

SALTASH NEIGHBOURHOOD
DEVELOPMENT PLAN
2021 TO 2030
CLIMATE CHANGE NOTE



NOTE: This evidence note is based on a presentation and draft presented to the Saltash Neighbourhood Plan Steering Group Meeting No 161 held on Wednesday 5th February 2020.

1. Planning Policy Background

- 1.1. Climate change 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 (IPCC) Interim Report, 2018**¹. The UK Government has a commitment to reduce CO2 emissions by 50% on 1990 levels by 2025 and by 80% on 1990 levels by 2050. In May 2019, Parliament declared a 'climate change emergency'. In May 2019 the Committee on Climate Change recommended a 'net zero' greenhouse gas emissions target by 2050 and a new law mandating this is under discussion².
- 1.2. **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 both the 2012 and the 2017 UK Climate Change Risk Assessment, the Adaptation Sub-Committee commissioned an evidence report aiming to understand the current and future climate risks and opportunities. The evidence report contains six priority risk areas requiring additional action in the next five years, see below³ :
- Flooding and coastal change risks to communities, businesses and infrastructure;
 - Risks to health, well-being and productivity from high temperatures;
 - Risk of shortages in the public water supply, and for agriculture, energy generation and industry;
 - Risks to natural capital, including terrestrial, coastal, marine and freshwater ecosystems, soils and biodiversity;
 - Risks to domestic and international food production and trade; and
 - New and emerging pests and diseases, and invasive non-native species, affecting people, plants and animals.
- 1.3. **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.
- 1.4. 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

¹ https://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf

² <https://www.theccc.org.uk/wp-content/uploads/2019/05/Net-Zero-The-UKs-contribution-to-stopping-global-warming.pdf>

³ <https://www.gov.uk/government/publications/uk-climate-change-risk-assessment-2017>

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.

1.5. 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 same⁴.

1.6. 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.

National Planning Policy Framework 2019.

1.7. One of the three overarching objectives of the NPPF is an environmental objective to 'contribute to protecting and enhancing our natural, built and historic environment' including by 'mitigating and adapting to climate change' and 'moving to a low carbon economy.' 'NPPF 2019 (Para 148) says that the planning system should support the transition to a low carbon future in a changing climate, taking full account of flood risk 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.

1.8. 'Plans should take a proactive approach to mitigating and adapting to climate change, taking into account the long-term implications for flood risk, coastal change, water supply, biodiversity and landscapes, and the risk of overheating from rising temperatures. Policies should support appropriate measures to ensure the future resilience of communities and infrastructure to climate change impacts, such as providing space for physical protection measures, or making provision for the possible future relocation of vulnerable development and infrastructure.'

1.9. Para 152 of NPPF 2019 encourages planning support for community-led initiatives for renewable and low carbon energy, including developments outside areas identified in local plans or other strategic policies that are being taken forward through neighbourhood planning.

1.10. Direct development away from areas at highest risk of flooding (whether existing or future). 'Where development is necessary, it should be made safe for its lifetime without increasing flood risk elsewhere.'

The Cornwall Local Plan: Strategic Policies.

1.11. 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

⁴ <https://www.theccc.org.uk/tackling-climate-change/preparing-for-climate-change/uk-adaptation-policy/>

technologies;.....g. Supporting smart specialisation sectors including; food; aerospace; marine; renewable energies (including geothermal); and cultural industries’

1.12. 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 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’.

1.13. 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

1.14. 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’.

Other plans and studies

1.15. **The Flood and Water Management Act**⁵ highlights that alternatives to traditional engineering approaches to flood risk management include:

- Incorporating greater resilience measures into the design of new buildings, and retro-fitting properties at risk (including historic buildings);
- Utilising the environment in order 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).

1.16. Further guidance is provided in the document ‘**Planning for SuDS**’⁶. 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’.

1.17. 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:

⁵ <http://www.legislation.gov.uk/ukpga/2010/29/contents>

⁶ http://www.ciria.org/Resources/Free_publications/Planning_for_SuDS_ma.aspx

1.18. <https://www.cornwall.gov.uk/media/3ngmulk1/cornwall-renewable-energy-planning-advice-march-2016.pdf> This includes a Landscape Sensitivity and Strategy Matrice for each Landscape Character Area.

1.19. 'Climate Change' a Neighbourhood Plans guidance note by Cornwall Council says that there are many opportunities for Neighbourhood Development Plans (NDPs) to contribute to tackling the causes and effects of climate change. These include:

- Making local decisions about the location of new development can help to build more sustainable communities, for example, by ensuring growth is located in close proximity to service and facilities and is accessible by sustainable modes of transport
- Protect local services and facilities and resist change of use. This means that access to local services is maintained, reducing the need to travel and ensuring local communities remain sustainable
- Protect and enhance multifunctional green infrastructure, which can provide safe routes for walking and cycling, places for recreation and play, link wildlife corridors, enhance biodiversity and make space for flood water
- Safeguard areas for flood storage and increase resilience to flooding including coastal change management policies
- Encourage natural sustainable drainage features in new development e.g. swales, raingardens, ponds and wetlands
- Ensure all new development achieves a net gain in biodiversity and looks for opportunities to increase connectivity of habitats
- Allocate sites for renewable energy
- Encourage better quality design in new development'

1.20. "Neighbourhood Planning in a Climate Emergency" (TCPA/Esmee Fairbairn/CSE) <https://www.cornwall.gov.uk/media/gx5pmhay/neighbourhood-planning-in-a-climate-emergency.pdf> is also a useful resource, containing several case studies demonstrating how an NDP can contribute to tackling the causes and impacts of climate change.

Cornwall Climate Emergency Development Plan Document [DPD]

1.21. Para 4.0.1 of the consultation draft DPD says it '*will act as an umbrella document to help in the development of Neighbourhood Development Plans, creating a link between the Local Plan and the climate emergency. Cornwall Council is keen to put in place policies that create consistent standards to help applicants and communities. Whilst there will be a number of local actions that groups will wish to pursue, Neighbourhood Development Plans will be expected to follow the emerging policies and guidance set out in this DPD when considering developing policies in their neighbourhood plan areas to help ensure later conformity. Further guidance has been developed by the Neighbourhood Plan team to help guide groups that wish to create local climate change policies and how they fit with the policies of the DPD*'.

1.22. The Draft DPD says in its policy RE1 that:

Wind energy development proposals will be permitted where they:

- a. Are located in a 'broad suitable area' identified on the Policies Map or are for the repowering of an existing wind turbine/farm; and
- b. Demonstrate that, following consultation, the planning impacts identified by the affected local community have been fully addressed by the proposal; and
- c. Avoid or adequately mitigate shadow, flicker, noise and adverse impact on air traffic operations, radar and air navigational installations; and
- d. Do not have an overshadowing or overbearing effect on nearby habitations.

