

Oil & Gas

EH Energy Fuel Cell Power: Reliable onsite power from the gas you already have

The Challenge

Oil and gas operations need dependable power in some of the hardest places to get it - remote wellsites, pipelines and processing facilities where the grid often isn't an option at all. The default is diesel, which is **expensive to truck in, logistically painful at remote sites and carbon-intensive**. Where associated gas is produced with the oil, much of it is **flared or vented** - wasting a saleable resource and generating exactly the **CO₂ and methane emissions** now under intense regulatory and investor scrutiny.

Downstream, refineries and processing facilities need resilient power for critical loads, where an outage is a safety and production risk. And across **upstream and midstream**, much of the environment is hazardous-area classified, so any power equipment has to be built and certified for potentially explosive atmospheres.

The opportunity is that operators usually have **fuel on site already** - pipeline gas, associated gas or stranded gas with no economic route to market. A power solution that can turn that gas into clean, reliable electricity - cleanly, safely and without trucking diesel - solves the power problem and the flaring problem at once. And because many operators already handle and transport CO₂, a system that produces a **capture-ready CO₂ stream** fits naturally into their existing capabilities.

The EH Energy Solution

EH Energy provides **skid-mounted fuel cell power** engineered for oilfield and facility use. An integrated reformer converts the gas already present at a site - pipeline, associated or (after conditioning) stranded gas - into hydrogen for the fuel cells; alternatively the systems can run directly on hydrogen if available. The 250 kW EH Energy Systems scales into 3 MW EH Power Blocks, providing **prime power** for remote sites, pipelines, refineries and other facilities.

The systems are built for the environment: a **gas-tight stack enclosure designed to IEC 60079-10-1 (Zone 2-capable)**, skid-mounted for the modular, relocatable infrastructure common across oil and gas. Because the feed gas is often raw or variable, the reformer includes **gas-conditioning and desulfurization** stages. And because reforming produces a **concentrated, capture-ready CO₂ stream** (capturable at low cost), the optional carbon capture module enables **near-zero-carbon** operation and blue-hydrogen production that aligns with operators' existing CO₂ handling and sequestration.

With far **fewer moving parts** than combustion alternatives and always-on **remote monitoring**, the systems suit remote and unmanned sites, and can be **deployed efficiently**, independent of grid queues. EH Energy works with operators, EPCs and integrators to scope each system to the site's power, fuel, emissions and hazardous-area requirements.

Key Differentiators

Monetize gas instead of flaring

Turn pipeline, associated or stranded gas into useful onsite power, cutting flaring- and methane-related emissions.

Clean at point of use

Electrochemical, not combustion: no NO_x, SO_x or particulates.

Capture-ready, near-zero-carbon

A pure CO₂ stream capturable at low cost, enabling blue hydrogen aligned with existing CO₂ handling and sequestration.

Hazardous-area-ready and skid-mounted Gas-tight, Zone 2-capable enclosure in relocatable packages that suit oilfield infrastructure.

Reliable at remote/unmanned sites

Far fewer moving parts than combustion alternatives, with remote monitoring.

Fast to deploy

Onsite power delivered efficiently, independent of grid interconnection queues and incumbent lead times.

Modular from 250 kW to multi-MW

With carbon capture and heat recovery options and N+1/N+2 redundancy.

Competitive economics

Favorable total cost of ownership versus diesel, and a competitive levelized cost on gas.

Why EH Energy for Oil & Gas?

Use the gas you already have - cleanly.

EH systems convert pipeline, associated or stranded gas into clean, dispatchable electricity electrochemically, with no NO_x, SO_x or particulate emissions at point of use - turning gas that would otherwise be flared or vented into useful onsite power.

Reliable onsite power for remote and critical sites.

Dispatchable prime power for off-grid wellsites and pipelines, and resilient backup for refineries and facilities - with far fewer moving parts than combustion incumbents, and remote monitoring suited to unmanned sites.

Capture-ready, near-zero-carbon.

Reforming produces a pure CO₂ stream capturable at low cost, enabling blue hydrogen and near-zero-carbon power that aligns with operators' existing CO₂ handling and sequestration capabilities.

Hazardous-area-ready and skid-mounted.

A gas-tight stack enclosure designed to IEC 60079-10-1 (Zone 2-capable), delivered in skid-mounted, containerized packages that suit oil and gas site infrastructure.

Competitive economics.

Competitive gross pricing and forecast LCOE, plus economic benefits from using excess gas that would otherwise be burned.

Fast time-to-power that bypasses queues.

Onsite, behind-the-meter generation, independent of grid interconnection queues and multi-year incumbent lead times.

Modular and scalable from 250 kW to multi-MW.

A common 250 kW EH Energy System building block scales into 3 MW modular EH Power Blocks to meet large and small power needs

Why EH Energy for Oil & Gas? (continued)

Lower emissions and methane reduction.

No combustion, reduced flaring and venting, optional carbon capture and - on green hydrogen - substantially lower life-cycle CO₂ than diesel, supporting investor and regulatory objectives.