



**HYBRID ENERGY SUPPLY FOR A FLOWER FARM**





## Minimizing Fuel Costs and CO<sub>2</sub> emissions The SMA Fuel Save Solution

Karen Roses Ltd is a family owned business operating six flower farms in Kenya. One of its farms, situated at Eldama Ravine in the Rift Valley, is at an altitude of 2000 meters, and is now equipped with a solar PV system.

During the day, the energy demand of the facility is almost entirely fulfilled by the solar power generated. When the national grid is working, the PV plant operates in parallel to significantly reduce the cost of imported energy. As net-metering is not allowed, the SMA Fuel Save Controller prevents the feeding of PV power to the grid.

During power cuts, the stand-by generators produce the necessary power and the solar system helps to reduce the fuel consumption.

The SMA Fuel Save Controller calculates the optimal set-point for PV penetration and secures stable system behavior under all operational conditions. This set-up makes solar an economically viable solution for farms, such as those undertaking rose cultivation, and provides greater independence from unstable grids and fuel costs.

<b>System size</b> <ul style="list-style-type: none"><li>• Installed PV Power: 249 kWp</li><li>• Diesel Generators:<ul style="list-style-type: none"><li>1 x 350 kVA</li><li>1 x 150 kVA</li></ul></li><li>• Public Grid</li></ul>	<b>System information</b> <ul style="list-style-type: none"><li>• Location: Eldama Ravine, Kenya</li><li>• Coordinates:<ul style="list-style-type: none"><li>0° 4' 5" N, 35° 44' 44" E</li></ul></li><li>• Plant commissioning:<ul style="list-style-type: none"><li>October 2014</li></ul></li></ul>	<ul style="list-style-type: none"><li>• EPC: Cappello Energy S.R.L</li><li>• Operator: Karen Roses Ltd</li><li>• Annual generation:<ul style="list-style-type: none"><li>approx. 250 MWh</li></ul></li></ul>	<b>PV System Technology</b> <ul style="list-style-type: none"><li>• 3 Sunny Tripower STP 15000 TLEE</li><li>• 9 Sunny Tripower STP 20000 TLEE</li><li>• SMA Fuel Save Controller</li></ul>
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# SMA Fuel Save Solution for Photovoltaic Diesel Hybrid Systems