

aggreko

Greener Upgrades™

**Unlocking a new level
of customer value**





Introducing our Greener Upgrades approach



We are introducing **Greener Upgrades™**, an initiative developed to support our customers in improving efficiencies, lowering costs and making choices that support their sustainability goals.

By enabling **small shifts**, we can help make a **big difference** in unlocking a new level of customer value. Through our new products and innovative bespoke solutions, we seek to partner with our customers to support their energy transition, along their own paths and pace.

Our **Greener Power Packages** have been designed with our customers in mind, offering simple, flexible and best-in-class solutions to drive reliable and impactful results.

Together, we are headed toward a greener future.



Unlocking a new level of customer value

Aggreko's Greener Upgrades™ initiative aims to unlock a new level of customer value by combining the **latest technologies** with a forward-thinking **consultative approach** to deliver the **ideal solutions for our customers**.

Aggreko is committed to being a partner for progress in support of our customers' transition to a more efficient, cost-effective and low-emissions future. By offering greener power packages centered around simplicity, flexibility and innovation we can provide best-in-class technology and tailor-made solutions to drive optimal results.

Greener Power Packages

GREAT



Tier 4 Final

GREATER



Tier 4 Final + Battery

GREATEST



Tier 4 Final + Battery +
Alternative Fuels



Electrical Distribution
with Grid Power



Greener Power Packages – Technologies and Solutions

Technologies	With off-grid power Tier 4 Final (Diesel)	With off-grid power Hybrid Power System (Tier 4 Final + Battery)	With off-grid power Hybrid Power System +Alternative Fuels (HVO)	With grid power Electrical Distribution
	<p>Fuel-efficient, low-noise and low-emissions generator designed to cut down on harmful pollutants & comply with the most stringent requirements of the EPA for diesel engines.</p>	<p>Power system that integrates low-emission generators and battery storage, bringing multiple power sources together in a seamless, self-contained package.</p>	<p>Power system that integrates low-emission generators, battery storage and clean fuels to achieve the greenest level of temporary power.</p>	<p>System designed and delivered based on specific load requirements. It incorporates grid power and our electrical distribution equipment to distribute power safely and efficiently.</p>
Solutions	<p>Tier 4F (Diesel)</p> <ul style="list-style-type: none"> + Right Sizing (load on demand) + Remote Monitoring Services + Fuel & DEF Management Services 	<p>Hybrid Power System</p> <ul style="list-style-type: none"> + Right Sizing (load on demand) + Remote Monitoring Services + Fuel & DEF Management Services 	<p>Hybrid Power System</p> <ul style="list-style-type: none"> + Alternative Fuels + Right Sizing (load on demand) + Remote Monitoring Services + Fuel & DEF Management Services 	<p>Electrical Distribution</p>



Greener Power Packages – Enhanced Value from GREAT to GREATER to GREATEST

Our **Greener Power Packages** bring together our best-in-class technologies and tailor-made solutions to satisfy your unique off-grid or house power needs. At Aggreko, we understand that one size does not fit all. Whether you are looking to reduce emissions and noise, save on fuel costs, reach improved levels of reliability and operational efficiencies, or a combination of these, our packages offer the versatility to help achieve your desired results and deliver the most value.

From **GREAT** to **GREATER** to **GREATEST**, the more complete the package, the more enhanced the benefits.

