


# GHG Emission Calculator - Cost of use

## Example of Retail Industry

### 1. Basic Information

Item Number	Name	Content to Fill In
1	Industry Type	G
2	Specific Industry Category	4520
3	Company Name	TEST-2024
4	Contact Number	02-2911-0688
5	Extension Number	0
6	E-mail	

## Carbon Emission Calculator

 Login

**\*Required**

**Industry Type\***

**Specific Industry Category\***

**Company Name\***

**Contact Number\*** Ex: 02-2 222-2 222

**Extension Number\***

**E-mail\***

CAPTCHA

## 2. Basic Equipment Information (Optional)

### 3. Select Calculation Method: This example uses the Basic Calculation Method - **cost of use (Blue)**

選擇填寫方式

\*請確認您的必填項目皆已完整填寫。\*

填寫方式

基本計算方式:以能源/資源費用計算  
(例:僅需填入1年電費、天然氣費用與燃油費用等,可自行設定單位價格或是使用系統內建價格)

推測計算方式:以能源/資源使用量計算  
(例:如1年使用多少度電、多少公升用油量與冷凍冷藏設備共有多少冷煤量等)

確認送出



4. The retail industry records the energy and resource costs, while waste is handled by external contractors. Therefore, the weight of waste transported is calculated, as shown in the table below.

According to the statistical data, the nearest incinerator is located in Miaoli County, and the nearest wastewater treatment center is the Luodong Water Resources Recycling Center.

### **Energy and Resource Usage Statistics for Retail Industry**

Item	Quantity	Purpose
Electricity Usage (NTD/year)	3,500,000	Electricity Usage
Water Usage (NTD/year)	202,000	Water Usage
Diesel Usage - Fixed Source (NTD/year)	112,700	Food Court/Restaurant
Diesel Usage - Mobile Source (NTD/year)	3,550	Emergency Generator



### Calculated Based on Energy or Resource Costs

#### Electricity Cost

3500000 NTD/Y  System default unit cost 3.5 NTD/kWh  Enter unit cost manually

#### Water Cost

202000 NTD/Y  System default unit cost 10.1 NTD/m<sup>3</sup>  Enter unit cost manually

#### Natural Gas Cost

112700 NTD/Y  System default unit cost 11.27 NTD/m<sup>3</sup>  Enter unit cost manually

#### Gasoline Cost

NTD/Y  System default unit cost 30.05 NTD/liter  Enter unit cost manually

#### Fuel Oil Cost

NTD/Y  System default unit cost 19,651.0 NTD/m<sup>3</sup>  Enter unit cost manually

#### Liquefied Petroleum Gas Cost

NTD/Y  System default unit cost 6,520 NTD/20 kg (barrel)  Enter unit cost manually

#### Diesel Cost

3550 NTD/Y  System default unit cost 26.3 NTD/liter  Enter unit cost manually

## Waste Statistics for a Retail Industry

Waste Quantity (tons/year)	25
Distance of Waste Transport (kilometers)	10.5



### Waste Transport and Incineration Calculation

Weight of Waste collection service

25 ton

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Nearest incinerator

廢棄物焚化處理服務(苗栗縣垃圾焚化廠) ▼

Transportation emissions - distance of Waste collection service (site to nearest incinerator)

10.5 km

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### Wastewater Treatment Calculation

Nearest wastewater treatment center

廢(污)水處理服務(羅東地區水資源回收中心) ▼

5. Upon completing the above information, the total greenhouse gas emissions are 629,045 kilograms of CO<sub>2</sub>.

- Scope 1 emission as a percentage of total emissions 3%.
- In Scope 1, natural gas has the highest percentage contribution.
- Scope 2 emission as a percentage of total emissions 78.7%.
- In Scope 2, electricity usage has the highest percentage contribution.
- Scope 3 emission as a percentage of total emissions 18.3%.
- In Scope 3, upstream emissions come from electricity use has the highest percentage contribution.

