



“BANGCHAK GROUP TAXONOMY 2022”

Applying the EU Taxonomy disclosures on a voluntary basis

OVERVIEW BANGCHAK GROUP TAXONOMY 2022

Bangchak group consider applying the EU Taxonomy disclosures on a voluntary basis (Self Declaration Method) as its criteria will provide and important references point to demonstrate the positive impact of sustainability activities.

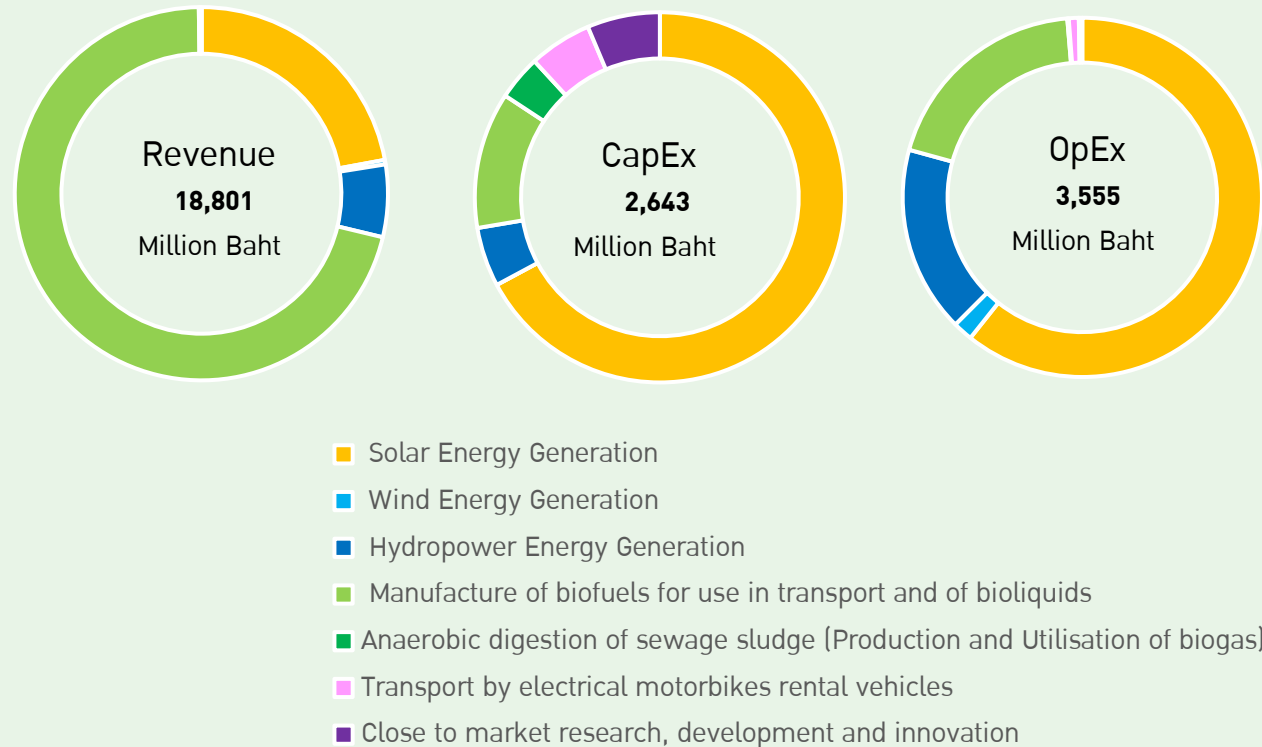
The European Taxonomy is the classification system for economic activities that the European Union has adopted to direct financial flows towards environmentally sustainable projects.

Bangchak group mapped its **operated economic activities** eligible according to EU Taxonomy which compose first two environmental objectives, climate change adaptation and mitigation targets.

The Bangchak group activities apply with EU Taxonomy in 7 main eligibles as following,

1. Electricity generation using solar photovoltaic technology
2. Electricity generation from wind power
3. Electricity generation from hydropower
4. Manufacture of biofuels for use in transport and of bioliquids
5. Anaerobic digestion of sewage sludge (Production and Utilizations of biogas)
6. Transport by electrical motorbikes rental vehicles
7. Close to market research, development and innovation

Main Bangchak's activities eligible for the purpose of Climate change mitigation and Adaptation



Note: Financial Data based on Year 2022

BANGCHAK GROUP ASSESSMENT



Bangchak Group’s eligible activities for purpose of assessing their substantial contribution to the objective of climate change mitigation are:

Number	Activity Lists	Description
4.1	Electricity generation using solar photovoltaic technology	<p>BCPG Public Company Limited (BCPG), which was particularly established for production and distribution of electricity generated from renewable energy and new forms of clean energy in Thailand and abroad.</p> <p>BCPG generated a total of 390.5 megawatts of electricity, comprising solar power generation in Thailand and Japan, wind power generation in Nakhon Si Thammarat Province, Thailand and in Philippines and hydro power generation in Laos</p>
4.3	Electricity generation from wind power	
4.5	Electricity generation from hydropower	
4.13	Manufacture of biogas and biofuels for use in transport and of bioliquids	<p>BBGI Public Company Limited (BBGI), the largest biofuel producer and distributor in Thailand. BBGI’s subsidiaries and associates have a total production capacity of 1,800,000 liters per day, divided into 800,000 liters of ethanol per day and 1,000,000 liters of biodiesel per day, with the goal of reducing the trade deficit from oil imports, contribute to national energy security, support farmers, and preserve the environment</p>
5.6	Anaerobic digestion of sewage sludge (Production and Utilization of biogas)	<p>BBGI Utility and Power Co., Ltd. (BUP), a company to produce and distribute bioenergy, electricity and public utilities (Group subsidiary)</p>
6.5	Transport by electrical motorbikes rental vehicles	<p>Winnonie, a startup within Bangchak Group that brings green energy innovations to electric motorcycles to improve the quality of life of public motorcycle riders.</p>
9.1	Close to market research, development and innovation	<p>Bangchak established Bangchak Initiative and Innovation Center (Biic) to create a Green Ecosystem to drive innovation with a focus on climate change mitigation and decarbonization technology, green energy and bio-based businesses.</p>

SUMMARY TEMPLATE

An activity is “taxonomy-eligible” if it is described in a delegated act adopted under the Taxonomy, irrespective of whether it complies with the technical screening criteria. Such an activity could potentially make a substantial contribution to a given environmental objective.

An activity is “taxonomy-aligned” if it contributes substantially to one or more environmental objectives, does no significant harm “DNSH” to any of the other objectives, is carried out in compliance with minimum human and labor rights safeguards, and complies with the relevant technical screening criteria.

	TURNOVER			CAPEX			OPEX		
A. TAXONOMY-ELIGIBLE ACTIVITIES									
A.1: Environmentally sustainable activities (Taxonomy-aligned)	5,446	Million Baht	1.7%	2,160	Million Baht	21.8%	2,855	Million Baht	23.6%
A.2: Taxonomy-eligible but not environmentally sustainable activities (non Taxonomy-aligned) *	13,355	Million Baht	4.2%	483	Million Baht	4.9%	700	Million Baht	5.8%
TOTAL A.1+A.2	18,801	Million Baht	5.9%	2,643	Million Baht	26.7%	3,555	Million Baht	29.4%
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES	297,485	Million Baht	94.1%	7,259	Million Baht	73.3%	8,530	Million Baht	70.6%
TOTAL A+B	316,286	Million Baht	100.0%	9,902	Million Baht	100.0%	12,085	Million Baht	100.0%

Note: * Even though Manufacture of biofuels use molasses as renewable feedstock but non Taxonomy-aligned because currently, Thailand doesn't have CCUS project so CO2 would be emitted from the manufacturing process.

TURNOVER of Bangchak Group were determined on the basis of Revenues from contracts with customers (sales from operations)

CAPEX of Bangchak Group were determined on the basis of Property, Plant and Equipment, Intangible Assets also covers additions to tangible and intangible assets resulting from business combinations.

OPEX of Bangchak Group were determined on the basis of fixed costs which, starting from accounting data relating to purchases of goods and materials, services, labour costs and other charges, and non-capitalized R&D cost excluding raw materials costs and own used fuel costs.

DO NO SIGNIFICANT HARM: DNSH (1/3)

All Activities was considered the DNSH criteria as below,

Climate change adaptation

The management has assessed the risk of exposure of the Group's assets to climate-related acute (sudden high impact events) and chronic (gradual ongoing effects such as rise in temperature or rise in sea level) hazards, following the guidelines of TCFD report. Our risks are prioritized using our Enterprise Risk Management. The Framework and the principles for risk management that Bangchak has been utilized to systematize the management of risks linked with climate change throughout the company. The purpose of this is to incorporate climate related risk management into Bangchak's internal management to ensure that the company can preserve and generate long-term value.

