

GREEN DEBENTURES REPORT 2020



ABOUT THE COMPANY

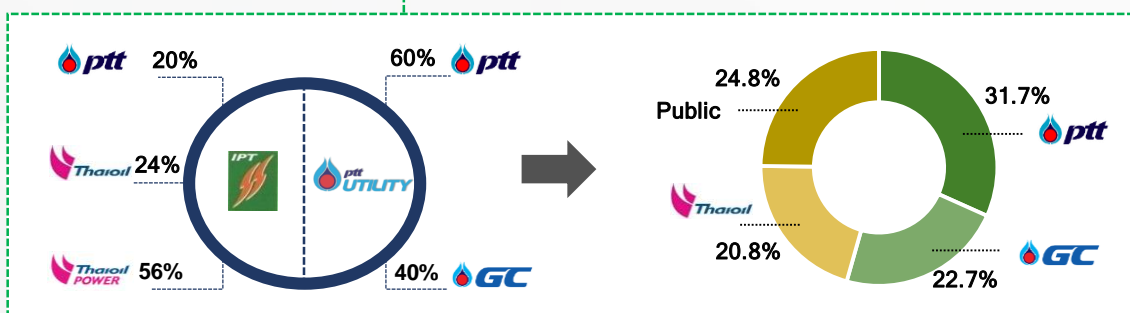
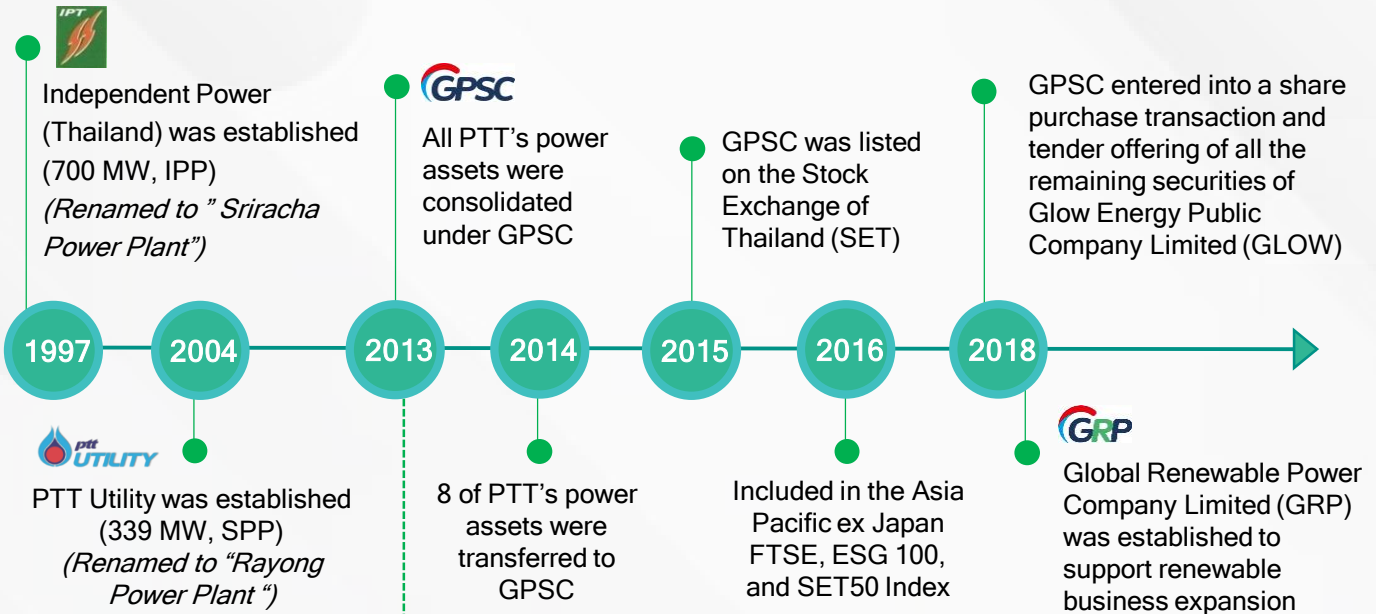
Global Power Synergy Public Company Limited (“GPSC” or “Issuer”), is a Thai power, steam, and utilities producer and distributor and was founded in 2013.

GPSC is the power flagship of PTT Group. GPSC is committed to establishing energy and public utility security in support of domestic industrial growth. GPSC also pursues opportunities for investment in power projects both domestic and international markets to grow sustainably, while developing energy storage technology to become a leading global power company in innovation and sustainability.

