Recoma

Overview	
Country	Sweden
Type of organization	Privately Owned SME
Number of employees	12
Type of practice	Best
Level of investment	Big
Activity type	Processing waste
Key words	Upcycling

www.recoma.com

Summary

Recoma produces durable construction boards entirely from 100% recycled composite packaging waste, including multilayer materials like beverage cartons and food packaging. Their boards are fully recyclable and suitable for use in construction, interiors, and public infrastructure. The company's closed-loop model avoids landfill, lowers carbon emissions, and creates circular building materials.

While Recoma operates at an industrial scale, the practice is highly relevant for designers and craftspeople interested in material innovation, especially those exploring the use of difficult or contaminated plastic waste streams. The process demonstrates that low-value waste—often considered non-recyclable—can be transformed into functional, high-performance products without additives or new raw materials.

This best practice offers inspiration for anyone working with reclaimed materials, modular construction, or design for public space. Recoma's ability to turn mixed composite waste into durable, machinable boards highlights the potential to innovate - considering how to find a 100% reuse opportunity of mixed materials.

Background and origin

Max Rosenberg, CEO found the company in 2021 knowing only a small percentage of material in construction projects is recycled and policy makers, organizations and consumers alike call for change.

Relevance to the craft sector

Recoma enables craftspeople to use circular, durable materials without compromising on practicality or design flexibility. While Recoma operates at an industrial scale, their products (construction boards) can be used by craftspeople and makers in carpentry, interiors, and installation art.

Recoma boards are workable using traditional tools (e.g., saws, screws, drills), making them accessible to furniture makers, set designers, or community builders.

Their promotion of locally produced, recyclable materials supports craftspeople looking for sustainable, circular alternatives to wood, MDF, or plastic panels. By making waste-based materials more accessible and consistent, Recoma opens the door for crafts to engage with environmental innovation.

Target groups

- Construction companies
- Municipalities
- Architects
- Infrastructure developers

And other organizations seeking seeking sustainable building materials and aiming to reduce carbon footprints.

Source: Recoma recoma.com

Material focus - type of waste material involved

Composite packaging waste, including multilayer materials like beverage cartons and food packaging, including plastics like HDPE.

Source: Recoma recoma.com

Stakeholders involved

- Investor supporting scaling efforts (Kiilto Ventures).
- National Environmental Protection Agency (Naturvårdsverket in Sweden): Provided funding through the Climate Step program.
- Construction Firms: Early adopters like Skanska and Tetra Pak integrating Recoma boards into projects.

Professionals involved and their roles

- **Engineers & Technicians:** Oversee the recycling and board manufacturing processes.
- **Sales & Business Developers:** Engage with clients and promote sustainable building solutions.
- **Regulatory Experts (CEO mostly):** Ensure compliance with environmental and construction standards.

Source: Recoma recoma.com

Connection of the practice with the project-identified needs

Knowledge of Waste Materials

Recoma's process demonstrates advanced handling of composite packaging waste, turning traditionally non-recyclable materials into valuable products. Have techniques for cleaning and preparing plastics for recycling or upcycling, but currently work with waste that has already been cleaned.

Green Entrepreneurial Skills

Recoma’s scalable model and successful funding rounds showcase effective green entrepreneurship and market potential. Understanding legal requirements for plastic waste management and product certifications for recycled materials has been essential for the development of the company.

Creativity and Innovative Solutions

By transforming waste into high-quality construction boards, Recoma exemplifies innovative applications of recycled materials in the building industry, for indoor environments, benches, playgrounds, or decorative panels for public areas.

Source: Recoma recoma.com

Methodological approach to implement the practice

Process description - step by step instructions for implementing the practice

1) Identifying the Problem and Developing a Circular Solution
Recoma identified the challenge of recycling composite plastic packaging waste and turned it into an opportunity to create climate-positive construction boards. They developed a patented process to shred, clean, and compress mixed plastics — without glue or additives — into durable, recyclable panels.

- Focused on a hard-to-recycle, high-volume material (composite plastics)
- Studied international models for similar waste challenges
- Developed a patent-protected, low-energy compression process

2) Building the Technology and Launching Production
Initial development included material testing, pilot production, and refining the technology to ensure strength, moisture resistance, and recyclability. They set up a full-scale facility in Norrköping, sourcing support through cleantech grants, private investment, and expert collaboration.

- Tested for durability, weather-resistance, and building standards
- Funded implementation with public support and private investment
- Built a modular production facility able to scale based on demand

3) Creating a Closed-Loop Business Model for Scalable Impact
The boards are now used in construction, interiors, and events. Recoma offers circular services, allowing partners to return material for reuse, creating a closed-loop system. From idea to launch, development took around 2–3 years, with continuous scaling underway.

