

rehlko

Powering Good *Neighbors*

The Rehlko Community Impact Toolkit for Responsible Data Center Growth

Community Messaging Themes

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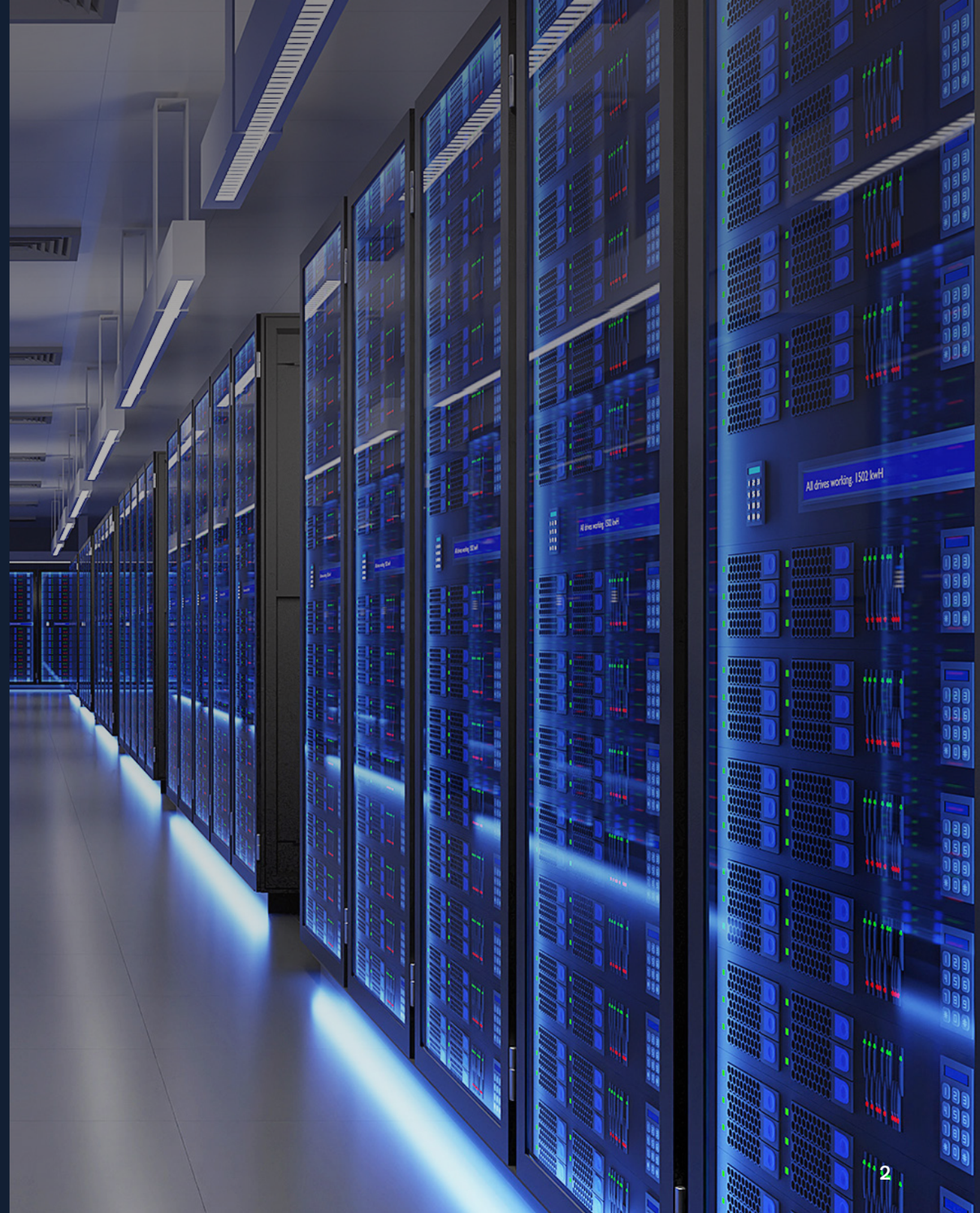
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Introduction

As communities evaluate unprecedented data center growth, they are asking the right questions. Balancing digital growth with energy reliability, environmental stewardship, and community well-being requires commitment across the entire data center ecosystem.

