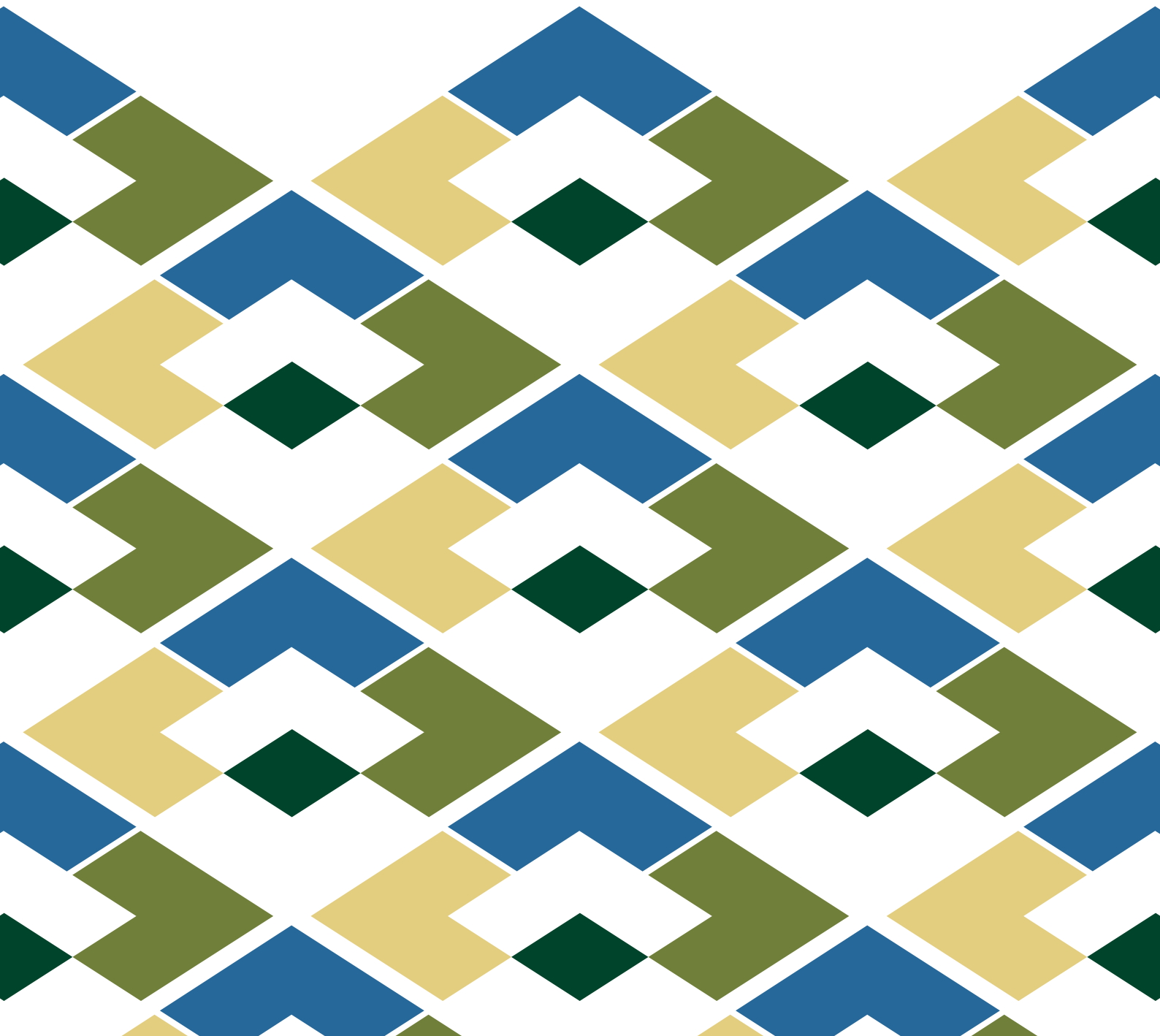


# Minerals and Waste



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## **Introduction**

Part 1 considers matters relating to construction minerals. Part 2 considers the energy policy context as it affects opencast coal. Part 3 considers site specific matters relating to possible areas of search for coal. Part 4 considers other energy matters, including unconventional gas. Part 5 considers waste matters.

## **Part 1: Construction Minerals**

### **1.1 Background**

Scottish Planning Policy requires that planning authorities ensure a landbank of permitted reserves for construction aggregates of a minimum 10 years extraction is available at all times in all market areas. Work has been undertaken under the auspices of the Strategic Development Planning Authority for Edinburgh and South East Scotland (SESplan) to establish whether such a landbank is in place. SESplan findings in this regard are set out in the Edinburgh and South East Scotland Strategic Development Plan Minerals Technical Note (SESplan MTN). Midlothian Council considers that Midlothian on its own does not constitute a market area and that it is reasonable to consider South East Scotland as a market area for hard rock, sand and gravel.

1.2 A survey of the aggregates industry in South East Scotland was undertaken in early 2011. This found that there was a 20 year supply of sand and gravel from the start of 2011 (based on 2010 production levels) or 17 years based on anticipated 2011 levels. The findings for hard rock were a 37 and 34 year supply respectively. On the face of it, there is not, at present, a need for additional sites for sand and gravel extraction. However this survey was conducted in an ongoing economic recession, and caution should be exercised with a voluntary survey as the absence of some respondents may skew the results.

