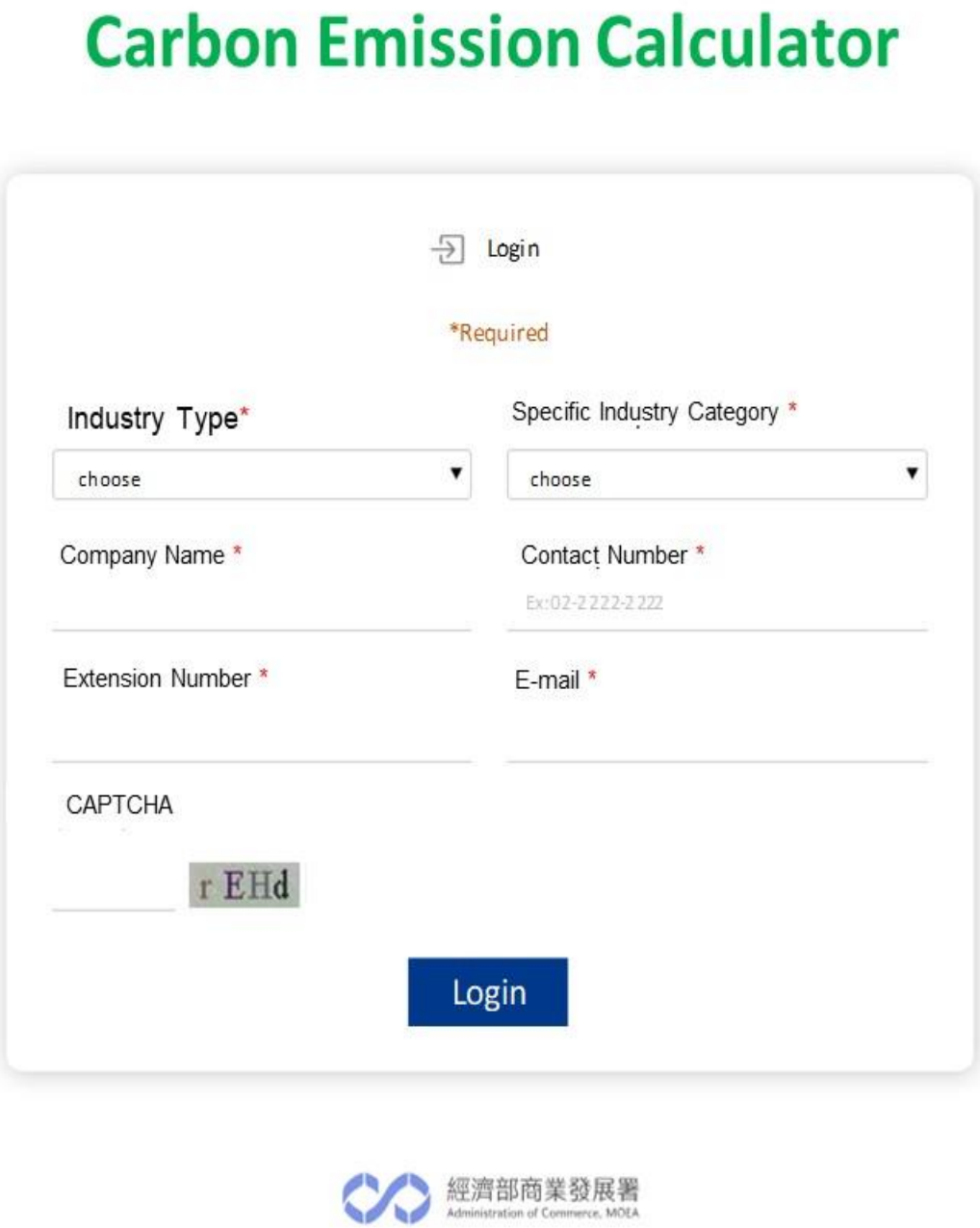
