

BETWEEN A ROCK AND A HARD PLACE



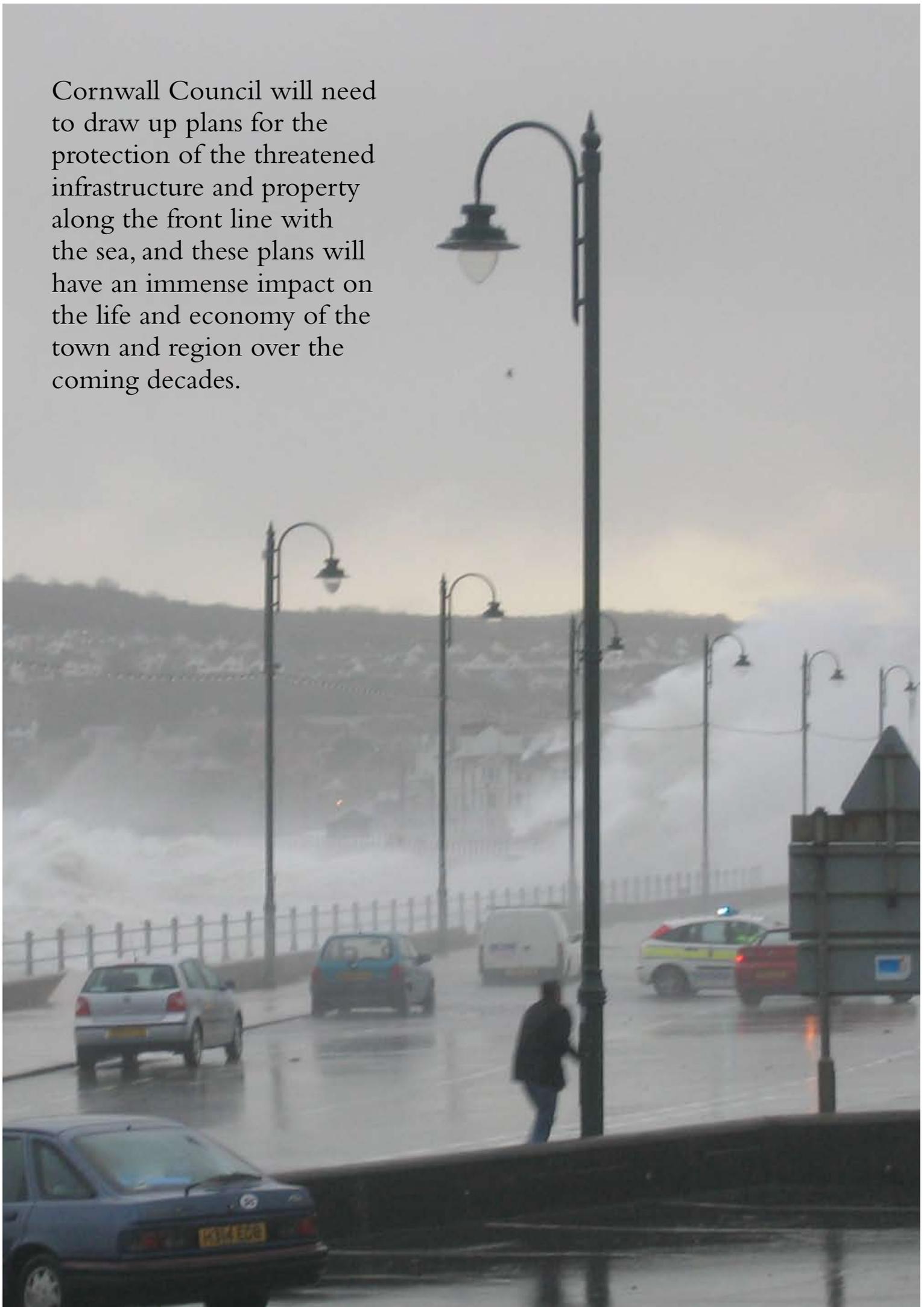
Options for protecting
Penzance and Newlyn from
the effects of Climate Change

It's not just the predicted 1 metre rise in sea level and the increased frequency and severity of storms caused by Climate Change that threaten coastal towns around the UK, but how the community and the authorities respond to this threat.

The danger to Penzance is clear; with Climate Change the whole exposed seafront from Marazion to Penzance Harbour, round the Jubilee Pool and along the Promenade to Newlyn will be subjected to frequent, severe flooding and storm damage.