- e. Ensure that potential implications of wind farm development on the migratory flightpaths of birds in Special Protection Areas (SPAs) are considered where they would be within a 3km buffer of the Marazion Marsh SPA, Tamar Estuaries Complex SPA and the Falmouth Bay to St Austell Bay SPA.

Solar energy development proposals, including both building mounted and standalone ground mounted installations and extensions or repowering of solar installations will be supported where they are focussed on previously developed land and away from best and most versatile agricultural land unless exceptionally justified.

Hydroelectricity development proposals will be supported as part of the transition to a low carbon economy where they can demonstrate that they would not have significant adverse impacts on the water regime, landscape and nature conservation.

- a. Hydroelectricity schemes in estuaries (e.g. tidal barrages or tidal stream technologies) will need to demonstrate that they do not impact the hydrodynamic regime in intertidal habitats. Any identified impacts will need to be addressed in consultation with the Environment Agency and Marine Management Organisation.
- b. Applications should provide an assessment of the potential impacts of in-river hydroelectricity schemes in their Habitat Regulations Assessment. Any potential impacts on the migratory behaviour of Anadromous fish or the continuity of riverine habitats should be addressed through proposed mitigation accompanying the application.

Deep geothermal and mine water energy development proposals will be supported as part of the transition to a low carbon economy where:

- a. the outstanding universal value of the Cornwall and West Devon Mining Landscape World Heritage Site, the significance of heritage assets and their settings, and the character of historic townscapes, landscapes and seascapes are conserved and, where appropriate, enhanced;
- b. There would not be a significant adverse impact on the water regime and water quality impacts are assessed and adequately mitigated; and
- c. The visual impact of associated buildings and equipment is minimised.

Energy storage: There is a presumption in favour of energy storage where it meets one or more of the following:

- a. it is co-located with an existing or proposed renewable energy development;
- b. it can be shown that it alleviates grid constraints;
- c. it allows further renewable developments to be deployed.

1.23. Policy SEC1 addresses sustainable energy and construction. It says that:

Development proposals will be required to demonstrate how they have implemented the principles and requirements set out in the policy below.

1. The Energy Hierarchy

All proposals should embed the Energy Hierarchy within the design of buildings by prioritising fabric first, orientation and landscaping in order to minimise energy demand for heating, lighting and cooling. All proposals should consider opportunities to provide solar PV and energy storage.

2a. New Development – Non-Residential

Development proposals for non-residential development should demonstrate how they achieve BREEAM 'Excellent'.

2b. New Development – Residential

Residential development proposals will be required to achieve Net Zero Carbon and submit an 'Energy and Carbon Statement' that demonstrates how the proposal will achieve:

- Space heating demand less than 30kWh/m²/annum;
- Total energy use less than 40kWh/m²/annum; and

- On-site renewable generation to match the total energy use, with a preference for roof mounted solar PV.

Where the use of onsite renewables to match total energy consumption is demonstrated to be not technically feasible (for example with apartments) or economically viable, renewable energy generation should be maximised as much as possible; and/or connection to an existing or proposed district energy network; or where this is not possible the residual carbon offset by a contribution to Cornwall Council's offset fund.

3. Existing Buildings

Significant weight will be given to the benefits of development resulting in considerable improvements to the energy efficiency and reduction in carbon emissions in existing buildings.

Proposals that help to increase resilience to climate change and secure a sustainable future for historic buildings and other designated and non-designated heritage assets will be supported where they:

- conserve (and where appropriate enhance/better reveal) the design, character, appearance and historical significance of the building; or
- facilitate their sensitive re-use where they have fallen into a state of disrepair or dereliction (subject to such a re-use being appropriate to the specific heritage asset).

4. Domestic and Non-Residential Renewables

The Council will support domestic and non-residential renewables such as solar panels (including ground mounted) where they require planning permission. Proposals should seek to minimise visual impact wherever possible.

Where fixed to a listed building, proposals must ensure that: technology will not cause significant harm to the appearance and special historic character of the building; require minimal intervention with the fabric of the building; and shall be easily reversible.

5. Water

All dwellings (including conversions, reversions and change of use) should aim to achieve an estimated water consumption of no more than 110 litres/ person/ day through the incorporation of water saving measures where feasible.

Development proposals for 50 or more dwellings and non-residential development with a floor space of 1,000 m² or more should incorporate water reuse and recycling and rainwater harvesting measures.

6. Materials and Waste

All development proposals should minimise use of materials and creation of waste and promote opportunities for a circular economy through:

- a) Prioritising the use of previously developed land and buildings, whilst maintaining and enhancing local character and distinctiveness;
- b) Reuse and recycling of appropriate materials that arise through demolition and refurbishment, including the reuse of non-contaminated excavated soil and hardcore within the site;
- c) Prioritise the use of locally sourced and/or sustainable materials and construction techniques that have smaller ecological and carbon footprints;
- d) Using locally distinctive, resilient, low maintenance materials that are appropriate for Cornwall's damp maritime climate, for example locally won materials such as slate and granite (particularly for areas that will be harder to maintain once the building is occupied) as described in the Cornwall Design Guide;
- e) Considering the lifecycle of the development and surrounding area, including how they can be adapted to meet changing community needs and how materials can be recycled at the end of their lifetime;

f) Providing adequate space to enable and encourage greater levels of recycling across residential and non-residential developments. Space requirements for residential developments should follow those outlined in the Cornwall Design Guide.

1.24. When the Climate Emergency DPD is adopted following its Examination, it will supersede any policies on renewable energy in the Saltash NDP. However, in the interim it is appropriate for the NDP to include policies on renewable energy, and those policies will remain a material consideration.

1.25. A copy of the document can be found here:

<https://www.cornwall.gov.uk/media/ytsowko1/climate-emergency-dpd.pdf>

Baseline

Contribution to Climate Change

1.26. 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 (See Fig 3). 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%).

CO² Emissions in Saltash Area

1.27. The UK Emissions Data Map shows the range of Saltash Parish emissions per annum for each SqKm. (See Figure 2). From this it can be seen that the town lies in an area of higher CO₂ emissions, reflecting its urban nature, with the highest levels occurring along the A38 and A388. In the rural parts away from the town and roads, emissions are reduced.

1.28. According to the IMPACT Community Carbon Calculator, Saltash contributes 108,470 tonnes of CO₂e⁷ per annum on a consumption basis (all emissions caused by residents of the area, regardless of where they occur) as shown in Table 1 below. This equates to 14.9 tonnes CO₂e per household.

Activity	(t CO₂e)	Percentage
Consumption of goods and services	39,963	36.8%
Housing	21,813	20.1%
Travel	20,412	18.8%
Food and Diet	25,947	23.9%
Waste	335	0.3%

⁷ 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.

1.29. On a territorial basis (all emissions occurring within the area) the figure are 80,047 tonnes of CO₂e⁸ per annum, or 11 tonnes CO₂e per household as illustrated in Table 2.

