

Mobile Energy Systems

We bring the light to your world

Mobile Solar Container System

Solarpanels powered by



Mobile Biogas Container System

Mobile Battery Container System

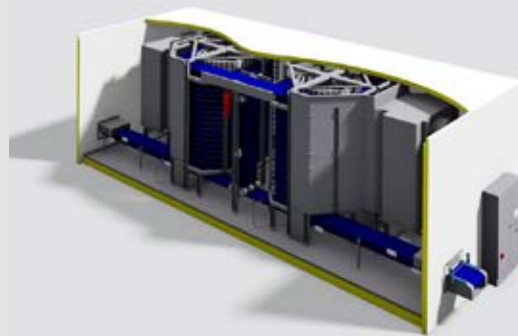
ESG EDELSTAHL UND UMWELTTECHNIK STRALSUND GMBH

ESG Stainless Steel and Environmental Technology Stralsund GmbH is headquartered in Stralsund, Germany. Core competence of the company is the processing of steel and other metals into high quality products.

ESG utilizes highly qualified staff and the latest technology to manufacture products for steel and plant construction such as wind power plants and ships. ESG handles customer orders of any size - from smaller steel structures up to several ton projects, fabricated to custom specifications. Surface finishing and technical services are also part of the service portfolio.

ESG was established in 2010. In 2012, ESG joined the GICON Group, an internationally active engineering company with more than 300 employees and 150 contract associates. ESG currently employs more than 80 associates and is therefore an important employer as well as training company for apprentices in Stralsund and Rostock.

Within the GICON group, ESG can draw on a range of skills and thus offer comprehensive services from a single source. ESG is handling the detailed planning and fabrication from plant components and complete systems as part of GICON's successful development of new technologies, such as the GICON® Biogas Process, the GICON® Photobioreactor or the floating offshore foundation for wind turbines (GICON® SOF). The GICON Group is thus able to implement all the steps from concept to prototype.



ADVANTAGES OF MOBILE POWER SYSTEMS

USER-FRIENDLY

- No maintenance and operating costs
- Modular versatility and modular expandability
- Connection to downstream diesel generators possible

TRANSPORTABLE

- Build in ordinary sea containers - no special transportation required
- System protected during transportation by ship, train or truck
- Transportation with normal truck
- No crane or forklift truck required

