



+ Autonomous & Clean Energy Generation.

+ Worldwide Use, Location Independent.

+ Flexible Plug & Play Container Design.

+ No Construction or Site Preparation.

FUELSAVE

GREEN
TECHNOLOGY

FS GREENFIELD+

OVERVIEW

Our FS GREENFIELD+ energy container provides a robust & practicable solution to address the ever-increasing demand for independent, decentral, environmentally friendly electricity generation based on renewable resources, while having a reliable & efficient backup for the most advanced energy container solution on the market. It combines the efficient technologies of Photovoltaic (PV), wind energy, backup generators and energy storage technology with interfaces for integration into new & existing systems into a unique package. The mobile design of the system allows for an independent and clean energy production at 365 days a year without any site preparation or construction costs. The standard container includes all that is required to provide electricity to any place, even the most remote places on earth.

FUNCTION

FS GREENFIELD+ generates electricity from the sun and wind, as well as backup with diesel. The solar electricity is being created over 2 stage solar panels. The generated electricity is being managed inside the container and optional being stored in extra longlasting storage systems. Furthermore the options for vertical & horizontal wind turbines deliver efficient electricity in addition to the solar system, independent from the position of the sun and the direction of the wind, thanks to the combined Savonius & Darrius-Rotor. In order to guarantee a stable energy supply at any time, a diesel generator or our advanced FS POWER & HEAT - combined heat & power (CHP) unit is included for the best efficiency in the market, in case the primary energy source is not available (night time) provider falls out. The container has interfaces for feeding into the grid. The integrated inverter regulates the produced electricity to the specific voltage, supported by the most efficient energy management in the market.

COMPONENTS

- 20' standard-container (fully insulated)
- 10-30 kW PhotoVoltaic (PV) (extendable)
- Mounting (resistent up to storm level 10)
- Control unit with remote surveillance
- 3 kW wind turbine
- Battery storage 5 kW or 10 kW (LEP / Li-Io)
- Inverter for feeding into the grid (energy management)
- FS POWER+HEAT Mini CHP or diesel generator (Backup)

USE

INDEPENDENCE

FS GREENFIELD+ is a mobile & independent turnkey energy container solution, that features a hybrid system from renewable energy (PV & Wind) and backup combined heat & power units (CHPs) and backup battery storage. It delivers clean energy to remote areas that are not connected to any electricity grid in order to provide access to power & electricity in areas that do not have the required infrastructure, i.e. remote areas, mobile operators, mountain terrain, deserts, crisis zones, etc.

COST REDUCTION - INFRASTRUCTURE

The new installation of electricity grids is expensive and time consuming due to the required permits, licenses, construction & installation works as well as overall support & maintenance. Alternatively classic diesel generators are cheap in procurement and installation but very expensive in operation. It's unique design allows for installation without any additional ground works or site preparations.

EASY TRANSPORT & INSTALLATION

Through the storage of all components in a secure ISO container, transport costs via ship, train, truck can be kept at a minimum. The use and operation of the FS GREENFIELD+ can happen at any time and any place, since installation & operation are easily manageable. The container gets delivered - installed - connected and you are DONE! and enjoy independent electricity in the field of renewable energy sources.

REDUCING THE EMISSIONS

Even the most modern Diesel generators are not any more „up to the time“ in terms of emissions and protection of the environment. FS GREENFIELD+ produces clean, sustainable, CO2 neutral electricity from renewable energy sources.

BENEFITS

MODULAR OFFER

Our customers can configure the modular FS GREENFIELD+ solution according to their requirements in different power & feature ranges with or without support of Backup generator units and backup battery storage.

INNOVATIVE WIND ENERGY

FS GREENFIELD+ includes options for some of the most powerful horizontal & vertical wind turbines of the world. Besides high efficiency the system starts very early from 1,5 m/s - 3m/s and achieves at very low noise level its maximum power at 12,5 m/s wind speeds with ideal & economical operating conditions between 5m/s - 7m/s

SECURITY

All components of the FS GREENFIELD+ are certified and approved and export ready. Also the transportation is secure - all components in a container, whether photovoltaic (PV) systems or wind energy systems, are securely stored and fixated. The operation is also secure through proprietary, TÜV certified design with safety brakes to be storm safe up to level 10. The entire container is optionally under remote surveillance and remote controlled.

CASE EXAMPLE

Here we show a cost comparison between a classic, „dirty“ Diesel generator and the FS GREENFIELD+ under the following assumptions:

Daily output FS GREENFIELD+	100 kWh	Costs Diesel / kWh	0,40 Cent / kWh
Costs of buying electricity locally	0,25 Euro / kWh	average usage in days / year	350
Daily output generator	100 kWh	Price FS GREENFIELD+	60.000 Euro
Generator efficiency	40%	Warranty:	5+
Costs Diesel / Liter	1,00 Euro	Warranty Extension:	5+5 (for 15 years total)

FROM THIS WE GET THE FOLLOWING PROJECTIONS:

COST REDUCTION / REVENUES

100kW x 0,40 Euro x 350 days = 8.750 Euro / year

INVESTMENT COSTS = 60.000

EXPECTED AMORTIZATION ca. 7 years

STATUS AFTER 10 YEARS

Revenue: 8.750 Euro * 10 = 87.500 Euro

Costs = 60.000 Euro

Profit = 27.500 Euro (ROI = 145,83 %)

STATUS AFTER 15 YEARS

Revenue: 8.750 Euro * 15 = 131.250 Euro

Costs = 60.000 Euro

Profit = 71.250 Euro (ROI = 218,75 %)



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