1.3 An alternative landbank assessment technique has been presented in the SESplan MTN for comparison purposes. The Annual Minerals Raised Inquiry (AMRI) is carried out by the Office of National Statistics. Operators are obliged to co-operate under the Statistics of Trade Legislation, and so it achieves a high participation rate. By assuming that extraction in the SESplan area is the same per head of population as Scotland overall, a SESplan extraction rate is derived. The information on the consented reserves from the SESplan minerals survey is then used to calculate the landbank. By this method a 4.5 year landbank for sand and gravel, and a 13.5 year landbank for hard rock is calculated. This method is not ideal, as it relies on assumed pro-rata figures, mixes numerator and denominator data from different sources, and still relies on the SESplan survey (with less than complete response rate) to source the numerator. However it is more consistent with the earlier Scottish Aggregates Survey, and the operators' opinion, voiced at liaison meetings, that there is a national shortage of sand and gravel reserves.

1.4 In Midlothian, the extant Outerston site has seen a slower extraction rate than expected at the time of consent, and an application has been received to allow extraction to continue until 2025. Given the severity of the recession, and the likely increased house-building and major projects in South East Scotland over the life of the Midlothian Local Development Plan (MLDP), it appears prudent to seek to identify additional reserves for sand and gravel extraction. There does not appear to be a need under either of the

landbank assessment scenarios set out above to identify additional areas of search for hard rock extraction.

1.5 There are limits to the degree to which the supply of minerals can be planned for in a quantitative way. Even where the presence of a construction mineral is indicated on resource maps, the volume, quality and consequent scale of the marketable resource that can be derived from a given land area is unknown to the planning authority. There is no mechanism to apportion aggregate requirements to individual authorities. At this stage of the MLDP process, minerals operators have not indicated preferred sites for extraction.

1.6 In preparing the 2003 Midlothian Local Plan, the Council commissioned a study, undertaken by the British Geological Survey (BGS), to provide an assessment of which sand and gravel resources may prove attractive to the extractive industries. The study identified where BGS believed the prime resource to be located, though detailed exploration would be required to confirm the existence of workable reserves. The prime resource is located in six general areas: Old Pentland to Roslin; Carsewell, west of Penicuik; Toxside & Mauldslee; Middleton; Howgate; and Outerston. The first four areas listed above were not favoured for sand and gravel working when considered against environmental factors. Subsequently a sand and gravel site has commenced operation at Outerston. No interest was shown in Howgate and this location was deleted as an area of search in the 2008 Midlothian Local Plan. A further minerals site, for sand only, was approved at Upper Dalhousie and commenced extraction in 2009: extraction is required to finish by the end of 2026.

1.7 The existing sand and gravel site at Temple Quarry, Outerston, and the sand extraction site at Upper Dalhousie appear to be working satisfactorily. Subject to further assessment and consultation through the MLDP Main Issues Report (MIR) process, temple Quarry, Outerston could form the basis of an expanded area of search for minerals extraction. In relation to further expansion at Upper Dalhousie, the Bonnyrigg Distributor Road will see additional traffic from the coal option set out in Part 3. Accordingly it is not proposed to identify an increased area of search to allow for expanded sand extraction activities at Upper Dalhousie in the preferred strategy. However, Midlothian Council is required where possible to identify reasonable alternatives for comparison purposes under the Environment Assessment (Scotland) Act 2005. This area could be a reasonable alternative, if coal options do not proceed.

1.8 In terms of the historic area of search for sand & gravel around Howgate (in the development plan effective 2003-2008), this too would require a haul route based on the A6094 and Bonnyrigg Distributor Road. In view of conclusions elsewhere in this note with regard to opencast coal extraction, it is not proposed to reinstate a Howgate area of search due to possible adverse cumulative effects.

1.9 Through the consultation on the Main Issues Report, Midlothian Council will seek the views of the minerals industry and concerned local interests on the appropriateness of its suggested expanded area of search, with a view to defining boundaries in greater detail. The consultation may assist in determining whether there are other locations which have the potential to be areas of search.

1.10 Limestone has not been worked in Midlothian for some time. It is not proposed to establish areas of search for this mineral, and any applications would be determined on their

merits, using the appropriate resource protection policies. There are historic peat extraction operations continuing in Midlothian, based on consents dating back to the early 1980s, but the MLDP is likely to include strong protection for peatlands, and new peat extraction will not be encouraged.

### **1.11 Conclusion**

The preferred strategy for mineral working with respect to sand and gravel, as presented for consultation in the Main Issues Report, comprises:

- Temple Quarry (Outerston) as the basis of an expanded area of search for sand and gravel, but detailed boundaries not to be defined at this stage; seek views from industry, community and key agencies through Main Issues Report process.
- Expansion of sand extraction at Upper Dalhousie as a reasonable alternative, in addition to Temple Quarry. No detailed boundaries to be set; seek views from industry, community and key agencies through Main Issues Report process.

## **Part 2: Energy and Planning Policy Context**

### **2.1 Energy policy**

Combustion of fossil fuels releases greenhouse gases. Policies at European Union (EU) and national level are designed to meet international commitments to reduce the release of these gases. These policies have the effect of making coal less attractive over time. A long term future for coal may be secured if carbon capture and storage (CCS) can be developed.

2.2 The EU has committed to reduce its CO<sub>2</sub> emissions by 20% by 2020 relative to 1990 levels. There are a number of policy actions in connection with this commitment. The Renewable Energy Directive (2009/28/EC) requires 20% of the EU's total gross fixed consumption of energy to be from renewable sources by 2020. Individual targets are set for member states (the UK target is 15%). The Directive defines renewable energy (the definition includes biomass, which is significant in terms of substitution of coal at existing power stations). In 2005 the EU launched an Emissions Trading System (ETS), which covers energy production and most industrial sectors – emissions allowances are allocated or auctioned up to a capped limit which is to be progressively lowered. Companies emitting CO<sub>2</sub> must be in possession of an emissions allowance or pay a fine if they exceed the allowance. The emissions allowances may be traded between companies. The EU has also set in place a framework for Carbon Capture and Storage (CCS), a programme for improving energy efficiency, and a European climate change programme.

