



ST MAWGAN IN PYDAR NDP EVIDENCE BASE PART 8:

CLIMATE CHANGE (INCLUDING DRAINAGE AND FLOOD RISK)



ST MAWGAN IN PYDAR NDP EVIDENCE BASE

Climate Change (including drainage and flood risk)

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IMPORTANT NOTE: THIS IS A 'LIVE DOCUMENT' THAT IS CONTINUOUSLY UPDATED AS NEW DATA BECOMES AVAILABLE. THE VERSION ON THE NDP WEBSITE WILL BE UPDATED REGULARLY.

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Planning Policy Background

National Legislation

- 1.1 The climate crisis represents a fundamental threat to global well-being, which is recognised internationally through the Kyoto and Paris Climate Conference Agreements and the United Nations Intergovernmental Panel on Climate Change (IPPC) Interim Report, 2018. This described the enormous harm that a 2^oC rise is likely to cause compared to a 1.5^oC rise. The report went on to say that limiting Global Warming to 1.5^oC may still be possible with ambitious action from national and sub-national authorities, civil society, the private sector, indigenous peoples and local communities.
- 1.2 In May 2019 the UK Parliament Committee on Climate Change recommended net zero carbon emissions by 2050 and Parliament declared a 'climate change emergency'. The UK Government has a commitment to reduce CO2 emissions by 78% on 1990 levels by 2035 and by 100% on 1990 levels by 2050. For the latest Climate Change Risk Assessment see UK Climate Risk and Climate Change Committee.
- 1.3 The **UK Climate Change Risk Assessment** is published on a 5-yearly cycle in accordance with the requirements of the Climate Change Act 2008. It required the Government to compile an assessment of the risks for the UK arising from climate change, and then to develop an adaptation programme to address those risks and deliver resilience to climate change on the ground. For the third and latest, 2022 UK Climate Change Risk Assessment highlighted the urgency of action to tackle the risks arising from climate change, recognising that evidence showed we must be prepared for warming up to 4^oC. The Adaptation Sub-Committee commissioned an evidence report aiming to understand the current and future climate risks and opportunities. The evidence report contains eight priority risk areas requiring additional action in the next two years, see below¹ :

¹ <https://assets.publishing.service.gov.uk/media/61e54d8f8fa8f505985ef3c7/climate-change-risk-assessment-2022.pdf>

- risks to the viability and diversity of terrestrial and freshwater habitats and species from multiple hazards
- risks to soil health from increased flooding and drought
- risks to natural carbon stores and sequestration from multiple hazards
- risks to crops, livestock and commercial trees from multiple climate hazards
- risks to supply of food, goods and vital services due to climate-related collapse of supply chains and distribution networks
- risks to people and the economy from climate-related failure of the power system
- risks to human health, wellbeing and productivity from increased exposure to heat in homes and other buildings
- multiple risks to the UK from climate change impacts overseas

1.4 The **UK Climate Change Act** was passed in 2008 and established a framework to develop an economically credible emissions reduction path. It also highlighted the role it would take in contributing to collective action to tackle climate change under the Kyoto Protocol, and more recently as part of the UN-led Paris Agreement.

1.5 The Climate Change Act includes the following:

- **2050 Target.** The Act commits the UK to reducing emissions by at least 80% in 2050 from 1990 levels.
- **Carbon Budgets.** The Act requires the Government to set legally binding ‘carbon budgets’. A carbon budget is a cap on the amount of greenhouse gases emitted in the UK over a five-year period. The carbon budgets are designed to reflect the cost-effective path to achieving the UK’s long-term objectives. The first five carbon budgets have been put into legislation and run up to 2032.
- The Committee on Climate Change was set up to advise the Government on emissions targets, and report to Parliament on progress made in reducing greenhouse gas emissions.

1.6 The National Adaptation Programme requires the Government to assess the risks to the UK from climate change, prepare a strategy to address them, and encourage key organisations to do the same².

1.7 The Committee on Climate Change report listed the ‘key pillars’ of a net-zero economy, including a supply of low-carbon electricity (which will need to quadruple by 2050), efficient buildings and low-carbon heating (required throughout the UK’s building stock), electric vehicles (which should be the only option from 2035 or earlier), developing carbon capture and storage technology.

1.8 The Climate Change Committee also highlighted areas where government policy must go further to address the impacts of the climate emergency – including the need for comprehensive planning for adapting to climate change.

1.9 The environment is central to life in Cornwall with the climate having immediate impacts on people’s lives and the economy. Recognising this, Cornwall Council declared a Climate Emergency on 22nd January 2019 and followed this with a Climate Change Plan in July 2019.

² <https://www.theccc.org.uk/tackling-climate-change/preparing-for-climate-change/uk-adaptation-policy/>

Cornwall Council prepared a report ‘to establish how Cornwall can sufficiently reduce carbon emissions through energy efficiency, low-carbon fuels and investment in renewable energy and other Council strategies, plans and contracts within a timescale which is consistent with an ambition to restrain Global Heating to 1.5° C’. This resolution was made in the context of Cornwall Council’s target for Cornwall to become carbon neutral by 2030.

- 1.10 The Council established a trio of strategic teams to address the climate emergency. The Environmental Resilience and Adaptation team sits alongside the Carbon Neutral Cornwall team and the Ecological Emergency team.
- 1.11 The Resilience and Adaptation team reports to the Cornwall Strategic Resilience Board and has a strategic role with oversight of Shoreline Management Plans, Local Flood Risk and Natural Flood Risk Management Strategies.
- 1.12 Cornwall Council is also working with other agencies to develop a Local Climate Adaptation Tool (LCAT), due to launch in 2024. LCAT aims to provide information on the predicted climate for any chosen area over future decades to enable effective planning for climate change events. <https://www.ecehh.org/research/local-climate-adaptation-tool/>
- 1.13 **Section 98 of Levelling Up and Regeneration Act 2023** amends section 38B of Planning and Compulsory Purchase Act 2004 (which defines provision that may be made by neighbourhood development plans) to say that **neighbourhood plans must be designed to secure that the development and use of land in the neighbourhood area contribute to the mitigation of, and adaptation to, climate change.**

National Planning Policy Framework 2024.

- 1.14 NPPF 2024 (Para 11a) says that ‘all plans should promote a sustainable pattern of development that seeks to: meet the development needs of their area; align growth and infrastructure; improve the environment; mitigate climate change (including by making effective use of land in urban areas) and adapt to its effects’.
- 1.15 It also says that, in relation to **development generally**:
 - The planning system should support the transition to net zero by 2050, taking full account of all climate impacts including overheating, water scarcity, storm and flood risks and coastal change. It should help to:
 - shape places in ways that contribute to radical reductions in greenhouse gas emissions, minimise vulnerability and improve resilience;
 - encourage the reuse of existing resources, including the conversion of existing buildings; and
 - support renewable and low carbon energy and associated infrastructure. (Para 161)
 - Plans should address the long-term impacts of climate change, including flood risk, coastal change, water supply, biodiversity, overheating, and drought, while supporting measures to enhance community and infrastructure resilience, such as protective measures or relocation of vulnerable assets. (Para 162):
 - New developments should minimize vulnerability to climate impacts and include adaptation measures like green infrastructure and sustainable drainage systems in vulnerable areas. (Para 164a):

- Development should reduce greenhouse gas emissions through thoughtful location, orientation, and design, aligning with national sustainability standards for buildings. (Para 164b):

1.16 It says that, in relation to **renewable energy**:

- Plans should promote renewable and low-carbon energy development, future repowering, and life extension, addressing adverse impacts and identifying suitable areas and opportunities for decentralized energy systems (Para 165)
- New developments must consider landform, layout, orientation, massing, and landscaping to reduce energy consumption (Para 166),
- Significant weight should be given to energy efficiency and low-carbon heating improvements in existing buildings, while ensuring heritage assets are preserved in line with NPPF policies (Para 167)
- Prioritizing Renewable Energy Benefits Planning authorities must prioritize the positive impacts of renewable energy developments, such as reducing carbon emissions, enhancing energy security, and supporting net-zero goals. (Para 168a):
- Support for Small-Scale Projects Small-scale and community-led projects are recognized for their contribution to reducing greenhouse gas emissions. (Para 168b):
- Repowering or extending the life of existing renewable energy sites should be given significant weight due to the benefits of established infrastructure. (Para 168c):
- Applications for commercial-scale projects outside identified renewable energy areas must demonstrate alignment with criteria used for identifying suitable locations (Para 169):

1.17 In relation to **flooding**, it says that

- Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk (whether existing or future). Where development is necessary in such areas, the development should be made safe for its lifetime without increasing flood risk elsewhere (Para 170).
- Strategic policies must be informed by a Strategic Flood Risk Assessment (SFRA) and manage flood risks from all sources, considering cumulative impacts in flood-prone areas. Advice should be taken from relevant authorities like the Environment Agency and local flood management bodies (Para 171)
- Development locations should minimize flood risk by:
 - Applying the Sequential Test (steering development to lower-risk areas) and, where necessary, the Exception Test.
 - Safeguarding land needed for current or future flood management.
 - Using new developments and green infrastructure to reduce flood causes and impacts, including natural flood management techniques.
 - Relocating unsustainable developments in areas where climate change increases flood risk. (Para 172):

- The Sequential test ensures new development is directed to areas with the lowest flood risk, based on the SFRA {figure 1}. Development is only permitted in higher-risk areas if no suitable lower-risk sites are available and if residual risks are managed (Para 173-179):

Figure 1: Key Steps in Flood Risk Assessment According to NPPF 2024

1. Sequential Test: This test aims to steer new developments to areas with the lowest flood risk. Developments should preferably be located in Flood Zone 1 (low probability of flooding). If no suitable sites are available, Zones 2 and 3 may be considered, provided there are no reasonably available sites in **areas with a lower risk**.

2. Exception Test: If, after applying the Sequential Test, it's necessary to locate development in higher-risk areas, the Exception Test ensures that the development provides wider sustainability benefits that outweigh the flood risk and that it will be safe for its lifetime without increasing flood risk elsewhere.

3. Site-Specific Flood Risk Assessment (FRA): An FRA is required for:

- All developments in Flood Zones 2 and 3.
- Developments over 1 hectare in Flood Zone 1.
- Sites in Flood Zone 1 where there are critical drainage problems.

The FRA should evaluate all potential sources of flooding, consider the effects of climate change, and propose mitigation measures to manage any identified risks.

4. Sustainable Drainage Systems (SuDS): The NPPF 2024 encourages the incorporation of SuDS in all developments, proportionate to their scale and nature, to manage surface water runoff and reduce flood risk.

5. Climate Change Considerations: Assessments must account for the potential impacts of climate change on flood risk over the development's expected lifetime, ensuring long-term safety and resilience.

Exemptions (Para 176): Minor developments and changes of use are generally exempt from the Sequential and Exception Tests but must still adhere to site-specific flood risk assessment requirements.

[The Cornwall Local Plan: Strategic Policies.](#)

- 1.18 Local authorities have an important role as they understand climate change risks and impacts in their area. They are uniquely well-placed to reduce carbon emissions from key sectors (including buildings, transport, energy and waste), and to help places adapt.
- 1.19 Objective 9(a) and 9(d) within key theme number 4 states to 'reduce energy consumption while increasing renewable and low carbon energy production' and to 'increase resilience to climate change'. In Policy 2 it says that development should assist the creation of resilient and cohesive communities by: a. Delivering renewable and low carbon energies, increasing energy efficiency and minimising resource consumption through a range of renewable and low carbon technologies;.....g. Supporting smart specialisation sectors including; food; aerospace; marine; renewable energies (including geothermal); and cultural industries'
- 1.20 Policy 14 strongly supports the development of proposals that will increase use of and production of renewable and low carbon energy. It adds that in the case of wind turbines, they are within an area allocated by Neighbourhood Plans for wind power and avoid, or adequately mitigate shadow flicker, noise and adverse impact on air traffic operations, radar and air

navigational installations. It also says that 'In and within the setting of Areas of Outstanding Natural Beauty and undeveloped coast, developments will only be permitted in exceptional circumstances and should generally be very small scale in order that the natural beauty of these areas may be conserved. When considering proposals for renewables that impact upon the National Landscapes [former Area of Outstanding Natural Beauty] and its setting and / or the World Heritage Site or other historic assets and their settings, applicants should apply other relevant policies in the Plan'

1.21 The following also directly relate to Climate Change:

- Policy 14: Renewable and low carbon energy;
- Policy 15: Safeguarding renewable energy;
- Policy 25: Green infrastructure; and
- Policy 26: Flood risk management and coastal change

1.22 The lower case text in CLP says that 'Proposals within the AONB, or those that would affect its setting will be supported where they are small scale and meet an identified local need, where landscape capacity can be demonstrated and the natural beauty of the AONB can be conserved and enhanced in accordance with Policy 23'.

[Cornwall Climate Emergency Development Plan Document](#)

1.23 Cornwall Council adopted the Cornwall Climate Emergency DPD [CEDPD] on February 21st 2023. A copy of the document can be found here. <https://www.cornwall.gov.uk/planning-and-building-control/planning-policy/adopted-plans/climate-emergency-development-plan-document/>

1.24 Policy RE1 of the CEDPD supports renewable energy schemes where:

- They contribute to meeting Cornwall's target of 100% renewable electricity supply by 2030; and they balance the wider environmental, social and economic benefits of renewable electricity, heat and/or fuel production and distribution.
- Will not result in significant adverse impacts on the local environment that cannot be satisfactorily mitigated.
- The current use of the land is agricultural, the use allows for the continuation of the site for some form of agricultural.
- Commercial led energy schemes with a capacity over 5mw provide an option to communities to own at least 5% of the scheme subject to viability, and
- There are appropriate plans and a mechanism in place for the removal of the technology on cessation of generation, and restoration of the site to its original use or an acceptable alternative use, and
- Opportunities for co-location of energy producers with energy users, in particular heat, will be supported.

1.25 Regenerative Low Impact Developments are proposals that seek to enable off-grid lifestyles that minimise the ecological footprint of the inhabitants to sustainable levels. It is broadly self-sufficient in terms of energy, water and waste, whilst also providing a significant proportion of food and income directly from the land. It can achieve very low impact and high sustainability in ways that respect, conserve and enhance the landscape and cultural heritage of a site and its surroundings, whilst improving and increasing biodiversity, carbon sequestration, air, water and soil quality and other bringing relevant environmental enhancements

- 1.26 Policy AL1 (Regenerative Low impact development) of the Climate Emergency DPD sets out an approach to Regenerative Low Impact Development in Cornwall. The Policy is aimed at small groups and potentially private estates to provide affordable, low impact housing and other buildings necessary to support the proposed activities, tied to the restorative use of land and controlled by conditions regarding measurable carbon sequestration and environmental net gain. It allows for a departure from national and local policy preventing development in the open countryside, so any such proposals must clearly demonstrate a truly low impact approach and undergo rigorous assessment and ongoing monitoring.
- 1.27 Policies SEC 1 (Sustainable energy and construction) and CC4 (Sustainable drainage system design) of the CEDPD provide an excellent basis for ensuring new development is of sustainable design. Its provisions go as far as possible within the bounds of viability for new homes and new commercial premises. Measures proposed require new developments to:
- Take account of landform, layout, building orientation, massing and landscaping to minimise energy consumption and maximise the use of renewable energy and optimize passive solar gain.
 - Incorporate on-site provision of renewable energy or heat and/or low carbon technologies to match the total energy consumption, with a preference for roofmounted solar PV.
 - Incorporate water reduction, storage and reuse design principles including rainwater harvesting, greywater recycling and efficient use of all water for both internal and external water consumption.
 - Be designed to reduce the risk of summer overheating of properties and increased energy use for building cooling, optimising the use of green infrastructure [such as shelter belt planting in areas exposed to wind] in maintaining healthy indoor and outdoor temperatures.
 - Use high quality, thermally efficient building materials, locally sourced wherever practicable, and of low embodied energy use.
 - Include the use of “natural” SuDS features.
 - Sensitively retrofit energy efficiency measures in heritage properties/assets and buildings to reduce energy demand, providing that it safeguards the historic characteristics of these heritage assets and development is done with the engagement and permissions of relevant organizations**.
 - Include measures to reduce heat loss, such as double or secondary glazing with wooden windows that meet the latest relevant British standard.
 - Replace of fossil fuel burning energy sources with electric power from renewable sources with zero air emissions locally.
 - Achieve Building Research Establishment Environmental Assessment Methodology [BREEAM] ‘Excellent’ (or equivalent).

