

# Water Stewardship

## KEY PERFORMANCE IN 2019



Reduce water withdrawal intensity by **7.14%** compared to the 2015 baseline



Water reused and recycled by **5.53%** of all water withdrawal



**100%** completed of water risk assessment of the Companies' operational areas (only consisting of CP ALL Plc., Siam Makro PCL and CPRAM)



**100%** completed review of water scarcity risk assessment in Critical Tier 1 Suppliers operational area

### Supporting the SDGs



- SDG6 Clean Water and Sanitation**
- 6.1 Equitable access to safe and affordable drinking water for all
  - 6.3 Improve water quality by reducing the release of hazardous pollution to the water sources and decreasing the amount of untreated wastewater
  - 6.4 Improve efficiency and management to sustainably address water shortage problems



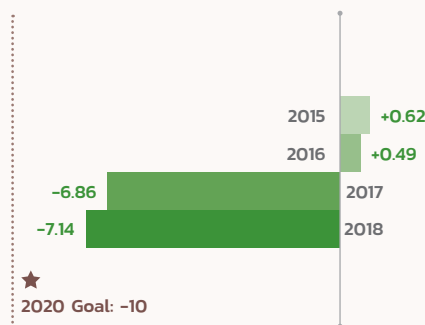
## 2020 GOAL



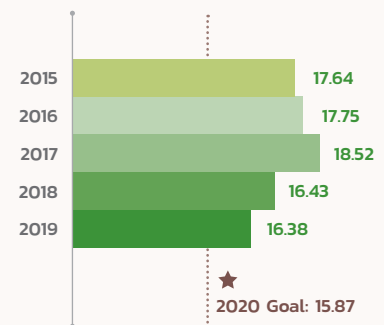
Reduce water withdrawal intensity by **10%** by 2020, compared to the 2015 baseline.

## PERFORMANCE AGAINST GOAL

Percentage of Reduction of Water Withdrawal Intensity (%)



Water Withdrawal Intensity (cubic meters per million baht of revenue)



## Challenges

“Water” is one of nature’s resources that is comparable to the heart of every life on earth. At present, the economic developments, technological advancements, and the population expansion faced by the various communities, have further intensified, affecting to production of goods of the industrial sector, the production of agricultural goods, and the developmental city planning construction projects; i.e. the need to use more water, continually. The United Nations World Water Development Report 2019 states that the world’s water scarcity continue to worsen, with climate change and the increased, continual water use being the main contributors. Annually, more than 4 billion people all over the world face water scarcity, and more than 2 billion people lack access to a source of clean drinking water. Thus, in order to respond to increasing of water withdrawal, therefore CP ALL Plc. and its subsidiaries (“the Company”) created opportunities and sustainability to enhance the efficiency of water usage for more securely and in a way that will generate the highest benefit in the future. The Companies, together with society, aim to sustainably operate their businesses, and therefore give importance to efficient management and stewardship of water sources, in order to grant equal access to the natural resources at each of society’s localities, whereby the focus is aimed at developing water stewardship throughout the supply chain, so as to ensure all sectors at each level of society and businesses can equally have the chance to use water.

## PROGRESS IN 2019



Conduct water scarcity risk assessment in overall of Companies’ operational areas



Review the results of water scarcity risk assessment in Critical Tier 1 Suppliers’ operational areas

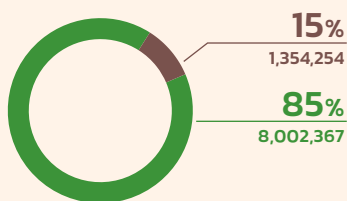


Established a body tasked with preservation of the water resource being used internally in the factories and development the wastewater treatment system

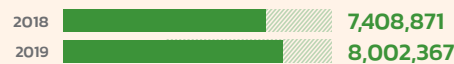
## WATER STEWARDSHIP DASHBOARD

### Water Withdrawal

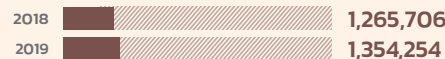
- Municipal water supply (cubic meters)
- Groundwater (cubic meters)



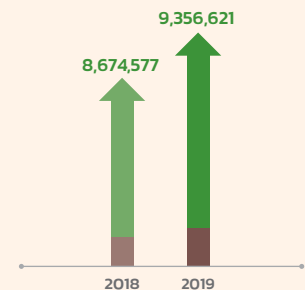
### Municipal Water Supply (cubic meters)