Table 2 Emissions Breakdown for Saltash Parish – Territorial Basis		
Activity	(t CO₂e)	Percentage
Road Transport	22,100	27.6%
Housing	21,813	26.5%
Industrial and Commercial	14,293	17.5%
Aviation	10,192	12.7%
Shipping	4,059	5.1%
Waste Management	3,384	4.2%
Agriculture	2,214	2.8%
Fluorinated greenhouse gasses	1,070	1.3%
Diesel fueled Railways	857	1%
Other Transport	65	0.8%

1.30. The difference between the consumption and territorial basis illustrates how residents travel, holiday and purchasing choices effect greenhouse gas emissions.

1.31. The scale and range of sources of these figures also indicate that achieving carbon neutrality through the actions of the NDP by 2030 is not feasible.

Potential effects of Climate Change

1.32. The outcome of research on the probable effects of climate change in the UK was released in 2018 by the UK Climate Projections (UKCP18) team⁹. 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.

1.33. 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 follows¹⁰:

- The central estimate of increase in annual mean temperatures of between 2°C and 3°C;
- The central estimate of change in annual mean precipitation of +10 to +20% in winter and - 20% to -30% in summer.

1.34. 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;

⁸ 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.

⁹ <http://ukclimateprojections.metoffice.gov.uk/>

¹⁰ <https://www.metoffice.gov.uk/research/approach/collaboration/ukcp/land-projection-maps>

- 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.

Flood Risk

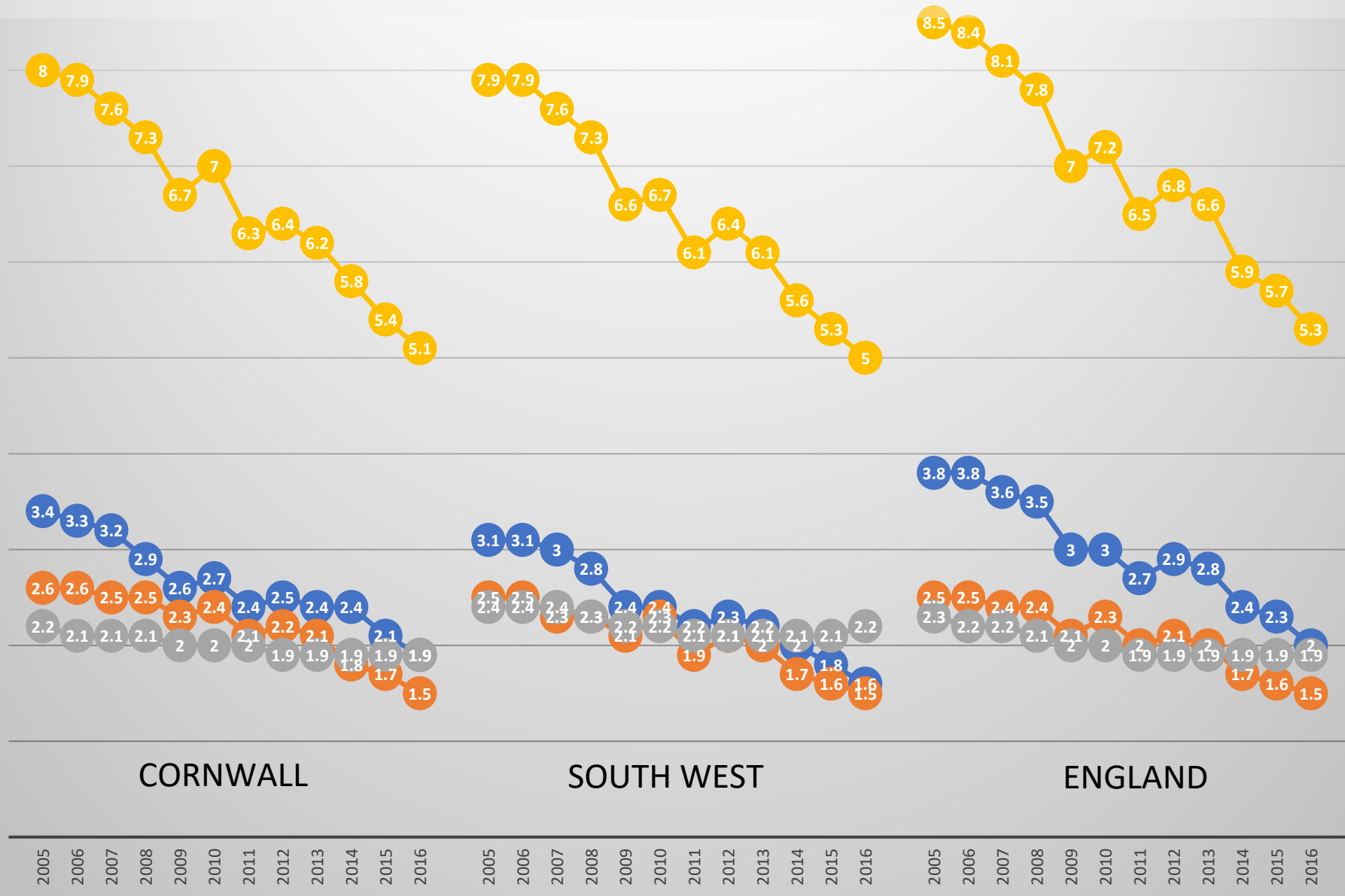
1.35. New development should be sustainable and be located in sustainable locations. In flood risk terms, this means that development should be directed to areas at the lowest risk of flooding. Inappropriate development in flood risk areas should be avoided, to limit risk to people and property. It also means that new development should not make existing flood risk worse and should reduce existing overall flood risk where possible. It is therefore important that information about flood risk is available to planners and developers from early on in the planning process.

1.36. The Cornwall Strategic Flood Risk Assessment (SFRA) provides a tool to assess the flood risk in Cornwall. The SFRA gives essential information for the allocation of land for development. It also provides information for planners and developers to manage development, to limit flood risk to people and property wherever possible and manage the risk elsewhere.

1.37. Figure 3 following indicates that there are flood risk issues throughout the town and along the River Tamar and its tributaries.