Other plans and studies

- 1.28 The **Flood and Water Management Act**³ highlights that alternatives to traditional engineering approaches to flood risk management include:

³ <http://www.legislation.gov.uk/ukpga/2010/29/contents>

- Incorporating greater resilience measures into the design of new buildings, and retrofitting properties at risk (including historic buildings);
- Utilising the **environment** to reduce flooding, for example through the management of land to reduce runoff and through harnessing the ability of wetlands to store water;
- Identifying areas suitable for inundation and water storage to reduce the risk of flooding elsewhere;
- Planning to roll back development in coastal areas to avoid damage from flooding or coastal erosion; and
- Creating Sustainable Drainage Systems (SuDS) which aim to manage surface water and reduce flood risks as well as improving wildlife habitats.

1.29 Further guidance is provided in the document ‘Planning for SuDS’⁴. This report calls for greater recognition of the multiple benefits that water management can present. It suggests that successful SuDS are capable of ‘contributing to local quality of life and green infrastructure’.

- Also of relevance are: Cornwall Council Sustainable Drainage Policy: [<https://www.cornwall.gov.uk/environment-and-planning/countryside/estuaries-rivers-and-wetlands/flood-risk/sustainable-drainage-systems/>]
- Cornwall Council Chief Planning Officer’s Advice note on Planning for Coastal Change [<https://www.cornwall.gov.uk/planning-and-building-control/planning-policy/adopted-plans/planning-policy-guidance/#>]

1.30 The **Cornwall Council SuDS policy set** includes seven useful notes and other material that are relevant.⁵ The **following** videos may also aid understanding of the issues:

- Down the Drain a Cornwall Climate Care documentary⁶
- Natural Flood Management – High Water Common Ground (devon.gov.uk)⁷
- Planning for flood risk in England - Town and Country Planning Association (tcpa.org.uk)⁸

1.31 The Soils and Natural Flood Management Devon and Cornwall Guide⁹ gives information on recommended soil **management** in particular localities.

1.32 The **Cornwall Climate Change Action Plan**¹⁰ sets out a programme of action to ensure that Cornwall, as an organisation, leads in tackling the causes and consequences of climate change. It was followed by a ‘Carbon Neutral Cornwall Call to Action’¹¹ which explains how Cornwall as a community can work to achieve carbon neutrality. Included in this are several themes which the planning system can help deliver on, such as including renewable and low carbon energy, changes in travel patterns and methods, environmental enhancement, and building design.

⁴ http://www.ciria.org/Resources/Free_publications/Planning_for_SuDS_ma.aspx

⁵ <https://www.cornwall.gov.uk/environment/countryside/flood-risk/suds-for-cornwall-guidance/>

⁶ <https://www.cornwallclimate.org/films/down-the-drain>

⁷ <https://www.devon.gov.uk/floodriskmanagement/natural-flood-management/>

⁸ <https://tcpa.org.uk/resources/planning-for-flood-risk-in-england/>

⁹ <https://wrt.org.uk/project/soils-and-natural-flood-management/>

¹⁰ <https://www.cornwall.gov.uk/media/y5mctbyu/climate-change-action-plan.pdf>

¹¹ <https://www.cornwall.gov.uk/media/qyvfpo3e/cnc-call-to-action.pdf>

- 1.33 The **Cornwall Local Area Energy Plan** is a new, place-based approach that Cornwall and the Isles of Scilly are piloting as part of the effort to achieve both Cornwall and the Isles of Scilly Net Zero ambitions. They enable areas to develop their plans to decarbonise their local energy systems, working on the basis that the best decarbonisation strategy will be take into account an area's specific geography, building types, energy infrastructure, energy demand and security, as well as established future growth plans. Thus, it will help facilitate an integrated position between planning and energy – enabling transport, housing and economic planning decisions relating to energy (supply and demand) to be viewed holistically and enable delivery against an agreed holistic strategy. As such, when fully developed, it will form an important input to Neighbourhood Development Planning.
- 1.34 Detailed guidance on specific considerations, such as landscape and cumulative impact (in particular for wind turbines and solar farms) is given in detailed Planning Advice given by Cornwall Council to provide a proactive tool guide new development, inform planning decisions and support the development of Neighbourhood Plans across Cornwall. This advice can be found on the Cornwall Council website at:
- <http://www.cornwall.gov.uk/media/18406307/cornwall-renewable-energy-planning-advice-march-2016.pdf>
- 1.35 As part of the preparation of the CEDPD a Renewable Energy Landscape Sensitivity Assessment [RELS] was carried out. Details can be found at: <https://www.cornwall.gov.uk/planning-and-building-control/planning-policy/adopted-plans/climate-emergency-development-plan-document/climate-emergency-dpd-renewable-energy-sensitivity-assessment/>
- 1.36 Cornwall Council have also produced an advice note on **Climate Change and Neighbourhood Plans**¹². It stresses that NDP policies do not need to repeat the policies of the DPD. Climate change related policies in NDPs to identify and address local mitigation and adaptation issues should compliment and expand the policies in the DPD. Neighbourhood Plan policies will also need to consider general conformity with its policies.
- 1.37 Cornwall Council has produced the **Cornwall Climate Risk Assessment Report** (updated Nov 23) <https://letstalk.cornwall.gov.uk/cornwall-climate-report> . The report underlines the need to act now to reduce emissions and tackle climate risks. It notes the 'unprecedented' weather which Cornwall has experienced over the last few years, with unseasonable weather successive named storms, flash flooding and heatwaves. There are predicted rises in sea levels around the UK, which, along with stronger storms, higher wind speeds and increasing coastal erosion, suggest a greater risk of high impact flooding as previously seen in Boscastle (2004) and Coverack (2017). Therefore it is important to act now to prepare for future weather events.
- 1.38 In addition to the established concerns around flooding and water scarcity, a series of urgent risks have been identified, including:
- **The loss of key habitats and species** - This is particularly apposite for Mawgan Porth and Trenance where extensive building work has substantially reduced the habitats for a number of species eg slow worms, bats, both protected species and owls, which are rarely heard in Mawgan Porth now. Plant species, trees and bushes are also vulnerable, eg. gorse.

¹² <https://www.cornwall.gov.uk/media/s2mplank/climate-change-and-neighbourhood-plans.pdf>

- **A deterioration in soil health** - The extensive house building taking place is creating large properties within plots with reduced garden/amenity spaces. This, accompanied by the tendency to dig down to provide an extra storey is impacting soil health.

1.39 The Council’s Carbon Neutral Cornwall Team has produced the ‘**Cornwall Hive**’¹³. This is a hub with information to help communities and individuals to tackle climate change.

1.40 **Historic England** provide guidance and technical advice regarding the impact of climate change and mitigation has on historic buildings:

Energy Efficiency and Traditional Homes [Historic England Advice Note 14] outlines a ‘whole building’ approach that can help in meeting the combined objectives of increasing energy efficiency and sustaining significance in heritage assets, while avoiding unintended consequences. Although this note focusses on homes of traditional construction which are heritage assets, the ‘whole building’ approach is equally applicable to other buildings of traditional construction, whether homes or not and whether heritage assets or not, though for more complex buildings more detailed analysis will be needed.

*Energy Efficiency and Historic Buildings: How to Improve Energy Efficiency*¹⁴ gives more detailed technical advice.

Local Energy Storage

1.41 Local energy storage is considered to be a crucial element in moves to increase the proportion of renewable and low carbon energy. When renewable sources produce insufficient power to meet demand, rather than draw from the grid, power is drawn from batteries and they progressively discharge. When the system produces more electricity than can be used, the batteries can be recharged. Such storage can help improve energy security, alleviate energy poverty, and potentially assist moves to off-grid systems and is expected to be particularly advantageous to farming as it adapts in the face of rapidly changing economic conditions. Storage could, in addition, be part of a new residential or non-residential development site, as an essential element of an energy strategy to decarbonise the new development. Carefully designed and located storage facilities can be accommodated in sensitive locations. However, as an emerging area of technology a cautious approach to their development is appropriate.

Community Climate Change Action

1.42 Communities can have a significant role in addressing the causes and impacts of climate change. For example in 2017 community energy organisations in the UK owned 121 MW of energy capacity, which has generated 265 GWh of energy since 2002, benefitting individual householders, the wider community and local businesses.

1.43 Para 161 of NPPF 2023 encourages neighbourhood plans to support community-led initiatives for renewable and low carbon energy. The Government’s Energy Security Strategy of April 2022 includes plans to prioritise putting local communities in control by developing local partnerships for supportive communities who wish to host new onshore wind infrastructure in return for benefits. The CEDPD gives significant weight to community led energy schemes where evidence of community support can be demonstrated, with administrative and financial

¹³ <https://letstalk.cornwall.gov.uk/hub-page/carbon-neutral-cornwall>

¹⁴ See <https://historicengland.org.uk/advice/technical-advice/retrofit-and-energy-efficiency-in-historic-buildings/#Planning>

structures in place to deliver/manage the project and any income from it. Encouragement will be given to schemes to provide for a community benefit in terms of direct supplies, profit sharing or proportion of community ownership and delivery of local social and community benefits.

1.44 A variety of community finance, in-kind and wider benefits are becoming common as part of community renewable energy development. Examples include:

- Community benefit funds
- Community ownership or share-holding in renewable energy
- Locally cheaper energy bills
- Shared funding of local infrastructure upgrades (e.g. faster broadband, electric vehicle charging points)
- Educational visits for schools
- Employment of local people in construction and maintenance
- Preference local contractors in tendering processes

1.45 Community based climate change action can also include measures such as:

- Retro-fitting energy efficiency and insulation in existing homes
- Sustainable eco-housing developments
- Provision of public electric car charging facilities
- Installing heat pumps
- Installing rooftop solar energy
- Community low-carbon heating schemes
- Community anaerobic digestion (composting for energy) schemes
- Car sharing schemes.
- Community owned solar farms
- Community owned wind farms
- Community owned hydro or geothermal power stations
- Tree planting/ reforestation & rewilding projects

Shoreline Management Plan

1.46 The Cornwall Shoreline Management Plan (SMP) is a strategic document developed to manage the risks associated with coastal erosion, flooding, and sea-level rise along the coastline of Cornwall. It provides a long-term framework for sustainable management of Cornwall's shoreline, ensuring that economic, environmental, and social priorities are balanced.

1.47 The SMP identifies areas at risk of coastal erosion and flooding, proposes adaptive strategies to mitigate these risks over short-term (0–20 years), medium-term (20–50 years), and long-term (50–100 years) periods, and outlines specific management approaches for different sections of the coastline, typically categorized as:

- Hold the Line [HTL]: Maintain existing defences to prevent further erosion or flooding.
- Advance the Line [ATL]: Build new defences to reclaim land.
- Managed Realignment [MR]: Allow the shoreline to move naturally while managing risks to assets and communities.
- No Active Intervention [NAI]: Allow natural processes to occur without any defence measures.

1.48 The SMP aligns with environmental legislation and conservation objectives, such as protecting natural habitats and biodiversity, and includes measures to mitigate the impact of coastal management on protected areas, like Sites of Special Scientific Interest (SSSIs) and Marine Conservation Zones (MCZs).

Baseline

Contribution to Climate Change

2.1 In relation to greenhouse gas emissions, source data from the Department of Energy and Climate Change suggests that Cornwall has broadly similar per capita emissions in comparison to the South West of England and England as a whole since 2005. Cornwall has also seen a 36.3% reduction in the percentage of total emissions per capita between 2005 and 2016, slightly lower than the reductions for the South West of England (36.7%) and England (37.6%).

CO2e Emissions in St Mawgan in Pydar Area

2.2 According to the IMPACT Community Carbon Calculator [<https://impact-tool.org.uk/footprint/footprint?regionId=E04011484&geography=parish&footprintType=consumption&scale=per-household&showSubCategories=true>] as at December 2024, St Mawgan in Pydar Parish contributes 9,530 tonnes of CO2e¹⁵ on a consumption basis (all emissions caused by residents of the area, regardless of where they occur, including upstream and downstream emissions from residents’ consumption of manufactured goods, food and their own transport activity) as shown in Figure 2a and 2b below. This equates to 15 tonnes CO2e per household.

2.3 Figure XX shows the consumption basis contribution on more detail. It illustrates how action to improve the energy efficiency of buildings and behavioural change by residents can make some difference to the amount of CO2e that is emitted, for example by being more careful with energy use, decarbonising central heating, better insulation, reducing private car travel, using electric vehicles , traveling on holiday by train rather than by air, reducing food waste, reducing general waste and recycling, and generating power by renewable methods locally.

2.4 The Parish emits 15,221 tonnes of CO2e per annum on a territorial, or direct plus supply chain basis (all emissions occurring within the area, for example, those from all industry, agriculture and transport activity within the area). This equates to 28.1 tonnes CO2e per household.

FIGURE 2a: Emissions Breakdown for St Mawgan in Pydar Parish		
Activity	(t CO2e)	Percentage
Consumption Basis		
Housing	3034	32%
Consumption of goods and services	2,714	28%
Travel	2224	23%
Food and Diet	1547	16%
Waste	12	0%
total	9,531	100%

¹⁵ CO2e stands for "carbon dioxide equivalent" and is a standard unit of measurement in carbon accounting. It expresses the impact of a number of different gases collectively as a common unit.