2.3 The EU Large Combustion Plant Directive (LCPD) is also relevant to the demand for coal. This Directive was actuated by a desire to control pollution (as opposed to climate change related gases) but has wider implications as many older coal fired stations will be taken out of service in consequence. The LCPD has been succeeded by the Industrial Emissions Directive (IED) (2010/75/EC) which will amalgamate several separate directives and also require higher standards than the LCPD. The Scottish Government consulted on draft regulations to transpose the IED into domestic law in 2012: the EU require transposition to be completed by early 2013.

2.4 The UK Government policy is set out in the 2007 Energy White Paper 'Meeting the Energy Challenge', and the 2009 Low Carbon Transition Plan. There has been a change of

UK Government since publication of the White Paper, but the basic goals remain: to decarbonise energy use (including electricity generation), to ensure security of supply, and to encourage competitive markets with every home heated adequately and affordably. The UK Climate Change Act (2008) requires greenhouse gas emissions to be cut by 34% by 2020 relative to 1990, with an 80% reduction on 1990 levels to be achieved by 2050.

2.5 The Low Carbon Transition Plan 2009 (LCTP 2009) projects that 22% of UK electricity will be generated by coal in 2020 (cf. 32% in 2010). This projection is based on retiral rates for existing power plant and adoption of increased renewable energy, in the context of electricity accounting for an increased share of energy consumption. The LCTP 2009 notes that electricity is likely to be used more extensively for heat and transport, but any fossil fuel emissions to the atmosphere from this sector will need to be captured and stored. The LCTP 2009 further proposes a number of actions to facilitate adoption of CCS technology. A new Energy Bill was introduced to the UK Parliament in 2012. The crux of the Bill's provisions are measures to provide greater certainty to investors to bring forward capital investment in low carbon technology to replace obsolete plant and cope with rising demand (although energy efficiency is to be greater, the UK population is increasing and greater use of electric power in transport and heat is predicted).

2.6 A number of taxes and incentives are in force to meet the obligations set down in legislation. The Climate Change Levy acts to discourage non-domestic consumers of electricity. From April 2013 the Treasury will introduce a Carbon Price Floor. This is a measure prompted by concern that the variability in the costs of emissions allowances in the EU ETS gave insufficient certainty to developers of low carbon plant. The Carbon Price Floor is in the form of a tax should the costs of carbon emissions under the ETS fall below the 'floor', and will increase over time – it is intended to act as a stimulus to non or low carbon production.

2.7 The Scottish Government has set out its approach to energy policy in Energy Policy: An Overview, September 2008. The overarching goal is to seek to achieve sustainable economic growth. The Scottish Government approach to energy supports the continued extraction of coal, in tandem with the development of clean coal based electricity generation. The Scottish Government has published guidance for applicants on issues relating to thermal generation (viz. carbon licensing and thermal efficiency). The Climate Change (Scotland) Act 2009, requires an 80% cut in greenhouse gas emissions (CO<sub>2</sub> equivalent) by 2050, relative to 1990.

2.8 The draft Electricity Generation Policy Statement (EGPS) 2012 for consultation, examines the way in which Scotland generates electricity and considers the changes necessary to meet SG targets. The Scottish Government's policy is that renewable generation should operate alongside upgraded and more efficient thermal stations, and that there should be a role for CCS. The Climate Change (Scotland) Act 2009 requires, among other things, a largely decarbonised electricity generation sector by 2030, and that carbon (and carbon cost) is taken into account in strategic and local decisions about rural land use.

2.9 The draft EGPS 2012 states that a minimum of 2.5 GW (or 2500 MW - for comparison Longannet is rated at 2400 MW) of new or replacement thermal generation would give security of supply and support electricity exports. This would be progressively

fitted with CCS. The SG does not support unabated new coal plants, and any new power station must demonstrate CCS on 300 MWe of capacity from commencement of operation.

2.10 Of relevance to coal (in as much as it alters market conditions by favouring other energy sources) is the Renewables Obligation (Scotland) or ROS. This obliges electricity suppliers to produce a rising proportion of their electricity by renewable sources over time, or make compensatory payments. An additional incentive scheme, feed in tariff, is more focussed on encouraging smaller scale renewable generation.

#### **2.11 Major coal users in Scotland**

The coal fired Cockenzie power station (1200 MW) is to cease generation in March 2013, and be replaced by a gas powered station. Longannet Power Station (2400MW) is continuing in operation. An application to extend the life of the plant by installing Selective Catalytic Reduction (SCR) and additional lagoon space for ash disposal (made under S36 of the Electricity Act 1989) was granted by Scottish Ministers in 2010. The upgrading will allow the plant to meet EU Large Combustion Plant Directive (EU LCPD) regulations. The subsequent Industrial Emissions Directive sets higher standards (to be transposed into national standards by early 2013). There is uncertainty as to whether Longannet will opt in to meeting the requirements, or will choose to opt out and so be able to operate at limited hours of operation from 2016 until the end of 2023. The MLDP must look ahead to 2024, so even if further investment is not made, the plant will continue for the majority of the life of the MLDP. It is unlikely now that CCS retrofit will take place at this site. In 2010, 4m tonnes of coal was consumed at Longannet, 38% sourced from Scotland (source Scottish Power, Longannet EMAS statement, 2010). In 2011 this fell to 3.782m tonnes, 38% still sourced from Scotland. The Ayrshire Power proposal for a 1600MW coal fuelled power station with partial CCS at Hunterston, was withdrawn in June 2012. This location was designated as a clean coal power station site in the Scottish Government's National Planning Framework for Scotland 2. Summit Power Group are reported to be planning a new build CCS coal fuelled station at Grangemouth of c500MW capacity. The scheme has yet to proceed to a planning application, and negotiations are continuing with the Department of Energy and Climate Change (DECC) and the Scottish Government over the funding structure to support CCS. Grangemouth is better sited in relation to potential CCS reservoir opportunities in the North Sea. As a new build plant there is potential for a more economic solution than with retrofit of an existing plant.

