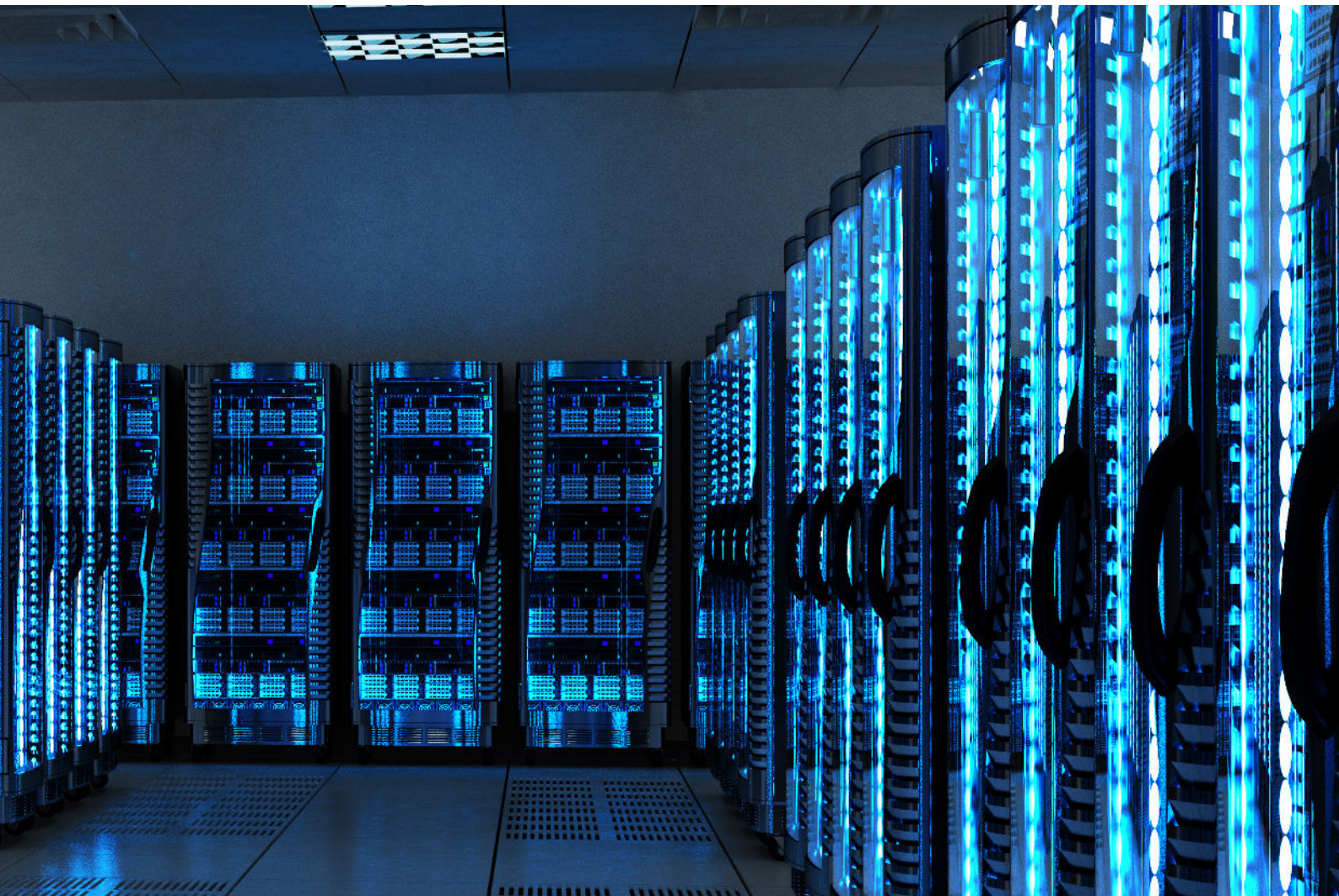




Secure your power with resilient energy solutions.

| Data Centers

Engineer - Install - Maintain





With massive increases in energy requirements for data centers, there is a growing emphasis on how to secure reliable, cost effective, and low carbon energy.

At Clarke Energy, we specialize in delivering resilient energy solutions for data centers. Whether you need base-load electricity using gas* or back up power with diesel, to cutting-edge combined cooling and power systems, innovative microgrid designs, or carbon capture technologies, our global expertise and local support ensure your energy infrastructure operates seamlessly and efficiently. Discover how our solutions can transform your data center's energy strategy and drive success.