Is Cornwall Council planning an unimaginative, ugly response that will blight the town and undermine its future economic well-being?

Cornwall Council will need to draw up plans for the protection of the threatened infrastructure and property along the front line with the sea, and these plans will have an immense impact on the life and economy of the town and region over the coming decades.





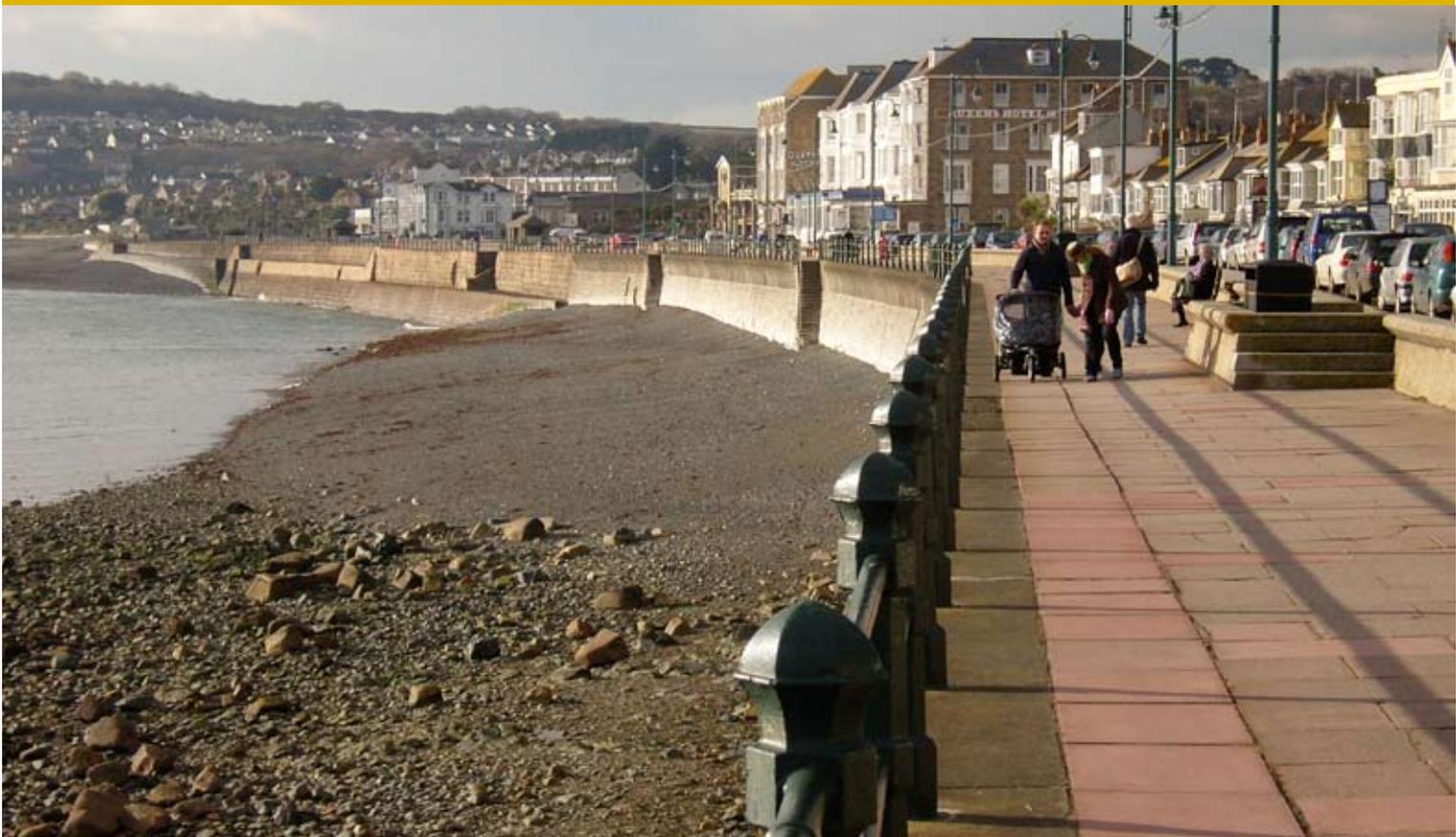
What will the future look like?

In Penzance it's possible to look into the future to see what impact sea defences could have on the town, because Cornwall Council's favoured approach - to upgrade existing sea defences by placing massive, ugly rock armour against them - is part of its Isles of Scilly Link scheme and how it plans to defend the town's Grade II* listed South Pier.