#### **2.12 Scottish Coal Production**

In 2011 Scottish mines produced 5.527 million tonnes, of which 64,000 tonnes came from the one operational site in Midlothian at Shewington (nearing cessation of operations at that time and now undergoing restoration). In the previous year the site was in full operation and produced 223,000 tonnes (of a Scottish total of 6.038m). Over the 5 years 2007 to 2011 inclusive, Scottish coal production was 29.201m tonnes, an average of 5.84m tonnes per year. Midlothian production was 806,000 tonnes over that period, an average of 161,000 tonnes per year, although production from Midlothian has been much more variable relatively, over the 5 years. It is understood from discussions with the industry, that Lothian coals continue to be marketable.

### **2.13 Scottish Planning Policy**

SPP states that extraction of coal is necessary and in the national interest (para 239). Development plans should identify broad areas where surface coal extraction may be acceptable and set the criteria to be addressed when assessing individual proposals. When reviewing plans, authorities should reconsider identified search areas and consider new search areas, taking into account any new information and the views of the Coal Authority and the industry. Areas of search should provide realistic opportunities for coal extraction and provide communities with an appropriate level of certainty. Coal deposits should not be sterilised unnecessarily, and planning authorities should incorporate possible extraction timescales into the development plan. Development plans should aim to minimise significant negative impacts on the amenity of local communities, the built and natural heritage, and other economic sectors important to the local community. Outwith areas of search there is a presumption against surface coal extraction. Within areas of search there is also a presumption against surface coal extraction unless the development meets one of two tests: (i) it is environmentally acceptable, or (ii) local or community benefits are provided that outweigh likely impacts of extraction. The SPP proceeds to set out environmental, amenity, transport and restoration matters of significance. Some matters of particular note are: (i) surface extraction is unlikely to be acceptable if it results in a period of disturbance to a community for more than 10 years; (ii) planning authorities should decide what constitutes a community, (iii) attempts to secure unreasonable provision not directly related to the application should not be taken into account in decision making on planning applications; and (iv) operators are encouraged to aim for environmental improvement rather than restoration.

### **2.14 National Planning Framework for Scotland 2 (NPF2)**

NPF2 states that ‘Given the variable output of some renewable sources of energy large baseload power stations will have a role to play...’. NPF2 designates a clean coal fired power station location at Hunterston as a national development. The NPF notes the potential for CCS at existing stations, and general principles for new thermal power stations. NPF2 notes the potential of methane in coal beds, and states that planning authorities should consider the potential for extraction when preparing their development plans. The NPF2 notes the importance of Scotland’s peatlands as a carbon store and the need to protect them.

### **2.15 Edinburgh and South East Scotland Strategic Development Plan Proposed Plan (SESplan PP)**

SESplan PP Policy 4 is applicable. The SESplan PP requires LDPs to consider the need for areas of search for minerals (including coal) or where appropriate specific sites, having regard to national guidance and other environmental objectives of the SESplan PP. The PP also requires LDPs to set out the criteria to be addressed when assessing individual proposals, and to consider mineral safeguarding. There is a presumption against surface coal extraction outside areas of search. Aggregate minerals should be worked as close as possible to where the need arises, but no similar requirement is made for coal. Where feasible, transport, should be by rail or water, and LDPs should consider transport matters and seek to minimise impacts on communities. The proposed approach in the SESplan PP is the subject of objections.



## 2.16 Conclusion

The decision on whether coal can continue in the longer term to be one of the country's main sources of energy, and whether or not this is compatible with climate change obligations is being addressed by national and European authorities. Regulations, and a series of monetary incentives/disincentives which act upon the producer and ultimately the consumer of energy, have been introduced. These taxes, regulations and incentives (described above in this note), aim to capture the negative and positive effects of different courses of action upon the wider environment that arise through using different energy sources within the electricity market - the wider effects known in economics as 'externalities'. The Stern Review on the Economics of Climate Change attempted to quantify these costs (which are experienced on a world scale and not necessarily in the same territory of the process that is generating the externality). It is possible that these policies may lead to higher costs to consumers, but this allows for rational decision making, in the context of the true costs of the activity (including the 'externalities').

2.17 Midlothian Council is a signatory to Scotland's Climate Change Declaration. Under the Climate Change (Scotland) Act 2009, the Council must, in carrying out its functions, act in the way best calculated to contribute to delivery of national greenhouse gas targets. However, the planning system should not attempt to carry out functions better performed by legislation. The approach set out in climate change Directives, Acts and regulations has been to influence the users of coal. Attempting to control climate change through land use control of coal extraction in a particular local authority area, or in Scotland more generally would be ineffective, as coal is an internationally traded commodity, and this approach is not supported by national policy. The UK currently imports around two thirds of its coal from overseas, the most important sources being Russia, Colombia and the USA. These longer haul distances have negative climate change impacts relative to domestic production.

