APPENDIX M

New local plan for Cheshire East

Minerals topic paper (draft)

March 2024

Open Fair Green

Cheshire East Council

Front cover images (clockwise from top-left):

- Crewe Market Hall and Municipal Buildings
- Arclid north plant site and lake (image supplied by Bathgate Silica Sand Ltd)
- Jodrell Bank Observatory
- Lamberts Lane Bridge, Congleton
- Tabley Park, Northwich Road, Knutsford

Contents

1 Introduction

1.1 This topic paper provides further information to support the 'Minerals' section of the new local plan issues paper. For ease of reading, it uses the same headings that are set out in the issues paper for this topic.

1.2 Minerals are an essential component in the creation of both a successful economy and a good quality of life. Aggregates and other types of construction minerals are needed to build homes, factories, offices, and transport infrastructure. Other minerals are used in industry, food production, agriculture and for leisure uses. Energy minerals like oil and gas provide the country with power and heating. However, as minerals are a finite natural resource and can only be worked where they are found, it is important that best use is made of them to secure their long-term future.

1.3 Cheshire East Council is the mineral planning authority (MPA) for the borough excluding the area within the Peak District National Park. This means it is responsible for creating a planning policy framework that will safeguard the mineral resource, help it maintain a steady and adequate supply of aggregates, and assist in determining mineral planning applications. The council consulted on a draft minerals and waste plan in late 2022 but is now considering producing a single local plan to include all planning policies for its area. If this happens, all the minerals responses and sites received following the previous and 2022 consultation (together with the existing pool of sites/areas included in the initial draft site assessment that resulted from the 2017 minerals issues paper and call for sites exercise) will be considered during the preparation of the new local plan. The new minerals and waste policies once approved will replace the saved policies contained within the separate Minerals[1] and Waste[2] Local Plans prepared by Cheshire County Council, as well as the council's adopted local plan policies.

1.4 A first step in preparing the minerals approach in the new local plan is to understand the mineral resource that is present in the borough, the likely required demand for each mineral over the plan period and the constraints that may limit the areas or amount of extraction that can occur, such as the impact on communities or the natural and historic environment.

1 The Cheshire Replacement Minerals Local Plan (1999) https://www.cheshireeast.gov.uk/planning/spatial-planning/saved_and_other_policies/cheshire_minerals_local_plan/cheshire_minerals_local_plan.aspx

2 The Cheshire Replacement Waste Local Plan (2007) https://www.cheshireeast.gov.uk/planning/spatial-planning/saved_and_other_policies/cheshire_waste_local_plan/cheshire_waste_local_plan.aspx

2 Background

National planning policy

2.1 The National Planning Policy Framework[3] (NPPF) sets out the national planning policy for England and this includes the approach to mineral planning for England. Paragraphs 209 to 217 set out provisions for 'Facilitating the Sustainable Use of Minerals'.

2.2 The NPPF states 'It is essential that there is a sufficient supply of minerals to provide the infrastructure, buildings, energy, and goods that the country needs. Since minerals are a finite natural resource, and can only be worked where they are found, best use needs to be made of them to secure their long-term conservation.' The NPPF also requires MPAs to `take account of the contribution that substitute, or secondary and recycled materials and minerals waste would make to the supply of materials, before considering extraction of primary materials, whilst aiming to source minerals supplies indigenously.

2.3 The NPPF requires MPAs to safeguard mineral resources by defining mineral safeguarding areas and adopting appropriate policies so that known locations of specific minerals resources of local and national importance are not sterilised by non-mineral development where this should be avoided (whilst not creating a presumption that the resources defined will be worked).

2.4 There is a requirement for MPAs to plan for a steady and adequate supply of aggregates, by making provision for the maintenance of landbanks of at least 7 years for sand and gravel; and at least 10 years for crushed rock. The NPPF also requires the council to plan for a steady and adequate supply of industrial minerals, such as silica sand, by maintaining a stock of reserves at individual sites of at least 10 years.

