



ALBERTA INNOVATES

AGRICULTURE AND ENVIRONMENT

BIOINDUSTRIAL AND CIRCULAR INNOVATION

CIRCULAR ECONOMY

FUNDING DETAILS

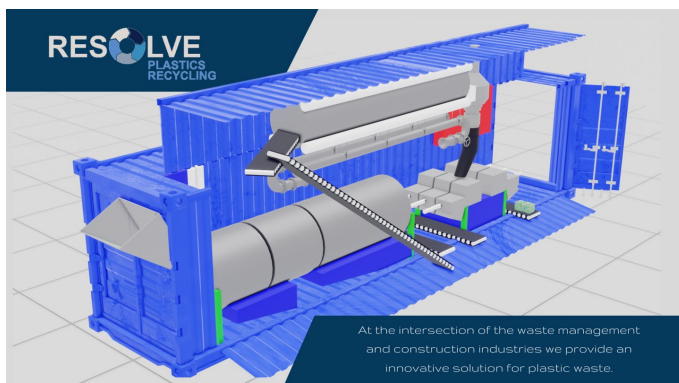
Resolve Plastics Recycling Ltd.

RPMachine component design and testing

Resolve Plastics Recycling Ltd. ("RPR") is pioneering a recycling technology capable of converting unsorted, unwashed plastic waste (RICs 1-7) into a valuable building material (R-Blocks) in a single pass.

Piloting of a predecessor technology in New Zealand proved its viability and established baseline specifications for R-Blocks. A new process promises to increase speed by 10X and efficiency by 3X.

During the project, RPR's team will work with SAIT and the Centre for Innovation and Research in Advanced Manufacturing and Materials ("CIRAMM") to pilot and test a novel heat transfer unit ("HTU"). Depending on the availability of additional resources from partners and NRCan, RPR may also test new block forming heads, and begin to optimize the properties of blocks.



RECIPIENT:

**Resolve Plastics
Recycling Ltd**



PARTNERS:

**SAIT
City of Calgary
NRCan**



TOTAL BUDGET:

\$650,000



AI FUNDING:

\$250,000



PROJECT DATES:

**March 2024 – July
2025**



PROJECT TRL:

**Start: 5
End: 7**

APPLICATION

As one of the only technologies that can offer a direct economic incentive for plastics recovery and recycling, the RPMachine has widespread application. RPMachines will provide an economic benefit to any municipality, producer responsibility organization, or waste management company because plastic currently comprises approximately 40% by volume of all post-consumer waste (UNEP). Each RPMachine is sized to process readily available plastic waste from a mid-sized municipality.

[Learn how albertainnovates.ca](https://www.albertainnovates.ca)

Classification: Protected A



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PROJECT GOALS

- Design of bench scale HTU (complete)
- HTU simulation (complete)
- HTU fabrication (tendered)
- Testing of HTU function and feedstock adhesion.
- Optimizing HTU energy use and carbon footprint.
- Testing and optimizing output properties.
- Finalize HTU design for full scale demonstration machine.
- Review and report on feedstock availability, market for blocks, and review of regulatory risks/requirements.

BENEFITS TO ALBERTA

- The path to commercializing the RPMachine will create jobs for Albertans and leverage Alberta's advanced manufacturing and industrial capacity.
- Each RPMachine will be capable of diverting up to 9000 metric tonnes per year from landfill, reducing the rate of landfill exhaustion.
- R-Blocks produced by a single RPMachine can reduce carbon emissions by 3,000 tonnes per year.
- The RPMachine will help to establish Alberta as a leader and innovator in recycling technology.



4 SAIT team members



1 Future Patent



4 New Jobs



11 Additional Jobs (next 2 years)



New design for HTU complete



2 AB Companies Contracted



3 – 30 kt/yr Future GHGs Reduced

CURRENT STATUS

April 2025 – In progress

Resolve Plastics Recycling Ltd. has been working with a team from SAIT to finalize and simulate the new HTU design. Final design documents are complete and are out for tender. Fabrication of HTU will be completed in the coming weeks with testing to begin in late summer.