2.18 The result of wider policy changes is likely to reduce demand for coal over time. The Department for Energy and Climate Change (DECC) produced Revised Energy Projections in 2012. The Electricity Supply Industry is the principal market for coal. DECC estimate that 108.9TWh of electricity was produced from coal in 2011 (Source: Digest UK Energy Statistics, 2012). This falls to 25.7TWh in 2024 under the central scenario projection. The projection assumes that coal powered demonstration CCS of c3.0TWh annual production will be delivered around 2017, and no commercial CCS until 2025. The effect of these changes can already be seen locally, with the closure of Cockerhills Power Station. Several English and Welsh power stations will also be closing due to LCPD, and others will close by 2015 as their 'permitted hours' of operation are used up. Other power stations are converting to use biomass. The Office for Rail Regulation (ORR) has decided to change the track access charge regime for selected freight flows, including coal supplied to the electricity supply industry, to be phased in from 2016. The ORR estimate that the overall cost per trainload will increase by 3-5% as a result of this change. This change will place Scottish Coal at a disadvantage in the English market as rail transport costs are a higher proportion of total costs given longer haul distances. These developments taken together have implications for the Scottish industry as around 50% of production has been exported to England in the recent past.

2.19 Recent market conditions have seen the price of coal fall due to prolonged recession in developed economies and lower growth in developing countries, and displacement of coal

from North American markets by shale gas. One coal producer, ATH resources, has entered administration, and difficulties have been reported across the industry. The market instability raises concerns about site restoration. Midlothian Council will need to ensure that any opencast sites that it consents are supported by robust arrangements to ensure that obligations to restore the sites can be upheld, even in the case of an operator entering receivership.

2.20 Despite the problems of the industry, there are obligations on the Council under SPP and the SESplan PP to consider areas of search for coal. There is an ongoing need to supply Longannet. There is more tentative potential for additional coal use at Grangemouth (Summit Power proposals). A combination of factors is likely to reduce demand for coal over the life of the MLDP, but if CCS can be delivered the industry may have a long term future.

2.21 If there are coal fuelled power stations, there are economic, environmental and energy security benefits from supplying these with Scottish coal. Although Midlothian does not have the same proximity to Longannet as Cockenzie, it is in the same strategic planning area, and gives rise to relatively short haul distances (albeit with limited potential to use rail haulage). There is no mechanism to set or apportion coal requirements to different planning authority areas. In this respect it seems appropriate to consider recent extraction levels as a yardstick on which to base future operations. There may be a case to expand on past extraction levels to avoid prolonged extraction periods at a single site, and to gain economic and employment benefits for Midlothian. Midlothian Council will have to come to a judgement on this, through the LDP process.

2.22 The established minerals policies (in terms of coal and construction minerals) appear to have worked well, and the industry has a recent history of high quality restoration in Midlothian. From monitoring of local media and planning service knowledge there do not appear to have been problems with the operation of the recent Shewington opencast coal site (in part due to an appropriate location), or the construction minerals sites. The recent problems of the coal industry have raised concerns regarding the robustness of restoration arrangements. This may need careful assessment at development management stage in terms of phasing, conditions and legal agreements, but there is no overarching policy change that could introduce further certainty.

2.23 The EU Mining Waste Directive (2006/21/EC) or MWD was transposed into Scottish law in 2010. This Directive affects extractive waste (that is waste produced by the extractive industry), so both coal and construction minerals operations are affected. The regulations seek to introduce a proportionate and risk based approach to dealing with mining waste to be applied, primarily, through the planning system. Midlothian Council will consider the necessary changes to policy to reflect the need for waste management plans; this is not a major issue requiring to be raised in the MIR.

### **Part 3: Consideration of Potential Areas of Search for Coal**

#### **3.1 Existing areas of search for coal**

The Midlothian Local Plan (2008) identified four areas of search for coal at (i) Ancrielaw, (ii) Newbigging and Shewington (Rosewell), (iii) Gorebridge (Mountskip/Stobs) and (iv) Halkerston North (nr Arniston). The MLP also referred to the possibility of early extraction at

a reduced area of land (to remove sensitive areas, in landscape terms) at Airfield Farm, subject to the A68 Dalkeith northern bypass being completed and other sites being proven to be unviable.

3.2 The existing Ancrielaw area of search is included in the consideration of the expanded Ancrielaw/Cauldhall potential area of search, below. Extraction has ceased at Newbigging and Shewington, and restoration is underway. No extraction has taken place at Gorebridge (Mountskip/Stobs). In connection with the 2008 Airfield Farm application, Scottish Coal submitted evidence to the effect that Mountskip/Stobs was not viable. The expansion of Gorebridge to the south east now means that the community is within 500m of putative working areas, and the project would raise environmental concerns. This site has not been indicated as being of interest in the Midlothian Forward Strategy submitted by Scottish Coal in 2012. No extraction has taken place at Halkerston North, and there has been no indication of developer interest over the life of the Midlothian Local Plan. This site has not been indicated as being of interest in the Midlothian Forward Strategy (Scottish Coal 2012).

3.3 SPP requires that planning authorities reconsider identified search areas and consider new search areas, taking into account any new information and the views of the Coal Authority and the industry. In light of the above, the deletion of Newbigging and Shewington, Gorebridge (Mountskip/Stobs), and Halkerston North areas of search is recommended. Ancrielaw is considered below.

#### **3.4 New areas of search for coal**

There are two possible approaches to selecting new areas of search for coal. One would be to take the presence of the coal resource as indicated in either the Coal Authority (CA) or British Geological Survey (BGS) resource maps, exclude unsuitable areas on the basis of the application of environmental filter criteria, and then, by having regard to other pertinent factors (such as the suitability of haulage routes), determine the areas of search. A second approach is to take potential areas of search suggested by operators as a starting point, and then consider environmental factors to determine the distribution and revised boundaries of areas of search.

