



## CHAPTER 5

### Measures in Response to Climate Changes

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# 5. Measures in Response to Climate Changes

Energy transition is a global trend, driven by the need to meet the 2030 global greenhouse gas emission reduction targets in response to the escalating threat of climate change. As part of the global supply chain, Davicom is actively exploring ways to align with the United Nations' sustainable development goals.

## 5.1 Climate Action

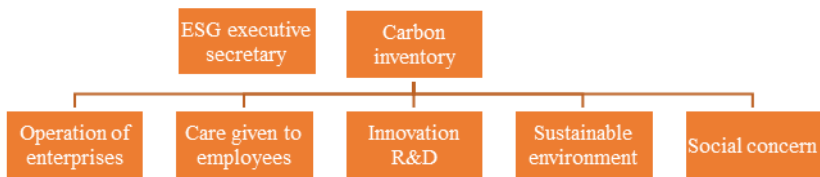
Climate action is the action taken to cope with global climate change, consisting of carbon inventory to assess carbon emissions to see performance in reducing greenhouse gas emissions as well as development of various types of sustainable strategies to decrease greenhouse gas emissions to mitigate impact arising from climate change.

In 2017, Davicom declared its R&D goal: a 20% energy reduction in new products. In 2021, we set greenhouse gas reduction targets: maintaining Scope 1 emissions at current levels and reducing Scope 2 emissions by 2% annually from 2022 to 2025. We also aim to reduce electricity consumption by 2% per year, decrease daily waste by 1 kilogram, and increase the recycling rate of packaging materials by 3% annually. Beyond internal climate actions, Davicom extends its climate action plans through the Davicom Caring Initiative.

### 5.1.1 Carbon Emission Management

Davicom follows ISO 14064 standards and the Climate Change Administration Ministry of Environment's guidelines for greenhouse gas inventory, covering Scope 1 and Scope 2 emissions, and external Scope 3 emissions. After considering factors such as emission volume, influence, risks, stakeholders, and outsourcing activities, we disclose our greenhouse gas emissions from employee commuting, business travel, downstream transportation, downstream leased assets, and waste disposal.

#### Davicom Carbon management Framework



#### Carbon Inventory

##### 2023 Organizational Greenhouse Gas Emissions

Period for information	January 1 to December 31, 2023	
Scope of information	Our headquarters building (not including public-use space and rented floors) and two offices in Tainan, southern Taiwan	
Categories of inventory	Scope 1 ( tCO2e)	87.7770
	Scope 2 ( tCO2e)	399.8872

### Explanation of Greenhouse Gas Emissions Within the Organization

- Davicom's Scope 1 and Scope 2 greenhouse gas emissions totaled 487.6642 tCO<sub>2</sub>e/year.
- The main source of emissions is purchased electricity (Scope 2), accounting for 82% of the total emissions.
- Scope 1 direct emissions amount to 87.777 tCO<sub>2</sub>e/year, comprising 18% of total emissions, primarily from energy consumption for employee living needs (e.g., chillers, refrigerators) and other sources such as fixed emissions (diesel for emergency generators), mobile emissions (gasoline for company vehicles), and fugitive emissions (dehumidifiers, gas circuit breakers, programmable thermostats). Since Davicom operates solely as an office without production lines, there are no process emissions.

### 2023 Scope 1 Greenhouse Gas Emissions Statistics - Seven Major Emissions Categories

Category	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	HFCs	PFCs	SF <sub>6</sub>	NF <sub>3</sub>	Total
Carbon Dioxide Equivalent ( tCO <sub>2</sub> e/year )	0.8348	0.0000	0.0000	86.9086	0.0000	0.0333	0.0000	87.777
Proportions ( % )	0.95%	0.00%	0.00%	99.01%	0.00%	0.04%	0.00%	100.00%

Note: Global Warming Potential (GWP) values are based on the IPCC 2021 Sixth Assessment Report, with emission factors sourced from the Climate Change Administration Ministry of Environment's Greenhouse Gas Emission Factors Management Table version 6.0.4.

