

PL S TECH

Reducing Plastic in the Philippines

Avery Nudell-Cook, Fernanda Sena, Jackson Kramp
Evan Woodward, Sophie Lin



Team-Students



Avery Nudell-
Cook



Fernanda
Sena



Jackson Kramp



Evan Woodward



Sophie Lin

Faculty



Eric Obeysekare
Faculty Advisor -
Computer Science &
Creative Inquiry



Khanjan Mehta
Vice Provost of
Creative Inquiry

Plastic Pollution in the Philippines

Plastech Ventures

It is the 3rd largest plastic polluter in the world

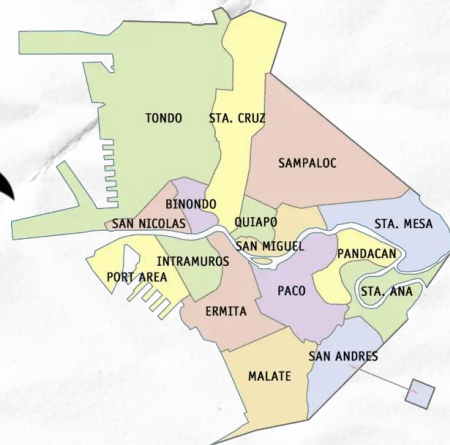


It produces 60 billion sachets per year





**Plastic
Sachet**



Barangay



MRFs



Personal Effects



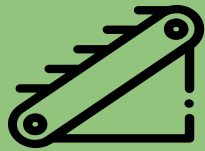
How does it affect the individual?



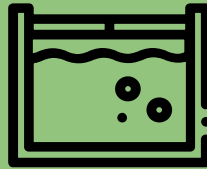
You consume a credit card's worth of plastic every week

