

### 3. Measures in response to climate changes

Energy transition is a global trend. In order to cope with challenges arising from increased energy demand and climate change in the future, we have to think over existing energy structure anew and seek more green and sustainable alternative energy sources.

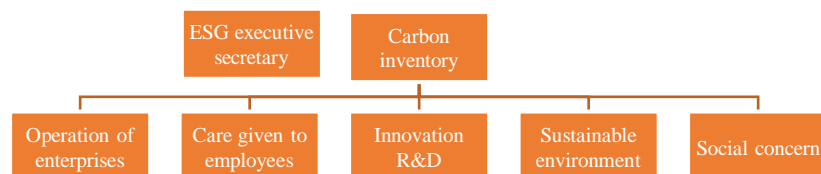
#### 3.1 Climate action

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 energy to decrease greenhouse gas emissions to mitigate impact arising from climate change. We aim at 2% reduction a year for Scopes 1 and 2 greenhouse gas emissions during 2022-2025; power consumption is aimed to be reduced by 2% every year and general waste by 1kg per day and, in addition, recycling of packing materials for reuse is aimed to increase 3%.

##### 3.1.1 Carbon emission management

By referring to ISO 14064 standards, Environmental Protection Administration’s guidance for Scopes 1, 2 and 3 greenhouse gas emission inventories, we consider amount and influence of emissions as well as risks, interested parties, outsourcing activities related to emissions and have disclosed greenhouse gas emissions under four items: employees’ vehicular transportation for work, employees’ errands or trips for business purposes, shipments to clients, and leasing of assets.

We have established a unit specifically responsible for carbon inventory to practically manage and control greenhouse gas emissions.



##### ● Carbon inventory

Referring to ISO 14064-1 greenhouse gas inventory standards and GHG Protocol greenhouse gas inventory guidance, we have established a greenhouse gas inventory mechanism and thereby regularly inventory greenhouse gas emissions from our headquarters and subsidiaries to check performance in managing use and emissions of greenhouse gases.

In 2022, we recorded Scope 1 and Scope 2 direct GHG emissions of 68.8080 metric tons of CO2e and 400.658 metric tons of CO2e.

Greenhouse gas emissions		
Period for information	January 1 to December 31, 2022	
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 (metric tons of CO2e)	68.8080
	Scope 2 (metric tons of CO2e)	400.6581

**Scope 1: sources of direct GHG emissions**

Unit: metric tons of CO<sub>2</sub>e per year

Item		Responsive activities/category of equipment	Sources of emissions	Likely to produce greenhouse gases	Greenhouse gas emissions
Scope 1 (direct GHG emissions)	Fixed sources of emissions	Stand-by generators for emergency cases	Diesel fuel	CO <sub>2</sub> 、CH <sub>4</sub> 、N <sub>2</sub> O	1.0265
	Emissions from manufacturing processes	None	None	None	-
	Mobile sources of emissions	Official cars normally used for business purposes	95 unleaded gasoline	CO <sub>2</sub> 、CH <sub>4</sub> 、N <sub>2</sub> O	0.1658
	Sources of fugitive emissions	Chillers	Refrigerants	HFCs	67.5675
		Refrigerators	Refrigerants	HFCs	0.0179
		Gas circuit breakers	SF <sub>6</sub>	SF <sub>6</sub>	0.0303
Land use, land use rezoning	Alteration in category of land use	None	None	-	
Total					68.8080

**Scope 1: proportions of greenhouse gas emissions**

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
Emission equivalents (metric ton of CO <sub>2</sub> e)	1.1819	0.0024	0.008	67.5854	0	0.0303	0	68.808
Proportions (%)	1.72%	0.00%	0.01%	98.22%	0.00%	0.04%	0	100%

**Scope 2: indirect greenhouse gas emissions (outside organizations-procured electricity)**

Spatial areas of power consumption	Frequency of billing	Original amounts of power consumption	Amortization ratios	Amounts of power consumption after amortization	Total (after amortization)	2021 carbon emission coefficient due to power consumption (kg of CO <sub>2</sub> e/kWh)	2022 carbon emissions (kg of CO <sub>2</sub> e)	2022 carbon emissions (metric ton of CO <sub>2</sub> e)
DAVICOM Building	Per month	1,793,300	43.80%	785,465	787,148	0.509	400,658.12	400.6581
Office 1 in Tainan	Once two months	801	100%	801				
Office 2 in Tainan	Once two months	881	100%	881				

Note: CO<sub>2</sub> equivalent for carbon emissions due to procured electricity= (power consumption x carbon emission coefficient for electricity); the coefficient is the 2021 carbon emission coefficient for electricity announced by Bureau of Energy under Ministry of Economic Affairs.