These are precisely the challenges Rehlko can help customers address. Through integrated energy resilience solutions, we can help data center operators support grid reliability, reduce environmental and community impacts, and build trust through transparent, data-driven reporting.

Who This Toolkit is For

The Powering Good Neighbors Toolkit is intended to help community members and their leaders, customers, partners and other stakeholders communicate consistently about how responsible data center growth can support both data center needs and community priorities.

How to Use this Toolkit

The toolkit works to establish proof points and practical guidance for discussing the opportunities and challenges associated with modern data centers. This has been organized into three common areas of concerns when it comes to data center power:

- **Energy Infrastructure & Economic Impacts**
- **Environmental and Noise Impacts**
- **Transparency and Innovation**

To support more effective engagement, each topic follows a consistent structure:

Community Concern → Solution → Rehlko Approach → In Plain Terms

This format shifts discussions beyond products and technologies toward the outcomes that matter most to communities, including grid reliability, environmental performance, noise mitigation, transparency, and long-term community value.

How to Build a Better Energy Neighbor

Growth and Development Today

As communities evaluate unprecedented data center growth, they are asking the right questions about sources, magnitude, and potential impacts of data center operations. These questions also include where noise may come from, and how much emissions are emitted by power choices. Balancing digital growth with energy reliability, environmental stewardship, and community well-being requires commitment across the entire data center ecosystem.

Energy Solutions for a More Responsible Data Center

These questions can be addressed through more transparency, a clear roadmap that also tackles data center impact in the longer term, and clarification on what is impacting the environment in the short term. The key consideration is that data centers built with flexible power systems can, in certain configurations and energy markets, support grid stability and reduce grid dependence during peak demand events.

How Rehlko Can Help

Through integrated energy resilience solutions, we can help data center operators support grid reliability, reduce environmental and community impacts, and work to build trust through transparent, data-driven reporting.

Communities have long relied on resilient power solutions to keep critical infrastructure operating when it matters most. Today, Rehlko helps protect approximately 14 GW of critical infrastructure worldwide, including hospitals, airports, telecommunications networks, and digital infrastructure. We have also deployed more than 2 GW of prime power and storage capacity dedicated to supporting community grid networks, equivalent to the annual electricity needs more than 1.6 million households[1], helping support energy resilience and reduce pressure on constrained grids.

Through our Structured Transition Model, facilities may evolve over time, subject to customer adoption decisions, regulatory requirements, and market conditions, through the integration of energy storage, lower-carbon fuels, renewables, and other technologies that support both digital growth and community resilience.

1 Based on 2022 data by the U.S. Energy Information Administration.

Our Purpose: Creating an *energy resilient world* for a better future.

1. Energy Infrastructure & Economic *Impacts*

Community Concern:

Communities worry new data centers will place additional pressure on already constrained electricity infrastructure and increase energy costs.

Solution #1 - Off-grid Power Generation: Creating additional sources of local power and energy storage can strengthen community energy resilience, helping support electricity networks during periods of peak demand rather than adding to the strain.

- **Rehlko Approach:** Rehlko's off-grid energy generation and storage systems allow data centers to generate power on-site, reducing or eliminating reliance on the grid during periods of peak demand. By easing strain on the broader grid, these systems can help mitigate peak-demand impacts on local electricity networks, support grid frequency, and, where permitted and technically configured, provide additional grid-support capabilities.
- **In plain terms:** Rehlko helps protect approximately 14 GW of critical infrastructure worldwide, including hospitals, airports, telecommunications networks, and data centers. Complementing this footprint, we have deployed more than 2 GW of prime power and storage capacity dedicated to supporting community grid networks, approximately the annual electricity needs of more than 1.6 million households. Based on 2022 data by the U.S. Energy Information Administration.

Solution #2 - Leveraging Hybrid Power: Generating and managing more power on-site can reduce reliance on local electricity infrastructure and costs while supporting lower-emission operations and improving community energy resilience when appropriately designed and configured.