PlasTech's System

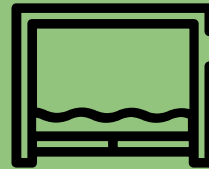
Plastech Ventures



Shredding

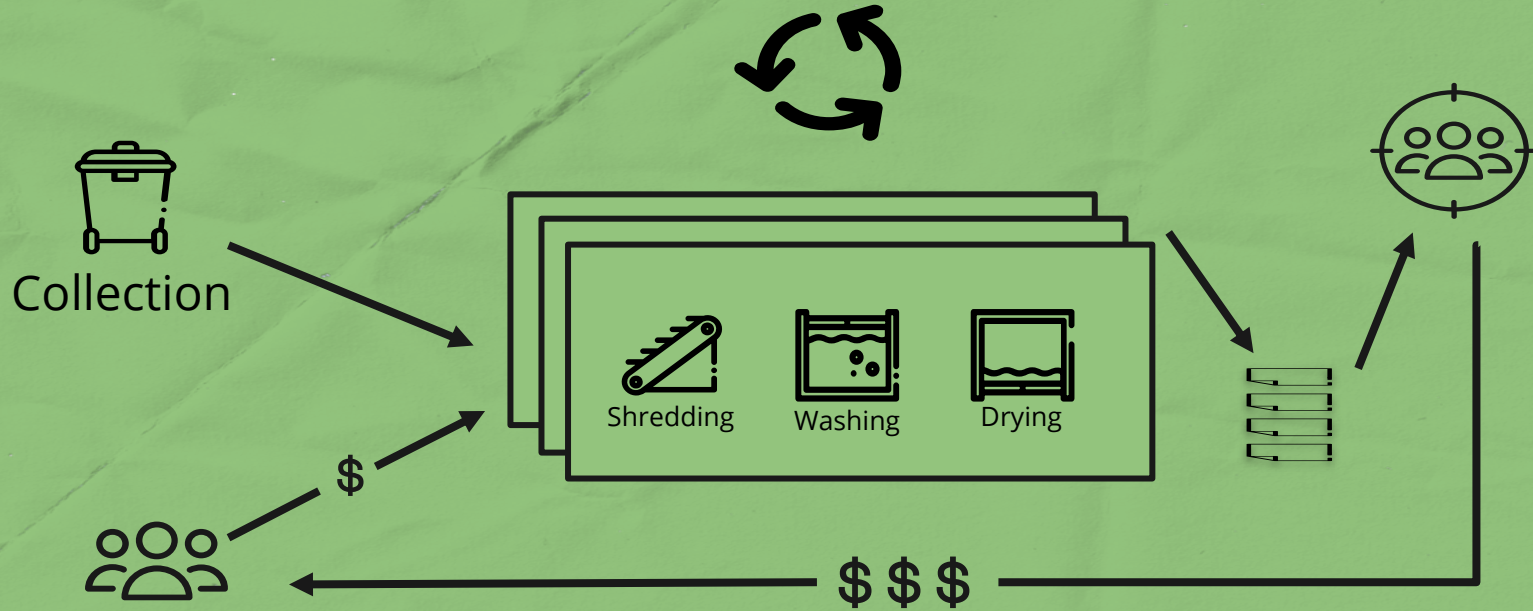


Washing



Drying

PlasTech's System



Progress



Partnerships

Sentinel Upcycling,
UPD, HEED students



Outreach

Bethlehem Rotary
Club, Newsletter,
Website



GHTC Article

Literature Review of
Sachet Plastic Recycling
in the Philippines

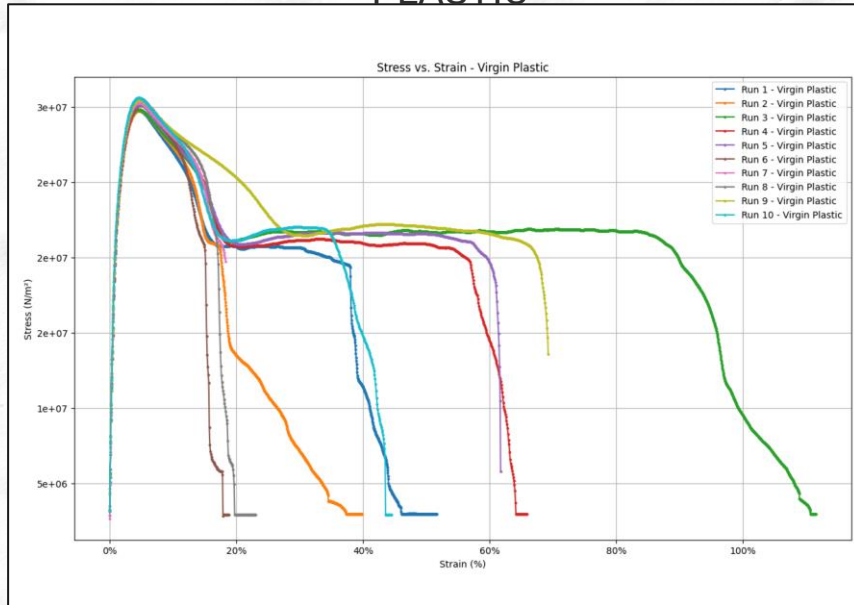


GHTC Article

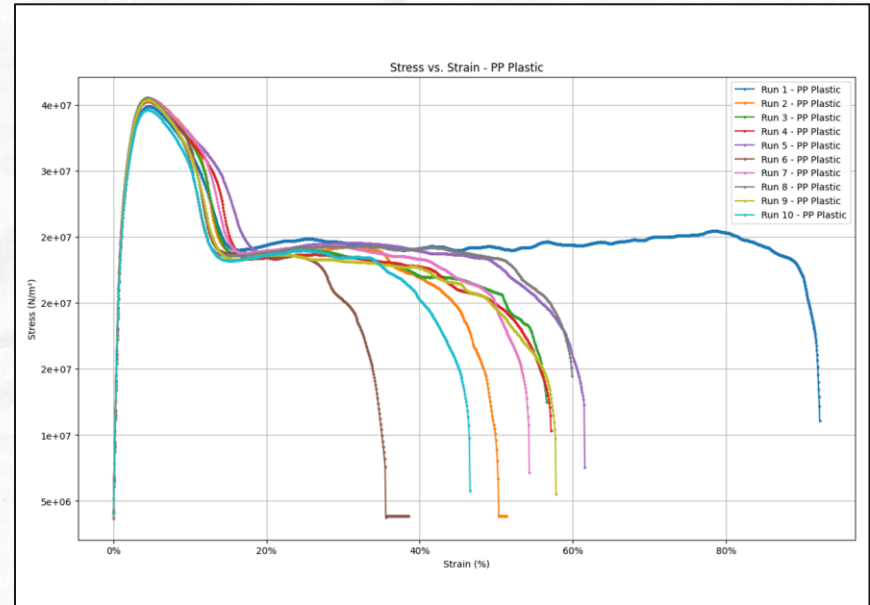
Comparison of Material
Characteristics of Recycled Sachet
Plastic Blends