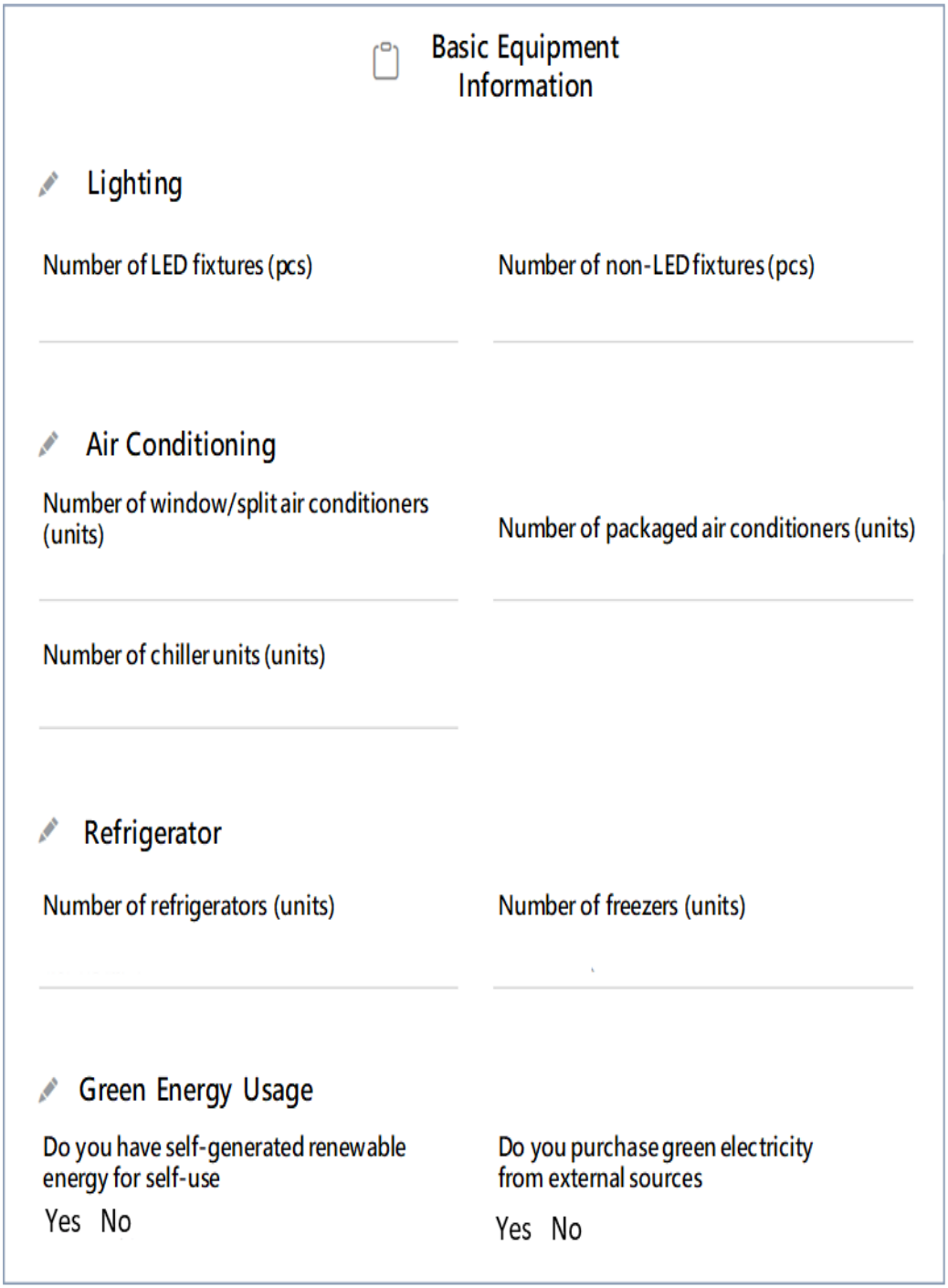
GHG Emission Calculator User Guide