FIGURE 1: CARBON DIOXIDE EMISSIONS AND SOURCES, PLUS EMISSIONS PER CAPITA, 2005-2016

● Industrial and Commercial (t CO2)
 ● Domestic (t CO2)
 ● Transport (t CO2)
 ● Total (t CO2)



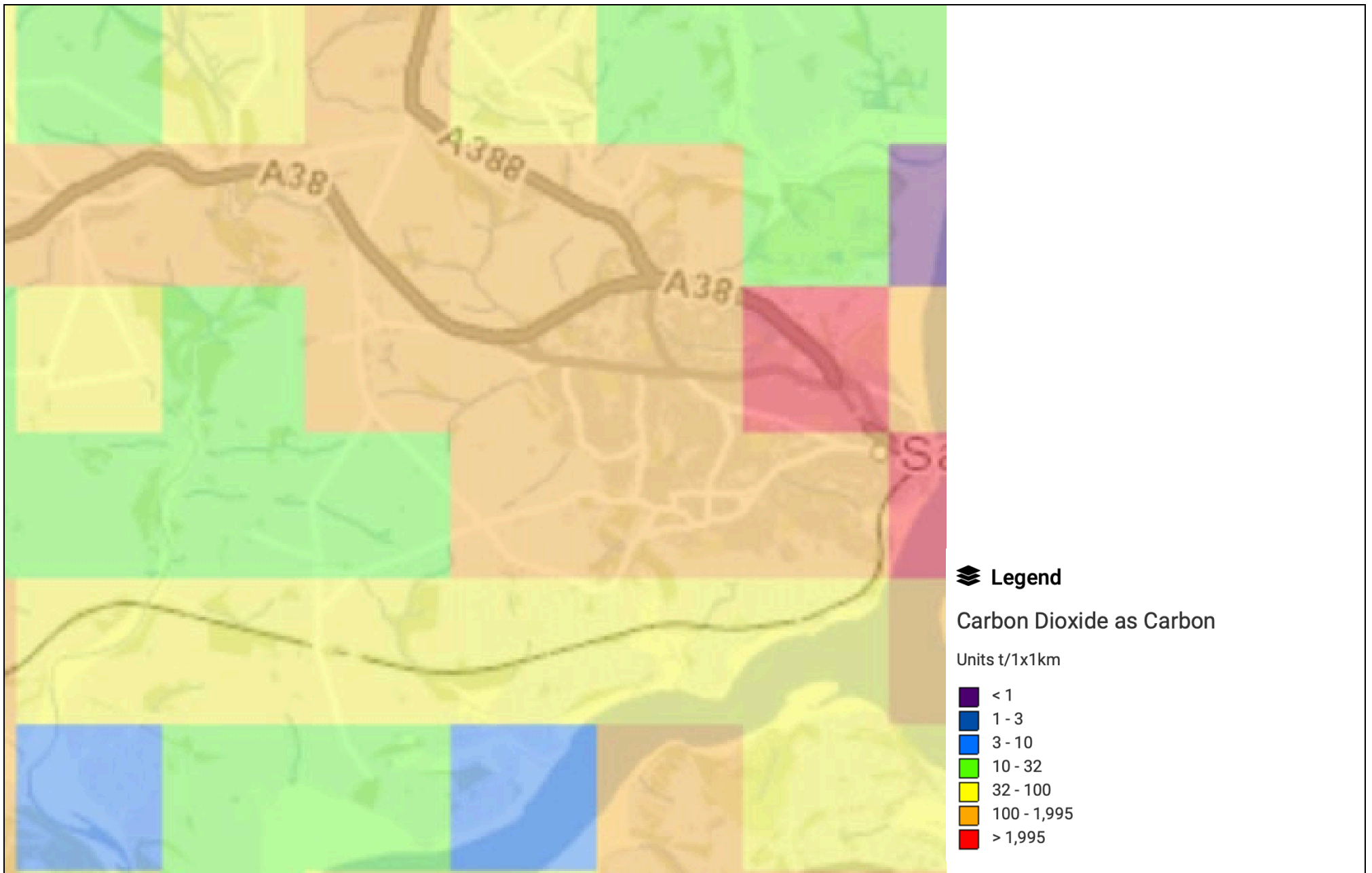


FIGURE 2: CO2 EMISSIONS SALTASH AND VICINITY (SOURCE: NATIONAL ATMOSPHERIC EMISSIONS INVENTORY)

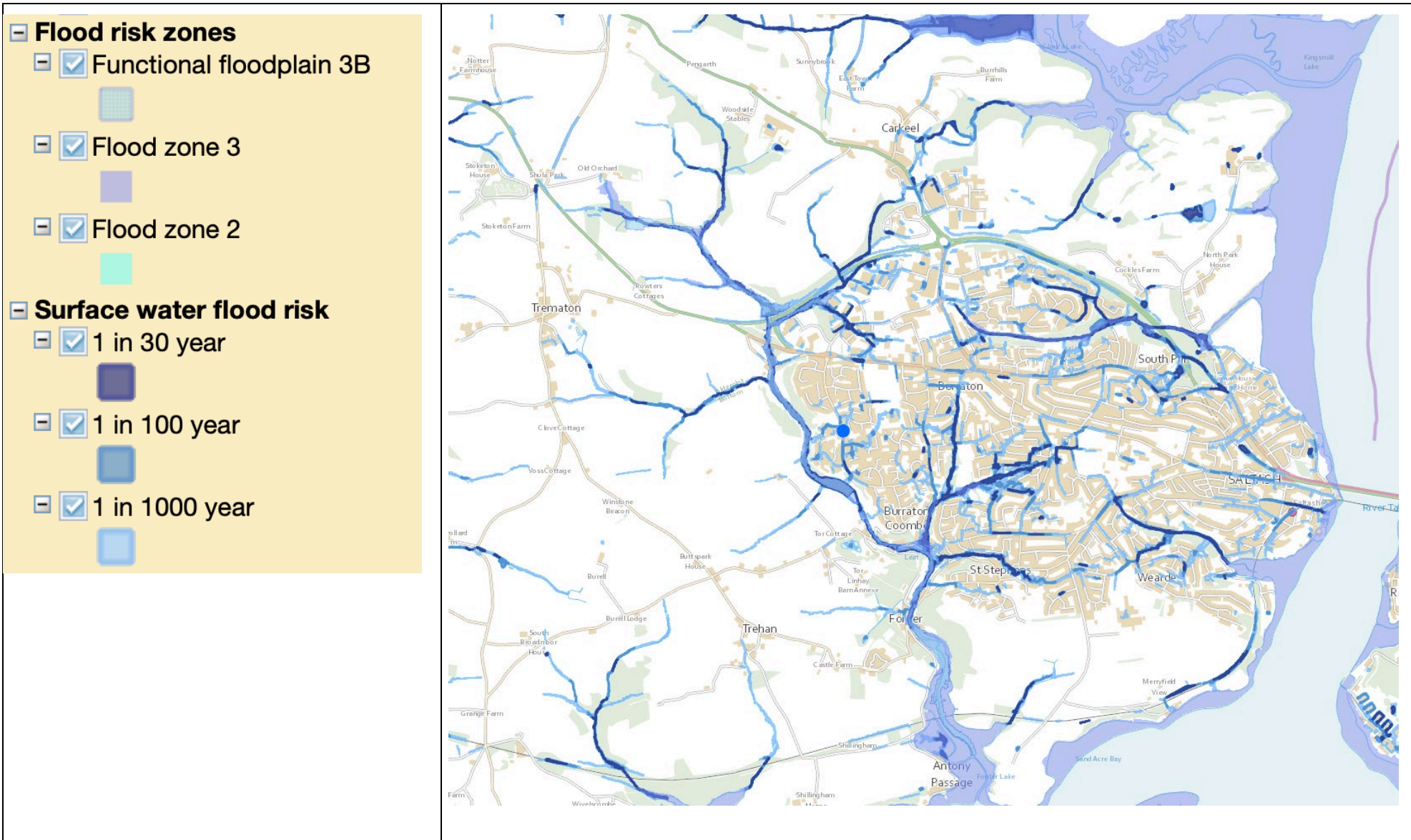


FIGURE 3: FLOODING RISK AT SALTASH AND ENVIRONS. (SOURCE: STRATEGIC FLOOD RISK ASSESSMENT MAPPING, CORNWALL COUNCIL)