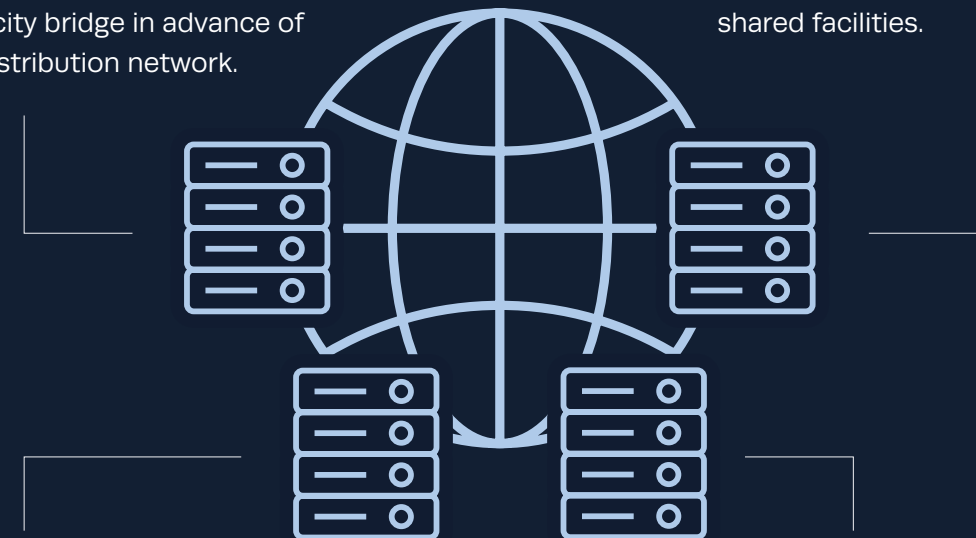
*Natural gas, hydrogen, biogas or biomethane

Hyperscale data centers

Clarke Energy's distributed energy systems can be deployed to provide rapid, dedicated electricity and cooling for your development, or act as an electricity bridge in advance of the power distribution network.

Co-located data centers

Our modular energy systems can be expanded or reduced as tenant demands change, providing flexible and cost-effective solutions for shared facilities.



Enterprise data centers

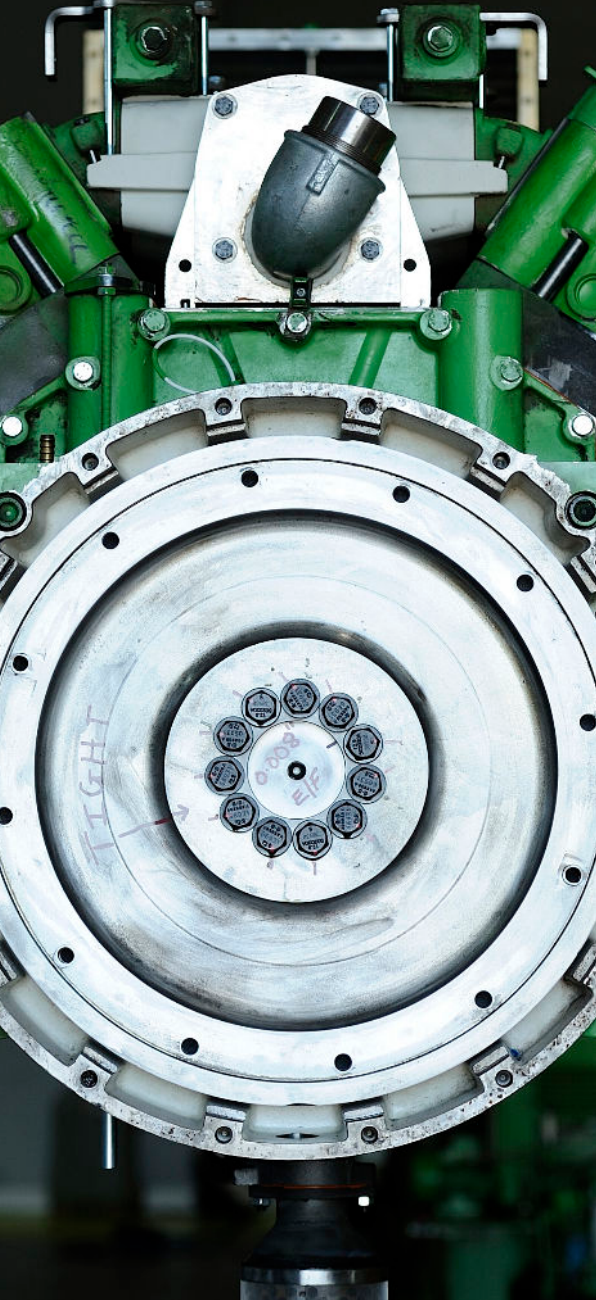
With many businesses opting to host their data centers alongside existing operations, we can deliver power and cooling to the data center building while excess thermal energy can also be supplied to local offices and buildings.