<b>Scope 1 Emissions</b>	Scope 1 Emissions Total	<b>19163</b>	kg CO <sub>2</sub>	Scope 1 Emissions as a Percentage of Total Emissions	<b>3</b>	%
<b>Scope 2 Emissions</b>	Scope 2 Emissions Total	<b>495000</b>	kg CO <sub>2</sub>	Scope 2 Emissions as a Percentage of Total Emissions	<b>78.7</b>	%
<b>Scope 3 Emissions</b>	Scope 3 Emissions Total	<b>114882</b>	kg CO <sub>2</sub>	Scope 3 Emissions as a Percentage of Total Emissions	<b>18.3</b>	%

**Total Emissions** **629045** kg CO<sub>2</sub>

Scope 1 Emissions	Scope 1 Emissions Total	19163	kg CO <sub>2</sub>	Scope 1 Emissions as a Percentage of Total Emissions	3	%
Scope 1	<b>Natural Gas</b>	Direct Emissions	<b>18810</b>	kg CO <sub>2</sub>	Direct Emissions CO <sub>2</sub> as a percentage of Total	<b>3</b>
	Gasoline (Mobile Source)	Direct Emissions	0		Direct Emissions CO <sub>2</sub> as a percentage of Total	0
	Fuel Oil	Direct Emissions	0		Direct Emissions CO <sub>2</sub> as a percentage of Total	0
	LPG	Direct Emissions	0		Direct Emissions CO <sub>2</sub> as a percentage of Total	0
	Diesel (Mobile Source)	Direct Emissions	0		Direct Emissions CO <sub>2</sub> as a percentage of Total	0
	Diesel (Fixed Source)	Direct Emissions	353		Direct Emissions CO <sub>2</sub> as a percentage of Total	0.1
	Refrigerant R134a	Direct Emissions	0		Direct Emissions CO <sub>2</sub> as a percentage of Total	0
	Refrigerant R410A	Direct Emissions	0		Direct Emissions CO <sub>2</sub> as a percentage of Total	0
	Refrigerant R22	Direct Emissions	0		Direct Emissions CO <sub>2</sub> as a percentage of Total	0
	Refrigerant R32	Direct Emissions	0		Direct Emissions CO <sub>2</sub> as a percentage of Total	0
	Refrigerant R404A	Direct Emissions	0		Direct Emissions CO <sub>2</sub> as a percentage of Total	0
	Refrigerant R507A	Direct Emissions	0		Direct Emissions CO <sub>2</sub> as a percentage of Total	0
	Refrigerant R744	Direct Emissions	0		Direct Emissions CO <sub>2</sub> as a percentage of Total	0

Scope 2 Emissions	Scope 2 Emissions Total	495000	kg CO <sub>2</sub>	Scope 2 Emissions as a Percentage of Total Emissions	78.7	%
Scope 2	<b>Electricity</b>	Indirect Emissions	<b>495000</b>	kg CO <sub>2</sub>	Indirect Emissions CO <sub>2</sub> as a percentage of Total	<b>78.7</b>

Scope 3 Emissions	Scope 3 Emissions Total	114882	kg CO <sub>2</sub>	Scope 3 Emissions as a Percentage of Total Emissions	18.3	%
Scope 3	Upstream emissions Electricity uses	Indirect Emissions	<b>88000</b>	kg CO <sub>2</sub>	Indirect Emissions CO <sub>2</sub> as a percentage of Total	<b>14</b>
	Water uses	Indirect Emissions	5980		Indirect Emissions CO <sub>2</sub> as a percentage of Total	1
	Upstream emissions Nature Gas uses	Indirect Emissions	5160		Indirect Emissions CO <sub>2</sub> as a percentage of Total	0.8
	Upstream emissions Gasoline (Mobile source)	Indirect Emissions	0		Indirect Emissions CO <sub>2</sub> as a percentage of Total	0
	Upstream emissions Fuel Oil uses	Indirect Emissions	0		Indirect Emissions CO <sub>2</sub> as a percentage of Total	0
	Upstream emissions LPG uses	Indirect Emissions	0		Indirect Emissions CO <sub>2</sub> as a percentage of Total	0
	Upstream emissions Diesel uses (Mobile Source)	Indirect Emissions	0		Indirect Emissions CO <sub>2</sub> as a percentage of Total	0
	Upstream emissions Diesel uses (Fixed Source)	Indirect Emissions	98.5		Indirect Emissions CO <sub>2</sub> as a percentage of Total	0
	Waste Transport and Incineration	Indirect Emissions	8843.9		Indirect Emissions CO <sub>2</sub> as a percentage of Total	1.4
	Wastewater Treatment	Indirect Emissions	6800		Indirect Emissions CO <sub>2</sub> as a percentage of Total	1.1