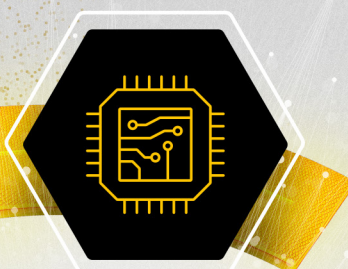




TECHNOLOGY



CAT[®] HYBRID ENERGY STORAGE SOLUTION



POWER



ENERGY
STORAGE SYSTEM

IT'S THE TOTAL PACKAGE.



As a global leader in intelligent power solutions, **Caterpillar Oil & Gas** is uniquely positioned to help you enhance performance, optimize costs, mitigate risks, and reduce greenhouse gas emissions in how you power and manage your oilfield operations. We combine our global experience, proven products, and breadth of operational services to truly customize solutions, both focused and holistic, to deliver the right outcome—the outcome that makes the most impact to your operation’s effectiveness and efficiency as well as your bottom line.

SUPPORTING THE OILFIELD OF THE FUTURE.

In the ever-evolving world of oil and gas, every day is different. Every customer has their unique objectives and goals. Every region, every field, has its own set of challenges. Yet, the one thing that remains the same is the critical importance of the energy industry to the world.

IT'S WHAT'S LED TO OUR LATEST
INNOVATIVE OFFERING—**THE CAT
HYBRID ENERGY STORAGE SOLUTION.**



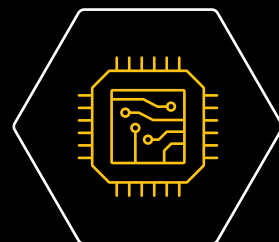
THE POWER FOR THE FUTURE OF DRILLING.

OUR HYBRID ENERGY STORAGE SOLUTION

CAN HELP YOU REALIZE GREATER FUEL EFFICIENCY AND REDUCE EMISSIONS WHILE MAINTAINING ONSITE PERFORMANCE BY COMBINING THREE CORE ELEMENTS