GREAT



Tier 4 Final

GREATER



Tier 4 Final + Battery



Tier 4 Final + Battery + Alternative Fuels

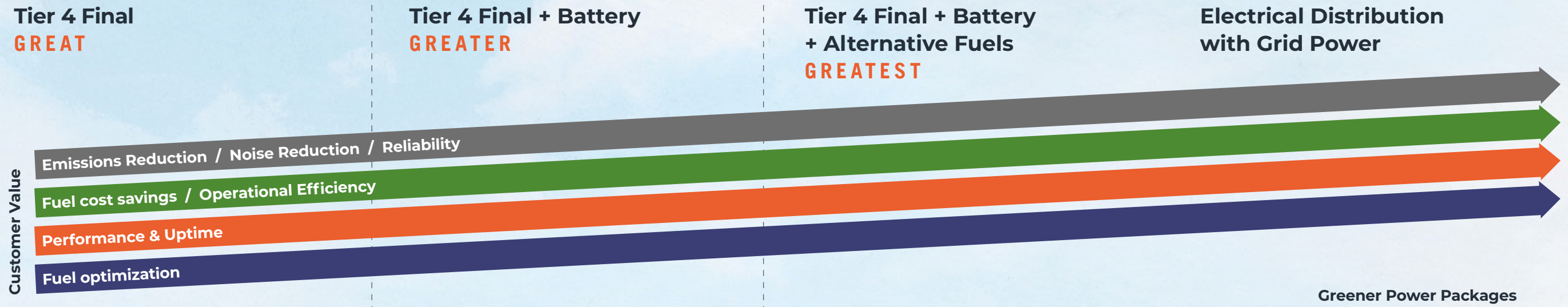
GREATEST



Electrical Distribution with Grid Power

Benefits

- Technology
- Load on Demand
- Remote Monitoring
- Fuel Management





Greener Power Packages

A closer look at Aggreko's Technologies and Solutions

AGGREKO'S GREENER UPGRADES





Technology

Aggreko has been investing in the latest technology to enable our customers' transition to a more efficient, cost-effective and greener future. Our Greener Power Packages are comprised of new technology that delivers effective ways to increase operational efficiency and performance, while also reducing impact on the environment.

GREAT



GREATER



GREATEST



Enhanced Customer Value from **Great** to **Greater** to **Greatest**

Emissions Reduction / Noise Reduction / Reliability

Tier 4 Final Generators

Specifically designed to cut down on harmful pollutants, our Tier 4F generators comply with the most stringent requirements set out by the United States Environmental Protection Agency (EPA) for diesel engines. They operate in the same way as the cleanest car engines, limiting carbon monoxide, nitrogen oxides and particulate matter to provide efficient low-carbon & low-noise temporary power.

The new innovative fleet will deliver a 98% reduction in the volume of particulate matter (PM) and 96% of the nitrogen oxides (NOx) expelled compared to the basic engines in older generators.

Also, carbon dioxide (CO₂) emissions can be reduced by minimizing fuel consumption and utilizing environmentally friendly biofuels.



Battery Energy Storage Systems (BESS)

Our modular plug-and-play battery options provide dependable, consistent power for improved operational performance, while reducing your costs and carbon footprint.

With a hybrid solution that combines our low-emission Tier 4F generator and battery storage, fuel is only used when it's needed most. Through a fully automated system, the generator can turn off during non-peak hours or at night, and the battery system can provide the required power.

With this package, maximum flexibility and control can be achieved over how power is generated and used, leading to enhanced efficiencies, cost savings and reliability.



Electrical Distribution with Grid Power

When house power is available with sufficient grid capacity, a power distribution solution can be designed and deployed, providing an efficient way to reduce emissions, improve reliability, and maintain production rates. Once a feasibility test is completed and approved, Aggreko's expert electrical engineers design a tailor-made power distribution system based on the required load and other customer requirements to effectively distribute power potential.

With a house power distribution solution, emissions are reduced even further, fuel costs are eliminated, all while enhancing reliability.





Technology – Alternative Fuels

As your consultative partner, we understand that a one-size-fits-all approach is not effective when it comes to fuel use for your operations. Aggreko offers alternative fuel options based on your unique fuel availability and project needs to help further reduce emissions and improve efficiencies.

We are committed to exploring the potential of alternative fuels, like HVO (Hydrotreated Vegetable Oil) to help you strike the right balance between meeting your sustainability targets in the most economical ways. While conventional diesel is a fossil fuel made from crude oil, HVO is a new and superior type of biodiesel made from biological material, making it one of the cleanest, greenest fuels on the market.



Why use HVO fuel?

One of the most significant advantages of using HVO fuel are drastically reduced harmful emissions through much-improved burning efficiency and lower CO₂ emissions:

- Significantly reduces nitrogen oxide (NO_x), particulate matter (PM), carbon monoxide (CO) and carbon dioxide (CO₂) emissions
- Biodegradable, non-toxic, and odor-free
- High cetane number means HVO is more easily ignited for smoother running, greater power and cleaner performance
- Safe to use in a wide range of applications

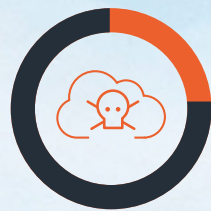
HVO versus Diesel



Up to **33% lower** levels of fine particulates



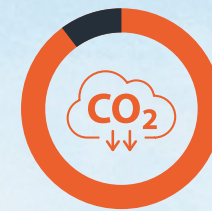
Up to **30% less** hydrocarbons (HC)



Up to **24% lower** carbon monoxide (CO) emissions



Up to **9% less** nitrogen oxides (NO_x)



Reduced levels of carbon dioxide (CO₂)



Reduced levels of polycyclic aromatic hydrocarbons (PAH)





Load-on-Demand

As a part of our commitment to delivering the ideal solutions for our customers, Aggreko applies innovative thinking to right-sizing our technology to the required application to achieve greater efficiencies. Our Greener Power Packages include a **load-on-demand approach** to designing our solutions, which ensures the equipment is appropriately sized for the specific needs of the project and is operated optimally.