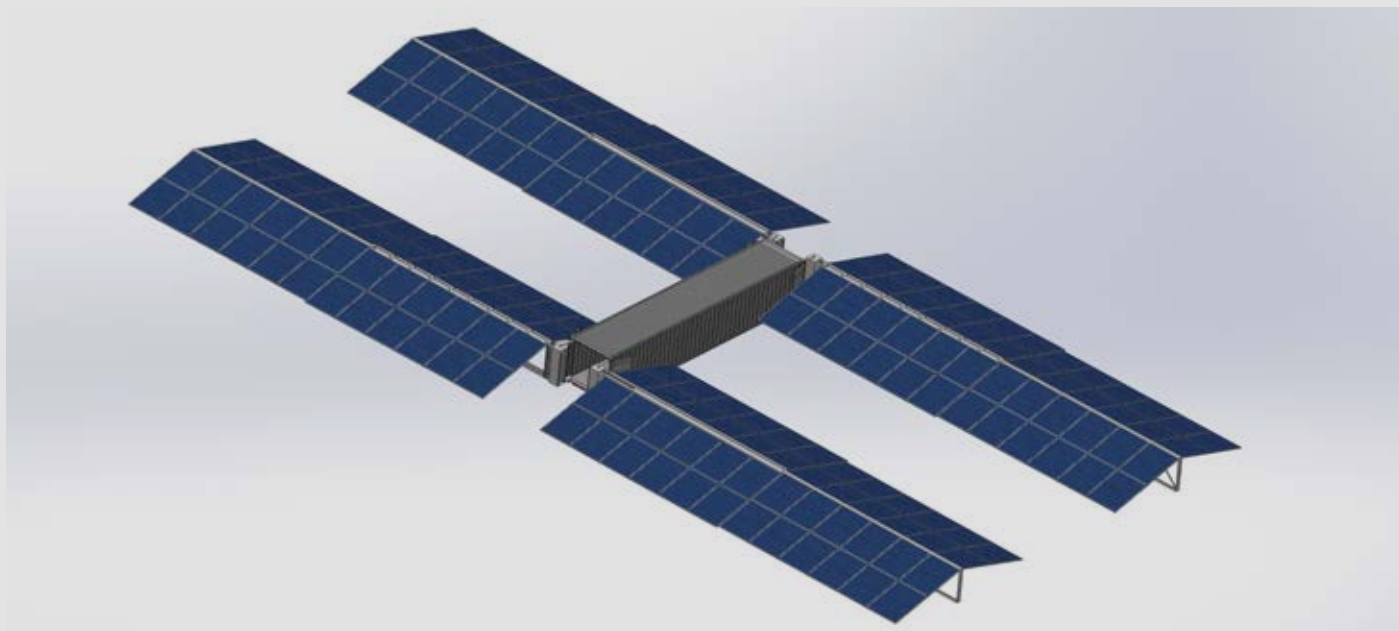
RAPID USABILITY

- No advanced planning necessary
- No terrain reconnaissance needed
- No structural calculation required
- Set-up and removal within 1 hour per Solar Container System (SCS)
i.e. Set-up with 1 MW = 10 SCS in one day
- Construction by non-technical staff possible with written step-by-step instruction
- Rapid transition to another place of use possible

PROTECTION AGAINST STORMS, FLOODS AND OTHER NATURAL DISASTERS

- Active alarm system with strong wind
- Fast removal of SCS by upcoming storms
- Durable, non reflective and self-cleaning solar modules of DAS Energy

MOBILE SCS – MOBILE SOLAR CONTAINER SYSTEM

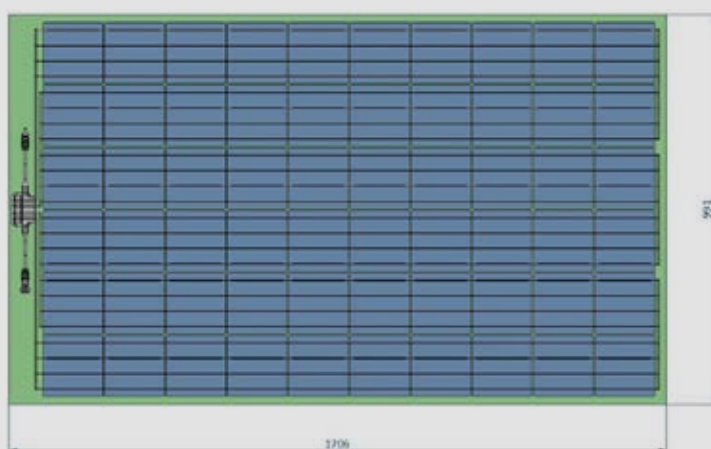


TECHNICAL DETAILS (Modul BG 10x6P)