Territorial Basis		
Agriculture	4,555	30%
Industrial and commercial	3,886	26%
Housing	3,034	20%
Road Transport	2,569	17%
Other sources (eg. F gases, aviation, shipping, waste management)	1178	8%
total	15,222	100%

: [Impact | Community carbon calculator \(impact-tool.org.uk\)](https://www.impact-tool.org.uk)

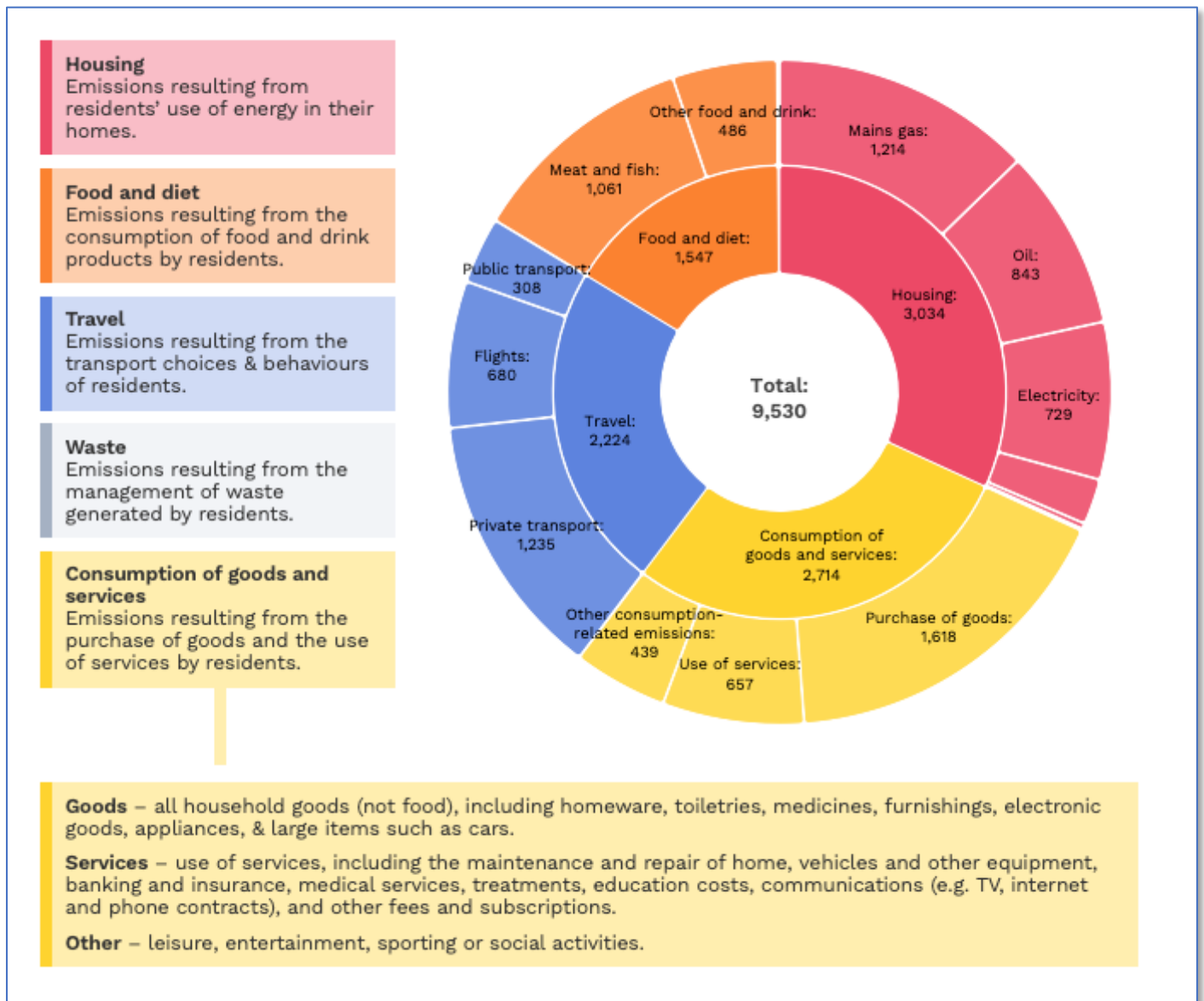


FIGURE 2b: DETAILED CONSUMPTION BASIS EMISSIONS BREAKDOWN FOR ST MAWGAN IN PYDAR PARISH [SOURCE: IMPACT CARBON CALCULATOR].

Figure 3 below illustrates that almost the entire Parish is in a high CO2 emitting area. Rates for St Mawgan are higher than for Cornwall as a whole and the GB average.

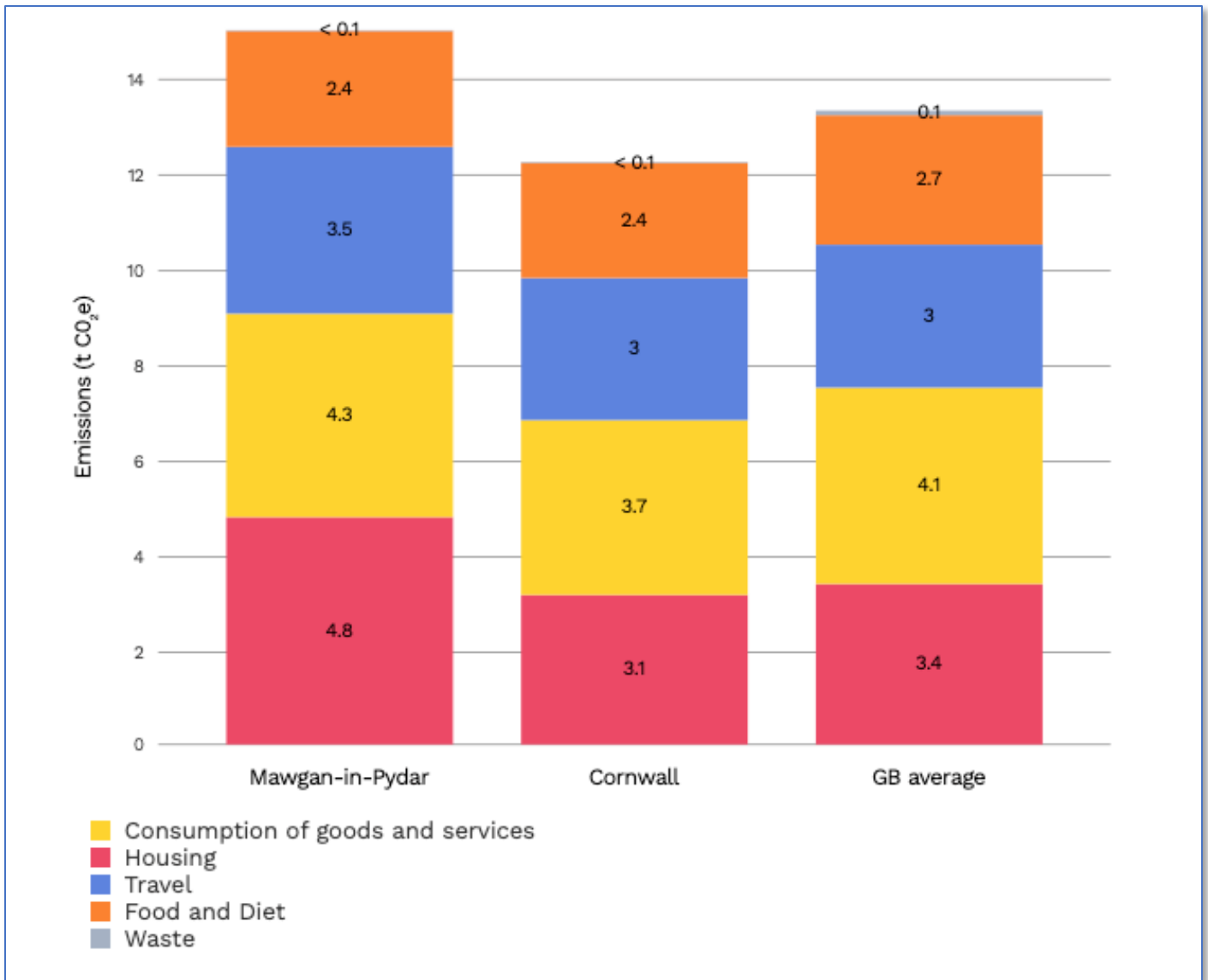


FIGURE 3: CONSUMPTION BASIS EMISSIONS BREAKDOWN COMPARISON [SOURCE: IMPACT CARBON CALCULATOR]

Building Performance in the NDP Area [EPCs]

2.5 An Energy Performance Certificate gives a property an energy efficiency rating from A (most efficient) to G (least efficient). They are needed whenever a property is built, sold, or rented and are valid for 10 years. A significant proportion of properties in the Parish fall into the D to G category, reflecting the generally older housing stock, further underlining the need to encourage retrofitting with improved insulation and low carbon heating energy sources. Figures 4 a, b, c show the EPC rating in the Parish's main settlements. Most recent dwellings, which are located predominantly in Mawgan Porth and Trevarrian, have the highest EPC ratings, but older

properties, especially the heritage properties at St Mawgan village, have poor ratings, with implications for retrofitting [see below].

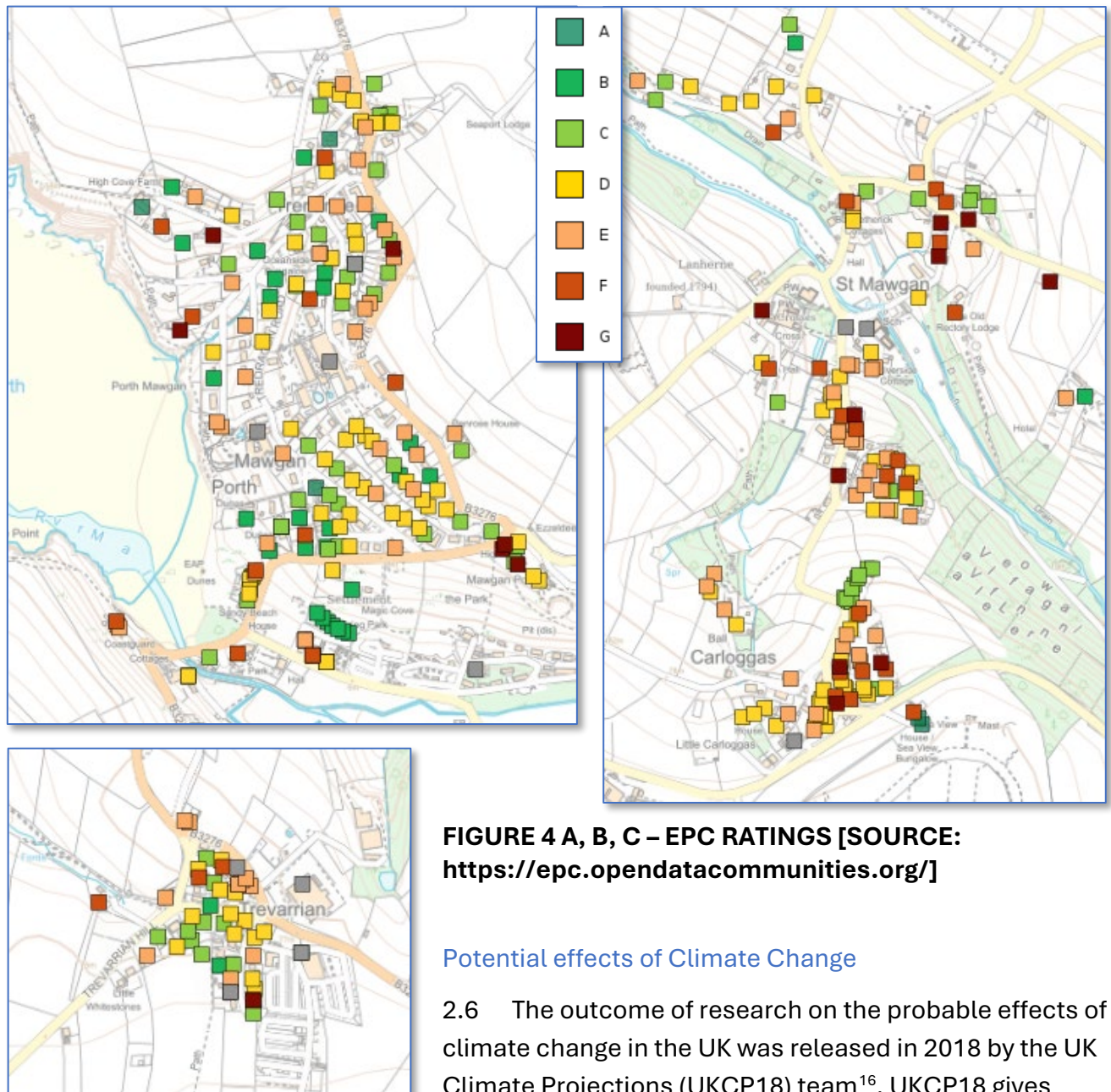


FIGURE 4 A, B, C – EPC RATINGS [SOURCE: <https://epc.opendatacommunities.org/>]

Potential effects of Climate Change

2.6 The outcome of research on the probable effects of climate change in the UK was released in 2018 by the UK Climate Projections (UKCP18) team¹⁶. UKCP18 gives climate information for the UK up to the end of this century

and projections of future changes to the climate are provided, based on simulations from climate models. Projections are broken down to a regional level across the UK and are shown in probabilistic form, which illustrate the potential range of changes and the level of confidence in each prediction.

2.7 As highlighted by the research, the effects of climate change (under medium emissions scenarios 50th percentile) for South West England during the period 2040-2059 compared to the period 1981-2000 are likely to be as follows¹⁷:

- The central estimate of increase in annual mean temperatures of between 2°C and 3°C;

¹⁶ <http://ukclimateprojections.metoffice.gov.uk/>

¹⁷ <https://www.metoffice.gov.uk/research/approach/collaboration/ukcp/land-projection-maps>

- The central estimate of change in annual mean precipitation of +10 to +20% in winter and - 20% to -30% in summer.

2.8 Resulting from these changes, a range of risks may exist for the Neighbourhood Plan area, including:

- Increased incidence of heat related illnesses and deaths during the summer;
- Increased incidence of illnesses and deaths related to exposure to sunlight (e.g. skin cancer, cataracts);
- Increased incidence of pathogen related diseases (e.g. Covid-19, legionella and salmonella);
- Increase in health problems related to rise in local ozone levels during summer;
- Increased risk of injuries and deaths due to increased number of storm events;
- Effects on water resources from climate change;
- Reduction in availability of groundwater for abstraction;
- Adverse effect on water quality from low stream levels and turbulent stream flow after heavy rain;
- Increased risk of flooding, including increased vulnerability to 1:100 year floods;
- Changes in insurance provisions for flood damage;
- A need to increase the capacity of wastewater treatment plants and sewers;
- A need to upgrade flood defences;
- Soil erosion due to flash flooding;
- Loss of species that are at the edge of their southerly distribution;
- Spread of species at the northern edge of their distribution;
- Deterioration in working conditions due to increased temperatures;
- Changes to global supply chain;
- Increased difficulty of food preparation, handling and storage due to higher temperatures;
- An increased move by the insurance industry towards a more risk-based approach to insurance underwriting, leading to higher cost premiums for business;
- Increased demand for air-conditioning;
- Increased drought and flood related problems such as soil shrinkages and subsidence;
- Risk of road surfaces melting more frequently due to increased temperature; and
- Flooding of roads.

2.9 Later in 2024 the **Cornwall Local Climate Adaptation Tool** will become available. It can be filtered by parish and shows how the climate may change in each location, what the particular climate-related health vulnerabilities are, and example solutions for making the community more resilient. For the moment we can say that the drought risk is particularly relevant to this agricultural parish. An additional risk to consider due to remoteness is the impact that the obstruction of roads by flooding or fallen trees could have on access and key deliveries (such as solid fuel for off-gas properties).

Alternative Energy Generation

2.10 Renewable energy is of considerable significance to Cornwall because of its geographical characteristics (as an exposed and hilly peninsula, enjoying strong levels of sunshine, with

many watercourses and granite spine) and relatively sparse population making it particularly suitable for wind turbines, Solar PV arrays and other forms of 'natural energy'. However the landscape character, biodiversity and heritage status of much of the county restricts the opportunities for the larger scale forms of energy development such as wind turbines and solar arrays to areas away from the AONB.