<https://www.bangchak.co.th/storage/document/tcf-report/2023/tcf-report-2023.pdf>



Pollution prevention and control

The company has an environmental management system certified according to the ISO 14001:2015 standard that covers resource utilization and pollution control. The company manages water pollution through the use of a highly effective water treatment system to ensure that the quality of wastewater released from the company's plants exceeds legal standards. The company has an internal control system to control the quality of wastewater in the wastewater treatment unit to ensure that values remain within the company's controlled values, and the company analyzes the quality of water after treatment on a regular basis at the company's analysis laboratory covering pH testing and dissolved oxygen value to ensure that the wastewater treatment system works effectively. In addition, the company sends water samples for regular analysis to the Department of Industrial Works and internationally certified ISO/IEC 17025. There are also dedicated personnel like the pollution controller to closely supervise the treatment system. Bangchak has always developed business alongside air pollution emissions control. In addition to strictly complying with the law, Bangchak also considers employees and contractors in plant area, and this includes communities and the environment surrounding areas.

DO NO SIGNIFICANT HARM: DNSH (2/3)

Sustainable use and protection of water and marine resources

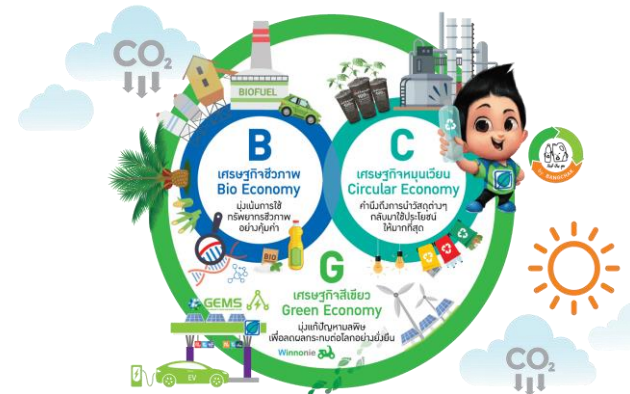
Water is an important resource for business, industry, and human activities. However, the risks and impacts of water usage problems have intensified in Thailand, e.g., water shortages and water quality problems. Therefore, water management is important for using water in the most beneficial and sustainable manner without affecting the environment. Monitor risks from climate change such as droughts by monitoring and staying vigilant over daily water situations of the Metropolitan Waterworks Authority to assess water shortage risks affecting refining processes, to ensure emergency water supply available for supplementary use in production processes during times of water shortages. The company use the 3Rs (Reduce, Reuse & Recycle) principle to increase water efficiency by reducing water consumption, reusing water, and improving the wastewater treatment system for reuse and also manage water with modern tools/ technology.

Resource resilience and transition to a circular economy

The company recognizes the impacts of environmental contamination and safety of stakeholders through negative impacts stemming from the company's business processes throughout the entire supply chain such as raw material transportation, production and product distribution, and the company gives importance to and strictly and continuously follows the laws and recommendations of licensing agencies, and the company adheres to the 3Rs waste management principle of reduce, reuse and recycle in line with domestic and international practice guidelines in order to minimize environmental impacts from waste disposal and minimize the quantity of waste sent for disposal while seeking opportunities to reuse waste in the most beneficial manner according to the principles of the circular economy and striving toward achieving zero landfilling of waste from production processes

Bangchak operates business according to the BCG Economy model covering 3 main economic areas, namely, bio-economy to focus on making worthwhile use of resources through utilization of technologies and innovations to process agricultural produce in to high-value bio-based products, circular economy to focus on making worthwhile use of resources, raw materials and products, and green economy to strive to resolve environmental problems and reduce impacts in a sustainable manner. These concepts are used to operate business in order to create value and sustainability for the company and all stakeholders. Accordingly, the company applies the circular economy concept in business according to the following practice guidelines:

1. Enhance resource utilization effectiveness while reducing risk from future shortages of natural resources.
2. Minimize environmental impacts in line with sustainable production and consumption goals.