Edge data centers

Existing data centers that have been deployed close to end users to reduce latency may need to replace racks with updated higher energy demand systems. Using CCHP technology, we can augment local electrical and cooling within existing plant footprints without additional draw on the electricity network.

Tailored Energy Solutions for Every Data Center.

Clarke Energy's scalable, modular systems cater to diverse data center needs, from co-located and edge facilities to hyperscale operations. Whether you need gas or diesel backup power, Combined Cooling, Heat and Power (CCHP) systems, or innovative microgrids, our flexible solutions ensure maximum resilience and efficiency.



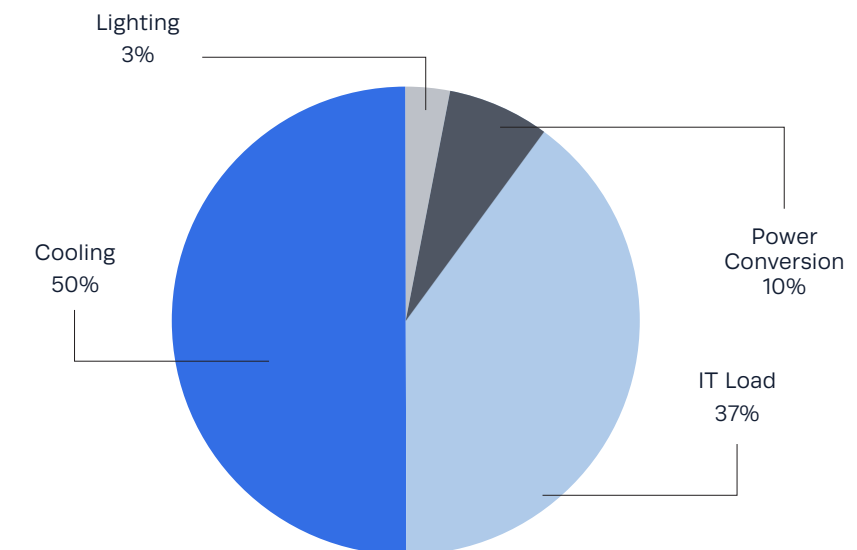
Flexible solutions for *uninterrupted* *power.*

As the largest authorized distributor of INNIO Jenbacher gas engines globally, we can supply gensets whilst providing access to genuine Jenbacher spare parts across our operational regions. We maintain the largest inventory of these parts outside the Jenbach, Austria facility, to ensure zero downtime for your data center.

Clarke Energy offers a range of tailored energy solutions that ensure uninterrupted power for data centers, even in regions with limited grid capacity. Our solutions include fast-start, hydrogen-ready gas engines, renewable natural gas (biomethane) options, and diesel generators for backup power. With a primary focus on efficiency and sustainability, our systems are resilient, flexible and future-adaptable. We deploy modular based energy systems which can be expanded or reduced in size to meet future energy needs. Gas engines, diesel engines and batteries can be deployed in coordination to optimize the requirements for ramp-up speeds.

Combined cooling heat and power (CCHP)

Cooling is a major energy expense for data centers. Combined cooling, heat and power (CCHP), also known as trigeneration, addresses this challenge by generating both electricity and heat from a single fuel source. Clarke Energy's CCHP systems utilize the waste heat produced by our trigeneration units to provide cooling through absorption chillers, significantly reducing overall energy consumption and costs. Cooling is provided as chilled water that can be readily integrated into water-based cooling systems for processors.



Source: ieeexplore

Our CCHP systems can be fueled by hydrogen or renewable natural gas (RNG), offering a sustainable, low-emission energy solution. CCHPs provide improved efficiency, lower operational costs, and enhanced resilience with the added advantage of backup power during outages. Alternatively, when deploying data centers alongside other heat users, waste heat can be recovered to help reduce carbon emissions and supply local district energy networks with heating or cooling.

With a proven track record delivering energy solutions for data centers worldwide – including successful projects in the USA, Ireland, UK, Australia and New Zealand – Clarke Energy provides comprehensive support throughout the project lifecycle:



Feasibility

Developing and recommending optimal single or multi-technology solutions for the generation of electricity and cooling.



Engineering

Advanced computer-aided design and expertise in mechanical and electrical engineering ensure meticulous planning and execution.



Installation

Dedicated teams handle all aspects of project management, installation, and commissioning, ensuring peak performance.



Maintenance

Our extensive network of service engineers offers reliable long-term maintenance, including remote monitoring, to keep your systems running.