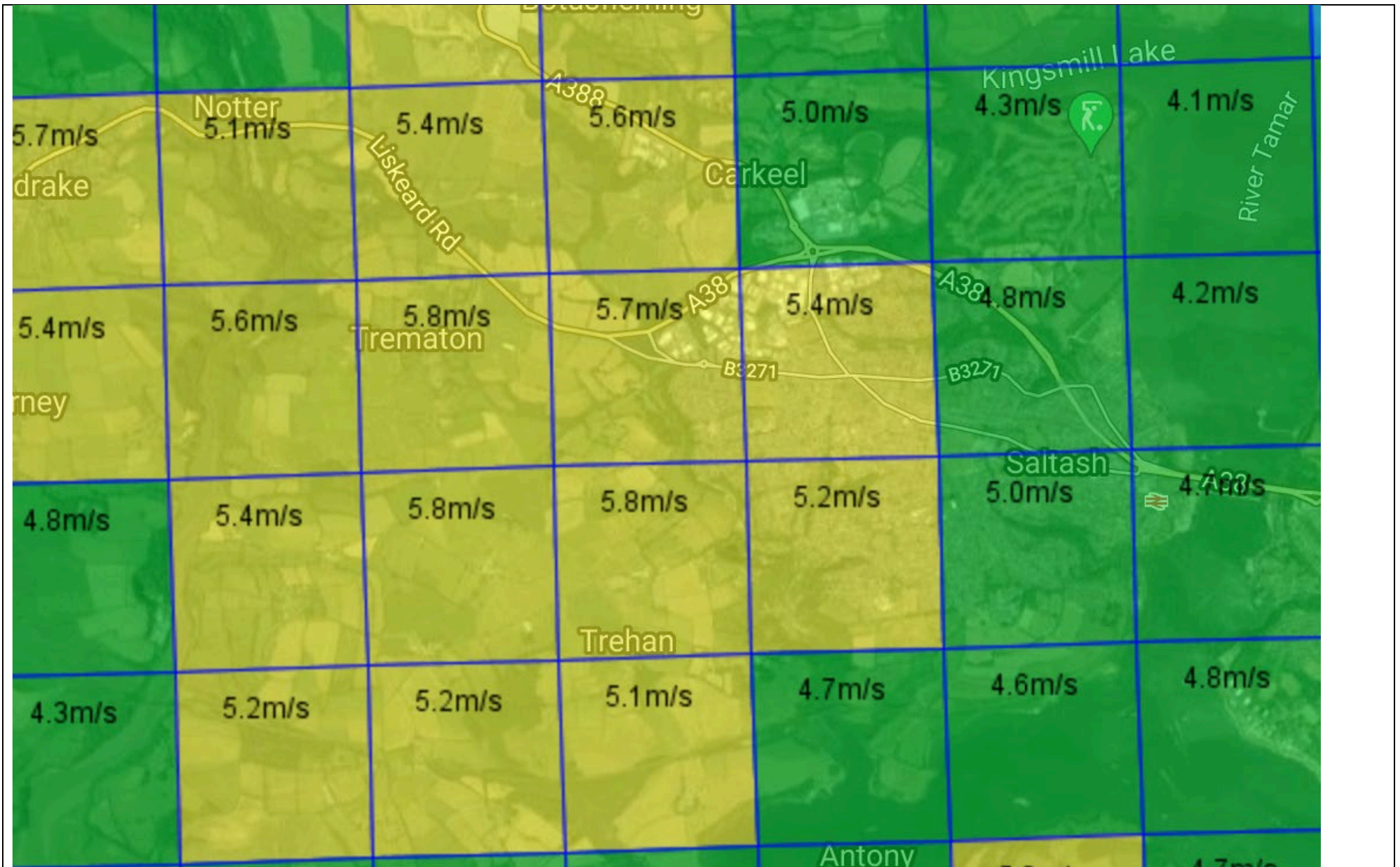


FIGURE 4: MINIMUM ECONOMIC WIND SPEED (5.5 M/S AT 10M HEIGHT) (SOURCE: RENsmart)

NB: Yellow and red 1km squares have 'economic windspeed' for wind energy generation.

