



Net Metering Evaluation Tool: Guide Memo

This Memo will guide you through the steps necessary to input a set of data as well as explaining the embedded output options.

Input Data

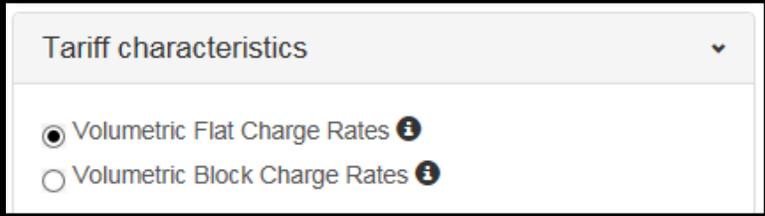
Area Selection

On the *Area Selection* Form select an area/city. Each area is linked to its corresponding Solar Irradiation Profile provided by PV GIS.

The screenshot shows a web form titled "Input Data". It contains two dropdown menus. The first is labeled "Area selection" and has a downward arrow. The second is labeled "Capital" and has a checkmark icon. Below the "Capital" dropdown, the text "Nicosia" is displayed. To the right of the form is a list of cities: Amsterdam, Athens, Berlin, Bratislava, Brussels, Lisbon, Ljubljana, Luxemburg, Madrid, Nicosia, Paris, Podgorica, Prague, Rome, Talinn, Tirana, Valetta, Vienna, Vilnius, Warsaw, and Zagreb. A red arrow points from the "Nicosia" option in the list to the "Capital" dropdown menu.

Tariff Characteristics

On the *Tariff characteristics* form you may select one of the following two options:

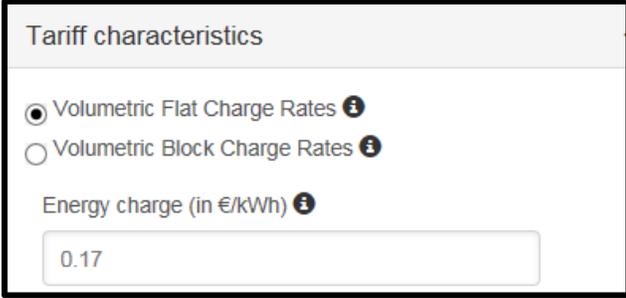


Tariff characteristics

Volumetric Flat Charge Rates ⓘ

Volumetric Block Charge Rates ⓘ

For the *Volumetric Flat Charge Rate* option insert a Flat Energy Charge (€/kWh). The flat charge rate is the average price at which energy is charged.



Tariff characteristics

Volumetric Flat Charge Rates ⓘ

Volumetric Block Charge Rates ⓘ

Energy charge (in €/kWh) ⓘ

0.17

For the ***Volumetric Block Charge Rate*** option insert the number of blocks and the charge rate of each corresponding block (group). Volumetric block charge rate refers to a rate of electricity where each group of consumption units (kWh) is charged at certain price, while other groups of consumption units are priced at a different rate (e.g. for 3 blocks → 0-500 kWh are charged at 0.18 €/kWh, 501-1000 kWh are charged at 0.2 €/kWh, >1001 kWh are charged at 0.22 €/kWh).

The screenshot shows the 'Tariff characteristics' configuration window. It has two radio buttons: 'Volumetric Flat Charge Rates' (unselected) and 'Volumetric Block Charge Rates' (selected). Below this, there is a 'Number of Blocks' input field with the value '3'. Under the 'Limit' section, there are two input fields: 'Limit 1' with the value '100' and 'Limit 2' with the value '200'. The 'Cost per kWh for' section has three input fields: 'Cost per kWh for $x \leq 100$ ' with the value '0.18', 'Cost per kWh for $100 < x < 200$ ' with the value '0.2', and 'Cost per kWh for $x \geq 200$ ' with the value '0.22'.

For both the ***Volumetric Flat Charge Rate*** and ***Volumetric Block Charge Rate*** options, you may account for future changes in electricity charge prices through the ***Escalation Rate*** option. The ***Escalation Rate*** can simulate the percentage at which an annual change in the price levels of electricity is expected to occur. The percentage should be manually adjusted or directly inserted in per unit notation. For example 0.02 for 2% annual increase or -0.02 for 2% annual decrease in prices.

The screenshot shows the 'Escalation Rate (per unit)' configuration field. It has a text input box containing the value '0.02' and a slider control below it. The slider is currently positioned at the far left end, corresponding to the value 0.02.

PV Characteristics

For the **PV size** you should insert the installed nameplate capacity in kW of the PV system examined (e.g. 3 kW)

For the **PV capital cost** you should insert the initial capital expenditure per kW installed in €/kW

For the **Annual Maintenance Cost** you should insert the annual expected expenditure for maintenance per kW installed in €.

For the **Useful Lifetime** you should insert the expected duration of the PV system's operation in years.

For the **Discount Rate** you should insert the interest rate (in %) that will be used in the discounted cash flow (DCF) analysis to determine the present value of future cash flows.

Note: The discount rate in DCF analysis takes into account not just the time value of money, but also the risk or uncertainty of future cash flows; the greater the uncertainty of future cash flows, the higher the discount rate (e.g. 9%).

The screenshot shows a form titled "PV characteristics" with a dropdown arrow. It contains five input fields, each with an information icon (i):

- PV Size (kWp)**: Input field containing the value "3". Below the field is a blue progress bar.
- PV capital cost (€ / kWp)**: Input field containing the value "2000".
- Annual maintenance cost (€ / kWp - year)**: Input field containing the value "20".
- Useful lifetime (years)**: Input field containing the value "20".
- Discount Rate**: Input field containing the value "0.08".

Consumption

You may insert the energy consumption (kWh) either as an annual figure (i.e. ***Annual Consumption***) or you may choose to insert the consumption of each individual month separately (i.e. ***Consumption per month***).



Consumption

Annual Consumption (in kWh) ⓘ

Consumption per month (in kWh) ⓘ

Annual Consumption (in kWh)

9600

Output Results

The output results are displayed both graphically and in a table format. The graph illustrates the Cumulative Cash Flow Analysis, where the Table evaluates some useful financial indices.

Net Present Value: The difference between the present value of cash inflows and the present value of cash outflows.

Discounted Payback Period: The number of years (from the time of the initial expenditure) it takes to break even.

Value of bill savings per kWh (€/kWh): Value of bill savings per kWh generated by the PV system throughout its life time (i.e. Levelised).

Levelized cost of PV energy (€/kWh): The per kWh cost of building and operating a PV System over an assumed financial life and duty cycle

Profitability Index: An index that identifies the relationship between the costs and benefits of a proposed project by dividing the present value of future cash flows (or savings) with the initial investment costs.

Net Present Value (€) 	4336.7
Discounted Payback Period (years) 	9
Value of bill savings per kWh (€/kWh) 	0.196
Levelized cost of PV energy (€/kWh) 	0.1182
Profitability Index (-) 	1.72

