



# REAC

Plastic Remanufacturing Project



**MARKETING MANUAL**

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# LAND

# ACKNOWLEDGEMENT

The Society Of High Prairie Regional Environmental Action Committee, as part of the Albertan community, respectfully and proudly acknowledges the heritage of which it is part. The REAC team celebrates the Indigenous heritage and ancestral lands on which we are located and continue to work with today.

We acknowledge the traditional territory we work on and recognise the extended history of the land. This history, is highly significant to the Indigenous communities who have once lived and continue to live on this land, and is one that goes beyond colonialization and the establishment of the European colonies. Their presence, practices, and spiritualities continue to develop in an interrelationship with the land on which we work, and with the other inhabitants of it today. Finally, we fully and respectfully acknowledge that Alberta is situated on Treaty 6, 7, and 8 traditional territory, the traditional lands of the First Nations, Inuit, and Métis people.

# ABOUT REAC

The Society of High Prairie Regional Environmental Action Committee (REAC) will be leading the plastic remanufacturing project.

## What Is REAC's mission?

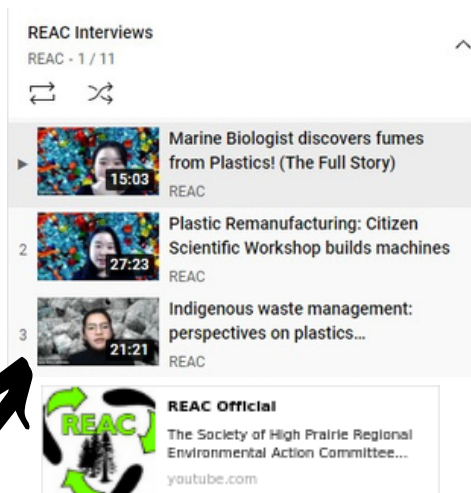
Our mission is to *educate and provide activities*, specifically in rural, remote, and Indigenous and communities within Alberta where plastic recycling can be ineffective and unprioritized, about the effects of plastic waste, continual improvement in waste management, and how to safely reutilise single use, post consumer plastics.

REAC's mission "*involves both public education about and activities supporting responsible waste management, sustainable energy production, sustainable resource development, airshed and watershed protection in our region. .*"

This has brought REAC's Plastics Remanufacture Project to fruition.

This project is centered around one central question: "**what if we could re-manufacture plastic at the locations, it becomes waste?**" instead of landfilling it or shipping it thousands of kilometres, both processes incurring large greenhouse gas loads.

For more information search "REAC Plastic Remanufacturing" on YouTube!



REAC Interviews  
REAC - 1 / 11

1 Marine Biologist discovers fumes from Plastics! (The Full Story) REAC 15:03

2 Plastic Remanufacturing: Citizen Scientific Workshop builds machines REAC 27:23

3 Indigenous waste management: perspectives on plastics... REAC 21:21

REAC Official  
The Society of High Prairie Regional Environmental Action Committee...  
youtube.com



# MORE ABOUT REAC

## How will we realise this mission?


We are on a mission to **build onto information that gives people around the world the ability to rework plastics in a safe way locally**. This will allow communities to buy plastic 'waste' from their members and transform it into sellable goods, art, commodities and products.

Plastic waste has become a huge nuisance to both our local environments, global environment, and even in our bodies

The remanufacturing of plastics locally could therefore provide things for their own **communities to use, sell or enjoy, or for individuals to sell and create small business ventures** through their own creativity – all while helping the environment by better containing and managing plastic 'waste'.

We aim to implement this mission with our research in partnership with the University of Alberta department of mechanical engineering. We provide [videos](#) on this research to **educate on the guidelines and improvements for health and safety protocols surrounding plastic remanufacturing**, through our short open-source YouTube videos.

We will then **fundraise** to take our mission further, by introducing pilot facilities within partnership communities across Northern Alberta. We will provide the equipment and training, communities are expected to hire artists and technicians to help initiate the work of remanufacturing plastics locally.



# ABOUT PLASTIC REMANUFACTURING

Plastic Remanufacturing is the process of turning plastic waste into useable goods



These can be practical and sellable goods like furniture, clocks, musical instruments, keychains, or more artistic items like earrings or sculptures.