- Positioned the boards for a range of use cases: walls, interiors, facades, events
- Partnered with brands, cities, and builders seeking sustainable alternatives
- Offers “recycling as a service” by taking back materials for reuse

Related Resources that have been developed

- **Product Certifications:** Ensuring compliance with building standards.
- **Sustainability Reports:** Documenting carbon savings and environmental impact.

End product

Recoma Boards: Durable, 100% recycled construction boards suitable for various building applications with superior acoustic properties and resistance to moisture.

Source: Recoma recoma.com

Sources of funding for this intervention

- **Swedish Environmental Protection Agency:** €3 million grant through the Climate Step program.
- **Private Investment:** Funding from Kiilto Ventures to support scaling operations.

Source: Recoma recoma.com

Innovation, novel methods or technologies used

Material Source: Made from 100% recycled packaging waste. Traditional boards E.g., MDF, plywood, fiberboard are made from virgin wood fibers and synthetic resins, often requiring intensive forestry and industrial processing.

Circularity & Recyclability: Can be recycled and turned into new boards through a closed-loop production system. Traditional Boards generally end up as waste in landfills or incinerators (due to glues and coatings).

Durability & Performance: Water-resistant, rot-proof, and weatherproof, making the boards suitable for both indoor and outdoor use. Traditional boards are more vulnerable unless treated with additional chemicals or coatings.

Carbon Footprint, Health & Safety: The production process uses waste as raw material without chemical binders or additives, and is powered by renewable energy. They are safe for indoor environments with minimal volatile organic compounds (VOCs), better indoor air and a significantly lower carbon footprint.

Obstacles and challenges faced

Market Entry: The construction business was at a stand still in the timing of entering the market. Overcoming skepticism in the construction industry.

Regulatory Compliance: Ensuring products meet building codes and standards.

Steps further and plans for the future

Scaling of production and further product development lies ahead. Increasing capacity to process up to 10,000 tons of waste annually by 2026 and expanding the range of recycled construction materials offered.

Key impacts - environmental, economic & social

- **Environmental:** Significant reduction in CO2 emissions and diversion of waste.
- **Economic:** Contributing to green economy and lower cost to produce.
- **Social:** Promotion of sustainable practices within the construction industry.

Qualities and criteria's to consider the practice effective, efficient, sustainable, transferable

Qualities	
Effectiveness: How well does the practice achieve its goals?	Perfectly, Recoma divert hard-to-recycle waste from incineration and landfill, achieves measurable CO_2 savings and resource efficiency.
Efficiency: Does the practice minimize resources while maximizing outputs?	Yes, Recoma minimizes resource use and maximizes output through using mixed plastic waste as raw material, continuous production using heat and pressure only (no binders or chemicals). The modular boards are designed for efficient transportation, cutting, and reuse and are recyclable at end-of-life. This results in high material recovery rates and minimal production emissions.
Sustainability: Does the pratcice contribute to environmental protection, social equality and long-term viability?	Yes, Recoma contributes to all three pillars. Environmentally lower CO_2, Socially supporting green job creation and a just transition in the construction sector, economically they build a competitive alternative to standard construction panels that is cost-effective, durable, and eco-certified.
Transferability: Are the methods transferable in different contexts?	Yes, Recoma's methods are transferable and scalable. Technology and processes are replicable (plastic waste processing, extrusion) and can be adapted in other regions with access to suitable plastic waste streams, demand from sustainable building sectors and moderate industrial infrastructure (pressing equipment, logistics). Knowledge of circular standards and material compliance is needed for adaptation.

Required Competences for the best practice implementation

Activities-to-competences mapping

Associated competences	
Knowledge	Circular economy, plastic materials, regulations, building standards, and construction industry context
Skills	Regulatory navigation, production process handling, sales communication, and basic operations like marketing or logistics
Attitudes	Resilience, responsibility under freedom, safety awareness, persistence, and relationship-building mindset.

Training needs required for successful implementation

- Circular economy principles and compliance, cleantech manufacturing, sustainable construction and recycling
- Plastic waste classification and safe handling and materials technology
- Industrial plastic processing (grinding, heating, pressing)
- Product safety testing (e.g., fire, water, mechanical resistance)
- Construction industry standards and sales dynamics

Lessons learned

- Trust and adoption from the sector take time, certification and partnerships are key
- Closed-loop design is possible even with mixed waste streams, and it's commercially viable

Source: Recoma recoma.com

References / links

- *Recoma Linkedin*
- *Kiilto News about investment in Recoma*
- *Cision News about the Kiilto investment*