GENCELL FOX™

Off-Grid Power Solution

- 4 kW fuel cell power with unlimited run-time
- Lower TCO than diesel-based power solutions
- Runs on inexpensive and easily accessible liquid fuel - ammonia
- Remote monitoring and maintenance
- Zero emissions, no noise and no vibrations

GENCELL

Inkwazi Energy
HYDROGEN CONDITIONING SYSTEMS

NH3 POWERED BY AMMONIA

Green Energy at Half the Price of Diesel Solutions

Ammonia (NH_3), the colorless, pungent gas, is an excellent source of hydrogen in its liquid form, containing almost twice as much hydrogen as liquid hydrogen by volume. Liquid ammonia can be stored in large tanks at room temperature and is safer than propane and as safe as gasoline. Established distribution channels using pipelines, barges and trucks make ammonia readily available and economical. By deploying the GenCell FOX solution for 24x7 off-grid power at 1000 sites or more, you can save up to 250 million dollars or more compared to conventional diesel generator solutions.

Applications

Telecom

- Base stations

Electrification

- Schools
- Homes
- Field hospitals

Homeland Security

- Border protection
- CCTV

Services

- Water purification
- Water pumps
- Heating

The Solution

1. Ammonia cracker

2. Fuel cell generator

3. Energy bridge for regulating power output

4. Heat utilization unit for dissipating excess heat

5. 10-foot shipping container

The Off-Grid Challenge

1.1 billion people lack electricity for lighting, telecom, cooking, clean water & economic development with 84% of them living in rural areas beyond the grid. Connecting these rural areas to telecom and electricity is critical for improving education, health, and quality of life. By 2020 there were more than 1 million telecom towers in off-grid and poor-grid locations powered by diesel generators polluting the air, contaminating the soil and requiring frequent maintenance. In addition, diesel generators and fuel are prime targets for theft and vandalism.

GenCell FOX™ Off-Grid Power Solution

The GenCell FOX™ off-grid power solution provides the benefits of green fuel cell energy with an economical and easily accessible liquid fuel - ammonia. The GenCell FOX solution uses GenCell's patented ammonia cracking device to generate hydrogen-on-demand for powering its industry-proven hydrogen fuel cell generators. Operating at near atmospheric pressure, the system obtains sufficient fuel from two 12 ton tanks of ammonia to operate at rated power 24/7 for a full year.

Specifications

Perfomance	
Rated power	4kW
Output voltage	-48 VDC
Emissions	Usable heat, water vapor, NOx less than 1ppm
Fuel	
Anhydrous ammonia (NH_3)	Technical grade (99.5%)
Fuel consumption (max.)	2.5 kg/h
Oxidant	Ambient air
Electrolyte	
Potassium hydrochloride (KOH)	28-32% mass
Operation	
Startup time	2.5 hours (approx.)
Automatic start/stop	Available
Installation	Shipping container (optional)
Remote management (IoT)	Available
NH_3 cracking temperature	< 700°C (1,292°F)
Maintenance	
Scheduled	Semi-annual
Physical	
Dimensions* (incl. container)	L:3.00m-4.00m x W:2.00m-2.20m x H:2.20m-2.40m
Weight* (incl. container)	2,500kg – 3,000kg
Durability / lifespan	10 years
Normal Operating Conditions	
Operating temperature	-20°C up to +40°C (-4°F up to +104°F)
Noise (at 1 m)	<60 dB
Relative humidity (max.)	90%
Storage temperature	-20°C up to +55°C (-4°F up to +131°F)
Surface deviation	1 degree

*can vary depending on actual system configuration

POWER FOR HUMANITY.™

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