Utilization of waste heat

Converting excess heat into cooling, reducing cooling energy costs.



Fuel flexibility

Operate on natural gas, hydrogen or RNG for a cleaner, renewable energy solution.



Backup power

Reliable power during prolonged grid outages.



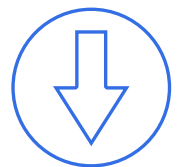
High efficiency

Achieve up to 95% efficiency through combined power and cooling generation.



Bridging power

Our solutions can be deployed as bridging power for rapid energy in advance of the power distribution network.



Economic & environmental benefits

Lower costs and reduced carbon emissions.



SAVE BIG

Avoid peak electricity tariffs and reduce running costs.



EARN MORE

Sell excess energy, heat, or cooling to generate additional revenue.



STAY AHEAD

Leverage access to wholesale markets and grid services for financial growth.



Microgrids and AC/DC capabilities

With grid infrastructure becoming increasingly unreliable and expensive, investing in microgrids is crucial for mitigating the risks of outages and enhancing data center resilience. Microgrids can combine technologies such as gas engines, battery energy storage systems (BESS), renewable energy sources, and advanced controls to ensure continuous power supply, even during extended grid outages.

A key advantage of microgrids for data centers is their support for both AC and DC power. Data centers primarily use DC power for their equipment, while AC power is more efficient for transmission. A hybrid AC/DC approach can maximize efficiency, reduce energy losses, and optimize performance.



Renewable Energy Enablement

Optimized asset flexibility ensures seamless integration of renewable energy sources like wind and solar into microgrids, supporting smart grid operations sustainably.



Energy Resilience

Achieve industry-leading efficiency with fast-start capability, high-load acceptance, and modular flexibility, delivering up to 99.999% availability for reliable and optimized performance.



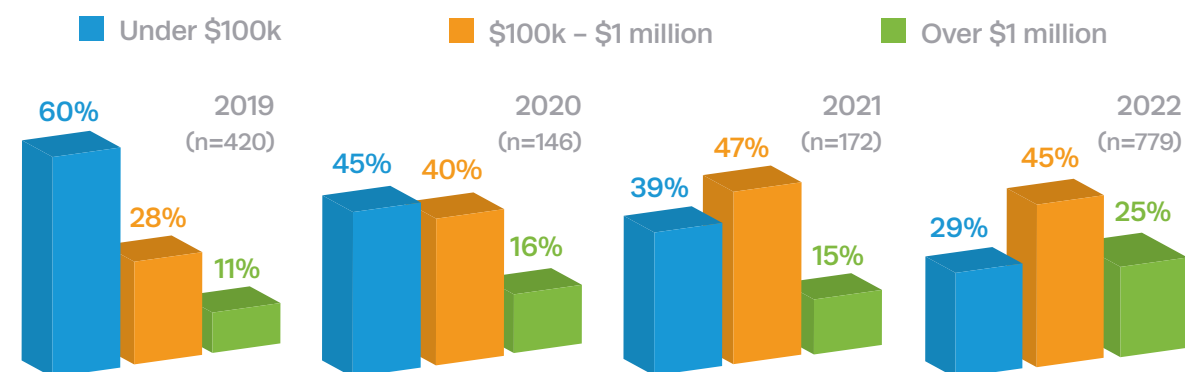
Energy Efficiency

Robust gas engine solutions provide a dependable power supply, either as a backup or a base-load system, with added capability to utilize renewable gases for a sustainable and resilient energy source.

Economic and environmental benefits

Investing in Clarke Energy's advanced energy solutions offers more than just protection from the rising financial impact of power outages. These solutions can provide long-term financial and operational advantages to stay ahead of future disruptions.

The proportion of single major outages costing over \$100,000 is increasing:



Source: Uptime Institute

While the initial capital expenditure for solutions like CCHP may be higher than traditional systems, operational expenditure is significantly reduced due to industry-leading efficiency*. This minimizes electrical requirements, resulting in lower running costs compared to conventional setups.

Our solutions can transform your energy infrastructure into a valuable asset by enabling participation in energy markets and ancillary grid services. We offer the potential to monetize surplus energy, heat, or cooling generated onsite.

We design solutions that aim to overcome grid capacity challenges. We offer the ability to utilize alternative renewable fuels while futureproofing for the transition to net zero. Our Jenbacher engine platform offers greater flexibility for longer operational run times, furthering cost savings.

*Source: Engie/RED



Clarke Energy, a Rehlko company, delivers flexible, tailored energy solutions to keep your data center powered, efficient, and future-ready.

