussions:** The government has been exploring the potential for implementing carbon pricing mechanisms, including carbon taxes and capandtrade systems, to further incentivize emission reductions.

## 6. International Engagement

Thailand actively engages with international carbon markets and frameworks to enhance its carbon credits market:

**Linking with Other Markets:** Thailand is exploring opportunities to link its voluntary carbon market with established international markets to increase liquidity and market access.

**Participation in Global Initiatives:** Thailand collaborates with international bodies and participates in global climate initiatives to align its carbon market practices with international standards.

## 7. Challenges

Despite progress, several challenges hinder the full development of Thailand's carbon credits market:

**Regulatory Uncertainty:** The absence of a mandatory carbon trading system creates uncertainty for investors and project developers.

**Verification and Standards:** Ensuring the integrity and credibility of carbon credits requires robust verification and adherence to international standards, which is still evolving in Thailand.

**Market Awareness and Capacity:** Limited awareness and expertise among businesses and stakeholders about carbon trading mechanisms can impede market growth.

**Financial Constraints:** Securing funding for carbon reduction projects, especially in the early stages, remains a significant barrier.

## 8. Opportunities and Future Outlook

Thailand's carbon credits market holds considerable potential, driven by supportive government policies and increasing environmental consciousness:

**Expansion of Voluntary Markets:** As more Thai companies commit to sustainability goals, demand for carbon credits is expected to rise, fostering market expansion.

**Development of National Standards:** Establishing clear national standards and regulatory frameworks will enhance market confidence and attract more participants.

**Technological Advancements:** Innovations in carbon capture, renewable energy, and sustainable practices can generate highquality carbon credits and drive market growth.

**International Collaboration:** Strengthening ties with international carbon markets and leveraging global best practices can accelerate the development of Thailand's carbon credits market.

## 9. Recent Developments (Up to October 2023)

**Policy Announcements:** In recent years, the Thai government has signaled its intent to integrate carbon pricing mechanisms into national policy, though specific details and timelines remain under development.

**Pilot Projects:** Several pilot carbon credit projects have been initiated, particularly in the renewable energy and forestry sectors, serving as test cases for scaling up.

**Private Sector Engagement:** Increased participation from major Thai corporations in voluntary carbon markets has highlighted the growing recognition of carbon credits as a tool for achieving sustainability targets.

## 10. Conclusion

Thailand's carbon credits market is in a formative stage, characterized by emerging policies, increasing voluntary participation, and ongoing efforts to establish a robust regulatory framework. While challenges such as regulatory uncertainty and verification standards persist, the country's commitment to climate action and sustainable development provides a solid foundation for the growth of its carbon credits market. Continued government support, international collaboration, and private sector engagement are essential to realizing the full potential of carbon credits in contributing to Thailand's climate goals.



# How to get carbon credits

Acquiring carbon credits in Thailand involves several steps, depending on whether you're looking to purchase them through voluntary markets, participate in carbon reduction projects, or engage in potential future regulatory markets. Here's a guide on how you can obtain carbon credits in Thailand:

## 1. Determine Your Objective

**Offsetting Corporate Emissions:** If you're a business looking to offset your carbon emissions, you'll likely be purchasing carbon credits from existing projects.

**Participating in Carbon Markets:** If you're interested in trading or investing, you might want to get involved in carbon credit trading platforms.

**Developing Carbon Reduction Projects:** If you're a developer or a business with the capacity to undertake carbon reduction projects, you could generate and sell carbon credits.

## 2. Identify the Type of Carbon Credits

**Voluntary Emission Reductions (VERs):** These are credits available in the voluntary market, often purchased by companies to offset their emissions for CSR or to meet internal sustainability goals.

**Certified Emission Reductions (CERs):** These are credits from projects approved under the Clean Development Mechanism (CDM) of the Kyoto Protocol. Although the CDM is no longer active, some CERs are still traded.

**Gold Standard or Verified Carbon Standard (VCS) Credits:** These are high quality credits verified by independent bodies and are typically seen as more credible in the voluntary market.

## 3. Purchase Carbon Credits

**Through Carbon Offset Providers:** Several organizations in Thailand and internationally offer carbon credits for purchase. These providers often work with projects in renewable energy, forestry, and waste management in Thailand.

**Local Providers:** Look for Thai based organizations or brokers specializing in carbon credits.

**International Platforms:** Platforms like Verra, Gold Standard, and South Pole offer verified carbon credits, some of which may be sourced from Thai projects.

**Engage with Carbon Trading Platforms:** If you're interested in trading carbon credits, you can explore emerging platforms or exchanges where carbon credits are traded. Thailand is still developing its own carbon trading mechanisms, so staying updated with local developments is crucial.

## 4. Participate in or Develop Carbon Reduction Projects

**Renewable Energy Projects:** Develop or invest in projects like solar farms, wind farms, or biomass energy. These projects can generate carbon credits by reducing reliance on fossil fuels.

**Forestry and Land Use:** Participate in reforestation, afforestation, or sustainable forest management projects, which sequester carbon and generate credits.

***Waste Management: Implement projects that reduce emissions from waste, such as landfill gas capture or composting programs.***

To develop a carbon credit project:

***Certification:*** Work with certification bodies like Verra, Gold Standard, or a similar organization to get your project approved and certified.

***Monitoring and Reporting:*** Ensure that your project has a robust monitoring and reporting mechanism to verify the emissions reductions achieved.

***Registration:*** Register your project with the chosen certification body to begin generating and selling carbon credits.

## 5. Consult with Experts

Given the complexity of the carbon credits market, it's often advisable to consult with experts who specialize in carbon trading and project development in Thailand. They can guide you through the process, help with project certification, and ensure compliance with local and international standards.