2.11 The Cornwall Climate Emergency DPD identifies 'broad areas' that are 'suitable for wind energy' development based on a landscape sensitivity assessment, and sets relevant criteria for decision making. As Figure 5 shows, some areas of the parish towards the borders with St Columb and St Eval fall within areas designated as suitable for wind generation. Falling within the broad areas does not mean that proposals will automatically be granted planning permission. They are essentially an 'area of search' within which the Council will consider whether turbines should be granted permission in line with local and national policy which sets out a series of technical tests (including distances from homes and heritage assets (including Scheduled Monuments and Listed Buildings)) and demonstrate the acceptability of their visual impact.

2.12 Most of the area is more than 2km from the 33kV and 132kV electricity distribution grid, apart from the extreme east of the Parish.

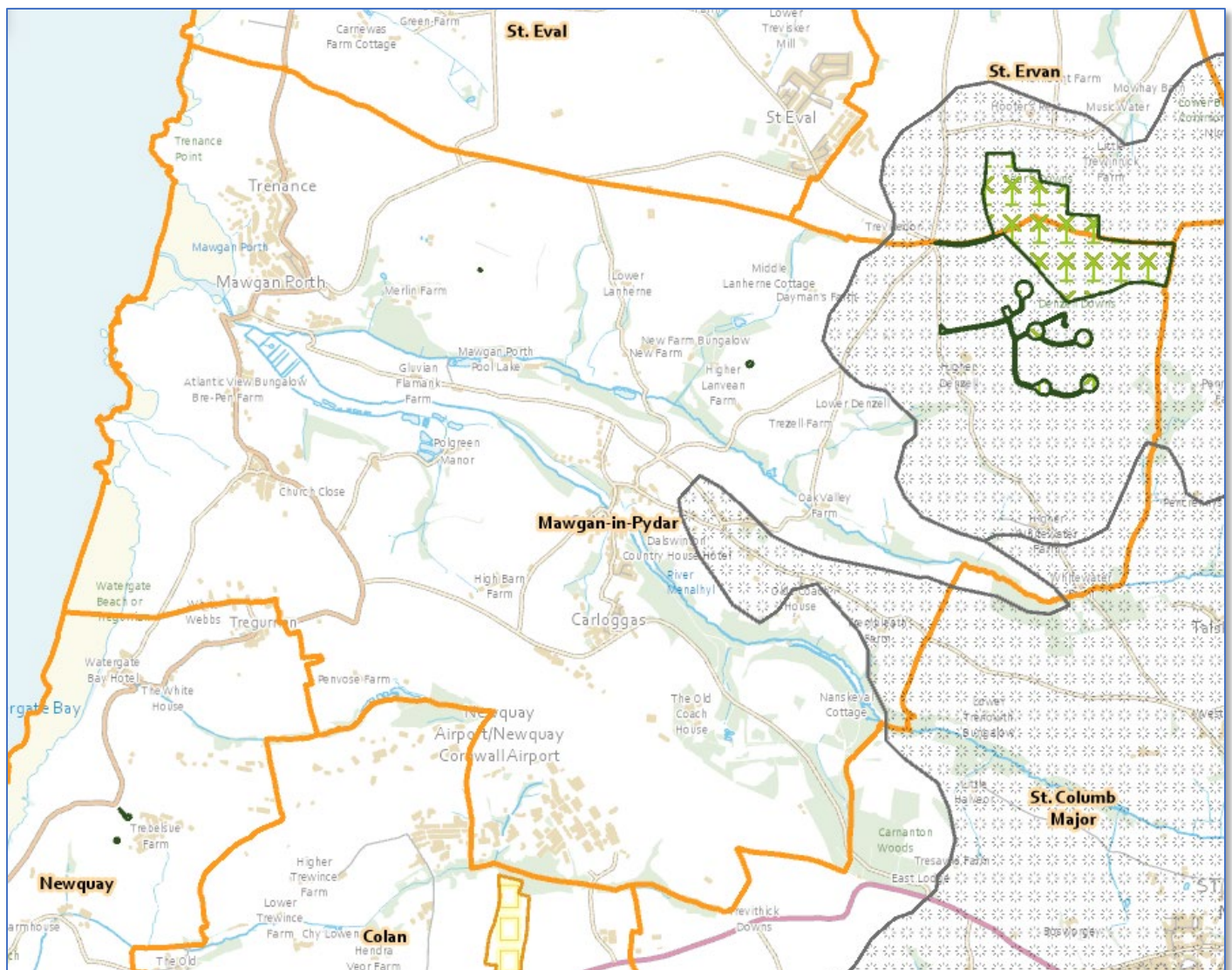


FIGURE 5: CORNWALL CLIMATE EMERGENCY DPD IDENTIFIES 'BROAD AREAS' THAT ARE 'SUITABLE FOR WIND ENERGY' DEVELOPMENT

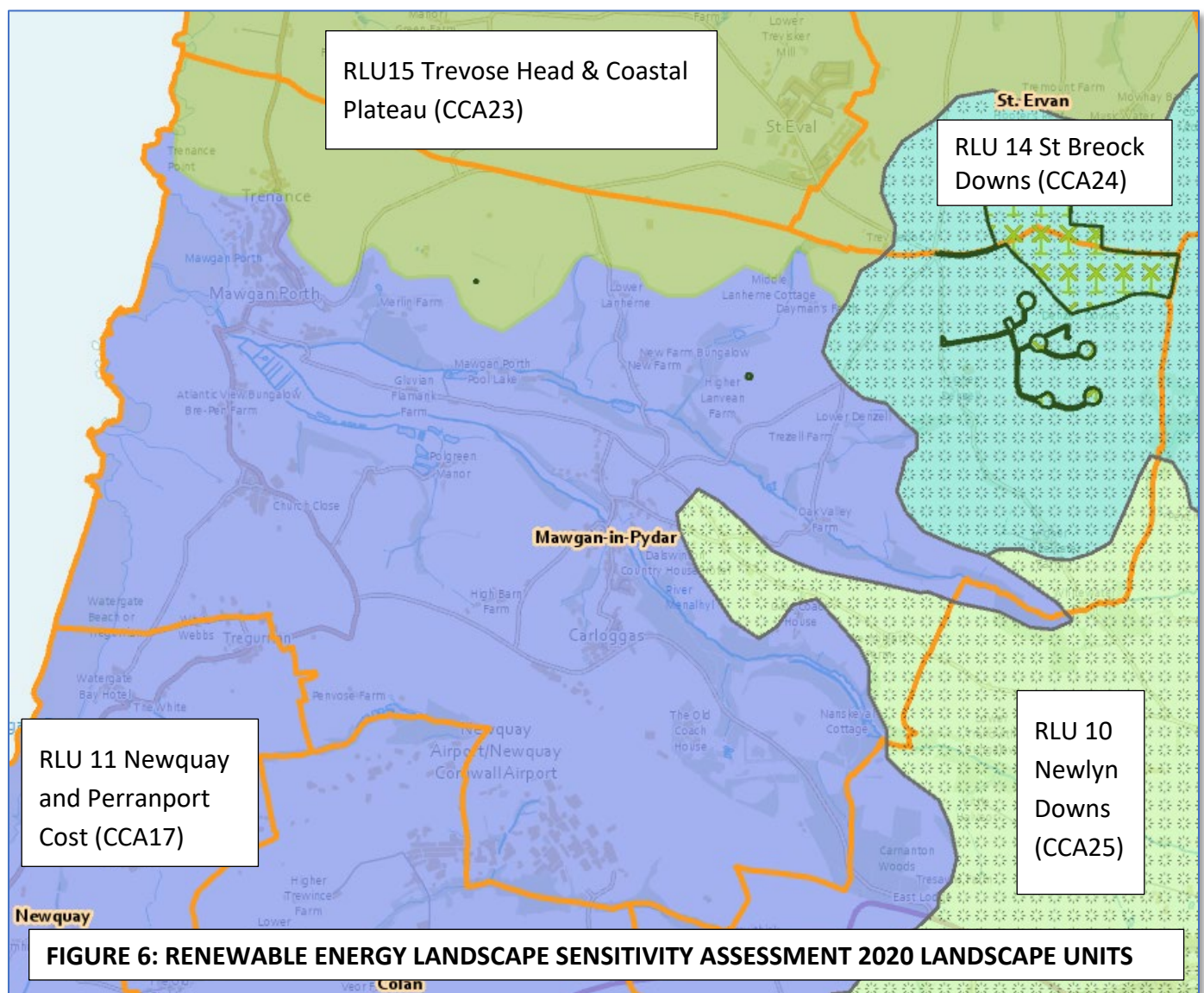
- 2.13 There are five wind turbine generators with a maximum tip-height of 100 metres above existing ground level at Higher Denzell Farm, and north of them are seven wind turbine generators with a maximum tip-height of 57 metres above existing ground level which are part of the Bears Down Wind Farm that straddles the border with St Ervan Parish, a total of 12 in all. The Bears Down farm is proposed to be re-powered with 100m turbines.
- 2.14 In addition there is a 2M high and 5Kw wind turbine generator at Higher Lanvean Farm, and a 34.6m high turbine at the Merlin Golf Club.
- 2.15 The whole of the Parish is over 2km from the 33kV and 132kV electricity grid which has a limiting impact on future connections.

Hydro-electric power generation

- 2.16 Due to its topography, with a river system running through its centre, St Mawgan in Pydar Parish may have some opportunity for hydroelectric power generation.

Climate Emergency DPD Renewable Energy Landscape Sensitivity Assessment 2020

- 2.17 The **Renewable Energy Landscape Sensitivity Assessment 2020** [RELS] splits the Parish amongst four areas [Figure 6] and makes [in summary] the following recommendations.



RLU 14 St Breock Downs (CCA24)

Wind Energy

- **Re-power Bear's Down** from Band B to Band D (100m turbines) to extend Higher Denzell Farm's development, forming a unified wind farm in terms of siting, design, and turbine choice.
- **Explore extending the Band D wind farm at St Breock Down** by a maximum of two turbines, maintaining a consistent design and layout.
- **Resist further single turbines** in this landscape (and its border with RLU 15), favoring extensions to larger Band D wind farms instead.
- **Protect skyline landmarks:** ensure turbines do not dominate or obscure historic landmarks.
- **Consider local viewpoints and popular routes** when siting turbines, aiming for balanced compositions on the skyline.
- **Safeguard scenic quality:** especially features of the Watergate & Lanherne AGLV (e.g., ancient woodland).

Solar PV

- **Scoped out** for solar PV due to high landscape sensitivity, visual prominence, and open character.
-

RLU 11 Newquay and Perranport Coast (CCA17)

Wind Energy

- **No further turbines** of any banding are recommended due to the open, highly visible coastline and hinterland.
- **Locate wind energy development away** from the undeveloped coastal edge, prominent headlands, and medieval strip fields (e.g., at Trevarrian and Tregurrian).
- **Avoid HLC Types** 'Upland Rough Ground' and 'Coastal Rough Ground,' highly vulnerable to wind development.
- **Protect key features:** avoid adverse effects on west-facing surf beaches, cliffs, dunes, and scenic qualities of the Watergate & Lanherne AGLV.
- **Minimize visual impacts** from popular routes (e.g., South West Coast Path) and ensure wind farms do not dominate historic skylines.

Solar PV

- **Minor wooded valleys** in farmland can accommodate Band A and B projects, avoiding semi-natural habitats.
 - **No suitability** for Band C or D solar PV.
 - **Prevent solar PV from becoming dominant:** avoid cumulative effects that change overall character.
 - **Design consistency:** multiple developments should share scale, layout, and form.
 - **Locate in sheltered folds and avoid dunes, rugged coast, and 'Rough Ground'.**
 - **Preserve medieval fields** by limiting adjacent-field developments and setting panels back from edges.
 - **Avoid direct overlooking** at close quarters and protect the Watergate & Lanherne AGLV's scenic features.
-

RLU 15 Trevoze Head & Coastal Plateau (CCA23)

Wind Energy

- **No new wind development** where existing turbines (including adjacent RLUs 14 and 28) already create cumulative impacts.
- **No further turbines** of any banding along the open, highly visible AONB coastline and hinterland.
- **Locate turbines away** from rugged coastline, headlands, and stacks.
- **Avoid damaging** narrow lanes, slate-faced Cornish hedges, and **protect** prehistoric skyline landmarks.
- **Minimize visual impacts:** consider views from local routes (e.g., South West Coast Path).
- **Safeguard scenic quality** of the Cornwall AONB and Watergate & Lanherne AGLV (e.g., Trenance Point headland).

Solar PV

- **Minor wooded valleys** (farmland, not semi-natural habitats) can host Band A and B.
- **No suitability** for Band D solar PV.
- **Maintain landscape character:** avoid significant cumulative impacts; developments should share a consistent scale, design, and siting.
- **Form part of mixed farmland** rather than dominating.
- **Prefer gentle folds** in the landscape to reduce visibility.
- **Preserve field patterns** by limiting the number of adjacent-field developments and setting panels back.
- **Avoid remote coastal edges**, medieval strip fields, and HLC Zones of ‘Rough Ground.’
- **Protect scenic features** of the AONB and Watergate & Lanherne AGLV (e.g., Trenance Point headland) and ensure solar PV is not directly overlooked at close range.

RLU 10 Newlyn Downs (CCA25)

Wind Energy

- **Occasional single turbines (up to Band B)** may be acceptable, provided scattering is minimized to avoid cumulative impacts.
- **Promote design consistency:** similar siting, layout, and turbine heights.
- **Locate larger turbines** on higher ground with larger field patterns, away from complex historic landscapes (e.g., Medieval Farmland).
- **Avoid HLC types** of ‘Rough Ground’ and remote, tranquil locations (e.g., Areas of Great Landscape Value).
- **Consider skyline views** from settlements/coast to create a balanced composition.

Solar PV

- **Up to Band D** in sheltered, folded land using woodland and Cornish hedges for screening.
- **Minor wooded valleys** (in farmland) could also accommodate Band A and B, avoiding semi-natural habitats.
- **Avoid open, exposed, or elevated land** to minimize visual prominence.
- **Prevent solar PV from becoming dominant:** ensure developments are separated and share similar scale/design.
- **Locate in dips and sheltered folds** of the plateau, protecting remote/tranquil areas (e.g., AGLVs).
- **Integrate into mixed farmland** rather than overshadowing it.

FIGURE 7: RENEWABLE ENERGY DEVELOPMENT SIZE BANDS		
BAND	WIND	SOLAR PV
BAND A	(18-25m)	(≤5ha)
BAND B	(26-60m)	(>5 to 10ha)
BAND C	(61-99m)	(>10 to 15ha)
BAND D	(100-150m)	(>15 to 30ha)

2.18 Small scale individual turbines [sub Band A] can help enhance the viability of farming and other small businesses by reducing energy costs and providing a measure of independence from the electricity grid, whilst minimizing landscape impact, if they meet the requirements of Policy RE1 of the Climate Emergency DPD, the guidelines set out in the Cornish Renewable Energy Landscape Sensitivity Assessment 2020, do not adversely affect highway safety or public rights of way, and are set back from settlements and principal roads of at least 200m.

Oil and Gas [non-mains] Based Heating

2.19 Many rural properties in the Parish rely on oil or non-mains gas fuelled domestic heating and will need to find alternative energy sources due to new regulations which will require 80% of homes to have transitioned away from oil boilers to more sustainable heating options by 2035 and 100% by 2050. Homeowners are often concerned about the implications of this change which may lead to resistance that is largely unfounded.