3.5 During the MLP period, Scottish Coal has been the only coal extraction operator in Midlothian. Through the period of the MLDP awareness raising exercise (2010), and the preliminary works on the Main Issues Report, Scottish Coal has again been the only operator to express interest in future coal extraction in Midlothian. In terms of identifying areas containing viable resource, the operator derived 'Areas of Interest' have advantages over the BGS/CA resource maps, as operators carry out more detailed site survey work and have a current appreciation of market conditions. Therefore the second approach set out above has been the basis of the areas of search for coal appraisal.

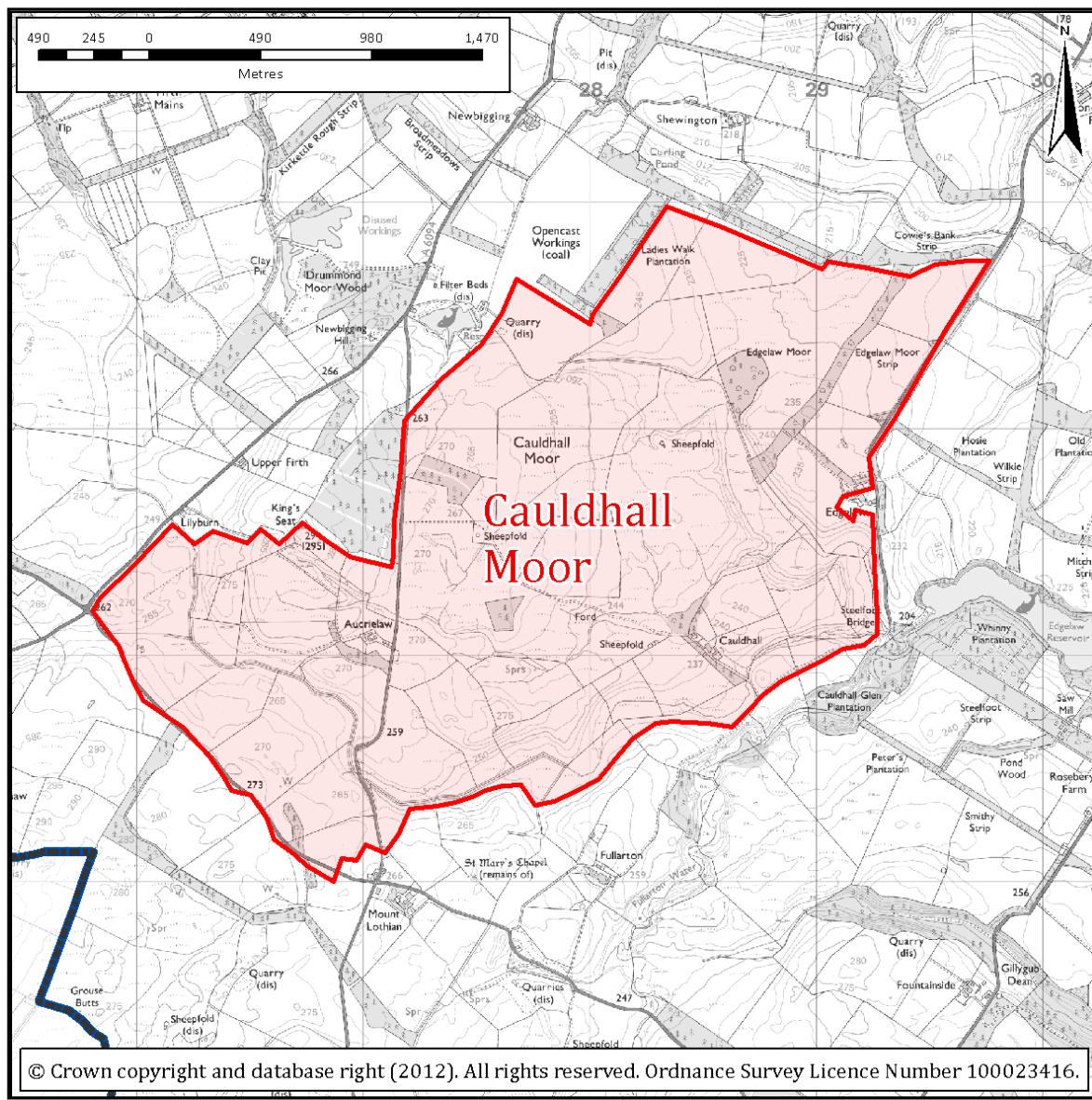
3.6 Scottish Coal submitted a Forward Strategy to Midlothian in February 2012. This set out four potential areas of interest at Cauldhall Moor/Ancrielaw, Dalhousie, Chesters Wood, and Airfield. Environmental Impact Assessment (EIA) is a process to consider the environmental implications of a project – it is not feasible or appropriate to carry out an EIA at the stage of identifying areas of search (this is properly a matter for an applicant at planning application stage). Strategic Environmental Assessment is carried out for plans, programmes and strategies. Each of the possible areas of search is considered in very

general terms below, in terms of broad environmental impacts. Scottish Coal indicated a preference to commence Cauldhall Moor at an early stage – a planning application for Cauldhall Moor was received in early 2013.

### 3.7 Cauldhall Moor

Cauldhall Moor incorporates the whole of the existing Ancrielaw area of search, as well as additional areas to the north east. Early discussions with Scottish Coal suggest that this location may contain approximately 12m tonnes (for comparison, there were approximately 1.5m tonnes at Shewington). The boundary as shown in the Scottish Coal 'Forward Strategy' submission (February 2012) is shown in Figure 1. A subsequent revised boundary for consideration was submitted in June 2012, which appears to be the basis for the planning application boundary.