Geological information

2.5 Geologically the county is a basin like structure. The solid rock structure of soft reddish sandstone is overlain by marls which contain bands of rock salt. Older rocks comprising alternating sandstones and shales with interbedded coal seams come to the surface around the margins of the basin. These older strata only crop out in the east of the borough and form the high ground of the Pennine foothills.

2.6 After the formation of the Cheshire basin, the county was affected by the advance and retreat of ice sheets during glacial times. The ice deposited boulder clays and sands of varying thickness over the underlying solid rocks. More recently, streams and rivers have acted to erode surface materials and deposit further sands, silts, and some gravels. The underlying geology of Cheshire means that there are a broad range of mineral deposits and resources. These include clay, peat, coal, hydrocarbons (oil and gas), salt, sandstone, and sand. Figure 2.1 below provides an overview of the main mineral resources present. Table 2.1 below uses available information to summarise the mineral resources present, their economic viability for extraction, the need to safeguard for sustainability reasons and other factors which may constrain their development. This

3 https://www.gov.uk/guidance/national-planning-policy-framework

will help inform future policies in the plan such as the consideration of local landscape designations, considerations relating to the protection of other resources, such as groundwater, and local amenity or environmental concerns, such as noise, traffic, and visual impact.

Figure 2.1 Minerals resource overview showing deep coal, sand and gravel, likley extent of silica sand, shallow coal, sandstone and salt