Even if the Council is forced, by public spending cuts, to abandon its plans for a passenger and freight terminal on reclaimed land at Battery Rocks beach, and the new

sea wall to protect the reclaimed land was not built, their proposal is to extend the rock armour revetment up Battery Rocks beach to the Barbican corner, to protect the base of the pier and Wharf Road from over-topping during extreme storms.

Rock armour is seen as simple solution, because it's tried and tested, and relatively cheap. But it's a physically and visually brutal solution, as the above photograph of the Albert Pier demonstrates.





What the Council is proposing will lead to the piecemeal installation of rock armour from the Grade II* listed South Pier, round the Jubilee Pool (another Grade II listed structure) and along the length of the Promenade westward to Newlyn.

Similar rock armour would be placed eastward, along the coastal path to Long Rock and Marazion to protect the railway and road infrastructure.

Imagine, if you can, a walk along the Promenade where instead of looking over the railings to the sea or beach you are confronted by thousands of tonnes of rock armour stretching into the distance.

Access to the water would be severely restricted; while access points would almost certainly be provided, the rocks themselves are dangerous and would be no-go areas, and in an urban location create the perfect habitat for rats



Is Penzance ready to have its beautiful sea front destroyed in this way? What hope is there then of Penzance becoming a thriving resort and destination town in its own right if the rest of its sea front looks like this?

Does it have to be this way?



How the community responds to the dual threat of Climate Change and local authority proposals for cheap fixes will dictate the town's future resilience and economic well-being.

This is not the time for myopic, short-term solutions, but for careful forward-thinking plans for the future, and a belief and determination that it is possible to take creative decisions and positive actions to safeguard the future prosperity of the community.

There are alternatives to rock armour. Off-shore breakwaters have been proposed in the past, but are currently dismissed as being too expensive. However, the true cost of not taking this alternative approach has never been calculated.

There are alternatives

Developments in what is called ‘Soft Shore Engineering’ continue around the world. What Penzance could develop would combine elements of hard and soft engineering; a near-shore revetment comprising linear mounds of rock armour placed on the intertidal or sub-tidal areas of the beach to reduce wave energy. The offshore breakwaters or reefs (if the structures were completely submerged) would create a wave shadow on the shore where sediments will accumulate.

These multi-purpose structures reduce the wave energy that would otherwise cause severe flooding to the sea front, and provide a number of exciting additional benefits:

Protection of coastal front-line assets and infrastructure

Protection of heritage structures whilst keeping them accessible

Preservation of the visual identity of seafront and town

Creates an additional habitat for marine animals, enhancing biodiversity

Potential for beach creation

Potential to create a recreational amenity for surfing, diving and fishing

Greatly enhance the utility of the harbour in bad weather

Potential to provide seasonal yacht moorings outside the current harbour boundaries – a need recognised by the Penzance Harbour Users Association

Protection and enhancement of resort economy for the town

The Environment Agency, responsible along with DEFRA for sea defence works around the country, states ‘Our work helps economic recovery, for example, through capital projects, by promoting regeneration in our flood risk management work’. This is the approach we are promoting here, and believe that Penzance should insist upon it.

Some examples far and near

ASR Ltd is a company that has been specializing in the development of multi-purpose reefs for 30 years.

www.asrltd.com/our_solutions/multi_purpose_reefs/

They have a particular interest in the creation of artificial surf reefs, and given that surfing is a key part of Cornwall's culture and economy, this should be of particular interest to us. Below is a summary (with web links) of three relevant ARS Ltd projects, one in India and two in the UK.

Kovalam, India

In India, ARS Ltd have created a multi-purpose reef at Kovalam.

'Commissioned by India's Department of Tourism as a multi-purpose solution to impending coastal erosion that would also "improve ecology" and boost the local economy through increased ocean-based recreation, the artificial reef was completed by ASR Ltd in early 2010.'

www.surfermag.com/features/india%E2%80%99s-first-artificial-reef%E2%80%A6works/

'Working in conjunction with the Indian government, ASR Ltd completed construction of India's first Multi-Purpose Reef in February, 2010. The primary purpose of the reef is to mitigate coastal erosion from monsoon waves in the small town of Kovalam. The reef also creates an excellent habitat for marine species. Finally, the reef has helped create a great surf spot.'