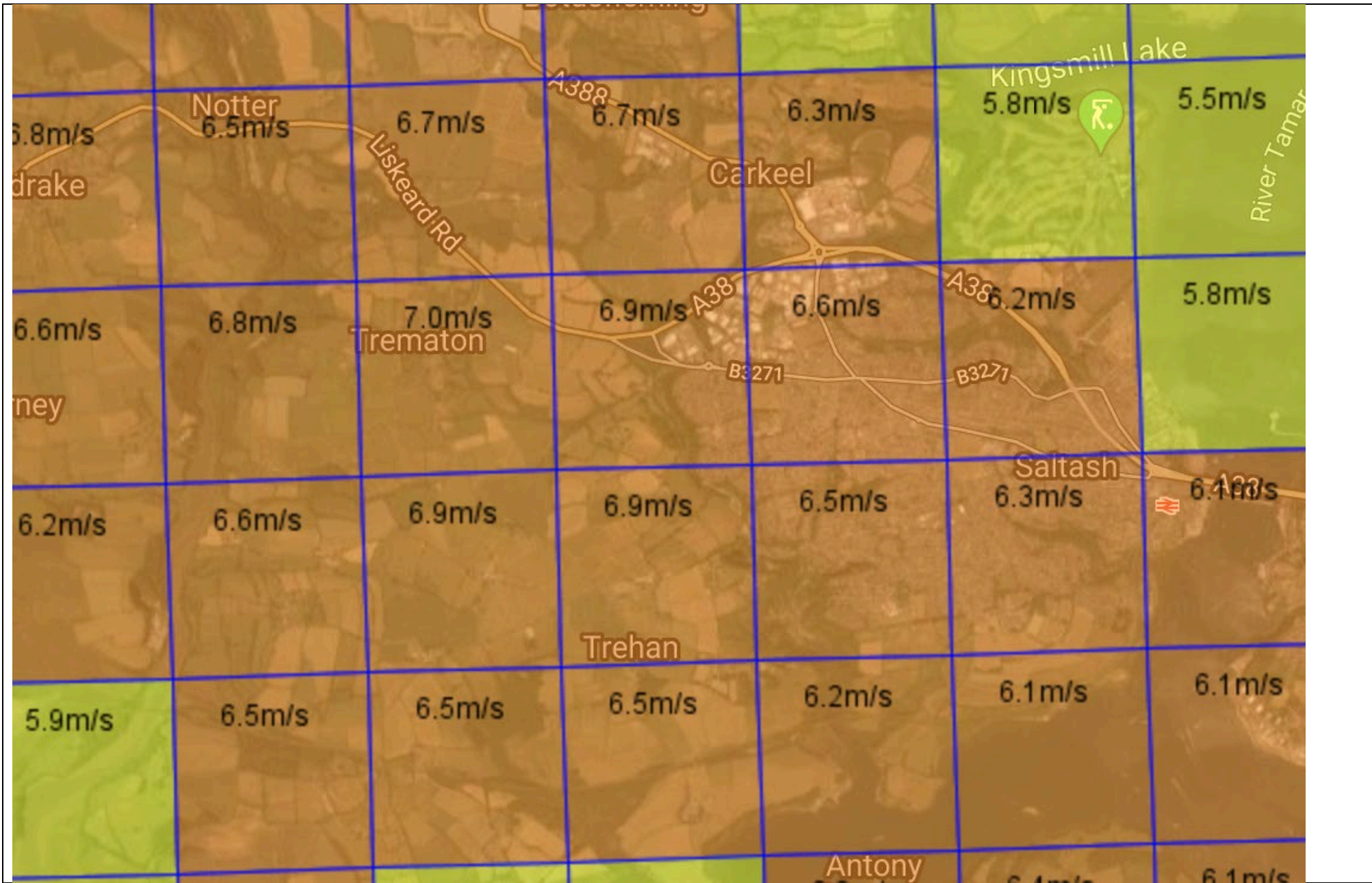


FIGURE 5: WIND SPEED AT 45M HEIGHT) (SOURCE: RENsmart)

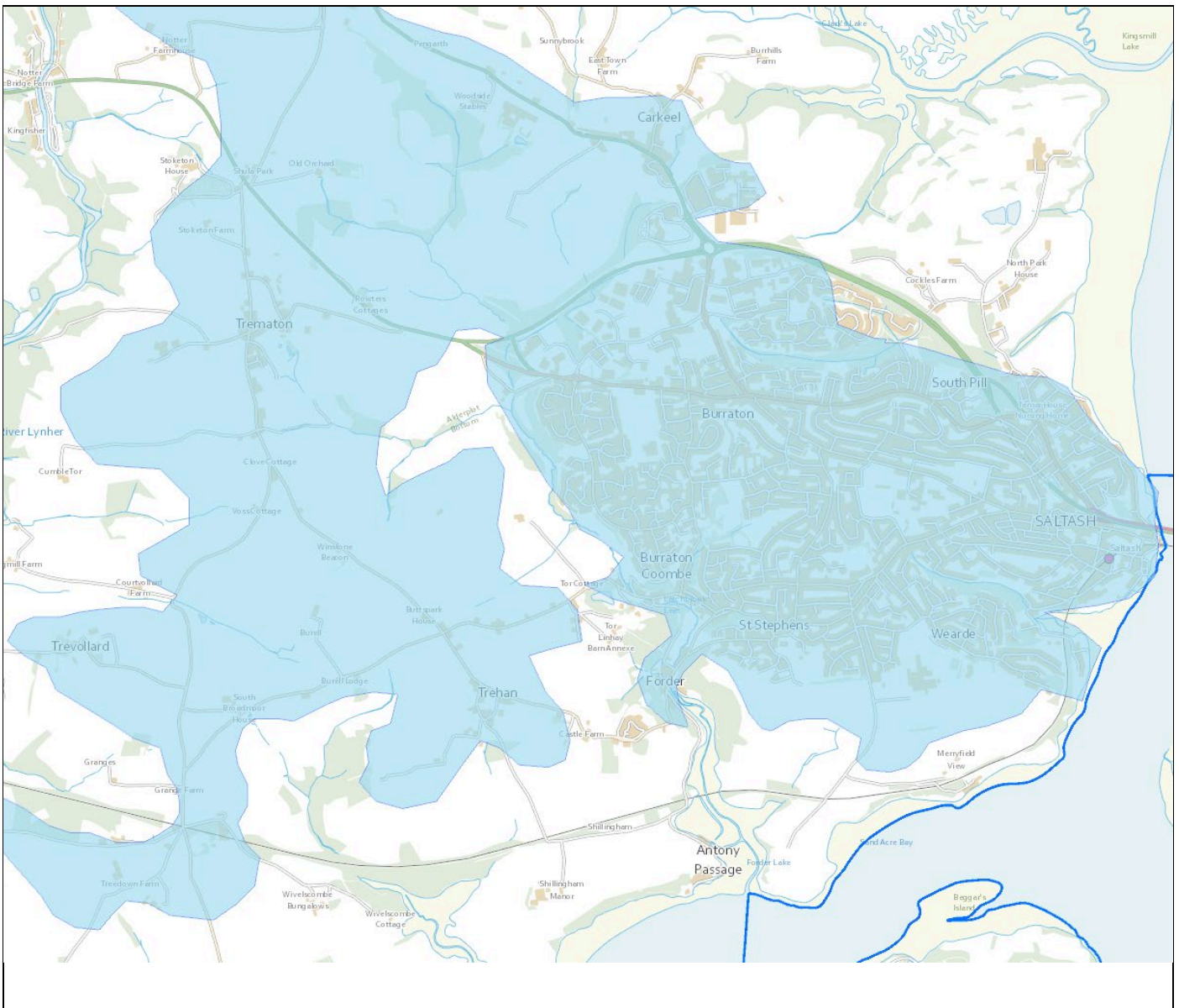


FIGURE 6: Area suitable for wind energy generation (Source: CC Interactive Mapping)
 Suitable for Wind Band C Turbines

Generation Potential

1. Wind Turbines

- 1.38. The main source of information on the UK wind resource is the NOABL (National Oceanic and Atmospheric Administration Boundary Layer) wind speed database produced for the former Department of Trade and Industry, now available through the renSMART website. The database contains estimates of the annual mean wind speed throughout the UK at a height of 10m, 25m and 45m above ground level (agl). The database has a resolution of a 1km grid square.
- 1.39. The *minimum economic wind speed* (i.e. the speed at which a turbine becomes economically viable) used in Cornwall Council studies is a level of 5.5m/s at 10m above ground level so this has been used in this assessment.
- 1.40. One limitation of the NOABL dataset is its resolution. A 1km square resolution at the normal measurement level of 45m does not allow for variations in local topographical effects and surface roughness. As the wind shear is affected greatly by local topography and the

surrounding environment (i.e. trees, walls, buildings etc) it is more appropriate to use the 10m dataset with the known minimum economic wind speed at the same level. Therefore, all grid squares with a wind speed below 5.5m/s at 10m height can be discounted as having commercial wind generation potential, although there may still be potential for small scale turbines to support energy independence for small group of dwellings or farmsteads. From Figures 31 and 32 it can be seen that potential exists mainly to the west and south of the Parish.

