

Biosphere Reserves and Payment for Ecosystem Services BR & PES

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PES=Payment for ecosystem services

- “A system of PES under which businesses and consumers who are the beneficiaries of ESs bear the costs of ecosystem conservation as compensation for receiving such services" ([Japan National Biodiversity Strategy](#) 2012-2020, p. 73)
- ESs (nature's gifts) are indispensable for human survival and livelihood, and one of the attempts to internalize the value of ecosystem services into the market economy so that they are not lost through development and trade, especially those that are not valued in monetary terms in the marketplace, without being neglected. ([The Glossary of Environmental Terms](#))

Neighborhoods and city residents support the natural bounty of BR and other natural resources.

- Lima Action Plan
- A7.1. acknowledge BRs as a source and manager of ecosystem services
- A.7.2. [ACTION] Implement mechanisms for fair payment for ecosystem services (PES).
- A.7.2. [Action] Implement mechanisms for fair payment for ecosystem services (PES) [Result] Mechanisms for fair PES in BR are implemented.
- Member countries, central and local governments, BR

UNESCO MAB Plan and Lima Action Plan for BR World Network (2016-2025)

成果	行動(アクション)	結果	責任主体	実施期間	達成指標
A7 BRs recognized as sources and stewards of ecosystem services	A7.1. Identify ecosystem services and facilitate their long-term provision, including those contributing to health and wellbeing	Actions to facilitate the provision of ecosystem services from BRs implemented	Member States, National and subnational Authorities, BRs	2016-2025	Quality and quantity of ecosystem services provided by BRs, as indicated in periodic reviews
	A7.2. Implement mechanisms for the equitable payment for ecosystem services (PES)	Equitable PES mechanisms in BRs implemented	Member States, National and subnational Authorities, and BRs	2016-2025	Number of BRs where PES schemes are implemented
	A7.3. Implement programmes to preserve, maintain and promote species and varieties of economic and/or cultural value and that underpin the provision of ecosystem services	Initiatives with these goals or that include these goals among others implemented	BRs, Member States, subnational Authorities, other stakeholders	2016-2025	Number of initiatives per BR targeted to improve the status of species of economic and/or cultural value
	の供給を支えるプログラムの実施する	れる	係者		したB R毎のイニシアチブの数

Status of Implementation of the Lima Action Plan in UNESCO Eco-Parks in Japan (By Toshinori Tanaka, 2019/3/20 MAB National Committee)

Regarding A7.

- 7.1 For ES: Clearly stated (Tadami, Hakusan, Aya)
- 7.2 Payment for ecosystem services (PES) is not clearly defined.

Characteristics of Japan (Weaknesses)

- International Response (B6) → Few people speak English or are familiar with international trends (SDG, MEA, PES, etc.). International response is extremely low priority. Websites are only written in Japanese (except Odaigahara, Tadami).

Payment for Ecosystem Services

Pilot Implementation in Mae Sa-Kog Ma Man and Biosphere Reserve



Payment for Ecosystem Services

Pilot Implementation in Mae Sa-Kog Ma Man and Biosphere Reserve

Target communities (Ecosystem Services Seller/Provider)	Ecosystem Services Ecosystem Service Buyer/ Beneficiaries	Local entrepreneurs in Mae Sa watershed such as Mae Sa Elephant Camp, Botanical Garden, Mineral Water Company, Hotels, Resorts and other downstream communities	Forest Restoration
A. Mae Sa Watershed Communities	'- Watershed Services		Watershed Rehabilitation
Ban Mae Sa Mai Village, Pong Yeang Sub-district	'- Aesthetic and Cultural Services		Protection of indigenous knowledge and local culture
Ban Nong Hoi, Ban Mae Mhae,			Development of eco-friendly tourism
Ban Mae Nai villages, Mae Ram Sub-district			
B. Communities practicing fire management inside the core and buffer zones of MSKM MAB	'- Carbon sequestration and reducing GHG emission services	Chiang Mai and communities inside MSKM MAB that benefit from the reduction of smoke caused by forest fire	Community-based management
Ban Khun Chang Khian Village, Chang Phueak Sub-district	'- Watershed services		Forest restoration
Ban Huay Thueng Tao, Don kaew Sub-district			Public awareness of fire and GHG emissions

PES とは

- PES is an innovative approach which is expected to enhance participatory management of forest and natural resources, and serve as an alternative to typical state control over natural resources. The PES approach integrates key stakeholders in the implementing site, such as communities who protect natural resources, public sector groups that are resource users, and beneficiaries. Development of a PES model would create collective action through negotiations and design of a market-oriented mechanism that generates tangible economic benefits from natural resource conservation.