### Scope 3: [other indirect] emissions outside organizations

#### Carbon emissions attributable to employees' vehicular transportation for work

Transportation vehicles	Data on activities	Emission Factor	Carbon emissions (kg)	Carbon emissions (t CO <sub>2</sub> e)
High-speed railway	73,639.26	0.040	2,945	2.945
Transportation by driving cars	732,199.26	0.173	126,670	126.67
Motorcycles	89,550.40	0.046	4,119	4.119
Public passenger transportation	71,891.28	0.056	4,025	4.025
Total	38,691.21			137.759

#### Carbon emissions due to downstream freight transportation

Data on activities (kilometer)	Volumes of dimensions (m <sup>3</sup> )	Carbon emissions (kg)	Carbon emissions (t CO <sub>2</sub> e)
1,217,040	81.78	141,176	141
Note: The carbon footprint of air freight is estimated using an emission factor of 1.16E+0 kgCO <sub>2</sub> e, with actual emissions influenced by factors such as weather conditions, aircraft load, and fuel efficiency.			

#### Carbon emissions attributable to domestic and overseas business trips

Item	Data on activities (Km)	Emission Factor	Carbon emissions (kg)	Carbon emissions (t CO <sub>2</sub> e)
Transportation by self-driving cars	111,106.70	2.92E+0 kgCO <sub>2</sub> e	32,443	32.443
International aviation	34,809.85	2.81E-1 kgCO <sub>2</sub> e	9,782	9.782
Total	145,916.55		42,225	42.225

Note: Emission factors for gasoline (mobile) and air freight are calculated according to the Ministry of Environment's Carbon Footprint Information Platform.

#### Disposal of wastes

Disposal of wastes-garbage				
Item	Data on activities (kg)	Emission Factor	Carbon emissions (Kg)	Carbon emissions (t CO <sub>2</sub> e)
Incinerators	6,249.6	0.737	4,605.9552	4.6059552
Disposal of wastes-business operation				
Item	Data on activities	Emission Factor	Carbon emissions (Kg)	Carbon emissions (tCO <sub>2</sub> e)
Recycling service providers	44	0.0218	0.9592	0.0009592

### Downstream leased assets

Procured electricity	Data on activities			Emission Factor	Carbon emissions (kg)	Carbon emissions (t CO <sub>2</sub> e)
	DAVICOM Semiconductor	Proportions	Outside power consumption			
	1,820,310.00	56.20	102,301,422		505,369	505.369

### Scope 3: analysis of emission density

	Employees' vehicular transportation for work	Carbon emissions due to freight transportation	Business Trip	Disposal of wastes	Downstream leased assets	Total
tCO <sub>2</sub> e	137.76	141.00	42.23	4.61	505.37	830.96
Proportions (%)	16.00	17.00	5.00	1.00	61.00	100.00