Plastic remanufacturing uses plastic that would otherwise end up in a landfill or incinerator and, through the use of shredders, extruders, sheet presses and 3D printers, it is melted down and molded into something brand new.

# WHY SHOULD WE CARE ABOUT PLASTIC POLLUTION?



Plastic isn't going anywhere, at least in our lifetime.

400 million tonnes are produced each year, globally. In Alberta, 4 million tonnes of virgin plastic is produced each year.

*If you buy it, it is your responsibility.*

Taking action to reduce the plastic problem is in our hands and is our responsibility.

Microplastics are now in the rain, snow, fish, animals, food, and our bodies.

## PROBLEM

Every year, 400 million tonnes of new plastic is created. This material will never biodegrade or change into something else.

Plastic is not being well managed, bringing us to today, where humans ingest about a credit card worth of plastic every week. All of creation is affected.

## SOLUTION

There are alternatives to tossing plastic in the landfill, burning it, or littering it in the environment. Apart from avoiding plastic completely (very difficult in rural areas), another strategy to take control and reduce your community's plastic waste is **plastic remanufacturing**. This is where plastic is recycled to make new, useful, and interesting goods that can be sold locally and on line.

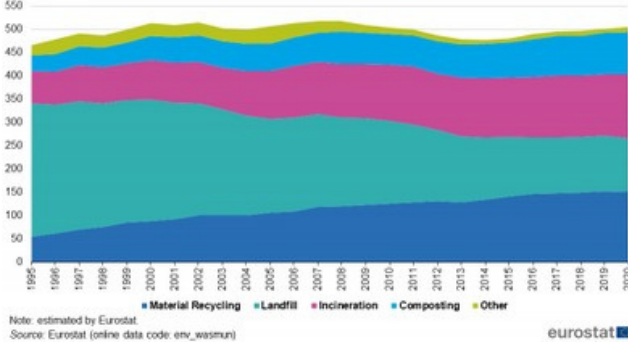
# EPR - EXTENDED

# PRODUCER RESPONSIBILITY

## EPR - 25 years in the European Union

- People in the EU generated an average of 505 kilogrammes of waste in 2020, up nearly 10% since 1995 (when EPR was reinforced)
- The share of waste reaching **landfill sites fell rapidly** and **recycling almost tripled**.

Municipal waste treatment, EU, 1995-2020  
(kg per capita)



- The share of EU's waste going **into landfill sites fell to 23% in 2020** from 61% in 1995
- At the same time, **recycling almost tripled** in the EU, rising to 241kg per person in 2020 from 37kg in 1995 (in absolute numbers)
- But, **incineration rose very sharply**, too and this data only takes municipal waste into account which **is responsible for around 27% of the total waste**

## EPR - Starts in 2025 within Alberta

Extended Producer Responsibility (EPR) shifts the physical and financial burden of collecting, sorting, processing and recycling waste to the producer and away from local governments and taxpayers. Alberta's new EPR framework will diversify our economy by encouraging companies to find innovative ways to recycle more materials and produce less packaging waste.

Once fully implemented in **April 2025**, we hope the EPR framework will embrace Alberta's polluter-pay principle.

## Per capita waste in Alberta (2021)

Current legislation and regulations for waste management and recycling in Alberta have not kept pace with other Canadian jurisdictions, such as British Columbia.

Alberta is currently the only province without EPR systems, even though Alberta sends about **1,034 kg per person of waste annually to landfills** - more than any other Canadian jurisdiction and more than any other country worldwide. The national average is 710 kg.

If you want to know more and/or sign up for EPR, visit the following page: <https://www.albertarecycling.ca/>





# ABOUT PRECIOUS PLASTIC

A plastic recycling project from the Netherlands called **Precious Plastic** originated this template!

They act as an *open-source digital commons* where solutions and knowledge on plastic waste and the transformation of such plastics is available for anyone that seeks it.



They provide several *solutions* to work towards *combating plastic waste* including: buildable machinery for plastic waste, products one can create from plastic, business tools on how to make profit with the products made, and a community platform for people to connect and participate in trouble shooting and problem solving.



