



## 4.2 Responsible Procurement

### 4.2.1 Green Supply Chain

Climate change and global warming are contemporary global issues that impact human beings, the ecology, and global environment. Our actions include promotion and implementation of “planning and saving energy and resources and reducing GHG emissions” as well as “waste reduction management,” to fulfill our corporate social responsibility, enhance the Company’s overall image, reduce operations costs, and ensure sustainable development.

We systematically practice environmentally-friendly, sustainable management. We have formulated the Company’s internal code of conduct based on the Responsible Business Alliance (RBA) Code of Conduct and set up an RBA Committee directly under the Operations Management Committee. The RBA Committee meets regularly to review and implement the Code of Conduct.

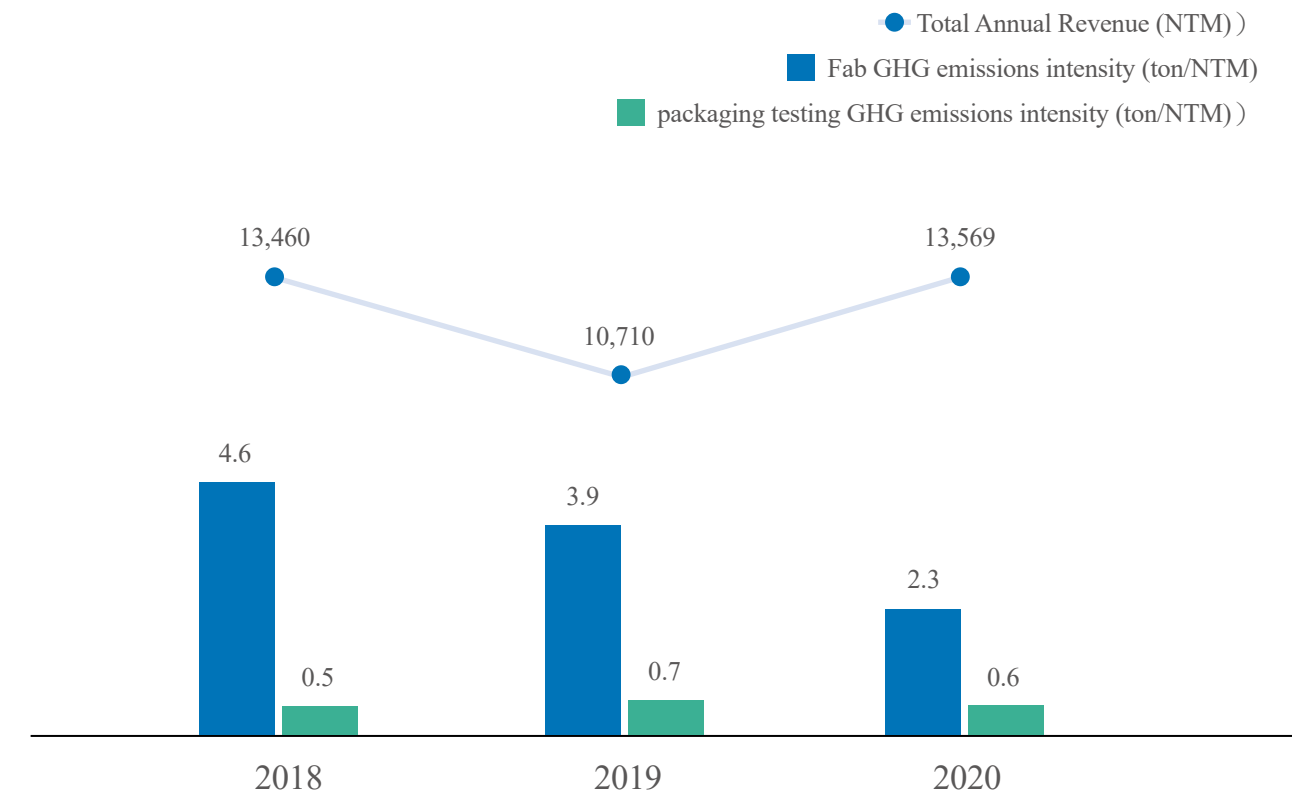
Through the operation of the Environmental Safety Department and the RBA Committee, we are committed to reducing the impact on natural resources and lessening environmental pollution. Quantitative statistics and disclosure on environmental information document the use of purchased power, renewable energy, water resources, and various raw materials. Long-term data documentation and disclosures help us review year by year whether these environmentally-friendly measures are progressing toward their goals. Our actions to save natural resources and mitigate climate change include improving product energy efficiency, green supply chain management, raw material and waste management, product packaging reduction and recycling, cloud office, lowering CO<sub>2</sub> concentrations at headquarters, and increasing energy efficiency.

