

Consultation	Options and Preferred Options for Energy, Minerals and Waste.
Start	09 January 2012 07:00:00 GMT
End	02 March 2012 17:00:00 GMT
Published on	04 January 2012 09:38:36 GMT



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Foreword

If you have any specific comments on the content of this consultation document or any of the evidence based papers please submit them using one of the following methods:

Web: www.cornwall.gov.uk/naturalresources

Email: cornwallldf@cornwall.gov.uk

Post: Cornwall Council, Planning and Regeneration, Carrick House, Pydar Street, Truro, Cornwall, TR1 1EB.

Please include the reference '**Energy, Minerals and Waste**' in the subject of your correspondence.

You can also view and comment on the evidence base by visiting our website www.cornwall.gov.uk/naturalresources.

The consultation period runs from Monday **9th January 2012** until **Friday 2nd March 2012**. To include your views we need to hear from you by 5pm on Friday 2nd March 2012.

Our Statement of Community Involvement (SCI) sets out our commitment to keeping you informed on the progress on the Local Development Framework, including how your feedback will shape our thinking. As part of this, we will produce a summary of the feedback we receive from this stage of consultation and explain how it will feed into the next stage of developing the Core Strategy for Cornwall.

Foreword

Planning Future Cornwall



Everyone who lives, works or visits Cornwall knows it is a special place. Our responsibility is to shape what it will be like in the future.

Cornwall has a proud and long history in mining and is developing as a centre of innovation in renewable energy. Like other areas, Cornwall is also working towards more sustainable waste management systems. Proper planning is key to achieving sustainable use of these resources for the future.

Central to our plan will be decisions on where important mineral extraction, waste management and renewable energy generation facilities should be located, to support growth in Cornwall. This growth and development, of course, needs to be balanced with the need to protect what is special about the Cornish environment now and for our future generations.

This consultation document sets out options for managing mineral, waste and renewable energy resources in Cornwall over the next 20 years and indicates our current preferred options. It makes up part of a wider consultation on Cornwall's Core Strategy - Planning Future Cornwall.

We are interested in your views on these options and planning for minerals, waste and renewable energy development in general. We would also welcome any views on these matters specific to your area.

At its heart, this plan is for you and future generations, so it is important that you give us your thoughts. Please let us know.

Councillor Mark Kaczmarek, Cabinet Member for Housing and Planning

Towlenna Kernow Dhevedhek

Pub huni neb a drig, po oberi po godriga Kernow a wor hy bos le arbennek. Agan charj yw dhe furvya fatel vydh hi y'n termyn a dheu.

Yma dhe Gernow istori hir hag orgelus yn balweyth hag yma hi owth omdhisplegya avel kresen a nowythheans yn nerth dasnowythadow. Kepar ha ranndiryow erel, yma Kernow owth oberi troha systemow dyghtya atal moy sostenadow. Towlennans eun yw an alhwedh dhe gowlwul us sostenadow a'n asnodhow ma rag an termyn a dheu.

Poynt kresel dhe hemma a vydh erviransow a-dro dhe'n le may fo desedhys komoditys posek rag estennans moon, dyghtyans atal, ha nerth dasnowythadow rag skoodhya tevyans yn Kernow. An tevyans ha displegyans ma, heb mar, a dal bos mantollys gans an edhom a witha an pyth yw arbennek a-dro dhe'n kerhynnedh kernewek y'n jydh hedhyw ha rag agan henedhow a dheu.

An skrifen geskussulya ma a dhiskwedh dewisyow rag dyghtya asnodhow moon, atal ha nerth dasnowythadow yn Kernow dres an nessa 20 bledhen ha meneges agan dewisyow gwell a-lemmyn. Y furv hi rann a geskussulyans ledanna a-dro dhe'n strateji kresel rag Kernow – Towlenna Kernow Dhevedhek.

Yth yw dhe les dhyn an pyth a brederowgh a'n dewisyow ma hag a-dro dhe vonyow ha displegyans nerth dasnowythadow dre vras. Ni a dhynnergh ynweth prederow a-dro dh'agas ranndir arbennek y'n maters ma.

Orth y golon, an towl ma yw ragowgh hwi ha henedhow a dheu, ha rakhenna yth yw posek y rowgh dhyn agas prederow. Mar pleg, kedhlewgh i dhyn.

Konsler Mark Kaczmarek, Esel an Kabinet rag Treven ha Towlenna.

Foreword

CORE STRATEGY OPTIONS AND PREFERRED OPTIONS FOR ENERGY MINERALS AND WASTE

1 INTRODUCTION	1
2 CORNWALL'S VISION	7
3 OPTIONS	13
3.1 Energy	13
3.2 Minerals	18
3.3 Waste	47
4 DELIVERY	63
5 SUSTAINABILITY APPRAISAL	65

Contents

Cornwall's Natural Resources

- 1.0.1** We are proud of Cornwall's natural resources. Cornwall led the world in deep mining technology and still has a vibrant minerals industry with lots of potential for the future. Cornwall is a world leader in producing china clay and is proactive in developing its great potential for renewable energies. Having been an early adopter of wind power at the end of the twentieth century Cornwall is now moving increasingly towards tapping into its waste as a resource.

What is a Core Strategy and how does it relate to natural resources (energy, mineral and waste) planning policy?

- 1.0.2** We are required to prepare a plan (the Core Strategy) for Cornwall, in line with government policy. This will guide planning decisions and manage change in Cornwall up to 2031. It is important that we understand your views and set the right framework for Cornwall. Strategic energy, mineral and waste planning policy will be included in the Core Strategy. We intend to produce a further, more detailed document on mineral planning policy following adoption of the Core Strategy.
- 1.0.3** The Core Strategy will set out the broad distribution of development in Cornwall over the coming years and the key policies needed to guide planning decisions. Policies relating to individual sites will be dealt with separately. The Core Strategy sits under the Sustainable Community Strategy 'Future Cornwall' and alongside other plans that Cornwall Council and its partners have prepared, or are preparing. 'Future Cornwall' sets out Cornwall's long term vision for economic, social and environmental well-being. That vision is shown later in this document and provides the context for the Core Strategy.
- 1.0.4** Crucially, the Core Strategy provides a framework for planning decisions to help achieve the Council's corporate objectives and those of the Sustainable Community Strategy (Future Cornwall) and the Local Transport Plan (LTP3 Connecting Cornwall: 2030); together with other key strategies, such as those for education, health and social inclusion.
- 1.0.5** There have been previous consultations on draft Supplementary Planning Documents concerning the "Design, Operation and Reclamation of Mineral Sites in Cornwall" (2008), and "Renewable and Low Carbon Energy" (2010). These draft plans will be updated at a later stage to conform to the principles and policy of the Core Strategy.

1 Introduction

The government's National Planning Policy Framework

This National Planning Policy Framework is in draft and, once finalised, will set out the Government's planning policies for England. A draft for consultation was published in July 2011. It has a pro-*sustainable* development tone. It aims to simplify national policies and allow for locally produced neighbourhood plans (that are in line with national policy and Cornwall's plan) to be implemented. The final version of the National Framework will have a bearing on the nature and content of our plan and its policies.

Preparing the Core Strategy

- 1.0.6** The full programme for the preparation stages of the Core Strategy and the other documents which make up the Local Development Framework is set out in the Local Development Scheme which is available on the Cornwall Council website www.cornwall.gov.uk.
- 1.0.7** There are two more stages, after this one, where we will ask for your views:-
1. Publication stage - where we will publish the Core Strategy and invite your views.
 2. Submission stage - when the document is submitted to the Secretary of State for examination.

The Big Questions:

- 1.0.8** This document asks two key questions: **'How much growth (or provision for growth) should Cornwall plan for in the energy, minerals and waste sectors?'** and **for waste and energy 'Where should it be located?'** (For minerals the issue of 'where' will largely be governed by where the resources occur).
- 1.0.9** We are asking these questions to better understand your views of Cornwall and the needs of its communities. We want you to tell us what you think and why. What do you like or dislike, agree or disagree with about the options and content of this document? What roles should the energy, minerals and waste sectors play in Cornwall's future?
- 1.0.10** In this booklet we suggest a range of options for dealing with the key questions and invite your views on these. However, if you want to propose a different option – please do. If you do suggest an alternative you must tell us how your option would achieve the vision of 'Future Cornwall', or why it shouldn't; how it will meet the needs of Cornwall's communities now and in the future; and why it is a more reasonable option than the ones suggested here.

Introduction 1

- 1.0.11** This is still an early stage for the Core Strategy. It is not about specific sites for energy, minerals and waste development at this stage, but rather about broad strategic options for further development and investment over the coming years. When we have finalised this consultation we will have a better understanding of the overall approach which you want us to take and we will then be able to consult you about strategic sites and what sort of policies we need in order to deliver the strategy.

Understanding Energy, Minerals and Waste in Cornwall

- 1.0.12** Our options are based on a vast amount of background information set out in a series of papers. It is important that these are read in conjunction with this options paper. There is information about previous consultations undertaken by the former Cornwall County Council, as well as more recent 'Issues Papers' and 'Technical Reports' that will provide background to the Core Strategy. These can be found at www.cornwall.gov.uk/naturalresources.
- 1.0.13** Five technical papers have been produced covering the four most significant mineral sectors in Cornwall (china clay, aggregates, metals, building stone) and one about bulk transport issues for minerals in mid Cornwall (the 'Fowey/Par Bulk Transport Study'). Five technical papers have been prepared covering energy in Cornwall. Two papers assess the renewable energy resource potential in Cornwall and the ability of the landscape to accommodate large scale renewable energy infrastructure. Two papers look at Cornwall's energy consumption and future forecasts for energy demand. Lastly a paper compares the energy resource potential with the energy consumption. There are three technical papers covering waste. The first assesses how much waste there will be in future, the second, what additional provision will be required over the plan period and the third, the existing waste capacity.
- 1.0.14** A wider body of evidence has been collected and analysed by Cornwall Council which draws on over 30 evidence bases and strategic assessments, and which helped to shape 'Future Cornwall'. This is available to view at www.cornwall.gov.uk/understandingcornwall.
- 1.0.15** The 'Understanding Cornwall 2011' headline messages are:
- There are differences in the characteristics of people and places within Cornwall – this has an impact on people's lives and the way we should deliver services
 - The population is growing as well as changing demographically – this brings challenges which we need to proactively plan for
 - Effective prevention and early intervention can improve lives and save money.
 - The impact of the economic climate, public sector cuts and changes to benefits may lead to more people needing higher levels of support

1 Introduction

- People in Cornwall have been consistent in highlighting income and jobs, traffic and transport, activities for children and young people and affordable housing as their priorities for improvement
- We need to put the person at the centre of everything we do, with a joined up approach which considers the individual in the context of their family and community and the risk associated with transition between services

1.0.16 The key issues that the Core Strategy needs to address include the following headings. Under each one is a brief summary of how minerals, waste and energy fit in:

- Enabling future **prosperity**;

Enabling future prosperity and natural resource (energy, minerals and waste) matters	
Minerals	Cornwall has a rich and varied geology which underpins its mining and quarrying industries and their economic spin off. These industries have the potential to contribute significantly to employment and wealth in the future.
Waste	Providing for a waste management network that increasingly avoids disposing of waste as landfill and increasingly treats it as a resource will reduce environmental and economic costs. It will also increase Cornwall's self-sufficiency, particularly through increased recycling/reuse and use of waste to generate electricity and heat.
Energy	Generating electricity and heat from renewable resources would allow us to become increasingly self-sufficient in energy generation and bring benefits to our economy.

Introduction 1

- Providing the right amount and type of **housing**;

Providing the right amount and type of housing and natural resource (energy, minerals and waste) matters

Minerals	An adequate and steady supply of aggregates is needed to help the construction industry grow, particularly the housing sector. Locally produced building stone can contribute greatly to local character and help create distinctive development.
Waste	A network of waste management facilities, that can process the waste produced by both current and future populations, is critical to the economic and environmental prosperity of Cornwall.
Energy	It is important to conserve energy and maximise the contribution of renewable energy to future and existing housing development.

- Securing better futures for **communities** which are run down and struggling, and

Securing better futures for communities which are run down and struggling and natural resource (energy, minerals and waste) matters

Minerals	Mineral extraction can supply local jobs, often in rural locations. Good quality reclamation of mineral sites can provide high quality open space and open air recreational opportunities for communities. During the production phases, it is important that communities are protected from any potential disturbance, pollution or adverse impacts which can be associated with mineral working.
Waste	Increasing the amount of waste that we recycle, reuse or derive energy from will help to reduce the costs of managing our waste and making primary products. Local energy production can also help to offset rising fuel bills associated with importing fuel.
Energy	Community renewable energy schemes will allow communities to become more resilient to future energy price increases and can provide a source of income.

1 Introduction

- Meeting the challenges of **climate change**.