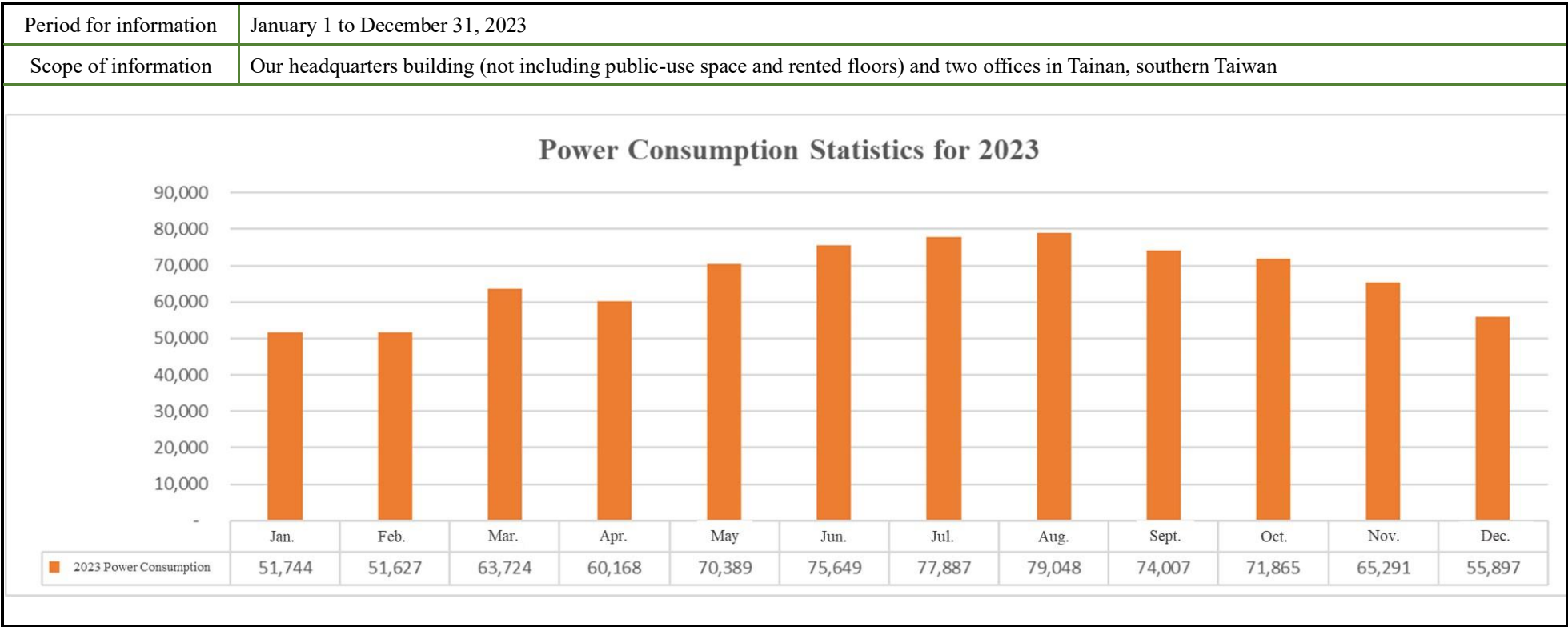
## 5.2 Utilization of Energy and Resources

Davicom has energy and resources supplied from outside. Electricity is supplied by Taiwan Power Company and water used in offices by Taiwan Water Corp., rainwater and RO recycled water is used in planting. We have set up power- and water-saving equipment and asked employees to save energy and resources.

### ■ Conditions of power consumption

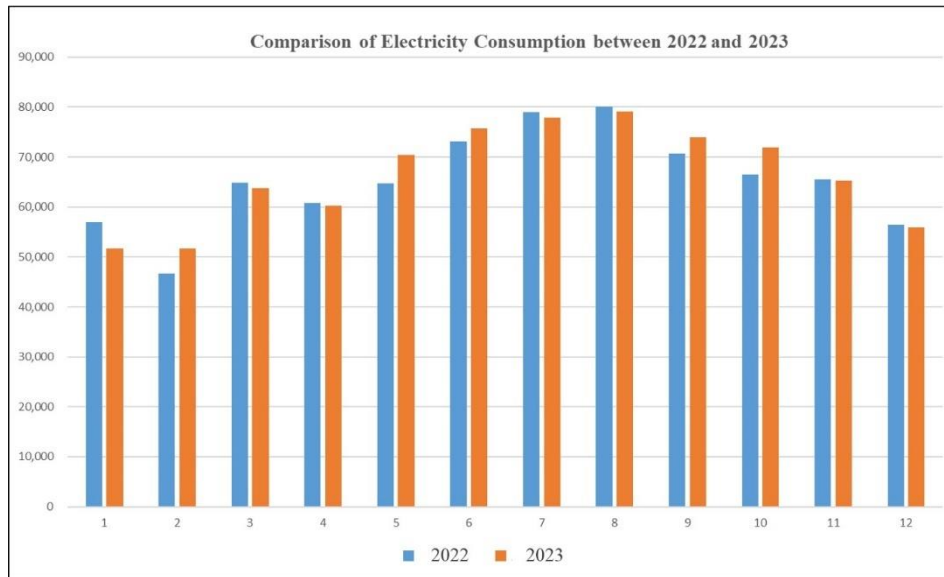
Davicom's office building comprises 13 floors, with 4 underground and 9 above ground. To achieve energy savings and carbon reduction, and to reduce indirect greenhouse gas emissions within the organization, we have implemented various energy-saving measures. The entire company adheres to energy conservation policies, contributing to environmental protection.

