Reducing CapEx and OpEx Expenses with the Hybrid Power Shelter

Analysis of Off-grid Telecom Power Provided by a Traditional Shelter/Diesel Genset Solution Compared to the HCI Energy Hybrid Power Shelter

In off-grid communications infrastructure, it is typical for a diesel generator to be leveraged for power with a shelter solution integrated on-site to house and run communications equipment. This report showcases the substantial capital expense (CapEx) and operating expense (OpEx) reductions offered by HCI Energy's all-in-one Hybrid Power Shelter™ when compared to traditional shelter and diesel genset configurations assembled on-site.

Background

HCI Energy developed a performance and costing model using empirical data gathered by the company's myHCI software at active customer deployment sites. This performance and costing model is used by HCI Energy to help customers compare configurations, optimize power management performance, and determine site-specific costing. At the core of every Hybrid Power Shelter is HCI's Zero-Glitch Power Module™ (ZPM) with myHCI™ monitoring software which provide uninterrupted power, real-time operational visibility and data logging, alerts, and site performance insights.

For the purposes of this comparison, a potential customer's New Mexico site analysis was chosen utilizing a Hybrid Power Shelter including lithium-ion batteries, ZPM, five integrated solar arrays, and a propane generator. Significant CapEx and OpEx savings are demonstrated when compared to an on-site integrated diesel-forward solution.*

Highlights

85%
CAPEX SAVINGS

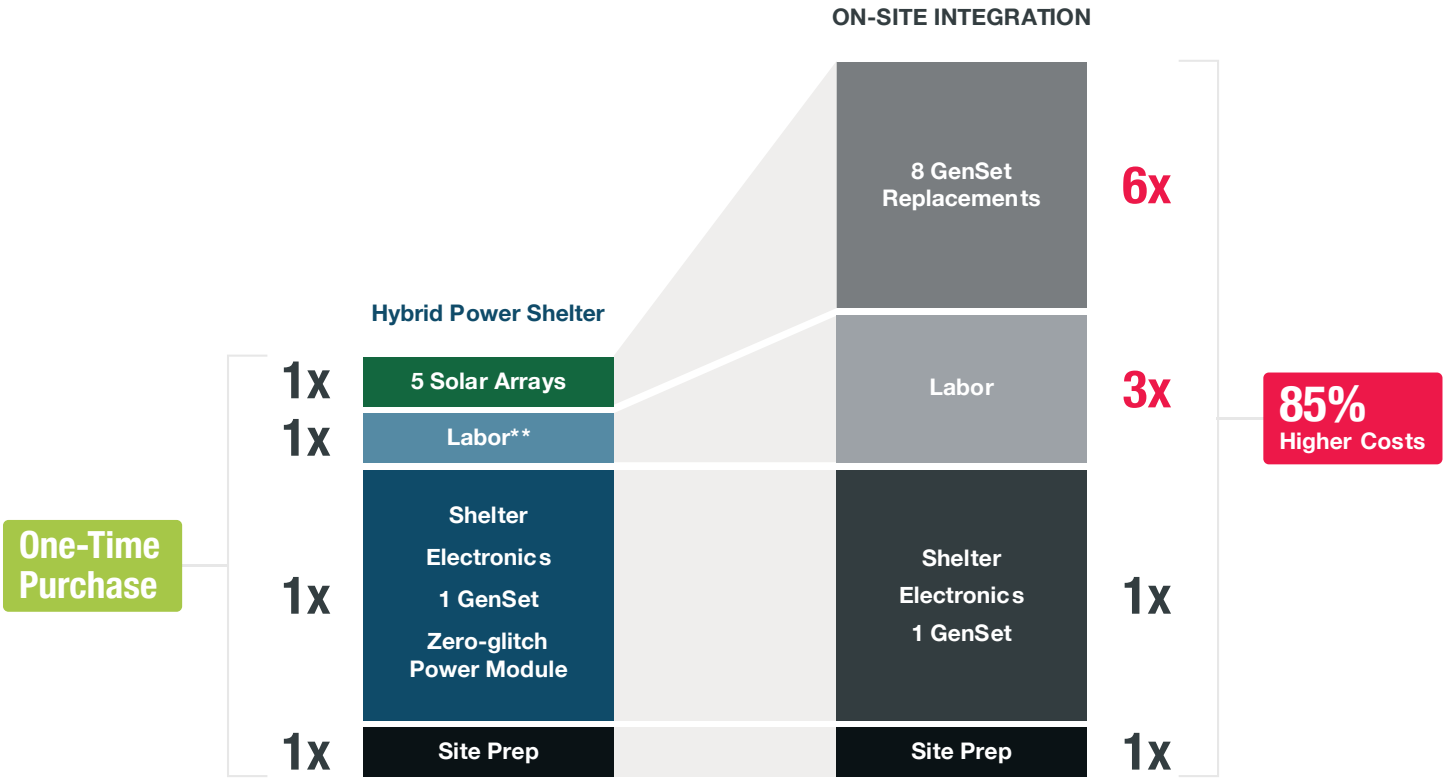
90%
OPEX SAVINGS

PAYS FOR ITSELF IN
3 years

$650k
SAVED OVER 10 YEARS

CapEx Savings

Each Hybrid Power Shelter is turnkey and shipped ready to deploy. Other solutions consist of disparate equipment that requires intensive architecture and engineering labor and on-site integration. HCI's turnkey Hybrid Power Shelter reduces site integration labor costs by more than two-thirds while enhancing system quality and reliability. The Hybrid Power Shelter's battery-forward architecture and integrated renewables eliminate the need for continual genset replacements (typically required every 10,000 runtime hours). These combined benefits reduce overall CapEx by 85%* and enhance operational resilience, quality, and proactive site management.