#### Greenhouse Gas Emissions in the Value Chain

In response to the management trend of global warming, we audit the greenhouse gas emissions and management measures of the responsible supply chain, verify the emissions from GUC products, exert influence on suppliers, and reduce carbon emissions year by year, so as to create a green and sustainable supply chain.

#### ▼ GHG emissions intensity in the value chain

Item	2018	2019	2020
Fab GHG emissions intensity (ton/NTM)	4.6	3.9	2.3
packaging testing GHG emissions intensity (ton/NTM)	0.5	0.7	0.6
Total Annual Revenue (NTM)	13,460	10,710	13,569



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## 4.2.2 Supplier Sustainability Management

### Sustainable Management Principle

We are dedicated to sustainable environmental development and to setting good examples to protect the environment through third-party verification and compliance with standards. Also, we request our suppliers to abide by the same principles with the aim of helping the steady growth of the business while being mindful of the environmental sustainability. We require suppliers to observe GUC's Supplier Compliance Guidelines for labor rights, safety and health, environmental protection, business ethics, and management systems performance, so as to reduce the risk of business interruptions.

Target	short term	<ul style="list-style-type: none"> <li>Working with key supply chain partners to reduce greenhouse gas emissions</li> <li>In 2022, 100% of the key suppliers have signed the RBA 7.0 Code of Conduct.</li> </ul>
	Medium and long term	Championing environmental and carbon initiatives in Taiwan and abroad, exerting influence on suppliers, and inventorying suppliers' GHG emissions and management.
How to manage	Responsibility	<ul style="list-style-type: none"> <li>Responsible Unit: Operations Division</li> <li>External Responsibilities: Suppliers</li> </ul>
	Resources	The vice president of Operations Division serves as the commander. In addition to the employees directly under the responsible unit, the Human Resources Department and the Employee Facilities Services Department will also send staff to assist according to the needs of the audits.
	Communication channel	Monthly meetings with suppliers to exchange ideas
	Evaluation Methods	<ul style="list-style-type: none"> <li>Return rate of Code of Conduct sign forms</li> <li>Supplier ESG risk assessment results</li> <li>On-site audit rate</li> <li>Supplier support rate</li> </ul>
Specific Performance		<ul style="list-style-type: none"> <li>Code of Conduct: 100% of the suppliers have signed the Code of Conduct.</li> <li>Supplier social responsibility assessment: In 2021, all audited key suppliers were rated B or above. We provided them with additional consulting and communication.</li> <li>Conflict minerals: Ensured that the products provided by suppliers use reliable sources of non-conflict minerals</li> <li>Local procurement: In 2021, the procurement amount of local raw materials was NT\$11.8 billion, accounting for 98.1% of the total procurement amount.</li> <li>GUC's influence: Set goals and include them in the annual supplier corporate social responsibility evaluation to help suppliers improve with continuous communication and encouragement.</li> </ul>

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## Supply chain management

As a global leading company in IC design, we take on the responsibility of environmental sustainability. Our direct suppliers have introduced a series of ecofriendly, energy efficient, and carbon reduction measures to avoid environmental pollution caused by raw materials or components. By 2021, more than 90% of GUC’s 54 suppliers were certified for ISO 14001 environmental management system or QC 080000 hazardous substance process management system. In 2021, 100% of its 6 key suppliers are ISO 14001 environmental standards-certified.

The raw materials for GUC’s main products are wafers, and the main supplier is Taiwan Semiconductor Manufacturing Co., Ltd. (TSMC). TSMC is also our largest shareholder and has established a long-term partnership with us, thus stabilizing the supply of raw materials. In addition, GUC works with other suppliers. The wafers and packaging materials of the suppliers’ products must comply with EU’s RoHS Directive 2011/65/EU and 2015/863 (4 additional prohibited substances: DEHP, BBP, DBP, DIBP), and comply with the EU’s new chemical policy (Registration, Evaluation, Authorization & Restriction of Chemicals, REACH). GUC promotes green policies and concepts along the entire supply chain. All new product manufacturing suppliers must comply with GUC’s RBA requirements. Suppliers become qualified only after they have signed statements and passed reviews.

100% of GUC’s key GUC suppliers have signed a statement of no hazardous substances use, and 100% of its new suppliers have signed the statement. In the report period, our supply chain had no significant actual or potential negative impact on the environment.