- 1.41. Figure 6, drawn from the Cornwall Council Climate emergency DPD 'broad suitable area' on the DPD Policies Map, suggests that the entire Parish is suitable for turbines up to and including band C in size. The DPD is at this stage only a proposal. The turbine height bandings used are as follows:

TURBINE HEIGHT BANDING

- a) BAND A TURBINES (APPROX. 18-25 METRES TO TIP, EXCLUDES ROOF MOUNTED TURBINES);
- b) BAND B TURBINES (APPROX. 26-60 METRES TO TIP);
- c) BAND C TURBINES (APPROX. 61-99 METRES TO TIP);
- d) BAND D TURBINES (APPROX. 100-150 METRES TO TIP).

TURBINE CLUSTER SIZES

- a) SINGLE TURBINE
- b) SMALL SCALE CLUSTERS (UP TO 5 TURBINES)
- c) MEDIUM SCALE CLUSTERS (6-10 TURBINES)
- d) LARGE SCALE CLUSTERS (11-25 TURBINES)
- e) VERY LARGE SCALE CLUSTERS (>26 TURBINES)

SOURCE: 'CORNWALL RENEWABLE ENERGY PLANNING ADVICE SPD' MARCH 2016.

2. Solar Arrays

- 1.42. The entire area is in the zone exposed to 4.2 kWh/m²/day solar radiation and therefore with potential to support solar array farms. This is of course constrained by landscape factors affecting the southerly facing slopes.

- 1.43. The DPD also refers to solar panel array sizes:

SOLAR PANEL ARRAY SITE BANDINGS

- BAND A: < 1 HA (2.5 ACRES)
- BAND B: >1 TO 5 HA (2.5 TO 12.4 ACRES)
- BAND C: >5 TO 10 HA (12.4 TO 25 ACRES)

- 1.44. **Domestic Solar Panels.** Currently, solar panels on residential houses with the average 28 SqM ('4Kw rated') set up can produce 3,400 kW per annum, enough to power a typical three-bedroom house for a year (Energy Saving Trust). This varies throughout the year, being lower in the winter time when extra heating is required for houses. The average house consumes 8.5 – 10kWh electricity a day plus 33-38kWh gas per day. So, although solar panels can positively contribute to the renewable energy used in a home it cannot provide sufficient energy for heating and lighting unless the solar energy is being produced from a larger communal plant. Fitting of solar panels to heritage buildings can be detrimental to historic settings and significance. Most domestic solar panel fittings do not require planning permission and so are outside the scope of the NDP, however the Plan could encourage provision as part of a general support for micro-generation.

3. Geothermal

- 1.45. For every 1kW of energy consumed by the operation of a heat pump around 4kW of energy is generated in return. Although relatively expensive to install heat pumps have low maintenance requirements giving close to 300% cost effectiveness overall. Fitting of heat pumps to heritage buildings can be detrimental to historic settings and significance. Most domestic and small-scale industrial ground source heat pump fittings do not require planning permission and so are outside the scope of the NDP, however the Plan could encourage provision as part of a general support for micro-generation.
- 1.46. **Deep Geothermal.** Due to the lack of intensive mining into subterranean granite across the parish there is likely to be little potential for relatively easy access to harness energy from water which has absorbed heat from surrounding rock in deep mineshafts.

4. Heat Pumps (air to air and air to water).

- 1.47. These are the most energy efficient ways of generating energy as although they use electricity to run the pump, they have a coefficient ratio of between 3 and 4 times in producing electricity. They are considered very appropriate for houses with good thermal insulation especially new homes and can be installed in existing properties to good effect. Fitting of heat pumps to heritage buildings can be detrimental to historic settings and significance. Most domestic and small-scale industrial air heat pump fittings do not require planning permission and so are outside the scope of the NDP, however the Plan could encourage provision as part of a general support for micro-generation.

5. Biomass boilers.

- 1.48. These are mostly run on wood chip and create CO² as they burn. At best these are only carbon neutral if the wood and fibre used in them are grown for that purpose, during which time they may capture a nearly equivalent amount of CO² through photosynthesis, although there can be negative biodiversity impacts as large tracts of mono-culture planting can be encouraged. Felling of existing woodland for biomass boilers would not be positive, reducing the beneficial effect that trees have in consuming carbon dioxide, supporting biodiversity and contributing to landscape character. The use of forestry residue and 'waste wood' may be insecure and involve considerable transportation. Larger biomass boilers can produce other emissions and noise which can be an issue for nearby residential development. However, smaller boilers may have a small role to play in microgeneration for small numbers of homes where there is a reliable and nearby sustainable supply of the biomass.

6. Microgeneration.

- 1.49. Microgeneration¹¹ is the production of heat or power on a small scale, using a variety of local means, for consumption nearby. To meet the key target of net-zero carbon by 2050 our homes need to be decarbonised to 0% (Ref CCC). In order to support this target, the UK Government announced in March 2019 that no new homes could be heated by fossil fuels from 2025 and by 2050 all homes would have to be heated from a renewable heat source. However, the future ability of the Grid to collect and deliver renewable energy on a macro scale is uncertain, and these targets are consequently likely to spur on microgeneration, promoting energy diversity and alleviating concerns relating to security of supply, energy shortages and power cuts. This will also support the current trend towards the local consumption of locally generated electricity often on site, to support farms, businesses and groups of homes, which will encourage take up of renewable generation opportunities. To counter the unpredictability of

¹¹ To be regarded as microgeneration the installation should meet the definition of microgeneration under the terms of the Green Energy Act 2009 and adopted by the Government's microgeneration strategy i.e. up to 50kW for electricity and up to 300kWth for heat. This limit allows that microgeneration technologies can be installed at scale above domestic - namely community and small commercial sites.

wind and solar energy, the use of new small-scale electric storage technologies is likely to emerge and is likely to be an important component in microgeneration.

- 1.50. It is a realistic prospect that our homes can be heated by either one or a combination of microgeneration systems. The NPPF 2019 (para. 151c) says we should ‘identify opportunities for development to draw its energy supply from decentralised, renewable or low carbon energy supply systems and for co-locating potential heat customers and suppliers’.