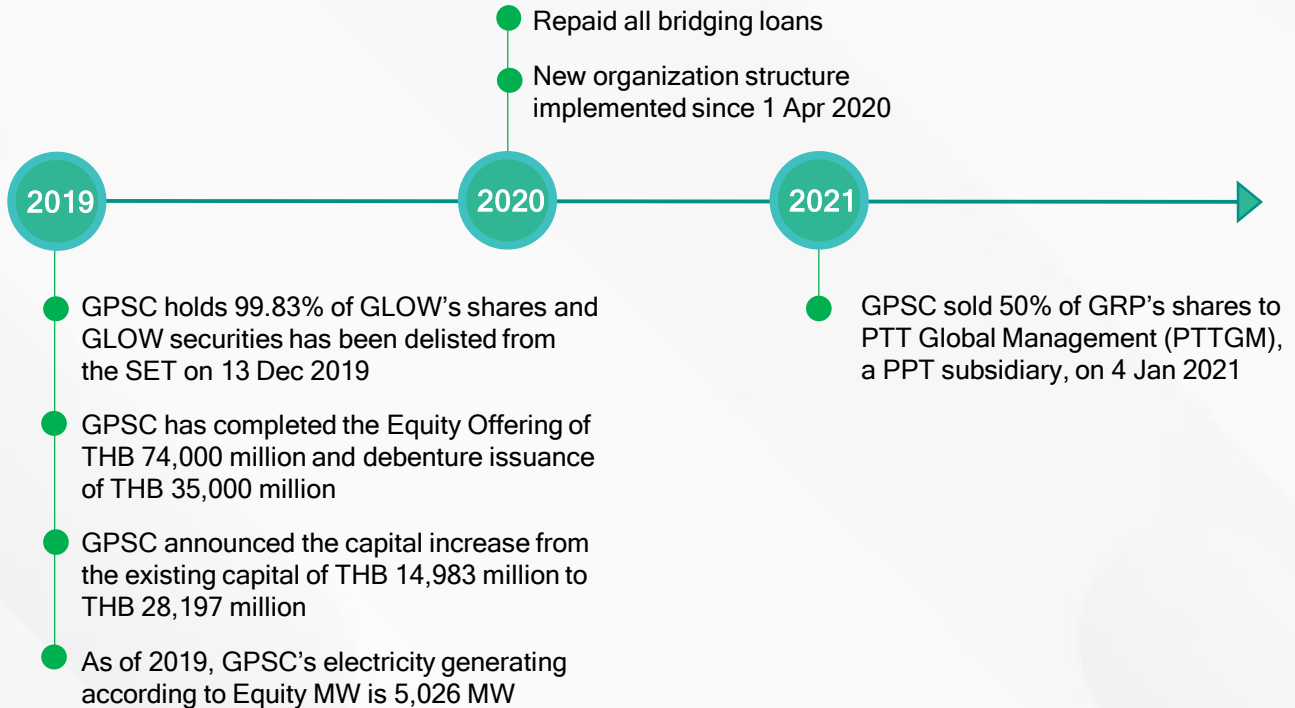
GPSC has developed a Green Finance Framework and considered the issuance of Green Debentures to enable capital-raising and investment for new and existing projects within the categories of Renewable Energy, Energy Efficiency and Pollution Prevention and Control with environmental benefits.

GPSC’S HISTORY & KEY MILESTONES

GPSC was founded in 2013 to be “the Power Flagship of PTT Group”. Since its inception, GPSC has proved its strong expertise in operating existing power plants, and prudently investing in the new projects.



GPSC'S HISTORY & KEY MILESTONES (cont.)



GRP'S STORY

GPSC's joint investment with PTT in Global Renewable Power Company Limited (GRP) is one of the important procedures to carry out for the purpose of achieving the strategic plan of the Company and the PTT Group.

PTT, the Company's parent company and the country's leading energy organization, has a strategic plan to make the PTT Group the leader in renewable or clean energy. It has set an initial goal, by increasing investment in renewable energy of the PTT Group, of reaching 8,000 MW by 2030. This strategic plan of PTT is in accordance with and supports the aim of sustainable development of the country.

From 2020-2025, GPSC aims is to increase its production capacity of conventional energy and renewable energy. GPSC has set a goal to increase its investment in renewable energy and hydroelectric power plants to approximately 30% of its total production capacity.

GRP will focus on investment in the renewable energy business, especially the business of electricity production from solar and wind energy, in foreign countries.