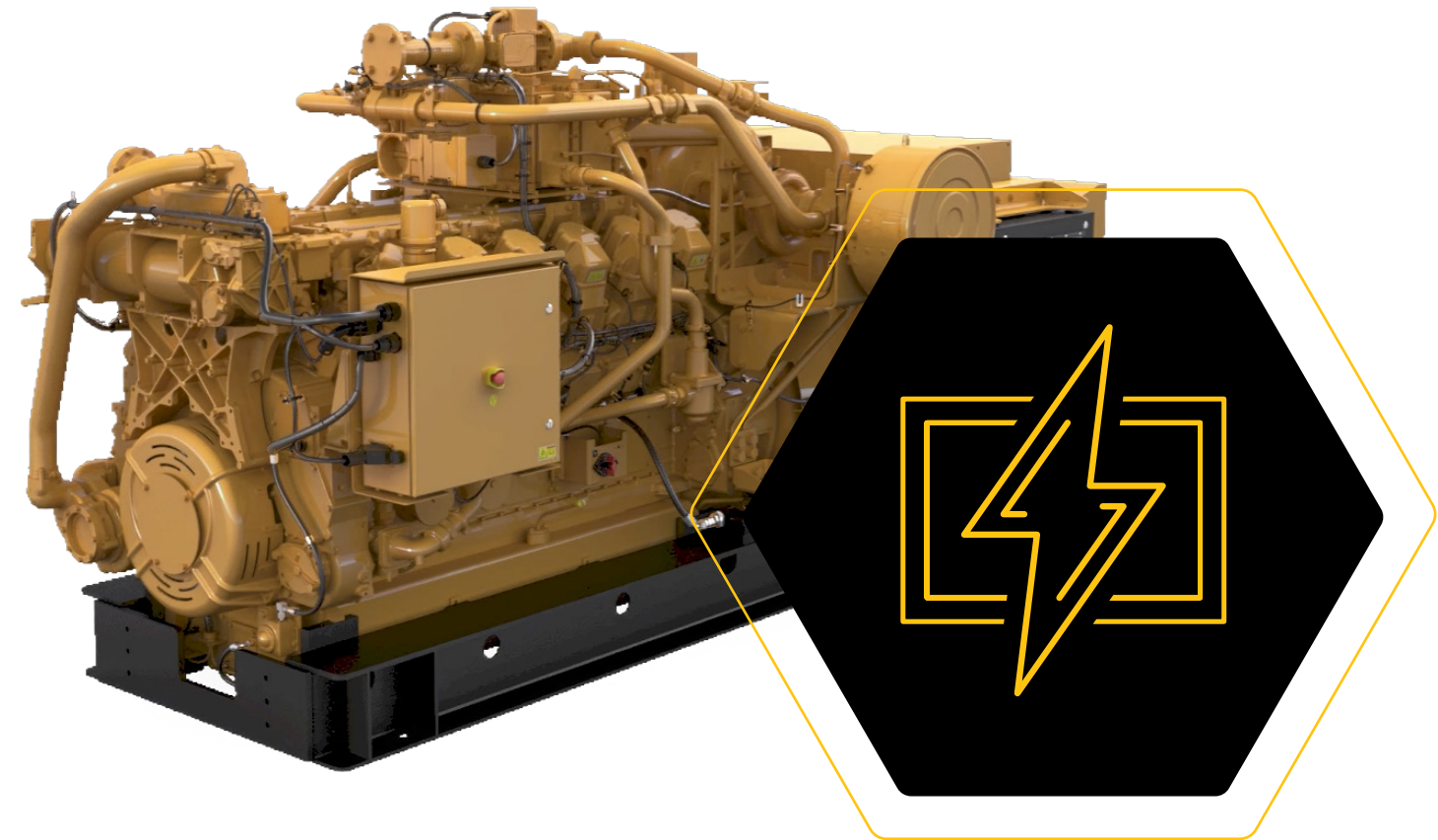
**FLEXIBLE
POWER**



**INTEGRATED
TECHNOLOGY**



**ROBUST
ENERGY STORAGE**



FLEXIBLE POWER

Dependable power starts with dependable equipment. That's why we've stress tested our equipment to stand up to the harshest operating conditions—from weather and terrain challenges to complex power demands. Every piece is built and optimized to help you maximize uptime by seamlessly integrating into your drilling operations – standing ready to help right when power needs hit.

