



Recycling pathways for ghost nets and other marine debris in Northern Australia



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Project- Parks Australia- Ghost Nets Initiative

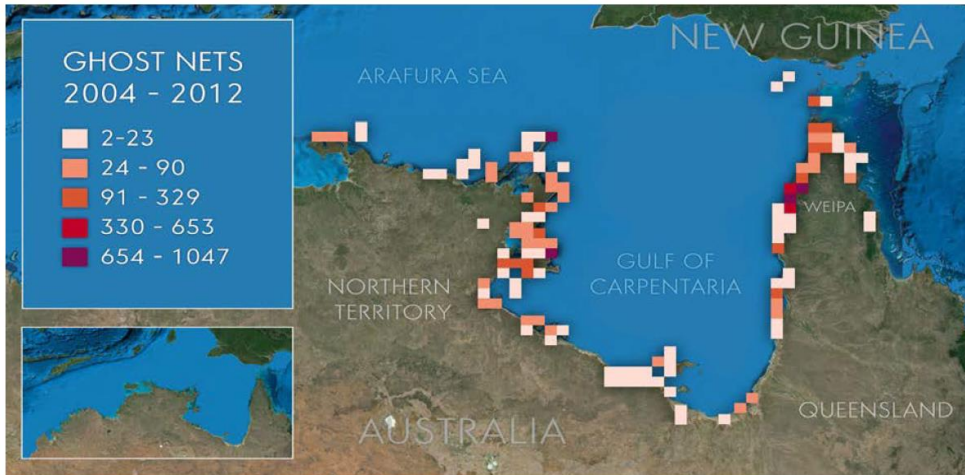
- Ghost net initiative \$14.8 million has been committed over four years to tackle the issue of ghost nets and plastic litter in the waters and beaches of northern Australia
- Identify a **modular recycling pathway** for ghost nets and other marine debris in the Gulf of Carpentaria and Torres Strait
- Supply chain, recycling technology and market pathway
- Social, financial, technical, behavioural, and cultural factors
- Technical considerations, community desire, expectations and readiness and applicability to a remote location
- Desktop research, technology assessment and stakeholder engagement





Ghost Nets

- Ghost nets are fishing nets that have been discarded or lost in the ocean by fishing vessels (10 kg- 4000 kg)
- Removed manually by Indigenous ranger groups/ NGO's, burnt or buried




















Recycling Options

Key technical considerations when assessing the suitability of recycling technologies for the processing of ghost nets and other marine debris

- Tolerance of contamination / pre-treatment requirements
- Volume of material required to run the equipment
- Utilities and infrastructure required (storage, buildings, power, water and/or gas)
- The complexity of the technology / training requirements
- Repair and maintenance requirements
- Applicability to remote locations

Assessed **pretreatment, preprocessing, mechanical** and advanced recycling options, **pyrolysis advanced recycling technologies**