DO NO SIGNIFICANT HARM: DNSH (3/3)

Protection and restoration of biodiversity and ecosystems

Bangchak Corporation Public Company Limited prepared the “Biodiversity Management and Anti-Deforestation Policy” with firm commitments to the UN Convention on Biological Diversity, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the Convention on the Conservation of Migratory Species of Wild Animals, the Convention on Wetlands (Ramsar), the World Heritage Convention (WHC) and the International Treaty on Plant Genetic Resources for Food in order to demonstrate its responsibility to and boost business confidence in operating with mindfulness toward biodiversity and forests. Thus, the following objectives and practice guidelines were set: Biodiversity Management and Anti-Deforestation Objectives

1. Avoid operating business at UNESCO World Heritage sites, Ramsar Convention wetlands and conservation areas designated by the International Union for Conservation of Nature (IUCN).
2. Avoid causing negative impacts on the environment and biodiversity as a result of business activity.
3. Avoid causing impacts on forests and, wherever impacts occur, strive to rehabilitate or replant forests to compensate for deforestation

<https://www.bangchak.co.th/storage/document/biodiversity/2023/biodiversity-policy-en.pdf>

Biodiversity and Forest Management Policy
<https://www.bangchak.co.th/storage/document/biodiversity/2023/biodiversity-policy-th.pdf>




Business Area	Location (coordinates)	Area (rai)	Type of Business Activity
Oil refineries	13.686916, 100.596299	480	Oil refinery

MINIMUM SOCIAL SAFEGUARDS: MSS

Bangchak recognizes the importance of human rights and environmental management in systematic business operations. The company conducts its business by adhering to the rights of stakeholders and accepts differences of opinion as well as social equality such as religion, skin color and ethnicity, including vulnerable groups such as disabled persons, children, women, LGBTQ+ group and indigenous people. To build confidence in doing business with respect to human rights, Bangchak's human rights policy has been established in accordance to the United Nations Global Compact (UNGC) and the Universal Declaration of Human Rights (UDHR), the United Nations Guiding Principles on Business and Human Rights (UNGP), and the Women's Empowering Principles (WEPs). The company set a framework on this by setting guidelines for the Board of Directors, management executives, and employees at all levels, for the compliance of everyone

<https://www.bangchak.co.th/storage/document/sustainability/2020/human-rights-cpk-en.pdf>



Runner-Up UN Women 2022 Thailand WEPs Awards



Outstanding Sustainability Model Organization in the Thai Capital market for Empowerment of Persons with Disabilities, 2022.

TURNOVER

Economic Activities (1)	Code (2)	Absolute turnover (3)	Proportion of Turnover (4)	Substantial Contribution Criteria						DNSH criteria ('Does Not Significantly Harm')						Minimum Safeguards (17)	Taxonomy aligned proportion of total turnover, year N (18)	Category (enabling activity) (20)	Category (transitional activity) (21)
				Climate Change Mitigation (5)	Climate Change Adaptation (6)	Water (7)	Pollution (8)	Circular Economy (9)	Biodiversity and ecosystems (10)	Climate Change Mitigation (11)	Climate Change Adaptation (12)	Water (13)	Pollution (14)	Circular Economy (15)	Biodiversity (16)				
		Millions, Baht	%	%	%	%	%	%	%	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	%	E	T
A. TAXONOMY-ELIGIBLE ACTIVITIES			5.94%																
A.1. Environmentally sustainable activities (Taxonomy-aligned)																			
Anaerobic digestion of sewage sludge	5.6 (Annex I)	20	0.01%	0%						Y	Y	Y	Y	Y	Y	Y	0.01%		
Electricity generation from hydropower	4.5 (Annex I)	1,178	0.37%	100%						Y	Y	Y	Y	Y	Y	Y	0.37%		
Electricity generation from wind power	4.3 (Annex I)	73	0.02%	100%						Y	Y	Y	Y	Y	Y	Y	0.02%		
Electricity generation using solar photovoltaic technology	4.1 (Annex I)	4,154	1.31%	100%						Y	Y	Y	Y	Y	Y	Y	1.31%		
Transport by motorbikes, passenger cars and light commercial vehicles	6.5 (Annex I)	21	0.01%	100%						Y	Y	Y	Y	Y	Y	Y	0.01%		T
Turnover of environmentally sustainable activities		5,446	1.72%	1.72%													1.72%	0.00%	0.01%
A.2 Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)																			
Close to market research, development and innovation	9.1 (Annex I)	0.5	0.00%																
Manufacture of biogas and biofuels for use in transport and of bioliquids	4.13 (Annex I)	13,354	4.22%																
Turnover of Taxonomy-eligible but not environmentally		13,355	4.22%																
Total (A.1+A.2)		18,801	5.94%																
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES																			
Turnover of Taxonomy-non-eligible activities		297,485	94.06%																
Total (A+B)		316,286	100%																