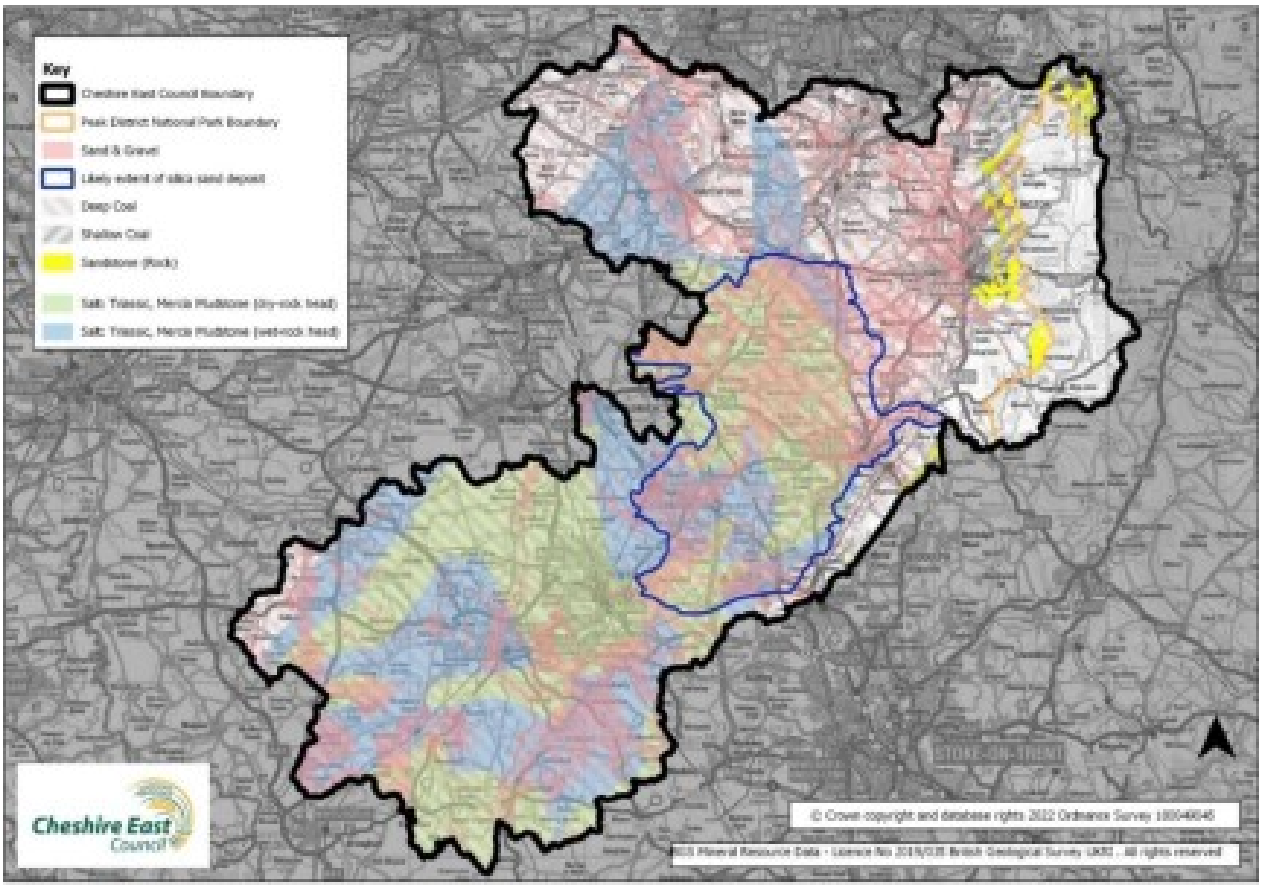

Table 2.1 Mineral Resources present in Cheshire East

Mineral resource	Present?	Economically viable to extract?	Safeguard resource?	Commentary
Clay	√	X	X	Full extent of the resource is unknown and is thought to be of variable quality and thickness. Insufficient information is available to prepare a mineral safeguarding area (MSA) to safeguard the resource.
Peat	√	√	X	National policy prevents the extraction of the peat resource through new permissions or the extension of existing sites. Whilst this may obviate the need to prepare an MSA for peat, policies will be required to prevent new peat extraction and recognise the value of peat habitats (biodiversity

Mineral resource	Present?	Economically viable to extract?	Safeguard resource?	Commentary
				resource and carbon storage). This may restrict future development on peat.
Hydrocarbons (oil and gas)	√	√	X	Six petroleum exploration and development licenced areas (PEDL) covering ten grids of land within or partly within Cheshire East were issued through the latest (14th) Onshore Licensing round. The licences convey no permission for operations on land but give exclusivity for exploration operations against other oil and gas exploration companies within a defined area. As the extent of the hydrocarbon resource is currently unknown, it is not possible to safeguard it.
Coal	√	√	√	Coal is a national energy resource and is present beneath much of Cheshire East, mostly buried at greater depths beneath younger geological layers. There are no active coal workings in the borough. Historically mining occurred around Poynton in the north and Mow Cop in the south where coal seams came closer to the surface. The shallow coal resource has been safeguarded.
Salt	√	√	√	A nationally significant resource that is extensively found in the Cheshire Basin in both its sold form (as rock salt) or in solution (as brine). Controlled solution brine mining takes place in Cheshire East. The salt resource is safeguarded.
Sand	√	√	√	The sand resources within Cheshire are mostly of recent geological origin, dating from the quaternary period[4] of late Devensian origin. They are shown on geological mapping as superficial deposits distributed within river terrace and glacial fluvial deposits. These provide sand suitable for aggregate use. Within Cheshire East there are superficial deposits that were

4 Of earth history circa 2.6 million years ago.

Mineral resource	Present?	Economically viable to extract?	Safeguard resource?	Commentary
				likely to have been formed prior to late Devensian period as fluvial deposits and earlier aeolian (wind-blown) sediments, which have distinct characteristics and properties that enable them to be described as potential silica sand deposits. The silica sand resource are nationally significant resources. All of the sand resource is safeguarded.
Sandstone	√	√	√	In Cheshire, the main hard rock type is sandstone, which is worked only in Cheshire East. The oldest rocks of the area, previously quarried for building stone, are the Carboniferous Sandstone of the Millstone Grit Group. They lie along the eastern margins from Macclesfield to Congleton. The overlying sandstones of the Pennine Coal Measures Group were also extensively quarried for building stone. Resources are limited and production is small, with several inactive sites. In more recent years, Cheshire East has relied on the importation of crushed rock aggregates from outside of Cheshire to meet its consumption needs. The sandstone resource is safeguarded.