For more information visit:

Precious Plastics: <https://preciousplastic.com>

Precious Plastics Canada: <https://www.facebook.com/PreciousPlasticCANADA/>

# PLASTIC SAFETY RULES

No one wants to get hurt on the job. By following simple rules, you can keep yourself safe when working with plastics!

## Main safety issues when working with plastic:

### 1. Potential gaseous emissions

- Total Volatile organic compounds can be produced when plastic is melted. These can cause eye and throat irritation. Keep plastic melting temperatures as low as possible when working with plastics.. Wear a mask or respirator and eye guards if sensing irritation.
- Dioxins and furans are produced when plastic is burned. These dangerous endocrine disrupting chemicals are not produced at melt temperatures. Never heat any type of plastic beyond its melt temperature

### 2. Working with mechanical equipment

- Follow all manual instructions. Ask our consultant any questions you may have. Trouble shoot with our consultant or on Precious Plastic discord channels.



Remember:  
**SAFETY FIRST!**

# • BUSINESS TYPES •

There are different ways you can structure your business – below are the most common types:



**For-Profit Business** – These types of businesses operate with the main goal of making money, usually through selling a product or service. The Business Development Bank of Canada can provide you with additional information and assistance when setting up a for-profit business.



**Not-for-Profit** – These types of organizations operate for a purpose other than generating money. Any money made by the organization is invested back into the services it provides and is not distributed to its owners. See the Alberta Societies Act for more information.



**Cooperative** – These organizations are owned and operated by its members, rather than investors. Cooperators First is a great resource for getting your co-op off the ground.



**Social Enterprise** – These are non-profits or charities that also operate a revenue-generating business that provides funds to advance their mission and vision. The Social Enterprise Fund in Alberta is a great resource that also provides start-up loans to new social enterprises. Shaun Loney is a successful social enterprise operator.

Click on the icons for the respective business type to be redirected to a helpful resource for more information or assistance establishing a business of that type

# • BUSINESS PLANS •



## CREATING A PLAN IS THE FIRST STEP TO STARTING YOUR BUSINESS

Business plans help you clarify your business idea for yourself and your team, and also help pitch the idea to potential funders or partners. They typically include information on your product, the price and your costs, where and how you will sell it, and how you will promote it.

Using a business plan template can make the process much simpler!

Check out what *Precious Plastic* proposes!

<https://community.preciousplastic.com/academy/business/businessplan>

# WHERE CAN I ACCESS POTENTIAL FUNDING?

## Loans



Community Futures, Futur-preneur, Social Enterprise Fund, and ATB/Alberta Woman's Entrepreneurship organizations are all sites that provide loans and funding for projects.

While the requirements can vary most are targeted at support of new business development.

Options may also be available at your local bank.

## Grants



Nova Chemical, Interpipeline, Dow Chemical, the Government of Alberta, and the Future Generations Foundation all offer community initiative grant funding. Each of them has different conditions on eligibility but are generally applicable in various contexts.

## Other Examples



1% for the Planet is a global network with thousands of businesses and environmental organizations working together to support people and the planet. Businesses must apply for a certification and can access funding while supporting environment based initiatives.



Benevity assists businesses in efficiently organizing and promoting their corporate social responsibility initiatives, fostering employee engagement, and supporting charitable causes. Note that the services Benevity provides comes for a price.

For more information on any of the sources above, click the logo. Note that these are not the only sources of financing. Complete your own research there is lots out there!

# WHAT TYPES OF GOODS CAN BE MADE OUT OF RECYCLED PLASTIC?

Many useful items can be made from recycled plastic—these are some ideas to get you started!



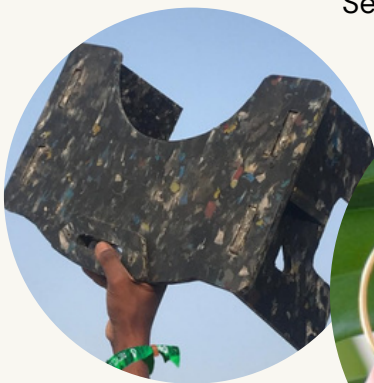
Planters of any size



Serving Trays



Plates, bowls, cups



Stools, chairs, tables



Jewelry

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# QUESTIONS YOU SHOULD ANSWER WHEN THINKING ABOUT YOUR PRODUCT

## 1. What is it?

A clear description of the product can go a long way in showcasing the value of your product

## 2. Who is it for?

It is important to identify who is the end-user of the product? Who would be the one benefitting from it?

