

Appendix E

Hayle Heat Mapping Assessment

**Hayle Town Framework Plan
Urban Extension Assessment – Step 8 Heat Mapping Assessment**

An assessment of the potential for renewable or low carbon decentralised energy

February 2011

Introduction

This paper sets out the results of a brief desk based assessment of sustainable energy opportunities in relation to any future growth areas around the town. The following table indicates an initial assessment into the potential for each cell to link into or support a potential decentralised energy or district heating network providing renewable or low carbon energy.

A heat map of Cornwall has been prepared. The heat map covers all of Cornwall's towns and shows the heat demand generated by domestic and (some) non domestic buildings e.g. industrial and public buildings such as schools. If the average heat demand or usage of parts of the existing urban area is over 3000kW/m² then evidence demonstrates that there is sufficient heat demand or usage to enable a district scale heat network to be viable. By assessing the existing heat demand of built areas within the town and noting proximity between important anchor load buildings such as schools; industrial uses; leisure centres (which have a high heat demand) a picture can then be pieced together showing the potential for a heat network within a given area.

Evidence demonstrates that where new development is able connect to a decentralised heat main the costs of the requirements for developers to meet higher standards of the Code for Sustainable Homes is reduced – i.e. a community or neighbourhood scale approach to supplying renewable or low carbon energy is a cheaper solution than seeking an approach that focuses on individual properties.

This assessment and table sets out an initial assumption in relation to the location of each of the potential urban extension cell areas i.e. its proximity in relation to areas of existing high heat demand areas and so called 'anchor load' buildings within the built area of the town to determine whether a cell area has the following:

- Good opportunity to link into a potential district heat network
- Limited opportunity to link into a potential district heat network - unlikely but requires further assessment
- Poor or no potential to link into a potential district heat network - highly unlikely to be a viable area to support district heating due to low heat demand and or large distances between the new development and existing heat loads

The assessment is not seeking to discount any cells based on its potential or lack of, but will enable the information to be considered as a strength or a weakness of a cell which can be highlighted along with other considerations when consultation takes place regarding potential options for future growth of the town.

Related and more detailed work is being progressed by officers within the Planning and Regeneration Service to assess the potential for renewable or low carbon energy opportunities within Cornwall; a key element of which is exploring the potential for district scale heating networks to supply both existing and new development. This brief Town Framework Plan assessment is intended as providing a link into this more detailed work so renewable or low carbon energy opportunities can be explored at an early stage when determining potential locations for future growth within and adjoining Cornwall's towns.

Hayle Heat Mapping Assessment – Urban Extension Assessment Table

The table that follows sets out the results of each cell using the following assessment criteria.

- Good opportunity to link into a potential district heat network – ***the cell is scored green***
- Limited opportunity to link into a potential district heat network - unlikely but requires further assessment – ***a cell is scored yellow***
- Poor or no potential to link into a potential district heat network - highly unlikely to be a viable area to support district heating due to low heat demand and or large distances between the new development and existing heat loads – ***a cell is scored red***