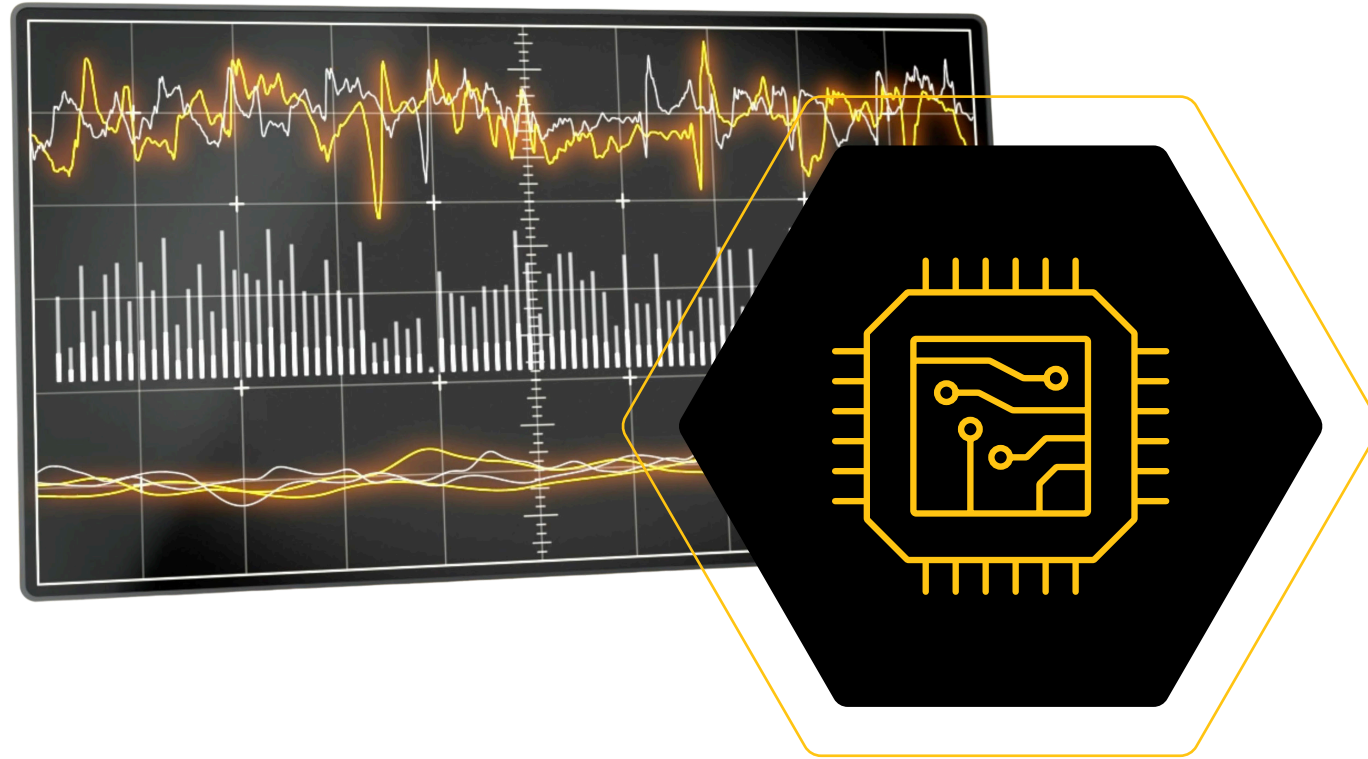
SOLUTIONS INCLUDE

Power Grid Stabilization (PGS)

Our robust PGS units are built to be your ultimate partner in consistent oilfield power. It's designed to fit in any environment, compatible with numerous renewable energy sources, and is capable of powering heavy, critical operations when called on.

G3512 SI Genset

With a 1 MW power rating and providing a wide range of fuel capabilities, this genset solution is dialed in to maximize power capabilities—meeting transient rig demands with energy storage.



INTEGRATED TECHNOLOGY

The most effective solutions can only live up to their potential with the right software and technology controls in place. Our ecosystem of proven hardware is paired with robust digital systems that simplify the way you optimize power usage — to help save time and material costs while increasing onsite safety.

SOLUTIONS INCLUDE

Smart Engine Management System (Smart EMS)

Smart EMS enables you to add or drop engines automatically to match rig demands—continuously monitoring engine loads for spikes, transient spikes, and more.

Electronic Modular Control Panel 4.4 (EMCP 4.4)

This proven control system helps you better manage engine needs by continuously monitoring rig power demand and comparing it against available power – helping you strategically start/stop engines when needed.

Human Machine Interface (HMI)

This technology enabler provides an intuitive, configurable graphical user interface that makes it easier to learn and use day-to-day—simplifying the way you monitor and operate ESS equipment.

Cat Microgrid Master Controller (MMC)

MMC provides source control and manages utility export and import requirements to help you seamlessly integrate into a variety of traditional and renewable energy sources.



ROBUST ENERGY STORAGE

Our fully-integrated energy storage system helps maintain efficient performance while ensuring your operations always have the power they need in the moment.

SOLUTIONS INCLUDE

Stability

Acts as a stable microgrid that maintains power across your engine fleet automatically and can even serve as a backup power system.

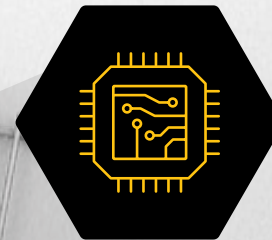
Interface

Every energy storage solution is equipped with an easy-to-navigate, onboard interface that allows you to get immediate insights into performance and make adjustments in real time.

ONE INTEGRATED SOLUTION.

**EVERYTHING YOU NEED
TO MAINTAIN RELIABLE POWER**

The less time you have to worry about when and where power will be available, the more time you have to **maximize your drilling operations**, focus on the safety of your team, and deliver for your client. Our Hybrid Energy Storage Solution provides everything you need to maintain reliable power, while helping lower fuel consumption, and reduce greenhouse gas emissions.