Meeting the challenges of climate change and natural resource (energy, minerals and waste) matters	
Minerals	Uncontrolled mineral working has the potential to cause flooding, especially in association with changing climatic conditions. Minerals such as lithium (which is present in Cornwall) have the potential to be used in new technologies needed to combat climate change (e.g. in batteries for electric vehicles, computers and mobile phones).
Waste	By providing for a waste management network in Cornwall that increases recycling and energy generation, and reduces the amount of waste that we landfill, we can make an important contribution to climate change mitigation.
Energy	Cornwall's great potential for harnessing a wide range of renewable and low carbon energy resources can contribute to offsetting climate change.

Cornwall's Vision 2

- 2.0.1** Cornwall's Sustainable Community Strategy, 'Future Cornwall', sets out a vision for the economic, social and environmental well-being of Cornwall in 2030 and identifies four long term objectives for realising this. The purpose of the Core Strategy is to provide the planning framework for achieving this.

How natural resource (energy, minerals and waste) issues fit in to the 'Future Cornwall' vision

The 'Future Cornwall' vision - Cornwall will lead the country in sustainable living.	How natural resources fit in
Cornwall has a fantastic opportunity to take a lead on the green agenda. A strong knowledge base and entrepreneurs, natural resources for renewable energies (sea, wind, sun, geothermal); a place with a world class brand, a high quality environment; access to appropriate housing and a culture of creativity, invention and innovation.	As well as natural resources for renewable energies, Cornwall has natural mineral resources (china clay, aggregates, metals and building stone) and waste resources (for re-use, recycling and generating heat and/or electricity).
Sustainable living means changing our behaviour as a society, for example, how or when we travel, how we use and produce energy and what we eat. It is careful use of natural resources that support survival so that they are still there for our grandchildren. We will also depend less on fuel and food supplies that we do not control. Producers and consumers take responsibility to save natural resources, reduce waste, and reduce greenhouse gas emissions that affect our climate.	We must also try to build upon some current good practice for transporting bulk exports of minerals. Extraction and use of mineral resources and management of waste resources should be undertaken in a sustainable fashion alongside increased generation of sustainable energy.
Cornwall in 2030 will be an industry leader in environmental technologies (land and marine), at the centre of a global network of businesses. It will combine internationally recognised research with skills in environmental technologies across the workforce.	The minerals, waste and energy sectors should be central to this vision.

2 Cornwall's Vision

How natural resource (energy, minerals and waste) issues fit in to the 'Future Cornwall' vision

It will be a green peninsula resilient to rising costs of energy with a low carbon economy, low carbon and energy efficient homes, less need to travel, an excellent transport system less reliant on fossil fuels, local generation of renewable energy, careful use of resources, minimum waste and re-use of waste products; and consumption of locally produced food. It will respect and make the most of its maritime setting and opportunities.

The minerals, waste and energy sectors should be central to this vision.

Culturally distinctive, its people creative, active and highly productive, Cornwall will have strong communities with character and purpose. Its main towns will have a key role and will have been regenerated and individual places and clusters of smaller settlements will be viable centres for employment and services. Each community will contribute to Cornwall's common goals in its own way.

Cornwall's biodiversity and historic environment were fundamentally influenced by its diverse geology and its unique location, which provided the natural resource base for its historic mining industry and an early industrial settlement pattern. Many parts of Cornwall fall within the Cornwall and West Devon Mining Landscape World Heritage Site.

At the heart of sustainable living is Cornwall's unique and extraordinary natural and historic environment, highly valued by its residents and visitors and contributing to a resilient local economy and self-sufficient communities. By 2030 everyone in Cornwall will have the chance of a quality of life equal or better to anywhere in the UK.

Cornwall's Vision 2

How natural resources (energy, minerals and waste) fit with 'Future Cornwall's' long term objectives

Under each objective a table sets out how energy, minerals and waste fit in:

Economy

a. To become a market leader in innovative business and low carbon technologies; increase productivity and raise quality across the economy.

Minerals	Traditionally Cornwall has been a market leader in minerals extraction technologies. This continues to be the case with the ongoing presence of Camborne School of Mines (Exeter University) at the Combined Universities in Cornwall, which is a world leader in higher education for mining. In addition, a cluster of earth science technology based companies is present at Wheal Jane Mine.
Waste	Increased awareness of waste as a resource will play an important role in understanding the opportunities and reducing the environmental impact of our economy.
Energy	The renewable energy sector is central to achieving this objective. Cornwall's significant renewable energy resource and university courses in renewable energy at the Combined Universities of Cornwall will all help to achieve this objective.

b. To enhance and build a robust network of small and medium businesses, across all sectors, to secure Cornwall's economic stability.

Minerals	As well as hosting a number of multi-national companies, several small and medium sized businesses are directly, or indirectly involved in Cornwall's minerals sector. Cornwall's diverse geology means that there is potential for this sector to grow.
Waste	Reducing the volume of waste that we produce and increasing the amount of waste that we recycle, reuse and recover energy from can present opportunities for small businesses. These opportunities include minimising waste disposal costs and making use of the resource to produce energy.

2 Cornwall's Vision

Energy	A renewable energy sector can make a significant contribution to this objective.
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Self sufficient and resilient communities

c. To make better places through quality building, using housing development to meet local needs and drive the regeneration and sustainability of communities, promoting smaller settlements to be centres of employment and services and set an example in design for sustainable living.

Minerals	A steady and sufficient supply of aggregates and building stone is required in Cornwall for the construction industry to serve growth in Cornish communities.
Waste	Reducing the volume of waste that we produce and increasing the proportion of waste that we divert from landfill to recycling and energy recovery can play an important role in increasing the sustainability and viability of our communities.
Energy	Renewable energy can make a significant contribution to creating self-sufficient and resilient communities.

d. To promote equality of opportunity and well-being, improve access to quality services, increase participation in influencing local decision making and encouraging individuals to engage in shaping and delivering services in their communities.

Minerals	No significant relationship
Waste	Reduced waste generation, increased recycling and reduced levels of landfill disposal will improve our health prospects by reducing environmental and economic impacts. Greater levels of energy recovery will also increase our energy security, in particular where local communities can take advantage of low cost sustainable heat production.
Energy	Community based renewable energy schemes can encourage individuals to participate in shaping their local services.

Cornwall's Vision 2

Good health and wellbeing for everyone

e. To make it easier for people to lead healthy, active lifestyles and to get involved in their local community.

Minerals	Reclamation of mineral sites provides opportunities for community access to open space for recreational purposes.
Waste	Reduced waste generation, increased recycling and a reduction in the amount of waste we landfill can help to reduce the environmental impacts of our waste. In turn this can help to reduce risk of negative impacts upon our health.
Energy	An increase in renewable energy and reductions in carbon intensive forms of energy will provide a healthier environment for communities.

Environment

f. To make the most of our environment, reduce greenhouse gas emissions and invest in and promote sustainable use of natural resources

Minerals	Although mineral extraction has the potential to cause adverse environmental impacts, with appropriate environmental and planning controls, it is often possible to avoid or mitigate any significant adverse effects.
Waste	Reducing the amount of waste we dispose of to landfill and increasing the amount of energy we recover from our waste can help to achieve this.
Energy	Increasing renewable energy installations in Cornwall will help to achieve this.

2 Cornwall's Vision

3.1 Energy

- 3.1.1** The threat arising from a changing climate is one of the most significant issues facing Cornwall. It is likely that the greatest opportunities to reduce the risk of dangerous climate change impacts lie within the next 20 to 40 years. Over this period effective planning is needed to help reduce our production of the gases that are changing our climate.
- 3.1.2** Cornwall has a range of natural renewable and low carbon energy resources that can help to achieve this. We have among the highest and most consistent wind speeds and the greatest sunlight intensity in the UK. We have potential to grow biomass and produce hydroelectricity from our streams and rivers. We also have hot granite geology relatively close to the surface that could provide dependable geothermal heat and power. In addition to this our marine environment offers significant opportunities for renewable energy, but the Core Strategy is only responsible for land-based development.
- 3.1.3** The Core Strategy should consider how best to harness these resources to make a contribution to our energy needs and, in doing so, reduce our reliance on imported, greenhouse gas intensive, finite energy resources. An important strategic decision will be how much energy Cornwall should seek to deliver over the plan period.
- 3.1.4** The following options have been summarised for consultation. **We have indicated in *bold italics* which options the Council prefers at this early stage, bearing in mind that this may change as a result of responses to this consultation or for other reasons. Results of the Sustainability Appraisal are set out in Chapter 5. We would welcome your views on whether you agree with this.**

To help you decide your preferred options we have provided detailed background information on renewable and low carbon energy in a number of technical papers which are available at www.cornwall.gov.uk/naturalresources.

3 Options

How much?

- 3.1.5** In 2009 the UK agreed to commit to generating 15% of its energy from renewable and low carbon sources by 2020 (Directive 2009/28/EC). Government set out a strategy to achieve this that includes 30% of our electricity and 12% of our heat from renewable sources, also by 2020 (UK Renewable Energy Strategy 2009).
- 3.1.6** An assessment has been undertaken to give us an understanding of the amount of land-based renewable and low carbon energy we can generate in Cornwall. This indicates that we can generate approximately 23% of Cornwall's total annual energy needs - 2,484 gigawatt hours (GWhr) each year from a potential installed capacity of around 1015 megawatts (MW). The total renewable and low carbon electricity potential in Cornwall is approximately 60% of our current annual electricity needs - 825 MW (installed capacity); and the total renewable and low carbon heat capacity is approximately 21% of our annual heat needs - 190 MW.
- 3.1.7** The following options explore how the Core Strategy can contribute to these targets and our ambition to increase our resilience to future change through the use of renewable and low carbon energy generation.

Options for renewable energy targets:

REN1: *Set a target of 825 MW of installed renewable electricity capacity and 190 MW of installed renewable and low carbon heat capacity to be achieved over the Core Strategy plan period.*

REN2: Set a target that is 25% higher than REN1. This would equate to 1030 MW of installed renewable electricity capacity and 240 MW of installed renewable and low carbon heat capacity to be achieved over the Core Strategy plan period.

REN3: Set a target that is 25% lower than REN1. This would equate to 620 MW of installed renewable electricity capacity and 140 MW of installed renewable and low carbon heat capacity to be achieved over the Core Strategy plan period.

REN4: Please set out any other option which you think is relevant and reasonable.

Note: All proposed targets will include existing built and consented renewable energy development.

Implications

REN1: Achieve approximately 23 % of our projected energy needs from renewable and low carbon energy sources found within Cornwall – a proportion that would exceed national renewable energy targets (2020 target). This target would be achievable through current (proven) renewable and low carbon energy sources and technologies while taking into account the need to protect our landscape and amenity, as demonstrated in the background technical paper 'An Assessment of the Renewable Energy Resource Potential in Cornwall'.

REN2: This will achieve the highest level of renewable energy deployment – far in excess of the national renewable energy targets (2020 target). In setting this target we would need to accept that there may be significant changes to the Cornish landscape and possible impacts upon our amenity unless technologies, such as deep geothermal, are able to make a significant contribution to our energy mix.

REN3: This will achieve the lowest level of renewable energy deployment. However, it will still meet (and slightly exceed) national renewable energy targets (2020 target), but will not make a significant additional contribution that might be needed to make up shortfalls elsewhere in the UK.

3 Options

Where?

- 3.1.8** Most of Cornwall's renewable and low carbon energy resources can be exploited to a certain level without significant and wide ranging impacts. However, the scale of some technologies, for example wind farms, means that careful thought needs to be given to their location. Cornwall's geography and highly valued landscape means that this is particularly important for us.
- 3.1.9** When planning for wind energy we should therefore consider how to guide larger scale wind farms in such a way as to ensure that Cornwall can maximise its significant wind energy resource in an acceptable way. It is, however, worth noting that we cannot propose a policy to unreasonably restrict the development of renewable energy generation where it does not significantly harm the environment. The following options explore how the Core Strategy can do this.

Options for guiding the location of renewable energy development:

REL1: Identify broad areas where medium to large scale wind energy development can be most readily accommodated and set out a positive framework to encourage their development. Elsewhere manage renewable energy development through criteria based policies for assessing impacts of such proposals.

REL2: Set out criteria-based policies for assessing impacts of renewable energy development proposals, accepting all renewable energy development (including medium to large scale wind turbines) wherever these criteria can be met.

REL3: Please set out any other option which you think is relevant and reasonable.

Options 3

Implications

REL1: Provide increased certainty to encourage medium to large scale wind energy development in locations that are capable of accepting them without significant adverse impact. This approach could help pull together the necessary infrastructure to service wind farms more effectively. It will also allow wind turbines to be installed anywhere in Cornwall where they do not have a significant impact.

REL2: This approach would provide less certainty in encouraging medium to large scale wind development, but will maintain a flexible approach that allows commercial scale wind farms and smaller turbines anywhere in Cornwall where they would not have a significant impact.

