Data Dictionary

Name	Description	Remarks
M	Mainland China	**Data type**: Text
G	Germany	**Data type**: Text
U	US	**Data type**: Text
H	Hong Kong	**Data type**: Text
Mono	Monocrystalline silicon solar cell	**Data type**: Text
Multi	Polycrystalline silicon solar cell	**Data type**: Text
A	Amorphous silicon solar cell	**Data type**: Text
CdTe	Cadmium telluride thin film solar cell	**Data type**: Text
CIGS	Copper indium gallium selenium thin film solar cell	**Data type**: Text
Solar radiation resource(kWh/m^2)	Annual total solar radiation received by the PV modules	**Data type**: Numeric
Life time energy output (kWh/Wp)	Life time energy output of PV systems	**Data type**: Numeric
Installation capacity (GW)	Potential installation capacity of rooftop PV systems	**Data type**: Numeric

LCOE (cents/ kWh)	Levelized cost of energy of PV systems	**Data type**: Numeric
Total installation costs ($/Wp)	Total installation costs of rooftop PV systems	**Data type**: Numeric
PV module ($/Wp)	Average installation cost of PV modules of rooftop PV systems	**Data type**: Numeric
Inverter ($/Wp)	Average installation cost of inverters of rooftop PV systems	**Data type**: Numeric
Other hardware ($/Wp)	Average installation cost of other hardwares of rooftop PV systems, including cable, cable connection, steel support, switches, combiner boxes, monitor system,and so on.	**Data type**: Numeric
Soft costs and profit ($/Wp)	Soft costs and profit include labour costs, project coordination fee, operating overhead, supply chain costs, permitting, interconnection and inspection costs, as well as contractor's profits	**Data type**: Numeric
GHG emission rate	Greenhouse gas emission rate (g CO_2-eq/kWhe) of PV modules	**Data type**: Numeric
Energy payback time (years)	Energy payback time (EPBT) is defined as the years required for a PV system to generate the same amount of energy (converted into equivalent primary energy) to compensate energy used during its life cycle	**Data type**: Numeric
Greenhouse gas emissions payback time (years)	Greenhouse gas emissions payback time is defined as the total GHG emissions of the PV modules and its balance of system divided by the annual GHG emissions amounts in cases of local electricity mix power plants generating power equivalent to that of the PV system	**Data type**: Numeric
Energy yield ratio	Energy yield ratio (EYR) is defined by the	**Data type**: Numeric

	number of times the energy input can be paid back by the PV system over its life cycle	
Installation cost (HKD/Wp)	Installation costs of rooftop PV systems in Hong Kong	**Data type**: Numeric
LCOE (HKD/kWh)	Levelized cost of energy of a PV system in Hong Kong	**Data type**: Numeric
Electricity price (HKD/kWh)	Electricity price in Hong Kong	**Data type**: Numeric
Rate of Return	Rate of return in Hong Kong	**Data type**: Numeric
Feed-in tariff (HKD/kWh)	Feed-in tariff provided in Hong Kong	**Data type**: Numeric
Annual new installed capacity (MWp)	Annual new installed capacity of PV modules in Hong Kong	**Data type**: Numeric
PV power generation (GWh)	Annual PV power generation in Hong Kong	**Data type**: Numeric
Budget of FIT for PV generation (Billion HKD)	Annual budget of FIT for PV generation in Hong Kong	**Data type**: Numeric
Grant for PV electricity (HKD/kWh)	Grant for PV electricity in Hong Kong	**Data type**: Numeric
Actual return per kWh of PV electricity (HKD/kWh)	Actual return per kWh of PV electricity in Hong Kong	**Data type**: Numeric
Budget of subsidy for PV generation (Billion HKD)	Actual budget of subsidy for PV generation	**Data type**: Numeric
Year	The counted year	**Data type**: Numeric