### Groundwater (cubic meters)

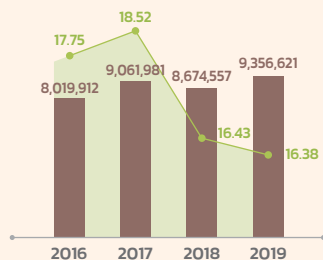


### Total Water Withdrawal (cubic meters)



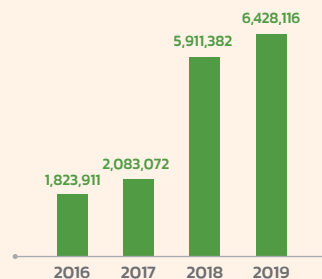
### Water Withdrawal

- Water Withdrawal (cubic meters)
- Water Withdrawal Intensity (cubic meters per million baht of revenue)



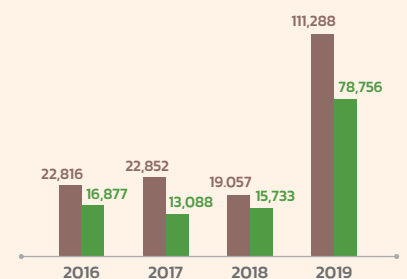
### Treated Wastewater Volume

- Treated Wastewater Volume (cubic meters)



### Quality of Treated Wastewater

- Biochemical Oxygen Demand (BOD) (kilogram)
- Total Suspended Solid (TSS) (kilogram)



Note: Volume and quality of treated wastewater data provided from CPRAM Company Limited only

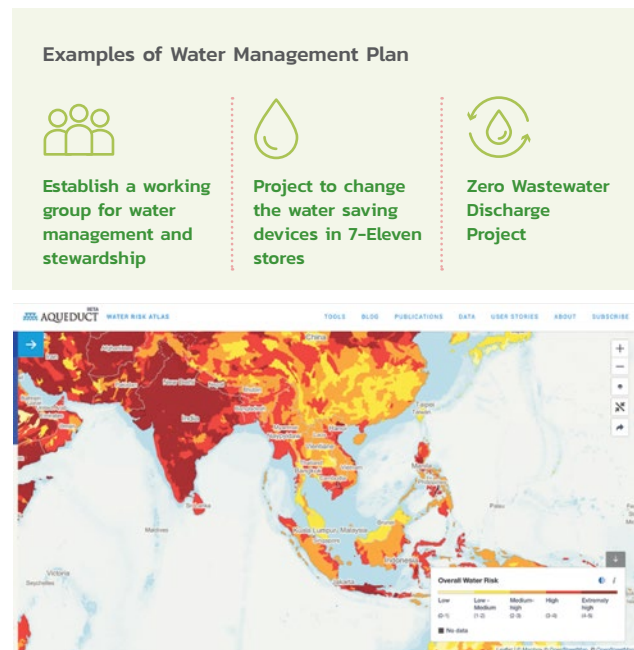
## Management Approach

The Companies have developed plans to improve water consumption efficiency per revenue unit, involving the management of risks caused by water scarcity, and to increase the proportions of water reuse, fostering a mindset in water stewardship within the organization, promoting the communities' access to water sources, including the participation to handle with water treatment system at surrounding communities, all the way to give importance and pay additional attention to the customers by fully acknowledging responsibility where, this ensures the customers can be satisfied in the quality (fresh,

clean, and safe) and at the value-for-money aspect. The Companies' primary source of water is the municipal water which use for general purposes such as, washing and to be used in food and beverages processing. The Companies' secondary source of water is the groundwater specifically used in some areas such as CPRAM Company Limited, where the company use of the heat generated from the depths of the groundwater, which suitable to replace warm water for hand and equipment cleaning in the production process.

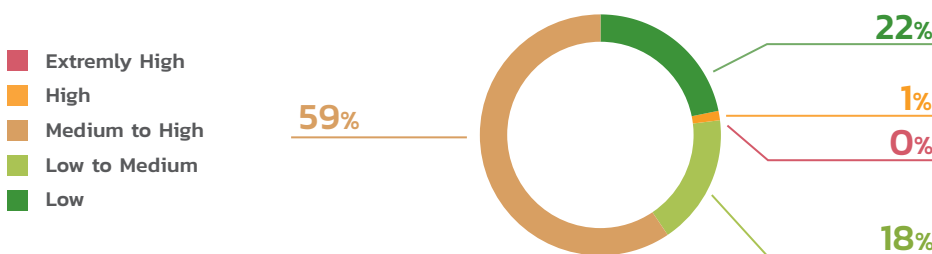
## Water Risks Assessment throughout the Supply Chain

Irrespective of the fact that the water withdrawal by the Companies do not impact the use of water in the Companies is operational areas, the Companies anticipated and realized that community participation was needed for water management and stewardship to be efficient, and therefore, in 2019, the Companies assessed the areas with water scarcity risk, including the localities where 7-Eleven stores and CP ALL Plc. distribution centers are based, localities where CPRAM Company Limited and Siam Makro PCL operate, by using the Aqueduct Tool developed by the World Resources Institute (WRI), which is a tool widely recognized by the industry. The risk assessment conducted reveals that 1% under CP ALL Plc. operated in areas with water stress risk, some of which may involve high risk, presented below.