売り手と買い手 Seller and Buyer

- People or groups of people who manage an ecosystem and its natural resources to ensure its services are provided are called an ecosystem services ‘seller’, while users or beneficiaries of ecosystem services who pay compensation to the provider are called a ‘buyer’.

ES 4 categories of Ecosystem Services

- 1) **Provisioning services** are products or goods obtained from ecosystems such as food, drinking water and fuel wood.
- 2) **Regulating services** are benefits obtained from the regulation of ecosystem processes such as climate regulation and preventing soil erosion.
- 3) **Supporting services** are ecosystem services that are necessary for the production of all other ecosystem services such as primary production and wildlife habitat.
- 4) **Cultural services** are nonmaterial benefits people obtain from ecosystems through spiritual enrichment, cognitive development, reflection, recreation, and aesthetic experiences such as cultural, recreational, educational and cultural heritage.

PES has five essential characteristics

Wunder (2005)

- 1. A voluntary transaction between an ecosystem services 'seller' and 'buyer'**
- 2. A well-defined ES**
- 3. At least one ES buyer**
- 4. At least one ES seller**
- 5. Payment under a condition whereby an ES provider secures service**

The majority of real-world PES schemes which do not meet all five characteristics are referred to as “PES-like” schemes.

The 1st practice of PES in SE.Asia

An example of a successful PES model in Southeast Asia is found in Lam Dong province, Vietnam, where successful implementation of a pilot activity led to the disbursement of US \$4.46 million from ecosystem services users such as hydroelectric power plants, water companies, and tourism operators to the Forest Protection and Development Fund (FPDF). These funds were distributed to 22 Forest Management Boards and forestry businesses, as well as to 9,870 households, for the protection of 209,705 hectares of forest area. This also led to the signing of a national PES Decree into the country's law and made Vietnam the first country in Southeast Asian region to effectively implement a PES decree nation-wide.

USAID LEAF* 4 objectives

Objective 1: “Replicate, scale-up and share innovations in Thailand through the participation in, and learning from, regional PES and REDD+ platforms and partnerships,”

Objective 2: “enabling laws, policies, agreements or regulations at a national or sub-national scale which address GHG reductions and the provision ecosystem services”.

