

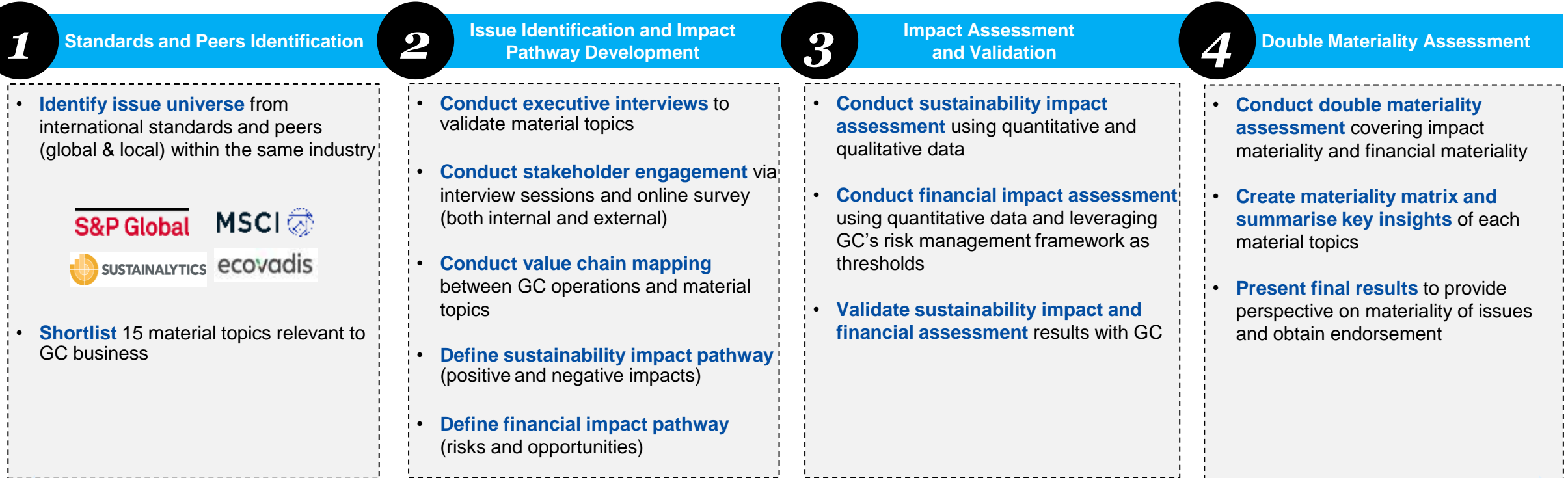
Material Issues Impact Valuation for External Stakeholders in 2024

PTT Global Chemical Public Company Limited



Materiality Assessment Approach

GC has reviewed key sustainability issues related to both internal and external business operations throughout 2043 by taking into consideration the company's risks and stakeholder expectations and assessing the identified significant impacts on the environment, society, and all related stakeholders to prioritize them.