Special development for regions with extreme climate conditions

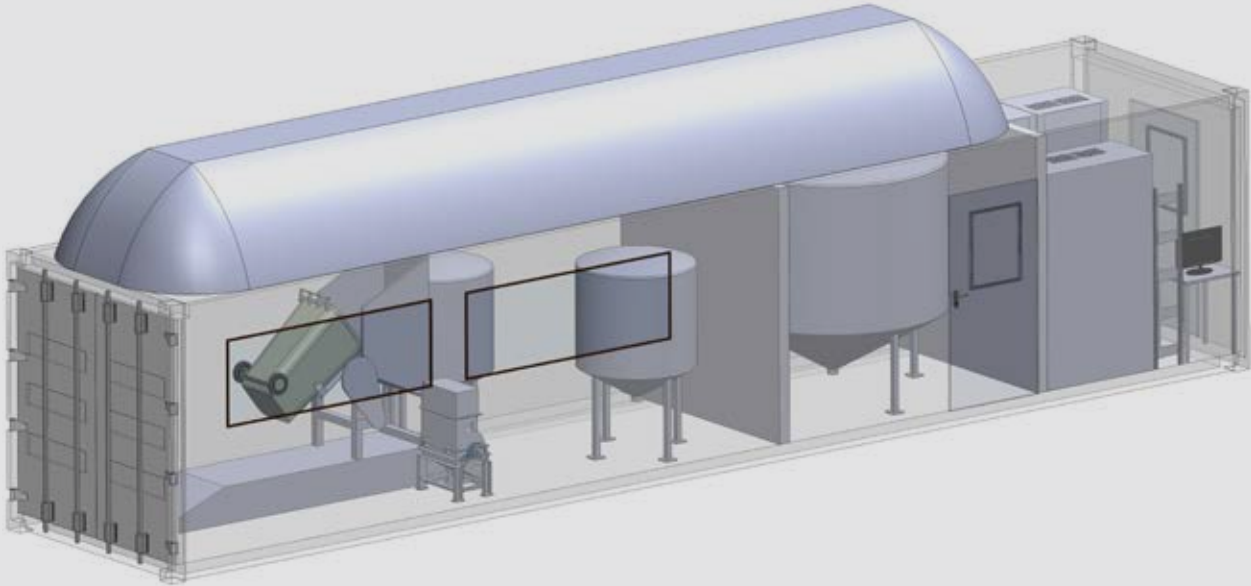
Power: 250 Wp

Ambient temperature range: - 45 °C to +60 °C



Solarpanel - Modul BG 10x6P

MOBILE BGCS – MOBILE BIOGAS CONTAINER SYSTEM



TECHNICAL DETAILS

2-3 Percolators + 1 Methane Digester + Percolate Storage + Filter + Pumps

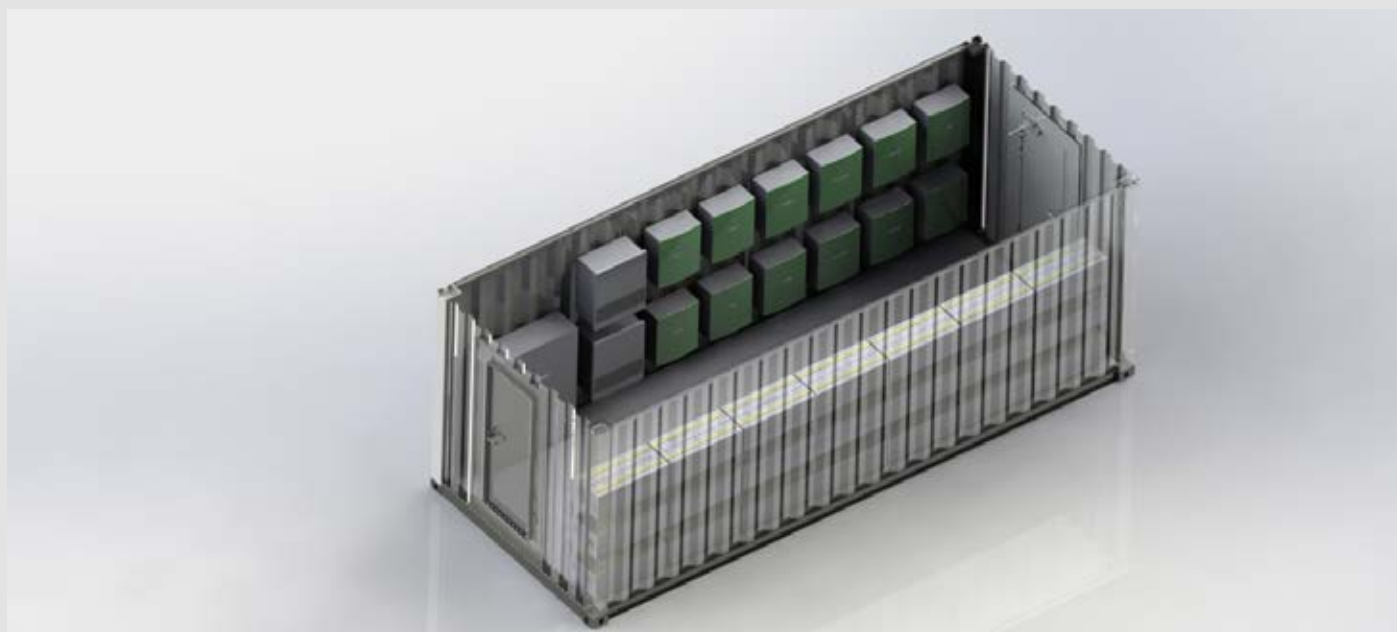
Degree of biodegradability: food waste 75-80 percent, green waste 50 percent

Biogas production: approx. 20 Nm³/Day

- Two-stage, mesophilic, solid/liquid digestion with mechanical pretreatment, anaerobic digestion
- Installed in 40-foot container including all components, excluding percolators

MOBILE BCS – BATTERY CONTAINER SYSTEM

MOBILE ICS – INVERTER CONTAINER SYSTEM



TECHNICAL DETAILS - BATTERY CONTAINER SYSTEM (BCS)

- 9 x SUNNY Island 8.0
- 72 x batteries - Typ S12 230A
- 1 central MC 12.3-20
- Container includes ventilation