1. Fill in Basic Information: Provide details related to the user's industry type, specific category and contact information.



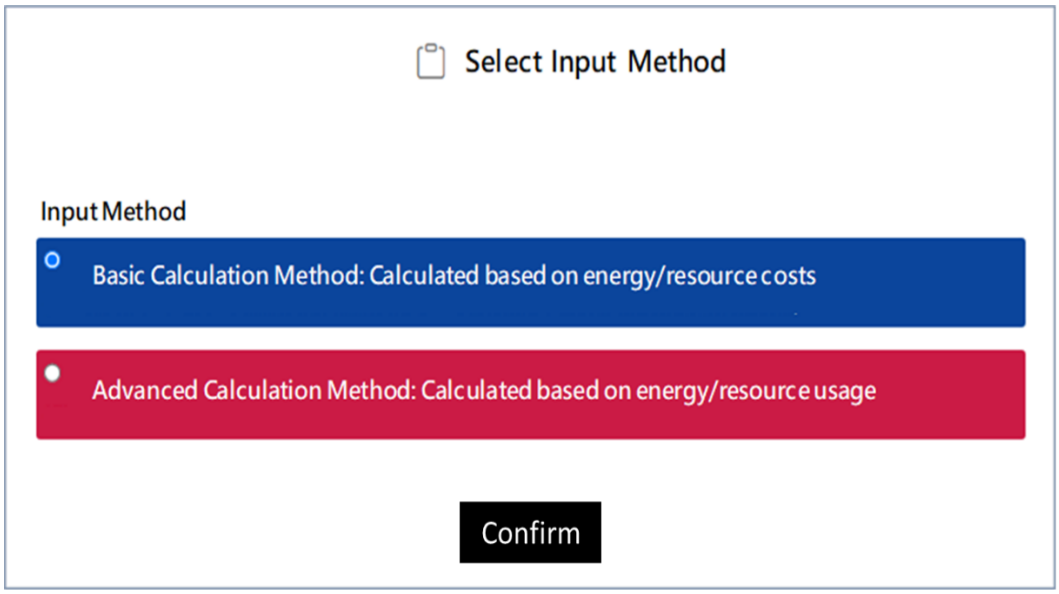
經濟部商業發展署
Administration of Commerce, MOEA

2. Enter the basic equipment data for estimation within user's industry, such as the quantity of LED lamps, air conditioning units, refrigerators and green energy use.