Installation cost (EUR/Wp)	Installation costs of rooftop PV systems in Germany	**Data type**: Numeric
LCOE (EUR/kWh)	Levelized cost of energy of a PV system in Germany	**Data type**: Numeric
Electricity price (EUR/kWh)	Electricity price in Germany	**Data type**: Numeric
Feed-in tariff (EUR/kWh)	Feed-in tariff provided in Germany	**Data type**: Numeric
Total capacity (MWp)	The total installation capacity of PV modules in Germany	**Data type**: Numeric
New installed capacity (MWp)	The new installed capacity of PV modules in Germany	**Data type**: Numeric
Growth rate (%)	The annual growth rate in Germany	**Data type**: Numeric
FIT × Annual electricity production	The FIT multiplying annual electricity production in Germany	**Data type**: Numeric
Rate of return (%)	The Rate of return in Germany	**Data type**: Numeric
GDP growth rate (%)	The annual GDP growth rate in Germany	**Data type**: Numeric
Rate of return - GDP growth rate (%)	The rate of return minus GDP growth rate in Germany	**Data type**: Numeric
FIT - electricity price (EUR/kWh)	The FIT minus electricity price in Germany	**Data type**: Numeric
Installation cost in U.S. (EUR/Wp)	Installation costs of rooftop PV systems in the U.S. equivalent to Euro	**Data type**: Numeric
LCOE (USD/kWh)	Levelized cost of energy of a PV system in the U.S.	**Data type**: Numeric

Electricity price (USD/kWh)	Electricity price in the U.S.	**Data type**: Numeric
Electricity price in the U.S. (EUR/kWh)	Electricity price in the U.S. equivalent to Euro	**Data type**: Numeric
PV cost ($/Wp)	Average installation cost of rooftop PV systems in Hong Kong	**Data type**: Numeric
LCOE of PV systems on the horizontal surface without carbon tax (Cents/kWh)	Levelized cost of energy of PV systems on the horizontal surface without carbon tax	**Data type**: Numeric
LCOE of PV systems on the horizontal surface with carbon tax $10/ton (Cents/kWh)	Levelized cost of energy of PV systems on the horizontal surface with carbon tax $10/ton	**Data type**: Numeric
LCOE of PV systems on the horizontal surface with carbon tax $20/ton (Cents/kWh)	Levelized cost of energy of PV systems on the horizontal surface with carbon tax $20/ton	**Data type**: Numeric
LCOE of PV systems on the horizontal surface with carbon tax $30/ton (Cents/kWh)	Levelized cost of energy of PV systems on the horizontal surface with carbon tax $30/ton	**Data type**: Numeric
LCOE of PV systems on the horizontal surface with carbon tax $40/ton (Cents/kWh)	Levelized cost of energy of PV systems on the horizontal surface with carbon tax $40/ton	**Data type**: Numeric
LCOE of PV systems on the horizontal surface with carbon tax $50/ton (Cents/kWh)	Levelized cost of energy of PV systems on the horizontal surface with carbon tax $50/ton	**Data type**: Numeric
LCOE of PV systems on	Levelized cost of energy of PV systems on the	**Data type**: Numeric

the horizontal surface with carbon tax $60/ton (Cents/kWh)	horizontal surface with carbon tax $60/ton	
LCOE of PV systems on the horizontal surface with carbon tax $70/ton (Cents/kWh)	Levelized cost of energy of PV systems on the horizontal surface with carbon tax $70/ton	**Data type**: Numeric
The lowest electricity price (Cents/kWh)	The lowest electricity price in Hong Kong	**Data type**: Numeric
The highest electricity price (Cents/kWh)	The highest electricity price in Hong Kong	**Data type**: Numeric
Solar irradiance incidence on tilted surface of 18° (W/m^2)	Solar irradiance incidence on tilted surface of 18° under south-facing orientation	**Data type**: Numeric
Solar irradiance incidence on tilted surface of 19° (W/m^2)	Solar irradiance incidence on tilted surface of 19° under south-facing orientation	**Data type**: Numeric
Solar irradiance incidence on tilted surface of 20° (W/m^2)	Solar irradiance incidence on tilted surface of 20° under south-facing orientation	**Data type**: Numeric
Solar irradiance incidence on tilted surface of 21° (W/m^2)	Solar irradiance incidence on tilted surface of 21° under south-facing orientation	**Data type**: Numeric
Solar irradiance incidence on tilted surface of 22° (W/m^2)	Solar irradiance incidence on tilted surface of 22° under south-facing orientation	**Data type**: Numeric
Solar irradiance incidence on tilted surface of 23° (W/m^2)	Solar irradiance incidence on tilted surface of 23° under south-facing orientation	**Data type**: Numeric
Solar irradiance incidence on tilted surface of 24° (W/m^2)	Solar irradiance incidence on tilted surface of 24° under south-facing orientation	**Data type**: Numeric

Solar irradiance incidence on tilted surface of 25° (W/m^2)	Solar irradiance incidence on tilted surface of 25° under south-facing orientation	**Data type**: Numeric