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

Carbon emissions attributable to employees' vehicular transportation for work				
Transportation vehicles	Data on activities	Emission coefficients	Carbon emissions (kg)	Carbon emissions (metric tons of CO2e)
High-speed railway	73,639.26	0.04	2,945.57	2.95
Transportation by driving cars	732,199.26	0.173	29,287.97	29.29
Motorcycles	89,550.40	0.046	3,582.02	3.58
Public passenger transportation	71,891.28	0.056	2,875.65	2.88
Total			38,691.21	38.69

Carbon emissions attributable to domestic and overseas business trips				
Item	Data on activities	Emission coefficients	Carbon emissions (kg)	Carbon emissions (metric tons of CO2e)
Transportation by self-driving cars	51,574.50	0.173	8,922.39	8.92
Taiwan High Speed Rail Corp.	231.80	0.04	9.27	0.01
International aviation	90,803.20	1.12	101,699.58	101.70
Total			110,631.24	110.63

Carbon emissions due to freight transportation			
Data on activities (kilometer)	Volumes of dimensions (m3)	Carbon emissions (kg)	Carbon emissions (metric tons of CO2e)
966,924.00	80.36	29,025	29

Note: These are estimated figures using carbon emission calculation tools online provided by EVA Airways, actual carbon emissions are subject to influence of other factors such as weather conditions, load of cargo airplanes and fuel efficiency.

Disposal of wastes-garbage				
Item	Data on activities	Emission coefficients	Carbon emissions (kg)	Carbon emissions (metric tons of CO2e)
Incinerators	6,498.90	0.737	4,789.69	4.79

Disposal of wastes-business operation				
Item	Data on activities	Emission coefficients	Carbon emissions (kg)	Carbon emissions (metric tons of CO2e)
Recycling service providers	0.13	0.8	0.1000	0.0001

Downstream leased assets						
Procured electricity	Data on activities			Emission coefficients	Carbon emissions (kg)	Carbon emissions (metric tons of CO2e)
	DAVICOM Semiconductor	Proportions	Outside power consumption			
		1,793,300.00	56.2	1,007,834.60	0.509	512,987.81

### Scope 3: analysis of emission density

Employees' vehicular transportation for work	Domestic and overseas business trips	Downstream deliveries and distribution	Disposal of wastes	Downstream leased assets	Total
38.69 (tCO2e)	110.63 (tCO2e)	29 (tCO2e)	4.7901 (tCO2e)	512.99 (tCO2e)	696.1001 (tCO2e)
5.56%	4.17%	15.89%	0.69%	73.69%	100%

## 3.2 Utilization of energy and resources

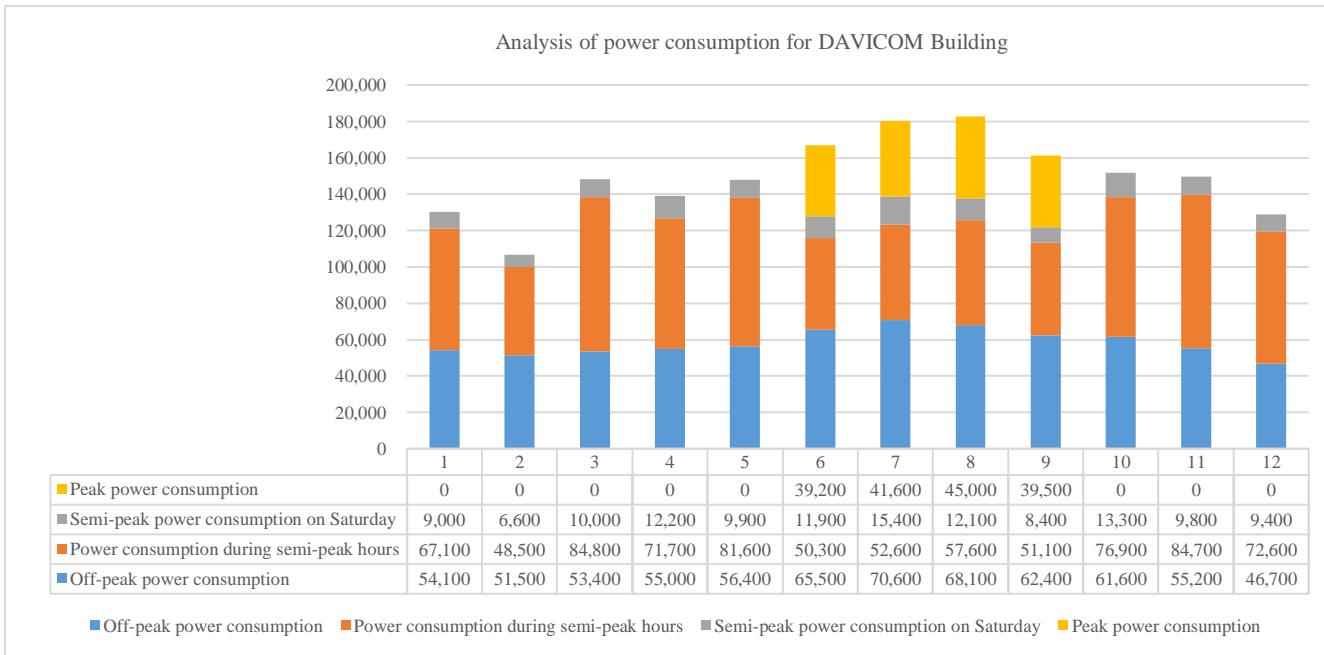
DAVICOM Semiconductor has energy and resources supplied from outside. Electricity is supplied by Taiwan Power Company and water used in offices by Taiwan Water Corp., rainwater and RO recycled water is used in planting. We have set up power- and water-saving equipment and asked employees to save energy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