### Water Stress

Proportion of Operational Areas with Water Stress





## Sustainable Water Management

CP ALL Plc. water stewardship practice are various approaches dependent upon the various facets of the operations, are applied, as follows.

### Water Use Reduction at the 7-Eleven Stores

**Project to  
increase water  
use efficiency at  
the 7-Eleven stores**



From the results of an assessment of water withdrawal by the 7-Eleven stores with the Aqeduct tool which considered three factors; namely, the water scarcity conditions in the localities, the water quality, and the image of the 7-Eleven stores of in relation to their water use in 2019.

To ensure that the Companies' operations have the least amount of impact to the volume and the quality of the water in the localities, and that should water scarcity emerge, the Companies will monitoring, follow up and make necessary preparations to handle the aforementioned situation, in 2019, it was found that approximately 57 stores were located at the areas at risk of water scarcity and the Companies may bring about water-related consequences by water stress. From the assessment results, the Companies established a working group to manage the water use by the 7-Eleven stores in order to minimize the associated consequences, for the group to determine the approach, the project for the efficient use of water, including the dissemination of the approach to the relevant bodies, as well as following up with the progress, and evaluating the effectiveness of the project each trimester.

To this end, reducing the current levels of water withdrawals is one of the Companies' 15 targets within their sustainability framework. From the analysis of the tendencies in water use, the technology and managing the alternatives that could potentially be altered in the operations and to meet the objectives received from C.P. Group of companies through the relevant bodies.

## Increasing the Water Use Efficiency

### CPRAM's project to increase water use efficiency



In relation to the production of ready to eat frozen foods, CPRAM Company Limited devised a water management plan aimed at maximizing utility, reduce of wastewater discharged into nature, since the current levels of water consumption in the manufacturing process is high. The Company, therefore, established a body tasked with preservation of the water resource being used internally in the factories, including improving the capacity of the wastewater treatment system, which uses of groundwater instead of surface water to reduce water scarcity in municipal water grid for communities. Throughout 2019, the company was able to reduce municipal water consumption by 1,078,230 cubic meters. Furthermore, the warm groundwater from approximately 500 meters depth, approximately 50 degrees Celsius, was suitable to wash hands, and other equipment in the production process, in place of the original method of warming up the water with electricity. This was immensely helpful in reducing the electricity used in the system by 283,047 kilowatt hours per year. Furthermore, a temperature controlling system for the wastewater treatment system was installed, where, all volumes of water will be passed through the wastewater treatment process which produced discharge of similar or higher quality than what was required by laws. In addition, treated discharge will also be recycled for plant watering, cleaning the surrounding outdoor areas. All discharge will be used (Zero Water Discharge Project). This project, which launched in 2011, is projected to extend the performance outcomes of the project to other factories in 2020, which will further reduce the water consumption by 355,804 cubic meters.

As for other manufacturing process. The company has specified the quality of internal wastewater pursuant to Department of Industrial Works and Industrial Estate Authority of Thailand, which aligns with the company's approach towards the environment.

### Zero Wastewater Discharge Project



In relation to the wholesale business, Siam Makro PCL gave importance to water management, starting from designing the distribution centers, where the design and the installation of system that would collect water flowing from the operations and subsequently treated, and automatically redirect it to plant watering at Siam Makro stores, in order to reduce the amount of wastewater discharged to public water sources. Currently, this work has been completed in 30 stores around the country, where larger stores with upwards of 5,000 square meters of floor space were chosen, which requires an immense amount of water in maintaining the greenery. The project's operational results in the previous year, was able to replace municipal water by 162,000 cubic meters.



### Water Scarcity Risk Management Project of Critical Tier 1 Suppliers' Operational Areas

The Companies gave importance to assessing the risk of water scarcity in the areas where the suppliers operate, where in 2019, the Companies revisited the risk assessment results for 190 Critical Tier 1 Suppliers by using the Aqueduct tool developed by the World Resources Institute (WRI). From the water stress risk assessment results, the Companies have found that 13 suppliers were located in areas with extremely high risk, 14 suppliers were located in areas with high risks. The company has created a process to

collaboratively work with supplier to mitigate water-related risks and manage water resource. Currently, 100% of suppliers which operating in areas with potential risks of water scarcity provided their cooperation, with upcoming water risk management plans such as, cooperating with various agencies, communities in rehabilitating and developing the water source at the localities, and to adopt the use of highly efficient tools in making the most out of water, in water reuse in the localities, use of ground water, etc.