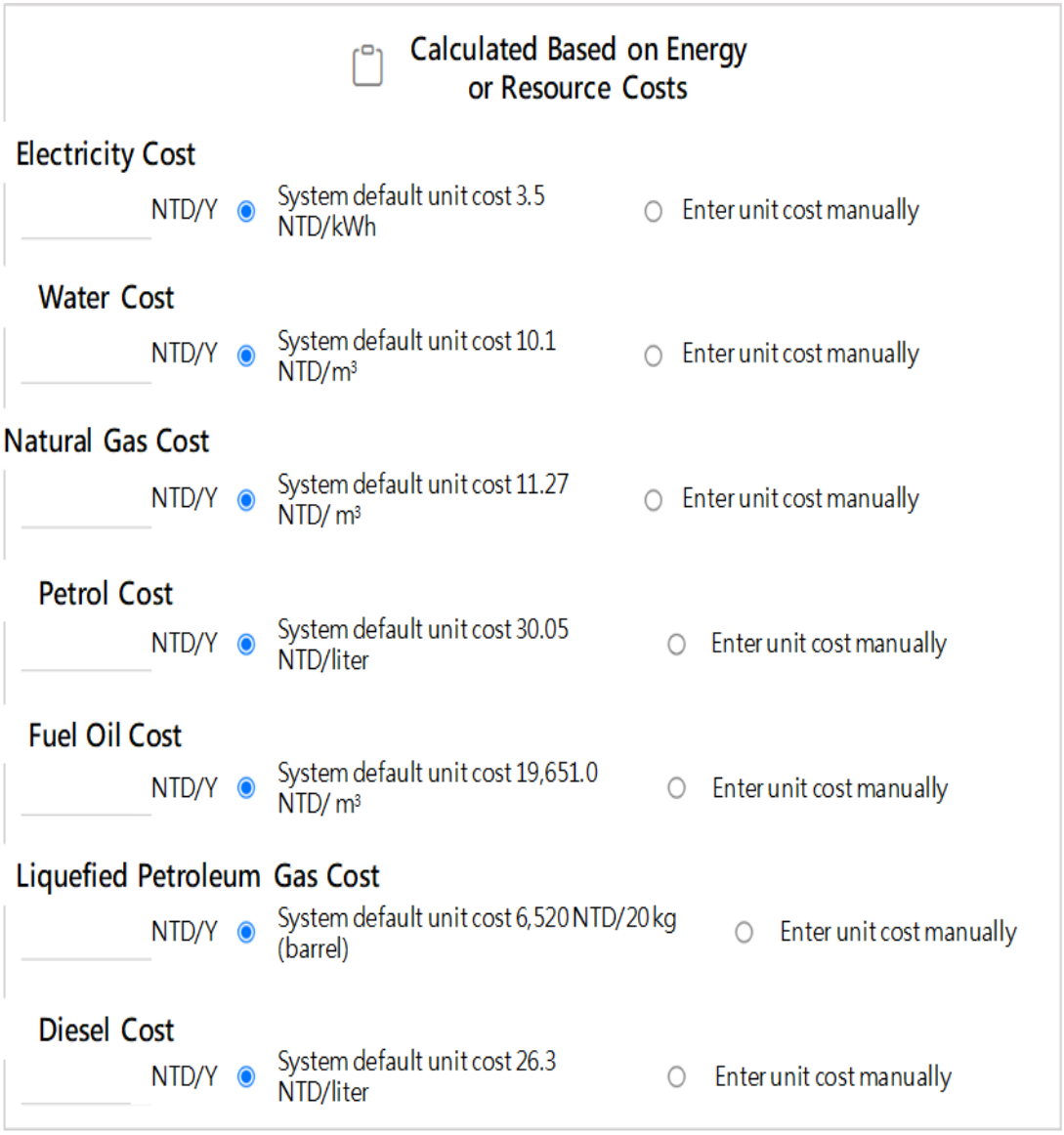


3. On this page, input either the '**cost of use**' (e.g., electricity cost) or '**quantity of use**' (e.g., electricity usage) for energy/resources to estimate carbon emissions.

- "**Basic** Calculation Method - **Cost of Use" (blue)**: Enter the cost of energy/resources (including electricity, water, gasoline, or diesel costs, etc.), and complete the estimation using default prices or prices set manually. If you are not familiar with carbon emission calculations, it is recommended to start with this function.
- "**Advanced** Calculation Method - **Quantity of Use" (red)**: Enter the quantity of energy/resources used (including electricity consumption, water usage, gasoline or diesel usage, etc.) to estimate carbon emissions.



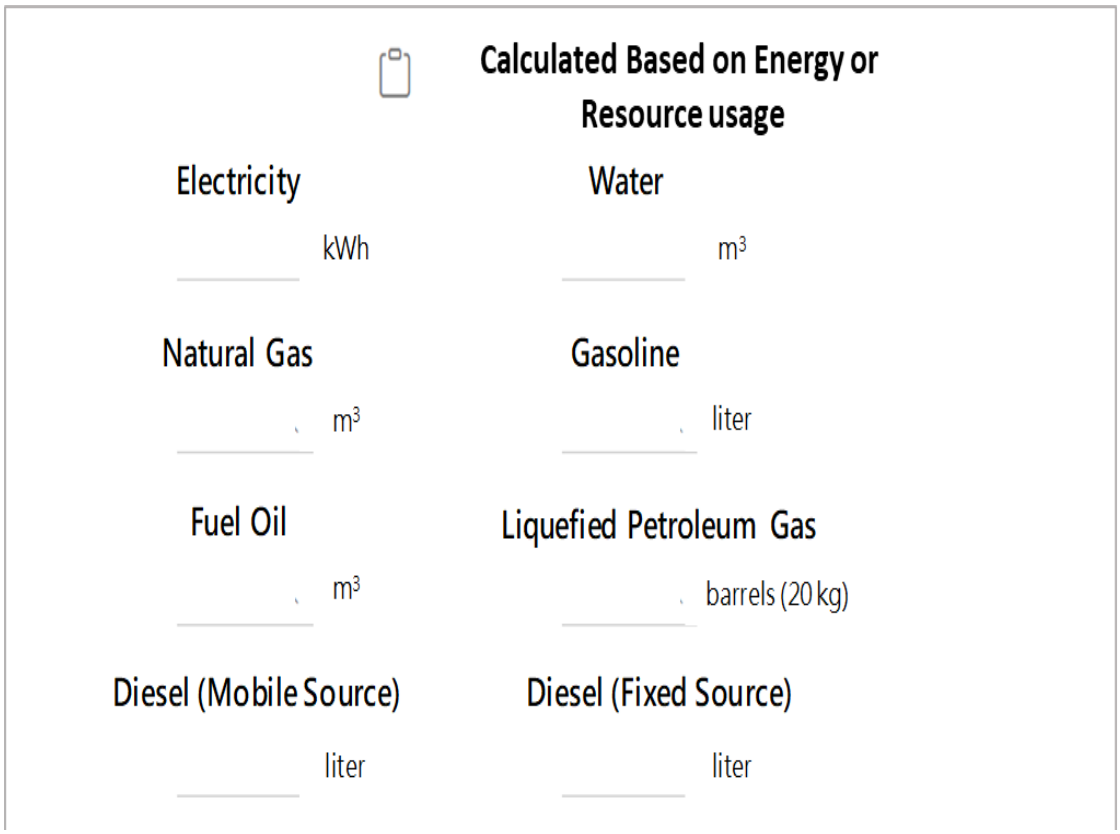
4-1 In the example of "Basic Calculation Method - **Cost of Use** " (blue), the following page is divided into three sections: In "Energy/Resource Cost Calculation," "Waste Transport and Incineration Calculation," and "Wastewater Treatment Calculation."