## 3. What features does it have?

Please lay out all the features of the product that would attract customers to buy your product

## 4. What problems does it solve?

Be very clear in describing how does your product makes your customer's life better/easier/simpler

## 5. What is its value proposition?

Define what is it that makes your product unique or makes it stand out from other similar products in the market

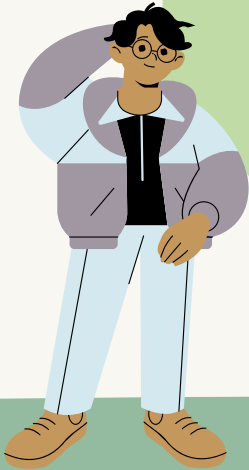
**FOR YOUR  
BUSINESS  
PLAN**



# HOW SHOULD I PRICE MY REMANUFACTURED GOODS?

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You want to price your goods high enough to make a profit, but not so high customers cannot afford them.



- 
- 01 Consider your materials
    - Did you have to purchase any additional materials?
    - Don't forget about packaging
  - 02 Consider your time
    - How much time did you put in to making your item?
  - 03 Where will you be selling your goods?
    - Are there any fees to sell there? For example, entry fee to a farmers market.
  - 04 Determine a fair price
- 

## Pricing Your Goods

- You should calculate exactly how much money and energy you've put into your product when deciding on a price.
- You can also look to see what others are charging for similar goods. A good place to start is the *Precious Plastics Bazar!*

<https://preciousplastic.com/solutions/bazar.html>

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# WHERE CAN I SELL MY REMANUFACTURED GOODS?

There are many ways you can bring your goods to market.  
These are only a few suggestions!



Farmer's Markets



Etsy



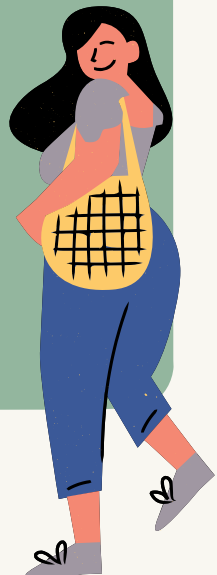
Shopify



Facebook  
Marketplace



Squarespace



# WHERE CAN I ADVERTISE MY BUSINESS?



SOCIAL MEDIA



LOCAL STORES

# E

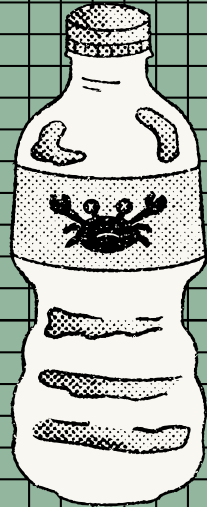
ETSY



LOCAL NEWS

# G

GOOGLE ADS





# GETTING ACCESS TO CARBON EMISSION CREDITS



REAC is working with International and Albertan experts in Greenhouse Gas credits to make sure we can claim credits for local plastics remanufacture in rural and remote communities. Here's what our formula looks like so far:

Because our community is recycling local post-consumer plastic at the location it becomes 'waste', we are saving the emission of greenhouse gases.

The estimated greenhouse gas savings come in the following categories:

1. **Transportation GHG savings** (not shipping plastic to a larger centre for recycling – in the template this reads as #km x (maximum 6 tonnes plastic on a tractor trailer, communities with less than this amount per year will use a smaller truck or truck and trailer. For fly-in communities, this savings would involve air travel for plastic.)
2. **Reduction for not importing the 'new' plastic items** (estimate based on value of items produced in the community, weight of item, shipping, GHG costs of making item with virgin plastic)
3. **Landfill space savings** (estimate \$800/m<sup>3</sup> [\$200/m<sup>3</sup> x {un-baled plastic = 4 m<sup>3</sup> per tonne}])
4. **Landfill gas savings per m<sup>3</sup>** (to be determined)

If our community continued to landfill post-consumer plastic, as we had been doing, we would save an estimated (#2 plus #3 plus #4) in greenhouse gases.

