

CASE STUDY

Enabling High-Integrity Carbon Credits for Data Centres Through Independently Verified Refrigerant Destruction

BACKGROUND

About Princeton Digital Group

PDG is a developer and operator of digital infrastructure, specialising in data centres across Asia Pacific. With operations in Singapore, Japan, India, Indonesia, China, Malaysia, and South Korea, PDG supports hyperscalers in scaling cloud and AI technologies across the region. Its approach is underpinned by disciplined execution and a focus on sustainable operations, including energy efficiency, responsible resource use, and defined decarbonisation pathways.

About A-Gas

A-Gas is a world leader in lifecycle refrigerant management. Through its advanced recovery, reclamation, and repurposing processes, A-Gas captures gases for future re-use or safe destruction, preventing harmful release into the atmosphere.

CHALLENGE

PDG is focused on improving sustainability across its data centre operations, including reducing the environmental impact of refrigerants, which are essential to cooling system performance and overall energy efficiency.

Managing Scope 1 emissions, particularly those associated with refrigerant use, remains a complex challenge for the data centre sector.

In 2024, PDG began investing in high-integrity carbon projects across Singapore, Malaysia and Indonesia to help offset these emissions for the 2022-2025 period as part of its broader emissions management strategy.

AT A GLANCE

Challenges

- Reducing environmental impact of refrigerants and diesel use is essential to data centre operations
- Managing complex Scope 1 emissions from diesel and refrigerant usage in data centres
- Implementing credible emissions management strategy through high-integrity carbon projects

Benefits

- Supports the management of Scope 1 emissions through high-quality carbon projects
- High-integrity, independently verified American Carbon Registry (ACR) carbon credits supporting sustainability targets
- Lower risk of climate impact from high global warming potential ozone-depleting substances



Addressing Scope 1 emissions is a key part of improving the environmental performance of data centre operations. Through our collaboration with A-Gas, we support the permanent destruction of high-impact refrigerant gases under a verified carbon project, while securing high-integrity, independently verified carbon credits that contribute to our broader decarbonisation roadmap.

Pritimukta Sarangi

Group Director, Sustainability and Technology, PDG

SOLUTION

Through a pre-purchase agreement with A-Gas, PDG committed to buying carbon credits in advance, supporting the collection and permanent destruction of high global warming potential ozone-depleting substances (ODS) - some up to 10,000 times more potent than carbon dioxide - under a verified carbon project.

In Singapore, A-Gas operates as a licensed toxic industrial waste collector (TIWC) regulated by the National Environment Agency (NEA). As part of the agreement with PDG, A-Gas sourced and managed these ODS gases, ensuring they are safely recovered, consolidated and destroyed via approved offshore facilities using UN-recognised technology, in line with United Nations Environment Programme Technology and Economic Assessment Panel (UNEP TEAP) guidelines.

By delivering verified destruction of these high impact gases, A-Gas generates high-integrity carbon credits, enabling organisations like PDG to address Scope 1 emissions through credible, independently verified carbon projects.

RESULTS

Through a collaboration between A-Gas and PDG, high global warming potential and ozone-depleting refrigerant gases were permanently destroyed as part of PDG's Scope 1 carbon offset efforts, preventing their release into the atmosphere.

Delivered in line with internationally recognised methodologies and independently verified under the American Carbon Registry (ACR), the initiative enabled PDG to access high-integrity carbon credits while reducing the environmental and ozone risk associated with obsolete and unwanted refrigerants.



CONCLUSION

This partnership demonstrates a proven, scalable solution for addressing complex refrigerant emissions in data centre operations.

By leveraging A-Gas' specialist recovery, and destruction partner network, aligned with UN-approved destruction technology and independently verified processes, PDG is able to convert hard-to-abate emissions into high-integrity carbon outcomes, supporting its commitment to credible, measurable climate action.

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*Independently verified refrigerant destruction
delivering high-integrity carbon outcomes for data centres*