3 Options

3.2 Minerals

- 3.2.1** Cornwall's complex and diverse geology has been exploited for mineral production for hundreds of years. Mining and quarrying have shaped Cornwall's landscape, natural environment, economy, settlement pattern and transport routes. Minerals remain an important natural resource for the Cornish economy and need to be managed carefully and used efficiently. Some of the key issues in planning for mineral extraction in Cornwall are set out on the Council's web pages www.cornwall.gov.uk/naturalresources.
- 3.2.2** The Core Strategy will set out the strategic vision, objectives and policy guidance for minerals up to 2031. More detailed issues will be covered in a separate but related minerals development plan document.
- 3.2.3** The following paragraphs set out some background information, and possible options for planning for important minerals in Cornwall, and for safeguarding or protecting important mineral resources and related transport and other infrastructure. Information about past and potential future production, which is market led, and about the location of past and potential future extraction is included in associated technical papers, and to a certain extent in the following paragraphs for each mineral. These technical papers can be found at www.cornwall.gov.uk/naturalresources. In this way an attempt has been made to answer the questions "How Much?" and "Where?" However, it must be noted that these questions do not sit easily for mineral development in Cornwall, because we already have a large number of existing mineral planning permissions with extensive permitted reserves (meaning that it may not be necessary to specify a requirement for new permissions).
- 3.2.4** Your views on the most suitable options are requested. In some cases it may be appropriate to select more than one option. **We have indicated in *bold italics* which options the Council prefers at this early stage, bearing in mind that this may change as a result of responses to this consultation or for other reasons. Results of the Sustainability Appraisal are set out in Chapter 5.**

To help you decide your preferred options we have provided detailed background information relating to specific minerals or minerals infrastructure in a number of technical papers which are available at www.cornwall.gov.uk/naturalresources.

China Clay

- 3.2.5** China clay (which is known as Kaolin outside south west England) is a mineral of limited distribution which is of international commercial importance. There are limited deposits in Europe, those found in Cornwall (and to a lesser extent Devon) being the most important. The industry currently employs about 1,000 people directly and contributes significantly to the economy of mid Cornwall.
- 3.2.6** Commercial exploitation of china clay in Cornwall is currently confined to the western and central part of the Hensbarrow (St Austell) granite, and is undertaken by two companies. (In the past, china clay extraction has also taken place on Bodmin Moor, on the Lands End peninsula and on Tregonning Downs. These sites were closed for commercial reasons. They also fall within sensitive landscapes). 88% of the clay produced in the UK is exported. Production peaked in 1988 when UK output was 3.26 million tonnes. There has been a declining trend since: in 2008 production was 1.36 million tonnes. However the UK still remains a major producer after Brazil, the USA and China. Global demand for china clay is predicted to increase by about 2% per annum. It is estimated that there are sufficient permitted china clay reserves in Cornwall to sustain current production levels for more than 50 years. Therefore it does not appear to be necessary to make provision for further planning permissions for china clay extraction during the plan period (up to 2031).

Options for china clay:

CC1: Set out a criteria based policy which allows further permissions for china clay extraction where those criteria can be met and where existing permitted reserves are insufficient to meet demand.

CC2: *Set out a criteria based policy which allows further permissions for china clay extraction where those criteria can be met, existing permitted reserves are insufficient to meet demand and the application site falls within the St Austell (Hensbarrow) China Clay Area.*

CC3: Please set out any other option which you think is relevant and reasonable.

3 Options

Implications

CC1: Such a policy could provide a balanced approach, having regard to all relevant environmental, social and economic factors, including the national significance of the china clay resources. It would open up potential for new workings in sensitive areas, such as the Area of Outstanding Natural Beauty and the World Heritage Site, outside the current area of working.

CC2: Such a policy could provide a balanced approach, having regard to all relevant environmental, social and economic factors, including the national significance of the china clay resources, whilst continuing to focus operations within the current area of working.

Aggregates

- 3.2.7** A wide range of aggregates are used by industry in the construction of domestic, commercial and other buildings and transport infrastructure such as roads, railways, ports and airports. A distinction is made between primary aggregates derived from quarries excavated for the express purpose of producing aggregates, secondary aggregates which are a by product of extracting other minerals, and recycled aggregates which come from construction and demolition waste. National mineral planning guidance recommends that each mineral planning authority should calculate their land banks for primary aggregates (i.e. the size of their permitted reserves), and should also estimate how long those reserves are likely to last (based upon a prediction of the average annual production). ⁽¹⁾Government advises that the minimum land banks should be ten years for crushed rock aggregates and seven years for sand and gravel. Where land banks are considered to be insufficient to provide an adequate supply for the whole of the plan period, the mineral planning authority should seek to make provision for new permissions by making appropriate allocations in the development plan.
- 3.2.8** High Specification Aggregates (HSA) are specialist aggregates used for skid resistant road surfaces. Source rock for these aggregates is limited, resulting in much material being imported from outside Cornwall for these purposes. A study undertaken by Capita Symonds ⁽²⁾ recommended that mineral planning authorities should identify separate land banks for HSA and mainstream primary aggregates, and that sites for new HSA reserves should be allocated in development plans as a high priority. Only two quarries in Cornwall were identified in the Capita Symonds report as having the highest category HSA reserves i.e. operational sites with Polished Stone Value above 58. These are Blackhill and Lean Quarries, which have subsequently closed. Other sites in Cornwall of lower quality or potential were identified and are set out for information in the Aggregates Technical Paper.

3 Options

Primary Aggregates

Crushed rock

3.2.9 In Cornwall we have extensive areas of granite, basic igneous rocks and sandstone, suitable for crushed rock primary aggregates. Reserves of these hard rock aggregates in Cornwall, with planning permissions capable of being implemented, are estimated to exceed 93 million tonnes, which at 2009 production levels (1.193 million tonnes) would provide a supply for 78 years, or at the sub-regional apportionment levels (1.786 million tonnes) for 52 years. It is therefore concluded that there is not any need to allocate land for further planning permissions for non - specialist primary crushed rock aggregates in Cornwall. In contrast, Cornwall's land bank of highest category High Specification Aggregates is zero years and consideration should be given to allocating sites containing appropriate reserves to meet the need for HSAs.

Sand and Gravel

3.2.10 There are no major natural non-marine deposits of sand and gravel in Cornwall. A land bank for primary sand and gravel is maintained jointly for Cornwall and Devon. However, given the dearth of natural deposits in Cornwall and the commercially competitive and plentiful secondary sand and gravel reserves arising from china clay extraction, it has not been considered necessary to allocate land for further planning permissions for primary sand and gravel extraction in Cornwall.

Options 3

Options for primary aggregates (more than one may be selected):

PA1: Set out a policy indicating no further permissions will be granted for primary aggregate extraction as existing permitted reserves are sufficient to meet demand.

PA2: *Set out a criteria based policy which allows further planning permissions for aggregate extraction that meets these criteria where needs cannot be met from existing reserves.*

PA3: Set out a criteria based policy to allow further permissions to be granted in response to market demand where the criteria can be met.

PA4: *Allocate appropriate sites for High Specification Aggregates.*

PA5: Please set out any other option which you think is relevant and reasonable.

Implications

PA1: Such a policy would be inflexible, and unresponsive to any need which emerges for a specialist aggregate which falls outside the current permitted reserves.

PA2: Such a policy could provide a flexible and balanced approach, having regard to all relevant environmental, social and economic factors, including a consideration of the potential to meet needs from existing reserves.

PA3: Such a policy could lead to a further expansion of Cornwall's already excessive land bank of aggregate planning permissions; and an associated higher potential for impacting upon Cornwall's environment.

PA4: This proactive approach would address the current lack of High Specification Aggregates in Cornwall and require engagement with operators and landowners.

3 Options

Secondary Aggregates

- 3.2.11** There is potential for greater exploitation of the estimated 120 million tonnes of usable secondary aggregate resources embedded in china clay waste tips in the St Austell China Clay Area, and produced from the ongoing live feed of appropriate china clay waste, subject to expansion of the capacity of sea and rail based bulk transport facilities. A technical study ⁽³⁾ forecast potential to expand sales of china clay secondary aggregates: 0.6 million tonnes per annum to London and the south east, and 4.1 million tonnes per annum to the south west region by 2060 (compared with sales of 0.1 and 2.3 million tonnes respectively in 2005).
- 3.2.12** This compares with the total annual sales of secondary aggregates from Cornwall of 1.25 million tonnes in 2009. (These were sold mainly to local markets and made up 51.2% of aggregates sold in Cornwall). Use of these resources is encouraged by the Aggregates Levy (a tax on primary aggregates) and is consistent with the national government objective “to ensure the prudent, efficient and sustainable use of minerals and recycling of suitable materials, thereby minimising the requirement for new primary extraction”, and reducing the need for tipping space for china clay waste in mid Cornwall whilst encouraging the use of secondary aggregates.
- 3.2.13** The existing planning permissions for china clay extraction in the St Austell China Clay Area also make provision for the “winning and working of sand and allied minerals”, so where this is the case, secondary aggregates within the permitted china clay tips are classed as permitted reserves. (Under the Review of Mineral Planning Permissions it is still necessary for operators to indicate areas for future secondary aggregate extraction from old tips within their submissions for schemes of working⁽⁴⁾). Clearly there are sufficient permitted reserves of secondary aggregates within existing china clay waste tips, supplemented by the live feed of china clay waste, to meet Cornwall’s demand for secondary aggregates, together with a substantial export potential, well beyond the plan period. Some tips containing secondary aggregate reserves are more suited to extraction than others, considering the potential impacts upon residential amenity, the natural and historic environment and the transport infrastructure.

3 The Fowey/Par Bulk Transport Study 2009 MDS Transmodal www.cornwall.gov.uk/naturalresources

4 [Minerals Planning Guidance Note 14](#)

Options 3

Options for secondary aggregates (more than one may be selected):

SA1: Set out a policy indicating no further permissions will be granted for secondary aggregate extraction as existing permitted reserves are sufficient to meet demand.

SA2: *Set out a criteria based policy to allow further permissions to be granted for secondary aggregate extraction in response to market demand where the criteria can be met.*

SA3: *Allocate appropriate sites for secondary aggregate extraction from china clay waste tips.*

SA4: *Actively encourage the further exploitation of Cornwall's secondary aggregate resources.*

SA5: Do not encourage the further exploitation of Cornwall's secondary aggregate resources.

SA6: Please set out any other option which you think is reasonable and achievable.

Implications

SA1: This would be inflexible, and rule out any sites which might offer better solutions than those falling within current permitted reserves.

SA2: *This could provide a flexible and balanced approach, having regard to all relevant environmental, social and economic factors, without providing a positive steer towards preferred locations.*

SA3: *This is a proactive approach offering more certainty to applicants. It would require continued engagement with the operators.*

SA4: *The environmental and economic benefits are potentially great, including the re-use of china clay waste material (thus reducing the demand for primary aggregate materials and associated impacts upon green field sites) and the creation of jobs. Endorsement through the Core Strategy would support relevant projects e.g. in seeking funding.*

SA5: Without endorsement through Core Strategy policy, projects to expand the use of secondary aggregates are less likely to succeed.

3 Options

Recycled aggregates

3.2.14 National government policy also encourages the re-use of aggregates. They can be recycled through the crushing and screening of construction and demolition waste. In many circumstances demolition waste can be recycled for use in the redevelopment taking place on the original site. However, where sites are constrained or the material is unsuitable it may be necessary to transport the material off site for recycling. In some cases the need to such facilities may relate to a particular development and only require temporary planning permissions

Options for recycled aggregates:

In which of the following locations do you consider planning permissions for recycling facilities should be allowed? (more than one may be selected)

RA1: At general industrial estates.

RA2: *At waste management facilities.*

RA3: *At active quarries.*

RA4: At any of the above, but only in locations close to Cornwall's key towns.

RA5: Set out a criteria based policy to allow further permissions to be granted for recycled aggregates in response to market demand where the criteria can be met.

RA6: Please set out any other option which you think is reasonable and achievable.

Implications

RA1: Potentially this could impact upon amenity at industrial estates: access may be unsuitable for the volume and nature of vehicles carrying bulk materials.

RA2: Co-location of construction and demolition waste recycling facilities at waste management facilities, such as at inert waste disposal sites, can reduce transport requirements and the amount of waste going to landfill. The two land uses have similar location and mitigation requirements.

RA3: Co-location of construction and demolition waste processing at active quarries may allow the sharing of production facilities. The two land uses have similar mitigation requirements.

RA4: The market for aggregates in Cornwall is dispersed, reflecting the settlement pattern, so there are few advantages to this approach.

RA5: This could provide a flexible approach, having regard to all relevant environmental, social and economic factors, but would not provide a positive steer to industry.