- **Rehlko Approach:** Rehlko's hybrid low-carbon power solutions combine on-site generation, battery energy storage (BESS), and thermal energy systems to provide reliable off-grid power, capable of operating with reduced dependence on local electricity infrastructure while working to support lower-emission operations and greater community energy resilience.
- **In plain terms:** Think of a cabin that combines renewables, a generator, and a battery bank to stay powered without a utility hookup. This is the same idea, built for an industrial site.

Solution #3 - Combined Cooling, Heat and Power: Making better use of the energy already being produced can reduce overall fuel consumption, improve efficiency, and lessen the impact on local energy systems.

- **Rehlko Approach:** Combined Cooling, Heat and Power (CCHP) systems can capture and reuse energy that would otherwise go to waste, improving efficiency, and lowering overall fuel consumption under specified operating conditions when appropriatley designed and configured.
- **In plain terms:** Think of it like opening the oven door after baking to warm up your kitchen on a cold day. The heat was already generated to cook your meal, you're reusing it to warm the room, which means your home furnace doesn't have to work as hard.

2. Environmental and Noise *Impacts*

Community Concern:

Many communities worry that growing energy demand from data centers will increase environmental impacts related to emissions and noise.

Solution #1 - More Sustainable Fuels: One way to reduce the environmental impact of growing data center energy demand is to lower lifecycle emissions from the backup power systems that support nearby operations.

- **Rehlko Approach:** Switching fuel in Rehlko backup generators from fossil diesel to Hydrotreated Vegetable Oil (HVO) diesel may reduce lifecycle greenhouse gas emissions by up to 90%, depending on fuel source, lifecycle methodology, and operating conditions. while using existing equipment and maintaining the same reliability.
- **In plain terms:** Same generator, more sustainable fuel. While point of use emissions are similar to diesel, this provides a climate benefit since the emissions may be reduced significantly across the fuel's life. Similar to a car switching from regular gasoline to a low-carbon biofuel. No new equipment, but the fuel's lifecycle emissions are reduced.

Solution #2 - After-treatment Technologies: Reducing pollutants before they are released into the atmosphere can help improve local air quality in your local community.

- **Rehlko Approach:** We can supply exhaust after-treatment technologies, including NOx-reduction catalysts, oxidation catalysts for certain unburned hydrocarbons and carbon monoxide, particulate filters, and certain distributed carbon-capture solutions.
- **In plain terms:** These technologies are similar to a car's catalytic converter; they help clean the exhaust and work to cut out pollutants before they leave the site.

Solution #3 - Leveraging Hydrogen: Supporting the development of lower-emission power technologies can help your community benefit from digital growth while reducing the long-term environmental footprint of critical infrastructure depending on deployment and operating conditions.

- **Rehlko Approach:** We helped to develop a 1MW hydrogen fuel cell – capable of supporting data center's needs. In the future, hydrogen fuel cells could minimize greenhouse gas emissions at the point of use, subject to fuel production pathways. If a data center chooses to use natural gas engines, they can leverage hydrogen blending into the fuel source. Helping to further reduce impacts. Fuel-cell systems generate electricity electrochemically, while hydrogen-blended engines use combustion; availability and environmental performance depend on configuration, fuel source, and operating conditions.
- **In plain terms:** Hydrogen can power mission-critical operations without relying on traditional combustion engines, creating a future pathway toward reliable power with little to no emissions at the point of use. Fuel-cell systems generate electricity electrochemically, while hydrogen-blended engines use combustion; availability and environmental performance depend on configuration, fuel source, and operating conditions.

2. Environmental and Noise *Impacts (Cont.)*

Community Concern:

Many communities worry that growing energy demand from data centers will increase environmental impacts related to emissions and noise.

Solution #4 - Lowering Testing Maintenance: Reducing how often backup generators need to run for routine testing can help lower emissions, fuel use, and noise impacts without compromising reliability.

- **Rehlko Approach:** Our Conscious CareTM program can reduce testing-related GHG emissions in backup power by up to 71%[1] during periodic diesel-fueled exercises with annual run times that can go as low as approximately 70 minutes total, compared to the standard monthly test protocol which can be as high as 360 minutes annually depending on program requirements and system configuration. When fuel lifecycle emissions are considered there are even greater reductions — up to 98%[2] under specified conditions when combined with HVO and applicable maintenance protocols.

