

LESTARI GEMS

Vol. 5

Malaysia Tapping into VCM Potential

By Joshua Ng | joshuang@kenanga.com.my

Featured Report

Bursa Carbon Exchange all set for action

Top ESG News on carbon markets

Citi says it will use carbon credits

Citi, one of the largest US banks, announced that it will utilize the increasing supply of carbon credits to achieve its 2030 and 2050 emissions targets. It will also require the companies it invests in to use these types of credits in varying degrees.

The carbon credits it plans to purchase will be aimed at addressing the emissions from its own activities, also known as Scope 1.

The bank now pledges to reduce all scopes of emissions from the different sectors of its investments: from thermal coal mining by 90% by 2030, auto manufacturing by 31% and commercial real estate in North America by 41%. — *Carbon Herald*

CMX offers USD100m carbon offsets

Carbon Market Exchange Ltd (CMX) announced a USD100m initial offering in carbon offsets by DealMaker, a fund-raising platform based in Toronto, Canada.

As one of today's largest companies dedicated to nature-based carbon markets, CMX has negotiated carbon offsets of over 1.25m hectares of Tanzania and Borneo with many more projects underway. — *Carbon Herald*

Lion expands into carbon trading

Lion Group Holding plans to expand into carbon trading and financing. Lion currently holds Securities and Futures Commission type 1, type 2, type 4, type 5 and type 9

licences as well as the Capital Markets Service licence issued by the Monetary Authority of Singapore.

“With the building out and expansion of our digital carbon finance business, we will have huge development potential when it comes to the provision of carbon financial services for the carbon markets as well as driving the growth of carbon finance-related derivative products,” said CEO Wang Chunng.

EU carbon price tops EUR100/tCO₂e

The EU's carbon price has climbed above EUR100 a tonne for the first time on 21 Feb 2023, hitting an all-time high of EUR101 in a landmark moment for one of the bloc's key tools to fight pollution.

The threshold has been seen as psychologically important, and a price at which companies may start looking more seriously at investing in expensive emerging technologies such as carbon capture and storage.

Some analysts said the EUR100 threshold would incentivise investments in emerging clean technologies such as carbon capture and hydrogen but major polluters warned of the impact that higher carbon prices might have on their businesses and on their ability to make investments. — *Financial Times*

ESG CALENDAR

LESA 2023 (Leadership for Enterprise Sustainability Asia)

Organiser: Asia School of Business

Date: 15–16 March 2023
Venue: Asia School of Business, 11, Jalan Dato Onn, 50480 Kuala Lumpur.

Type: Hybrid
Register [here](#)

Circular Economy Expo CE Japan

Organiser: RX Japan Ltd.

Date: 15–17 March 2023
Venue: Tokyo Big Sight, Japan
Type: Physical
Register [here](#)

Lifting Women's Voices: Embracing Gender Equity

Organiser: Newcastle University
Malaysia Medicine

Date: 18 March 2023
Time: 10am
Type: Virtual, free
Register [here](#)

UN Water Conference

Organiser: United Nations

Date: 22–24 March 2023
Venue: UNHQ in New York, USA
Type: Physical, paid
Register [here](#)

ESG Rating 4 stars

Company	F4GBM Index	Rating	TP (RM)
ABMB	Yes	OP	4.40
CIMB	Yes	OP	6.55
PBBANK	Yes	OP	4.90
KLK	Yes	OP	27.00
IOI CORP	Yes	MP	4.20
PPB	Yes	OP	19.30
MISC	Yes	MP	7.50
YINSON	Yes	OP	3.65
CTOS	Yes	OP	1.80
SUNCON		OP	2.13
GAMUDA		OP	5.15
SAMAIDEN		OP	1.15

ESG Rating 2 stars

Company	F4GBM Index	Rating	TP (RM)
TENAGA	Yes	MP	10.00
ARMADA	Yes	OP	0.75
TAANN		MP	3.90
KOSSAN		UP	0.85
SUPERMAX		UP	0.70
BAT		MP	12.00
CARLSBERG		MP	23.05
HEINEKEN		MP	27.70