3 Options

Bulk minerals transport infrastructure

- 3.2.15** Currently china clay, and (to a lesser extent) secondary aggregates, are exported from railheads in the St Austell China Clay Area and the Port of Fowey. These minerals were also exported from the Port of Par until the end of 2007, when it was closed and proposals put forward for an Eco-community.
- 3.2.16** Aggregates are exported directly by sea from the West of England Quarry, which has its own jetty, at Porthoustock. Until its recent closure, Dean Quarry, further south on the Lizard also exported aggregates from a dedicated jetty.
- 3.2.17** National guidance encourages the bulk transport of minerals by sustainable means. Cornwall is remote from key external markets, and bulky minerals should, where possible, be exported by sea and rail. Consideration should be given to the need to accommodate additional port and railhead facilities and associated storage and handling which should have regard to potential impacts upon residential amenity, the natural and historic environment and the relative location of the mineral extraction area.

Options for bulk minerals transport infrastructure:

T1: Set out a criteria based policy to allow further permissions to be granted for bulk transport infrastructure in response to market demand where criteria can be met.

T2: *Allocate appropriate sites for bulk mineral transport infrastructure.*

T3: Please set out any other option which you think is reasonable and achievable.

Implications

T1: This could provide a flexible and balanced approach, having regard to all relevant environmental, social and economic factors. However, it would not provide any positive steer for the industry.

T2: *This is a more proactive approach which would require liaison with operators, landowners and other stakeholders.*

Building and roofing stone

- 3.2.18** Cornwall has a great variety of building and roofing stones reflecting its diverse hard rock geology. Roofing slate and slate materials from quarries in the Late Devonian strata in North Cornwall, and dimension stone from granite quarries on Bodmin Moor are used locally but are also sold outside Cornwall in significant quantities. There are many smaller quarries also which mainly supply local markets for heritage and new build projects. These all contribute to local distinctiveness in the built environment.
- 3.2.19** In 2008 36,000 tonnes of building stone was produced in Cornwall. We shall be seeking more information from Cornish building and roofing stone producers to enhance our current knowledge, especially relating to the level of existing reserves.
- 3.2.20** Some important building and roofing stone resources lie within areas of recognised national landscape value (Areas of Outstanding Natural Beauty), or within disused quarries which are of historic or ecological interest in their own right. National policy advises against major mineral development in Areas of Outstanding Natural Beauty. However, stone from these areas can often make a positive contribution to the landscape and built environment by adding local distinctiveness to buildings and structures. Therefore, sensitively developed small scale or short term quarrying operations may be acceptable, particularly where they meet a need to maintain the fabric of listed buildings, or conservation areas.

Options for building and roofing stone:

BS1: Set out a criteria based policy to allow further permissions to be granted for building and roofing stone extraction in response to market demand where criteria can be met. The criteria shall exclude further permissions within the Area of Outstanding Beauty and the World Heritage Site.

BS2: *Set out a criteria based policy to allow further permissions to be granted for building and roofing stone extraction in response to market demand where the criteria can be met. Make provision in the criteria to allow small scale and limited duration operations in the Area of Outstanding Natural Beauty and the World Heritage Site.*

BS3: Please set out any other option which you think is relevant and reasonable.

3 Options

Implications

BS1: Although this policy could protect wider landscape interests in the Area of Outstanding Natural Beauty and World Heritage Site, it is inflexible: it would prevent the future extraction of new specialist local building stone operations, and their associated contribution the character of local buildings in these areas.

BS2: This could provide a flexible and balanced approach, having regard to all relevant environmental, social and economic factors and particularly providing the flexibility to allow small scale and limited duration operations in the Area of Outstanding Natural Beauty and the World Heritage Site (where larger operations would not be appropriate).

Metals

- 3.2.21** Most of Cornwall's metal deposits are found in veins or lodes which are linked closely to the surface/underground granite bodies. Veins within and close to the granites mostly carry tin, and in places tungsten. Copper with some tin is found in the rocks immediately around the granite, while further out tin diminishes and zinc may be present. More distant north - south veins frequently carry lead, silver and zinc, together with fluorite and barite. Some areas such as Gunnislake are famous for their polymetallic character. Old mine dumps and alluvial deposits contain potential secondary ores. The quantities and quality of remaining metal resources in different parts of Cornwall varies greatly.
- 3.2.22** Past metal mining in Cornwall has focused on copper and tin extraction. Mines closed when ore of a suitable quality was thought to have been exhausted, or where extraction became uneconomic. Cornwall's rich mining heritage is celebrated through the designation of the Cornwall and West Devon Mining Landscape World Heritage Site (which covers 5% of the land area of Cornwall) and this area contains most of Cornwall's remaining metal resources. Many metal resource areas also fall within the Area of Outstanding Natural Beauty.
- 3.2.23** South Crofty Mine and Blue Hills Tin Streams are the only currently active metal sites in Cornwall. South Crofty Mine closed in 1998, but subsequently re-opened for mine development operations in preparation for re-opening. (Planning permissions were approved in principle for South Crofty, subject to legal agreements, in 2011 for an underground mine extension and for a new processing plant and ancillary development in a new location at Tuckingmill). Blue Hills Tin Streams uses secondary tin resources from mine dumps and beach sand to produce small amounts of tin using traditional methods.
- 3.2.24** In recent years there has been a renewed interest in exploration for metals in Cornwall, stimulated by improved demand and increasing prices in international markets. It is difficult to predict with any accuracy, the areas with potential for future working.
- 3.2.25** National planning policy advises that major minerals development should not be permitted in the Area of Outstanding Natural Beauty or the World Heritage Sites except in exceptional circumstances. However, Cornwall's World Heritage Site is exceptional in that its rationale relates to past exploitation of metals. Potential for future extraction of metals is likely to be high in these areas. The Cornwall and West Devon Mining Landscape World Heritage Site Management Plan includes Policy 4b "All relevant strategic planning documents should make provision for the protection, conservation and enhancement of the Site and its setting" and Policy 4c "Planning authorities should ensure that new development protects, conserves and enhances the Site and its setting". However Policy 7d indicates "Proposals for the resumption of mining will be supported where they do not adversely affect the outstanding universal value of the Site".

3 Options

Options for Metals:

M1: Set out a criteria based policy to allow permissions to be granted for metal extraction in response to market demand where criteria can be met. Those criteria shall exclude operations in the Area of Outstanding Natural Beauty and the World Heritage Site.

M2: *Set out a criteria based policy to allow permissions to be granted for metal extraction in response to market demand where criteria can be met. Those criteria should include: special consideration of small scale and limited duration operations in the Area of Outstanding Natural Beauty; and favourable consideration of operations of any scale in the World Heritage Site and its setting where the outstanding universal value is not adversely affected.*

M3: Please set out any other option which you think is relevant and reasonable.

Implications

M1: Although this policy could protect wider landscape interests in the Area of Outstanding Natural Beauty and World Heritage Site, it is inflexible: it would prevent the future extraction of metals, and their potential contribution to the UK's security of supply of important metals, and to the local and national economy.

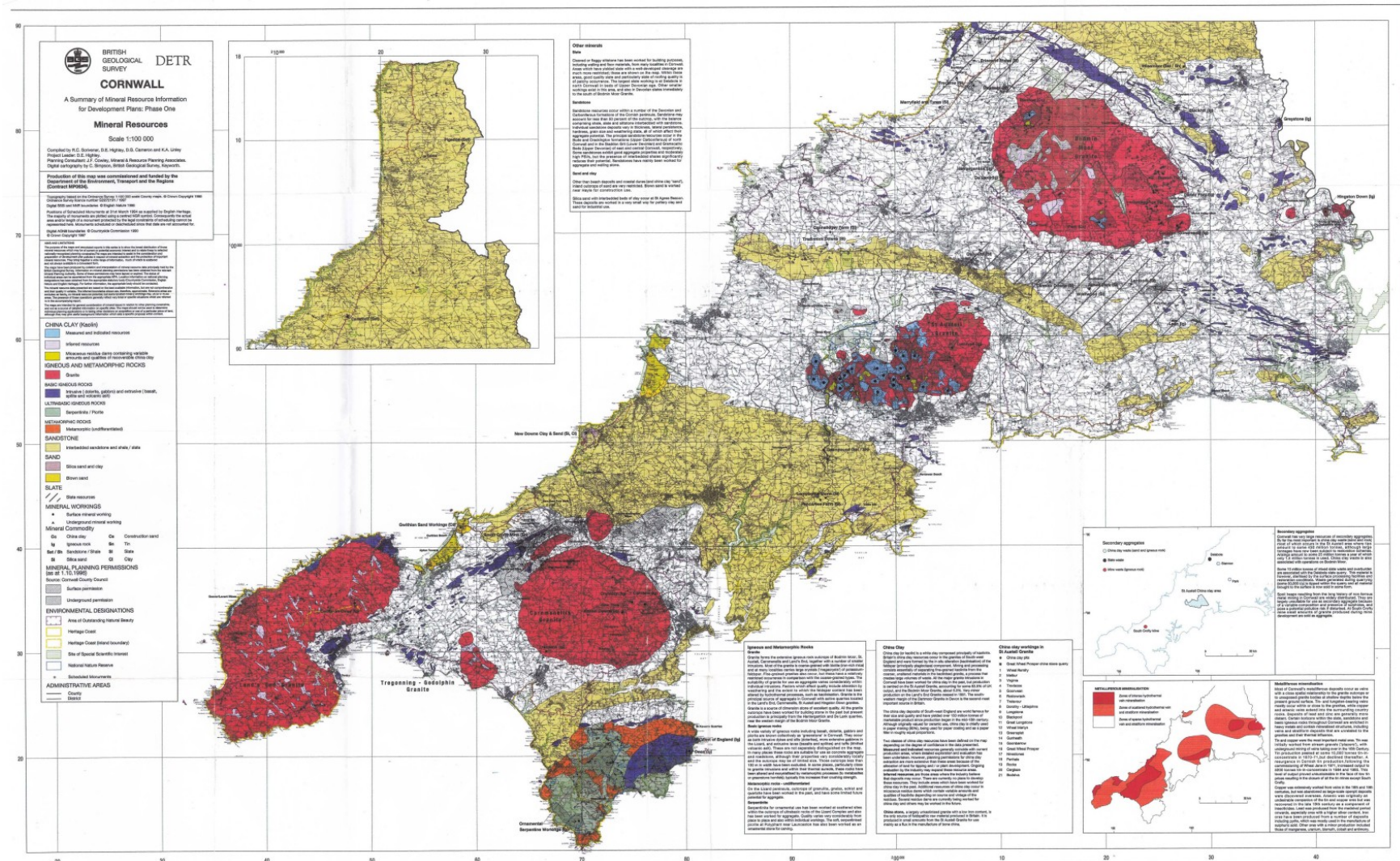
M2: This could provide a flexible and balanced approach, having regard to all relevant environmental, social and economic factors; especially having regard to the limited distribution of metal deposits, which justifies the possibility of appropriate metal mining operations in the Area of Outstanding Natural Beauty and the Cornwall and West Devon Mining Landscape World Heritage Site.

Safeguarding mineral resources and infrastructure

- 3.2.26** Unlike most other development, the choice of locations for mineral resource development is limited. Mineral resources are finite and can only be worked where they occur naturally. It is therefore important that these resources are safeguarded as far as possible from sterilisation by other forms of development, so that they can be exploited by future generations.
- 3.2.27** Currently, important mineral resources and associated mineral infrastructure sites (for handling, storing and transporting minerals) are safeguarded through the policies of the Cornwall Minerals Local Plan 1997. The areas identified for safeguarding are identified as minerals consultation areas. The mineral consultation areas have been updated and can be found on Cornwall Council's consultation portal. http://consult.cornwall.gov.uk/portal/planning/mineral_consultation_areas/
- 3.2.28** The Council is required by government to identify Mineral Safeguarding Areas (MSAs) and include policies for safeguarding mineral resources in these areas within local development documents.⁽⁵⁾ These policies may include measures to avoid the sterilisation of mineral resources by incompatible development just outside MSAs. There is no presumption that planning permissions for mineral extraction and related activities will be granted in these areas: each application will be considered on its merits.
- 3.2.29** The British Geological Survey (BGS) offers guidance on the implementation of national policy concerning minerals safeguarding in a 2011 report entitled "Mineral safeguarding in England: good practice advice" (www.bgs.ac.uk/mineralsuk/planning/home.html). This guidance:
- Provides a methodology for the identification of mineral resources (using the BGS resources map, included below, as a starting point), the definition of Mineral Safeguarding Areas (MSAs) and useful sources of information;
 - Explains how matters related to MSA's should be linked into plan policies; and
 - Addresses how policies should be included to ensure that mineral resources are taken into account planning decisions.

3 Options

Cornwall Mineral Resources Map BGS 1997



3 Options

3.2.32 The BGS used the "Areas Believed to Contain China Clay Reserves" on the above map (the purple areas) to identify the Measured and Indicated china clay resources for the St Austell China Clay Area on their Mineral Resources Map for Cornwall 1997.⁽⁷⁾ They also identified Measured and Indicated china clay resources at Stannon Pit and Parson's Park Pit (which are now closed, but which were then operational) on Bodmin Moor, as well as areas of Inferred china clay resources on the Lands End peninsula, on the Tregonning Hills, at Belowda (south east of St Columb Major), and on Bodmin Moor.⁽⁸⁾ The china clay industry has provided further recommendations to update the "Areas Believed to Contain China Clay Reserves" in recent years. Imerys has sought the exclusion of some former reserve areas: many of these correlate with Eco-community proposals.⁽⁹⁾ Cornwall Council is commissioning a series of expert reports as independent evidence (based on commercially confidential geological information) to review the industry's suggested amendments to the reserves map.