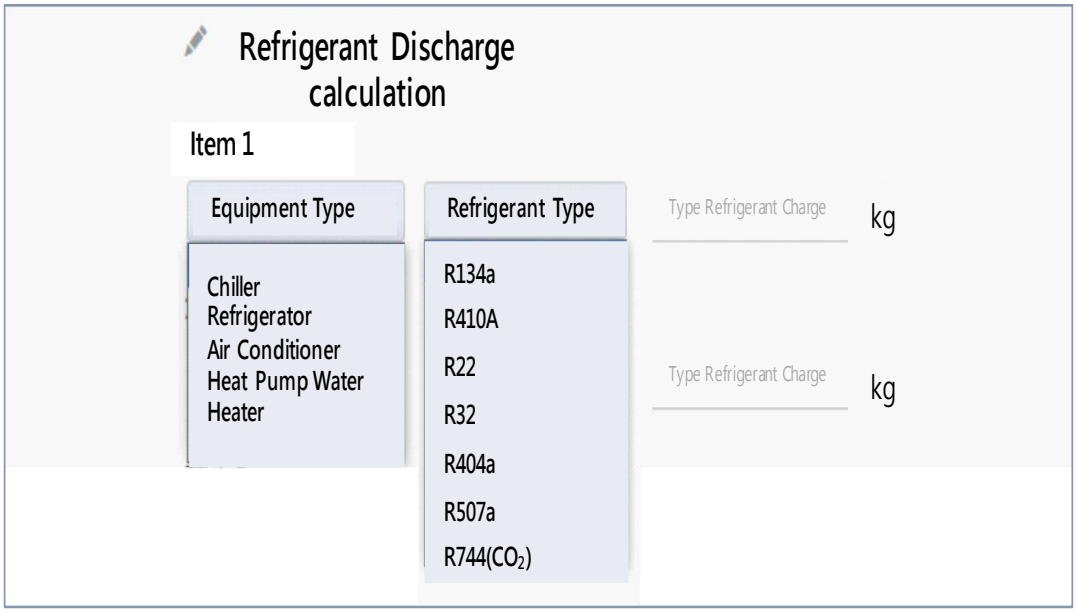
4-2 In the example of "Advanced Calculation Method - **Quantity of Use "** (red), the following page is divided

into four sections: "Energy/Resource Usage Calculation" ,"Refrigerant Discharge Calculation," "Waste Transport and Incineration Calculation," and "Wastewater Treatment Calculation."