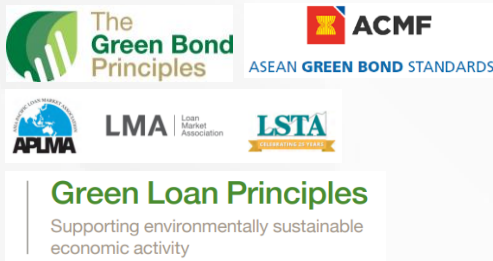
Currently, GRP invests in electricity generation and distribution to the Provincial Electricity Authority (PEA)'s power grid, as well as management and maintenance of 9 solar farms in 4 provinces (Lopburi, Suphanburi, Phichit and Khon Kaen) in Thailand, with a total capacity of 39.5 MW. All projects have been operating commercially since 2014-2015.

GPSC GREEN FINANCE FRAMEWORK

Reference Principles

- International Capital Market Association (“ICMA”) Green Bond Principles (“GBP”) 2018¹;
- The ASEAN Capital Markets Forum (“ACMF”) ASEAN Green Bond Standards (“ASEAN GBS”) 2018²;
- LMA / APLMA / LSTA Green Loan Principles (“GLP”) 2020³.

Remark
¹ <https://www.icmagroup.org/green-social-and-sustainability-bonds/green-bond-principles-gbp/>
² <https://www.theacmf.org/initiatives/sustainable-finance/asean-green-bond-standards>
³ <https://www.lsta.org/content/green-loan-principles/>




Difference between each Reference Principles

Principles/ Standards	ICMA & GBP 2018	ACMF & ASEAN GBS 2018	LMA / APLMA’s & GLP 2020
Underlying Instrument	Green Bonds	Green Bonds	Green Loans
Core Components of Principles	<ol style="list-style-type: none"> 1) Use of Proceeds 2) Process for Project Evaluation and Selection 3) Management of Proceeds 4) Reporting 	<ol style="list-style-type: none"> 1) Use of Proceeds 2) Process for Project Evaluation and Selection 3) Management of Proceeds 4) Reporting 	<ol style="list-style-type: none"> 1) Use of Proceeds 2) Process for Project Evaluation and Selection 3) Management of Proceeds 4) Reporting
Remark of difference from GBP		<ul style="list-style-type: none"> - For the ASEAN GBS, eligible issuers must have a geographical or economic connection to the region - Fossil fuel power generation projects are excluded from the ASEAN GBS - The ASEAN GBS further set out how investors are to be given access to information continuously - Issuers are encouraged to provide more frequent periodic reporting which would increase transparency on the allocation of proceeds - The ASEAN GBS require the external reviewers to have the relevant expertise and experience in the area which they are reviewing. 	<p>Application to Revolving Credit Facilities:</p> <p>A revolver may include a specific green tranche but, where not possible, a borrower may seek to report to the lenders the use of any revolver borrowing and/or identify green assets supported by the revolving credit facility.</p>



USE OF PROCEEDS

GPSC will allocate an amount at least equivalent to the net proceeds of the Green Debentures/loans financing instruments issued under this Framework towards **financing or refinancing**, in whole or in part, **new and/or existing eligible projects of GPSC and its affiliates** as described below (“Eligible Green Projects”) in the eligible categories, together forming the **“Eligible Green Project Portfolio”**.

Category (GBP)	Criteria	Eligible Green Project	Exclusion
Renewable Energy 	<ul style="list-style-type: none"> Investments in or expenditures for the acquisition, conception, construction, development and installation as well of re-powering of renewable energy production Manufacture of components wholly dedicated to renewable energy technology 	<ul style="list-style-type: none"> Solar Projects Wind Projects Run-of-the-river Hydropower projects 	<ul style="list-style-type: none"> Hydropower over 25MW is excluded
Energy Efficiency  	<ul style="list-style-type: none"> Development, construction, installation and maintenance of Energy Storage Facilities Investments and/or expenditures in projects that would reduce energy consumption, improve network/energy efficiency and/or reduce electricity grid losses 	<ul style="list-style-type: none"> Heating and cooling generation comprising combined heat and power (CHP) District heating including energy from waste and excess heat utilization Storage systems: acquisition, conception, construction, development and/or operation of electricity storage facilities, aiming at power grid stabilization and/or management of peak generation of renewable energy 	<ul style="list-style-type: none"> None
Pollution Prevention and Control 	<ul style="list-style-type: none"> Investments related to the development, operations, maintenance, and upgrading of facilities used to produce energy from biomass and waste products Investments related to waste management, circular economy, pollution prevention 	<ul style="list-style-type: none"> Facilities for collecting, sorting and material recovery Facilities for the recycling / reuse of materials Facilities for the production of compost / biogas from waste Waste to Energy plants 	<ul style="list-style-type: none"> Landfill