Seek expert opinions










International standards & frameworks are used across the project



Material Issues for External Stakeholders

Impact Level

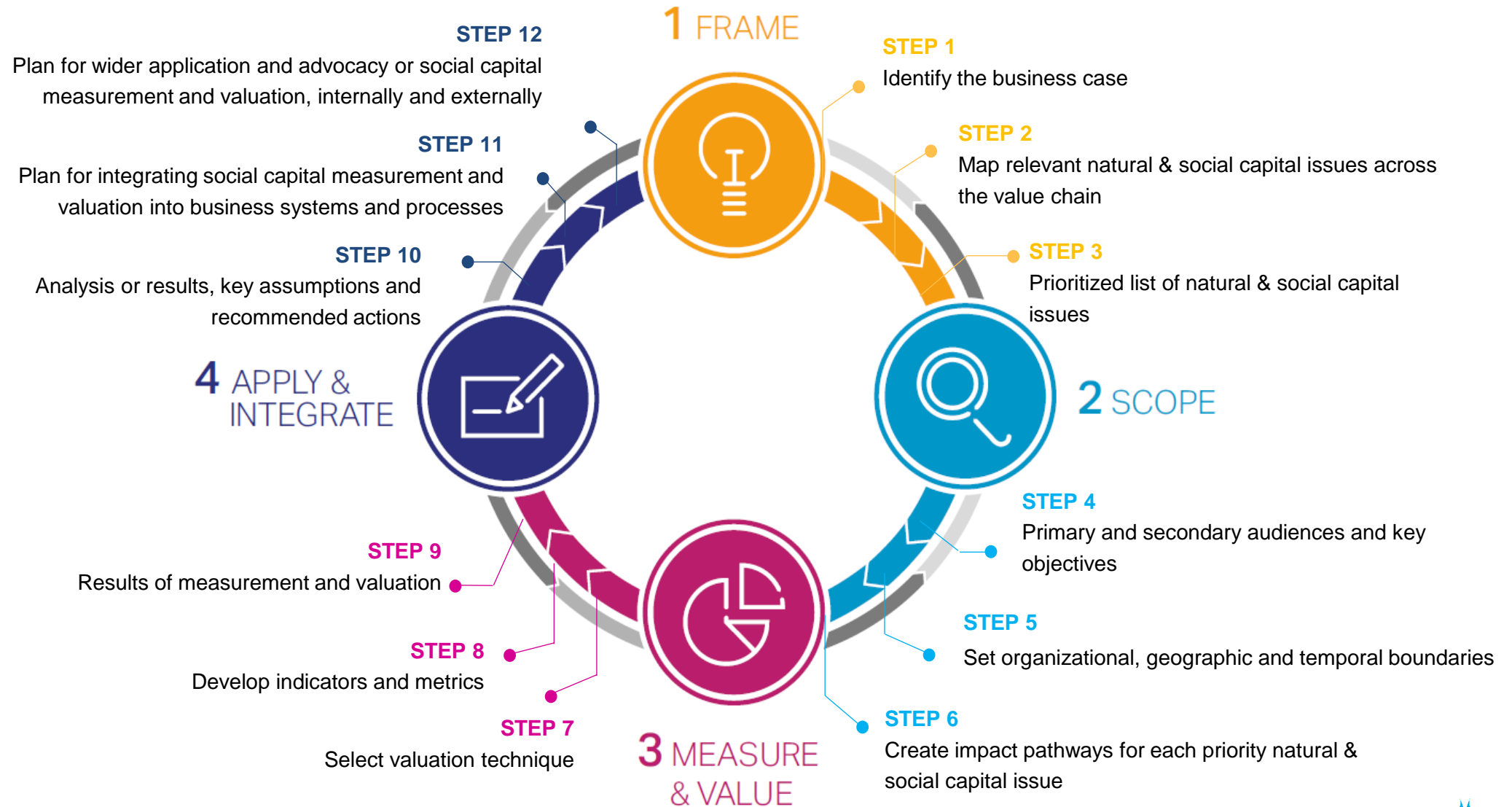
| Material Topic Level 2024 ระดับประเด็นสำคัญ ด้านความยั่งยืน ปี 2567 | Impact Materiality and Financial Materiality ระดับผลกระทบด้านความยั่งยืน และการเงิน | Double Materiality ระดับผลกระทบ สองมิติ | Disclosure Location ช่องทางที่เปิดเผย | Key Content เนื้อหาที่รายงาน |
|--|--|--|---|--|
| Very High สูงมาก | Critical/Significant วิกฤต/สำคัญมาก | Very High สูงมาก | Integrated Sustainability Report/Website รายงานความยั่งยืน แบบบูรณาการ/ เว็บไซต์ | <ul style="list-style-type: none"> Impact on stakeholders Management guidelines Key operations (according to the interest of stakeholders) Online disclosure of performance ผลกระทบต่อผู้มีส่วนได้เสีย แนวทางการบริหารจัดการ การดำเนินงานที่สำคัญ (ตามความสนใจของผู้มีส่วนได้เสีย) เปิดเผยการดำเนินการบนเว็บไซต์ |
| High สูง | Important สำคัญ | High สูง | Integrated Sustainability Report/Website รายงานความยั่งยืน แบบบูรณาการ/ เว็บไซต์ | <ul style="list-style-type: none"> Impact on stakeholders Management guidelines Key operations (according to the interest of stakeholders) Online disclosure of performance ผลกระทบต่อผู้มีส่วนได้เสีย แนวทางการบริหารจัดการ การดำเนินงานที่สำคัญ (ตามความสนใจของผู้มีส่วนได้เสีย) เปิดเผยการดำเนินการบนเว็บไซต์ |
| Medium ปานกลาง | Medium ปานกลาง | Medium ปานกลาง | Website เว็บไซต์ | <ul style="list-style-type: none"> Online disclosure of performance เปิดเผยการดำเนินการบนเว็บไซต์ |
| Low ต่ำ | Low ต่ำ | Low ต่ำ | Website เว็บไซต์ | <ul style="list-style-type: none"> Online disclosure of performance เปิดเผยการดำเนินการบนเว็บไซต์ |

