

From Off-Cut to Resource: Closing the Loop on PE Pipe & Fittings Recycling

**APGA Environment Award
Category 3: Collaboration for
Environmental Outcomes**

**Australian Gas Infrastructure Group in
collaboration with Vinidex**



Executive Summary

High-density polyethylene (HDPE) pipe off-cuts and fittings generated across AGIG's construction projects were historically treated as waste and sent to landfill, with no viable recovery pathway across the Australian Gas Networks (AGN) and Allgas portfolios. This represented both a material waste problem and a missed circular-economy opportunity. As Vinidex's largest polyethylene customer, AGIG was well placed to lead a change in how this material is managed at the end of its life.

In response, AGIG and its pipe and fittings supplier, Vinidex, formed a collaborative partnership to divert PE pipe and fittings from landfill and reintroduce the material into Vinidex's manufacturing lifecycle. The commitment was formally embedded in the commercial agreement.

A "Recycling of Pipe" environmental KPI was introduced within the commercial agreement, with agreed recycling targets. This elevated recycling from an optional activity to a core, jointly governed performance priority.

Under the model, Vinidex collects unused PE off-cuts directly from AGIG project sites and supplier yards using provided cages, bulk bags and bins. Materials are transported to specialist Vinidex recycling facilities in Queensland, where they are processed and pelletised before being reintroduced into new, high-quality pipe products including Draincoil, Twin Wall Stormflo Drainage and Rural PE. This reduces reliance on virgin resin without compromising performance.

Stakeholder engagement was central, delivered through early consultation, workshops, site visits and quarterly meetings. When feedback flagged slow bin collection as an on-site risk, Vinidex developed a QR-code collection app so teams can schedule pickups when bins are full. This improved data capture while reducing on-site hazards, aligning with AGIG's Zero Harm – Home Safe, Every Day, Everyone objective.

Environmental Outcomes

The partnership has diverted approximately 20 tonnes of PE from landfill across CY2025 to CY2026 to date.

Because data capture was limited in the program's early years, these figures are conservative and the true volume diverted is understood to be materially higher. Alongside landfill diversion, the program has reduced AGIG's disposal costs, lowered embodied carbon through material reuse, and strengthened local circular supply chains.

Embedded, Scalable and Aligned to the Code

This is not a one-off project but a sustained operational practice, embedded within the Head Agreement and its quarterly reporting framework and led by AGIG Procurement through contract governance and supplier performance management. The model is repeatable and scalable across the pipeline industry.

It aligns with the APGA Code of Environmental Practice (2022), demonstrating environmental risk management, impact minimisation at source, circular-economy thinking, and continuous improvement embedded in everyday operations.



Pictured: Examples of products produced through the recycling program, Draincoil, Twin Wall Stormflo Drainage and Rural PE (from left to right)

Whilst these KPI measurables were set at the commencement of the contract and large volumes of PE were being collected from AGIG sites and being recycled at Vinidex facilities, the challenge lay in capturing and reporting the AGIG pipe data – hence so many opportunities to capture the diversion from landfill were missed early on – consequently figures reported here are believed to be well understated.

Background: Environmental Challenge

Historically, High Density Polyethylene (HDPE) pipe off-cuts and fittings generated during AGIG's construction projects were treated as waste and disposed to landfill, due to a lack of viable recovery pathways or innovation across Australian Gas Network (AGN) and Allgas (formerly GDI) portfolio.

This represented a consistent environmental challenge, both in material waste and lost circular economy opportunity, particularly as AGIG is Vinidex's largest client for Polyethylene (PE) pipe and fittings.

Shared Challenge: Shared Objective

Recognising this issue, a collaborative partnership was formed with our pipe and fittings supplier, Vinidex, to fundamentally change how AGIG PE waste is managed at the end of its lifecycle.