2023 Power Consumption Statistics



Month	January	February	March	April	May	June	July	August	September	October	November	December	Total
power consumption	51,744	51,627	63,724	60,168	70,389	75,649	77,887	79,048	74,007	71,865	65,291	55,897	797,296

**Analysis of 2023 power consumption** : Davicom's peak power consumption occurs from May to October, with the highest usage in July and August. This pattern highlights the rising temperatures in Taiwan, with shorter winters and worsening global warming. Due to an increase in hot days compared to the previous year, power consumption in Davicom's building in 2023 slightly increased compared to 2022.



### Specific Energy-Saving and Carbon Reduction Measures

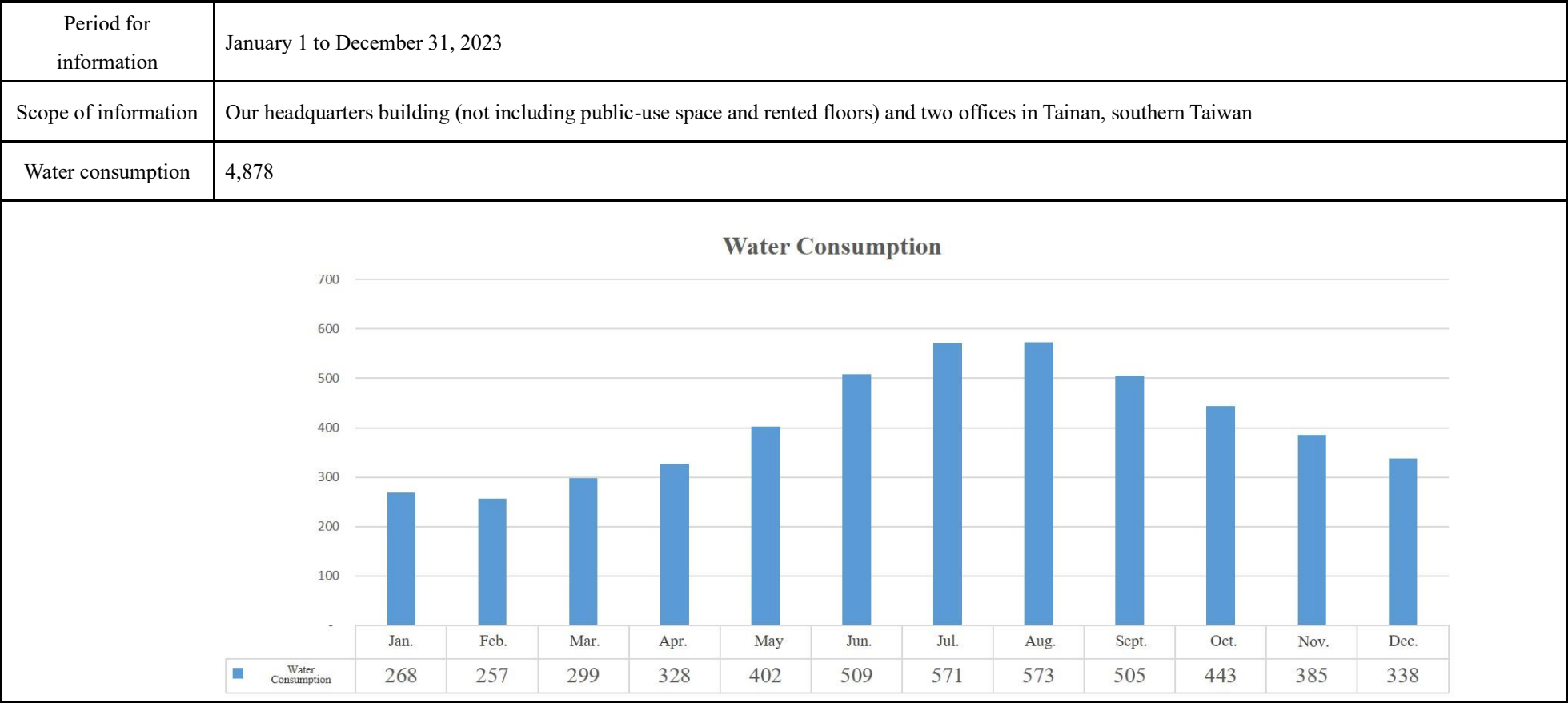
1. Installing inverters in air conditioning equipment to improve energy efficiency.
2. Reducing the number of corridor lights to decrease energy usage.
3. Raising indoor air conditioning temperatures by one degree to enhance energy savings.
4. Turning off lights during lunch breaks or when leaving the office to conserve electricity.
5. Installing thermal insulation film or curtains to improve energy efficiency.
6. Collecting rainwater or using RO recycled water for irrigation to enhance energy efficiency.
7. Encouraging employees to use stairs instead of elevators, promoting health and reducing energy consumption.
8. Promoting carpooling or the use of eco-friendly transportation (e.g., bicycles) at labor-management meetings and other events.