Options for safeguarding china clay resources:

SCC1: Safeguard all china clay resources shown on the BGS resource map (including Measured, Indicated and Inferred resources).

SCC2: Safeguard only the Measured and Indicated resources shown on the BGS resource map.

SCC3: *Safeguard the areas identified in the Cornwall Minerals Local Plan 1997 as "Areas believed to contain china clay reserves", adapted to reflect updating evidence.*

SCC4: Please set out any other option which you think is relevant and reasonable.

7 "Mineral Resource Information for Development Plans Cornwall: Resources and Constraints" BGS 1997. This document is only available in hard copy from the BGS.

8 A mineral resource is a concentration of material of economic interest with reasonable prospects for eventual economic extraction, subdivided in order of increasing geological confidence into Inferred, Indicated and Measured categories. A mineral reserve is the economically mineable part of a Measured and/or Indicated mineral resource.

9 Imerys Minerals Ltd is a partner in Eco-bos, a company developing an Eco-community in five locations on former china clay operational land www.eco-bos.com

Implications

SCC1: This would safeguard sites over a wide geographic area, including those outside the currently worked area. The information supplied by the industry to the BGS to justify these areas was quite limited, based on assessments of varying confidence levels. Higher confidence levels are associated with areas of current or recent working. This option may be unreasonable in seeking to preclude development without having access to information of a higher confidence level.

SCC2: This would reduce the area for safeguarding, but still include unworked areas and areas not worked recently where the confidence levels information underlying the BGS classification may be limited.

SCC3: The industry is supplying updating evidence on china clay resources in the St Austell China Clay Area. This should provide greater confidence that the areas to be safeguarded (and those areas proposed to be excluded) are justified.

3 Options

Primary Aggregates

- 3.2.33** There are several sources of information which could be used to identify which aggregate resources should be safeguarded.
- 3.2.34** Crushed rock aggregate quarries in Cornwall are from diverse and widely distributed geological deposits. The BGS geological map can be used to identify broad areas which may be suitable for aggregate extraction. However, for common types of rock such as granite, it seems unreasonable to safeguard the whole of the identified resource areas.
- 3.2.35** Since the mid twentieth century, when Cornwall produced large quantities of aggregates (including aggregates from coastal quarries which predominantly served the export market), many aggregate quarries have been closed or mothballed. There are many quarries with extant planning permissions for quarrying. However, many are legally defined as dormant and not permitted to work until modern planning conditions have been agreed with the mineral planning authority; and many legally active quarries are not operational. ⁽¹⁰⁾The operational or legal status of each quarry could be used to decide if a permitted quarry area should be safeguarded.
- 3.2.36** Cornwall Council collects statistics on sales and reserves of aggregates from different quarries on a confidential basis. This information could be used to decide which permitted quarry area should be safeguarded. However, this may have practical difficulties because of commercial confidentiality agreements concerning data supplied to the mineral planning authority by individual quarries.

Options 3

Options for safeguarding primary aggregate resources :

SPA 1: Safeguard all potential primary aggregate resources shown on the BGS map.

SPA2: Safeguard all sites with active and dormant planning permissions⁽¹¹⁾.

SPA3: Safeguard all sites with active planning permissions.

Option SPA4: Safeguard only those sites with active planning permissions which are currently working.

SPA5: Safeguard all sites with proven permitted reserves of greater than a specified tonnage.

SPA6: Safeguard all sites with an annual production over a specified tonnage (average over the last 3 years).

SPA7: Safeguard all High Specification Aggregates in the BGS resource map.

SPA8: Safeguard High Specification Aggregates identified in association with stakeholders such as industry trade associations and operators.

SPA9: Please set out any other option which you think is relevant and reasonable.

11 Definitions of active and dormant sites are provided in [Mineral Planning Guidance Note 14](#)

3 Options

Implications

SPA1: A high percentage of Cornwall's surface area is underlain by potential aggregate resources. Safeguarding all such areas would severely restrict development.

SPA2: Safeguarding all such areas may be inappropriate in that many dormant and inactive sites do not contain resources likely to become of economic importance in the foreseeable future.

SPA3: Safeguarding all such areas may be inappropriate in that the resources in many of these sites are unlikely to become of economic importance in the foreseeable future.

SPA4: Areas with planning permission for aggregate extraction which are currently operational contain minerals of economic importance and should be safeguarded from potentially sterilising activity.

SPA5: Information on reserves at a specific quarry may not exist, or may be commercially confidential, so this option may not be practicable.

SPA6: Information on sales is generally commercially confidential, so this option may not be practicable.

SPA7: This option could result in the prevention of other uses in significant areas where non minerals development would be limited.

SPA8. This option is more focused than SPA7 and would safeguard only those High Specification Aggregates with a realistic prospect for implementation.

Secondary Aggregates

- 3.2.37** There are a number of options to identify secondary aggregate resources for safeguarding. The china clay industry has supplied Cornwall Council with information about china clay tips containing material suitable for aggregate use. Further work could be undertaken to identify a more limited number of suitable china clay waste tips.

Options for safeguarding secondary aggregate resources:

SSA1: Safeguard all existing china clay waste tips which are believed to contain suitable materials for aggregates.

SSA2: *Safeguard a limited number of china clay waste tips containing suitable materials for aggregates where there is reasonable connectivity to the transport infrastructure and where excavation/processing/transportation would not have adverse impacts upon the local community and environment.*

SSA3: Please set out any other option which you think is relevant and reasonable.

Implications

SSA1: This option could result in the prevention of other uses in significant areas where non minerals development would be limited.

SSA2: *This option is more focused than SSA1 and would safeguard secondary aggregates only in areas with a realistic prospect of implementation.*

3 Options

Building and Roofing Stone

- 3.2.38** There are a number of sources of information which could be used to identify which building stone and slate resources should be safeguarded.
- 3.2.39** Existing and disused building stone and slate quarries can contain high quality and scarce resources which had provided stone in the past, and which have potential to provide stone in the future, for the repair, restoration, or extension of historic and traditional buildings. Some ancient quarries are identified as historic sites in their own right.

Options for safeguarding building stone resources:

SBS1: *Safeguard high quality and scarce building stone resources (where known) including those with qualities which match stone needed for repair and restoration work.*

SBS2: Safeguard building stone and slate resources at important historic building stone quarries.

SBS3: Please set out any other option which you think is relevant and reasonable.

Implications

SBS1: *This option would safeguard those resources to be identified through a study looking at historic sources of building stone.*

SBS2: This option would safeguard quarries having intrinsic historic interest, and fail to protect relevant stone resources in modern and operational quarries.

Options 3

Metals

- 3.2.40** There are number of sources of information which could be used to identify which metal resource areas should be safeguarded.
- 3.2.41** The BGS resource map identifies zones of hydrothermal vein mineralisation.
- 3.2.42** Metals are most likely to be worked by underground methods which are unlikely to preclude surface development (other than where it is proposed around processing plant areas, and areas around shafts and adits required for access to workings, or mine ventilation). The Council is undertaking an assessment of mine shafts and adits associated with existing and potential metalliferous mineral consultation areas, to identify areas at the surface considered important for future mine access and infrastructure.

Options for safeguarding metal resources:

SM1: Safeguard the zones of hydrothermal vein mineralisation shown on the BGS resources map.

SM2: *Safeguard areas at the surface to accommodate mine infrastructure or mine access and ventilation facilities at past and potential future mining sites.*

SM3: Please set out any other option which you think is relevant and reasonable.

Implications

SM1: Zones of hydrothermal vein mineralisation affect a high percentage of Cornwall's surface area. Safeguarding all these areas could severely restrict development.

SM2: *This option is more focused than option SM1 - safeguarding suitably sized and located areas at the surface with potential to accommodate access and infrastructure for mines adjacent to key shafts and adits.*

3 Options

Storage, handling and processing infrastructure sites associated with the bulk transport of minerals

3.2.43 Current government guidance requires that existing, planned and potential infrastructure for the bulk transport of aggregate by rail, sea or inland waterway should be safeguarded as well as sites used for concrete batching, coating, handling, distribution and processing of recycled and secondary aggregate. Cornwall has existing mineral railways, pipeline corridors and wharf facilities (Fowey, Porthoustock and Dean) serving the china clay and aggregate industries.

Options for safeguarding storage, handling and processing infrastructure sites associated with the bulk transport of minerals:

Which of the following options should be considered for safeguarding (more than one may be selected)?

ST1: Wharf facilities currently or recently used for the bulk export of china clay and aggregates.

ST2: All rail heads and sidings and mineral railways serving the china clay and secondary aggregate production areas.

ST3: Pipeline corridors connecting the china clay/secondary aggregate areas to processing and port/rail facilities.

ST4: Important internal haul routes within the china clay area.

ST5: Please set out any other option which you think is relevant and reasonable.

Implications

ST1: This approach accords with current, and draft future, minerals planning guidance, which supports the sustainable transport of bulk minerals.

ST2: This approach accords with current, and draft future, minerals planning guidance, which supports the sustainable transport of bulk minerals.

ST3: Generally, pipelines represent a cost effective and environmentally beneficial method of bulk transport, which diverts the movement of materials away from the public highways. It is therefore important that pipeline corridors are protected from development which might interfere with their use.

ST4: Internal haul routes also divert the bulk transport of materials and heavy plant away from the public highway. It is therefore important that development which might be affected by the movement of heavy plant and materials should not be located in the vicinity of these routes.

3 Options

All minerals

- 3.2.44** Government guidance requires Councils to safeguard important mineral resources from conflicting non minerals development, but suggests that they should also consider extending their safeguarding policy to adjacent areas where non mineral development might limit the extraction of minerals resources and related operations.

Options for safeguarding all minerals:

S1: Safeguarding policy should only relate to development proposed within Mineral Safeguarding Areas or infrastructure safeguarding areas.

S2: *Safeguarding policy should relate to development proposed within and in the vicinity of Mineral Safeguarding Areas or infrastructure safeguarding areas.*

S3: Please set out any other option which you think is relevant and reasonable.

Implications

S1: This option would only provide a partial solution to the problem of sterilisation of mineral resource and infrastructure areas by other forms of development. It would not prevent the encroachment of incompatible adjacent development, rendering part or the whole of the safeguarded area inoperable.

S2: *This option would include a buffer where other development would not be allowed to encroach on the mineral resource and infrastructure area; thus safeguarding the full unconstrained potential for mineral extraction and related activities.*

3.3 Waste

- 3.3.1** Cornwall Council is responsible for making sure that sufficient land is available in the right place to enable Cornwall to manage its waste in the most sustainable way.
- 3.3.2** We have to do this in accordance with the waste hierarchy set out below.

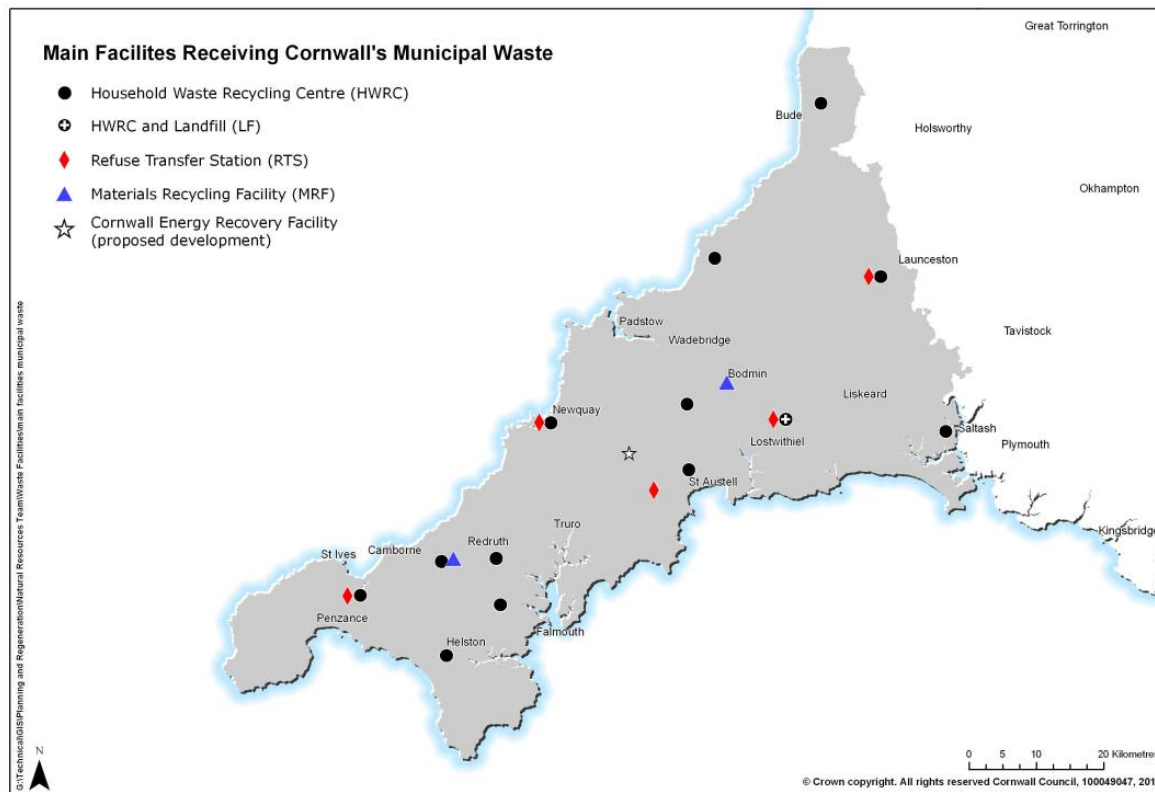


- 3.3.3** The Core Strategy should consider how much land should be made available for recycling (or direct re-use) and energy recovery facilities (which use waste to generate energy). We also have to identify where there will be a need for landfill and we need to identify land for these facilities if they are required. This has to be considered for each of the following 'waste streams':
- Local authority collected municipal waste (municipal waste)
 - Commercial and industrial waste (C&I waste)

