BIODIVERSITY AND CORPORATE SUSTAINABILITY

Biodiversity is a critical factor in creating ecological balance, which directly impacts an organization's long-term business operations. The abundance of living organisms in ecosystems supports the natural resources that businesses depend on and plays a vital role in reducing environmental risks such as climate change, natural disasters, and raw material shortages.

Ratch Pathana Energy Public Company Limited and its subsidiaries, including other operational sites such as biomass purchasing and processing centers and fast-growing tree plantations for energy, are in the Saha Group Industrial Park and areas designated for factory operations and agricultural activities according to ministerial regulations for provincial planning. The factory areas have been specifically developed for industrial purposes. Based on environmental impact assessment studies and site surveys, there are no forest resources, wildlife, terrestrial animals, or aquatic animals in these areas. Therefore, the construction and operation of the company's projects have minimal impact on both terrestrial and aquatic biological resources.

Nevertheless, the company recognizes and prioritizes the care of natural resources and the environment in surrounding areas, focusing on community engagement and stakeholder participation to enhance knowledge and understanding of natural resource conservation, biodiversity, and sustainable ecological balance

Biodiversity Policy

The company recognizes the importance of biodiversity and the impact of its operations on ecosystems. The company has established guidelines for biodiversity management under its environmental sustainability policy as follows:

1. **Implement Environmental Management** by complying with relevant legal requirements and regulations, seeking approaches to enhance environmental management efficiency and quality control, and preserving ecosystems and biodiversity by encouraging all stakeholder groups to recognize its importance, benefiting society and humanity sustainably.

2. **Use Resources Efficiently** by promoting the optimal use of all types of resources and seeking approaches and methods to reduce the use of limited resources for maximum efficiency.
3. **Implement Climate Management** by strictly managing greenhouse gases in accordance with relevant laws and regulations, as well as seeking measures to reduce greenhouse gas emissions and methods to respond to climate change to prevent and reduce potential impacts on business operations.

Biodiversity Risk Assessment

The Ratch Pathana and Affiliates is committed to conducting risk assessments related to biodiversity in various projects, considering potential impacts both within and near the company's project areas, including areas where the company conducts biodiversity restoration or protection that may be affected by projects.

The company uses the Environmental Impact Assessment (EIA) process to assess biodiversity risks, which considers and designs projects to reduce potential impacts on ecosystems, particularly in terms of green area restoration, water and waste management, and air pollution reduction. Additionally, there is collaboration with communities and environmental organizations to create positive impacts on biodiversity.

This biological impact assessment process also includes developing a Biodiversity Action Plan (BAP) for all key company sites to control and manage potential biological risks in the future.

The biodiversity impact assessment through the Environmental Impact Assessment (EIA) process is under the supervision of government agencies, namely the Ministry of Natural Resources and Environment, in accordance with Section 48 of the National Environmental Quality Promotion and Conservation Act (No. 2) B.E. 2561 (2018). The company discloses the assessment results in the Environmental Impact Assessment (EIA) report as required by law.

Reference: https://eia.onep.go.th/eia/detail?id=12336

Biodiversity Operations

1 Planting Bamboo, Restoring Forests, Creating Livelihoods Project and Biodiversity

The company has emphasized social and environmental responsibility by integrating operations with the government's "Pracharath" (Civil State) strategy for forest restoration and conservation through the "Planting Bamboo, Restoring Forests, Creating Livelihoods" project. This is a collaboration between the company, the Forest Resource Management Office 3 (Lampang), agencies under the Royal Forest Department, Ministry of Natural Resources and Environment, and local residents in Thung Phueng Subdistrict, Chae Hom District, Lampang Province. The project focuses on restoring watershed forests while sustainably promoting occupations for communities.

The "Planting Bamboo, Restoring Forests, Creating Livelihoods" project is a pilot project covering over 1,000 rai (approximately 160 hectares) under the policy of "Restoring Forests for Sustainable Development." The government has allocated areas in reforestation plots for people to make a living, while the company provides budget support for procuring bamboo seedlings for community planting, as well as training on bamboo planting, maintenance, and propagation to ensure efficient use of natural resources

Project Results

- 2018: Donated bamboo seedlings, provided training, and implemented bamboo planting in 400 rai (64 hectares) of degraded forest land, valued at 1,026,667 baht to serve as a model for forest restoration using bamboo.
- 2019–2020: Distributed over 40,000 bamboo seedlings valued at over 1,000,000 baht under the project "Returning Bamboo to Forests for Occupational Development and Watershed Restoration", focusing on distributing bamboo species to various areas and creating community participation in forest care.
- 2021–2023: With over 300 households participating in the project, and continued bamboo propagation

and additional planting in Chae Hom and Wang Nuea Districts, which are areas requiring ecosystem restoration for greater abundance.

