

# GPSC

## Sustainable Revenue 2024



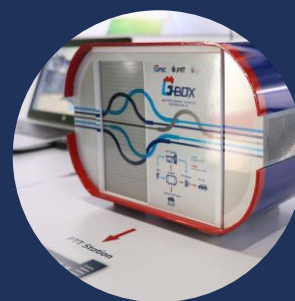
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# Introduction

GPSC operates a diversified portfolio across both power and non-power businesses, some of which contribute to the transition toward a low-carbon economy in line with both international and national climate goals. This positions GPSC to include potentially sustainable activities within its portfolio, aligned with the EU Taxonomy definition\*. Accordingly, this overview assesses the sustainable revenue potential of GPSC's core business activities in accordance with the EU Taxonomy for sustainable economic activities. The analysis focuses on four key areas: (1) electricity generation from hydropower, (2) electricity generation from wind power, (3) electricity generation using solar photovoltaic technology, and (4) manufacture of batteries. Each activity is examined for alignment with the EU Taxonomy's technical screening criteria, substantial contribution to climate change mitigation, compliance with 'Do No Significant Harm' (DNSH) principles, and adherence to minimum social safeguards. This assessment highlights GPSC's strategic direction in enhancing the sustainability of its operations while supporting Thailand's and the global transition to a low-carbon economy.





# Electricity generation from hydropower



# Electricity generation from hydropower

GPSC's hydropower portfolio, comprising the Xayaburi, Houay Ho, and Nam Lik 1 power plants, demonstrates strong potential alignment with the EU Taxonomy activity “Electricity generation from hydropower” under the climate change mitigation objective. Both Xayaburi and Nam Lik 1 exceed the required power density threshold of 5 MW/km<sup>2</sup>, with values of 26.18 and 5.57 MW/km<sup>2</sup> respectively, indicating a substantial contribution to climate mitigation. While Houay Ho falls slightly below the threshold at 4.11 MW/km<sup>2</sup>. However, it is qualified by meeting the criteria for run-of-river hydropower plants, aligning with the substantial contribution criteria.



## Run-Off-River

Xayaburi Power Plant

**26.18 MW/km<sup>2</sup>**

Power density of the electricity generation



## Run-Off-River

Houay Ho Power Plant

**4.11 MW/km<sup>2</sup>**

Power density of the electricity generation



## Run-Off-River

Nam Lik Power 1

**5.57 MW/km<sup>2</sup>**

Power density of the electricity generation



# Electricity generation from wind power

# Electricity generation from wind power

GPSC invests in and operates renewable energy assets, including onshore wind power generation. This activity is identified as aligned with the EU Taxonomy activity "**Electricity generation from wind power**", particularly under the **climate change mitigation** objective. This alignment is based on the EU Taxonomy's technical screening criteria, which require that the activity consists of **the construction and operation of wind power plants for the generation of electricity**. The criteria do not impose specific GHG thresholds, as electricity generation from wind is inherently considered to make a substantial contribution to climate change mitigation due to its zero direct greenhouse gas emissions during operation.



Generating and Supply Power from Offshore Wind Farm Changfang and Xidao is located in Changhua Coast, Taiwan with the capacity of 595 Megawatts and 20 years Power Purchase Agreement (PPA) with Taiwan Power Company.



# Electricity generation using solar photovoltaic technology



# Electricity generation using solar photovoltaic technology

GPSC engages in the generation of electricity from solar photovoltaic (PV) technology through its owned and operated renewable energy projects. This activity is identified as aligned with the EU Taxonomy activity “**Electricity generation using solar photovoltaic technology**”, which contributes directly to the environmental objective of **climate change mitigation**. Under the EU Taxonomy technical screening criteria, electricity generation from solar PV is considered to make a substantial contribution to climate mitigation without a specific emissions threshold. The analysis of this activity results in a preliminary indication that GPSC’s solar PV operations meet the substantial contribution criteria under the EU Taxonomy. This alignment reinforces GPSC’s strategic direction toward renewable energy expansion and decarbonization in line with international sustainability frameworks.

Example of electricity generation using solar photovoltaic technology project



Xayaburi Power Plant



Global Renewable Power Co., Ltd. (GRP)



Global Renewable Power One Co., Ltd. (GRP1)



Private PPA Solar Power Generation and Distribution Project



Avaada Energy Private Limited (AEPL)



Thai Solar Renewable Co., Ltd. (TSR)



Glow Energy Solar



# Manufacture of batteries

# Manufacture of batteries (2/2)

## Manufacture of batteries

GPSC, through its strategic investments in the energy storage sector, is engaged in the manufacture of rechargeable batteries and battery components for use in transport, stationary and off-grid energy storage, and other industrial applications. This activity is identified as potentially aligned with the EU Taxonomy activity "Manufacture of batteries", particularly under the climate change mitigation objective.

This alignment is based on the EU Taxonomy's technical screening criteria, which recognize the manufacture of rechargeable batteries, battery packs, and accumulators as an enabling activity contributing to substantial GHG emission reductions. The criteria also cover the production of key battery components such as battery cells, active materials, casings, and electronic components, as well as the recycling of end-of-life batteries, which GPSC is progressively incorporating into its operational strategy.





# Manufacture of batteries (2/2)

## Manufacture of batteries – Recycling Approach

In addition to its manufacturing activities, GPSC is collaborating with 24M Technologies to develop and implement innovative battery technologies. Notably, 24M's LiForever™ technology introduces a direct material recycling process for lithium-ion batteries, including lithium iron phosphate (LFP) batteries. This approach enables the efficient and cost-effective recovery and reuse of battery materials, maintaining the integrity of active materials without generating black mass—a common issue in traditional recycling methods.

The integration of LiForever™ aligns with the EU Taxonomy's emphasis on recycling end-of-life batteries. By adopting this technology, GPSC enhances the sustainability of its battery manufacturing operations, contributing to a circular economy and reducing the environmental impact of battery production and disposal.

Furthermore, 24M's Electrode-to-Pack (ETOP) technology streamlines battery pack design by eliminating individual cells and modules, directly integrating electrodes into the pack. This innovation not only improves energy density and reduces costs but also supports sustainability by minimizing material usage and waste.



# Summary of Sustainable Revenue



# Summary of Sustainable Revenue

Economic Activity	Revenue and Percentage	Revenue Generated (FY 2021)	Revenue Generated (FY 2022)	Revenue Generated (FY 2023)	Revenue Generated (FY 2024)
Total Revenue	Total Revenue (THB)	78,148,083,820	127,908,260,000	92,900,770,000	92,799,000,000
Sustainable Revenue	Sustainable Revenue (THB)	-	1,238,268,854.21	2,188,796,755.18	3,675,731,030.00
Percentage of sustainable revenues	%	-	0.97	2.36	3.96

# Thank You