Tensile Strength Testing

POLYPROPYLENE VIRGIN PLASTIC



POLYPROPYLENE REGRIND PLASTIC



Challenges



Tensile Bars



**Finding more
opportunities
for MRFs**



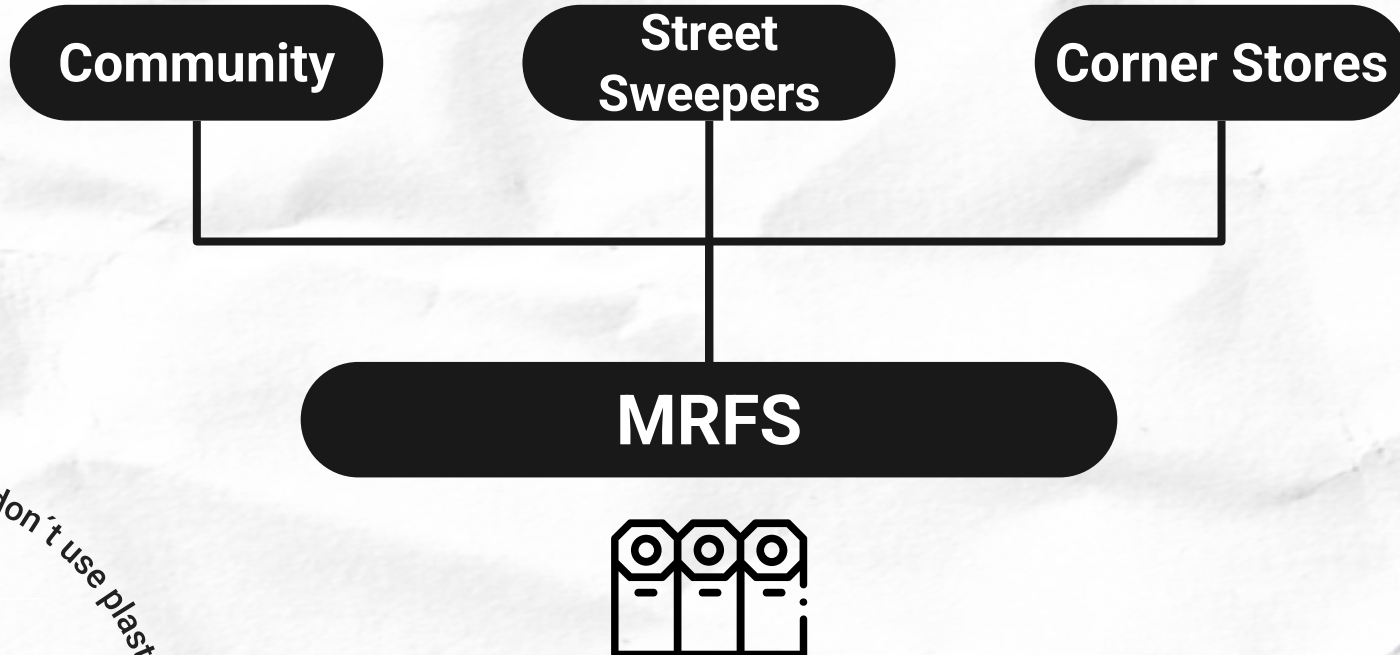
Partners



- Plastic Collection
- Competitors
- Metric of Success
- Tensile Strength Testing
- Sentinel Upcycling
- MRFs
- Projections
- Website



Plastic Collection



plastic - Please don't use plastic -

Competitors



Cloop

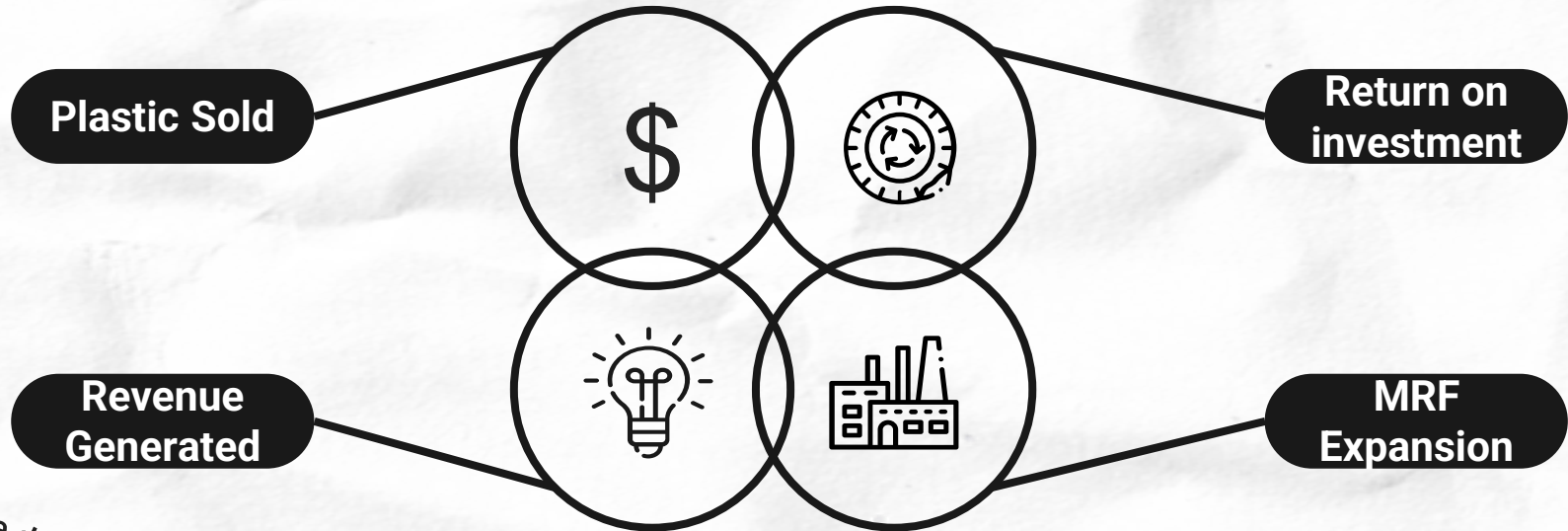
Uses high-density polyethylene (HDPE) plastics and polypropylene (PP)