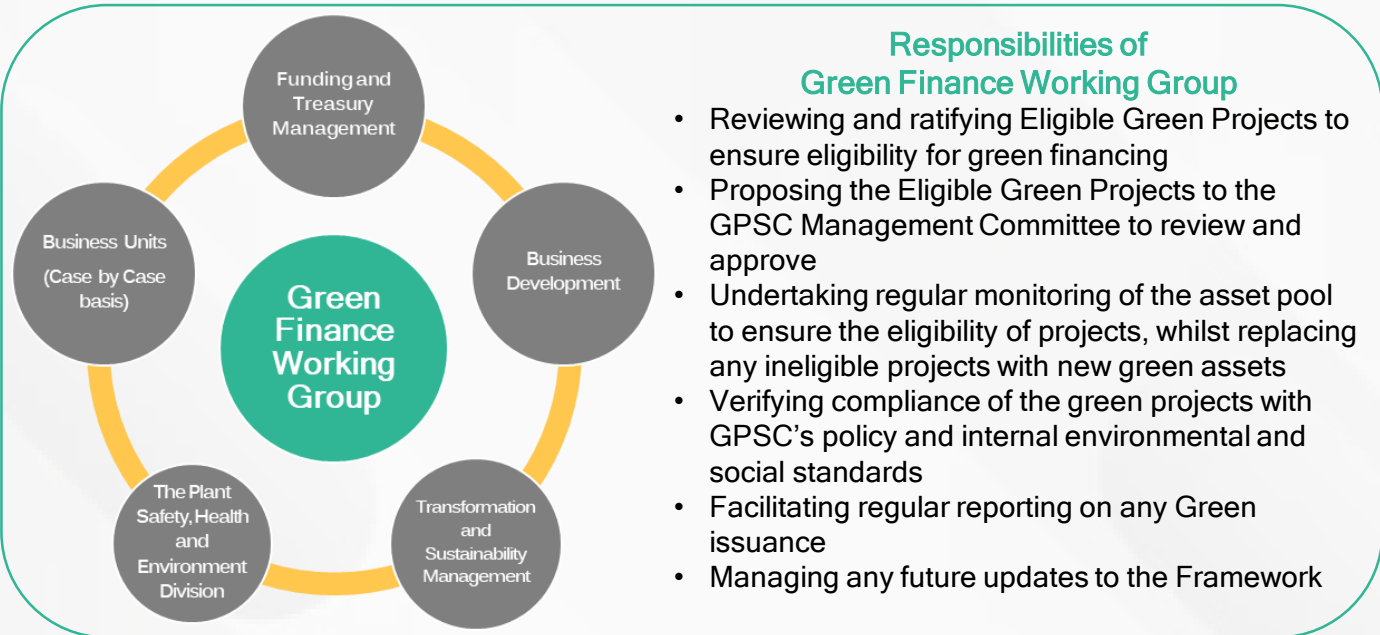
PROCESS FOR PROJECT EVALUATION AND SELECTION

Step 1: Evaluation

Green Finance Working Group

Step 2: Approval

Management Committee



MANAGEMENT OF PROCEEDS

Earmarking of Allocated Proceeds

The net proceeds from GPSC’s Green financing instruments will be deposited **in the general account and an amount equal to the net proceeds will be earmarked for allocation** to the Eligible Green Projects in accordance with GPSC’s Green Finance Framework.

Portfolio Approach

GPSC will attempt to maintain an Eligible Green Project Portfolio that **at least matches or exceeds the net proceeds from its outstanding Bonds issued** under this Framework.

Substitution of Project

During the life of the instruments issued under this Framework if a project ceases to fulfil the eligibility criteria, GPSC will remove the same from the portfolio **upon becoming aware and replace it with another eligible green project** as soon as reasonably practicable.

Allocated Proceeds Tracking

GPSC will track the use of net proceeds of instruments issued under this Framework **via its internal information system**. The balance of the tracked proceeds should be adjusted on an annual basis, in order to match the allocation to Eligible Green Projects re/financed during this period.

Unallocated Proceeds Treatment

For any net proceeds of instruments issued under this Framework that remain unallocated, GPSC will **hold the proceeds in cash and/or invest in other short-term liquid instruments**, in line with GPSC’s policy. GPSC will **aim to be fully allocated to Green Projects within 2 years of Issue date**.