2.20 There are several alternative energy and more sustainable sources to transition to from oil heating that can be viable, depending on the specific location, access to fuels, and micro-climate. These include:

- Propane, which can be stored on-site like heating oil, making it accessible for rural homeowners, provides reliable and efficient heating, even in extremely cold temperatures. It is relatively clean-burning, produces fewer greenhouse gas emissions than other fossil fuels and produces minimal levels of harmful air pollutants. However, as a fossil fuel it will be ruled out after 2030. Biopropane [BioLPG] is a renewable form of LPG derived from sustainable sources such as biomass and organic waste so may be viable beyond 2030. It is chemically identical to LPG and is compatible with all LPG products.
- Hydrotreated Vegetable Oil (HVO) is a renewable diesel fuel made from vegetable oils, animal fats, or waste cooking oils that have been processed to remove oxygen through hydrogenation. It is compatible with existing systems, has lower carbon emissions, reduced air pollutants, comes from a renewable source material, and has high energy density and storage stability. However, as a new source it has a limited availability and thus a higher cost potential, may be in competition with food sources [when produced from virgin vegetable oils, HVO may potentially compete for land with food crops.] and as a diesel fuel has lower energy efficiency in cold weather.
- Wood or Pellet Stoves are options for rural areas with access to firewood or pellet supplies. Wood is a renewable resource, and pellet stoves can offer steady, automated heat output. However, they require regular maintenance and cleaning, and wood storage takes up space, often in gardens and outbuildings. Wood or pellet systems are often best suited for supplementary heating or small homes rather than as a primary source for a large space.
- Electric Heat Pumps (air-source or ground-source) are highly efficient and provide both heating and cooling. Air-source heat pumps have improved significantly and can function well in cold climates. Geothermal heat pumps (ground-source) are even more efficient, using stable ground temperatures to provide heat. However, ground-source heat pumps have higher upfront costs and require land for installation. Additionally, rural areas with unreliable electricity may need backup generators for heat pump reliability.
- Solar Heating Systems can supplement heating, especially if paired with hydronic (radiant floor) heating or water heating systems. Solar panels can also be used to power an electric

heating system or heat pump. However they are dependent on sunlight and may be less effective in areas with long, cloudy winters. They also have significant initial setup costs, although incentives may be available.

- Biomass Boilers which burn organic materials such as wood chips or pellets, can be a sustainable choice for rural homes with access to biomass fuel. They provide steady, efficient heat. These systems require fuel storage and regular maintenance. Biomass boilers can also be costly to install, and fuel availability may be a concern in some rural locations.
- Solar Thermal panels are of limited value in heating applications but can be paired with other solutions as a supplement to rather than a primary heating source.
- Electric water heaters powered by wind turbines may be an alternative, but the combination may require a large site and expensive control equipment, plus buffer power storage to cover less windy periods.

2.21 To be most effective these heating sources can be paired with hydronic radiant heating systems which provide even and efficient heating. Installation costs can be high, and this option is best suited to new construction or major renovations due to the need for piping under floors.

2.22 The use of alternative to oil heating can have significant implications for homeowners and the community, spanning environmental, financial, and practical considerations.

2.23 The main downside is with upfront costs. Transitioning to a new heating system can require a significant initial investment, especially if the home needs upgrades (like ductwork for forced-air systems or extra insulation). Installing a heat pump, for instance, may require electrical work if the system demands more power than the current setup can provide.

2.24 Against this there are many benefits. Transitioning away from oil heating can:

- significantly reduced carbon footprint.
- improved air quality: alternative heating sources, especially electric systems, emit fewer pollutants
- reduced maintenance: oil furnaces require regular maintenance, such as tank refills and burner cleaning. many alternatives, especially electric systems, are low-maintenance, which can save both time and money.
- improved garden space: oil heating requires an on-site storage tank and delivery system. eliminating these can free up space and reduce the inconvenience of fuel deliveries and price fluctuations tied to the oil market.
- improved long-term reliability: electric heat pumps and other modern systems generally have long lifespans and reliable performance.
- lowered costs: newer heating systems, such as high-efficiency heat pumps or natural gas furnaces, tend to be more energy-efficient than oil systems. over time, homeowners may save money on energy bills, particularly if they move to systems powered by renewables.
- increased property value: homes with efficient, environmentally friendly heating systems may see an increase in resale value, as more buyers prioritize energy efficiency and reduced heating costs.
- more consistent heat distribution: some alternatives, such as heat pumps, provide consistent heating and cooling in one system, often improving indoor comfort.

- lower noise levels: many oil furnaces are loud and can disrupt household quiet. Electric systems tend to be quieter, which can make for a more peaceful environment.

Plastic Windows

- 2.25 There are 40 Listed structures in the Parish. There is also St Mawgan Conservation Area, hosting many historic and traditional buildings. Elsewhere there are many properties that are of traditional format. These are important in setting the character of the area.
- 2.26 Replacing windows with energy efficient plastic (uPVC) windows can unfortunately harm the heritage value of historic areas as the style and size of the original windows can indicate the age, economic status, and past uses of a building. Rules governing retrofit are generally not well understood.
- 2.27 Historic England advice is that any original windows should be retained, repaired and regularly maintained rather than replaced, or 'retrofitted' with plastic windows. There may also be opportunities to insert secondary or double glazing.
- 2.28 If absolutely unavoidable, then plastic replacement windows that closely replicate the original window features, for example of a traditional timber sash window with the correct dimensions and number of panes, may be accepted, subject to appropriate permissions in listed buildings and in Conservation Areas.
- 2.29 Elsewhere, in non-designated buildings where formal permissions may not be required, replacement by correctly proportioned sash windows is to be preferred over casement windows. If the latter are considered, care should be taken to ensure that casements are side opening, that glazing bars are of the correct width and colour, and that unnecessary textured or figured glass patterns and coloured motifs are avoided unless they replicate the existing.

Electric Vehicle Infrastructure.

- 2.30 A major plank of UK policy to tackle climate change is the introduction of EVs. The UK Government has banned the sale of new petrol and diesel cars from 2035.
- 2.31 However, the provision of EV charging is complicated. Domestic is usually 7kW or 22kW but many homes charge at around 3.6kW, and here is much variation in vehicle charging type. Rapid chargers are the fastest electric chargers normally available, commonplace in businesses but rare in homes in the South West. Rapid chargers provide a rating of 43kW to 50 kW from a 3 phase supply line, but few homes and businesses have such supply and the cost of connection to a local 3 phase network is a major factor in rural areas. Ultra-rapid chargers provide a rating of 150kW to 350 kW as found in commercial and public charging points on main roads such as motorway services to ensure that EV owners can charge vehicle in an efficient amount of time so they can continue with their journey.
- 2.32 In St Mawgan Parish the existing power infrastructure is predominantly for domestic use with some private EV charging points. There are 29 'public' chargers but these are related to tourism facilities so may not be freely available [See Fig XX].
- 2.33 The introduction of 7Kw charging at home is relatively straightforward but problems can occur with cables over pavements for those houses without driveways.

Location	22kw	7kw
Bedruthan Hotel	8	1
Scarlet Hotel	3	0
The Park	2	0
Newquay Airport	0	4
Sun Haven Holiday Park	2	4
Merlin Farm	0	1
Mawgan Porth Golf Club	4	0
TOTALS	19	10

FIG 8: EV CHARGING POINT AVAILABILITY. Source: Zap Map

- 2.34 Cornwall Council's **Drive EV2 Project** intends to bring new public electric vehicle charge points to Cornwall. The project is funded by the European Regional Development Fund and Cornwall Council. So far it has funded 226 new charging points through 93 fast and 20 charging units. The charge points have been installed in Cornwall Council car parks in 42 locations. None of these so far are in St Mawgan Parish.
- 2.35 In the future, where in the next 10 years a large proportion of the available private vehicles and small commercials will be EVs, there is a risk that the rural, dispersed community of St Mawgan Parish Parish could be seriously disadvantaged, in both social and economic terms, unless the EV charging infrastructure is improved. Similarly, the local tourism industry may find attracting EV driving customers to be increasingly difficult.

Local Energy Storage

- 2.36 In the case of St Mawgan Parish there are many sites, such as barns and out-houses, that could be suitable for low power storage for the community as well as for the farming and holiday sectors. There must be a 3 phase 415v supply to connect to these units which may require some additional infrastructure investment. The sale of excess stored power into the grid can also be a useful source of local income.

Community Energy

- 2.37 There is no community energy project as such active in the Parish. However, the Parish Council is active on climate change issues and has a net zero by 2030 target

Flood Risk from Rivers and Sea

- 2.38 The Menalhyl valley from Mawgan Porth to St Mawgan and through Carnanton woods is a Category 3 flood zone, as is the neighbouring valley through Retorrick to Bolingey and beyond [Fig 9]. These are monitored by the Environment Agency and their designation should be respected to protect wildlife and buildings.
- 2.39 There is a flood defence embankment at the zone of confluence of the Gluvian Stream and River Menalhyl, and a low wall by the tennis courts at Mawgan Porth, which gives some protection to critical community infrastructure that is within the flood plain for the more typical flooding events. However they are at significant risk from more unusual events, such as that which

occurred on 25th March 2024¹⁸. The River Menalhyl flooded and overtopped the defences following the heavy rainfall at about 10.30pm, which resulted in flood waters entering the more built up area, with a total of 8 built properties being inundated to the following approximate depths:

- ‘Catch Bar’ - Café by bridge had its basement flooded >1m deep (the north-easterly adjacent property is raised and is not reported to have flooded)
- ‘Beach Box’ - café flooded 100mm
- ‘Cornish Fresh’ - Shop/café flooded to 600mm
- ‘Scoops’ - Ice cream shop flooded to 600mm
- ‘Cornish Fresh’ - Shop/café flooded to 600mm
- ‘Married to the Sea’ - Surf hire shop flooded to 600mm
- ‘Muddle and Press’ - Café flooded to 300mm
- Residential bungalow flooded to 300mm
- Community Hall flooded to 400mm
- Some containers and a temporary food stand were flooded to approximately 100mm

2.40 Flooding at Mawgan Porth is not a new phenomenon. After prolonged rainfall in December 1999 the river burst its banks and flooding of water and sewage extended across the car park to the Village Hall. Sewage had also flooded the car park earlier in that year. The Environment Agency noted that the Hall was built on the Flood Plain and therefore vulnerable to flooding. They acknowledged that the prolonged rain in 1999 had resulted in exceptionally high river levels. Further rain on December 18th fell onto already saturated ground, that and the associated run off resulted in the flooding incident. A long-term resident reported to the Environment Agency that although flooding had been known to happen in the past, to footbridge and garage, this was the worst incident in living memory. The Hall Committee at the time were concerned about future flooding incidents and these must continue to be a concern with the flooding and coastal change risks identified in the UK Climate Change Risk Assessment.

2.41 Associated with this flooding there is a risk of pollution from buried fuel tanks which are still under the ground in front of Cornish Fresh, dating back to when there was a garage on the site.

Surface Water Flooding

2.42 In addition to areas subject to flooding from rivers and sea, there are areas where surface water flooding occurs from run-off from fields, roads and hard surfaces such as driveways and carparks [See Fig 10]. Surface water flooding risk is anticipated to increase as a result of climate change, adding to the economic and health costs associated with the inundation of properties. Adequate space must therefore be allowed within the development layout to accommodate appropriate foul and surface water drainage systems. However, “Hard’

¹⁸ See Mawgan Porth - Flooding Report for Flood Event Date: 25 March 2024 for further details. <https://plansupport.co.uk/wp-content/uploads/2024/12/Environment-Agency-Mawgan-Porth-Flooding-Report-March-2024.pdf>

engineered mitigation of flood risk can be unsympathetic to both the natural and built environment. On the other hand, Sustainable Urban Drainage [SuDS] techniques can help to reduce the incidence of surface water flooding and reduce harm to water quality, whilst providing additional habitat to support and enhance the green infrastructure network, and contributing to the distinctive character of the area.

- 2.43 Historically the unclassified valley road running from Mawgan Porth through Gluvian has flooded at the bridge near 'The Park'. This has caused the road to be impassable, though works by Cornwall Highways have mitigated this risk, the road still floods either side of the bridge, as depicted in photos from in 2015 – see Figures 11 and 12.
- 2.44 The area surrounding the village centre of St Mawgan has experienced occasional flooding incidents. The building closest to the flood plain is the village primary school – which flooded in September 1960. Subsequently changes were made to the ford crossing to alleviate the risk for the future. The school is surrounded by essential village amenities, such as the village store, the pub, the café, roads, the playing field and the bridge, which carries most traffic through the village. All these have a relatively high footfall compared to other locations and therefore there is a potential risk to human health as a result of higher river water levels.
- 2.45 The ford in St Mawgan joins to a restricted byway used by the local population. The water level of the ford makes it impassable for vehicles following a period of heavy rain e.g. February 2024.

Coastal Erosion

- 2.46 Mawgan Porth beach has been affected by coastal change over the long term, the 'Dark Age' settlement nearby being abandoned and preserved by engulfing sand from the 11th Century. It is being particularly impacted by the consequences of climate change and significant coastal erosion is forecast.