**Figure 1: Scottish Coal area of interest at Cauldhall Moor (as advised in Scottish Coal's 'Forward Strategy' (Feb. 2012))**



3.8 Landscape The northern part of the potential area of search lies in the Area of Great Landscape Value (AGLV). The Council has undertaken a review of the Midlothian AGLVs in line with the 2005 Guidance on Local Landscape Designations produced by Historic Scotland and Scottish Natural Heritage. This review was carried out to determine if the Midlothian AGLVs fulfil the current requirements for local landscape designations identified in this 2005 national guidance. The review has helped inform the MIR and will help inform production of the MLDP. The AGLV Review identified seven proposed candidate Special Landscape Areas (SLAs) to replace the current AGLVs. The Landscape Technical Note provides further information on the AGLV review undertaken and the candidate SLAs that the review identified. The preferred position of the MIR is to support the replacement of the current AGLVs with the seven identified candidate SLAs. The MIR will seek consultation responses on this matter. The potential area of search would in part overlap with the identified South Esk and Carrington Farmland SLA (although to a lesser extent than the AGLV does now).

3.9 There is an intricate landscape to the south west which may be the remains of a glacial melt water channel – such features would be difficult or impossible to restore; the western side of the site is on higher ground, rising to the trig point marked as ‘Kings Seat’ and is more prominent. Land on the western flank of the ridgeline is visible to the A6094 and communities in the A701 Corridor beyond. The lower lying eastern part of the site (east of the Newbigging-Ancrielaw-Mount Lothian Road) has less landscape impact. The Lothians Landscape Character Assessment (SNH) 1998 classes the area as an ‘upland fringe landscape type’. It falls within character area 6: Gladhouse/Auchencorth moorlands. The landscape guidelines for the area refer to the need to uphold high standards of visual integration in any new mineral workings. The guidelines set out opportunities for woodland expansion in harmony with the scale of the landscape and integration of isolated small woodland features. The sensitivity of open terrain visible from both Moorfoots and Pentlands should be recognised. This leads to consideration of whether the area proposed by Scottish Coal should be modified in extent and whether a stronger requirement for post extraction enhancement should be required.

3.10 Midlothian Council's in-house landscape assessment (based on the boundary submitted in February 2012 (Figure 1)) was positive overall, giving the majority of the area 6/7 out of 10, and it was concluded that landscape problems could be overcome. There were concerns about extraction within the more intricate landscapes referred to above, which the assessment concluded should not be developed (this area, which includes most of the existing area of search was scored as 3/10). In terms of Scottish Coal's revised boundary, the area of woodland (now felled) on the eastern side of the ridgeline leading up to the hill known as King's Seat was also considered to be acceptable in landscape terms (refer to Figure 2 below).

3.11 Soils There are peat soils at this location, and the land is mostly poor quality agricultural land. SNH note that Blanket Bogs are protected under Annex 1 of the EU Habitats Directive. Peatland is valuable in two ways: as a store of carbon and as a habitat. SNH has concerns regarding opencast coal proposals on peatland, particularly deep peat (>50cm). SNH's experience is that there is limited success in terms of the removal, storage and subsequent reinstatement of peat.

3.12 Further study would be required to identify the depth of the peat and the contribution it makes to the ecosystem, but Midlothian Council would be likely to require that any deep peat remain in situ, with appropriate protective bunds and hydrology measures across the site to prevent drying out, and appropriate restoration and enhancement thereafter. Other shallower peat areas might be stored and reinstated. This may affect the viability and usefulness of the area of search.

3.13 Water matters The site has the potential to affect the Fullarton Water and other small watercourses leading to the Edgelaw Reservoir. Edgelaw Reservoir is a Scottish Water (SW) asset, and is a compensation reservoir not a drinking water abstraction site. SW has advised of the need to take care not to adversely affect the reservoir, but has reserved further judgement at this stage. A strategic raw water aqueduct, conveying water from the Megget Reservoir, crosses the south of the area, in the existing area of search. On evidence presented at this early stage, there are no matters presented which would lead the planning authority to expect that that this potential area of search is undeliverable in respect of SW operations.

3.14 There are a number of small watercourses around the potential area of search. The Scottish Environment Protection Agency (SEPA) state that the burn may pose an element of flood risk. Flooding has the potential to mobilise contaminants and the project level Environmental Impact Assessment (EIA) for development of the site would have to address this matter. The moor itself is boggy and presumably operators will require to dewater in order to carry out extraction. The preservation/restoration of the hydrology of the site will be an important factor in determining peat preservation and encouraging future formation.

3.15 The waters in the area form part of the Esk river system. Scotland's first River Basin Management Plan (RBMP) 2009-15, prepared to meet obligations under the EU Water Framework Directive, records the status of water bodies in Midlothian. The eventual objective is to reach good status. The RBMP seeks to prevent any slippage in water body status, while setting a framework for those water bodies classified as bad, poor and moderate to move towards good ecological status. To be compatible with RBMP objectives, new coal extraction development would be required to demonstrate no worsening of the water environment.

3.16 The Fullarton Water passes close to the eastern edge of the potential area of search. The 2008 status of this water body was poor, and the RBMP objective is for it to reach good status in 2027. Within the overall classification, ecological status was poor, but the chemical status was acceptable. Pressures identified as acting upon the water body were physical impediments to fish migration. Downstream from the Edgelaw Reservoir, the water flows into the Redside Burn. The 2008 status of this water body was poor, and the RBMP objective is for it to reach good status in 2027. Within the overall classification, ecological status was poor, but the chemical status was acceptable. Pressures identified as acting upon the water body were physical impediments to fish migration. From this point the water flows in the South Esk. The status of each section of the South Esk was found to be poor, with good status to be reached in 2027. Within the overall classification, ecological status was poor, but the chemical status was acceptable. Pressures identified as acting upon the water body were physical impediments to fish migration, and point source pollution from sewage disposal and the historic mining/quarrying of coal. SW and the CA were identified

as the potential or actual 'owners' of measures to remedy the point source pollution in this water body.

