Wave and Tidal Range Energy Devices Offer Environmental Opportunities as Artificial Reefs

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Establishing biogenic reefs

- Oyster bank
- Creation of seagrass meadow

Altering construction material

- Rockpools
- Texture
- Overhangs

Adding habitat features

- Reef-rolls
- Shallow slopes
- Erodible materials
- Different sized rocks

Utilising sheltered condition created by energy device

- Mussel beds
- Sabellaria reef
- Pre-cast reef blocks

BioHaven

Kelp forest
Utilising sheltered conditions

MARIBE H2020
https://maribe.eu/
Biogenic reefs in coastal environments
Conclusion

• Any device will create new habitat for marine organisms.
• While it is desirable to keep some parts free of colonisation, other areas may be suitable for reef creation and biodiversity enhancement.
• There is a wealth of potential methods to enhance biodiversity linked with artificial infrastructure such as wave and tidal range energy devices.
• Research programs such as SEACAMS (Wales, UK), or ECOSTRUCTURE (Ireland/Wales) assist developers with research.