FIGURE 9: FLOODING FROM RIVERS AND SEA



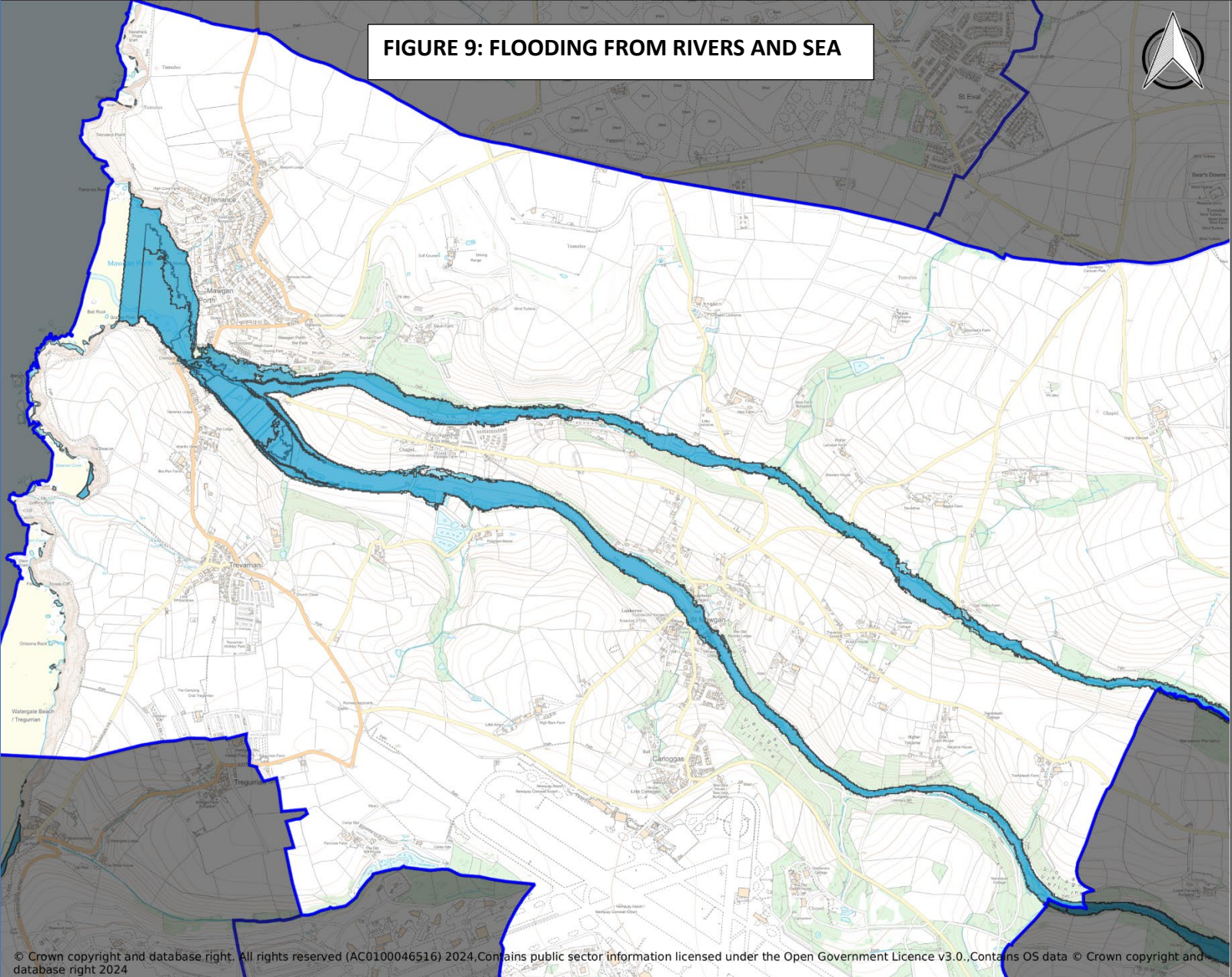
Flood Map - Rivers and Sea - Zone 2



Flood Map - Rivers and Sea - Zone 3



Parish



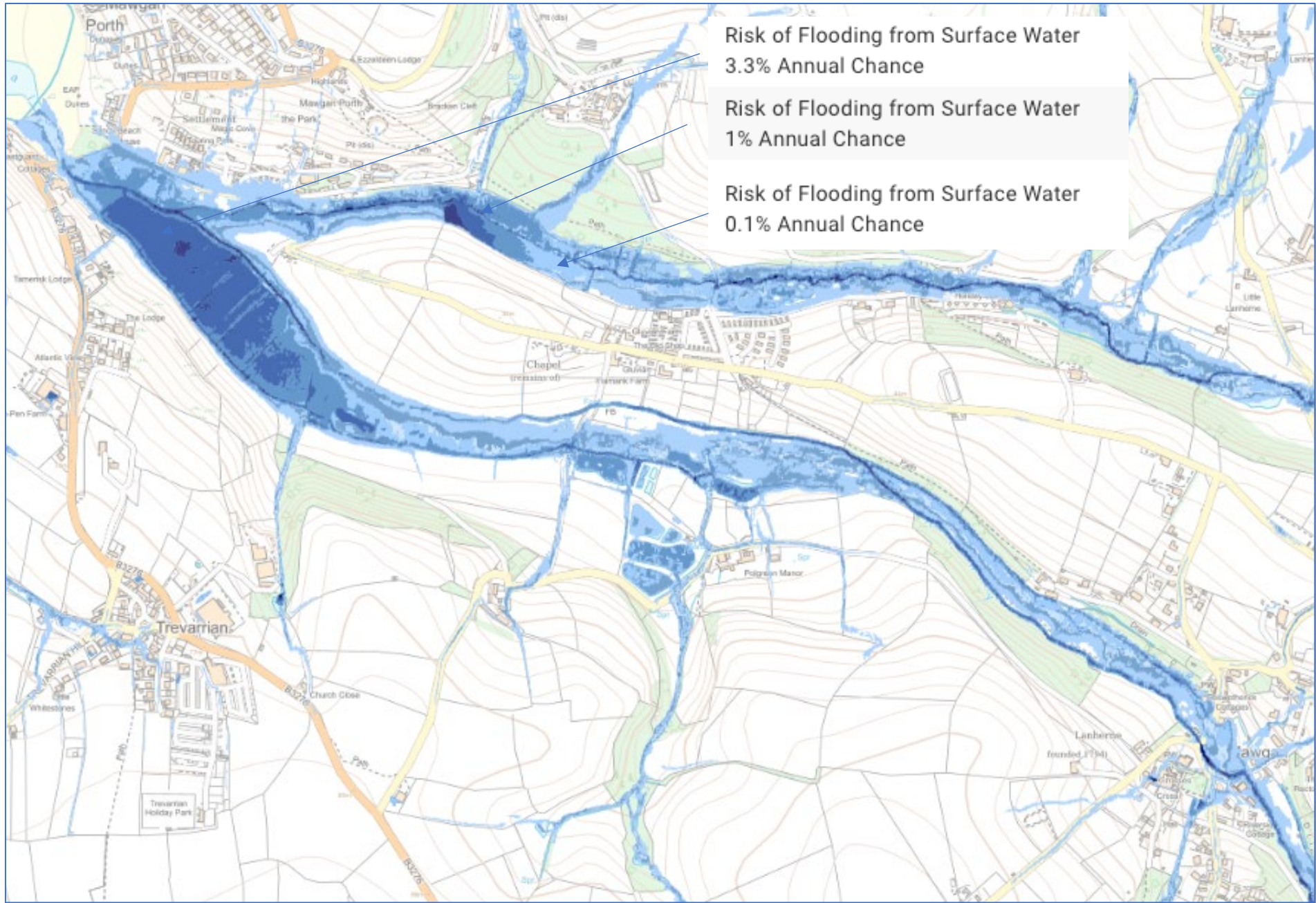


FIGURE 10 : SURFACE WATER FLOODING



FIGURE 11: PHOTOGRAPHS OF DECEMBER 1999 FLOODING AND LOCAL NEWSPAPER REPORT.

Rebuilt hall hit by sewage tide

By PETER HALL

FOR the third time in a year raw sewage has been washed on to the outer walls and car park at Mawgan Porth Village Hall and residents there are furious.

Heavy rain last Thursday brought the filth up from a main that runs under the 28-year-old hall, with water rising to eight inches in just four hours.

Now - just as the hall was about to stage its first major event since a £50,000 refit following flooding last December - the management committee has taken the decision to close it until a structural engineer says it is safe for use.

"It's absolutely sickening," said deputy chairman Ralph Cottle, who called the emergency meeting. "An internal wall has cracked right down as far as the front of the stage and the crack is getting worse and what's more the floor is lifting along the length of the main hall."

Insurers have been notified yet again and both the Environmental Health Department and South West Water have been asked for help.

But finding just who is responsible for the ongoing problems is like wrestling with jelly, said the hall's treasurer Brian White who is hoping Objective 1 cash may be diverted to help their plight.

Meanwhile villagers are holding an open evening at The Merrymoor Hotel in Mawgan Porth on Tuesday, when the parish council will lead a debate on what to do next.

The flood in December resulted in a major rebuilding and refurbishment, which only finished on July 14. Extensive surveys were carried out but the insurers thought the hall was worth repairing and footed the bill for the work, which included a new suspended floor, heating system and replacement windows.

The hall has been used every day of the week - for WI, youth club, parish council meetings and adult education classes. "We had arranged an open day for August 26, with a concert and magic show, but that's had to be cancelled," said Mr Cottle.

Mr White explained the last structural survey showed the building was in reasonably sound condition and fit for use for the next 15 years, subject to monitoring. "Now we seem to be back to square one," he

Continued Page 4

Sewage tide hits hall

From page 1

complained. "The stupid thing is that no-one will take responsibility if the damage is caused by an act of God. We're counting on Objective 1 money as our main hope."

He said Restormel Council workers used to dig out the River Menahyl, but they were no longer responsible for it. And sluice gates down on the beach, which had prevented flooding, had been taken out.

Stephen Swain, of South

West Water, said the exceptional flow of water had blown out two manhole covers. SSW workers had spent hours there cleaning up and disinfecting. "Mawgan Porth has a combined sewerage system which takes both foul and rain water and in very abnormal deluge conditions it can't cope," he said. "A sewerage system and we are not a flooding agency."

A spokesman for Restormel Borough said the situation was being investigated.

REPORT

RCA

Sundays from
6 October 2000

tours

TRAVEL AGENT ON TELEPHONE

206
856
878

this is corn

FIGURE 12 VALLEY ROAD FLOODED, LOOKING TOWARDS THE BRIDGE BY 'THE PARK'.

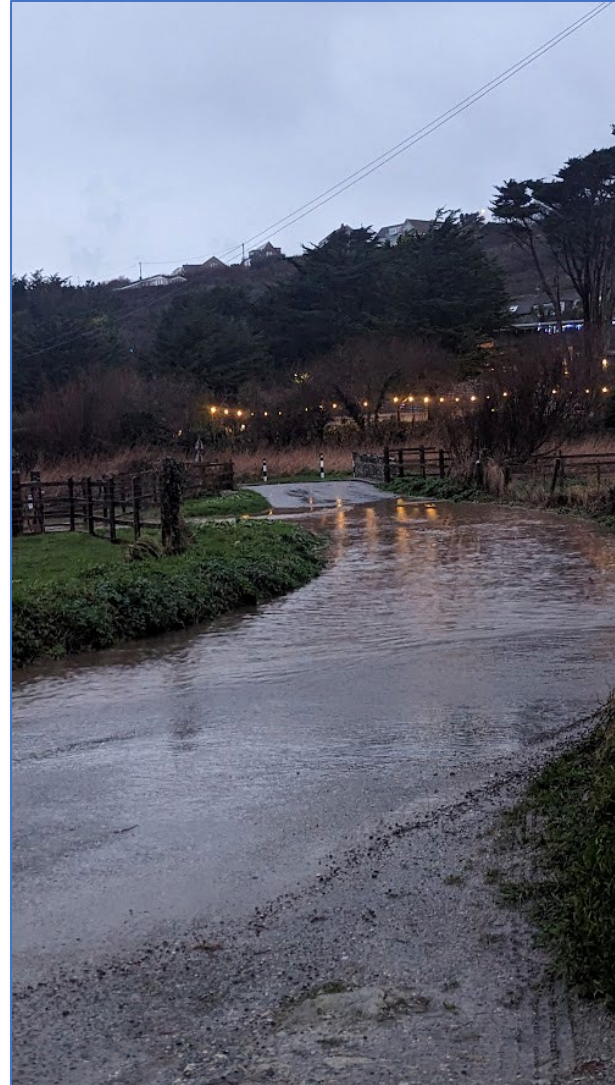
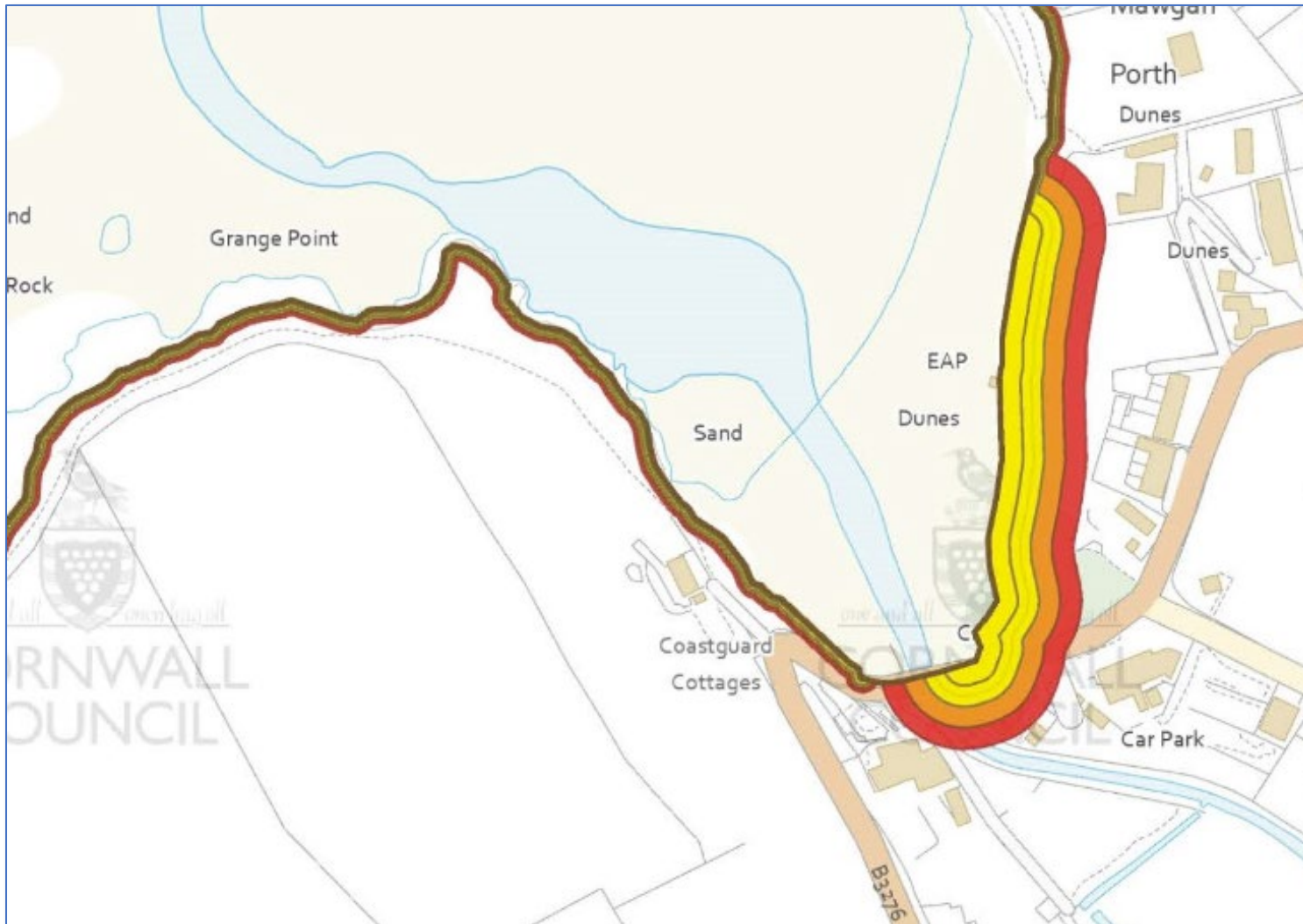


FIGURE 13: NCERM MAP OF COASTAL EROSION



National Coastal Erosion Risk Mapping (NCERM)

This mapping provides a baseline of coastal erosion for the coastline of England. The coastline is split into a number of different frontages where the coastline has similar characteristics, the erosion of which is considered over the short term (20 years), the medium term (50 years) and the long term (100 years).