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Voluntary Carbon Market

Bursa Carbon Exchange all set for action

By Joshua Ng | joshuang@kenanga.com.my

The Bursa Carbon Exchange (BCX) will hold its inaugural auction on 16 March 2023, offering carbon credits from two projects (Exhibit 1). Owned and operated by Bursa Malaysia, the BCX is a voluntary carbon market (VCM) set up to help achieve Malaysia's aspiration to become net zero greenhouse gas (GHG) emissions by 2050. It is the world's first shariah-compliant carbon exchange, leveraging Malaysia's position as a leading global Islamic financial marketplace and exchange for Islamic fund raising and investment.

According to Bursa Malaysia, the auction will help shape the carbon market landscape by facilitating a price discovery for trading of new carbon products in the market. It will provide a reference price for carbon credit trading and set a tangible price signal for potential project developers to engage in carbon credit projects. The auction will also allow Bursa Malaysia to better understand and incorporate the needs of its stakeholders in the carbon market ecosystem into its operations.

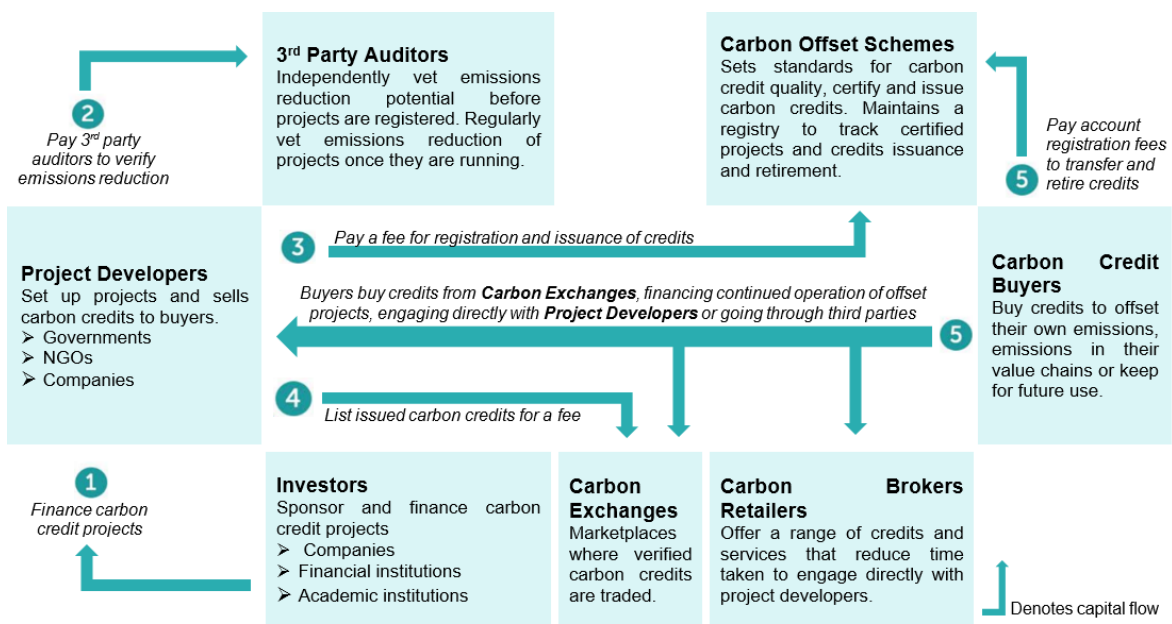
Exhibit 1: Auction details	
Date	Thursday, 16 March 2023
Bidding Window	First session: 10am to 12pm Second session: 2pm to 4pm
Contract Type	<p>1. Global nature-based plus carbon contract (GNC+)</p> <p>Project: Southern Cardamom REDD+ (reducing emissions from deforestation and forest degradation)</p> <p>Location: Koh Kong, Cambodia</p> <p>Volume: 100,000 contracts</p> <p>Reserve price: RM68.00 per contract</p> <p>Project type: Agriculture forestry and other land use (AFOLU-REDD+)</p> <p>Vintage: 2021</p> <p>Project ID: 1748</p> <p>2. Global technology-based contract (GTC)</p> <p>Project: Linshu biogas recovery and power generation</p> <p>Location: Linshu town, Shandong province, China</p> <p>Volume: 50,000 contracts</p> <p>Reserve price: RM18.50 per contract</p> <p>Project type: Waste handling and disposal (wastewater treatment)</p> <p>Vintage: 2019–2020</p> <p>Project ID: 2402 <i>(See Appendix for projects' details)</i></p>
Auction Volume	150,000 contracts with 150,000 underlying Verra verified carbon units (VCUs) from the above projects.
Participation Eligibility	Entity must first be onboarded as an approved participant of the BCX.
Funding Requirement	Full pre-funding of amount required to cover the bid and transaction costs. Deadline for pre-funding is 10am, 15 March 2023. Sealed bids will be submitted by bidders via BCX's auction system.
Allocation	Allocation ranking will be prioritised by price-volume-time basis. All participants will pay the same clearing price, once allocation is completed.