Planning for greenhouse gas reduction: Davicom has conducted a feasibility assessment for the small-scale installation of solar panels, aiming to become a company that generates a portion of its own electricity, ensuring convenience for employees during power outages.

### ■ Conditions of using water resource

Davicom's office building relies entirely on Taiwan Water Corporation's supply for all water usage, which is limited to office needs. In 2023, the total annual water consumption was 11,137 degrees, with Davicom accounting for 4,878 degrees of the water bill. The building's overall water consumption increased slightly by 549 degrees compared to last year (2022), primarily due to the rise of enterovirus and COVID-19 variants in 2023. To prioritize employee health, we encouraged employees to follow the Ministry of Health and Welfare's recommended hand-washing technique, leading to an increase in annual water usage. (Note: 2021 water consumption was 5,375 degrees; 2022 water consumption was 4,329 degrees; 2023 water consumption was 4,878 degrees.)

2023 Water Consumption Statistics



Month	January	February	February	April	May	June	July	August	September	October	November	December	Total
Water consumption	268	257	299	328	402	509	571	573	505	443	385	338	4,878



**2023 Water Consumption Analysis :** Davicom’s peak water usage occurred in June, July, August, and September, with the highest consumption in July and August. This pattern indicates that infectious diseases are also a significant risk of climate change. Employees are the most valuable asset to the company, and their health considerations take precedence over controlling operating costs.

