# WHA Group Material Issues Impact Valuation for External Stakeholders



In 2023, two material topics, Water Management and Climate Strategy, were chosen to conduct impact valuation by converting output metrics into impact metrics to measure societal and environmental external impacts

2023 Sustainability Material Issues								
Report Dimension	Sustainability Material Issues	Key Stakeholders and Impact Boundary		SDGs				
		Internal	External					
Governance/ Economic	Corporate Governance and Ethics	Employeex	Supplier/Creditor     Government/Regulator     Financial Institution     Customer     Media	16 Marie 18 Marie 18				
	Customer Relationship Management	Employee	Customer	8 9 8				
	Technology and Innovation	Employee	<ul><li>Financial Institution</li><li>Shareholder/Investor</li><li>Media</li></ul>	9mm 11mm				
Social	Occupational Health and Safety	Employee	<ul><li>Customer</li><li>Community</li><li>Supplier/Creditor</li></ul>	Succession				
<b>Environment</b>	Water Management	Employee	Customer     Supplier/Creditor     Government/Regulator     Community	Galantina CO 17 words				
	Energy Management	Employee	Customer     Supplier/Creditor     Government/Regulator     Community     Financial Institution     Shareholder/Investor	22				
	Climate Strategy	Employee	Customer     Supplier/Creditor     Government/Regulator     Community     Financial Institution     Shareholder/Investor	13:10 17:00 18:10				

### **Materiality Impact Valuation**

## **Input & Activity**

#### **Economic Input**

- Capital Investment
- Operating Expense

#### **Social Input**

- Employee
- Contractor

#### **Natural Input**

- Energy Consumption
- Water Consumption
- Raw Material

### Output

#### **Social Output**

- Enhance customer satisfaction with variety renewable energy service
- Enhanced water availability for the community due to reduced water withdrawal from the water reclamation project

### **Environmental Output**

- GHG emissions avoided from renewable energy projects
- Water withdrawal avoided from water reclamation project

## **Outcome & Impact**

### **Outcome & Impact**

- Improve people's health due to GHG emissions avoided
- Improved people quality of life by increase water availability for community

# WHA Group Material Issues Impact Valuation for External Stakeholders



In 2023, two material topics, Water Management and Climate Strategy, were chosen to conduct impact valuation by converting output metrics into impact metrics to measure societal and environmental external impacts

Materiality Issue	Output Metric	Type of Impact	Impact Valuation	Impact Results / Impact Metric	Reference
Climate Strategy	GHG emissions avoided	Positive	Social cost avoided	<ul> <li>GHG emission avoided by 51,497 tCO2e in 2023 though renewable energy project.</li> <li>Decreased Social Cost of Carbon by GHG emission reduction from renewable energy projects, resulting in a mitigated negative impact on society, equivalent to 94,712,561 THB in 2023.</li> </ul>	<ul> <li>The annual social cost of carbon for 2023 is 54 USD per tCO2e, considering a 3% discount rate, based on the 'Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates under Executive Order 13990' by the Interagency Working Group on Social Cost of Greenhouse Gases, United States Government.</li> <li>The exchange rate from USD to THB is based on data from December 28, 2023, provided by the Bank of Thailand (BOT).</li> </ul>
Water Management	Water withdrawal avoided	Positive	Quality of life improved	<ul> <li>Water withdrawal avoided by 7,257,718 cubic meter in 2023 through water reclamation project.</li> <li>The reduction in water withdrawal positively impacts the water usage of 200,000 people in the area around the WHA industrial estate.</li> </ul>	Water usage data calculation:     One person consumes water 100 liters per day. Reclaimed water saves raw water by 1 million cubic meters per year (1 billion liters), equivalent to the water usage of approximately 30,000 people.  Source: Department of Public Works and Town & Country Planning <a href="https://www.dpt.go.th">https://www.dpt.go.th</a>