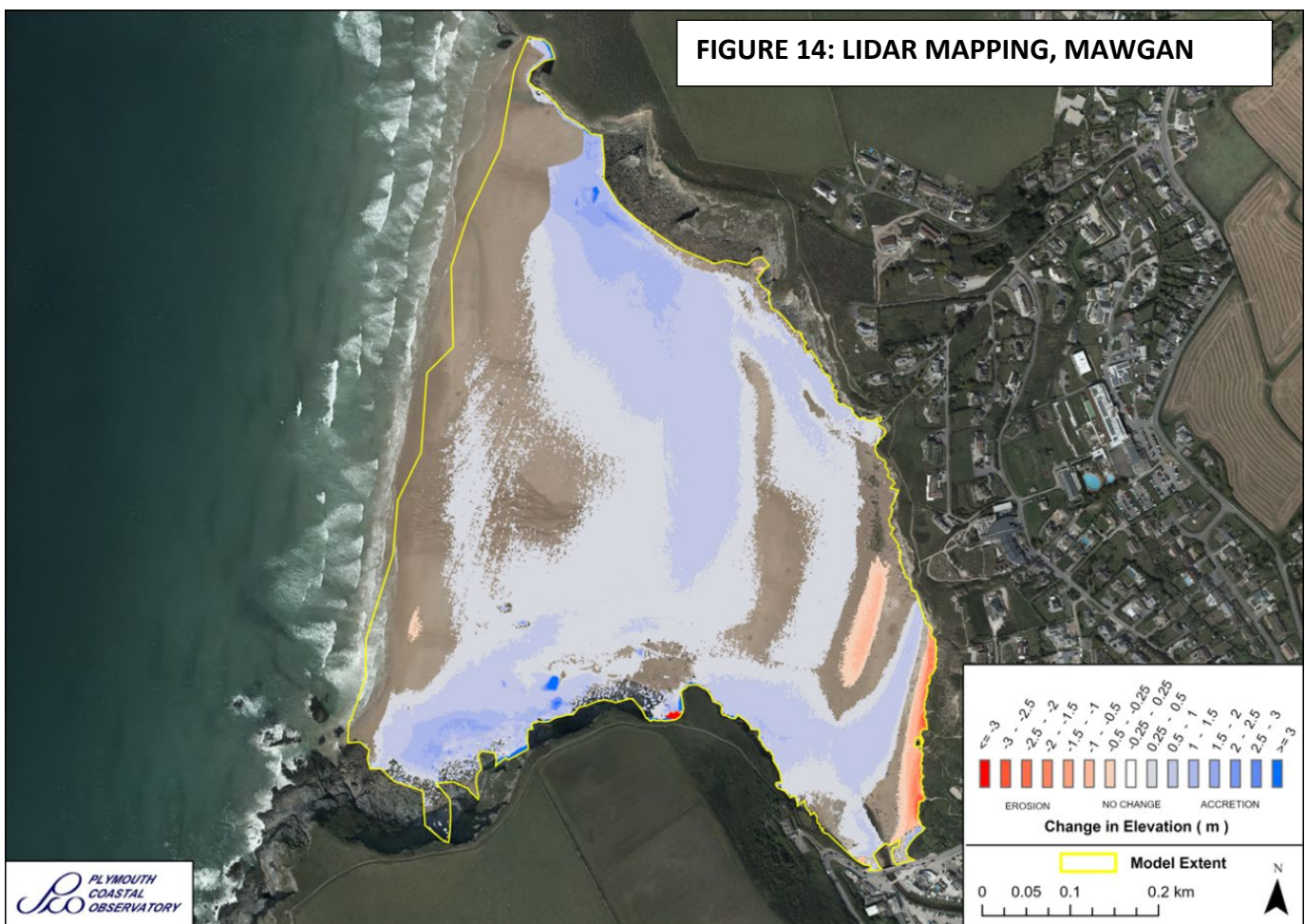
There are three different coloured lines which represent the different levels of confidence there is associated with the erosion predictions over the next 100 years. The yellow shaded area represents the best-case scenario where there is 95% confidence in the prediction. The orange shaded area represents the moderate-case scenario where there is a 50% confidence in the prediction. The red shaded area represents the worst-case scenario where there is a 5% confidence in the prediction.

- The yellow shading represents a best-case scenario of erosion but there is a 95% probability of this being exceeded.
- The orange shading represents a medium-case scenario with a 50% probability of this being exceeded.
- The red shading represents a worst-case scenario but there is only a 5% probability of this being exceeded. There is a lower risk with using it when considering what change could look like.

- The highway bridge is in the predicted area of risk.

2.47 The NCERM mapping [Fig 13] shows the baseline concerning coastal erosion. Further evidence is available to support this¹⁹ including a LiDAR Difference Plan. LiDAR is Light Detection and Ranging. LiDAR uses lasers, which are pulsed to the ground, where they are reflected back to the LiDAR sensor. By measuring the time it takes for each light ‘pulse’ to return to its source, it is possible to accurately measure the distance from the LiDAR sensor to the ground. LiDAR can show us how the surface of beaches and dunes have changed overtime. If you know how the surface is changing you can understand where sand is eroding or building on a site.

2.48 The map below [Fig 14] shows the difference in elevation between the LiDAR data from March 2008 compared to October 2022 for Mawgan Porth, collected by South West Coastal Monitoring (SWCM). The red shaded areas indicate where there has been erosion and the blue areas where the sand level has increased. The more intense the colour, the greater the change. This shows that across most of the beach there has been substantial increase in sand levels between this time. The majority has seen a 0.5 to 2m increase in elevation across most of the intertidal area. However, the upper beach here has seen up to a 2.5m loss in elevation shown by the red band, likely where the dune and cliff face have retreated over time.

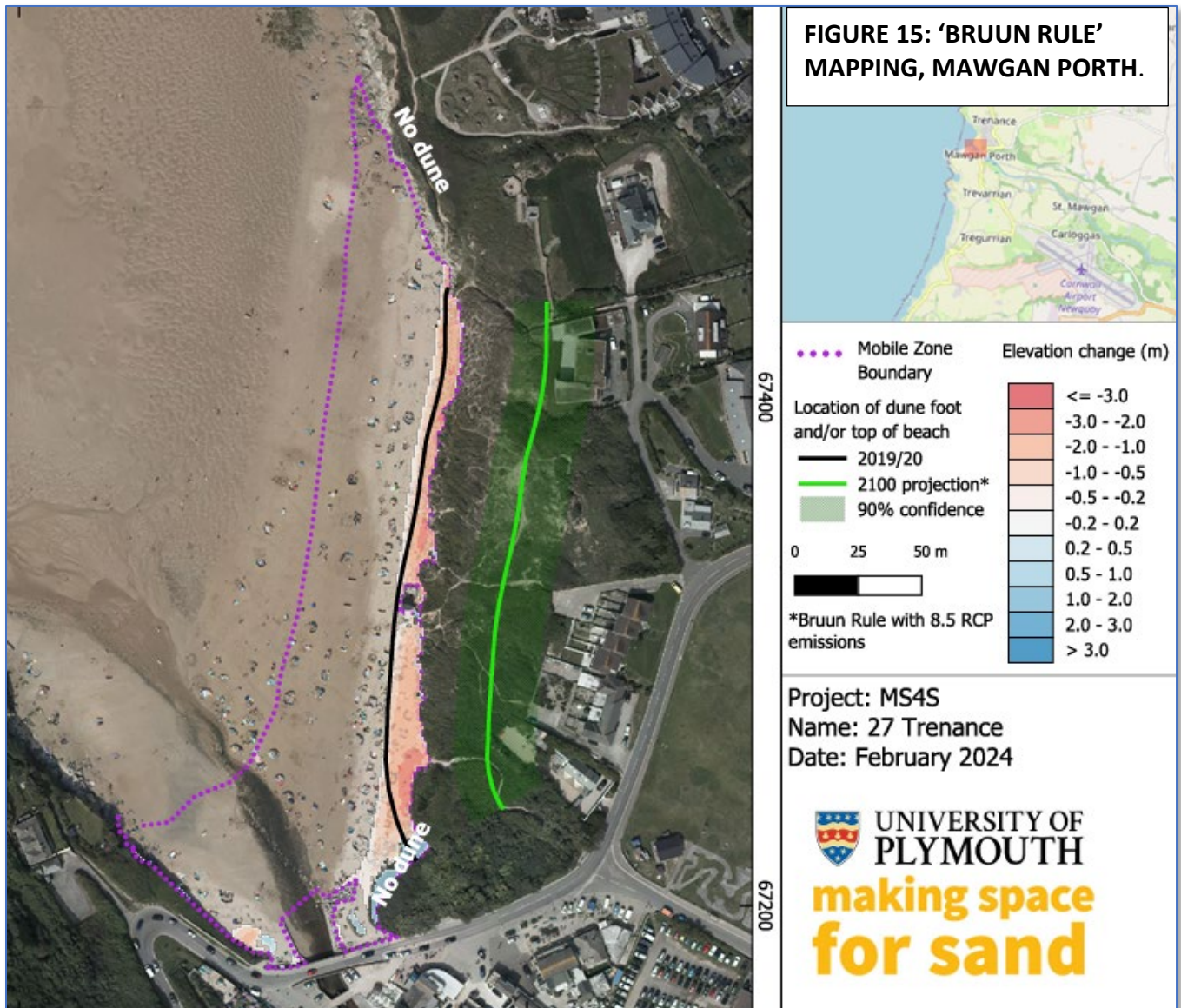


2.49 Future change in the dune toe position in Mawgan Porth has been projected using the ‘Bruun rule’, a mathematical model to predict how beaches will change with sea level rise. It is based on the theory that beaches will shift upwards and landwards in order to ‘keep up’ with sea level rise.

¹⁹ See: Making Space for Sand – Trenance (Mawgan Porth) Beach Report Topographic and LiDAR Data Analysis <https://plansupport.co.uk/wp-content/uploads/2024/12/27-Mawgan-Porth-Dune-Report.pdf>

2.50 On Mawgan Porth Beach sediment is currently eroding from the upper shore and/or dune toe and there is a decrease in the volume of sediment further inland. With sea level rise the estimated rate of retreat at the location is 40m (0.53m per year) by 2100.

2.51 The areas shaded blue on the map below [Fig 15] are areas where surveys identify an increase in elevation (accumulation of sediment) and areas shaded red a decrease in elevation (erosion of sediment). The deeper the shade of red or blue, the greater the level of erosion or accumulation. The solid black line marks the 2019/2020 edge of the dune toe and/or the top of the beach. The solid green line marks the *projected* position by 2100, by using the Bruun Rule. This assumes the



highest baseline climate change scenario where emissions continue to rise throughout the twenty-first century, (known as Representative Concentration Pathway (RCP 8.5)). The faint green line either side of the solid green line visualises the 90% confidence interval for the projection, indicating how the situation could be better or worse than projected.

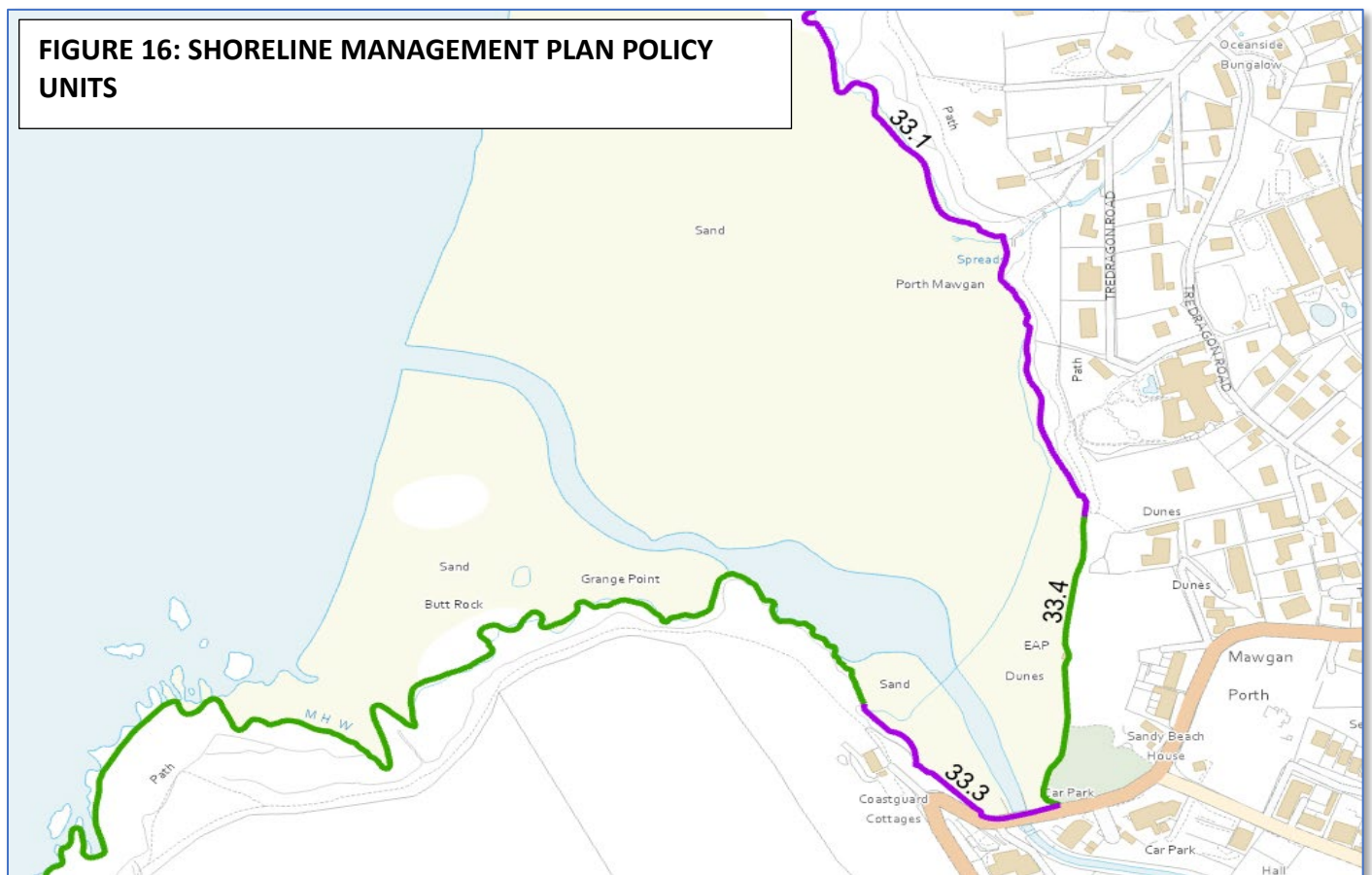
2.52 An analysis of the beach dunes has shown that there are invasive species such as Japanese rose, sea buckthorn and tamerisk are present, which is having a detrimental impact on the dunes unless they are effectively managed²⁰.

²⁰ See 'Making Space for Sand Site No 27 – Mawgan Porth Ecological Assessment', CEC 21 May 2024: https://plansupport.co.uk/wp-content/uploads/2024/12/27.-MS4S_MawganPorth_Dune_Report_Stage2.pdf

2.53 This evidence shows that there is a present and significant risk of further inundation which the current NDP must respond to, followed by substantial coastal erosion that could lead to the severance of the settled areas north and south of the beach, such that that Mawgan Porth and Trenance might be cut off from the south, leading to lack of access to essential services such as supermarkets and healthcare. The implications of this must be planned for in future updates to the NDP.

Shoreline Management Plan

2.54 The Shoreline Management Plan (SMP) is a strategic planning and management assessment tool that helps identify and measure the risk associated with coastal erosion and coastal flooding. It recommends in view of the significant erosion and flooding risk on the road frontage section of the beach, maintaining the current position is unfeasible, and a policy of Managed Realignment (MR) should be followed involving roadway realignment. Elsewhere on the beach and cliff frontage it recommends No Active Intervention (NAI) [Fig 16].



Policy Unit		SMP Policy			Note
		2005 to 2025	2025 to 2055	2055 to 2105	
33.1	Cliffs	NAI	NAI	NAI	Will meet high level objectives and satisfy AONB and heritage coast criteria. Allow natural coastal evolution to occur to support conservation of designated features.
33.3	Mawgan Porth - Road Section	MR	MR	NAI	Pressure on this frontage dictates that a MR approach is required to

					address the risks to the road and rear-of-beach development. Significant erosion and flooding risk mean that maintaining the current position is unfeasible. Roadway realignment required.
33.4	Mawgan Porth - Dunes	NAI	NAI	NAI	Dunes should be allowed to respond naturally to sea level rise and continue to provide natural defence. It is noted that there may be a need to remove localised defences in this area; to be considered in the "Making Space for Sand" project.

