AXSOL MOVING ENERGY | SFC ENERGY

FUEL CELL AND BATTERY SYSTEMS AS **STAND-ALONE POWER GENERATION UNIT**

Protect lives

Resupply of fuel for troops in-theater costs lives. In conflict areas such as Afghanistan and Mali, transporting large quantities of fuel to military outposts require regular convoys through combatted areas, risking the loss of life and material. Resupply casualties have been significant in Iraq and Afghanistan. According to the US Center for Army Lessons Learned (CALL), they have historically accounted for about **10-12% of total Army casualties** – the majority related to fuel and water transport.

Increase efficiency

Unlike diesel generators, the combined solution of SFC fuel cells and AXSOL battery systems is a demand side driven power generation unit. The **ARVEY B2** flexibilizes the power output through its built-in power electronics and feeds only the necessary power. With the two systems communicating with each other, the **EFOY Pro 12000 Duo** only switches on automatically when the battery capacity falls below a defined minimum. The controllable output of the battery system significantly increases the overall system efficiency compared to diesel generators. The ratio between energy input and used energy increases.

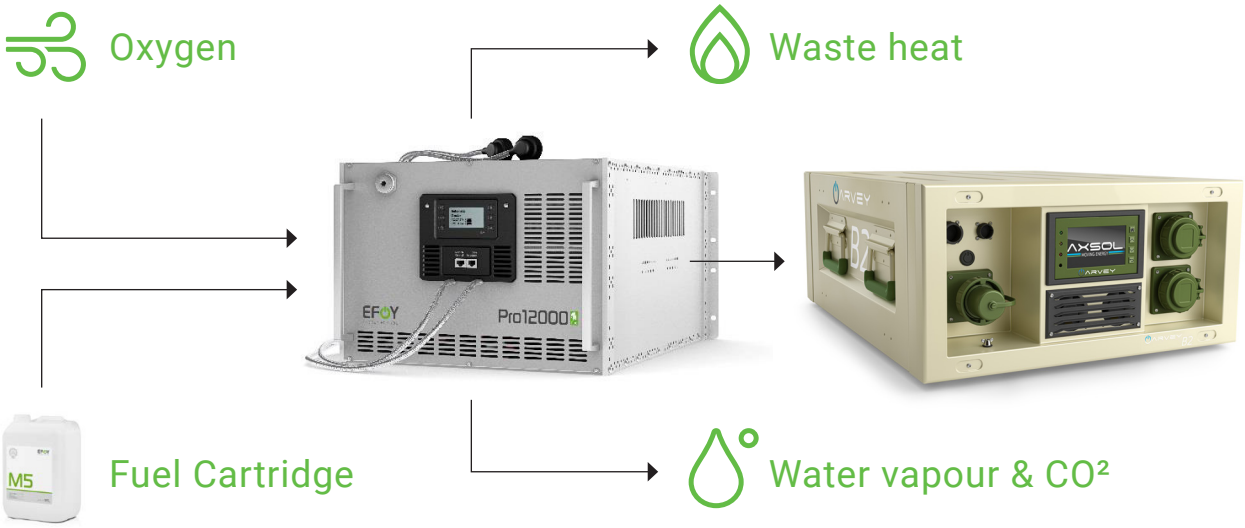
Safe fuel

The company tent of Spanish army shown above, was powered by the system combination. Still being able to operate all equipment while using only a total of **10 liters of methanol in three days**. The fossil power supply would normally require **20 liters of diesel per day**. The fuel consumption can be reduced by integrating solar panels into the system design.

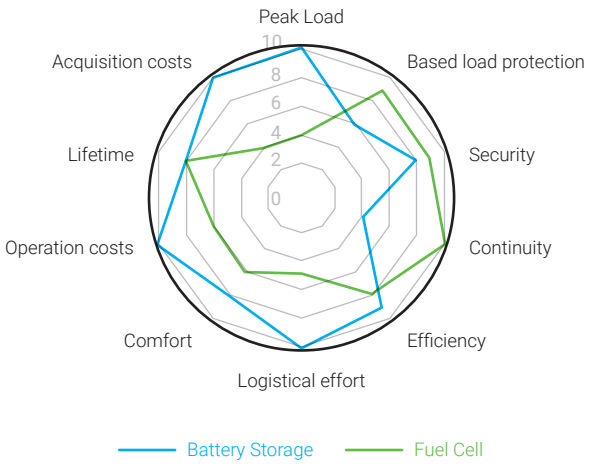
Reduce costs

In operation environments, diesel can cost up to €180 per liter when reaching the military end-user. With the large quantities of diesel that are required, the costs of diesel in a company tent, or group command post costs up to **€3.600 per day**. In addition, the system combination is less error-prone and maintenance intensive than conventional diesel generators.

COMBINING TECHNOLOGIES
SUBSTITUTING DIESEL GENERATORS



	SFC fuel cells **EFOY Pro 12000 Duo Fuel Cell**	AXSOL **ARVEY B2**
Energy Capacity	12.000 Wh/Day	2,4 kWh
Power Output	500 W Continious	2,4 kW continious, 4,8 kW peak
Nominal Voltage	24 V DC, 48 V DC	230 V AC (DC output possible)
System Size	992 x 605 x 479 mm	564 x 534 x 259 mm
Operating Temperature	-20 to +50 °C	-20 to +50 °C
Weight (incl. Housing)	~ 60 kg	< 50 kg



+ Significant weight & emissions reduction
+ High autonomy and small footprint
+ Fail-safe due to additional fuel logistics
+ Non-detectable - no noise, no heat
+ Simple operation without extensive training
+ Fully automatic charging of the battery storage without loss
+ Sustainable and efficient
+ Expansion of the battery capacity
+ Increased peak load due to power electronics

AXSOL GmbH · Ohmstraße 3 · 97076 Würzburg · www.axsol.eu

SFC Energy AG · Eugen-Sänger-Ring 7 · 85649 Brunnthal · www.sfc.com