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How BCX works

- The BCX is global spot exchange that facilitates the trading of high-quality carbon credits via standardised carbon contracts. These carbon credits are generated by projects that remove or reduce GHG from the atmosphere. The BCX will ensure that the carbon credits meet the relevant contract specifications before they can be traded.
- Standardised carbon contracts** comprise a collection of credits from various projects based on certain characteristics. Products can be standardized based on attributes that buyers use to assess carbon credits. Typical attributes include project type (such as nature-based solutions or tech-based, removal or avoidance), geography, co-benefits and standards.
- Each **carbon credit** has a specific “**vintage**”, which is the year an emission reduction occurred or the credit was issued. One (1) contract is equivalent to 1 carbon unit where each unit represents the removal, reduction, avoidance, sequestration or mitigation of one metric tonne of emissions of GHGs, measured in carbon dioxide equivalent (CO₂e).
- Incorporated entities** (local and foreign) may purchase these credits to offset their emissions (the carbon credits will then be retired i.e. taken off the market and no longer available for trade), keep the credits in the BCX trading account for future use or sell them to other entities via BCX to benefit from price appreciation. In return, the sale of carbon credits will help to finance and drive the development of domestic GHG emission reduction and removal projects (Exhibit 2).

Exhibit 2: Carbon Credit Ecosystem



Source: Adapted from Paia Consulting

- There are three modes of carbon trading** i.e. (i) auction (when a new category of contract is introduced to facilitate price discovery), (ii) spot trading (as and when carbon credits are made available), and (iii) off-market transactions.
- The BCX will offer four types of contracts** for trading. However, only two (A & C) are available in the inaugural auction on 16 March 2023.
 - Global technology-based carbon contract (GTC)
 - Global nature-based carbon contract (GNC)
 - Global nature-based plus carbon contract (GNC+)
 - Malaysia nature-based plus carbon contract (MNC+)

There are two types of carbon mitigation projects that generate the underlying carbon credits for these contracts i.e. technology-based and nature-based.

Exhibit 3: Types of Carbon Mitigation Projects	
Type	Examples of activities
Technology-based	<ul style="list-style-type: none"> Renewable energy (solar, hydro, wind, biomass, geothermal) Energy efficiency (waste heat recovery, insulation/cooling of buildings) Waste management (waste disposal/treatment, wastewater, biogas) Transport (electrification, lower fossil fuel use) Tech-based removal (carbon capture & storage)
Nature-based	<ul style="list-style-type: none"> Sustainable agriculture/soil carbon Forestry (afforestation, reforestation, improved forest management, REDD+) Other land use (grassland management, restoring/ avoiding conversion of peatlands) Blue carbon (restoring/avoiding conversion of mangroves, wetlands, seagrass)