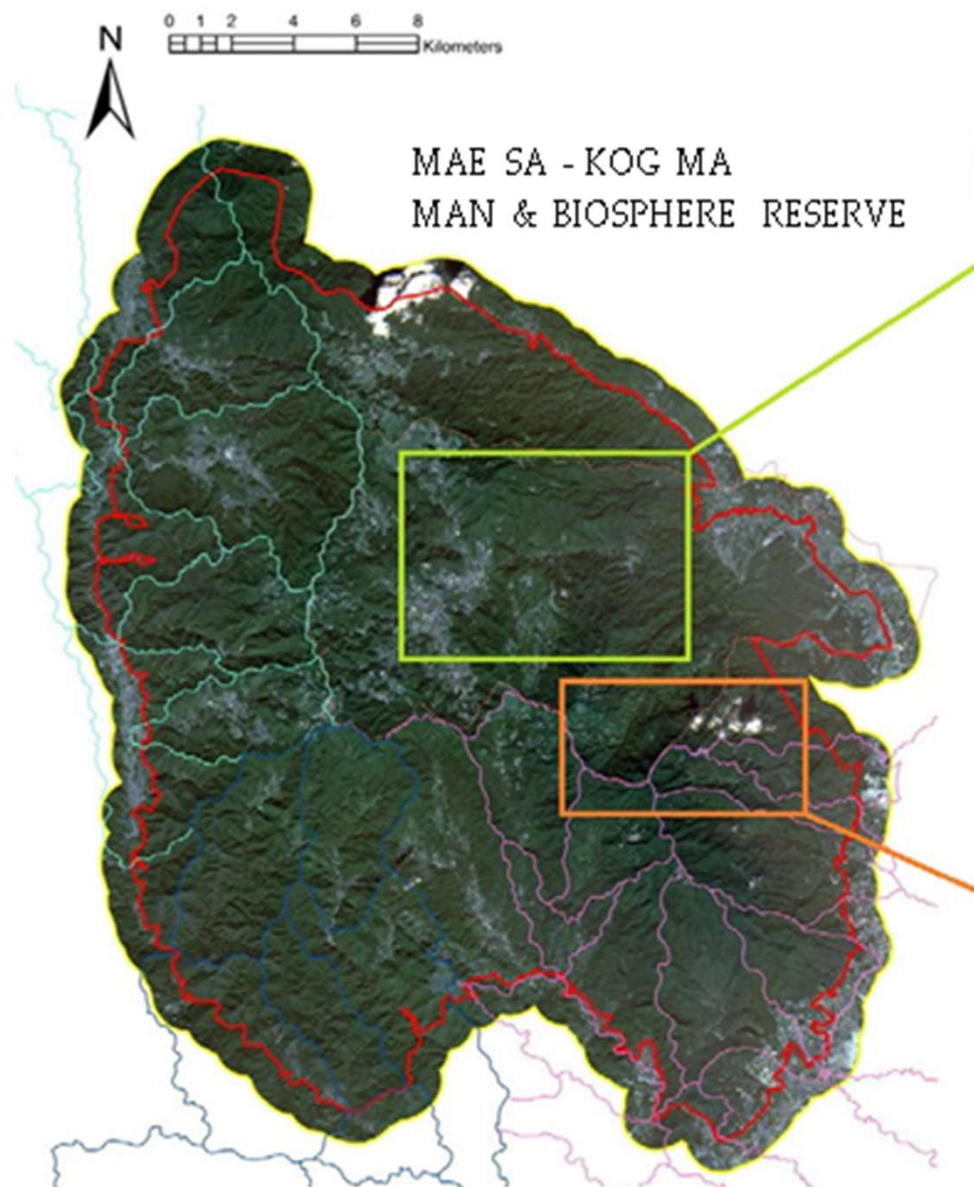
Objective 3, which is to “increase human technical capacity, awareness and knowledge on forest ecosystem services and PES”,

Objective 4: “Demonstrate innovation in sustainable land management”.

***LEAF=Lowering Emissions in Asia’s Forests**

The Mae Sa-Kog Ma Biosphere Reserve and a potential s

for pilot PES scheme development and implementation



A. MAE SA WATERSHED



B. KHUN CHAN KHIAN VILLAGE

Mae Sa-Kog Ma BR (MSKM-MAB)

Phase I: Pre-Implementation (2012-2014) focuses on awareness raising of the PES concept, a study on the existing policy framework, and an evaluation of ES inside the MSKM.

1. A technical PES Study Tour in Lam Dong Province, Vietnam in 2012 and a training in Laos in 2013, to learn the PES development process in Vietnam
2. USAID LEAF published a case study of land tenure and a review of policies related to PES implementation in September 2012.
3. A survey on the valuation of ES in MSKM- MAB was conducted to gauge the opinion of local communities and the private sector in regards to ecosystem services and engagement in PES.
4. Business entrepreneurs in Chiang Mai were engaged to discuss potential PES collaboration and other activities inside MSKM-MAB. The private sector was also engaged in a collaboration with local communities in MSKM-MAB for activities such as a tree planting to restore a degraded watershed



Mae Sa-Kog Ma BR (MSKM-MAB)

Phase II. Implementation (2014-2015) focuses on collaborating with all stakeholders to identify pilot sites and establish a PES mechanism. A field expedition to identify a pilot site.

1. Gather and analyze data to select ecosystem services buyers and sellers in the pilot scheme.
2. Negotiate with stakeholders to facilitate a voluntary engagement mechanism in the pilot PES.
3. Establish a PES agreement and launch implementation. After the above-mentioned steps, the PES agreement will be written and signed by key parties.
4. Monitor, evaluate and report on the pilot PES implementation, which will be presented in a seminar for sharing and discussing ways to further move forward on policy or legal frameworks that scale up PES implementation in the long term.

CSR (Corporate Social Responsibility) と PES

CSR integrates social and environmental concerns in business operations and interaction with stakeholders on a voluntary basis. 3 achievement pillars in the CSR model are (1) economic profits, (2) social and (3) environment. CSR not only ensures active compliance with laws or ethical standards, but also profits for society and an organization's corporate image.