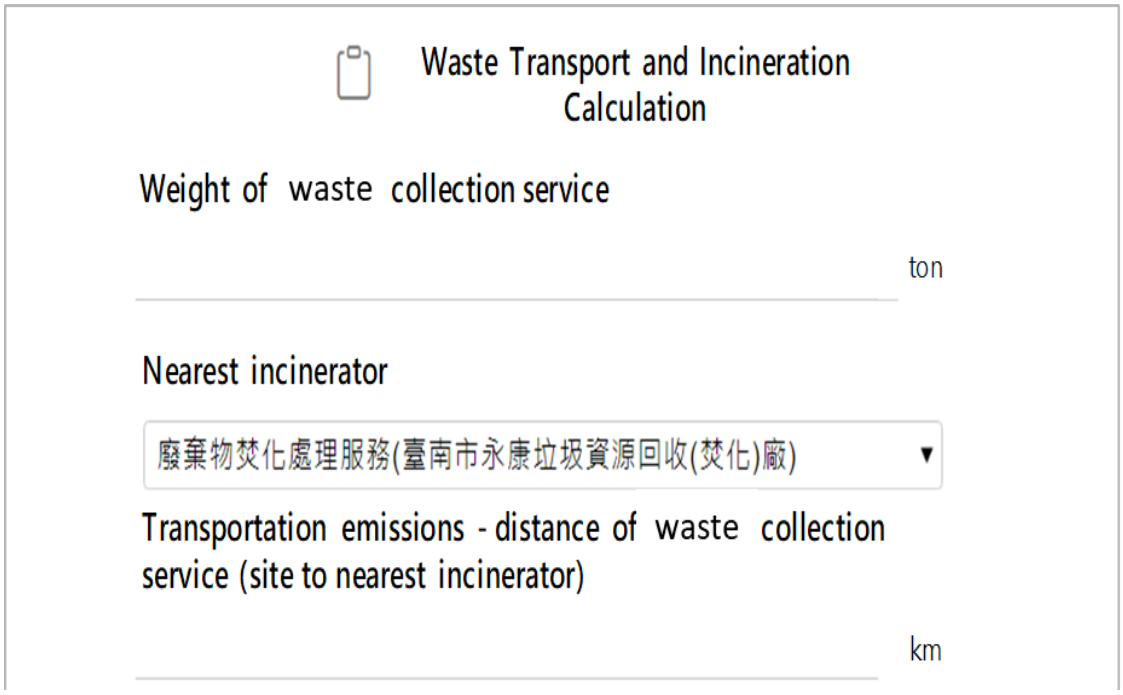
4-3 In "Energy/Resource Usage Calculation," you can input the total usage of energy/resources. For diesel, it is divided into mobile sources (vehicles) or fixed sources (boilers/generators).



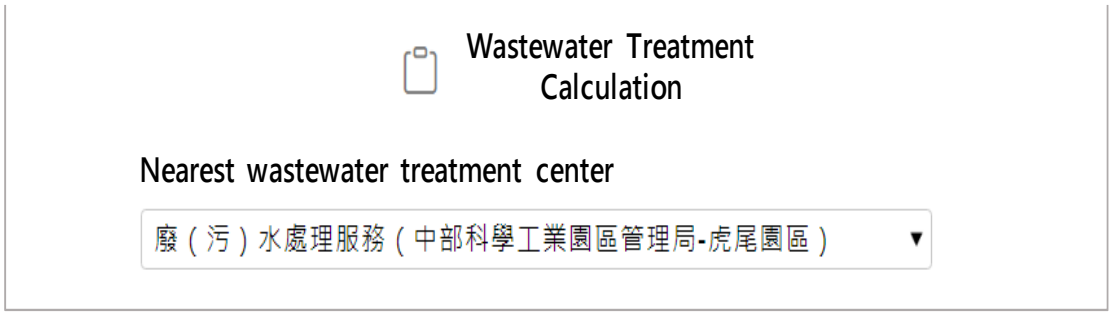
4-4"Refrigerant Discharge Calculation" calculates greenhouse gas emissions due to refrigerant discharge. After selecting the equipment type and refrigerant type, you can enter the refrigerant charge.



5. "Waste Transport and Incineration Calculation" calculates the indirect greenhouse gas emissions from handling solid waste. You can input the weight of waste collected and select the nearest incinerator. The distance for waste collection service should be filled in based on the actual distance of waste transportation.



6. "Wastewater Treatment Calculation" calculates the indirect greenhouse gas emissions from treating wastewater. If you have already filled in the water cost in the "Energy/Resource Cost Calculation," you only need to select the nearest wastewater treatment center in this option.



7. Upon completing the above information, the results will classify the data into scopes 1 to 3, revealing the percentage of total greenhouse gas emissions for each scope. Expanding the menu shows the share of each item within that scope, with the **highest share highlighted in red** (the **carbon emission hotspot**), and allows for the results to be presented in a report or **sent via email**.