PLAF

Uses plastic to create eco lumber and building materials

Metric of Success



Plastic - Please don't use plastic

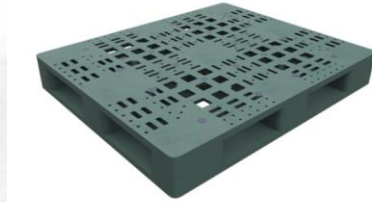
Tensile Strength Testing

- Will be used with tensile bars of differing sachet composition
- Tensile Strength Testing works by:
 - Stretching bar as far as possible until fracture
 - Record length achieved by bar
 - Calculate the stress and strain on the bar
 - Compare results



Sentinel UpCycling

Don't use plastic - Please don't use plastic



ic - Please

stic -

MRF

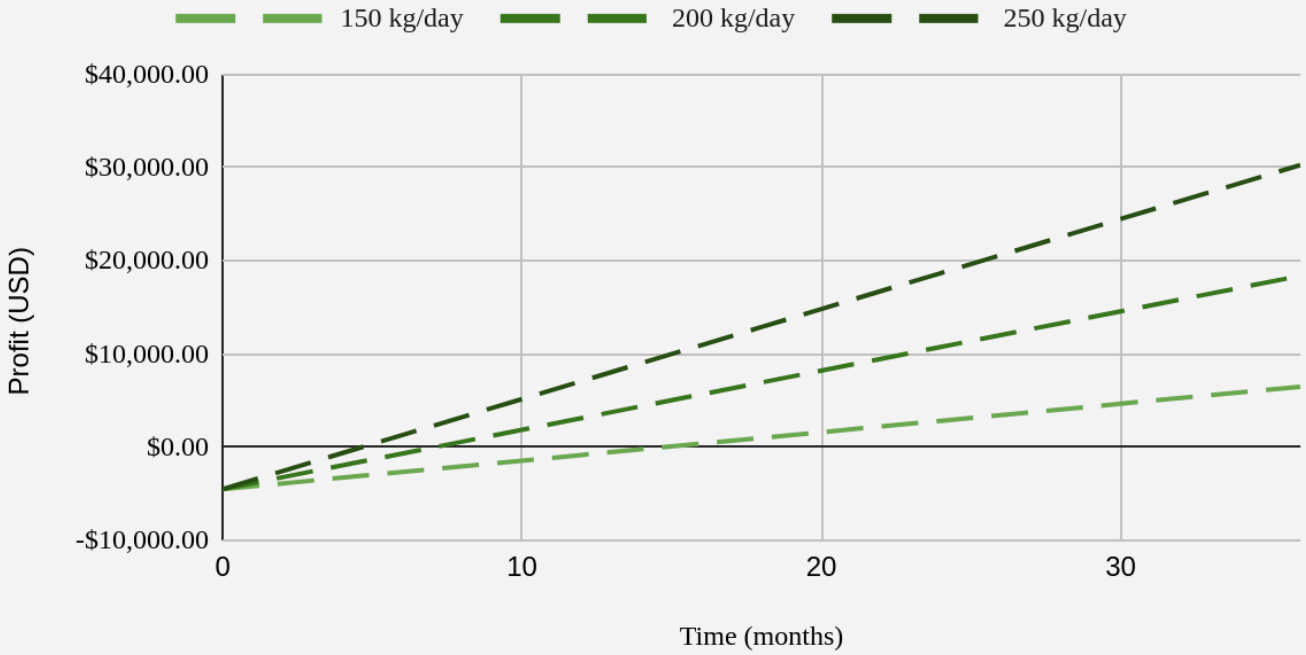
- Materials Recovery Facility
- A facility where recyclable materials are sorted and processed for recycling.



Business Model

Please don't use plastic - Please don't use plastic

MRF Facility Total Profit Over Time for Varying Daily Plastic Production



Please don't use plastic