Coastal Adaptation Plan

2.55 Working on the basis that residents of coastal communities are often the best people to provide a local understanding of the many options available to overcome the challenges of the changing environment around them e.g., by moving infrastructure, such as access roads, car parks, or public amenities, Coastal Adaptation Plan are practical strategies to tackle coastal erosion issues.

2.56 The **Community Coastal Adaptation Plan for Mawgan Porth [Version 1]** document assesses what changes are predicted in terms of flooding and coastal change and then identifies possible adaptation solutions to protect the community into the future. These steps could be implemented by Landowners, the Parish Council, community groups and they may also be jointly the responsibility of Cornwall Council, the Environment Agency or other partner organisations²¹.

2.57 The actions identified include:

- Implement Property Flood Resilience (PFR) measures for the Village Hall.
- Write an Emergency Flood Plan.
- Collect data by collaborating with the EA and start a conversation about what they are doing and collecting. This will help us to understand what slow the flow measures would be best – e.g., beavers/woody dams, tree planting, etc.
- Investigate a highway plan and work out how much it would cost to commission a study on the risk and connectivity.
- Investigate gaining funding from philanthropic contributions from second homeowners in the village.
- *Consider implementing a Coastal Change Management Area (CCMA) in the Neighbourhood Plan.*
- Work with Cornwall Wildlife Trust to assess the type of plants in the dune and to do some work to improve the health of the dunes.

²¹ See: <https://plansupport.co.uk/wp-content/uploads/2024/12/Mawgan-Porth-CAP.pdf>

‘Making Space for Sand’.

- 2.58 Cornwall Council is an active partner in such local adaptation projects including collaborating with the Environment Agency (and wider partners) on a project to look at the future of sand dunes in Cornwall – ‘Making Space for Sand’. This is being delivered through Defra’s Innovative Resilience Programme and will look at the state of the area’s sand dunes and the actions needed to make them more sustainable in the face of climate and coastal change. The evidence material referred to above is generated under the ‘Making Space for Sand’ umbrella²².
- 2.59 The natural coastal defensive capacity of the dunes will, in the future, play an important function in protecting the community behind it. A Beach Dune Management Plan will result for the Mawgan Porth area.

Natural Flood Solution Opportunities

- 2.60 Land in the flood plain in Mawgan Porth, which used to retain water over the winters, has become a wetland over recent years with water remaining all year round, due to both surface water, fluvial and coastal flooding. This is a haven for wildlife, attracting a variety of birds, such as teal, curlew, little egret, shovelers, snipe and widgeon, as well as some rarities such as Purple Heron in January 2024. It represents an opportunity for Natural Flood Management [NFM] and land management solutions which could provide additional biodiversity and recreational benefits, as well as funding opportunities for landowners, by creating a wetland reserve with a footpath/boardwalk, bird hides, benches etc. The Parish Council are exploring the possibility of renting some of this land to create the reserve. Some NFM measures like ponds, wetlands and woody dams may require planning permission.

Related Community Engagement Feedback

Exploring Solutions to Mawgan Porth’s Changing Coastline June 2024

- 2.61 As part of the Making Space for Sand engagement programme, the community were presented with the above data and information on their community. Following this, they were asked to identify the challenges from flooding and coastal change that they want to tackle. They wrote the below ideas on post it notes that were grouped into three overarching categories – flooding, dune erosion and planning.

Flooding (river and coastal)

- Increased sewage farm runoff and housing developments affecting surface run off, contributing to flooding.
- Rising flood levels.
- Valuing drainage space on downhill sites.
- Drainage infrastructure.
- Upstream beaver introduction.
- The Village Hall is at risk of flooding.
- Increased flooding.
- Housing in flood risk areas, both existing and proposed.
- Slowing the flow of water from further up the catchment.

²² See: <https://www.makingspaceforsand.co.uk/locations/mawgan-porth/>

- Encouraging landowners to preserve wild land and plant trees. Recommending rare tree species for planting.
- Road access and bridge considerations: Discussion on moving the road and the risk of being cut off as bridges are threatened.
- Highway closure and alternative routes
- Shopping and the impact on the local commerce
- Community adherence
- Services across the estuary.
- Parish links between Mawgan Porth and Trevarrian.

Dune erosion

- Reduce dune erosion – are boulders a hindrance?
- Slow down dune erosion.
- Assessing if boulders are hindering dune stability.
- Current threat of flooding upstream but long-term there is a need to also think about strategies to adapt to erosion.
- Developing marram grass to replace invasive species.

Planning

- Planning control and building restrictions.
- Limiting additional hardstanding and parking areas.
- Planning for new builds in St. Mawgan village.
- Restricting property footprint expansions including garages and outhouses.
- Ending the threat of building on our floodplain – limit use to wildlife and agriculture.
- The politics of local planning decisions.

Neighbourhood Plan Community Engagement

2.62 Questions asked in the NDP community engagement survey also covered the issues of climate change:

- When asked what the Neighbourhood Plan should include some respondents felt sustainable futures should be considered by developing a renewable energy plan, including wind turbines and solar PV sites, and building a recycling centre.
- Some also called for a joined up community approach to the environment, considering natural habitats (such as the dunes), areas of natural beauty and rare species.
- Tackling damage to cliffs and the coastal area scored 5.77 in a rating from 0 [least important] to 6 [most important].
- 94% Would support restrictions on new development in the River Menalhyl flood plain.
- 94% Would support limiting any development within the coastal zone that would spoil its nature.
- Over 94% wanted to limit development which might be harmful to the landscape in the Area of Great Landscape Value (AGLV) and the coastal zone that would spoil its nature, reduce the range of plant and animal life or would impact on River Menalhyl flood plain.

Key issues and implications for the NDP

2.63 Figure 17 summarises the key issues that have arisen in this analysis and the implications of them before recommending key objectives for the NDP and policy intentions that should support them.

Figure 17: Key Issues arising from the evidence base and implications for the NDP, with recommendations for policy areas and objectives.

Key Issues

- National and local policy is that Planning should:
 - support the transition to a low carbon future in a changing climate...contribute to radical reductions in greenhouse gas emissions...minimise vulnerability and improve resilience... support renewable and low carbon energy and associated infrastructure
 - take account of landform, layout, building orientation, massing and landscaping to minimise energy consumption.
 - support community-led initiatives for renewable and low carbon energy, being taken forward through neighbourhood planning
- The Cornwall Climate Emergency DPD contains a broad set of useful policies that cover most of the climate related issues affecting the Parish and need not be repeated in the NDP, but should be strongly supported.
- Some small areas of the parish towards the borders with St Columb and St Eval fall within areas designated in the Cornwall Climate Emergency DPD as suitable for wind generation.
- There are five wind turbine generators with a maximum tip-height of 100 metres above existing ground level at Higher Denzell Farm, and north of them are seven wind turbine generators with a maximum tip-height of 57 metres above existing ground level which are part of the Bears Down Wind Farm that straddles the border with St Ervan Parish, a total of 12 in all. The Bears Down farm is proposed to be re-powered with 100m turbines.
- In addition there is a 2M high and 5Kw wind turbine generator at Higher Lanvean Farm, and a 34.6m high turbine at the Merlin Golf Club.
- There are currently no solar PV installations in the Parish
- Most of the area is more than 2km from the 33kV and 132kV electricity distribution grid, apart from the extreme east of the Parish.
- **Summary of Wind Energy Guidance from Cornwall's Climate Emergency Plan and Landscape Sensitivity Assessment:**
 1. **RLU 11 (Newquay and Perranport Coast, CCA17)**
 - **No further turbines (any banding)** recommended due to the open and highly visible nature of the undeveloped coastline and hinterland.
 2. **RLU 15 (Trevose Head & Coastal Plateau, CCA23)**
 - **No new turbine development** (any scale) in the south-eastern part, as existing turbines (including those in adjacent RLUs 14 and 28) already create cumulative impacts.
 - **No further turbines (any banding)** recommended within the AONB-designated coastline and hinterland, given its open and highly visible character.
 3. **RLU 14 (St Breock Downs, CCA24)**
 - **Repower the Band B wind farm at Bear's Down to Band D (100m turbines)** so it forms a single, unified development with Higher Denzell Farm.
 - **Resist further single turbines** throughout the landscape or on its border with RLU 15.
 - **Focus on larger, combined wind farms** (current and future Band D) to avoid multiple scattered single turbines.
 4. **RLU 10 (Newlyn Downs, CA14)**
 - **Occasional single turbines up to Band B** could be acceptable, but minimise scatter to avoid significant cumulative impacts on landscape character.

- **Summary of Solar PV Energy Guidance from Cornwall's Climate Emergency Plan and Landscape Sensitivity Assessment**

1. **RLU 11 (Newquay and Perranport Coast, CCA17) and RLU 15 (Trevose Head & Coastal Plateau, CCA23)**

- **Suitable areas:**

- Minor wooded valleys within farmland (not within semi-natural habitats), as they are well-screened and maintain the valleys' natural characteristics.

- **Areas to avoid:**

- Dunes, wild/rugged coast, coastal rough ground, and HLC Types of 'Upland Rough Ground' (e.g. upper valley sides of the Menalhyl Valley) or 'Coastal Rough Ground' (e.g. around Mawgan Porth).

- **Protect historic field patterns:**

- Preserve strong medieval field structures (e.g. at Trevarrian and Tregurrian) by limiting the number of adjacent fields developed and setting panels back from field edges.

- **Safeguard distinctive landscape features:**

- Do not negatively impact the long wide surf beaches, cliffs, coastal rough ground, and dunes.
- Maintain the scenic quality of the Watergate & Lanherne AGLV, including prominent headlands (Beryls Point, Griffins Point, Trenance Point), the marshes/trees in the Vale of Lanherne, and woodland at Old Carnanton Estate.

- **Minimise visual impacts:**

- Avoid harming local viewpoints and popular routes (e.g. South West Coast Path).
- Ensure arrays are not directly overlooked from close quarters (especially from the sides or back).

- **Band D development:**

- Not considered suitable due to high landscape sensitivities.

2. **RLU 14 (St Breock Downs, CCA24)**

- **No solar PV** recommended due to high levels of landscape sensitivity, visual prominence, and open character.

3. **RLU 10 (Newlyn Downs, CA14)**

- **Opportunities for solar PV (up to Band D)** exist in sheltered, folded land where woodland and Cornish hedges offer screening.

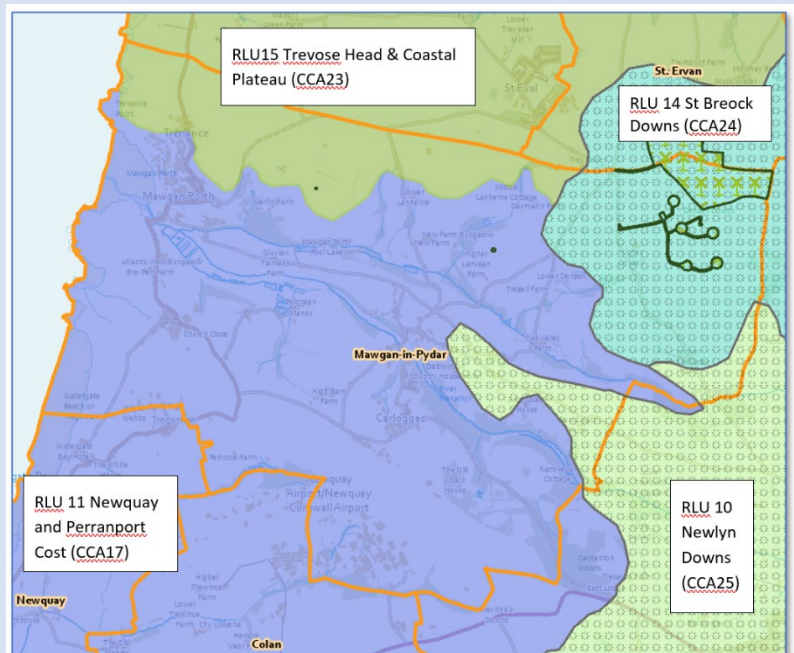
- **Minor wooded valleys** can accommodate Band A and B projects if sited in farmland (not semi-natural habitat).

- **Areas to avoid:**

- Open, exposed, or elevated land where solar PV would be visually prominent.

- Small scale individual turbines [sub Band A] can help enhance the viability of farming and other small businesses by reducing energy costs and providing a measure of independence from the electricity grid, whilst minimizing landscape impact

- Due to its topography, with a river system running through its centre, St Mawgan in Pydar Parish may have some opportunity for hydroelectric power generation.



- Most recent dwellings, which are located predominantly in Mawgan Porth and Trevarrian, have the highest EPC ratings, but older properties, especially the heritage properties at St Mawgan village, have poor ratings, with implications for retrofitting
- The adoption of alternatives to oil-fired heating will need to increase in future due to new regulations. Homeowners are often concerned about the implications of this change which may lead to resistance that is largely unfounded.
- Replacing windows with energy efficient plastic (uPVC) windows can unfortunately harm the heritage value of historic areas. Rules governing retrofit are not well understood.
- Mawgan Porth is at risk from flooding from the river and sea, with significant incidents recorded in 1999 and 2024.
- There are significant areas where surface water flooding occurs from run-off from fields, roads and hard surfaces such as driveways and carparks, leading to incidents such as on Valley Road in 2015.
- There is a high risk of coastal erosion which could lead to significant inundation incidents, and ultimately to the severance of the settled areas north and south of the beach, such that that Mawgan Porth and Trenance might be cut off from the south, leading to lack of access to essential services such as supermarkets and healthcare.

Key Objectives for the Neighbourhood Development Plan

- **Acknowledge Climate Change Vulnerability:** Recognise Mawgan Porth's susceptibility to climate change impacts, including rising sea levels and natural cliff and coastal erosion, in all planning decisions.
- **Address Causes and Impacts:** Develop and implement strategies to tackle the causes of climate change and adapt to its effects, focusing on long-term resilience and coastal protection.

Implication for the Neighbourhood Development Plan

- The NDP should support development which accords with the Cornwall Climate Emergency DPD.
- Policies in all parts of the NDP should encourage and contribute to measures to reduce the causes and impacts of climate change.
- Taking into account the nearby National Landscape [AONB], the many sensitive areas within the Parish no specific allocation of land suitable for a wind turbine development should be made.
- However in RLU 10 NDP policy should support occasional single turbines up to Band B, and the repowering of turbines in RLU 14, subject to the criteria of Policy REN 1 and the Cornwall Renewable Energy Landscape Sensitivity Assessment.
- Elsewhere small scale [sub Band A] farm-scale and domestic wind turbines for localized energy generation should be supported, subject to criteria based on Policy REN 1, the RELS, highway safety or public rights of way, and appropriate set back from settlements and principal roads.
- Due to landscape and other sensitivities, Solar PV in RLUs 11, 14, 15, should not be supported, but in RLU10 Band A and B projects should be supported subject to criteria drawn from the RELS.
- A policy should be considered to encourage adoption of alternatives to oil-fired heating.
- A policy should be considered to support the retrofit by plastic windows in non-designated heritage buildings subject to criteria.
- Policies should help to tackle flooding and pollution by:

- supporting provision of Sustainable Drainage Systems [SuDs] that help to reduce river and surface water flooding, provide additional habitat and contribute to the distinctive character of the area.
- supporting flood and land management approaches that help tackle the impacts of climate change, provide additional habitat and recreation opportunities, and funding opportunities for landowners
- Designating a Coastal Change Management Area (CCMA) in which a precautionary approach to development in potentially vulnerable locations is taken.