- 2024: The company continuously monitors the growth of bamboo planted in the area, including analysis of increased ecosystem fertility. The first batch of planted bamboo, now 6 years old, can be harvested for products such as bamboo shoots and bamboo timber for household use, including generating income for households and further developing the community-level economy

Benefits

Increased green areas, restoring over

Reduced unemployment, creating jobs for

100 households

Created food sources from bamboo shoots and bamboo products

Promoted local industries such as furniture production, chopsticks, wickerwork, and bamboo product processing

Future Goals and Approaches

1. **Expand bamboo planting areas** in degraded forest zones for greater coverage, while developing bamboo species suitable for local environmental conditions.
2. **Develop community networks** capable of managing bamboo resources efficiently and sustainably.
3. **Create added value for bamboo products** such as processed bamboo timber, processed bamboo shoots, and other industries to generate stable income for communities.
4. **Monitor and evaluate ecosystems** continuously to ensure that bamboo planting helps restore forests and positively affects biodiversity.

Connection to Biodiversity

- **Ecosystem Restoration:** Bamboo planting helps prevent soil erosion, maintains moisture, and creates habitats for wildlife.
- **Increasing Green Areas:** Reduces the impact of deforestation and helps increase the rate of carbon dioxide absorption.
- **Promoting Sustainable Resource Use:** Bamboo is an economic crop that can be used for various purposes without impacting the environment.

Supporting Sustainable Development Goals (SDGs)

This project helps achieve several United Nations Sustainable Development Goals, including:

- **Goal 1:** End poverty through sustainable job creation
- **Goal 2:** Food security, by promoting food crop cultivation
- **Goal 6:** Sustainable water management, by helping preserve watershed sources
- **Goal 15:** Restoration of terrestrial ecosystems and increased biodiversity

The "Planting Bamboo, Restoring Forests, Creating Livelihoods" project not only helps restore degraded forest areas and increase biodiversity but also promotes sustainable community economies, helping people secure stable occupations and income while developing society and the environment in balanced growth.

2 Forest Species and Rare Plant Conservation Project

Ratch Pathana and Affiliates power plants prioritize natural resource conservation alongside environmentally friendly business operations, focusing on increasing green areas and maintaining forest areas to preserve biodiversity and create ecological balance in project operation areas.

The Forest Species and Rare Plant Conservation Project began in 2554 (2011) with the objective of collecting and conserving valuable plant species, including rare or endangered local species, creating learning resources for employees and related parties to gain knowledge about plant species, providing recreation areas, and increasing green spaces for employees and the surrounding environment, promoting a balanced ecosystem. Experts from the Royal Forest Department serve as consultants for the project implementation.

Currently, the project features over 50 species of forest and rare plants, totaling more than 1,500 trees, in the company's 63-rai (10.08 hectares) area or 100,800 square meters. Most are trees with heights of approximately 5-10 meters. Examples of important conserved plant species include Siamese Rosewood, Yang Na, Chingchan Daeng, Pradu Ban, Yom Hom, Yom Hin, Black Neem, Chan Pha, Kaeo Chao Chom, Chik Na, Mi Men, Sri Trang, and Nang Phaya Kalong.

From the operations, small wildlife such as birds, squirrels, and red ants have come to inhabit the area. Various mushroom species and natural seedlings have also been increasing every year, indicating ecosystem abundance. Additionally, dead trees are continuously replaced to maintain a healthy forest condition.

In 2024, a survey of greenhouse gases sequestered by trees in the project found that these plant species help absorb greenhouse gases up to 136,238 kgCO2e, which is an important factor in reducing the impact of global warming and enhancing the organization's environmental sustainability.

Water Resources and Ecosystem Restoration

The Ratch Pathana and Affiliates emphasizes the conservation of biodiversity both on land and in water sources. Besides plant conservation, the company also continuously implements water resource restoration projects.Sahagreen Forest Company Limited, in collaboration with the Kamphaeng Phet Freshwater Aquaculture Research and Development Center under the Department of Fisheries, organizes the "Clear Canal, Clean Water, Environmental Care" project, releasing more than 3,000 freshwater fish into nearby public water sources annually.

This project aims to restore freshwater aquatic animal populations, maintain water ecosystem balance, and promote the diversity of aquatic species to sustain the ecosystem.

Community Communication and Engagement

The company emphasizes raising awareness and understanding about biodiversity through continuous community communication and engagement. It has installed informational signs within project areas to provide information about natural resource conservation approaches, benefits derived from ecosystems, and the role of all sectors in environmental care.

Training and information dissemination are provided to employees and communities regarding biodiversity management. Additionally, the company organizes educational activities and community feedback sessions to strengthen cooperation in sustainable biodiversity conservation.