Right Sizing

With right sizing, wasted resources and overburdened equipment can be avoided, which reduces maintenance-related costs, inefficient performance and /or equipment failure.

By ensuring the equipment is appropriately sized for the specific needs of the project, our customers can optimize their resources, reduce operational costs, and improve overall efficiency and productivity, while addressing energy efficiency and emissions reduction.

Why would a generator be oversized?

There could be a number of reasons, including to cope with motor starts and to address inrush currents; when the actual load or start-up is not known; or because a safety net or error tolerance has been added to cope for any unknowns. Rental equipment typically runs variable loads where the unit is running 60% load for peak usage but drops off to less than 30% load during non-peak loads.

Load-on-Demand

Load on demand power solutions replace a large, constantly operating generator with a group of smaller generators that can power up or down according to demand via a fully automated system. As site power requirements change, the generators will automatically turn on and off, leading to more cost savings, maximized efficiencies, and reduced emissions, while allowing for organic redundancy.

[View the Load-on-Demand video](#)

GREAT



GREATER



GREATEST



Enhanced Customer Value from Great to Greater to Greatest

Fuel cost savings / Operational efficiencies

In a hybrid solution package, generators can be automatically turned off during non-peak hour or at night and the battery can provide the required power. Similarly, batteries can handle load fluctuations that happen, whether that be a sudden increase or decrease in power needed, further reducing generator run time fuel consumption and potential downtime, leading to overall greater efficiencies and emissions savings.



Most of Aggreko's fleet incorporates smart metering, enabling consultation on sizing requirements.

By utilizing telemetry capability, we can refine capacity to deliver optimum performance.

Aggreko's consultative approach may mean a solution package is different to what customers first request, but correct sizing can ultimately deliver the best results for sustainability targets and the bottom line.



Remote Monitoring Services

Aggreko's **Remote Monitoring Services** (ARM) transmits near real-time data from our equipment, allowing Aggreko to anticipate, diagnose and solve problems faster and with greater accuracy — and proactively head off potential issues. These insights also allow you to make data-driven decisions to optimize operations and lower operating costs.

With ARM, should an issue arise, users get notified of any critical performance alarms and are contacted immediately by Aggreko's 24/7 Remote Operations Center (ROC), a team of skilled technical specialists ready to diagnose, respond and remotely fix issues when possible.

For right-sizing applications, Aggreko's ROC collects and analyzes project data, and uses it to support future jobs with data-led improvements and more optimally sized equipment delivering enhanced value over time.

With ARM, our customers can access current and historic performance data about any or all their Aggreko rental equipment via daily, weekly or monthly reports for internal reporting purposes, emissions reporting or future planning needs, such as right-sizing equipment and utilities .

This service can also include fuel management, calculating what is needed based on usage and scheduling deliveries to match.

For managers of mission-critical, around-the-clock operations, this means access to run status, load, fuel levels, etc. anytime — and the peace of mind knowing their equipment is being monitored with quick resolution to any problems day or night. For field operations with dozens of pieces of equipment in remote areas, it means knowing the exact location of the generator needing maintenance, with expert technicians providing instructions and on-site support. Or, knowing exactly when to call for a fuel truck, optimizing fuel delivery scheduling and costs.