| Dimension มิติ | Material Topic from Double Materiality ประเด็นสำคัญด้านความยั่งยืนสองมิติ |
|---|--|
|  | 1. Climate Strategy and Energy Management กลยุทธ์ด้านการเปลี่ยนแปลงสภาพภูมิอากาศและการจัดการพลังงาน |
|  | 2. Innovation Management การบริหารจัดการนวัตกรรม |
|  | 3. Occupational Health and Safety อาชีวอนามัยและความปลอดภัย |
|  | 4. Corporate Governance การกำกับดูแลกิจการที่ดี |
|  | 5. Circular Economy เศรษฐกิจหมุนเวียน |
|  | 6. Product Stewardship ความรับผิดชอบต่อผลิตภัณฑ์ |
| Remark: Sustainability Dimensions หมายเหตุ : มิติความยั่งยืน  Environmental สิ่งแวดล้อม  Social สังคม  Governance & Economic การกำกับดูแลและเศรษฐกิจ | |

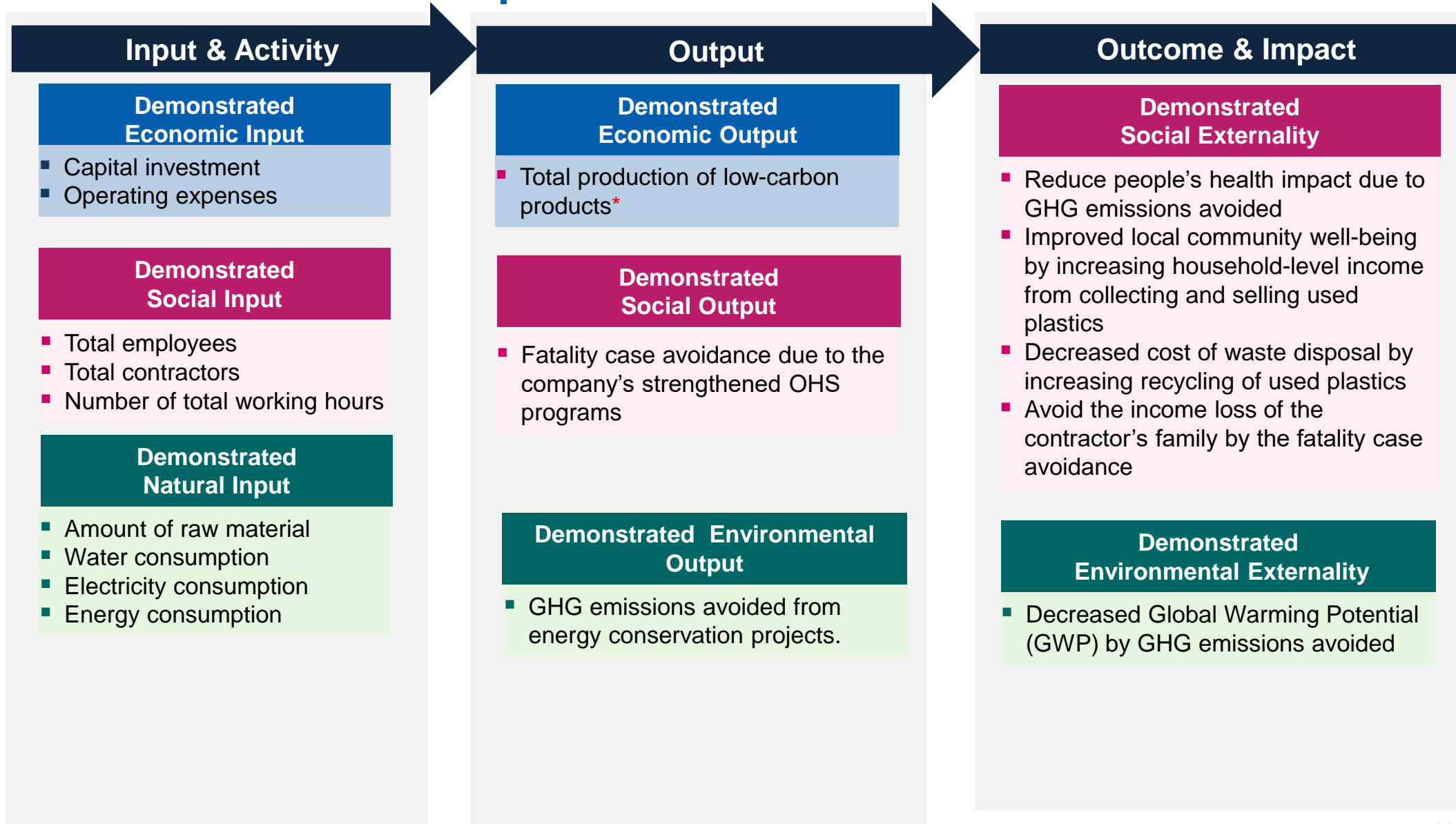
In 2024, 'Climate Strategy and Energy Management,' 'Innovation Management,' and 'Occupational Health and Safety' were identified as significant material topics. Of these, only 'Climate Strategy and Energy Management' and 'Occupational Health and Safety' were selected for evaluation of their external impacts on the environment, society, and external workers