1 For eligible generator configurations, Conscious Care™ can reduce GHG emissions from scheduled maintenance testing by up to 71% compared with Rehlko's standard testing protocol. Actual reductions vary by generator, fuel, operating conditions, and maintenance requirements. See methodology and assumptions here. https://techcomm.rehlko.com/$web/techcomm/contentful/G26-41_Benefits%20of%20No-Load%20Exercising%20for%20Diesel%20Generators_WP.pdf

2 * Emission reduction estimates are based on internal calculations using modelled fuel consumption and CO_2 emission factors. The 98% reduction reflects the combined effect of extended exercise protocols and HVO, a renewable diesel alternative with significantly lower lifecycle CO_2 emissions. No third-party verification has been conducted.

- **In plain terms:** Monthly loaded exercises can now be replaced with shorter, low-load tests, cutting fuel consumption and reducing emissions to the benefit of your local community where local compliance requirements and data center tenant's testing procedures allow.

Solution #5 - Utilizing Advanced Acoustic Engineering: Noise impacts can be reduced through equipment design, sound attenuation, and facility engineering that can minimize how much noise reaches your neighboring homes, businesses, and community spaces..

- **Rehlko Approach:** Rehlko's pursuit of advanced acoustic engineering and more compact spatial enclosures addresses environmental concerns around noise. Our rating on certain enclosures for our backup generators is 74dBA[3] at approximately 7 meters under specified measurement conditions, equivalent to the sound level of an average running washing machine[4]. Our natural gas engines used in our prime power solutions have a container that is 65dBA at 10m[5]. These engines are used by hospitals who have high noise and vibration sensitivity.

- **In plain terms:** Better sound engineering and a smaller equipment footprint bring backup generator noise down to 74 dBA at 7 meters, about as loud as a washing machine running nearby, designed to satisfy many commonly used community noise specifications, subject to site-specific requirements.

3 Actual sound levels depend on equipment configuration, site design and operating conditions. Under specified measurement conditions based on the 74dBa standard on eFRAME enclosures.

4 For comparison, household washing machines sold in the European Union are required to disclose airborne acoustical noise emissions during the spin cycle. Many residential models are rated between 72 and 76 dB(A), according to product data reported under Commission Delegated Regulation (EU) 2019/2014 and the European Product Registry for Energy Labelling (EPREL)

5 For natural gas, under specified measurement conditions based on the 65dBa standard gas engines solutions deployed by Rehlko.