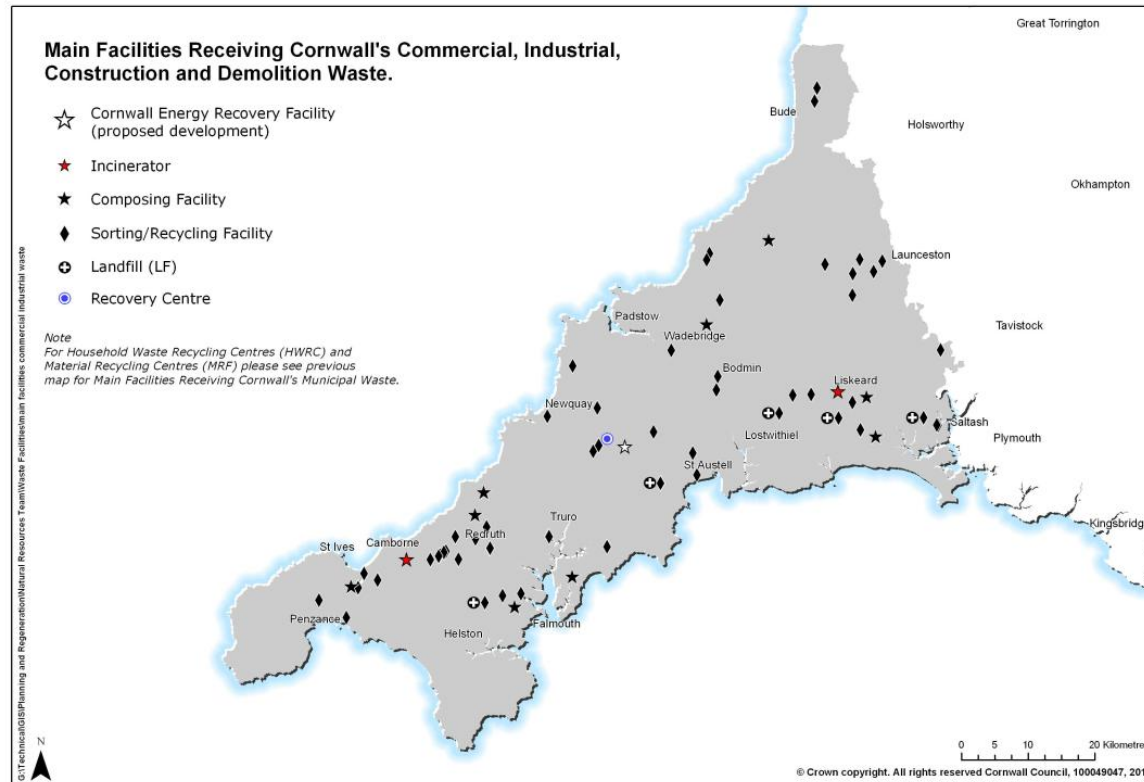
3 Options

- Construction, demolition and excavation waste (CD&E waste)
- Hazardous waste

3.3.4 The maps on the following show where the main municipal and commercial waste management facilities are currently located in Cornwall:



Options 3



3.3.5 The following options have been summarised for consultation. **We have indicated in *bold italics* which options the Council prefers at this early stage, bearing in mind that this may change as a result of responses to this consultation or for other reasons. Results of the Sustainability Appraisal are set out in Chapter 5.** We would welcome your views on whether you agree with this.

To help you decide your preferred options we have provided detailed background information relating to waste in a number of technical papers which are available at www.cornwall.gov.uk/naturalresources.

3 Options

Municipal Waste

- 3.3.6** The options presented within this document have been developed under the presumption that the Cornwall Energy Recovery Centre (CERC) will be built with capacity to recover energy from 240,000 tonnes of mixed waste each year from around 2015 onwards.
- 3.3.7** Planning permission was granted for the CERC facility in May 2011 by the Secretary for State, but has since been quashed (October 2011) following a legal challenge at the High Court. In issuing the decision the judge granted the Secretary of State leave to appeal to the Court of Appeal. At the time of writing the Secretary of State is to appeal the decision of the High Court.
- 3.3.8** Whilst the position currently remains unresolved, there are two possible eventualities: i) permission is granted (either by virtue of a successful appeal process against the High Court challenge, or by virtue of a redetermination by the Secretary of State which is not successfully challenged); ii) permission is not granted.
- 3.3.9** If permission is granted, the Core Strategy will *not* need to make provision for 240,000 tonnes of mixed waste recovery. The options included in the paper reflect that position.
- 3.3.10** If ultimately CERC does not get planning permission, a new set of planning policy options for waste management in Cornwall will be developed. This will include a full public consultation and will inform future planning policy for Cornwall.
- 3.3.11** **Energy Recovery** - The proposed Cornwall Energy Recovery Centre (CERC) is expected to open in 2015 with sufficient capacity to recover all the projected municipal waste that is left over after recycling up to 2031. However, the municipal waste stream contains significant amounts of putrescible wastes (such as food) which could be diverted to recover energy through anaerobic digestion.

Should the Core Strategy make provision to allow this to happen?

- 3.3.12** **Recycling** - The evidence suggests that there is a nominal shortfall in recycling provision (approximately 16,000 tonnes). It is unlikely that this shortfall will require additional strategic recycling facilities. We are therefore not proposing to make additional *strategic* provision. However, this approach does not preclude the development of local household recycling centres where local demand is identified. Such facilities could be provided for local demand where it arises and for the additional capacity required to meet the shortfall, but they would not be sufficiently strategic to be identified in the Core Strategy.

Options 3

3.3.13 Landfill Disposal - The evidence indicates that we will need a small amount of additional capacity to meet the projected municipal waste landfill requirement up to 2031. With a small extension there will be sufficient landfill capacity at the Connon Bridge Landfill Site to meet our needs. However, the current planning permission expires in 2014 and a new permission will be required if the site is to continue to be used for landfill and extended after that time. We have therefore proposed two options for the Core Strategy in order to meet this need. These options are set out below.

Options for municipal waste landfill disposal:

MWLF A: *Meet all the municipal waste landfill requirements within Cornwall at the existing Connon Bridge landfill site up to 2031.*

MWLF B: Meet all the municipal waste landfill requirements within Cornwall at Connon Bridge up until 2014, but identify an alternative site to meet any remaining nominal landfill requirements from 2014 to 2031.

MWLF C: Please set out any other option which you think is relevant and reasonable.

Implications

MWLF A: This will require a new planning permission to continue to use the available capacity after 2014 and to extend the site (by approximately 95,000 cubic metres), but will mean that no other landfill sites will need to be opened in Cornwall for municipal waste arising within Cornwall. The site operator has indicated that they intend to submit a planning application to continue the use of the site and extend its capacity.

MWLF B: This will mean that Connon Bridge will be closed after 2014 and land will have to be found for a new landfill facility for thereafter. If built CERC will have sufficient capacity to recover all the municipal waste that is not recycled from 2015 onwards. After that date the demand for landfill will consist almost exclusively of bottom ash from the recovery process. This is expected to amount to approximately 14,000 cubic metres per year between 2015 and 2031 (a cumulative total of 240,000 cubic metres). Finding a new landfill site is likely to be expensive and it is unlikely that this limited volume of waste arisings would be able to support such an investment.

3 Options

Commercial and Industrial Waste

- 3.3.14 Energy Recovery** - Our projections indicate that there are two reasonable energy recovery scenarios for commercial and industrial waste. Under the first scenario the Core Strategy would make provision to recover an additional 15% of the annual commercial and industrial waste arisings. However, if it gets built there will be sufficient spare capacity at the CERC facility to meet this additional 15% recovery.
- 3.3.15** The second scenario takes this into account and sets a higher recovery proportion that would enable 100% of the annual commercial and industrial waste arisings to be recycled or recovered. Under this scenario the Core Strategy would make provision to recover an additional 30% of the annual commercial and industrial waste arisings. Approximately half of this could be processed by the CERC⁽¹²⁾.
- 3.3.16** The energy recovery options are presented below. Please note that they are not intended to be technology specific.

Options for the proportion of commercial and industrial waste that we use for energy recovery:

CIR1 A: Make provision to recover (generate energy from) an additional 15% of the annual commercial and industrial waste arisings (66,000 tonnes/yr by 2031). This amount could be met by the CERC facility⁽¹³⁾ so no additional provision would be required.

CIR1 B: *Make provision to recover (generate energy from) an additional 30% of the annual Commercial and Industrial waste arisings (126,000 tonnes/yr by 2031). This option would involve identifying land to provide energy recovery facilities for the proportion that cannot be accommodated by the proposed CERC (approximately 55,000/yr by 2031).*

CIR1 C: Please set out any other option which you think is relevant and reasonable.

¹² The Options included in this consultation document have been developed based on the presumption that capacity for recovery of residual municipal waste (through the CERC) will gain planning consent. It is acknowledged that, at the time of writing, permission granted previously on appeal had been quashed by the High Court. However, there remains a possibility that permission could be re-instated. The final position, with regard to planning consent for the CERC proposal, is therefore unknown. If ultimately CERC does not get planning permission, a new set of planning policy options for waste management in Cornwall will be developed. This will include a full public consultation and will inform future planning policy for Cornwall

¹³ The Options included in this consultation document have been developed based on the presumption that capacity for recovery of residual municipal waste (through the CERC) will gain planning consent. It is acknowledged that, at the time of writing, permission granted previously on appeal had been quashed by the High Court. However, there remains a possibility that permission could be re-instated. The final position, with regard to planning consent for the CERC proposal, is therefore unknown. If ultimately CERC does not get planning permission, a new set of planning policy options for waste management in Cornwall will be developed. This will include a full public consultation and will inform future planning policy for Cornwall

Options 3

Implications

CIR1 A: This would achieve a total recycle/re-use and recovery proportion of 85% of the annual arisings. Under this scenario we do not have sufficient permitted landfill capacity to meet our needs up to 2031. Consequently additional landfill capacity would have to be found to accommodate some 230,000 cubic metres of C&I waste.

CIR1 B: This would allow for 100% of the annual C&I waste arisings to be either recycled/re-used or recovered. A new site or new sites will need to be identified for energy recovery (in addition to the proposed CERC). This option would result in a lower landfill disposal requirement and no need for additional landfill capacity.

3.3.17 Under recovery option CIR1 B it is necessary to decide how many sites should be identified to meet the additional energy recovery demand. The options are outlined below.

Options for the number of commercial and industrial waste energy recovery facilities:

CIR2 A: Make provision for one energy recovery facility to process approximately 60,000 tonnes per year (the tonnage that cannot be processed by the proposed CERC).

CIR2 B: Make provision for two smaller energy recovery facilities to process the remaining energy recovery tonnage between them.

CIR2 C: *Set out a criteria-based policy to allow facilities to be developed in an appropriate manner to meet this demand where the criteria can be met.*

CIR2 D: Please set out any other option which you think is relevant and reasonable.

3 Options

Implications

CIR2 A: This option is likely to provide the most economic solution. This is an important consideration given that the facilities are likely to be commercially operated.

CIR2 B: Two recovery plants processing approximately 30,000 tonnes a year are likely to be less economic as one larger facility.

CIR2 C: This option may not provide the same level of certainty as an approach that identifies land, but it will provide greater flexibility to respond to demand, developments in technology and other opportunities.

- 3.3.18** These options do not preclude the identification of additional sites for energy recovery in the future if sufficient additional demand is identified.

Where should these facilities be located?

- 3.3.19** Given that, if built, the proposed CERC will be located in central Cornwall ⁽¹⁴⁾ and that both mixed waste landfill facilities (Connon Bridge and Lean Quarry) are in the east of Cornwall, it is important to decide where new strategic recovery facilities should be located if we decide to make specific provision. The options proposed are outlined and illustrated below.