Summary of Results

Cells which demonstrate greatest potential to support DH scheme

9, 10

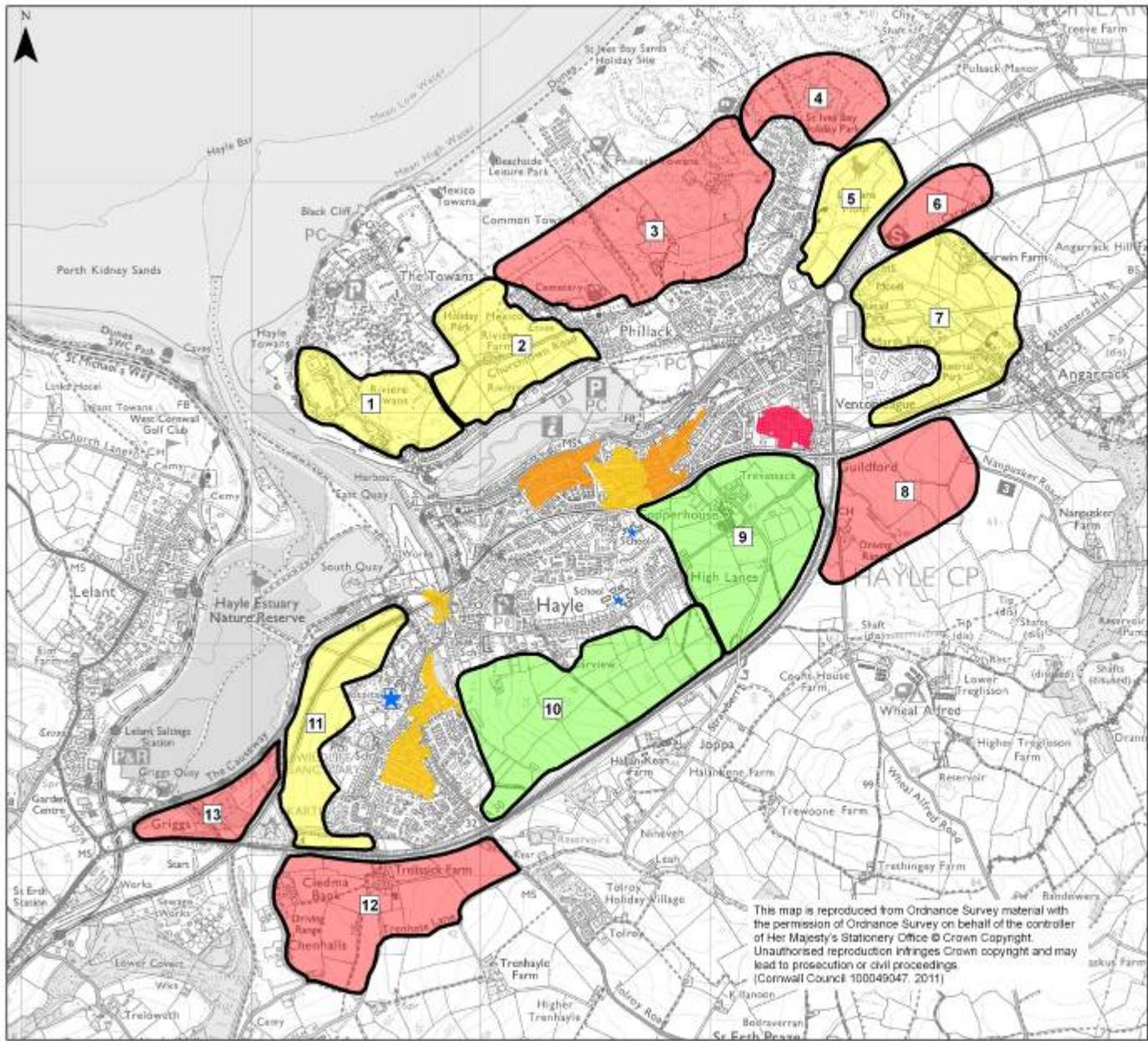
Cells showing some potential but with limitations/constraints

1, 2, 5, 7, 11

Cells that would support/connect to a viable DH scheme

6, 8, 12, 13

Cell No	Commentary	Score
Cell 1	No existing uses on the brownfield site or in the proximity. However ING proposals are for mixed use including employment / research related to the Wave Hub Renewable industry with some residential. There may be potential for a new stand alone DH scheme	
Cell 2	Closely related to cell 1 – same assessment	
Cell 3	Cell has been discounted from study	
Cell 4	Cell has been discounted from study	
Cell 5	No existing viable heat loads in the vicinity . The derelict Loggans Mill building requires a use and would be a high heat building. There is also a Lidl supermarket in the vicinity – may have future potential for a small scheme	
Cell 6	No existing uses in vicinity	
Cell 7	There are no identified viable heat loads. Although there are a small number of uses which need further investigation e.g. Premier Inn Motel, M & S and other retail park users and an industrial estate.	
Cell 8	No existing heat uses in the cell or vicinity	
Cell 9	There is an existing viable residential heat load over the railway line and an (viable) industrial estate. The railway line barrier can be overcome by access under the bridges. There is the primary and secondary schools are in good proximity. Good potential	
Cell 10	As cell 9 plus to the west there is a viable residential heat load and the hospital (anchor). There is also a Care Home adjacent and maybe good potential for a DH scheme. When viewed together cells 10 & 9 may be a larger viable DH scheme. Two schools.	
Cell 11	Northern most tip of cell is closely related to non domestic heat load at the Foundry. The hospital is located to the east is an anchor (potential). If South Quay proposals (supermarket) come forward there may be potential to link in although difficult.	
Cell 12	Cell is separated?? From Hayle and could not support a DH scheme	
Cell13	Cell has been discounted	



Hayle Town Framework Plan Urban Extension Assessment - Step 8

★ Anchor loads, high heat users
e.g. schools, hospitals

Coloured areas = existing areas of high heat usage - i.e. potential for a viable District Heat scheme

- Cells which demonstrate greatest potential to support District Heat scheme
- Cells showing some potential but with limitations / constraints
- Cells that would not support / connect to a viable District Heat scheme

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**Hayle Heat Map
Assessment - Potential
for District Heat Networks**

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