Scope 1 Emissions	Scope 1 Emissions Total	19163	kg CO_2	Scope 1 Emissions as a Percentage of Total Emissions	3	%
Scope 2 Emissions	Scope 2 Emissions Total	495000	kg CO_2	Scope 2 Emissions as a Percentage of Total Emissions	78.7	%
Scope 3 Emissions	Scope 3 Emissions Total	114882	kg CO_2	Scope 3 Emissions as a Percentage of Total Emissions	18.3	%

Total Emissions **629045** kg CO_2

	Scope 1 Emissions	Scope 1 Emissions Total 19163 kg CO_2		Scope 1 Emissions as a Percentage of Total Emissions 3 %		
Scope 1	Natural Gas	Direct Emissions 18810	kg CO_2	Direct Emissions CO_2 as a percentage of Total 3	kg CO_2	%
	Gasoline (Mobile Source)	Direct Emissions 0		Direct Emissions CO_2 as a percentage of Total 0		
	Fuel Oil	Direct Emissions 0		Direct Emissions CO_2 as a percentage of Total 0		
	LPG	Direct Emissions 0		Direct Emissions CO_2 as a percentage of Total 0		
	Diesel (Mobile Source)	Direct Emissions 0		Direct Emissions CO_2 as a percentage of Total 0		
	Diesel (Fixed Source)	Direct Emissions 353		Direct Emissions CO_2 as a percentage of Total 0.1		
	Refrigerant R134a	Direct Emissions 0		Direct Emissions CO_2 as a percentage of Total 0		
	Refrigerant R410A	Direct Emissions 0		Direct Emissions CO_2 as a percentage of Total 0		
	Refrigerant R22	Direct Emissions 0		Direct Emissions CO_2 as a percentage of Total 0		
	Refrigerant R32	Direct Emissions 0		Direct Emissions CO_2 as a percentage of Total 0		
	Refrigerant R404A	Direct Emissions 0		Direct Emissions CO_2 as a percentage of Total 0		
	Refrigerant R507A	Direct Emissions 0		Direct Emissions CO_2 as a percentage of Total 0		
	Refrigerant R744	Direct Emissions 0		Direct Emissions CO_2 as a percentage of Total 0		

	Scope 2 Emissions	Scope 2 Emissions Total 495000 kg CO_2		Scope 2 Emissions as a Percentage of Total Emissions 78.7 %		
Scope 2	Electricity	Indirect Emissions 495000	kg CO_2	Indirect Emissions CO_2 as a percentage of Total 78.7		%

	Scope 3 Emissions	Scope 3 Emissions Total 114882 kg CO_2		Scope 3 Emissions as a Percentage of Total Emissions 18.3 %		
Scope 3	Upstream emissions Electricity uses	Indirect Emissions 88000	kg CO_2	Indirect Emissions CO_2 as a percentage of Total 14	kg CO_2	%
	Water uses	Indirect Emissions 5980		Indirect Emissions CO_2 as a percentage of Total 1		
	Upstream emissions Nature Gas uses	Indirect Emissions 5160		Indirect Emissions CO_2 as a percentage of Total 0.8		
	Upstream emissions Gasoline (Mobile Source)	Indirect Emissions 0		Indirect Emissions CO_2 as a percentage of Total 0		
	Upstream emissions Fuel Oil uses	Indirect Emissions 0		Indirect Emissions CO_2 as a percentage of Total 0		
	Upstream emissions LPG uses	Indirect Emissions 0		Indirect Emissions CO_2 as a percentage of Total 0		
	Upstream emissions Diesel uses(Mobile Source)	Indirect Emissions 0		Indirect Emissions CO_2 as a percentage of Total 0		
	Upstream emissions Diesel uses(Fixed Source)	Indirect Emissions 98.5		Indirect Emissions CO_2 as a percentage of Total 0		
	Waste Transport and Incineration	Indirect Emissions 8843.9		Indirect Emissions CO_2 as a percentage of Total 1.4		
	Wastewater Treatment	Indirect Emissions 6800		Indirect Emissions CO_2 as a percentage of Total 1.1		