14 The Options included in this consultation document have been developed based on the presumption that capacity for recovery of residual municipal waste (through the CERC) will gain planning consent. It is acknowledged that, at the time of writing, permission granted previously on appeal had been quashed by the High Court. However, there remains a possibility that permission could be re-instated. The final position, with regard to planning consent for the CERC proposal, is therefore unknown. If ultimately CERC does not get planning permission, a new set of planning policy options for waste management in Cornwall will be developed. This will include a full public consultation and will inform future planning policy for Cornwall

Options 3

Options for managing the location of commercial and industrial waste energy recovery facilities:

CIR3 A: One single location in the west of Cornwall

CIR3 B: One single facility in the east

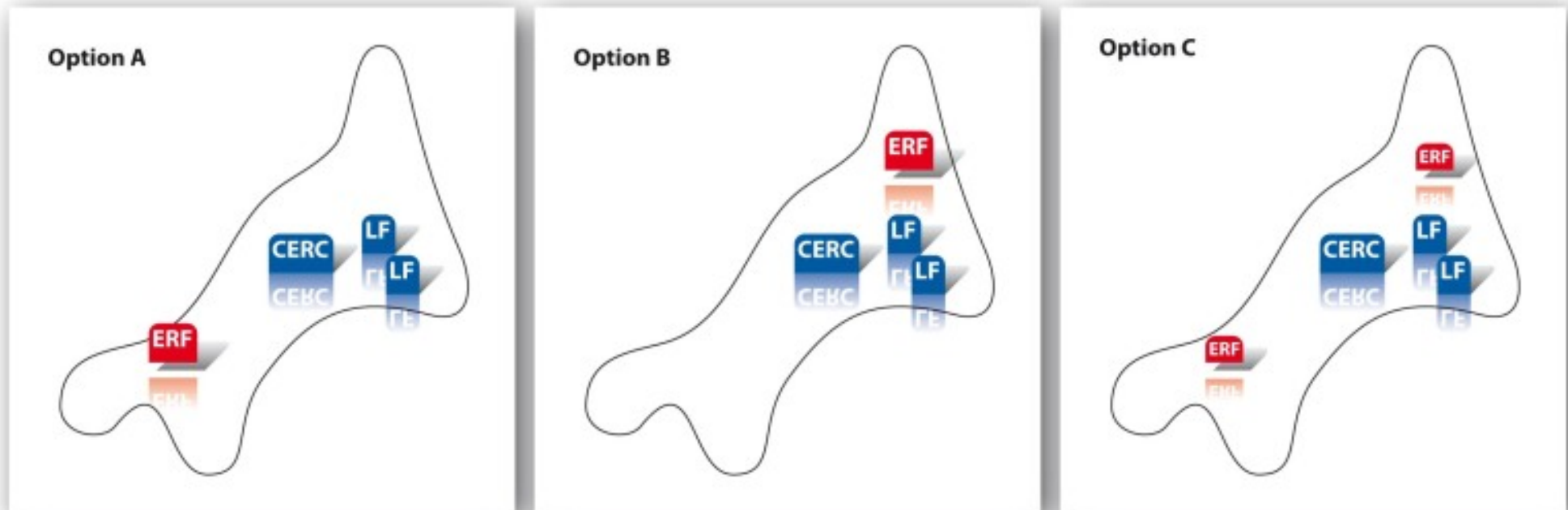
CIR3 C: One location in the east and one in the west

CIR3 D: Set out a criteria-based policy to allow facilities to be developed in response to market demand where the criteria can be met

CIR3 E: Please set out any other option which you think is relevant and reasonable.

3 Options

Comercial and industrial waste recovery options



Cornwall Energy Recovery Centre (proposed development)



Existing landfill facility



Indicative location of the energy recovery facility indicated for each option.

Implications

CIR3 A: Complements the proposed energy recovery facilities in central Cornwall (CERC) ⁽¹⁵⁾ and in Plymouth. Currently, there are no recovery or disposal facilities in west Cornwall so this option has the potential to reduce waste miles and enhance competition in the commercial and industrial sector. A developer has expressed an interest in the development of an energy recovery facility at Hallenbeagle, Scorrier, in the west of Cornwall and a planning application is anticipated in 2012.

CIR3 B: The option perpetuates the existing grouping of recovery and disposal facilities around central and east Cornwall. In doing so, it will not help reduce waste miles from west Cornwall.

CIR3 C: This provides a balanced approach, but the small scale facilities required for this option may not be economically sustainable to set up and run due to the relatively low levels of demand.

CIR3 D: This option may not provide the same level of certainty as an approach that identifies land, but it will provide greater flexibility to respond to demand, developments in technology and other opportunities.

3.3.20 Recycling - The evidence suggests that there is sufficient strategic capacity to meet the transfer (to recycle/re-use) requirements of the commercial and industrial sector. There does not appear to be demand for additional strategic recycling facilities. This does not preclude the demand for local facilities. The Core Strategy does not propose to identify land for local non-strategic facilities, but it will set out a policy framework under which such sites can be developed where demand arises.

Do you agree with this?

15 The Options included in this consultation document have been developed based on the presumption that capacity for recovery of residual municipal waste (through the CERC) will gain planning consent. It is acknowledged that, at the time of writing, permission granted previously on appeal had been quashed by the High Court. However, there remains a possibility that permission could be re-instated. The final position, with regard to planning consent for the CERC proposal, is therefore unknown. If ultimately CERC does not get planning permission, a new set of planning policy options for waste management in Cornwall will be developed. This will include a full public consultation and will inform future planning policy for Cornwall

3 Options

3.3.21 Landfill Disposal - The evidence indicates that for the 100% re-use/recovery target there is sufficient permitted landfill capacity to accommodate all the residual arisings from the commercial and industrial sector up to 2031. This includes bottom ash from the proposed CERC energy recovery process. However, under the 85% re-use/recovery target approximately 230,000 cubic metres of additional capacity will be needed. If the Core Strategy adopts the 85%, target provision for approximately 230,000 cubic metres of additional landfill capacity will have to be made. The options below set out how we might meet this additional landfill need.

Options for commercial and industrial waste landfill disposal:

CILF A: Meet the commercial and industrial waste landfill requirements at the existing landfill site (Lean Quarry and Connon Bridge) up to 2031.

CILF B: Identify an alternative location to accommodate the additional 230,000 cubic metres once Lean Quarry is full.

CILF C: Please set out any other option which you think is relevant and reasonable.

Implications

CILF A: This will require new planning permissions to extend the capacity of existing landfill sites (Lean Quarry and Connon Bridge) by approximately 230,000 cubic metres in total, but will mean that no other landfill sites will need to be opened for commercial and industrial waste.

CILF B: This will mean that the location for a new landfill site will have to be identified and developed. Finding a new landfill site is likely to be expensive and it is unlikely that this level of demand (230,000 cubic metres) will be able to support such an investment.

Construction, Demolition and Excavation waste

3.3.22 Recycling - The evidence suggests that there will be shortfall of approximately 388,000 tonnes of recycling capacity to meet the construction, demolition and excavation waste recycling needs over the Core Strategy time frame. There may also be a particular requirement to locate facilities in close proximity to major areas of growth over the next 20 years to reduce the cost of transporting construction waste. The options we are proposing to meet this need are outlined below.

Options for managing the location of construction, demolition and excavation waste recycling facilities:

CDER A: Identify a location or locations for strategic recycling provision to meet this identified shortfall in provision.

CDER B: *Set out a criteria-based policy to allow facilities to be developed in an appropriate manner where and when demand is identified and the criteria can be met.*

CDER C: Please set out any other option which you think is relevant and reasonable.

Implications

CDER A: This option would provide certainty to the industry about where these sites will be located, but it may result in transportation of large amounts of heavy construction waste over long distances. The nature of these sites will be influenced by responses given to recycled aggregate options R1 - 6 (see Minerals section).

CDER B: *This option will allow the industry to provide sites close to the areas of demand and minimise the distance that waste needs to be transported to reach recycling facilities.* The nature of these criteria will be influenced by responses given to recycled aggregate options R1 - 6 (see Minerals section).

3 Options

3.3.23 Landfill – The evidence also indicates that there will be a shortfall in landfill space for construction, demolition and excavation waste by 2031 of approximately 800,000 cubic metres. The options we are proposing to meet this need are outlined below.

Options for construction, demolition and excavation waste landfill disposal:

CDEL F A: Identify a location for strategic landfill disposal provision to meet this identified shortfall in provision.

CDEL F B: Set out a criteria-based policy to allow facilities to be developed in an appropriate manner where and when demand is identified and the criteria can be met.

CDEL F C: Please set out any other option which you think is relevant and reasonable.

Implications

CDEL F A: This option would provide certainty to the industry about where the additional landfill capacity will be located but it is likely that this approach will result in the transportation of large amounts of heavy construction waste over long distances.

CDEL F B: This option will allow the industry to provide sites close to the areas of demand and minimise the distance that waste needs to be transported to reach landfill disposal facilities.

Hazardous waste

- 3.3.24** Due to the relatively small amount of waste produced by each local authority area and because of the high costs of setting up a hazardous waste management facility such facilities are usually provided at the regional or national level.
- 3.3.25** Cornwall is not a particularly good location for such a facility due to its relative isolation. Consequently, we are not proposing to identify land for additional hazardous waste facilities in Cornwall unless there is sufficient local demand for specific facilities to manage specific hazardous waste types.

Is there, or is there likely to be, a specific local demand for such a facility?

3 Options

Delivery 4

- 4.0.1** It is essential to understand how the development proposed in the Core Strategy is deliverable over the lifetime of the plan. A key component of a successful plan is the provision of the infrastructure necessary to support growth including energy infrastructure. This will be looked at as part of this process through the Infrastructure Delivery Plan which can be accessed via the following weblink www.futurecornwall.org.uk/Default.aspx?page=343.
- 4.0.2** Funding of new infrastructure is in many cases done with contributions from developers which should be related to their specific development. This is often however not enough to achieve the necessary overall infrastructure. To address this, the Council is supporting a move towards the use of the newly introduced Community Infrastructure Levy, which will enable the Council to pool contributions to help pay for infrastructure based on a fair, viable and transparent tariff system. Evidence of infrastructure needs and costs in the Infrastructure Delivery Plan will form a useful basis for the Community Infrastructure Levy. In addition it is important that external funding from partners or regional, national or European funds is maximised. The Infrastructure Delivery Plan will identify where such funding streams exist and how they can be used most effectively. However, it is not realistic to expect that there will be limitless funds for infrastructure and hard choices about infrastructure priorities will have to be made.

4 Delivery

Sustainability Appraisal 5

- 5.0.1** To ensure that sustainable development principles are at the heart of each stage we are doing an ongoing sustainability appraisal looking at social, economic and environmental effects and ensuring that we take into account potential long term implications.
- 5.0.2** The sustainability appraisal considers the potential significant impacts of the options proposed, testing the options against the social, environmental and economic objectives of the sustainability appraisal framework. A habitats regulations assessment and equality impact assessment have also been carried out and have been used to inform the sustainability appraisal process. These documents, including the background technical paper on the sustainability appraisal can be found at www.cornwall.gov.uk/naturalresources.
- 5.0.3** A sustainability appraisal is carried out alongside the development of the Core Strategy so that each version of the plan can be tested to identify any significant issues and suggest ways to lessen potential negative effects. A lower score at this stage does not necessarily rule out any of the options, but it does tell us that we would need to take care in how the option is delivered, to avoid economic, environmental and social harm.
- 5.0.4** The process of sustainability appraisal compares options against each other. As a result any set of options will show lower and higher scores, even where the overall effect of a particular set of options is essentially positive. For example the generation of renewable energy will have a positive impact on climate change, however much is generated. However relative levels of renewable energy generation (such as in options REN 1- 3) will score relatively lower or higher under the sustainability appraisal methodology used here.