2. Environmental and Noise *Impacts (Cont.)*

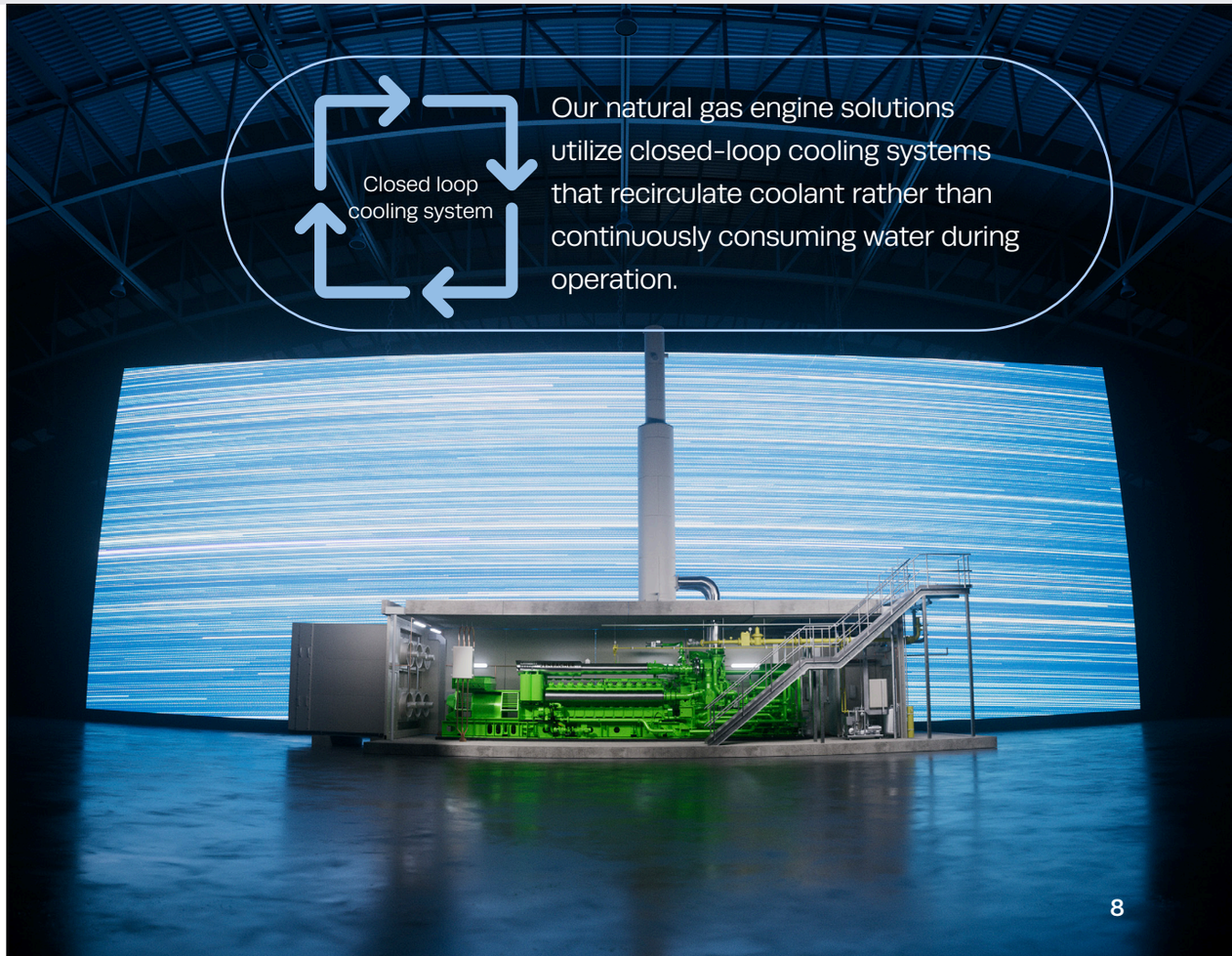
Community Concern:

Many communities worry that growing energy demand from data centers will increase environmental impacts related to emissions and noise.

Solution #6 - Water Use Mitigation: Choosing natural gas engines over more water intensive power generation technologies like natural gas turbines can help reduce water consumption while maintaining the reliable power needed to support growing digital infrastructure.

- **Rehlko Approach:** Our natural gas engine solutions utilize closed-loop cooling systems that recirculate coolant rather than continuously consuming water during operation. A typical 3 MW engine contains approximately 500 liters of water within its closed-loop cooling circuit[1], while many conventional power generation technologies that rely on steam cycles and evaporative cooling can consume hundreds of liters of water per MWh generated depending on system design, cooling technology, and operating conditions.
- **In plain terms:** Think of the difference between a vehicle radiator and a cooling tower. Rehlko's gas engine technologies recirculate coolant within a closed-loop system, rather than continuously consuming water as part of the cooling process. This approach helps reduce water demand while still delivering reliable power for data centers and other mission-critical applications.

[1] Water-use observations are based on internal engineering calculations and product design specifications for radiator-cooled, closed-loop engine systems. A typical 3 MW engine contains approximately 1,000 liters of coolant comprising a 50:50 glycol-water mixture (approximately 500 liters of water). Comparative turbine water-consumption estimates are derived from publicly available industry data for combined-cycle facilities employing evaporative cooling. Actual water use varies by technology, cooling configuration, operating profile, climate, and site conditions. No third-party verification has been conducted.



3. Transparency and *Innovation*

Community Concern:

Many residents and local leaders want transparency of environmental claims rather than relying on generic company statements.

Solution #1 - Sharing Environmental Impact: Building trust requires providing your community with access to clear, independently verified information that shows the lifecycle environmental impacts of equipment.