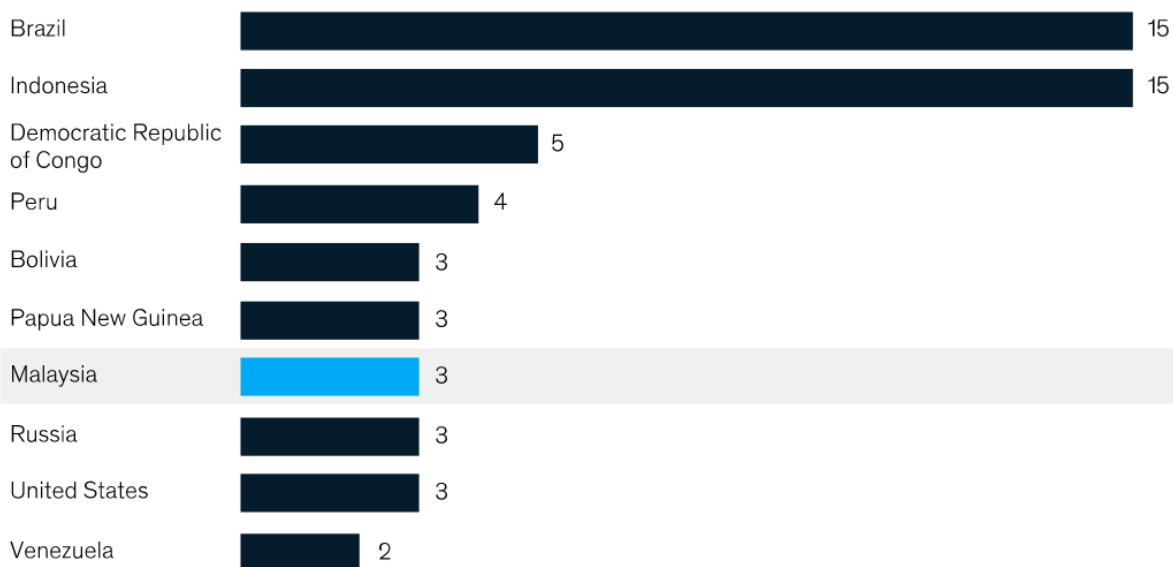
The potential of BCX

To achieve Malaysia’s target of reducing greenhouse gas (GHG) intensity against gross domestic product (GDP) by 45% by 2030, and be net zero by 2050, Malaysia needs to offset at least 76m tonnes CO2e (mtCO2e) new emissions produced each year.

Malaysia’s current forest cover is about 55% (18m hectares) which stores over 230m tCO2e, and a study by McKinsey Nature Analytics showed that the country has carbon crediting potential of up to 40m tonnes of CO2 annually through NBS projects, equivalent to 3% of the world’s NBS potential (Exhibit 4). This offers significant opportunities for Malaysia to build local capacities that could significantly help accelerate its progress towards carbon neutrality, especially in the presence of a well-functioning carbon market. According to the World Bank, nature-based credits are in especially high demand with forestry and land-use transactions more than doubled between 2020 and 2021.

The World Bank also said that for the first time, the total value of the VCM exceeded USD1b in November 2021. In 2022, the global voluntary carbon market was valued at over USD2b and is projected to reach USD15b in 2030.

Exhibit 4: Top 10 Countries by Global Share of Nature-based Solutions (NBS) %



Source: McKinsey Nature Analytics

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VCM and the pricing of carbon

The voluntary carbon market (VCM) is one of the four mechanisms for carbon pricing. The other three are emissions trading system (ETS), carbon tax and internal carbon pricing (ICP). Below is a brief comparison of the mechanisms.

