infinitum
HYBRID OFF-GRID SOLAR POWER

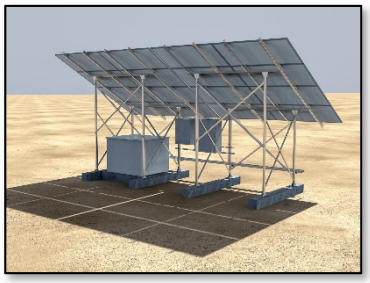
TSS
SOLID SOLAR SOLUTIONS

infinitum Solar Hybrid Energy Solutions

A sustainable versatile modular power energy system without cooling or moving parts.
Trustworthy 24/7 running system.

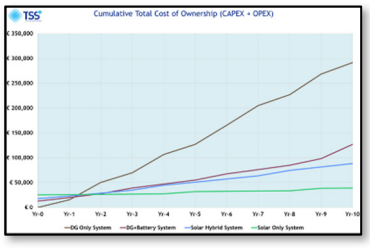
TSS - Solar System Integrator

- +35 Years' experience in design and supply of off-grid Solar Energy Systems for harsh environments
- In-house innovation with intensive field and lab testing
- A sustainable versatile modular power energy system, upgradable at any time
- Designed, engineered and manufactured in the Netherlands, Europe



infinitum - Art of No Cooling

- 24/7 Running hybrid control system, without cooling
- No cooling or fans required for batteries and MPPT charge controllers
- No energy loss for cooling, all captured energy flows to the loads
- Suitable for ambient temperatures up to 60°C
- No moving parts, no wear & tear



infinitum - TCO Software Tool

- Total Cost of Ownership in-house developed software tool
- Defining TCO and CO_2 reduction for various hybrid solutions
- Calculating & defining the battery lifetime expectancy
- Calculating various uptime solutions / days without load

ISO 9001 BUREAU VERITAS Certification · IEC · IECEx · Ex

TSS-DS-047-R02

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infinitum S2/S5 Control Box

- Modular, plug & play, upgradable anywhere, anytime
- Hybrid solution with capability to control multiple energy sources with only one unit (less components – more reliability)
- Includes TSS Σ-Ahr MPPT controller provided with two independent array inputs
- Passive cooling / no ventilators, up to 85°C enclosure temperature
- Two outputs possible (essential and non-essential loads)
- Four different remote monitoring solutions available
- Old and new hybrid systems and old and new batteries can be combined, due to the TSS smart diodes, without compromising on reliability & lifetime
- Dual & triple system set-up, resulting in continuous 24/7 uptime

infinitum E2 Rectifier Box

- TSS AC/DC rectifier optimized for battery charging
- Modular set-up: 5kW/10kW
- Adjustable power output to maximize fuel efficiency
- Savings on fuel consumption
- 440Vac-3 phase input

infinitum X6/X8 Support Structure

- Modular, mounting of various PV sizes, in tilt angles of 10, 20, 30 or 40°
- Environmentally friendly, high-quality carbon steel with outstanding corrosion resistance >31 years according ISO 12944-2 C4
- Designed for 102 km/h wind speeds with double bolt connection
- Compact packed for ease of transport
- Ready for mounting enclosures and cable trays
- Space saver for battery boxes and telecom equipment underneath

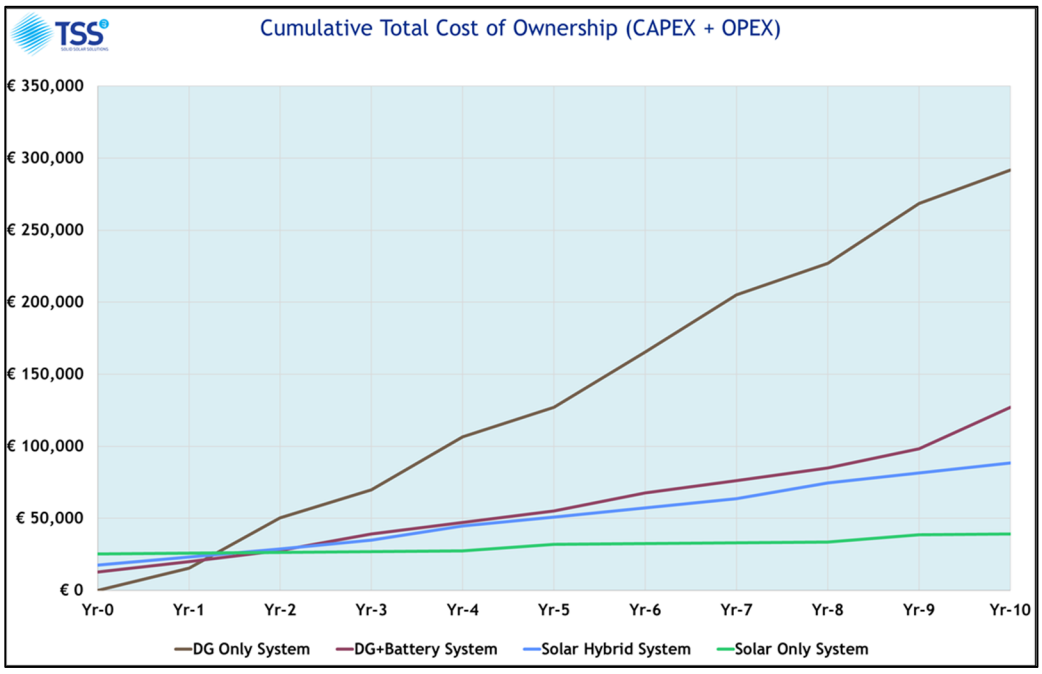
infinitum OPEX and CO_2 savings

With the TSS infinitum control system and the TSS infinitum TCO software tool various diesel hybrid and solar only solutions can be provided. In below table we show the various cost and CO_2 reductions you can achieve.

Item	Diesel generator only system	Diesel generator & battery system	Solar hybrid system (50% solar)	Solar only system
Break-even point	-	1 - 2 year	1 - 2.5 year	1 - 2.5 year
TCO savings	-	50 - 60%	60 - 70%	80 - 90%
CO_2 emission reduction	-	50 - 60%	70 - 80%	100%

The above results are equal for VRLA or Lithium-Ion batteries.

The TCO calculation TSS provide is taking into account the cost for maintenance and fuel. Transport of diesel and maintenance crew is not taking into account as this is depending on the location where the system will be installed. Each location requires a different solution resulting in a project specific TCO as shown below.



TCO example

a sustainable versatile modular power energy system