The PES mechanism differs from CSR at the levels of participation and negotiation. Business organizations identify activities and choose stakeholders to perform CSR by themselves.

PES can be adapted to fit with the CSR policy of each business practitioner as an investment practice with benefits to both the social and environment sectors.

IMPLEMENTATION CHALLENGES OF PES

1. Insufficient understanding and misunderstanding of PES concepts between stakeholders. All relevant sectors in the potential pilot sites are not covered.
2. PES pilot target areas require a substantial amount of supporting baseline data. Additional data would need to be collected to verify both fundamental ecosystem services in the pilot site and those who benefit from the services.
3. Finding potential buyers from the group of ecosystem services beneficiaries will be challenging. Many are more focused on CSR rather than PES due to the fact that with CSR they are able to select their own site and activities. CSR is voluntary and has no legal requirements or tax incentives.

7. Expected outcomes of pilot PES implementation

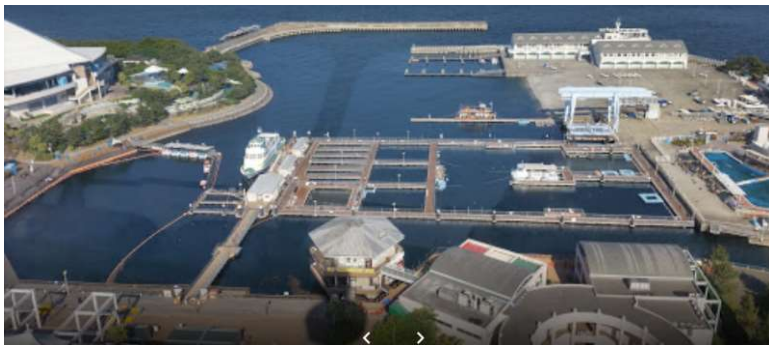
- Pilot PES implementation in MSKM-MAB is expected to establish a system of PES innovation by incorporating engagement with local communities, the private sector and government to develop a transparent pilot payment scheme
- Local communities are expected to gain livelihood benefits from payment allocation or support activities identified in the pilot scheme. Lessons learned and policy recommendations will enable a legal framework to support long term implementation.
- Scaling up of PES innovation will also benefit other countries in Southeast Asia, such as Laos, through study tour exchanges and sharing lessons learned via the regional platform.

“Blue Economy” in Yokohama Port

- Tourism by an amphibious car “Skyduck” (as bus and boat)
- SUP (Stand Up Paddle surfing) Club in Yokohama
- ITU World Triathlon Yokohama
- Aquarium Hakkeijima Sea Paradise
- Clamming in Yokohama
- Seagrass bed Summit



<http://www.skybus.jp/>



<http://www.seaparadise.co.jp/>



<http://yokohama.triathlon.org/>



<http://yokohamasup-club.com/>



What is Yokohama Blue Carbon Project?