Impact Valuation

Adapted Four Stages of Natural & Social Capital Protocol



Material Issues Impact Valuation for External Stakeholders



Remark: *Low-carbon products include 1) Methyl Ester or B100, which is the raw material for biodiesel, and 2) Recycled Plastic Resin from ENVICCO

Impact 1 – Climate Strategy and Energy Management

Cause of the impact: Operations, Products/Services, and Supply chain with >50% of business activity

External stakeholder(s)/ Impact area(s) evaluated: Society, Environment and Consumers/End users

Topic relevance on external stakeholders: Greenhouse gas (GHG) emissions not only increase global warming potential but also affect human health which may increase people's medical expenses and finally, may decrease people's quality of life. However, if GHG is reduced, it will reduce the impact on society and the environment.

Climate Strategy and Energy Management is Climate Strategy and Energy Management is a significant material topic for GC. We strive to balance business growth with environmental responsibility by supporting the Sustainable Development Goals (SDGs) and targeting net-zero Scope 1 and 2 GHG emissions by 2050. To achieve this, we have adopted efficient resource management practices, including various energy conservation projects, and adjusted our long-term business portfolio. This involves expanding business opportunities and increasing revenue through investments in high-value, low-carbon ventures and the development of sustainable products that meet the needs of environmentally conscious consumers. These efforts aim to minimize environmental and social impacts by **reducing the social cost of carbon**, improving quality of life, and lowering **Global Warming Potential (GWP)**.

External Impacts:

| Output Metric | Output Valuation | External stakeholder(s)/ impact area(s) evaluated | Type of Impact | Impact Valuation | Impact Valuation Result in 2024 | Impact Metric | Reference |
|----------------------|---|---|----------------|----------------------------------|---|--------------------------------|--|
| GHG Emission Avoided | <ul style="list-style-type: none"> GHG emissions are avoided by energy conservation projects is 58,078 tCO₂e GHG emissions are avoided by using GC's low-carbon products i.e. <ul style="list-style-type: none"> Methyl ester* or B100 804,362 tCO₂e Recycled plastic resin from ENVICCO** 178,000 tCO₂e | Society | Positive | Social cost caused/ avoided | Decreased social cost of carbon by GHG emissions avoided from energy conservation projects and low-carbon products, so people's health impact will be lessened by 6,445,174,217 THB*** | Social cost of carbon | <ul style="list-style-type: none"> IRIS, 2021. Social Impact Objectives (OD6247). v5.2. Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates under Executive Order 13990 |
| | | Environment | Positive | Environmental value lost/ gained | Decreased Global Warming Potential (GWP) by GHG emissions avoided from energy conservation projects and low-carbon products 1,040,440 tCO₂e | Global Warming Potential (GWP) | <ul style="list-style-type: none"> IRIS, 2021. Greenhouse Gas Emissions Avoided or Reduced (PI2764). v5.2. https://www.epa.gov/ghgemissions/understanding-global-warming-potentials |
| | GHG emissions 7.82 million tCO ₂ e (Scope1 and 2) | Society | Negative | Social cost caused/ avoided | Increased social cost of carbon by GHG emission, so people's health impact will be increased 48,442,280,300 THB*** | Social cost of carbon | <ul style="list-style-type: none"> IRIS, 2021. Social Impact Objectives (OD6247). v5.2. Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates under Executive Order 13990 |

Note: * Methyl Ester, which is commonly known as pure biodiesel fuel or "B100", is a clean burning renewable fuel made from natural plant oil such as palm oil, rapeseed oil, soybean oil, etc.

**ENVICCO is a high-quality recycled plastic resin production plant that meets global standards with the largest end-to-end production process in Southeast Asia.

***The social cost of carbon (SCC) represents the estimated cost of damage done by emitting one additional metric ton of carbon dioxide-equivalent, and the value is calculated by using the SCC which is \$190 per metric ton of carbon dioxide in 2020 dollars per metric ton of CO₂ with 2% discount rate (https://www.epa.gov/system/files/documents/2023-12/epa_scghg_2023_report_final.pdf) and the average exchange Rates in 2024 which is 32.6035 THB per USD (Exchange Rates UK, <https://www.exchangerates.org.uk/USD-THB-spot-exchange-rates-history-2024.html>).

Impact 2 – Occupational Health and Safety

Cause of the impact: The operation of the business value chain with >50% of business activity

External stakeholder(s)/ Impact area(s) evaluated: External employees (contractors)

Topic relevance on external stakeholders: Occupational Health and Safety is one of significant material topics of GC. GC assesses the external impacts which are vital to external employees such as contractors due to incidents or accidents from operations. GC recognizes and takes into account impacts on not only employees but also external stakeholders. Therefore, professional OHS management has been implemented in order to ensure that the workplace is safe and prevent work-related injuries and illnesses to both internal and external workers.

We measure the outputs of OHS by using various KPIs such as Total Recordable Injury Rate (TRIR), Lost Time Injury Frequency Rate (LTIFR), fatality, and lost workday. We also measure the OHS impact such as **Avoided income loss from fatality case avoidance** to monitor and develop the necessary programs for improving OHS processes and avoiding/decreasing work-related incident performance and impacts.

External Impacts:

| Output Metric | Output Valuation | External stakeholder(s)/ impact area(s) evaluated | Type of Impact | Impact Valuation | Impact Valuation Result in 2024 | Impact Metric | Reference |
|----------------------|--|---|-------------------|-------------------------------------|--|--|--|
| Number of Fatalities | 1 fatality case avoidance due to the company's strengthened OHS programs | Society | Positive/Negative | Quantified quality of life impacted | Avoid the income loss of the contractor's family by the fatality case avoidance due to the company's strengthened OHS programs 2,803,680 THB/case* | Avoided income loss from fatality case avoidance | <ul style="list-style-type: none"> IRIS, 2021. Occupational Illnesses (OI7060). v5.2. |

Note:

*The value is calculated by using the Thai minimum wage in Rayong, Thailand which is 354 THB per day (Rayong Provincial Labour Office, <https://rayong.mol.go.th/en/minimum-wage>), 22 workdays in a month, and 30 years of working period.