**5.3 Product Environmental Footprint**

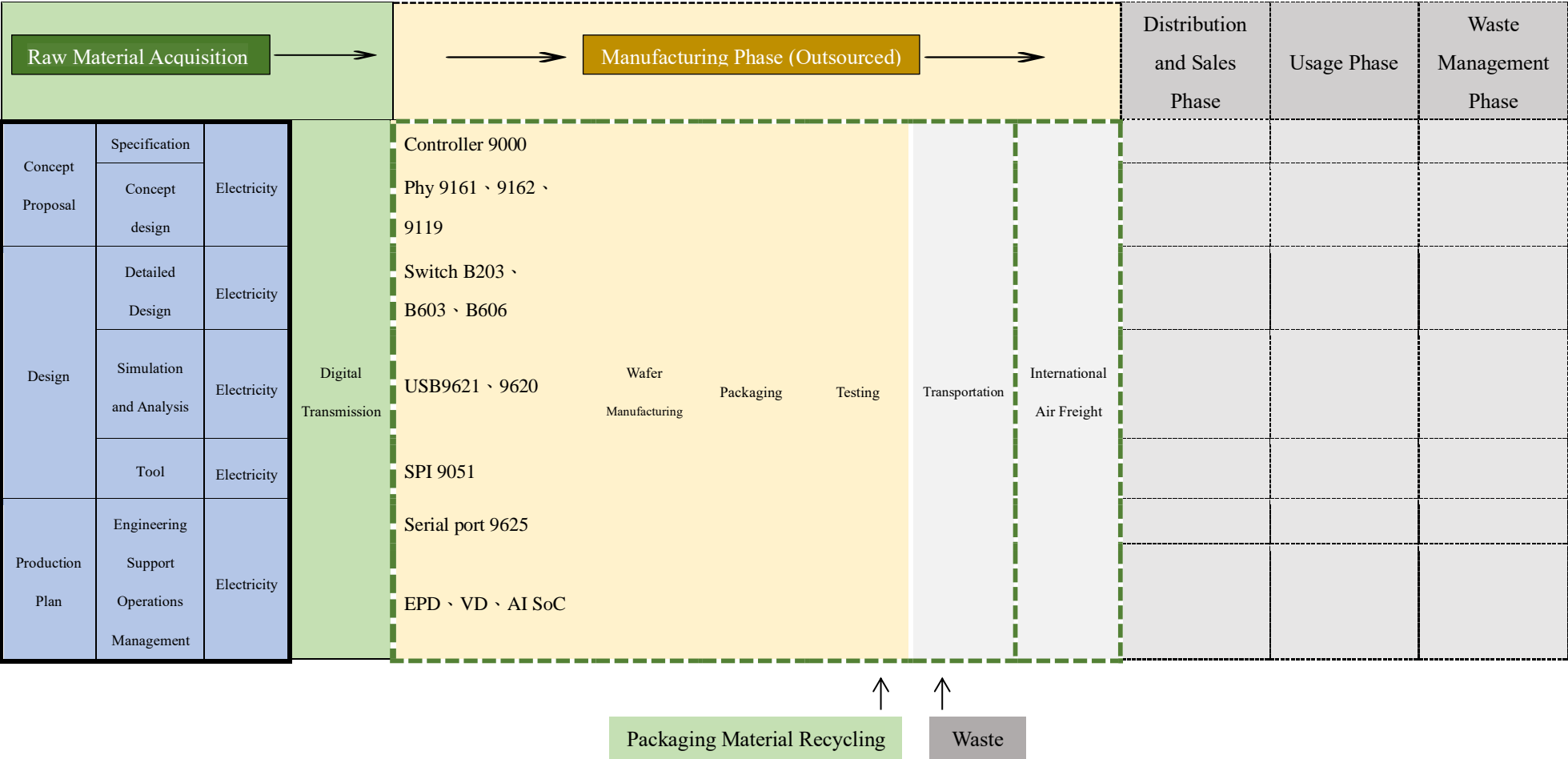
Environmental footprint of products refers to total environmental influence regarding a product from production of it to its being used, scraped and recycled. The total environmental influence includes use of energy and resources, greenhouse gas emissions, water and air pollution as well as land use. As an IC design house, our IC products play an important bridge for using networking/communication devices to foundation construct infrastructure.