3 Permitted mineral extraction sites

3.1 At the end of 2022 there were seventeen permitted mineral sites[5] within Cheshire East. Further detail on the status of each aggregate site can be found in the Local Aggregate Assessment (LAA 2023).[6] However, White Moss Quarry is not included in the permitted reserve of aggregate sand sites owing to sand quality issues preventing its inclusion, but is listed in the Table 3.1 below for completeness. The seventeen permitted sites comprise the following mineral types: peat (two sites); salt (brine) (one site); silica industrial sand) four sites; construction sand (one site); and sandstone (nine sites).

Table 3.1 Permitted mineral sites in Cheshire East

Site	Mineral type	Commentary
White Moss Quarry, Nr Alsager	Peat	
Lindow Moss, Nr Wilmslow	Peat	
Warmingham Brinefield	Salt (brine)	
Arclid Quarry, Arclid, Nr Sandbach	Silica (industrial) sand	Mainly industrial sand with small quantities of construction sand
Bent Farm Quarry, Congleton	Silica (industrial) sand	Mainly industrial sand with small quantities of construction sand
Eaton Hall Quarry, Congleton	Silica (industrial) sand	Mainly industrial sand with quantities of construction sand
Rudheath Lodge Nr Allostock	Silica (industrial) sand	Mainly industrial sand with quantities of construction sand
White Moss Quarry Nr Alsager	Construction sand	Construction sand, due to poor sand quality this site is excluded from the overall sand reserves in the borough
Bridestone Quarry, Congleton	Sandstone	Building/dimension/ ornamental stone
Bridge Quarry, Kerridge, Macclesfield	Sandstone	Building/dimension/ ornamental stone
Endon Quarry, Kerridge, Macclesfield	Sandstone	Building stone and aggregate
Marksend Quarry, Kerridge, Macclesfield	Sandstone	Building stone and aggregate
Gawsworth & Rough Hey Quarry, Macclesfield	Sandstone	Aggregate

5 Peat and Salt minerals and the permitted sites fall outside the scope of the LAA and are not reported within that assessment

6 https://www.cheshireeast.gov.uk/pdf/planning/spatial-planning/researchand-evidence/minerals-and-waste/cec-laa-2023-2022-data-v2-ratified.pdf

Site	Mineral type	Commentary
Lee Hills (also known as Croker Farm Quarry) Macclesfield	Sandstone	Aggregate
Ralph Henshaw Rainow, Macclesfield	Sandstone	Building stone and aggregate
Sycamore Quarry Kerridge, Macclesfield	Sandstone	Building stone and aggregate

3.2 The current activity on these sites is summarised below by mineral type:

- Sand - at the end of 2022, there were five active sand sites extracting aggregate and silica (industrial) sands, although White Moss is excluded from the sand reserve. The former Dingle Bank Quarry in Chelford was in its restoration/aftercare phase.
- Sandstone - there were six active sandstone quarries and three were inactive.
- Salt - controlled solution brine mining - Warmingham Brinefields for salt (brine) was active.
- Peat - Lindow Moss, Wilmslow, the commercial extraction of peat cessation is linked to a planning permission for a small housing development which was permitted.[7] This means that peat extraction can only take place if it is required for restoration purposes, that is, rewetting of the peat bogs.
- White Moss Quarry, near Alsager has an extant planning permission that allows peat extraction to 2028.