ASR's biomimetic Multi-Purpose Reefs mimic the way natural reefs provide habitat, dissipate wave energy, and shape waves.'

www.surfertoday.com/surfing/3475-artificial-reef-creates-new-surf-spot-in-india

www.surfertoday.com/videos/3476-kovalams-new-artificial-surf-spot

Boscombe, England

In the UK, ASR Ltd have worked with Bournemouth Council to create the Boscombe surf reef. This doesn't have a coastal protection role, but it is estimated to have attracted £10m of media 'advertising' for the town. The scheme is a regeneration success for that town even if the reef itself doesn't perform that well as yet, though modifications are planned to bring the best out of it in 2011.

"Local surfers are stoked at the regeneration of Boscombe and the reef is certain to attract plenty of people and boost the local economy."

Alex Wade, Surf Nation, Nov 09. Alex Wade is a journalist and a resident of Penzance.

www.bournemouth.co.uk/site/things-to-do/surf-reef

www.bbc.co.uk/news/uk-england-dorset-12002772

One of Boscombe's problems is that they rarely get good quality swell, but this is not the case for Penzance and Newlyn...

Borth, Wales

On December 16th 2010, the final funding was agreed for the first stage of Borth's 100 year sea defence upgrade. £12m of public and EU money will now be spent on phase 1 of what is seen as a 20 year sea-defence upgrade programme.

What is striking, and most relevant to Penzance, is that this first phase incorporates an Artificial Surf Reef, designed by ASR Ltd. The vision and determination of the local community and Ceredigion County Council, coupled with the imaginative funding initiatives of the Welsh Assembly Government and the EU Convergence Fund, have put regeneration, economic well-being and area-wide sea defences on the same agenda.

www.borthcommunity.info/index.php?option=com_content&view=article&id=43%3Acoastal-view&lang=en

www.borthcommunity.info/index.php?option=com_content&view=category&id=3&Itemid=37&lang=en

“The proposed works have been designed to address the draft recommendations of the Shoreline Management Plan in respect of the Borth frontage (due to be consulted on during 2011), which has identified the need to manage the seafront whilst building in resilience within the coastal system.”
(Ceredigion County Council 16 December 2010).

So what next for Mounts Bay?

A Shoreline Management Plan exists for Mounts Bay, and the public consultation phase passed quietly away last summer, overshadowed by the Isles of Scilly Link project problems and the AECOM Area Development Plan. Cornwall Council's Environmental Management team will be formulating future sea defence strategies based on this. We don't know what might be planned for Mounts Bay, but as a community we need to find out, and as a community we need to say what we want.

Imagine if the Penzance–Newlyn area adopted an imaginative approach to sea defences in the face of Climate Change driven sea-level rise, like the community of Borth has.

Imagine Penzance and Newlyn with an offshore sea defence system protecting its historic piers, the Jubilee Pool and the promenade, perhaps with a re-created beach and with a series of artificial surf reefs feeding the leisure and economy of the towns.

In fact, we already have an artificial surf reef here, and some of you may have seen the occasional surfer ride waves down the side of Newlyn Harbour – it's an odd sight, but proves that the quality of waves is good here.

This great potential is lost with rock armour placement alongside the existing sea front as currently favoured by Cornwall Council, and as an approach to upgrading sea defences should not be accepted now or in the future.

Defending the town against the effects of Climate Change is an inescapable and costly necessity. The coastal communities which thrive whilst facing this challenge will be those that are imaginative and confident enough to make a virtue out of a necessity, building sea defences which enhance rather than harm their environment and economy.



Get engaged – get in touch!

The use of multi-purpose reefs and soft engineering are not without their problems, and can be controversial. The local surfing community will have a lot to say about it, and there are environmental implications of course, but we need that engagement.

The effects of Climate Change will be felt by us all; the only certainty being that unless we actively engage in the process of change our lives and our children's lives will be the worse for it. By getting involved now you have the chance to make a better future for Penzance and Newlyn.

The aim of this brochure is to get people, businesses and organizations to THINK!

Later in the year there will be a Public Meeting on this matter, so keep an eye out for announcements. This is an issue that should interest all those who genuinely want the very best for Penzance and Newlyn, for Penwith and for Cornwall.

If the small coastal town of Borth can get it together, then so can we!

Downloadable copies of this brochure are available from the web site of the Penzance Business Network

www.pzbnetwork.com/

Register your interest in being kept informed by emailing Penzance Business Network mail@pzbnetwork.com with the subject title 'Rock and Hard Place'

Penzance Business Network. January 2011

