

CLIMATE ADAPTATION IN TIREE

COMMUNITY-LED ACTION TO PROTECT
OUR COAST, DUNES, AND MACHAIR

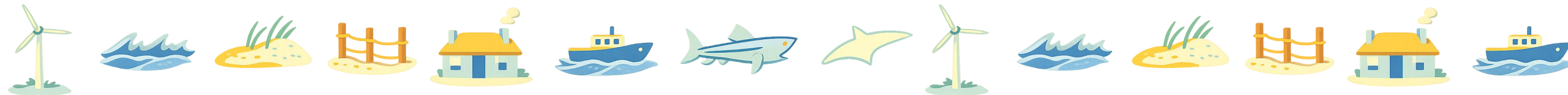


Points to bear in mind

These are potential options that have been deployed elsewhere to protect coasts. Not all will be suitable for Tiree, and this list is not exhaustive!

Permissions from landowners, and from the appropriate regulatory bodies, will be required before anything can be implemented;

The aim at this stage is to identify strategies which can be carried forward for pilot-scale deployment.



Marram replanting

- Planting grasses on dunes can help to stabilise dunes by trapping sand;
- Low-cost, and can be done using significant species within the dune system;
- However, requires regular maintenance and protection from trampling. May take several years for plants to thrive and spread.



<https://dynamicdunescape.co.uk/species/marram-grass/>

Dune reinforcement with garden waste

- Covering the face of dunes with bundles of straw, branches and even waste Christmas trees in some areas, increases sand accretion and protects dune vegetation;
- No establishment time required;
- However, short-term solution – should be supplemented with planting live vegetation such as marram grass.



Christmas trees on dunes, Lossiemouth



Reinforcing dunes with birch, Lithuania

Constructing defences with waste products

- Waste products can be transformed into walls at the coast to prevent erosion;
- One approach is to build walls by stacking old tyres and burying them, and another is to fill metal 'gabion baskets' with a combination of rock and waste;
- May provide more extensive protection than natural options – but require industrial equipment to install. Also aesthetic and waste management issues.



Figure 5.39 Tyre bale as rear fill for gabion box (courtesy Northern Tyre Recycling)

<https://www.gov.uk/flood-and-coastal-erosion-risk-management-research-reports/sustainable-reuse-of-tyres-in-coastal-engineering>

Improving drainage

- Keeping drainage clear important for allowing runoff and preventing surface flooding;
- However, requires a coordinated approach and also cooperation with crofters/landowners;
- Funding can support crofters/landowners to do this.



Behaviour change

- Supporting coastal protection by reducing behaviours that contribute to erosion and damage in the first place;
- Signage and information to raise visitor awareness - e.g. parking guidance, following designated paths/routes.



Monitoring

- Support of people who live in and visit Tيرة can help with monitoring coasts – and with performance of countermeasures;
- CoastSnap platform can be adapted to allow people to take photographs from fixed points over time;
- Build up a picture of coastal change over months and years.

<https://www.coastsnap.com/>



Questions

Which of these approaches might be appropriate for Tiree?

Where might these work?

Are there any other strategies that you can think of, which might be worth exploring?