Review of old mineral permissions

3.3 The Environment Act 1995 (Section 96) placed a duty on all MPAs to review and update planning permissions for mineral sites which were granted planning permission under the Town and Country Planning Acts between 1948 and 1983; and to then undertake a periodic review every 15 years thereafter in order to make sure they have modern planning conditions that accord to acceptable environmental standards. This automatic duty to periodically review every 15 years was amended by the Growth and Infrastructure Act 2013 and the legislation sets out that the MPA can seek a periodic review of planning conditions at a period of no earlier than 15 years after the initial review. The majority of permitted mineral sites within the borough are not subject to review under the review of old mineral permissions (ROMP) because they already have up to date modern planning conditions attached that accord to acceptable environment standards. The small number of ROMPs that exist in the borough are listed below.[8]

7 The s106 on the housing permission (15/0016M) says in Schedule 1 that there shall be no commencement of development on the housing site until they have commenced development on the restoration permission. Additionally condition 1 of the permission on the peat site says that there shall be no further peat extraction within the application site other than where required for the implementation of the Restoration Scheme.

8 Permitted sites subject to ROMP include Phase 1 sites having planning permissions issued between (1948 to 1969) include Bridge, Sycamore, Endon and Gawsworth/Rough Hey and Lee Hills/Croker Farm Quarries. Phase 2 sites having planning permissions issued between (1969 to 1982) include Warmingham Brinefield (Hill Top Brinefields) and North Arclid Quarry.

Nationally, ROMP sites have had an end date of 22 February 2042 imposed on them if they did not have a specific end date and/or were granted permission before February 1982.

4 Meeting the requirements for minerals

4.1 Further information on whether the council is currently meeting any national requirements of need is provided below by mineral type.

Salt

Requirement

4.2 The NPPF refers to salt as an industrial mineral necessary to meet society's needs, which is of both local and national importance. The NPPF requires a steady and adequate supply of industrial minerals to make sure adequate provision is made.

4.3 The Cheshire salt resource is one of the most significant nationally and accounts for some 85% of UK production. Rock salt is extracted from below ground via a mine-head located in Winsford in the neighbouring council area of Cheshire West and Chester, controlled solution brine mining takes place at the Warmingham Brinefields below Cheshire East and is piped directly to the British Salt production facility at Middlewich for processing. This salt is used as an essential raw material in chemical, pharmaceutical manufacturing and food production and is supplied to end users nationwide. Salt extraction within Cheshire is essential to both the local and national economy.

After use of cavities

4.4 Many of British Salt's old production cavities beneath Cheshire East are in use for storing natural gas, providing the UK with gas storage facilities which are used to help balance gas supplies.

Sand

4.5 Sand extraction is also important in Cheshire East with the sand resource consisting of both aggregate (construction) and silica (industrial) sand. The borough has historically been a major regional resource for construction sand for use both as mortar and fill material, but this has declined in the last decade owing to existing aggregate sand quarries being worked out and the permitted reserve not being replenished through new sites or planning permissions.

4.6 Silica sand remains a nationally and locally significant resource of industrial sands with extraction taking place at four quarries. The quarry at Rudheath Lodge near Allostock is worked across the administrative boundary with Cheshire West and Chester Council, whilst the other three quarries are located in the south of the borough close to Sandbach (Arclid Quarry) and Congleton (Eaton Hall Quarry and Bent Farm Quarry). Silica sand is the primary material extracted with varying amounts of sand suitable for aggregate uses supplied from each site depending on the characteristics of the permitted area being worked.

4.7 To meet the requirements of the NPPF, Cheshire East needs to make provision for a steady and adequate supply of aggregates. More specifically this means providing for land banks of at least 7 years for sand and gravel. The latest ratified LAA 2023 (2022 data) illustrates the various methods used to plan for a steady and adequate supply of aggregates based on calculation of past sales using 10 years sales average, three years sales average and apportionment figures. Having assessed these against a series of local indicators, the preferred methodology identified for forecasting need over the plan period is the council's own local rate. This comprises the NPPF 10 year sales average plus a 2% annual uplift based on a projected future growth rate (based on Growth Value Added forecasts) for the local plan period.

4.8 The LAA 2023 reported an aggregate sand and gravel landbank using the required NPPF 10 years sales average. The 10 years sales average provided a 5 year landbank, and the preferred local rate reported a landbank of 4 years. Both methodologies are below the NPPF requirement of at least 7 years with a declining sand reserve of less than 2 years remaining (at the end of 2022).