Moreover, GUC requires suppliers to use recycled materials and reduce the use of consumables, whether in the plant or during transportation. For example, reusing plastic carrier trays for IC products, or reusable packaging materials such as anti-static “black boxes” throughout the transportation in the production process to lower the use of cartons. The close cooperation between the up- and down-streams of the supplier chain to elevate the industry’s social responsibility and raise awareness as global citizenship. GUC takes various environmentally friendly actions, and fully uses green materials from product design, manufacturing to packaging, comprehensively introducing the awareness of environment protection to production and quality management systems.

### ▼ List of IC industry chain suppliers



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## Supply chain sustainability management process



## Supplier Audit

GUC regularly audits its suppliers based on the following three regulations. If we find any violations of environmental regulations, we issue a warning and require improvement within a time limit. Serious violations will result in termination of partnership.

- GUC Responsible Business Alliance (RBA) Code of Conduct
- Hazardous Substance Restriction
- GUC Supplier Certification

Suppliers need to pass both engineering evaluation and system audit before they become certified and qualified. Especially for key suppliers, in addition to regular QBR reviews on quality, delivery, service, technical support, information interaction, etc., on-site audits are performed at least once a year.

## 2021 Supplier Quality Audit

All key suppliers were rated B (Good) or above in quality audits. There were still deficiencies found in the audit and key improvements have been made.

Category	Main Deficiencies Found in the Audit	Key improvement results
Supplier quality audit	<ol style="list-style-type: none"> <li>1. Risks in handling bulky IC packaging are not considered.</li> <li>2. Control of hardware and jigs for production is not strict enough.</li> <li>3. No clear definition of new product introduction (NPI) in the process of the same series or new products.</li> <li>4. No clear correspondence between operator training and certification and production line support.</li> </ol>	<ol style="list-style-type: none"> <li>1. Reconfirm the processing flow of and add FMEA to products with heavier packaging.</li> <li>2. Standardize and define inspection items, methods and control rules in documents.</li> <li>3. Re-strengthen the definition of the same series of products and brand-new products to avoid misuse of production jigs.</li> <li>4. Define the qualification review of operators for cross-machine support.</li> </ol>

## Supplier rating management system

Rating	Score	Level	Actions
A	≥90	Excellent	May adjust to biennial audits
B	≤89 ~ ≥80	Good	Annual audits and consulting
C	≤79 ~ ≥70	Normal	Annual audits and given improvement deadlines.
D	<70	Bad	Quality management unit and relevant departments will discuss whether to continue the relationship with the supplier. If the relationship continues, the supplier will be required to make immediate improvements. Otherwise, the supplier's qualification will be terminated.





## Local Procurement

GUC cares about local economic development. We intend to retain job opportunities for the locals and reduce carbon emissions generated by material transportation. Be it raw materials or general purchases, we adhere to the principle of local procurement. The amount of orders placed from Taiwan exceeded NT\$ 11.8 billion in 2021. We continue to increase the ratio of local procurement. In the future, we will work with suppliers to set sustainable goals for reduction of water and power consumption, waste, and carbon footprint, as well as improve the sustainable development of the local supply chain.

	Amount of local procurement of raw materials (Unit: NTD)	Amount of procurement of raw materials (Unit: NTD)	Amount of local procurement of raw materials Proportion
2018	8,959,188,142	8,965,853,551	99.9%
2019	7,496,360,398	7,531,316,983	99.5%
2020	9,615,235,333	9,744,512,379	98.7%
2021	11,850,144,493	12,078,770,446	98.1%



## 4.3 Green Management

### 4.3.1 Climate Change and Energy Management

#### Development of energy efficient products

GUC provides energy consumption models so that IC design engineers are able to optimize energy consumption in the SOC design flow, providing optimal power consumption solutions on packaging design.

GUC continues the development of advanced IP, including GLink, HBM2/2E/3Controller and PHY, 28G/32GSerDes, PCIe Gen3/4/5, and highspeed ADC/DAC in 7nm, 6nm and 5nm processing technologies. The company is also migrating key components such as Power Management Solutions and Clock Generators, to advanced processing technologies. GUC's R&D team is also developing an in-house memory IP (TCAM, SRAM) and customized standard cell libraries that enrich our IP/Library portfolio of competitive IP and subsystem solutions. The company's 6nm in-house IP test chip was silicon-verified in 4Q 2020 and is ready for mass production. 5nm TCAM test chip has taped out and is has been silicon-verified in 1Q22.

#### Energy management

##### Energy consumption

In 2021, GUC's power was provided by the power grid of the Taiwan Power Company, accounting for 100% of the total energy consumption. The Company's energy consumption in 2021 was lower than that in the previous year, proving the effectiveness of energy management. With long-term recording of electricity consumption and calculation of the equivalent CO<sub>2</sub> generated, GUC takes practical actions to reduce energy use and greenhouse gas emissions for a better environment and sustainable operation.