REPORTING



Green Finance Reporting

Available on GPSC website



Allocation Reporting

Reporting Frequency: annually, until full allocation

- The issuance amount or percentage of allocation to the Eligible Green Project Portfolio
- Examples of projects being financed
- The amount of proceeds allocated by Project Category
- The portion of net proceeds used for financing vs. refinancing
- The balance of unallocated proceeds



Impact Reporting

Reporting Frequency: annually

On an annual basis, GPSC intends to report on the impact of the portfolio by category from environmental perspective, subject to the availability of information and baseline data and based on methodologies that will be publicly available.

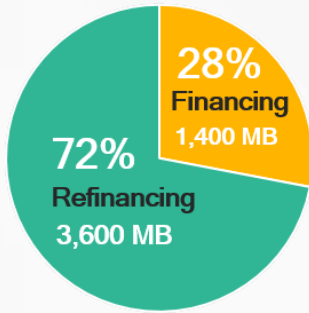
GPSC GREEN DEBENTURE PORTFOLIO

GPSC issued the first THB 5,000 million Green Debentures on August 7th, 2020. The proceeds from the debentures, which were offered to institutional and high-net-worth investors, will be used to support the company's renewable energy projects such as the solar power plant projects and Waste-to-Energy project under the company's Green Finance Framework. It is also Thailand's first funding for a comprehensive waste management project. The company places the utmost importance on conducting business while aiming for sustainable growth.

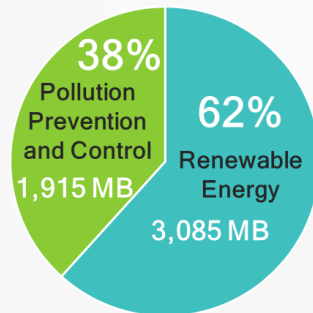
Issue date	Maturity date	Tenor	Issue size (THB MM)	% Coupon (p.a.)
7 Aug 2020	7 Aug 2025	5-Year	1,500	2.11%
7 Aug 2020	7 Aug 2030	10-Year	1,000	2.94%
7 Aug 2020	7 Aug 2035	15-Year	2,500	3.24%

GPSC ELIGIBLE GREEN PROJECT ALLOCATION

GPSC has fully allocated Green Debentures for financing or refinancing, in whole or in part, new and/or existing eligible projects of GPSC and its affiliates as of December 31st, 2020.



Portion of Financing/Refinancing



Fund allocated by project category

EXAMPLES OF ELIGIBLE GREEN PROJECT

SOLAR PROJECTS

PROJECT CLOSING | 26 MAR 2020



TYPE	ELECTRICITY (MW)
Solar Power Plant	39.5
LOCATION	CUSTOMER
Phichit, Suphanburi, Lopburi, Khon Kaen Thailand	Provincial Electricity Authority (PEA)
GPSC's HOLDING	
100% (through GRP)	

WASTE TO ENERGY PROJECT

SCOD | Q2/2021



TYPE	ELECTRICITY (MW)
Waste	9.8
LOCATION	RDF (T/day)
Rayong, Thailand	300
CUSTOMER	GPSC's HOLDING
Provincial Electricity Authority (PEA)	100% operating assets under GPSC
PROJECT UPDATE	

WTE Power Plant is under construction with 84% progress and on schedule.

(RDF project has been starting to sort waste to produce RDF energy since 2018)

GPSC GREEN PROJECT IMPACT

GPSC has summarized the impact of the green debenture portfolio by category from environmental perspective as of December 31st, 2020.



Renewable Energy

Eligible Green Project	Solar
Impact Indicators	
1) Annual GHG emissions reduced/ avoided in tonnes of CO2 equivalent	27,005 ¹
2) Annual renewable energy generation in MWh	65,866

Remark: /1 The calculation method refers to the IPCC Special Report on Renewable Energy Sources and Climate Change Mitigation.



Pollution Prevention and Control

Eligible Green Project	Waste-to-Energy ²
Impact Indicators	
1) Waste prevented, minimised, reused or recycled before and after the project in absolute amount in tonnes p.a.	170,000 ³
2) Annual GHG emissions reduced from waste management before and after the project in tonnes of CO2 equivalent	108,033 ⁴

Remark: /2 Waste-to-Energy (WTE) project consists of i) Refuse-Derived Fuel (RDF) plant and ii) Waste-to-Energy Power Plant. The data provided in the table is for RDF plant only, as WTE power plant is under construction and plans to operate within Q2'2021.

/3 The calculation method refers to T-VER-METH-WM-04 : Refuse Derived Fuel: RDF Production from Municipal Solid Waste (version 03) from Thailand Voluntary Emission Reduction.

/4 The calculation method refers to T-VER-TOOL-WASTE-01 : Calculation for Emissions from Solid Waste Disposal Sites (version 04) from Thailand Voluntary Emission Reduction.