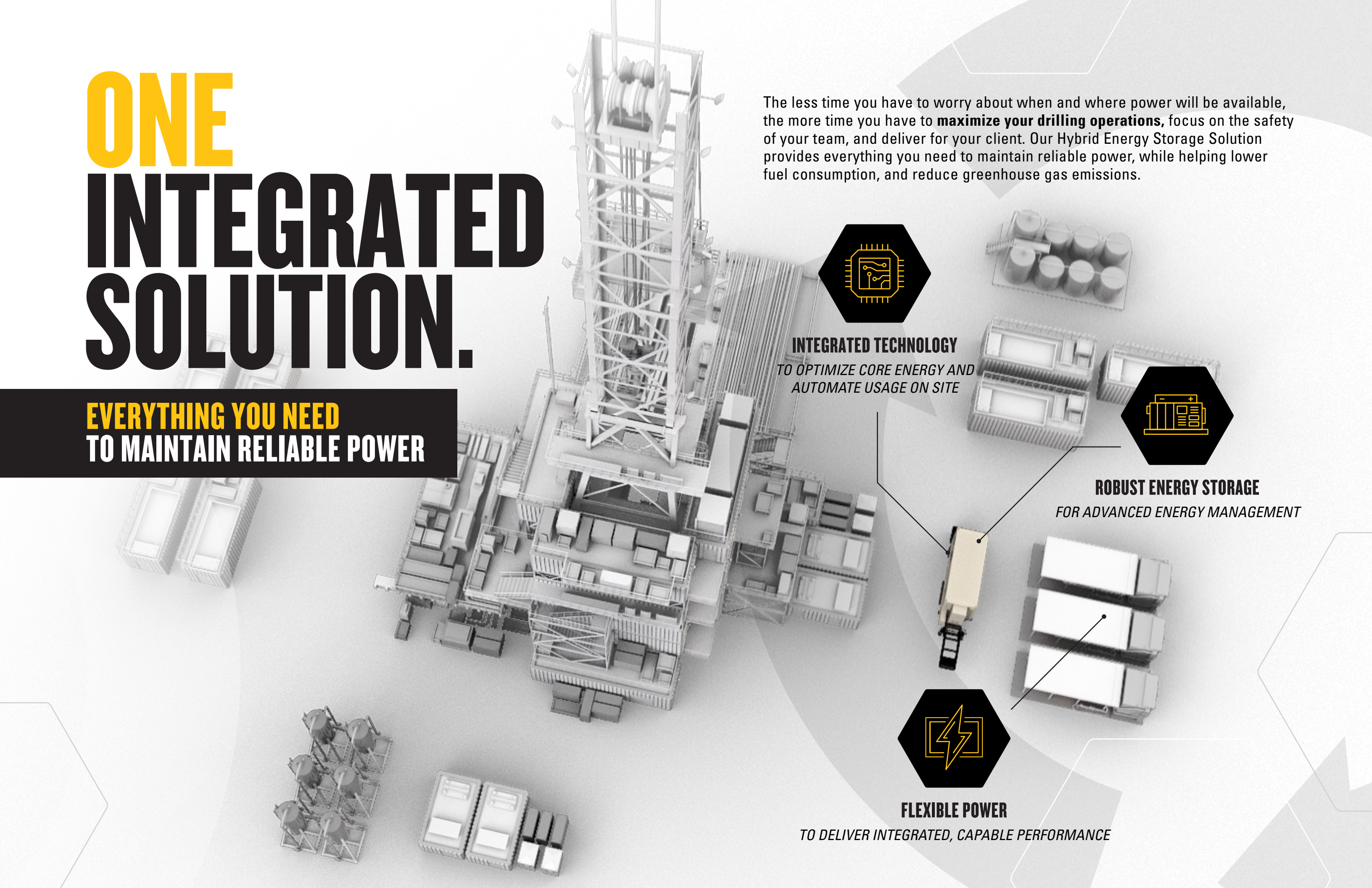
INTEGRATED TECHNOLOGY
*TO OPTIMIZE CORE ENERGY AND
AUTOMATE USAGE ON SITE*



ROBUST ENERGY STORAGE
FOR ADVANCED ENERGY MANAGEMENT

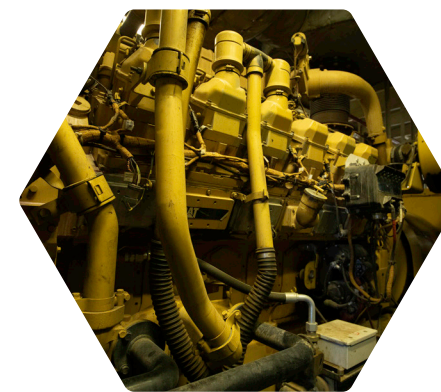


FLEXIBLE POWER
TO DELIVER INTEGRATED, CAPABLE PERFORMANCE



BUILT FOR THE REAL WORLD.

We know what matters most are real-world results. Whether you're living up to your sustainability goals, trying to maximize the efficiency of your project, or budgeting against the upkeep of critical equipment, there is always a bottom line that determines your success. **Our goal is to make success as simple and repeatable as possible.**



BEYOND WORLD-CLASS ENGINES

The promise of big change means investing in a diverse portfolio of solutions. That's why Caterpillar has invested in a broad range of technologies across multiple industries that go well beyond our world-class engine offerings. Through investments, expertise, and experience, we are able to design the rugged, integrated energy storage systems that meet today's oilfield needs, while helping contribute to a lower-carbon future.



A COMMITMENT TO REDUCING EMISSIONS

As the spotlight continues to grow on every company's sustainability commitments during the energy transition, our hybrid energy solutions are positioned to help you stay ahead and achieve more. With the ability to utilize 100% natural gas and high-efficiency combustion, you can reduce greenhouse gas (GHG) emissions. You can also utilize reserved electric energy, stored to create a smaller, quieter power grid that reduces your carbon footprint and can seamlessly integrate with renewable power sources.



POWER YOU CAN RELY ON

While our hybrid solutions may require less, that doesn't mean they're any less capable of powering oilfield operations. With enough power to reliably see a site through critical drilling sequences utilizing only on-site reserves, our energy ecosystem can help minimize downtime due to faulty equipment or local outages. Add to that integrated software solutions like the Smart Engine Management System (Smart EMS), and you can further optimize power usage to ensure you're powering operations more efficiently as well.