Use only for Lectures

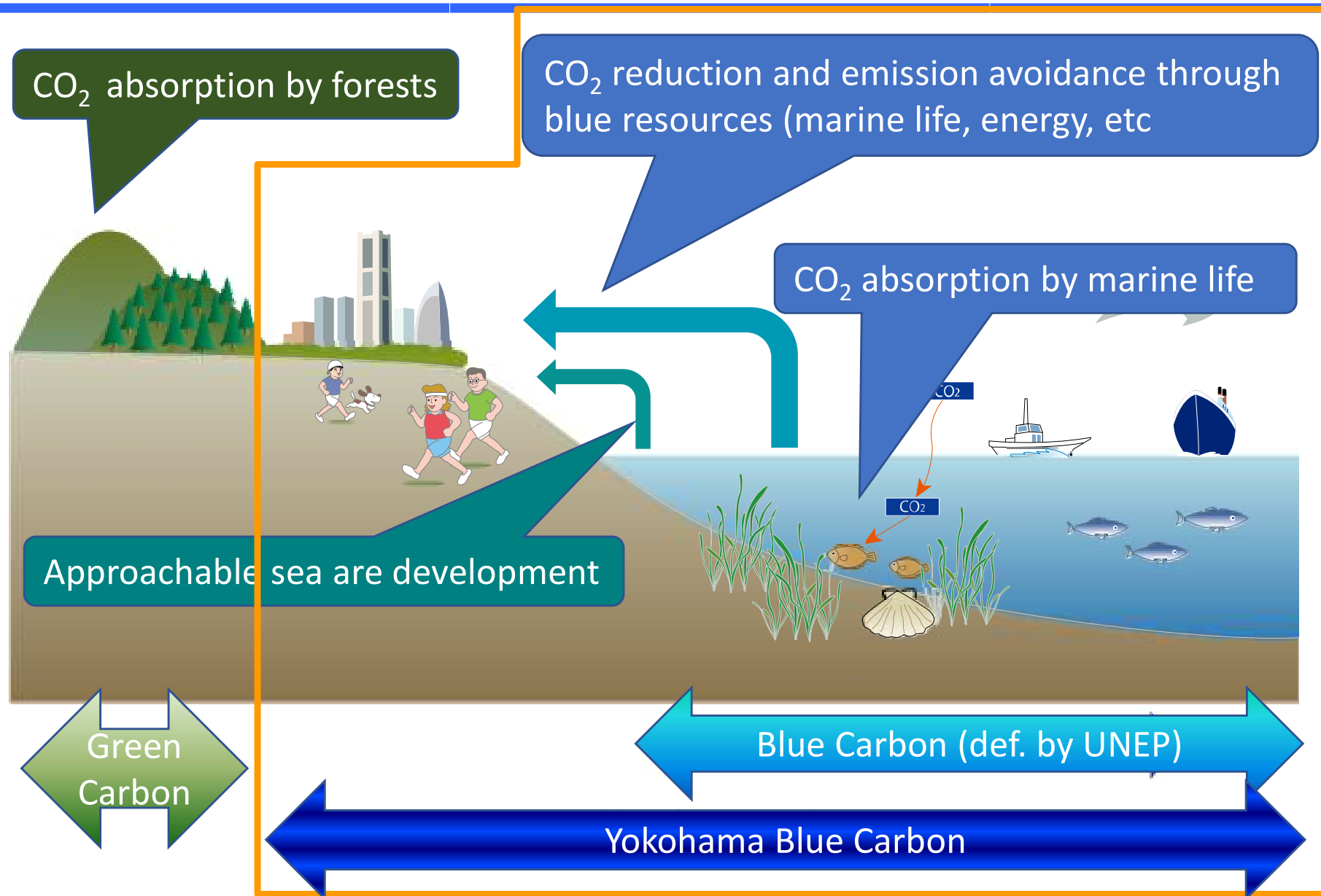


Figure 1: Target of Yokohama Blue Carbon Project

Support by triathletes for blue carbon offset! Use only for Lectures

Support for blue carbon offset was provided by 71.8% of triathletes who participated in the Age Group (General) category of the World Triathlon Yokohama!

Category	No. of entries	No. of donations for the environment
Standard - Women	175	83
Standard - Men	969	749
Sprint - Women	45	25
Sprint - Men	241	179
Paratriathlon	18	9
Relay	30	16
Total	1,478	1,061



