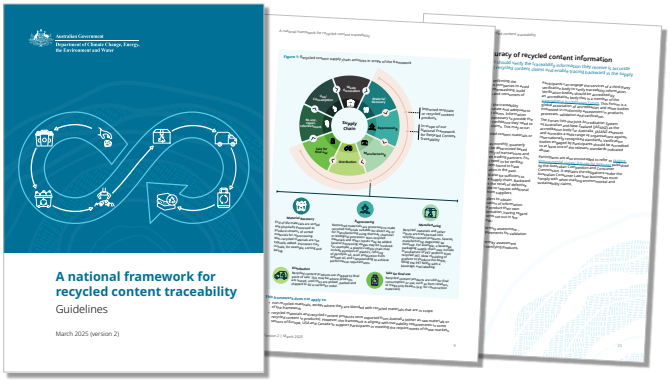
GS1 Australia

CASE STUDY

USING GLOBAL STANDARDS FOR MATERIAL TRACEABILITY AND IDENTIFICATION TO CLOSE THE LOOP

The Australian Federal Government's National Framework for Recycled Content Traceability (NFRCT) provides guidance for businesses to collect and share information about recycled materials. The Framework recommends interoperability and alignment with the GS1 Traceability Standard, setting the foundation for a transparent, efficient, and reliable circular economy.

For the recycling sector, a critical first step is the adoption of standardised labels on bales of recycled material. This enables the traceability journey and ensures objects are consistently identified throughout the whole supply chain. GS1 Australia, with input from Close the Loop, has developed a standard label for use by material handlers, promoting interoperability and supporting the Framework's objectives.



"Traceability is an important part of our future plans and important for telling the full story of a circular economy. Using global standards is important to ensure alignment with global customer needs. All of this helps drive confidence in recycled materials and circularity claims."

CLOSE THE LOOP

Steve Morriss
Head of Circular Economy
Close the Loop

BACKGROUND

Released in December 2023, the NFRCT by the Department of Climate Change, Energy, the Environment and Water (DCCEEW) guides businesses on the collection and sharing of recycled material data. Traditionally, GS1 standards have not been widely adopted for circularity data capture; however, the NFRCT shifts this paradigm, encouraging the use of GS1 standards to capture and share this essential data, including at the post-consumer stage.

Many material handlers are unsure how to put the NFRCT's data requirements into practice. Adoption needs to begin at the materials recovery stage, with handlers collecting and sharing key information using machine-readable methods. Without standardised processes, manual and unlabelled practices remain common, making traceability and efficiency difficult. Traceability is particularly important to substantiate claims such as post consumer recycled usage or local recycled content usage. If local recycled content is to be prioritised as a critical part of supporting Australia's local recycling sector and thereby a circular economy – traceability will become essential to substantiate the claim.

OBJECTIVE

This project aimed to develop a standardised label in collaboration with the recycling sector, to enable the identification of bales (logistical units) during the collection, storage, processing, and resale of recycled materials. It also sought to provide a foundation for industry-wide discussion, helping the sector assess the feasibility, costs, and benefits of adopting standardised labelling to improve traceability.

CURRENT APPROACH

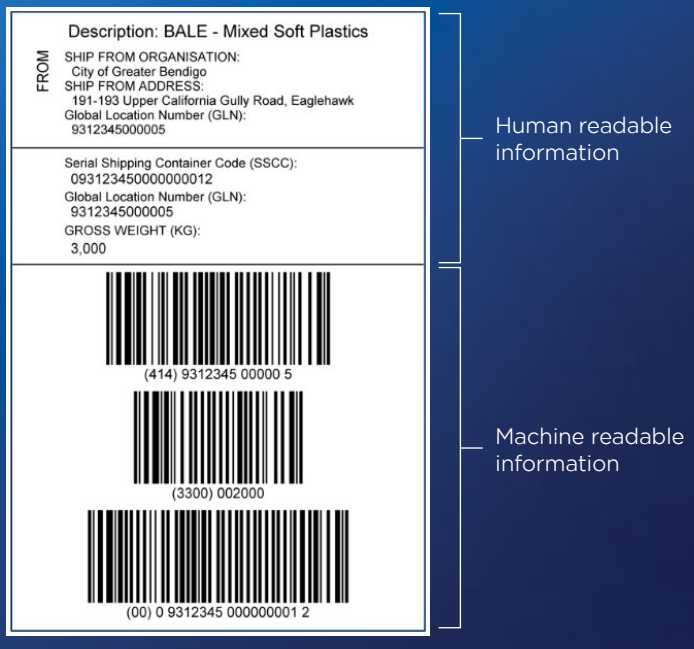
PROPOSED APPROACH

APPROACH AND IMPLEMENTATION

GS1 Australia, in partnership with Close the Loop, has developed a draft standard label for bales of recycled material. This label follows the GS1 Global Logistics Label Guideline and uses internationally recognised Application Identifiers to support seamless data exchange across the supply chain.

The label captures the minimum essential information required by the NFRCT, making each bale traceable before it leaves the facility. It features three machine-readable barcodes, which uniquely identify each bale. To accurately record where materials are moving to and from, the label can also include Global Location Numbers (GLN).

This globally recognised approach leverages existing standards used in downstream sectors, ensuring compatibility and scalability.



For illustrative purposes only

OUTCOMES AND IMPACT

Accountability:

Standardised labelling enables clear identification, supporting transparency and verification of claims such as locally sourced feedstock.

Operational Efficiency:

Automated identification streamlines processes, reduces manual handling, and improves sorting accuracy.

Market Facilitation:

Uniform labelling fosters trust between buyers and sellers, providing consistent, reliable information to support fair transactions and cross-border trade.

KEY INSIGHTS

Currently, no standard label exists for bales of recycled material, and sector maturity varies regarding automatic scanning and identification. However, the recycling industry can leverage the proven global standards that are already in use throughout other sectors.

Traceability is becoming increasingly vital in validating recycled content and origin claims, even more important to support claims. To minimise costs and maximise efficiency, the sector must transition to interoperable, standardised labelling. The standard label developed through this project provides the foundation for this, creating efficient, trustworthy traceability and supporting the circular economy's growth.

NEXT STEPS

GS1 Australia will continue to work with industry bodies, including the Australian Council of Recyclers (ACOR), government, and peak organisations to drive industry-wide adoption. Realising the long-term benefits of standardised labelling requires collective commitment and ongoing engagement.

GS1 Australia

ABOUT GS1 AUSTRALIA

GS1 Australia is a global standards organisation specialising in supply chain traceability. The team actively supports the waste, recycling, and resource recovery (WRR) sector, offering advisory services and technical expertise for efficient implementation of the NFRCT.

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CLOSE THE LOOP

ABOUT CLOSE THE LOOP

Close the Loop is an industry leader in product stewardship and circular economy solutions, specialising in recycling problematic materials. As project lead and industry exemplar, Close the Loop demonstrates best practice in supply chain traceability.

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