TESTED TO PERFORM IN HARSH ENVIRONMENTS

Reliable performance has always been a cornerstone of our oilfield equipment. Through rigorous testing and engineering efficiency, we've made it easy to drop our hybrid energy solutions into rugged, remote environments without worrying about performance or unexpected maintenance. It's all built to fit in and just get the job done, no matter what.

SERVICE FOCUSED. SOLUTION DRIVEN.

To deliver the outcomes that matter most, our service team collaborates with you to fully understand your worksite and equipment ecosystem. From regular servicing to deploying customized automated monitoring, **we work with you every step of the way** to ensure you are getting the most out of your energy equipment and your operational potential.

REAL WORLD SAVINGS.

The Cat Hybrid Energy Storage Solution takes your entire operation into account to truly deliver a positive impact — all while maintaining consistent on-site performance.

UP TO

30%

REDUCTION IN
ENGINE HOURS

ACHIEVE UP TO
FUEL SAVINGS ON
FIELD GAS

UP TO 30% FUEL COST SAVINGS ON CNG

85%

REDUCE NO_x
BY UP TO*

80%

IN STORE FOR MORE SUCCESS

The world of oilfield operations requires more power, more dependability, more efficiency. Let our Hybrid Energy Storage Solution help **deliver smarter, more efficient and integrated power** to your oilfield operations.

* BASED ON FIELD RESULTS WHEN COMPARED TO A TIER 2 DIESEL



WE HAVE WHAT TOMORROW TAKES.

**LET US POWER YOUR OPERATIONS SUCCESS AND
HELP MEET YOUR SUSTAINABILITY GOALS. CONTACT
US TODAY TO DISCOVER ALL THE WAYS THE CAT
HYBRID ENERGY STORAGE SOLUTION CAN KEEP YOU
POWERING AHEAD.**

LET'S DO THE WORK.™



VISIT SITE

cat.com/hybridess.com

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