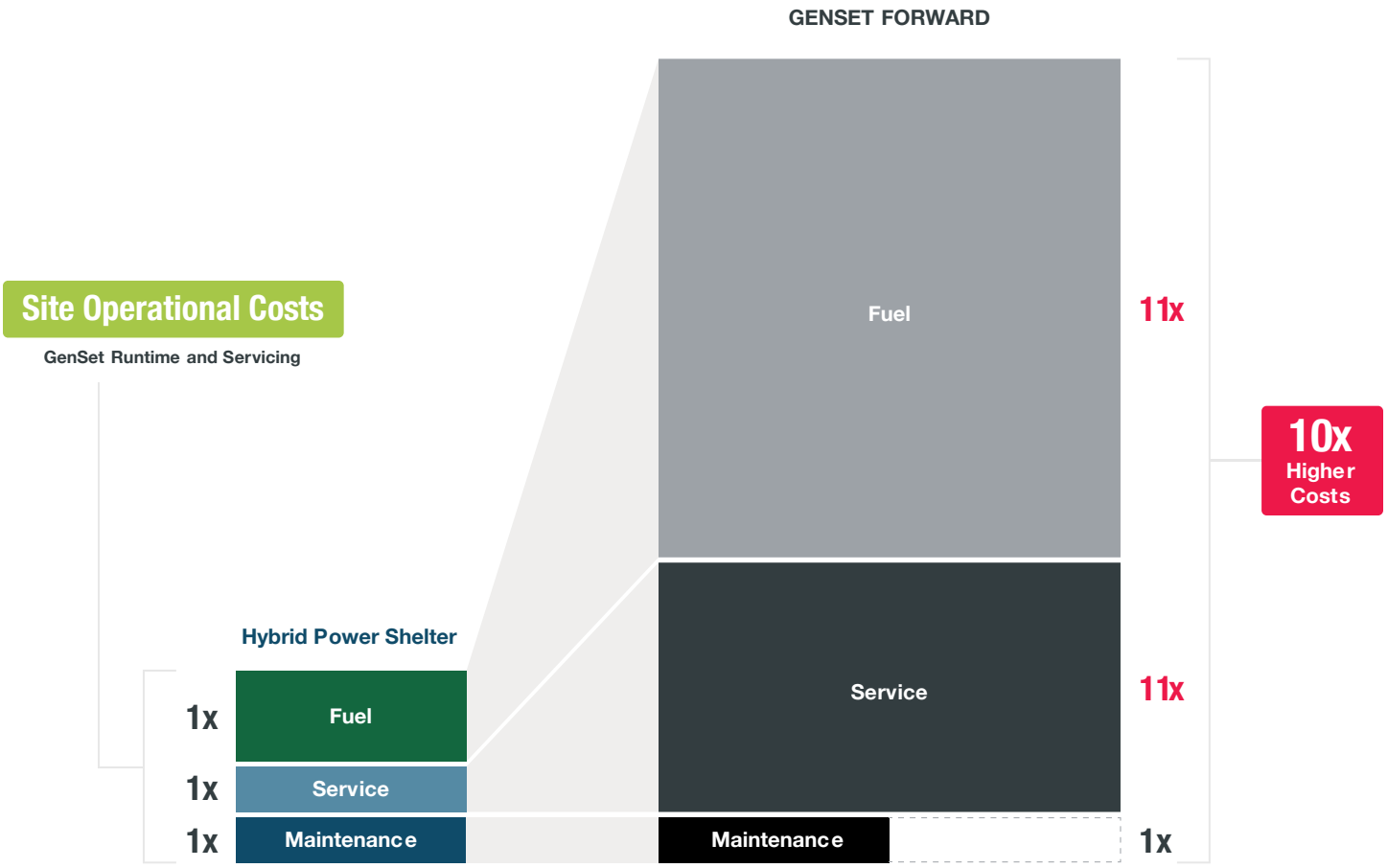


These findings validate what our customers are already experiencing in the field—significant cost savings, faster ROI, and a resilient and reliable power supply that scales with demand."

Joe Kessinger, HCI Energy CEO

OpEx Savings Over 10 Years

Unlike traditional, always-on diesel generator setups, HCI's Hybrid Power Shelter—powered by HCI's proprietary ZPM™ technology — features a battery-first design, region-specific solar array configurations, and intelligent power management. This reduces generator runtime by over 90% and provides proportional reductions in fuel consumption and maintenance costs equaling more than $650,000 in dollars saved over 10 years.*



Get in touch to learn more or to run a financial savings scenario for your communications sites. powered@hcienergy.com

* Results may vary by site location, renewable and storage options, and cost fluctuations in fuel, materials, and labor rates.
** The Hybrid Power Shelter is shipped fully integrated, tested, and ready to deploy.

HCI Energy Headquarters
1315 West 12th Street, Kansas City, MO 64101
+1 (855) 964-9274 | hcienergy.com
powered@hcienergy.com