- **Rehlko Approach:** A carbon calculator is part of Rehlko's Power Impact Intelligence platform that can provide access to verified Environmental Product Declaration (EPD) data that helps evaluate the embodied carbon of backup power systems at a product level, based on user configuration and runtime.
- **In plain terms:** We provide data centers with verified Environmental Product Declaration (EPD) data, with our carbon calculator here, and tools that encourage them to be transparent with your local community on progress in reducing carbon emissions. Think of it as a nutrition label for a specific generator.

Solution #2 - Talk the Talk and Walk the Walk: Your community should be able to see how facilities are reducing emissions and minimizing impacts through measurable actions.

- **Rehlko Approach:** Our Conscious Care™ program helps reduce testing-related noise and emissions through more efficient equipment testing, while Power Impact Intelligence allows operators and stakeholders to track, measure, and communicate those improvements over time.
- **In plain terms:** Rather than simply claiming lower emissions, Conscious Care™ helps reduce them through fewer and shorter generator tests. Customers and communities can access program information through Power Impact Intelligence, which provides visibility into reduced testing hours, lower fuel consumption, and associated emissions reductions over time.

Solution #3 - Demonstrate Continuous Improvement: Communities should know that manufacturers are continuously improving products to reduce emissions, increase efficiency, and prepare for lower-carbon technologies in the future..

- **Rehlko Approach:** Rehlko uses simulation, testing, and operational data to continuously improve its products and power solutions. Recent enhancements to our KD Series generators have improved transient performance, reduced lifecycle NOx emissions, lowered equipment weight.
- **In plain terms:** We don't just measure environmental performance; we use the data to improve it. The same testing and operational insights that help us understand emissions and efficiency also help us design the next generation of cleaner, more efficient power systems that can be deployed faster and adapt to lower-carbon technologies over time.

Quick Reference Guide

A packaged reference for community members and their leaders, customers, partners and other stakeholders: the technical term or stat on the left, a ready-to-use plain-language version on the right.

Pillar	Technical term / stat	In plain terms
1	CCHP / cogeneration	Think of it like opening the oven door after baking to warm up your kitchen on a cold day. The heat was already generated to cook your meal and you're reusing it to warm the room, which means your home furnace doesn't have to kick on.
1	Off-grid energy generation	An on-site power-and-battery setup, like rooftop solar plus a home battery, but sized for an entire facility instead of a house.
2	HVO (Hydrotreated Vegetable Oil)	A more sustainable fuel that runs in the same generator, with the same equipment and same reliability. It may reduce lifecycle greenhouse gas emissions by up to 90%, depending on fuel source and lifecycle methodology.
2	Acoustic enclosure / dBA rating	Rehlko's diesel backup generators are about as loud as a washing machine. Incremental noise pollution from running additional generators is minimal based on specified measurements, site conditions, and system configurations. Actual sound levels depend on equipment configuration, site design and operating conditions.
2	NOx reduction catalyst / oxycat / DPF	These technologies are similar to a car's catalytic converter; they help clean the exhaust and work to cut out pollutants before they leave the site, when properly configured and operated.

Quick Reference Guide *(Continued)*

Pillar	Technical term / stat	In plain terms
2	Generator testing hours & run time (Conscious Care™)	Monthly loaded exercises can be replaced with shorter, low-load tests, cutting fuel consumption and reducing emissions to the benefit of local communities where local compliance requirements and data center tenant's testing procedures allow as well as under specified operating conditions.
2	EPD (Environmental Product Declaration)	Like a nutrition label for a specific generator, but in this case it is a structured environmental profile for an applicable generator based on the data and lifecycle boundaries identified in the platform.
3	Power Impact Intelligence platform	We equip communities with two tools: a product-level carbon footprint calculator that estimates emissions, and a regional planning toolkit that aligns a facility's energy strategy with local lower-carbon targets. Together, they offer transparency on product-level footprint and encourage operators to implement lower-carbon solutions where applicable.
3	Structured Transition Model	A three-rung ladder: start with simple backup power, add cleaner fuel and renewables rung by rung, supporting what's already there.

Unless otherwise expressly stated, performance, emissions, noise, grid-support and sustainability outcomes depend on equipment configuration, operating conditions, fuel source, maintenance practices, site design, utility interconnection requirements, regulatory approvals and customer operating decisions. References to emissions reductions and environmental benefits are based on specified assumptions and methodologies, and actual results may vary.

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