The shared objective was to divert PE pipe and fittings from landfill and reintroduce the material into the Vinidex manufacturing lifecycle producing repurposed products, aligning with both corporate and environmental sustainability best practice. This initiative was formally embedded within our contractual framework where "Recycling of Pipe" was introduced as a measurable environmental KPI. This elevated recycling to a core performance priority rather than an optional activity. KPI criteria were jointly defined to ensure alignment across all stakeholders and to support sustainable, long-term environmental outcomes. Through this model, the supplier committed to:

- Reintroducing recycled content into new products;
- Collecting PE pipe off-cuts directly from AGIG project sites / contractor yards to fill Vinidex provided stillages / bins;
- Transporting materials to specialist recycling facilities;
- Processing the material into reusable chipped CC;

This collaboration transformed a traditional waste stream into a closed-loop recycling solution, delivering both environmental and commercial value.



Acknowledgment of Country

Australian Gas Infrastructure Group acknowledges the Traditional Custodians of the lands upon which we live and operate, and we pay our respects to Elders past, present and emerging. We recognise Aboriginal and Torres Strait Islander peoples' historical and ongoing connection to land and waters, and we embrace the spirit of reconciliation.



Stakeholder Engagement

Engagement and education with AGIG stakeholders and suppliers was key to ensuring the success of the recycling program. Guided by principles of transparency, respect and inclusivity, activities included:

- Early consultation with stakeholders;
- Ongoing communication through workshops, site visits and quarterly stakeholder meetings;
- Feedback mechanisms to adapt and improve the programme including risk mitigation, for example feedback from AGIG re slow collection of bins which became a risk onsite led to the development and introduction by Vinindex of the collection App.

This approach strengthened trust and supported collaboration and social licence via volume of PE products to enable the program to operate and thrive.

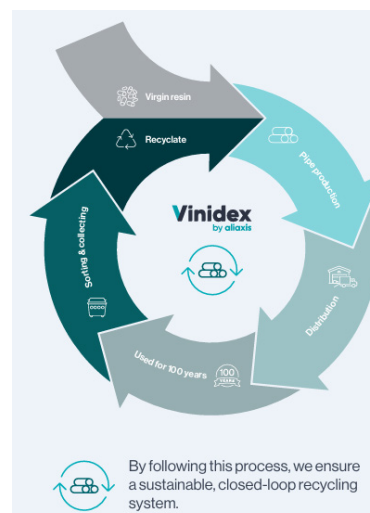
Environmental Outcomes

AGIG, in partnership with Vinindex, has established a collaborative recycling program focused on the recovery and reuse of polyethylene (PE) pipe offcuts generated across construction projects. This initiative demonstrates a strong commitment to circular economy principles through the diversion of plastic waste from landfill and its reprocessing into new, high-quality pipe products.

Whilst the program has been in place for several years, the challenge has been capturing measurable volumes. However since 2025, steps to better identify the volume of diversion from landfill has lifted through better attainment of bins on site, introduction of an electronic App which allows holders of the disposable bins to scan and organise collection when full thus introducing better data management and oversight.

What this means is the reality of the reporting of volume of diversion from landfill is likely to be grossly understated.

However the partnership has successfully recycled approximately 20 tonnes of PE material, with additional significant volumes captured through bulk recovery initiatives, including large-scale bin returns and project-specific collections, helping drive circular solutions across Australia's gas construction sector.



Collaboration with Vinidex

This collaboration delivers measurable environmental and commercial benefits, including:

- Diversion of plastic waste from landfill;
- Reduced disposal costs for AGIG;
- Lower embodied carbon through material reuse;
- Strengthened local circular supply chains.

Contribution to AGIG's sustainability and waste diversion targets.

Start your journey toward sustainable pipe recycling.

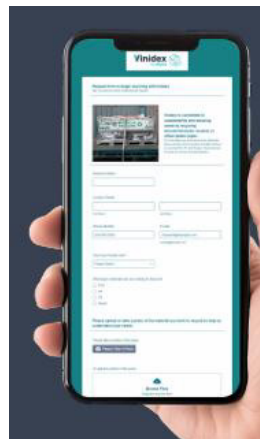
Use the link or QR code to share details about the pipes you wish to recycle, and a member of our sustainability team will follow up with how Vinidex can support your recycling efforts.