71.8%

Amount of donations for blue carbon support: 212,200 yen

炭素オフセットは免罪符か？

Indulgence controversy

en.wikipedia.org

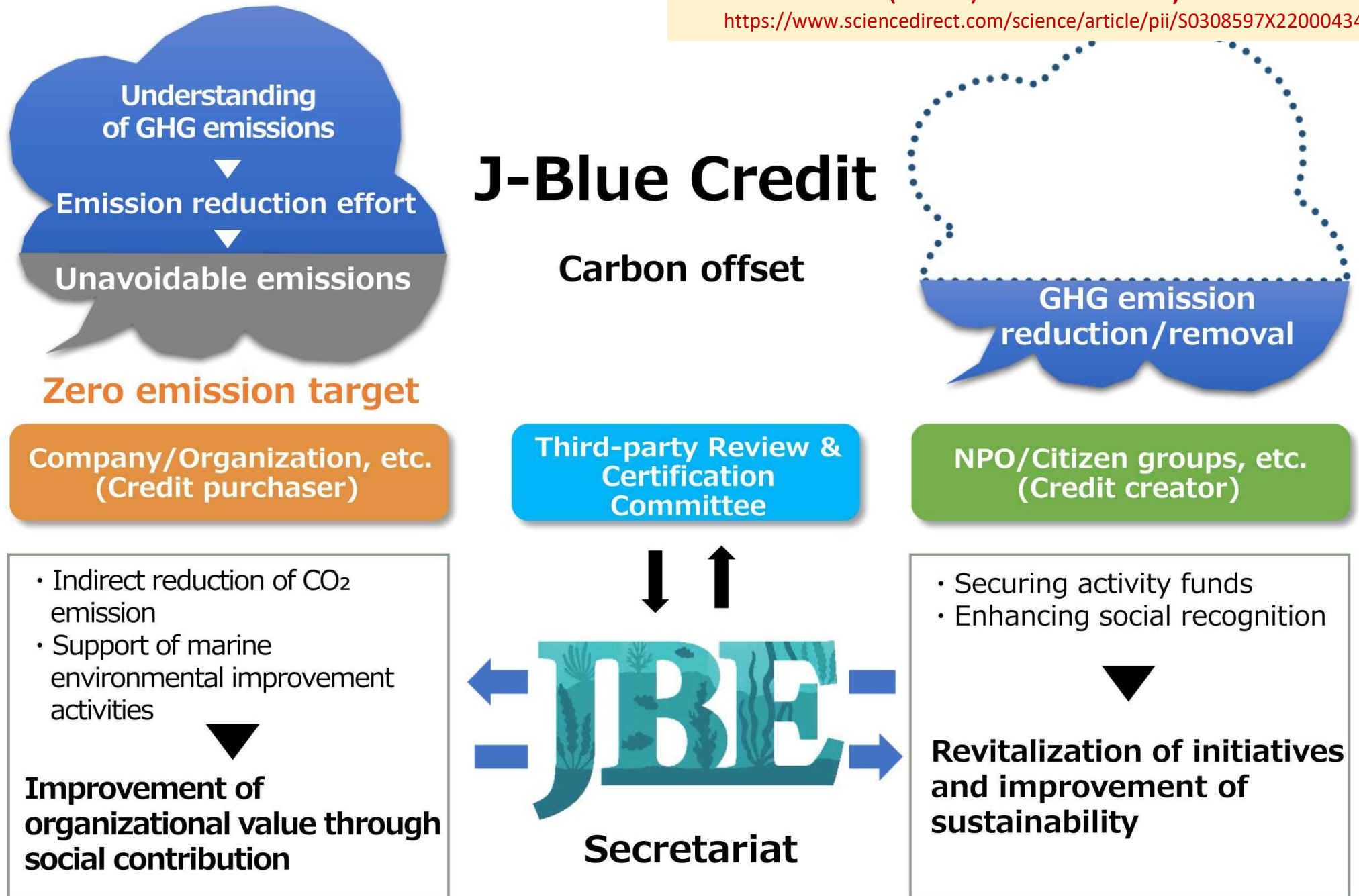


- Some activists disagree with the principle of carbon offsets, likening them to Roman Catholic indulgences, **a way for the guilty to pay for absolution rather than changing their behavior**. [An English environmentalist] says that carbon offsets are an **excuse** for business as usual with regard to pollution. Proponents hold that the indulgence analogy is flawed because they claim carbon offsets **actually reduce** carbon emissions, changing the business as usual, and therefore address the root cause of climate change.