Exhibit 5: Carbon Pricing Mechanism			
Voluntary Carbon Market	Emission Trading System	Carbon Tax	Internal Carbon Pricing
<p>The VCM enables companies, organisations and individuals to purchase carbon offsets on a voluntary basis with no intended use for compliance purposes. However, the BCX allows only incorporated entities to buy and sell carbon credits, not individuals.</p> <p>It functions outside of compliance markets.</p> <p>Voluntary carbon credits are more fluid, unrestrained by laws set by particular nation states. They also have the potential to be accessed by every sector of the economy instead of a limited number of industries.</p>	<p>Also known as the “cap-and-trade” system, it is used by companies and governments that by law have to account for their GHG emissions.</p> <p>Targeted at sectors with the biggest emissions, the ETS caps the total level of GHG emissions and allows industries with low emissions to sell their extra allowances to larger emitters.</p> <p>By creating supply and demand for emissions allowances, an ETS establishes a market price for GHG emissions.</p>	<p>The carbon price is set by defining a tax rate on GHG emissions by individual countries.</p> <p>It is different from an ETS in that there is no cap on emissions but the tax rate is fixed. Hence, higher the emissions, the higher the tax that needs to be paid.</p> <p>The carbon tax rate will be increased periodically to discourage the use of fossil fuels and encourage a shift to less-polluting fuels.</p>	<p>Businesses can set an ICP voluntarily and use it to evaluate the impact of mandatory carbon prices on their operations and as a tool to identify potential climate risks and revenue opportunities.</p> <p>By setting an internal charge on the amount of CO₂ emitted from assets and investment projects, businesses can see how, where, and when their emissions could affect their P&L statements and investment choices.</p>
<p>No, it is not regulated by governments. Instead it is governed by private standards such as those drawn up by the operating bourse, and not by international or national regulatory bodies.</p>	<p>Yes. It is a compliance market regulated by mandatory national, regional or international carbon reduction regimes.</p>	<p>Yes. It is a compliance market set up by the governments and it is part of the country's tax regime.</p>	<p>Not regulated by governments or any international bodies. Companies set their own ICP.</p>
<p>USD1–USD119/tCO₂e with most of them priced at less than USD10/tCO₂e.</p>	<p>USD1–USD99/tCO₂e with the majority between USD20 and USD40/tCO₂e. The highest ETS rate is in the UK at USD99/tCO₂e.</p>	<p>USD1–USD137/tCO₂e with the majority below USD50/tCO₂e. The highest carbon tax is in Uruguay at USD137/tCO₂e.</p>	<p>USD0.80–USD6,000/tCO₂e with the majority below USD50/tCO₂e.</p>
<p>The biggest VCMs are the UK, US, Germany, Singapore, Chile, Colombia and Mexico.</p>	<p>The biggest ETS are in the EU, China, South Korea, UK, Germany, Mexico, Kazakhstan and Canada.</p>	<p>Japan, South Africa, Mexico, UK, Canada, Argentina, Colombia, Ukraine, Singapore.</p>	<p>Percentage of companies using ICP – Europe 28%, Japan 24%, UK 20%, US 15%.</p>

Source: Various

Voluntary carbon exchanges in the region

Carbon trading has been steadily gaining traction in Asia, particularly the VCM, as countries commit to emissions reduction targets to transition towards carbon neutrality by 2050. Singapore, Thailand and Hong Kong are already operating their own voluntary markets. Indonesia just started the first phase of its market while Vietnam is looking to implement one in 2027 and the Philippines is considering legislation supporting emissions trading. Japan is set to operate a hybrid market in April while South Korea and China both have emission trading schemes (ETS). Below is a brief round-up of the VCMs.

- **Singapore** has two carbon exchanges i.e. the AirCarbon Exchange (ACX) which was launched in October 2019, and Climate X (CIX) launched in March 2022. The ACX offers the trading of carbon credits, which are securitised into tokens using blockchain technology. The CIX is a global carbon exchange and marketplace.

The ACX has transacted over 17m carbon credits to date and is targeting USD33m in revenue and 20m transacted credits next year while the CIX has sold 420,000 credits through various auctions since it began operations a year ago

Singapore's carbon tax is currently set at SGD5/tCO₂e and it will be raised to SGD25/tCO₂e in 2024 and

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2025, and SGD45/tCO₂e in 2026. It applies to all facilities producing 25,000 tonnes or more GHG emissions a year.