7. Hydro Electric Generation.

- 1.51. Due to its topography, Saltash Parish may have some opportunity for hydroelectric power generation. The ‘Technical Paper E2: An Assessment of the Renewable Energy Resource Potential in Cornwall’ Cornwall Council March 2013, indicates that up to 10kw of hydro power could be generated in the Parish. Hydro power, harnessing the energy of our rivers as they fall towards the sea, can be of very low impact if small and carefully designed nor to interfere with natural pathways form of energy production, and can provide opportunities for small farms and dwellings to go ‘off grid’ easily. Larger schemes can have significant negative impacts on landscape, biodiversity and hydrology. The high quality of the Ruthern Valley and Demelza Stream, with the associated biodiversity, would be a major constraint.

Current Provision of Renewable Energy

- 1.52. No industrial scale renewable energy schemes are known to exist in the Designated Area.

Encouraging Sustainable Building

- 1.53. The Committee on Climate Change has warned that “We will not meet our targets for emissions reduction without near complete decarbonisation of the housing stock. Energy use in homes accounts for about 14% of UK greenhouse gas emissions. These emissions need to fall by at least 24% by 2030 from 1990 levels, but are currently off track ... The technology exists to deliver homes that are low-carbon, energy efficient and climate-resilient, with safe air quality and moisture levels. The costs are not prohibitive, and getting design right from the outset is vastly cheaper and more feasible than having to retrofit later.”
- 1.54. However, including policies in neighbourhood plans to require zero carbon homes and high levels of energy efficiency in new development pushes up against (and potentially beyond) what can be done through a neighbourhood plan, even though the need for such policies is well documented, and the Cornwall Climate Crisis DPD is at an early stage. Nevertheless to achieve national carbon reduction targets most effectively, NDPs should seek vigorously to encourage new housing that is built beyond current Building Regs requirements, to as near to carbon neutral as possible.
- 1.55. It is also essential that the energy efficiency of existing buildings, including historic and listed buildings is improved.
- 1.56. ‘Low Carbon Neighbourhood Planning’ stresses that policies setting out binding standards for the energy efficiency of housing can be highly complex and require significant evidence to demonstrate that they are feasible and don’t compromise the viability of development. It says that these policies are best tackled at a national level, or failing that, by local planning authorities. Therefore it recommends that such policies be only developed in NDPs if the LPAs own policies are inadequate and if those responsible for the NDP (ie the Town Council) are prepared to be challenged. Given that the Cornwall Climate Crisis DPD is in development, it would be most appropriate for the Saltash NDP to include a ‘small carbon footprint’ policy seeking the equivalent of Level 4 of the Code for Sustainable Homes, which is approximately 19% above current (2013) Part L Building Regs, in accordance with the update to NPPG¹² in

¹² Planning Practice Guidance, www.gov.uk/guidance/

which the government has confirmed that local planning authorities can set energy performance standards for new housing that are higher than the building regulations.

Community Energy

- 1.57. Most of the guidance referred to above recommends that community energy projects are supported through NDPs, usually not as policy but as a project, as they bring benefits in terms of reduced carbon emissions, addressing local energy poverty, and encouraging wider community engagement in tackling climate crisis issues.

Energy Security and Going Off Grid

- 1.58. 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. However, there is a concern that such facilities could be very large, ugly, and noisy, so a careful approach is needed to ensure that they do not harm landscape, heritage and residential amenity issues.

- 1.59. Domestic applications can also be considered. See <https://www.moleenergy.com/homeowners/tesla-powerwall-2-0/>

Related Community Engagement Feedback

- 1.60. In the 2015 Community Survey, investment in renewable energy infrastructure, more green energy production, measures to limit impacts of global warming all scored around 3.75 weighted average, coming quite low in order of priority. However by the time of the Presubmission Consultation the issue of climate crisis had ascended to a much higher level of concern amongst the public, with many comments being represented in the feedback received.

Other Measures

- 1.61. Most NDP development management policies can contribute, through being directed at sustainable development, to tackling the causes and impacts of the climate crisis, but this may be 'hidden' to many people and should be made explicit.

Key issues and implications for the NDP

- 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 emerging Cornwall Council Climate Emergency Development Plan Document includes policies on a range of climate change issues that will be relevant during the period to 2030 and beyond.

- Wind speeds sufficient to support wind turbines exist mainly across the west of the Designated Area, but also many parts of the town itself. However, the opportunities for large multi wind turbine schemes are very restricted because of the intervisibility of the existing wind turbines on the landscape setting of the Tamar Valley AONB.
- There is the potential for single turbines at a scale of A to C to support farm energy independence.
- Potential for solar generation is fair but constrained by landscape factors affecting the southerly facing slopes.
- Due to its topography, Saltash may have some opportunity for hydroelectric power generation.
- There is potential to encourage more sustainable building and energy storage.
- Overall the community of the Parish are increasingly concerned about the impacts of climate change and more willing to tackle its causes
- Flooding is seen as an important local impact from climate change.

Implication for the Neighbourhood Development Plan

- **Aiming to be Carbon Neutral by 2030 is not realistically achievable.**
- **Policies should be considered which encourage measures to reduce the causes of climate change, covering for example:**
 - **Encourage energy efficient and small carbon footprint development up to Level 4 of the Code for Sustainable Homes**
 - **Encouraging some energy consumption on a site to be generated on site or other sustainable source**
 - **Encourage community sustainable energy projects**
 - **Encourage 'modal shift' from cars**
 - **Encourage digital networks to reduce need to travel**
 - **Encourage the inclusion of facilities for charging plug-in and other ultra-low emission vehicles**
 - **Planting to encourage carbon sequestration (natural solutions).**
 - **Support local community 'coproduction' of foods, goods**
- **Policies to reduce impact of climate change could also be included, covering:**
 - **Layouts that encourage passive cooling / Planting to provide shade**
 - **Use sustainable materials**
 - **Flood management including 'natural' SUDS**
 - **Dealing with ground instability**
 - **Green Infrastructure Networks**
- **Bearing in mind the need to support agriculture and other land based industry, and encourage community take-up of locally generated renewable energy, whilst taking into account community concerns about possible environmental impacts, planning policy could support single turbines and other forms of generation (PV, Hydro, Thermal) facilities subject to careful criteria**

- **Any Planning policy in the NDP on renewable energy generation should refer to the ‘Landscape strategy and siting guidance’ given in Cornwall Council’s Landscape Sensitivity and Strategy Matrices for each Landscape Character Area. March 2016**
- **The NDP should include a table showing explicitly how most NDP policies can contribute to tackling the causes and impacts of the climate crisis.**
- **When the Climate Emergency DPD is adopted following its Examination, it will supersede any policies on renewable energy in the Saltash NDP. However, in the interim it is appropriate for the NDP to include policies on renewable energy and these policies will remain as a material consideration.**

Note: Saltash TC has now declared a Climate Emergency. See: Saltash TC Declaration of Climate Emergency: https://www.saltash.gov.uk/edit/stuploads/7777_804787506.pdf