### ■ Conditions of power consumption

DAVICOM Building has nine floors and four basement levels. In order for energy saving and reduction in carbon emission, we have installed variable-frequency drives on floors, decreased the number of lamps installed in corridors, hiked set air-conditioning temperatures and switch off light during lunch break and when employees leave offices. Besides, we have added heat-insulating glass and paper to the building, encouraged employees to use elevators as less frequently as possible and created green environment via planting. We implement energy-saving policies to make contribution to environmental protection for the Earth.

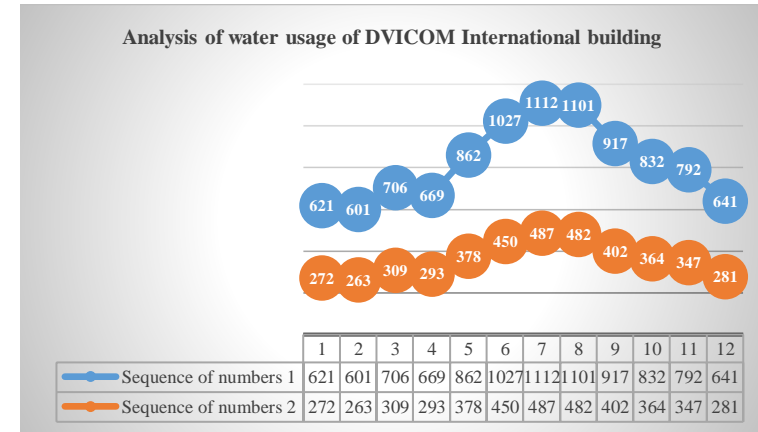
Analysis of 2022 power consumption shows that the consumption peaked in the summer and reached the highest levels in July and August. Because of climate change and global warming, there are persistently high temperatures in the summer in Taiwan and consequently, more intense use of air conditioning has resulted in increased power consumption.

We are evaluating the feasibility of installing a small PV system to generate power for own use such as use in elevators in case of power outage, hoping to be among the enterprises that can generate small volumes of power for own use.



### ■ Conditions of using water resource

The building recorded total water consumption of 9.883 million liters in 2022 and we shared 43.80% of the corresponding price. The 2022 total water consumption decreased by 1.046 million liters as compared with that in 2021 and this was because employees used less water along with easing of COVID-19 pandemic and more rainwater and RO recycled water was used in planting.



Note: blue-marked portion (sequence of numbers 1)=total water consumption for the building.  
 orange color-marked portion (sequence of numbers 2)=total water consumption for DAVICOM Semiconductor Inc. alone.

### 3.3 Product environmental footprint

Environmental footprint of products refers to total environmental influence regarding a product from production of it to its being used, scrapped 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 we are an IC design house, our IC products play an important bridge for using networking/communication devices to foundation construct infrastructure.

As an IC design house, we outsource (wafer foundry, IC packaging, IC testing) processes, with suppliers not yet having substantial information on environmental footprint of products for reference.

For our in-house-developed new product (PHY, DM91XX), die size is (1784x1505)=2684920um<sup>2</sup>, power consumption decreases from 429mW to 165mW or by 38.5%.

■ **Our carbon footprint of IC products (from cradle to gate)**

Stages	Item	Energy-saving efficiency	Characteristics	Products	Volume (1,000)	Weight (kg)	Carbon emissions (metric tons of CO2e)	Note
Offering of concepts	Specifications						-	Feasibility evaluation
	Conceptual design						-	
Design	Detailed design	Energy saving by 38.5%	Shift from current mode to voltage mode Volumes < 35.5%	Phy 91XX			-	
	Simulation and analysis						-	
	Tools						-	
Realize	Production plans						-	
	Manufacturing (wafers)						-	Outsource
	Manufacturing (IC packaging and testing)						-	Outsource
	Package		Decreases in volume	7X7mm→5X5mm			-	Outsource
	Defective products			Defective products (being scraped)		8.9	-	Recycling and disposal of wastes
Services	Sales			Controller 9000	1,883		112.35	
				Phy 9161、9162、9119	2,441		145.65	
				Switch B203、B603、B606	386		23.03	
				USB9621、9620	568		33.89	
				SPI9051	813		48.51	
				Serial port 9625	4		0.24	
			EPD、VD、AI SoC	620		36.99		
	Maintain				-		-	
Circular economy	Recycling of packaging materials	-	-	-	1,855 pcs	223	-	PPE
	Recycling of cartons	-	-	-	1,847 pcs	580	-	Cartons
Total		-	-	-			400.66	