SUNNY Island 8.0H

Battery S12 230A

MC 12.3-20

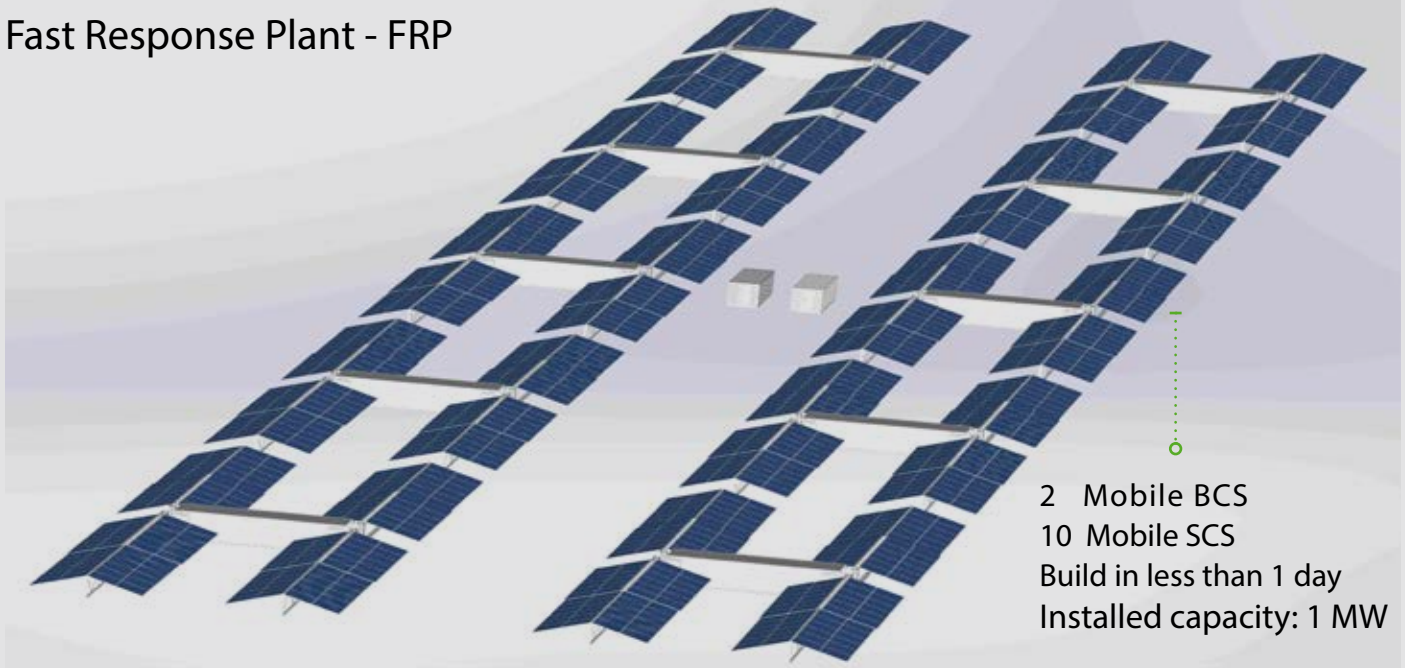
SUNNY TP 25000 TL

TECHNICAL DETAILS - INVERTER CONTAINER SYSTEM (ICS)

- 4 x SUNNY TP 25000 TL inverter
- Container includes ventilation

COMBINE AND SCALE MOBILE ENERGY SYSTEMS

Fast Response Plant - FRP



POWER SUPPLY FOR CAMPS AND DURING NATURAL DISASTERS*

1 solar container with battery system guarantees supply for

- 25 people
- 1 TV/ radio, fridge and freezer - 6 PC's, 2 stoves, 8 spotlights 500 W
- Watersupply 5 m³/day
- 3 hot water tanks with 150 liter capacity each



POWER SUPPLY IN AGRICULTURAL FACILITIES AND MINES*

1 solar and 1 battery container in agriculture utilizing the following devices daily:

- Slurry pump with 1m³/ Day
- Water supply 15m³/ Day
- Air conditioning and cooling of milk with 60 kwh per day
- Lighting with 20 kwh/Day*



POWER SUPPLY IN SMALL VILLAGES*

1 solar- and 1 battery container guarantees supply for

- approx. 60 people
- 12 fridges, 6 freezer, 6 stoves, 10 PC's and TV's
- Water supply 7 m³/Day
- 10 spotlights 250 W



*The consumption figures are exemplary figures assumed under ideal conditions and use according to technical manual. Figures may vary under different climate circumstances

CERTIFICATES AND LICENSES

Certification in acc. with DIN EN 1090-1 (In-house Production Control)

Certification in acc. with DIN EN 1090-2 / EXC 4 (Steel)

Certification in acc. with DIN EN 1090-3 / EXC 4 (Aluminium)

Operating license in acc. with Germanischer Lloyd (GL/DNVGL)

Quality management system in acc. with DIN EN ISO 9001

Welding quality requirements in acc. with DIN EN ISO 3834-2

Manufacturer Qualification Level "E" for the welding of steel components in acc. with DIN 18800-7 (formerly Steel User Standard)

CE Commissioner for MRL 2006/42/EG

Construction Products Regulation 305/2011



ESG Edelstahl und Umwelttechnik Stralsund GmbH

Ziegelstrasse 8 | 18439 Stralsund, Germany

Phone: +49 3831 292281, +49 3831 280974 | Fax: +49 3831 292282

E-mail: esg@gicon.de | www.esg.gicon.de

Managing Director: Dr. Bernd Danz

Registry Court: Stralsund District Court | Registry Number: HRB 8023

For further inquiries and information, please contact:

Head of Mobile Energy System Department: Özdal Fakir

E-mail: o.fakir@gicon.com