4.9 The entire sand reserve in Cheshire East at the end of 2022 was estimated to be 14.5 million tonnes, with the majority being silica (industrial) sand. The extent of the aggregate sand and gravel reserve will of course fluctuate each year depending on the actual rate of extraction and the extent to which they are replenished through new planning permissions.

Silica (industrial) sand

4.10 The borough contains high quality silica sands, which are nationally relatively scarce. The British Geological Survey (BGS) have identified the Cheshire resource as one of the most important in the country providing almost 44% of the total production in England in 2018. Silica sand is used primarily for specialist purposes due to its physical and chemical composition. It is referred to as an industrial mineral.

4.11 The NPPF recognises silica (industrial) sand as an industrial mineral that Cheshire East is required to plan for a steady and adequate supply of based on at least 10 years sales average at individual sites and at least 15 years for silica sand sites where significant new capital is required. At the end of 2022, the council estimated that 2 of the 4 silica (industrial) sand quarries had reserves of more than 10 years and 2 did not.

Sandstone (crushed rock)

4.12 The NPPF requires Cheshire East to make provision for a steady and adequate supply of crushed rock aggregate, with a landbank of at least 10 years over the plan period. Whilst there is a sandstone reserve of approximately 4.86 million tonnes and the permitted sites having planning permission beyond 2035, these supply the building/ dimension or ornamental stone markets rather than the aggregate market. The sites previously used for producing aggregate crushed rock in the borough have been inactive for a prolonged period. In view of this position, it has been determined that there is currently no permitted crushed rock aggregate reserve in Cheshire East. This means that the council is currently entirely reliant on crushed rock imports from outside of the borough. The LAA 2023 presents the methodology for forecasting demand for crushed

rock aggregate for the Cheshire sub region (that is Cheshire East and Cheshire West and Chester Council's) based on the average of the 2014 and 2019 import data for crushed rock of some 1.84 million tonnes. This is the starting point base date for forecasting future demand over the period 2023 to 2042 and has been updated to the 2022 baseline of 1.91 million tonnes. Annual demand for the Cheshire sub region is 2.36 million tonnes with a total requirement of 47.3 million tonnes between 2023 to the end of 2042.

4.13 The forecasts and supply requirements for aggregate minerals are currently based on the draft Minerals and Waste Plan, which had a timescale to the end of 2041. Clearly as the new local plan period is determined, the supply requirements and forecasts of need will be extrapolated to the new local plan end date.

Energy minerals

4.14 Energy minerals include coal, oil, and gas. They remain an important source of energy that underpins much activity in the modern world. This includes powering industry to produce everyday goods, heat homes, as well as provide fuel for transport to supply and carry people and goods.

Coal

4.15 Coal is present beneath much of Cheshire East. It is mostly buried at great depths beneath much younger geological layers. There are currently no active coal workings in the borough. There is a history of mining around Poynton and Mow Cop where coal seam come closer to the surface. The council does not think it is necessary to make specific provision for coal mining in the plan. Government proposals centre around reducing climate change by scaling up the development of clean power generation and energy efficiency measures. These include accelerating efforts towards the phasing down of unabated coal power and phasing out of inefficient fossil fuel subsidies.

4.16 The council will consider any proposals for coal extraction against the relevant development plan policies and the NPPF, which states at paragraph 223 that “Planning permission should not be granted for the extraction of coal unless:

a. the proposal is environmentally acceptable, or can be made so by planning conditions or obligations; or
b. if it is not environmentally acceptable, then it provides national, local or community benefits which clearly outweigh its likely impacts (taking all relevant matters into account, including any residual environmental impacts).” The council will safeguard the shallow coal resource as part of its mineral safeguarding policy.