- **Thailand** launched its first carbon credit exchange in September 2022 called FTIX, which is operated by the Federation of Thai Industries. Registration for trading carbon credits on the FTIX only started on 16 Jan 2023 and so far, 2.019m tonnes of CO₂e credits have been traded for a total of 152.95m baht.
- In **Hong Kong**, the Core Climate platform carried out its first batch of carbon credit trades in November 2022 with more than 400,000 tonnes of credits changing hands in over 40 transactions.
- More recently in February, **Indonesia** launched the first phase of mandatory carbon trading for coal power plants. The country is looking to develop its own carbon exchange by 2024.
- **Japan** is set to launch its emissions trading system called the GX League in April with the first phase of ETS involving voluntary participation from companies until the end of March 2026 as a step towards the development of a carbon pricing mechanism.
- **Vietnam** plans to set up and pilot a carbon trade exchange from 2025. From now until the end of 2027, the country will put forward regulations on the management of carbon credits, the exchange of GHG emission quotas and carbon credits, and the operation of a carbon trade exchange, which is expected to begin trading in 2028.

Malaysia has a distinct advantage. With its huge potential in generating nature-based carbon credits coupled with Bursa Malaysia's access to over 900 listed companies, the BCX's shariah-compliant status that fulfils both shariah and ESG principles and firm support from multiple stakeholders, the country is poised to be an important player in the region's carbon market.

What's next

To further improve the VCM ecosystem, the BCX recently signed a memorandum of collaboration (MoC) with Malaysian Green Technology and Climate Change Corp (MGTC). The three-year collaboration will focus on three main areas namely: (i) the development of a national VCM handbook, (ii) the creation of a directory of carbon industry service providers, and (iii) to hold the inaugural Malaysia Carbon Market forum this year.

The national VCM handbook will serve as a resource for professionals and stakeholders in the industry, by providing guidance on generating carbon credits using international standards acceptable to the BCX.

Meanwhile, a directory of carbon industry service providers will contain a comprehensive list of project developers, validation and verification bodies, financiers, and technical experts, facilitating collaboration between parties to help them achieve net zero.

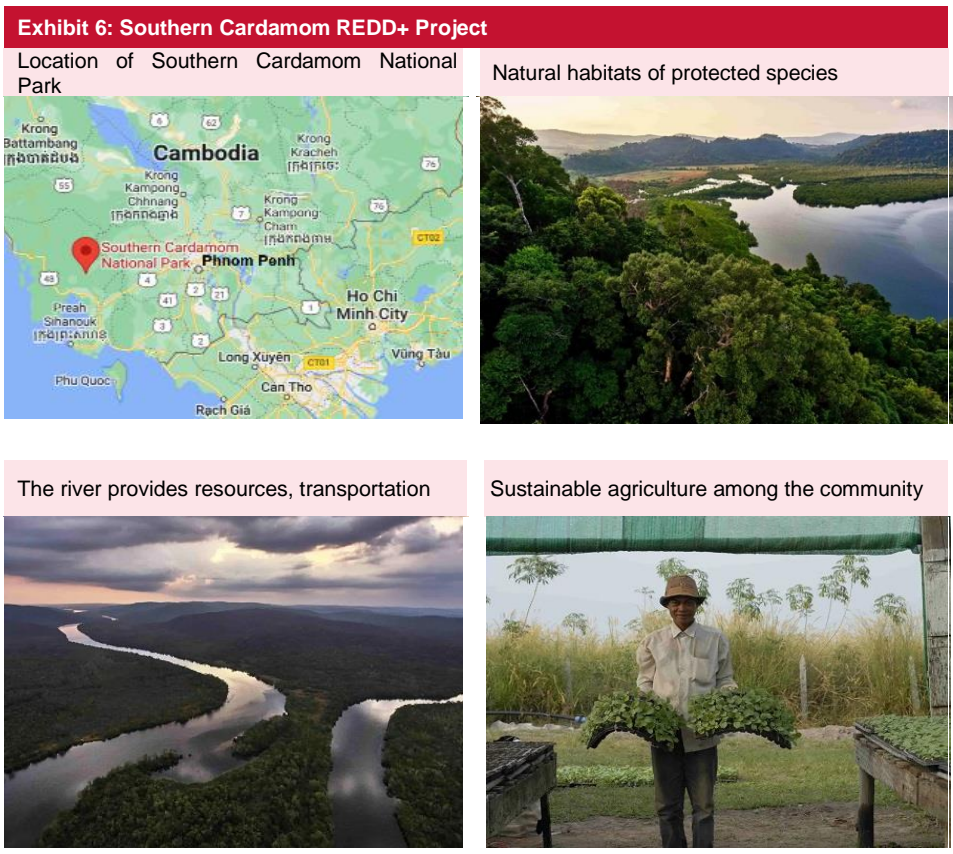
To enhance technical expertise and knowledge sharing among ecosystem players, Bursa Malaysia will be organising the inaugural Malaysia Carbon Market Forum in conjunction with the International Greentech & Eco Products Exhibition & Conference Malaysia (IGEM), scheduled to be held 4–6 October 2023 in Kuala Lumpur Convention Centre.