GREAT



GREATER



GREATEST

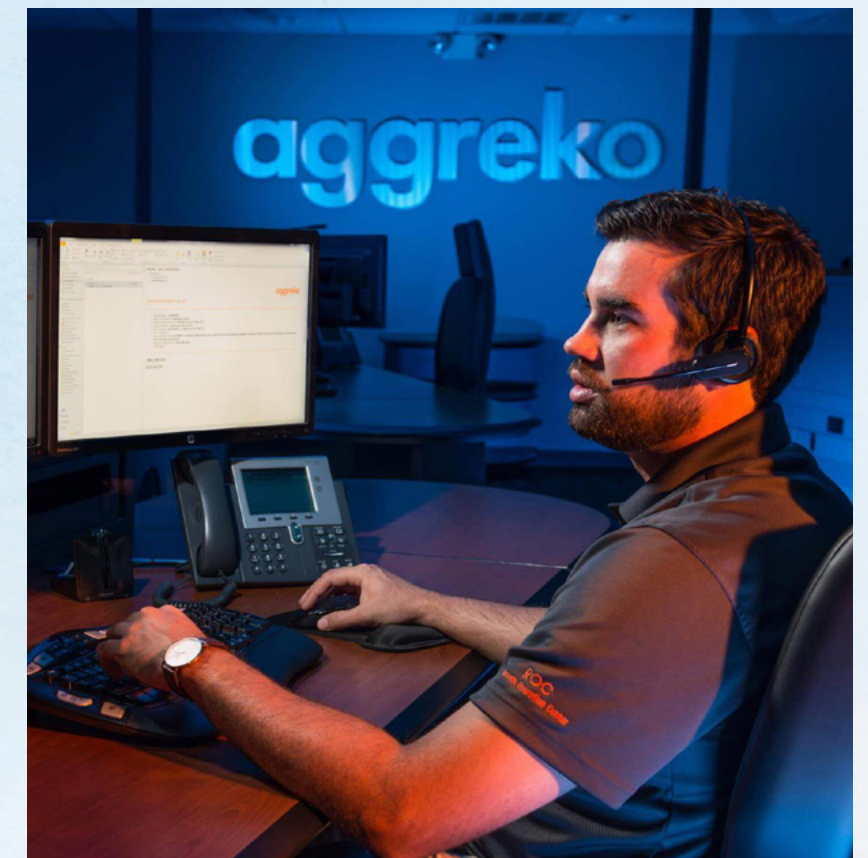


Enhanced Customer Value from **Great to Greater to Greatest**

Performance & Uptime

Key Benefits

- Proactive monitoring by technical experts by using equipment data to set up warnings before shutdowns, enabling support before failure, minimized risk and issue resolution before incidents occur
- Maximized uptime
- Immediate response and technician assistance
- Increased unit productivity
- Improved operational efficiency
- Around the clock global reach and support for ultimate dependability





Fuel Management Services

Aggreko's unique 'all-inclusive' fuel & DEF management service removes the burden associated with planning fuel deliveries, including Diesel Exhaust Fluid (DEF) for Tier 4 Final generators, and significantly reduces the risk of downtime associated with fuel contamination and fuel outage.

Fuel Management Services

We are committed to providing quality solutions that increase your efficiency and deliver the uptime reliability that you need to keep your operations running.

Our fuel management services allow you to focus on critical operations while we manage fuel planning and supply:

- We provide fuel delivery scheduling that is optimized and managed in accordance with your expected operating pattern and the load on the equipment – and we guarantee fuel quality.
- We use double walled UL-listed compliant EnviroTanks that can be accompanied by a spill-containment system for maximum safety, environmental protection and the elimination of spill risks.
- We provide DEF tank management by using an automated DEF replenishment system to monitor levels digitally (through the engine's communications protocol) and to plan refills accordingly. The external DEF tank will communicate with different engine manufacturers to maintain proper internal DEF tank levels during extended run time, leading to enhanced supply reliability.
- With the Aggreko Remote Monitoring (ARM) service as an additional safeguard, we can ensure minimal disruption and maximum efficiency by monitoring the equipment and its operation, including fuel levels, loads, maintenance requirements, run hours, warning and failure alarms, and GPS location.

GREAT



GREATER



GREATEST



Enhanced Customer Value from **Great** to **Greater** to **Greatest**



The Aggreko Advantage



Optimized & flexible fuel planning



Reliable, hassle-free deliveries



Guaranteed fuel quality



Highest safety standards



24/7 fuel emergency response



Conclusion



The technology and solutions that make up **Aggreko's Greener Upgrades** offer power alternatives and solutions that help move the needle in delivering desired business results in a new and improved way.

Put simply, there's no one solution to achieving a transition to a more efficient, cost-effective and low-emissions future. That's why we work in partnership with our customers and combine tailor-made solutions with the latest technologies to deliver ultimate value.

For more information about Aggreko's products and services, visit [aggreko.com](https://www.aggreko.com)





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