If our community considers shipping our post-consumer plastic to \_\_\_\_\_ for recycling, we would save an estimated (#1 plus #2) in greenhouse gases.



# HOW TO GET CARBON EMISSION CREDITS IN ALBERTA?



The communities joining REAC mission deserve carbon emission credits as a reward for their commitment to local recycling of post-consumer plastics. This recognition not only acknowledges your environmental efforts but also provides economic benefits as the price of carbon dioxide in Alberta is set to double by 2030 and reach \$170 per tonne.

## In Alberta today: Steps & Process of Emission Offset Project Lifecycle

### 1. Initiation

- Project developers check if the project qualifies and meets standards for greenhouse gas offset projects.
- Complete and submit offset project plan form and other relevant documents to the registry.
- Wait for registry to review and post the project plan to public listings.

### 2. Implementation and Emissions Reductions

- Developer implements the project plan, gathers data, and documents claims in the Offset Project Report Form, including a greenhouse gas statement.

### 3. Verification

- Developer hires an independent third-party to verify the offset project, meeting Validation, Verification, and Audit standards.

### 4. Registration

- Developer submits verified project documents (project report, verification report, and required supporting information) to the Registry.
- Registry reviews completeness, informs the developer of results, and posts public documents to project listing for registration support.

### 5. Serialization

- Project is issued a unique serial number which is posted to the project listing.

### 6. Transferring and Pending Retirement

- Developer can sell the emission credits and must submit ownership transfer request to the registry to track and update the registry project listing.
- There is a process if you would like to retire credits.

### 7. Government Re-verification and Error Correction

- Government reviews compliance offsets, selects projects for re-verification.

See <https://www.alberta.ca/alberta-emission-offset-system> for more information

# LET'S RECAP...

Are you ready to start selling?  
Be sure you can check off all  
the items on this list to make  
sure you're good to go!

- Have a business plan
- Read and understood safety precautions
- Decide what products you will sell
- Decide what platforms you will use to sell your products
- Created your products
- Set your price(s)
- Design and post your advertisements
- Make sure to have your own personal data base to keep track of sales! Our recommendation is Excel Spreadsheets.

# FAQS

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**Q:** *Is plastic remanufacturing dangerous?*

**A:** As long as the proper safety protocols are followed, working with plastic is safe. REAC will provide you with all the necessary training and personal protective equipment before you get started creating.

**Q:** *Are other communities remanufacturing plastic?*

**A:** Yes! Plastic remanufacturing is taking off all across the globe. You can check out Precious Plastics Bazar or the Precious Plastics Canada Discord page for inspiration. However, this will be one of the first community-driven project in Alberta. You will be an innovator!

**Q:** *I am interested in the project how can REAC help me?*

**A:** Prepare a business plan to describe your idea and Team, and submit to REAC. Once approved, REAC would provide you with consultation, training, and equipment to develop your product.

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# FAQS

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**Q:** *Where can I get the plastic for remanufacturing?*

**A:** You can buy the clean plastic you need from your community! It's important to provide information for your public so they clean their family's plastic to your needs, and REAC can help with school presentations. Recommended is to pay community members between \$0.10 and 0.25/k. The idea for this project is to ensure that post-consumer plastic waste generated within communities do not go into landfill but is repurposed through this remanufacturing process.

**Q:** *Would REAC bear all my expenses for the business?*

**A:** No. REAC would only be providing the equipment needed for the remanufacturing process, as well as enough renewable energy to power your facility. A participant will have to bear the other costs such as anrents, salaries, travel expenses, etc.

**Q:** *Where can I learn more about plastic remanufacturing?*

**A:** Please check out the Precious Plastics organization talked about in this manual. Also, there are many other resources online that could help you gain more insights into the plastic remanufacturing process.

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The Society of High Prairie  
Regional Environmental Action  
Committee