Economic Activities (1)	Code (2)	Absolute turnover (3)	Proportion of Turnover (4)	Substantial Contribution Criteria						DNSH criteria ('Does Not Significantly Harm')						Taxonomy aligned proportion of total turnover, year N (18)	Category (enabling activity) (20)	Category (transitional activity) (21)	
				Climate Change Mitigation (5)	Climate Change Adaptation (6)	Water (7)	Pollution (8)	Circular Economy (9)	Biodiversity and ecosystems (10)	Climate Change Mitigation (11)	Climate Change Adaptation (12)	Water (13)	Pollution (14)	Circular Economy (15)	Biodiversity (16)				Minimum Safeguards (17)
		Millions, Baht	%	%	%	%	%	%	%	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	%	E	T
A. TAXONOMY-ELIGIBLE ACTIVITIES			26.69%																
A.1. Environmentally sustainable activities (Taxonomy-aligned)																			
Anaerobic digestion of sewage sludge	5.6 (Annex I)	103	1.04%	0%						Y	Y	Y	Y	Y	Y	Y	1.04%		
Electricity generation from hydropower	4.5 (Annex I)	137	1.38%	100%						Y	Y	Y	Y	Y	Y	Y	1.38%		
Electricity generation from wind power	4.3 (Annex I)	0	0.00%	100%						Y	Y	Y	Y	Y	Y	Y	0.00%		
Electricity generation using solar photovoltaic technology	4.1 (Annex I)	1,775	17.93%	100%						Y	Y	Y	Y	Y	Y	Y	17.93%		
Transport by motorbikes, passenger cars and light commercial vehicles	6.5 (Annex I)	145	1.46%	100%						Y	Y	Y	Y	Y	Y	Y	1.46%		T
Turnover of environmentally sustainable activities		2,160	21.81%	20.77%													20.77%	0.00%	1.46%
A.2 Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)																			
Close to market research, development and innovation	9.1 (Annex I)	168	1.70%																
Manufacture of biogas and biofuels for use in transport and of bioliquids	4.13 (Annex I)	315	3.18%																
Turnover of Taxonomy-eligible but not environmentally		483	4.87%																
Total (A.1+A.2)		2,643	26.69%																
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES																			
Turnover of Taxonomy-non-eligible activities		7,259	73.31%																
Total (A+B)		9,902	100%																

Economic Activities (1)	Code (2)	Absolute turnover (3)	Proportion of Turnover (4)	Substantial Contribution Criteria						DNSH criteria ('Does Not Significantly Harm')						Taxonomy aligned proportion of total turnover, year N (18)	Category (enabling activity) (20)	Category (transitional activity) (21)	
				Climate Change Mitigation (5)	Climate Change Adaptation (6)	Water (7)	Pollution (8)	Circular Economy (9)	Biodiversity and ecosystems (10)	Climate Change Mitigation (11)	Climate Change Adaptation (12)	Water (13)	Pollution (14)	Circular Economy (15)	Biodiversity (16)				Minimum Safeguards (17)
		Millions, Baht	%	%	%	%	%	%	%	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	%	E	T
A. TAXONOMY-ELIGIBLE ACTIVITIES			29.42%																
A.1. Environmentally sustainable activities (Taxonomy-aligned)																			
Anaerobic digestion of sewage sludge	5.6 (Annex I)	4	0.04%	0%						Y	Y	Y	Y	Y	Y	Y	0.04%		
Electricity generation from hydropower	4.5 (Annex I)	597	4.94%	100%						Y	Y	Y	Y	Y	Y	Y	4.94%		
Electricity generation from wind power	4.3 (Annex I)	63	0.52%	100%						Y	Y	Y	Y	Y	Y	Y	0.52%		
Electricity generation using solar photovoltaic technology	4.1 (Annex I)	2,158	17.86%	100%						Y	Y	Y	Y	Y	Y	Y	17.86%		
Transport by motorbikes, passenger cars and light commercial vehicles	6.5 (Annex I)	32	0.26%	100%						Y	Y	Y	Y	Y	Y	Y	0.26%		T
Turnover of environmentally sustainable activities		2,855	23.62%	23.59%													23.59%	0.00%	0.26%
A.2 Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)																			
Close to market research, development and innovation	9.1 (Annex I)	11	0.09%																
Manufacture of biogas and biofuels for use in transport and of bioliquids	4.13 (Annex I)	689	5.70%																
Turnover of Taxonomy-eligible but not environmentally		700	5.80%																
Total (A.1+A.2)		3,555	29.42%																
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES																			
Turnover of Taxonomy-non-eligible activities		8,530	70.58%																
Total (A+B)		12,085	100.0%																



bangchak

THANK YOU



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🌐 <http://www.bangchak.co.th>

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