Putting a price on carbon pollution can act as a catalyst to accelerate decarbonisation. Done right, it opens up opportunities in creating green jobs while unravelling business potential. Attaching an economic value that is measurable and tangible to the protection and preservation of the environment, which directly benefits wildlife, flora and fauna, is the best way to show that investing in nature will ensure sustainable returns.

Appendix

Southern Cardamom REDD+ Project, Cambodia

- Description: An initiative under the United Nations scheme of reducing emissions from deforestation and forest degradation (REDD+) to promote climate change mitigation and adaptation, maintain biodiversity and create alternative livelihoods.
- Size and area: 445,339ha of the Southern Cardamom National Park and Tatai Wildlife Sanctuary, about 210km west of Phnom Penh.
- Benefits:
 - Protects a critical part of the Cardamom Mountains Rainforest Ecoregion, one of the 200 most important locations for biodiversity conservation on the planet. The area encompasses the critical habitat of many protected species such as the Asian elephant, Asiatic black bear, sun bear, large spotted civet, clouded leopard, and dhole, as well as the critically endangered Siamese crocodile and Southern river terrapin.
 - Avoided emission of approximately 12m tCO₂e during this first monitoring period and over 115,000m tCO₂e over the lifetime of the project.
 - Directly supports the livelihoods of 21 villages while an additional 8 villages are eligible to receive educational scholarships. These communities represent approximately 3,957 families and 16,495 individuals.
 - Generates substantial community and biodiversity co-benefits such as direct employment, better health and education facilities, alternative income-generating activities such as eco-tourism and sustainable agriculture, and promote investment opportunities in businesses that will reduce pressure on the environment.



Source: Google Maps, Everland

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Linshu biogas recovery and power generation, Shandong province, China

- Description: The project recovers biogas from wastewater generated from the production of alcohol. The electricity and steam generated by this project will be supplied to Jinyimeng company. Linshu county is about 550km north of Shanghai, Beijing.
- Prior to the project, the wastewater was treated through a series of anaerobic lagoons without biogas recovery. The methane would have been released into the atmosphere. The electricity generated by the project would have otherwise been from the fossil fuel-powered North China Power Grid (NCPG) while the equivalent heat of the project would otherwise have been from a coal boiler.
- The project installs wastewater treatment equipment, biogas storage and purification equipment, biogas generators and waste heat boilers to utilize the biogas to generate electricity and heat. The electricity and heat generated is used by Jinyimeng, replacing energy generated from NCPG and coal boilers. Therefore, the project significantly reduces GHG emissions.
- Benefits:
 - The project's total installed capacity is 13.6MW, comprising six units of 1.2MW generators and four units of 1.6MW generators, and one unit of 1.2MW for backup.
 - The wastewater treatment amount is about 10,000 m³/day, the inlet COD concentration of the anaerobic digester is 55,000 mg/L, and the outlet COD is 1,000 mg/L.
 - The project owner only claims emission reductions from methane recovery and electricity generation.
 - The annual emission reductions by methane avoidance are 290,883 tCO₂e/year.
 - The annual average estimation of GHG emission reduction from the methane recovery and electricity generation in the first crediting period is about 359,691 tCO₂e/year. The project achieved continuous operation on 20/09/2019.

Exhibit 7: Linshu Biogas Recovery and Power Generation Project

Location of Linshu County



Water treatment plant in Linshu



Source: Google Maps, South Pole

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