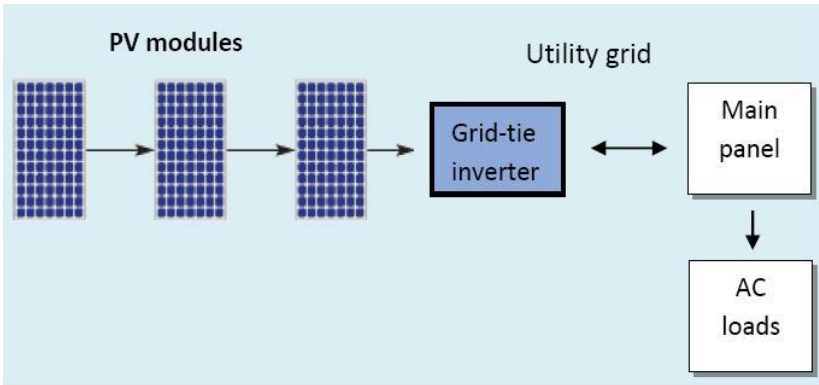
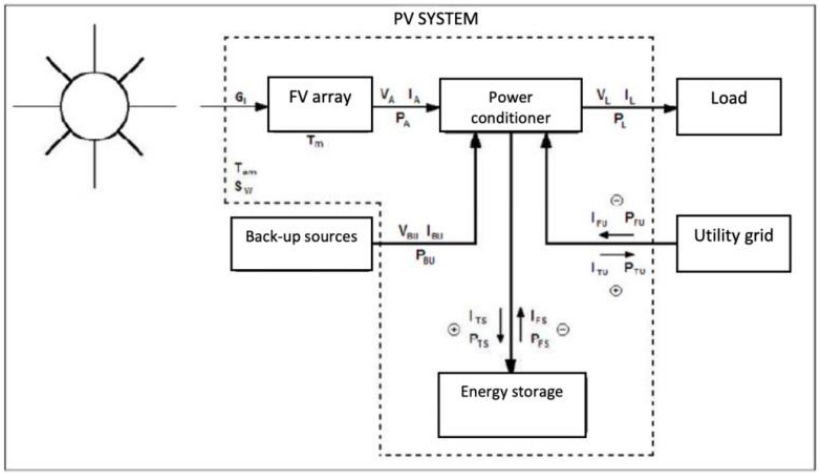




Best Practice	PHOTOVOLTAIC PLANT	RENE-01
Application	Renewable Energy Production	
SME sector	All	
SME Sub-sector	All	
Recommendation for optimisation	<p>The use of photovoltaic systems, which has seen a strong expansion thanks to feed-in tariffs, are most cost-effective and efficient when implemented in conjunction with storage systems, thanks to which not only the instantaneous consumption of grid electricity during daylight hours can be reduced, but also the consumption associated with the base load during the night. Energy storage, which can also be connected to and recharged through the grid, also makes it possible to reduce the total installed power of the photovoltaic system, which can be designed to produce less energy than the company's average energy needs. As the battery prices rapidly decreases, energy storage associated with PV is becoming more and more affordable.</p>	
Schemes and diagrams	<div style="text-align: center;">  <p>Grid-connected photovoltaic system</p> </div> <div style="text-align: center;">  <p>Grid-tied PV plant with storage</p> </div>	



Economics	<ul style="list-style-type: none"> • Average cost of photovoltaic panels (including installation): 900-2,500 EUR/kW • Average cost of photovoltaic panels (with storage system): 3,000-5,000 EUR/Kw
Energy savings	Maximum reduction of electricity requirements: up to 80-90%
Economic savings	Up to 90%
Average Payback Time	6-10 years
Emissions	The measure does not involve any emission.
Environmental benefits	Reduction of CO ₂
Main NEBs (Multiple benefits)	<input checked="" type="checkbox"/> Environmental benefits <input type="checkbox"/> Increased productivity <input type="checkbox"/> Work environment/Health/Safety <input type="checkbox"/> Increased competitiveness <input type="checkbox"/> Maintenance
	<p>MBenefits pilot case study:</p> <p><i>Rooftop solar, heat exchanger to deliver on Supermarket chain's sustainability ambitions</i></p> <p>https://www.mbenefits.eu/static/media/uploads/site-6/library/Cases%20and%20examples/mbenefits_pilot_case_study_401_alfa-beta_solar.pdf</p>
Replicability	Medium
Related measures	<ul style="list-style-type: none"> • RENE-02: Solar Thermal Plant • RENE-03: Others: biomass - geothermal energy
Case study	<p>Installation of photovoltaic system (Italy, 2020)</p> <ul style="list-style-type: none"> • Initial Situation: a factory with annual requirements of 160.000 kWh, with stable monthly load throughout the year, except for August where consumption drops by about 2/3 • Description of the optimisation: the installation of the photovoltaic system allows to meet the energy needs of the structure. • Implementation costs: 80,000 EUR • Payback Time: 6 years



References	Photovoltaics Report Fraunhofer ISE, 2019 https://www impiantisticaar.it/ritorno-sull-investimento-per-impianti-fotovoltaici/
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