How It Works

The program operates through a coordinated logistics network, utilising Vinidex cages, bulk bags, bins, and dedicated transport to collect unused HDPE offcuts from multiple AGIG sites. These materials are then processed at Vinidex facilities in Queensland (Coopers Plains or Toowoomba) where they are pelletised and reintegrated into new pipe manufacturing, maintaining product quality while reducing reliance on virgin raw materials. The QR Code App system shows 14 cages returned however it is known that more bins have been collected and diverted from phone calls to collect.

Key project examples, including collections from AGIG's operational site located at Eagle Farm, where operational supplier yards can be key geared up for key projects. Some key examples which demonstrate the scalability and operational effectiveness of the program include:

- 6 single multi-bin collections from an AGIG supplier yard equating to ~10 tonnes – due to the high volume Vinidex worked with the AGIG supplier to provide a much larger bin on site reducing frequency of collections and thus the environmental impact this brings;
- Targeted recovery of DN200mm project offcuts from the Morayfield Trunk Main project in 2025 (~5 tonnes).



"Why this partnership matters:

- Reduces waste disposal costs.
- Diverts plastic waste from landfill.
- Supports a circular local supply chain.
- Reduces embodied carbon and demand for raw resources.
- Contributes to AGIG waste diversion targets."



Warren Cutts

National Sales Manager Civil Infrastructure
Direct

Vinidex

Conclusion

This initiative represents a step-change for the AGIG–Vinidex partnership in environmental practice, demonstrating how strong collaboration across the supply chain can deliver measurable and lasting environmental outcomes in construction spaces that advance sustainable outcomes.

Faced with the persistent challenge of PE construction waste being sent to landfill, AGIG partnered with Vinidex to implement a solution that embeds circular economy principles into everyday operations. Led by AGIG Procurement, the formal KPI reporting framework was integrated into the Agreement, creating a shared commitment to success for things that matter to us. The strength of this initiative lies in its collaborative structure:

- Vinidex provides end-to-end recycling capability, including collection, processing, and re-manufacturing;
- Stakeholders (including AGIG premises and project sites and suppliers' sites) ensure effective segregation, commitment and buy-in to the goal of developing a deeper culture for recycling and understanding the impact **WE** as an individual and as a collective can have on **OUR** environment through **OUR** workspace creating ownership and accountability;
- Introduction of the App to self manage collections enables AGIG another way to reduce risk onsite of overflowing containers and associated hazards aligning to AGIG's shared safety objective - **Zero Harm – Home Safe, Every Day, Everyone** - keeping our people, community and suppliers safe from harm;
- Aligned delivery practices with environmental objectives;
- Procurement leadership, contract governance and reporting functions monitor supplier performance whilst driving continuous improvement.

PE off-cuts and fittings that would previously have contributed to landfill are now systematically recovered, processed, and recycled into new products, directly supporting resource conservation and emissions reduction. By meeting and exceeding KPI targets, the initiative demonstrates that environmental performance can be effectively quantified, managed, and improved.

In summary, beyond immediate outcomes, the initiative delivers broader value by:

- Establishing a repeatable and scalable recycling model;
- Strengthening supplier relationships through shared sustainability goals;
- Supporting industry-wide movement towards circular material use;
- Importantly, the initiative aligns with stakeholder and community expectations by demonstrating responsible resource management and reducing environmental impact at the source.

This collaboration is not a one-off project but a sustained operational practice, embedded within the Head Agreement and its reporting frameworks which includes quarterly reporting, and day-to-day delivery. It reflects a shift from reactive waste management to proactive environmental leadership, supported by innovation, accountability, and partnership.

By transforming waste into a resource and aligning all parties around a common goal, this initiative exemplifies excellence in collaboration for environmental outcomes — delivering measurable impact today while building long-term value for the industry and the environment into the future.



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