In addition to the aforementioned projects, the Companies aim to foster participation from the communities, and the employees in order to promote the sustainable management of water. The Companies have planned additional projects to be carried out in the future, as follows.

#### 1 Project to Work with the Communities in Making Effective Microorganism Ball (EM ball)

to treat wastewater for the appropriate localities at the respective distribution centers, such as one located in Bang Bua Thong, to prepare the tools, to set up workshops for preparing the biological brine from easily accessible materials sourced locally, making EM Balls, including pouring the biological brine, placing the EM Balls in the water sources that have been passed the preliminary screening for suitable treatment via EM Balls.



#### 2 Project to Work with the Employees

to increase awareness about water stewardship, including water stewardship campaign.

## Sustainability Performance Data 2019 : Environment

GRI Standard	Requested Data	Unit	2016	2017	2018	2019
302-1 (e)	Total Energy Consumption within the Organization	GJ	7,180,106.92	7,543,731.28	8,378,582.01	9,138,078.10
302-1 (a)	Total Non – Renewable Energy	GJ	231,481.88	273,582.89	501,239.88	544,162.84
	<b>Stationary Combustion</b>	<b>GJ</b>	<b>231,481.88</b>	<b>273,582.89</b>	<b>370,720.89</b>	<b>414,339.03</b>
	• Fuel Oil	GJ	143,934.00	161,001.74	23,384.76	0
	• Diesel	GJ	4,083.00	4,086.98	1,644.70	7,980.44
	• Liquefied Petroleum Gas	GJ	66,951.12	69,182.62	292,398.72	348,141.34
	• Natural Gas	GJ	16,513.76	39,311.55	53,292.70	58,217.25
	<b>Mobile Combustion</b>	<b>GJ</b>	<b>N/A</b>	<b>N/A</b>	<b>130,519.00</b>	<b>129,823.81</b>
	• Diesel	GJ	N/A	N/A	115,852.21	114,460.19
	• Gasoline	GJ	N/A	N/A	14,666.67	15,363.62
	• Natural Gas Vehicles	GJ	N/A	N/A	0.12	0.0032
302-1 (b)	Total Renewable Energy	GJ	112.15	2,983.28	4,604.26	15,408.41
	• Solar Cell	GJ	122.15	223.88	693.18	11,496.18
	• Solar thermal	GJ	0	2,759.40	2,759.40	2,798.50
	• Geothermal	GJ	0	N/A	1,151.68	1,113.73
302-1 (c)	Total Electricity Purchased	GJ	6,948,512.89	7,267,165.11	7,872,737.87	8,578,506.85
302-3 (a)	Energy Intensity	GJ per million THB of revenue	15.89	15.41	15.87	16.00
303-3 (a) (2018)	Total Water Withdrawal	Million m <sup>3</sup>	8.01	9.06	8.67	9.35
	• Groundwater	Million m <sup>3</sup>	0.93	1.04	1.27	1.35
	• Municipal water supply	Million m <sup>3</sup>	7.08	8.02	7.40	8.00
	• Reused and recycled water	Million m <sup>3</sup>	0.17	0.19	0.93	0.51
303-3 (b) (2018)	Total Water Withdrawal from Water Stress Areas	Million m <sup>3</sup>	N/A	N/A	N/A	3.67
	• Groundwater	Million m <sup>3</sup>	N/A	N/A	N/A	1.29
	• Municipal water supply	Million m <sup>3</sup>	N/A	N/A	N/A	2.38
303-3 (b) (2018)	A Breakdown of Total Water Withdrawal	Million m <sup>3</sup>	N/A	N/A	N/A	9.35
	• Freshwater (≤1,000 mg/L Total Dissolved Solids)	Million m <sup>3</sup>	N/A	N/A	N/A	9.35
	Water Withdrawal Intensity	Million m <sup>3</sup> per million THB of revenue	17.75	18.52	16.43	16.38
305-2 (a)	Total GHG Emissions (Scope 1 and Scope 2)	Tonnes CO <sub>2</sub> e	1,131,651.73	1,184,068.66	1,286,029.10	1,400,440.40
305-1 (a)	Direct (Scope 1) GHG emissions	Tonnes CO <sub>2</sub> e	8,115.53	9,008.51	13,051.12	13,343.50
	• Methane from waste water treatment	Tonnes CO <sub>2</sub> e	1,115.46	914.04	3,253.40	3,724.42
	• Mobile combustion	Tonnes CO <sub>2</sub> e	7,000.07	8,094.47	9,797.72	9,021.92
305-1 (c)	Biogenic CO <sub>2</sub> emission	Tonnes CO <sub>2</sub> e	N/A	N/A	N/A	597.15