## 6. Stay Informed About Regulatory Developments

Thailand's carbon credits market is evolving, and the government is considering implementing mandatory carbon pricing mechanisms in the future. Staying informed about these developments will help you understand new opportunities and requirements for acquiring carbon credits.

## 7. Documentation and Compliance

Ensure that all necessary documentation, including contracts, project certifications, and transaction records, are properly maintained.

Comply with any legal and regulatory requirements in Thailand related to carbon credit trading and offsetting.

## 8. Utilize Partnerships and Networks

Engage with networks and organizations focused on climate action and carbon markets, such as the Thailand Greenhouse Gas Management Organization (TGO). These organizations can provide valuable resources, networking opportunities, and updates on market developments.

## 9. Conclusion

Acquiring carbon credits in Thailand can be done through purchasing existing credits, developing your own carbon reduction projects, or participating in emerging trading platforms. Understanding your objectives, selecting the appropriate type of carbon credits, and ensuring compliance with local and international standards are key steps in the process. As the market in Thailand continues to develop, staying informed and consulting with experts will be crucial for successfully navigating the carbon credits landscape.

# Certification Bodies

In Thailand, several certification bodies and organizations are involved in the verification and certification of carbon credits, particularly within the voluntary carbon market and specific project types. Here's a list of key certification bodies and related organizations that operate in Thailand:

## 1. Thailand Greenhouse Gas Management Organization (TGO)

**Role:** TGO is a public organization under the Ministry of Natural Resources and Environment (MNRE). It plays a central role in managing and promoting greenhouse gas reduction activities in Thailand.

### Programs:

*Thailand Voluntary Emission Reduction Program (TVER):* TGO oversees the TVER program, which is Thailand's own domestic certification scheme for carbon credits. It certifies projects that voluntarily reduce emissions in sectors like renewable energy, waste management, and forestry.

*Thailand Carbon Offsetting Program (TCOP):* TGO also administers TCOP, allowing organizations to offset their emissions through certified projects.

### Function:

TGO acts as both a certifier and a facilitator, supporting project developers through the process of verification and certification under the TVER program.

## 2. Verra (VCS Verified Carbon Standard)

### Global Presence:

While Verra is a global standard, many projects in Thailand, especially those related to forestry and renewable energy, seek certification under the Verified Carbon Standard (VCS).

### Function:

Verra provides a globally recognized certification framework for carbon credits, ensuring that projects adhere to rigorous environmental and social standards. Projects certified under VCS in Thailand can sell their credits in international voluntary carbon markets.

### 3. Gold Standard

#### Global Certification:

Like Verra, Gold Standard is a global certification body that verifies carbon offset projects based on stringent criteria, particularly focusing on sustainable development goals (SDGs) and community benefits.

#### Relevance in Thailand:

Many Thai projects, especially those involving community based renewable energy or reforestation, aim for Gold Standard certification to ensure highquality and impactful carbon credits.

### 4. Clean Development Mechanism (CDM) United Nations Framework Convention on Climate Change (UNFCCC)

#### Historical Context:

The CDM was a major certification scheme under the Kyoto Protocol, enabling projects in developing countries like Thailand to earn Certified Emission Reductions (CERs). While the CDM is no longer active for new projects, existing CDM projects in Thailand still contribute to carbon credit markets.

#### Legacy Projects:

Some ongoing projects continue to operate under the CDM framework, generating CERs that can be traded or used for compliance in international schemes.

### 5. Plan Vivo

#### Focus:

Plan Vivo specializes in certifying communitybased projects, particularly those related to agroforestry, reforestation, and sustainable land use.

#### Operation in Thailand:

Projects in Thailand that emphasize sustainable land use and community engagement may seek certification through Plan Vivo, particularly if they aim to combine carbon credits with social and environmental co-benefits.

## 6. The Climate, Community & Biodiversity Alliance (CCBA)

### Certification:

The CCBA offers certification for projects that deliver climate, community, and biodiversity benefits. This standard is often sought by projects aiming to achieve high social and environmental impact alongside carbon sequestration.

### Application in Thailand:

Forestry and land use projects in Thailand that focus on preserving biodiversity and improving community livelihoods may pursue CCBA certification, often in conjunction with other standards like VCS.

## 7. Social Carbon

### Specialty:

Social Carbon is a standard that assesses the social, environmental, and economic cobenefits of carbon reduction projects.

### Use in Thailand:

Projects that want to emphasize their contribution to sustainable development, especially in terms of social impact, may use Social Carbon certification in conjunction with other carbon credit standards.

## 8. International Carbon Reduction and Offset Alliance (ICROA)

### Guidelines:

While not a certification body per se, ICROA provides guidelines for best practices in voluntary carbon offsetting, and it often endorses standards like VCS, Gold Standard, and CDM.

### Relevance:

Projects and companies in Thailand involved in voluntary carbon markets may adhere to ICROA guidelines to ensure credibility and adherence to international best practices.

## Conclusion

In Thailand, the certification of carbon credits is managed by both domestic and international bodies. The Thailand Greenhouse Gas Management Organization (TGO), with its TVER program, plays a crucial role at the national level. For projects looking to tap into international markets, global standards like Verra (VCS), Gold Standard, and Plan Vivo are commonly used. Each of these certification bodies offers different strengths, from ensuring rigorous carbon accounting to emphasizing social and environmental cobenefits, making them suitable for various types of projects within Thailand.

## News

[Net Zero driving carbon credit shortage \(nationthailand.com\)](#)

[Thaicom platform can evaluate carbon credit quickly, 'at affordable price' \(nationthailand.com\)](#)

[Environmentminded entities raise public awareness of climate change \(nationthailand.com\)](#)