KEY		
Relatively Negative	0-4 or	0-49%
Neutral	5 or	50%
Relatively Positive	6-10 or	51-100%
?	Impacts unknown	

5 Sustainability Appraisal

Sustainability Appraisal of Renewable Energy Options

Decision Making Criteria	Target REN1	Target REN2	Target REN3	Location REL1	Location REL2
ENVIRONMENT					
Climatic Factors	5	10	0	7	3
Waste	No links	No links	No links	No links	No links
Minerals and Geo-diversity	No links	No links	No links	No links	No links
Soil	No links	No links	No links	No links	No links
Air	No links	No links	No links	No links	No links
Water	No links	No links	No links	No links	No links
Biodiversity	5	5	5	No links	No links
Landscape	5	3	7	7	3
Maritime	No links	No links	No links	No links	No links
Historic Environment	5	3	7	6	4
Design	No links	No links	No links	No links	No links
Overall Environment Score	20	21	19	20	10
Net percentage (x/40 x 100)	50%	53%	48%	67%	33%
SOCIAL					
Social Inclusion	No links	No links	No links	3	7
Crime and anti-social behaviour	No links	No links	No links	No links	No links
Housing	No links	No links	No links	No links	No links
Health	No links	No links	No links	4	6
Sport	No links	No links	No links	No links	No links
Recreation	No links	No links	No links	No links	No links
Overall Social Score	0	0	0	7	13
Net percentage (x/20 x 100)	No links	No links	No links	35%	65%
ECONOMIC					
Economic Development	5	7	3	No links	No links
Regeneration	5	7	3	No links	No links
Tourism	No links	No links	No links	No links	No links
Education and Skills	5	7	3	No links	No links
Transport	5	6	4	No links	No links
Accessibility	No links	No links	No links	No links	No links
Energy	5	7	3	8	6
Overall Economic Score	25	34	16	8	6
Net percentage (x/50 x 100)	50%	68%	32%	80%	60%
TOTAL (average % for environment, social & economic)	50%	61%	40%	61%	53%

Sustainability Appraisal 5

Sustainability Appraisal of Minerals Options

	China Clay CC1	China Clay CC2	Prim Agg PA1	Prim Agg PA2	Prim Agg PA3	Prim Agg PA4	Sec Agg SA1	Sec Agg SA2	Sec Agg SA3	Sec Agg SA4	Sec Agg SA5	Bulk T1	Bulk T2	Stone BS1	Stone BS2	Metals M1	Metals M2
Decision Making Criteria																	
ENVIRONMENT																	
Climatic Factors	No links	No links	3	7	6	6	4	5	6	6	4	4	6	5	6	No links	No links
Waste	5	5	No Links	No links	No links	No links	2	7	7	9	1	No links	No links	No links	No links	No links	No links
Minerals and Geo-diversity	3	7	7	5	3	6	2	7	7	9	1	No links	No links	4	6	5	5
Soil	2	8	7	5	3	6	No links	No links	No links	No links	No links	No links	No links	5	5	5	5
Air	4	6	5	5	4	5	7	3	5	2	7	4	6	5	5	5	5
Water	5	5	6	5	4	5	7	7	7	7	7	No links	No links	No links	No links	2	2
Biodiversity	3	7	6	5	4	4	7	3	5	2	7	4	6	5	5	5	5
Landscape	2	8	6	5	4	4	4	6	7	5	4	4	6	5	4	5	5
Maritime	No links	No links	No Links	No links	No links	No links	No links	No links	No links	No links	No links	4	6	No links	No links	4	4
Historic Environment	2	8	6	5	4	4	7	3	3	7	7	4	6	4	6	5	5
Design	No links	No links	No Links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	4	6	No links	No links
Overall Environment Score	26	54	46	42	32	40	33	34	40	40	31	24	36	37	43	36	36
Net percentage (x/N x 100)	33%	68%	58%	53%	40%	50%	47%	49%	57%	57%	44%	40%	60%	46%	54%	45%	45%
SOCIAL																	
Social Inclusion	No links	No links	No Links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No Links	No links	No links	No links	No links
Crime and anti-social behaviour	No links	No links	No Links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No Links	No links	No links	No links	No links
Housing	No links	No links	No Links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No Links	No links	No links	No links	No links
Health	4	6	6	5	4	5	6	4	5	4	6	4	6	5	5	4	4
Sport	No links	No links	No Links	No links	No links	No links	No links	No links	No links	No links	No links	4	6	No links	No links	No links	No links
Recreation	5	5	6	5	4	5	6	4	5	4	6	4	6	5	5	5	5
Overall Social Score	9	11	12	10	8	10	12	8	10	8	12	12	18	10	10	9	9
Net percentage (x/N x 100)	45%	55%	60%	50%	40%	50%	60%	40%	50%	50%	60%	40%	60%	50%	50%	45%	45%
ECONOMIC																	
Economic Development	5	5	3	4	6	5	2	8	6	9	1	4	6	5	5	6	6
Regeneration	No links	No links	No Links	No links	No links	No links	No links	No links	No links	No links	No links	5	5	5	5	5	5
Tourism	4	6	6	5	4	5	7	7	7	7	7	4	6	No links	No links	6	4
Education and Skills	5	5	No Links	No links	No links	No links	4	6	5	6	4	5	5	No links	No links	5	5
Transport	4	6	5	5	5	5	7	4	6	4	7	4	6	5	6	5	5
Accessibility	No links	No links	No Links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links
Energy	No links	No links	No Links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links
Overall Economic Score	18	22	14	14	15	15	13	18	17	19	12	22	28	15	16	27	25
Net percentage (x/N x 100)	45%	55%	47%	47%	50%	50%	43%	60%	57%	63%	40%	44%	56%	50%	53%	54%	50%
TOTAL	41%	59%	55%	50%	43%	50%	50%	50%	55%	57%	43%	41%	59%	43%	52%	48%	47%
average % for env, soc & econ																	

Options for Recycled Aggregates (RA1 - RA5) cannot be assessed because they are not mutually exclusive. Therefore relative scores cannot be assigned.

5 Sustainability Appraisal

Sustainability Appraisal of Minerals Options - Safeguarding

	China Clay SCC1	China Clay SCC2	China Clay CC3	Prim Agg SPA1	Prim Agg SPA2	Prim Agg SPA3	Prim Agg SPA4	Prim Agg SPA5	Prim Agg SPA6	Prim Agg SPA7	Prim Agg SPA8	Sec Agg SSA1	Sec Agg SSA2	Build Stone & Slate SBS1	Build Stone & Slate SBS2	Metals SM1	Metals SM2	All Min S1	All Min S2
Decision Making Criteria																			
ENVIRONMENT																			
Climatic Factors	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links
Waste	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	5	5	No links	No links	No links	No links	No links	No links
Minerals and Geo-diversity	7	6	6	8	7	6	5	5	5	7	6	5	5	6	4	5	5	4	6
Soil	5	5	5	5	5	5	5	5	5	5	5	No links	No links	4	6	6	4	4	6
Air	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	4	6	5	5	No links	No links	No links	No links
Water	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links
Biodiversity	5	5	5	5	5	5	5	5	5	5	5	4	6	4	6	6	4	4	6
Landscape	5	5	5	5	5	5	5	5	5	5	5	4	6	4	6	6	4	4	6
Maritime	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links
Historic Environment	5	5	5	5	5	5	5	5	5	5	5	4	6	7	3	6	4	4	6
Design	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	6	4	No links	No links	No links	No links
Overall Environment Score	27	26	26	26	27	26	25	25	25	27	26	26	34	36	34	28	21	20	30
Net percentage (x/N x 100)	54%	52%	52%	56%	54%	52%	50%	50%	50%	54%	52%	43%	57%	51%	49%	58%	42%	40%	60%
SOCIAL																			
Social Inclusion	No Links	No Links	No Links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links
Crime and anti-social behaviour	No Links	No Links	No Links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links
Housing	3	4	7	3	4	5	6	6	6	3	4	5	5	No links	No links	4	6	6	4
Health	5	5	5	5	5	5	5	5	5	5	5	No links	No links	No links	No links	5	5	4	6
Sport	No Links	No Links	No Links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	4	6
Recreation	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	6
Overall Social Score	13	14	17	13	14	15	16	16	16	13	14	10	10	0	0	14	16	16	22
Net percentage (x/N x 100)	43%	47%	57%	43%	47%	50%	53%	53%	53%	43%	47%	50%	50%	50%	50%	47%	53%	40%	55%
ECONOMIC																			
Economic Development	3	4	7	5	5	5	5	5	5	5	6	5	6	5	5	4	6	5	5
Regeneration	3	4	7	5	5	5	5	5	5	5	5	5	6	No links	No links	4	6	5	5
Tourism	No Links	No Links	No Links	No Links	No Links	No Links	No Links	No Links	No Links	No Links	No Links	No Links	No Links	No links	No links	No links	No links	No links	No links
Education and Skills	5	5	6	No Links	No Links	No Links	No Links	No Links	No Links	No Links	No Links	No Links	No Links	5	5	5	5	5	5
Transport	No Links	No Links	No Links	No Links	No Links	No Links	No Links	No Links	No Links	6	7	5	6	No links	No links	5	5	No links	No links
Accessibility	No Links	No Links	No Links	No Links	No Links	No Links	No Links	No Links	No Links	No Links	No Links	No Links	No Links	No links	No links	No links	No links	No links	No links
Energy	No Links	No Links	No Links	No Links	No Links	No Links	No Links	No Links	No Links	No Links	No Links	No Links	No Links	No links	No links	4	6	No links	No links
Overall Economic Score	11	13	20	10	10	10	10	10	10	16	18	15	18	10	10	22	28	15	15
Net percentage (x/N x 100)	33%	43%	67%	50%	50%	50%	50%	50%	50%	53%	60%	50%	60%	50%	50%	44%	56%	40%	50%
TOTAL	48%	47%	59%	50%	50%	51%	51%	51%	51%	50%	53%	48%	56%	50%	50%	50%	50%	40%	55%
average % for env, soc & econ																			

Options for safeguarding Transport Infrastructure (ST1 - 4) cannot be assessed because they are not mutually exclusive. Therefore relative scores cannot be assigned.

Sustainability Appraisal 5

Sustainability Appraisal of Waste Options

	Mun	Mun	Comm & Ind	Comm & Ind	No of Sites	No of Sites	No of Sites	Site Location	Site Location	Site Location	Site Location	Comm & Ind Landfill	Comm & Ind Landfill	Con, Dem & Evac	Con, Dem & Evac	Con, Dem & Evac	Con, Dem & Evac
	MWLF A	MWLF B	CIR 1A	CIR1B	CIR 2A	CIR 2B	CIR 2C	CIR 3A	CIR3B	CIR 3C	CIR 3D	CILF A	CILF B	Recycling CDER A	Recycling CDER B	Landfill CDELFA	Landfill CDELF B
Decision Making Criteria																	
ENVIRONMENT																	
Climatic Factors	5	5	3	7	5	5	5	5	5	5	5	5	5	No links	No links	No links	No links
Waste	5	5	3	7	3	3	7	4	4	4	6	5	5	4	6	4	6
Minerals and Geo-diversity	5	5	6	4	5	5	5	6	6	4	4	6	4	5	5	5	5
Soil	7	3	5	5	6	6	4	6	6	4	4	5	5	5	5	5	5
Air	6	4	5	5	5	5	5	5	5	5	5	5	5	4	6	4	6
Water	5	5	5	5	4	6	5	5	5	5	5	5	5	5	5	5	5
Biodiversity	7	3	6	4	5	5	5	5	5	5	5	5	5	5	5	5	5
Landscape	6	4	6	4	4	6	5	5	5	5	5	5	5	5	5	5	5
Maritime	5	5	6	4	5	5	5	5	5	5	5	5	5	5	5	5	5
Historic Environment	6	4	6	4	4	6	5	4	4	4	6	5	5	5	5	5	5
Design	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Overall Environment Score	62	48	56	54	51	57	56	55	55	51	55	56	54	48	52	48	52
Net percentage (x/N x 100)	56%	44%	51%	49%	46%	52%	51%	50%	50%	46%	50%	51%	49%	48%	52%	48%	52%
SOCIAL																	
Social Inclusion	5	5	5	5	5	5	5	4	4	6	6	5	5	5	5	5	5
Crime and anti-social behaviour	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links
Housing	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links
Health	5	5	5	5	5	5	5	5	5	5	5	5	5	4	6	4	6
Sport	5	5	5	5	5	5	5	4	4	6	6	5	5	5	5	5	5
Recreation	6	4	5	5	5	5	5	5	5	5	5	6	4	5	5	5	5
Overall Social Score	21	19	20	20	20	20	20	18	18	22	22	21	19	19	21	19	21
Net percentage (x/N x 100)	53%	48%	50%	50%	50%	50%	50%	45%	45%	55%	55%	53%	48%	48%	53%	48%	53%
ECONOMIC																	
Economic Development	5	5	5	5	4	4	6	6	4	6	6	No links	No links	3	7	3	7
Regeneration	5	5	5	5	5	5	5	5	5	5	5	6	4	4	6	4	6
Tourism	5	5	6	4	5	5	5	5	5	5	5	6	4	5	5	5	5
Education and Skills	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links	No links
Transport	5	5	5	5	5	5	5	6	4	7	8	5	5	4	6	4	6
Accessibility	5	5	5	5	5	5	5	6	4	7	8	5	5	4	6	4	6
Energy	5	5	3	7	4	6	7	5	5	5	5	5	5	No links	No links	No links	No links
Overall Economic Score	30	30	29	31	28	30	33	33	27	35	37	27	23	20	30	20	30
Net percentage (x/N x 100)	50%	50%	48%	52%	47%	50%	55%	55%	45%	58%	62%	54%	46%	40%	60%	40%	60%
TOTAL average % for env, soc & econ	53%	47%	50%	50%	48%	51%	52%	50%	47%	53%	56%	53%	48%	45%	55%	45%	55%

5 Sustainability Appraisal