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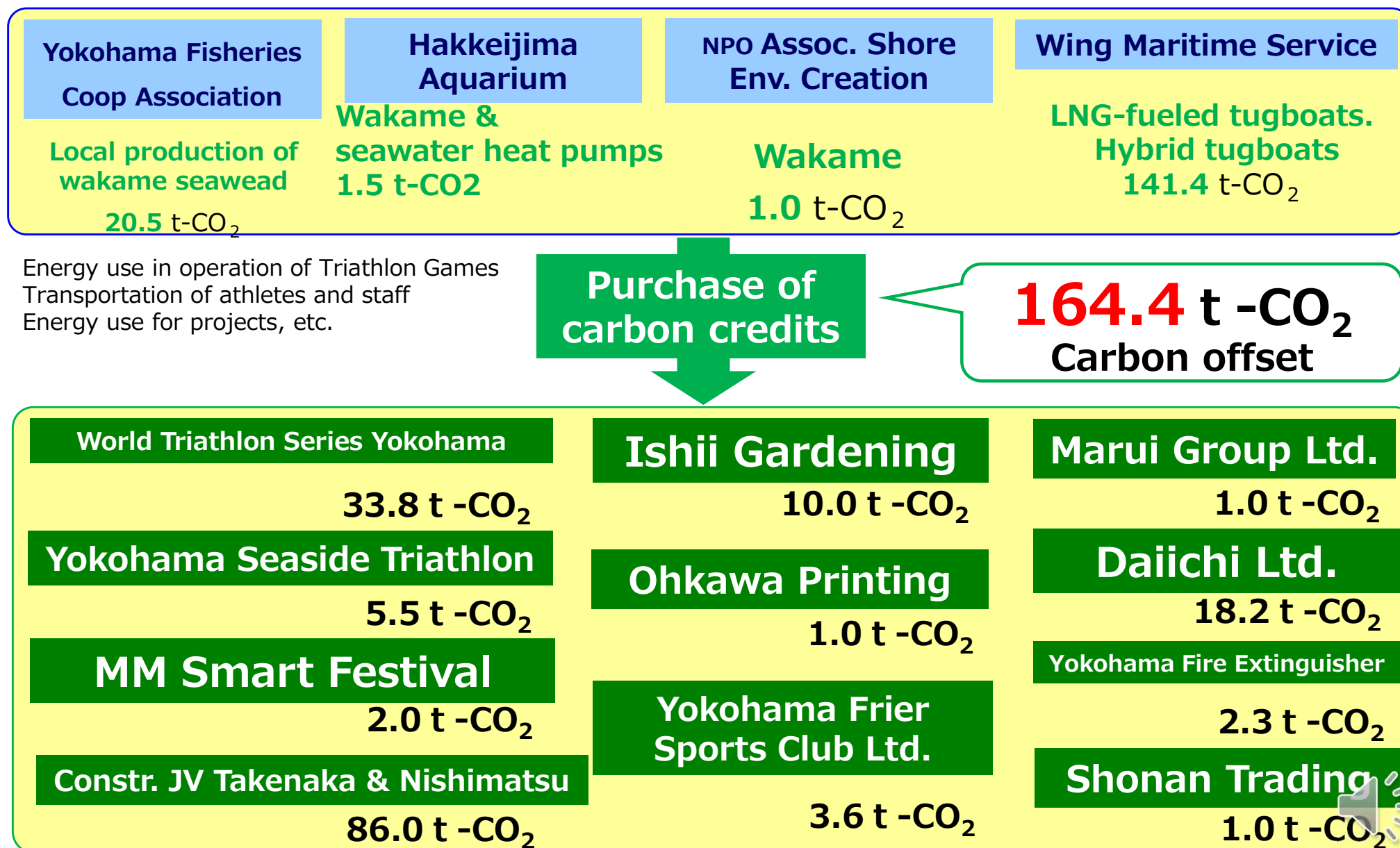


The Yokohama City Scientific Committee evaluates CO₂ absorption by blue carbon and advises an efficient way of the carbon offset



Yokohama Blue Carbon Offset Scheme

(as of FY2018)



Payments for ecosystem services (PES)

-An introduction of good practices in Japan-



Payments for ecosystem services

Tax rate

<Individuals> **300 yen per year** (additional to per capita rates)
+additional 0.025% to ratio based on income levels

Tax revenue

3.6 billion yen (fiscal 2007)

Effective period	fiscal 2007-2026
Purpose	To secure the stable supply of quality water
Basic idea	To conserve and restore the functions of the sound and natural water cycle in the watersheds from upstream - in neighboring prefectures - to downstream, covering all surface and groundwater veins, and the entire area including interrelated urban areas sharing water sources.
Guiding principles	<ol style="list-style-type: none"> 1. Policies shall be promoted in a comprehensive manner 2. Policies shall be developed based on public will 3. Policies shall be promoted based on adaptive management



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New Initiatives (non-PES)

[Top page](#) > [Forest](#) > [Forest environment tax in Kanagawa Prefecture](#)

▶ Forest environment tax in Kochi Prefecture

▶ Forest environment tax in Tochigi Prefecture

▶ **Forest environment tax in Kanagawa Prefecture**

Increased tax rates for the Prefectural Inhabitant Tax on individuals to fund water source environment programs

•Year started: 2007

•Actor: Kanagawa Prefecture

It is characterized by “purpose-specific **tax**” and “**sunset clause**”.