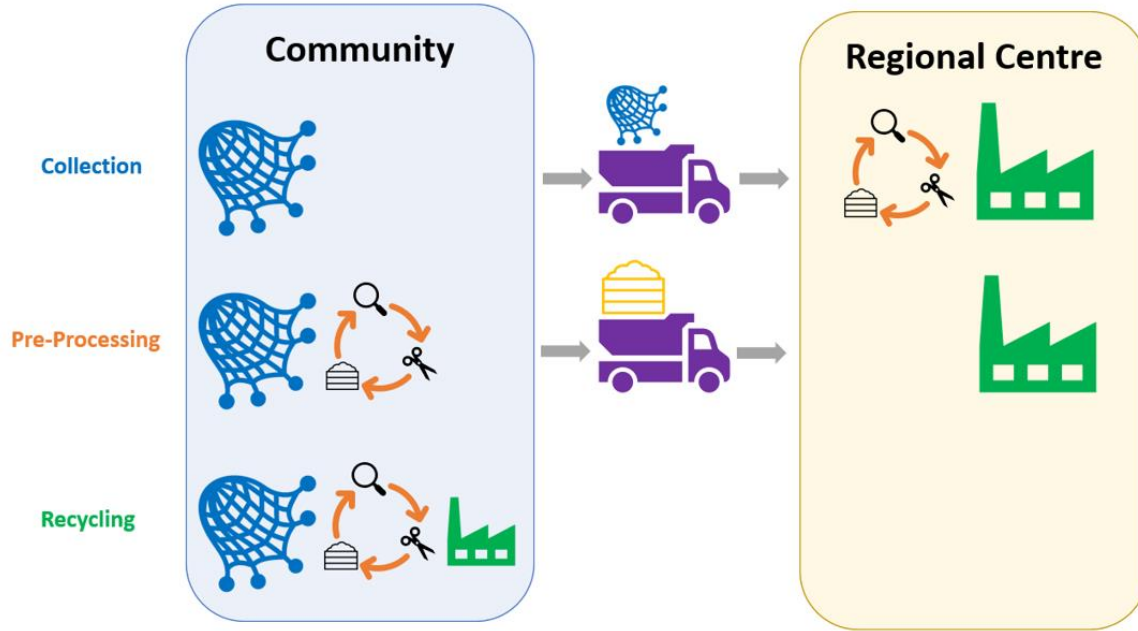
Recycling options

Recycling option	Products	Set up Cost	Material required	Training	HSE risk	Environmental/cultural risk	Product value
Pre-processing		\$					\$
Mechanical		\$ \$					\$ \$ \$
Advanced		\$ \$ \$ \$					\$ \$ \$ \$

Mechanical and pre-processing, little interest in advanced recycling



Modular recycling solution



Mobile option not presented- no truly mobile recycling option available in Australia

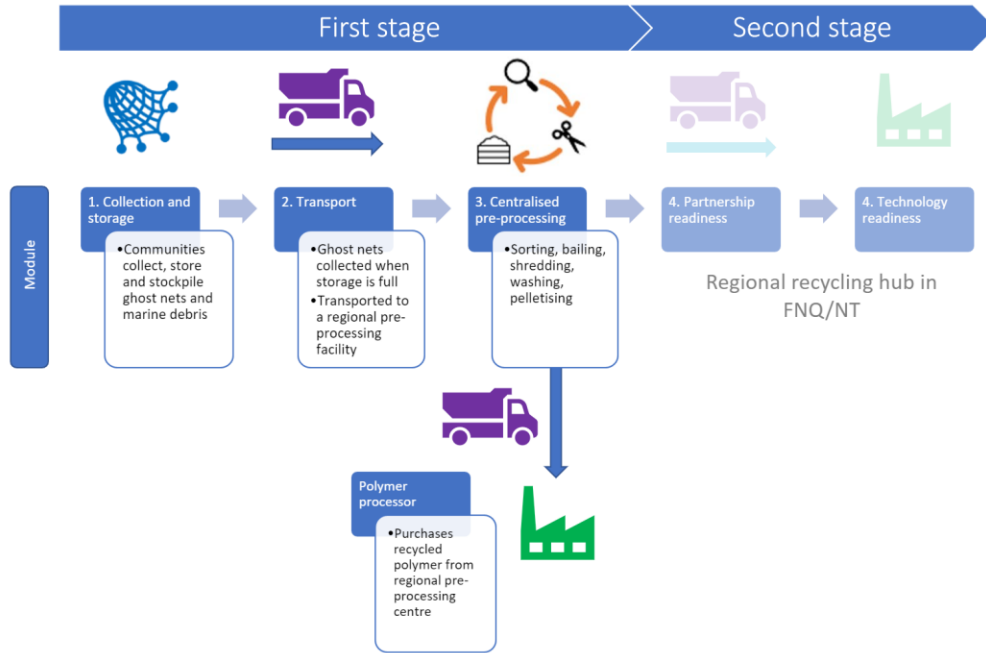


Modular recycling solution

- Not enough material for regular processing- collection
- Some material is very degraded
- **No strong preference for specific technology option**
- Limited storage facilities for communities
- Skills and training, skills not available in community or surrounds
- **Transport is costly and subject to seasonal restrictions**
- **Repairs in remote regions**
- Access to sufficient water and power requirements to run recycling facilities in communities
- Microplastic leakage



PROPOSED MODULAR RECYCLING PATHWAY



- Growing demand for ocean-sourced recycled plastic
 - Online platforms such as Oceanworks
 - Glad®, Patagonia®, and Adidas®
 - ING card 72% Ocean Plastic

Address some of the **economy of scale issues** that plague remote recycling, through **centralisation** and the option to **consolidate** ghost nets with other waste streams at collection points, in the transport phase, and at the centralised pre-processing hub

Thank you