Davicom is an IC design company, outsourcing the manufacturing stages (wafer fabrication, packaging, and testing) to external partners. As our suppliers have yet to provide detailed product environmental footprint data, we currently lack reference information. However, our newly developed product (PHY, DM91XX) has a die size of  $(1784 \times 1505) = 2,684,920 \mu\text{m}^2$ , reducing power consumption from 429mW to 165mW, achieving a 38.5% reduction in energy usage.



Product Carbon Footprint: B2B (Cradle to Gate)

Process Map



#### Raw Material Acquisition Phase— Utilization of energy and resources

Category	Data on activities	Emission Factor	Carbon emissions (tCO <sub>2</sub> e)
Power Consumption	797,296 kWh	9.73E-2 kgCO <sub>2</sub> e	775.77
Water Consumption	4,878 cubic metre	2.33E-1 kgCO <sub>2</sub> e	1.13
Total			776.90

#### Cargo distribution

Category	Data on activities	Emission Factor	Carbon emissions (tCO <sub>2</sub> e)
International air freight	1,217,040 km	1.16E+0kgCO <sub>2</sub> e	141

#### Disposal of wastes

Category	Data on activities	Emission Factor	Carbon emissions (tCO <sub>2</sub> e)
General waste incineration	6249.6 kgs	0.737	4.6059552
Industrial waste disposal	44 kgs	0.0218	0.0009592
Total			4.61

#### Recycling and reuse

Category	Data on activities	Emission Factor	Carbon emissions (tCO <sub>2</sub> e)
PPE Recycle (4,061pcs)	488Kg	1.95E+0 kgCO <sub>2</sub> e	0.9516
Cardboard recycling (1,460pcs)	458Kg	1.69E+0 kgCO <sub>2</sub> e	0.77402
Total			1.72562

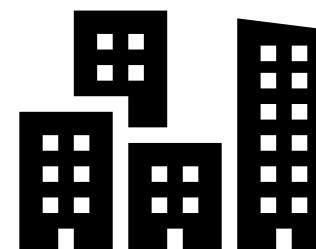


## Distribution

Carbon Footprint (tCO <sub>2</sub> e)		Controller	Phy	Switch	USB	SPI	Serial	EPD、VD、AI SoC
Energy and resources acquisition phase	776.9	90.95	166.46	26.53	78.13	59.62	1.75	353.47
Manufacturing Phase—Waste	4.61	0.54	0.99	0.16	0.46	0.35	0.01	2.10
Distribution and Sales Phase	141.0	16.51	30.21	4.81	14.18	10.82	0.32	64.15
Recycling and reuse	(1.72562)	-0.20	-0.37	-0.06	-0.13	-0.13	0.00	-0.79
Product Environmental Footprint	920.78438	107.80	197.29	31.44	92.64	70.66	2.07	418.93

Note: The product environmental footprint allocation ratio is based on the production quantity of each product type as shown in the table below.

Product	Amount(K)	Proportion (%)
Controller 9000	624	11.707317
Phy 9161、9162、9119	1,142	21.425891
Switch B203、B603、B606	182	3.4146341
USB 9621、9620	536	10.056285
SPI 9051	409	7.673546
Serial port 9625	12	0.2251407
EPD、VD、AI SoC	2,425	45.497186



## 5.4 Nurturing the Seeds of Biodiversity—Safeguarding Delicate Guests from Afar

A migratory bird, the *Gorsachius goisagi*, passed through and found refuge in the campus buildings, where it settled and raised the next generation.

For seven consecutive years, Davicom has been committed to environmental education in Taiwan's remaining pristine lands. At the beginning of 2023, exciting news came from the campus: the *Gorsachius goisagi*, migrating from the north to the south to escape the cold, chose Guanshan Elementary School's beautiful and clean campus as a breeding ground. Teachers and students were overjoyed and formed a campus patrol to protect these precious guests from afar. From the female bird laying eggs, incubating, hatching, and fledging to the final farewell, the students experienced a remarkable life education lesson.