Hydrocarbons (oil and gas)

4.17 Reserves of oil and gas are referred to as either conventional or unconventional hydrocarbons depending on the nature of the geology where they are found, and, as a result, how easy they are to extract. Conventional hydrocarbons are oil and gas deposits that have migrated from their source rock (such as shale) into permeable or porous rock such as sandstone but are now prevented from migrating further by impermeable rock.

This traps the hydrocarbons beneath the impermeable rock where it collects and forms a reservoir. This resource is relatively easy to extract through conventional oil and gas wells. The process of onshore extraction has been undertaken within the UK for over one hundred years and there are currently around 2,100 of these wells in the UK. While some hydrocarbon exploration has taken place in the past, there are no wells or planning permissions associated with conventional hydrocarbon activity in Cheshire East.

4.18 Unconventional hydrocarbons refer to oil and gas that is trapped within rocks of low permeability and, as a result, these hydrocarbons are more difficult to extract. The unconventional resources likely to be of relevance to Cheshire East are shale gas and coalbed methane. Shale is formed from muddy sediments rich in organic matter deposited in seas millions of years ago. As these sediments were buried, they were heated and turned into rock and the organic matter was converted into gas and oil which is trapped in the rock. Hydraulic fracturing commonly known as “fracking” is a technique used in the extraction of gas from shale rock. Coalbed methane occurs when methane is bound within coal by a process known as adsorption, namely where gas molecules adhere to surfaces or fractures within the coal. It is extracted by borehole in a similar process to shale gas but, instead of injecting water as high pressure to fracture the rock, the gas is released from the coalbed by pumping out the water that occurs naturally in coal seams.

4.19 The exploration, appraisal and extraction of hydrocarbons are controlled by the government through a licensing system, with relevant consents being required from the MPA, Environment Agency and Health and Safety Executive. The latest (14th) round of PEDL were announced in December 2015, with companies invited to bid for exclusive rights to specific areas. There are six PEDL areas covering ten grids of land within or partly within Cheshire East, which were issued though the 14th Onshore Licensing round. The licences convey no permission for operations on land but give exclusivity for exploration operations against other oil and gas exploration companies within a defined area. The PEDLs issued in Cheshire East all have extant status.

4.20 No applications have been made to date within the borough because of the issuing of these licenses and no sites in Cheshire East have planning permission to explore, appraise or extract unconventional hydrocarbons such as shale gas. In addition, the government moratorium on fracking related applications and activity in England remains in place under the current Prime Minister Rishi Sunak. However, the council considers it prudent to include a hydrocarbon policy in the new plan that includes for unconventional hydrocarbon extraction in case this position should change during the plan period.

5 Safeguarding of mineral resources and infrastructure

5.1 The NPPF requires mineral planning authorities to use MSAs to identify and safeguard mineral resources in their area. These provide long-term protection for mineral resources to ensure they are not sterilized by major non-mineral development, thereby making them available as a potential resource for use by future generations. Whilst the Local Plan Strategy includes a policy (Policy SE 10) that in part seeks to safeguard important mineral resources and infrastructure in the borough, the detail of how this is proposed to be achieved is set out within the draft Minerals and Waste Plan that is, through Policies MIN 1 `Mineral Safeguarding Areas' and MIN 2 'Safeguarding mineral supply sites and infrastructure'. The MSAs and mineral supply sites/ infrastructure that have been identified are shown on the council's interactive mapping. These are based on BGS geological maps and the recommendations contained within the Cheshire Sand Study 2019,[9] which indicates the likely extent of the silica sand resource in Cheshire East beyond that previously shown on the 2006 BGS Mineral Resource Map of Cheshire.

5.2 In response to received comments on the draft Minerals and Waste Plan consultation, the council is considering whether to extend the identified mineral safeguarding areas to include a proposed safeguarding buffer zone of 250m beyond the known resource. This may better define the MSA for the purposes of planning application consultations.

9 Cheshire East Sand Study 2019-2020 https://www.cheshireeast.gov.uk/pdf/planning/spatial-planning/cheshire-east-sand-study-2019-20-final-report.pdf