3.17 Underlying the potential area of search is the groundwater body known as the Dalkeith bedrock and localised sand and gravel aquifers (ID code 150226). The chemical status is recorded as poor, as a result of the mining and quarrying of coal. Point source pollution is projected to be remedied by 31/03/2014 by the coal authority. Diffuse source pollution is expected to remain a problem by the end of the first RBMP cycle – the stated reason for failure being the groundwater status recovery time. To summarise RBMP matters, the water bodies in the locality are subject to a variety of pressures, and any project must demonstrate no worsening of status.

3.18 The properties in the locality of the possible area of search use private water supplies; a future application at this location would need to address the maintenance of safe, secure supplies. There may be a need to extend the public system into the area (at the expense of the developer).

3.19 Biodiversity It has been possible to carry out some initial biodiversity assessment, in collaboration with The Wildlife Information Centre (TWIC). There are no international or statutory national, regional, or local nature conservation sites overlapping with the potential area of search. There are small areas of Ancient Woodland Inventory (AWI) in the area indicated on the SNH Ancient Woodland Inventory, and larger areas on the edge of the area. Paragraph 146 of SPP emphasises the importance of maintaining such woodland.

3.20 There are areas of Unimproved Neutral Grassland and standing water within the potential area of search boundary. Integrated Habitat Network areas of broadleaf woodland, wetland and neutral grassland are also noted – these are relatively small areas. It is for any EIA process to consider these elements further: some may be of core importance and should be preserved. This process may also give pointers to future restoration and enhancement of the site.

3.21 Transport The current haul route based on the A6094 appears to have operated successfully for the smaller scale Shewington/Newbigging operation. Midlothian Council would have to consider any change in trip rate from larger scale operations at this location and cumulative matters arising from re-activation of Drummond Moor landfill and the consented Auchencorth OCCS (Scottish Borders Review of Old Mineral Permission application). The future course of sand extraction operations at Upper Dalhousie is also relevant. If this potential coal site is to be operated over 10 years (in line with the SPP recommendation) this would suggest extraction and trip rates 4-5 times those experienced at Shewington-Newbigging.

3.22 The SESplan PP and national policy seek to reduce transport by road. SC's suggested alternative conveyor route to the Borders rail line (under construction) at Newtongrange raises concerns over intrusion into tranquil countryside and conflict with allocated development sites (Redheugh) and is unlikely to be favoured by Midlothian Council. Midlothian Council understands that the EIA and subsequent design for the Borders Rail line was based on passenger use only. The line is not expected to be operational until September 2015. The line has been designed around the passenger

timetable, with extensive single track sections, and is therefore unlikely to have spare capacity to support freight use between 06.00 and 24.00.

3.23 The former Waverley line branch from Eskbank to Peebles runs near the site: it has been converted to a cycleway and there are practical difficulties in attempting to re-activate this line, including line capacity on the committed line and possible property demolition – but most fundamentally the time needed to carry out such a reopening. Other options such as Millerhill or, for England bound flows, the existing road-rail transshipment facility at Ravenstruther (South Lanarkshire), might be considered in the context of seeking to reduce overall vehicle kilometres, but further study would be required into community impacts (the local road network to Millerhill has limited capability to accommodate significant flows that might be generated by Cauldhall Moor, using Ravenstruther necessitates a roundabout route and extensive sections of single carriageway roads). Assuming that Longannet is the likely destination, the views of Transport Scotland and Fife Council will be important in terms of the impact on trunk roads and the local network in the vicinity of Longannet Power Station. These trunk and local road effects are likely to be common to all coal extraction locations in Midlothian, if a rail based solution is not achievable.

3.24 Proximity to settlements, residential properties and other sensitive receptors There is a farm (Ancrielaw) within the area of interest. The settlement at Howgate is within 900m of the existing and potential area of search (AofS) edge. The potential new housing area at Rosslynlee Hospital is 1km from the AofS edge. There is one housing group of 5 or more units at 500m from the edge of the area of interest (Fallhills). There is a small cluster of residential properties (<5 at Mount Lothian) adjacent to the proposed and existing AofS. Farms or isolated houses within 500m of the possible AofS perimeter are noted at Lilyburn, Upper Firth, Newbigging Hill, Reservoir Cottage, Newbigging, Shewington Cottages, Shewington, Edgelaw, Cauldhall, and Fullarton. If the revised Scottish Coal submission (June 2012) was accepted, the potential AofS would be in immediate proximity to small farmhouses along the A6094. The fishery at Reservoir Cottage could also be considered a sensitive operation. The Council will have to come to a judgement on whether operations would be prejudicial to the continued operation of the fishery; this appears to have been unaffected by the earlier phase of opencast operations, but is a matter for consideration in the assessment of economic effects. The revised June 2012 boundary would seem to have greater potential impact on this operation.

3.25 Cultural matters There is a Scheduled Ancient Monument to the south of the proposed area (St Mary's Chapel). There are four locations on the Sites and Monument Record (SMR) within the potential AofS.

3.26 Other users Road links through and around the site were well used by cyclists on the occasion of site visits (carried out on weekdays, June 2012). The road along the southern perimeter of the site from A6094 to Mount Lothian and the road bisecting the site (Newbigging-Ancrielaw-Mount Lothian) are identified as a 'Quiet Road Link' in the Core Paths Plan. Core path 3-26 and a Quiet Road Link run along the eastern edge of the proposed area, these forming part of the Tyne-Esk trail.

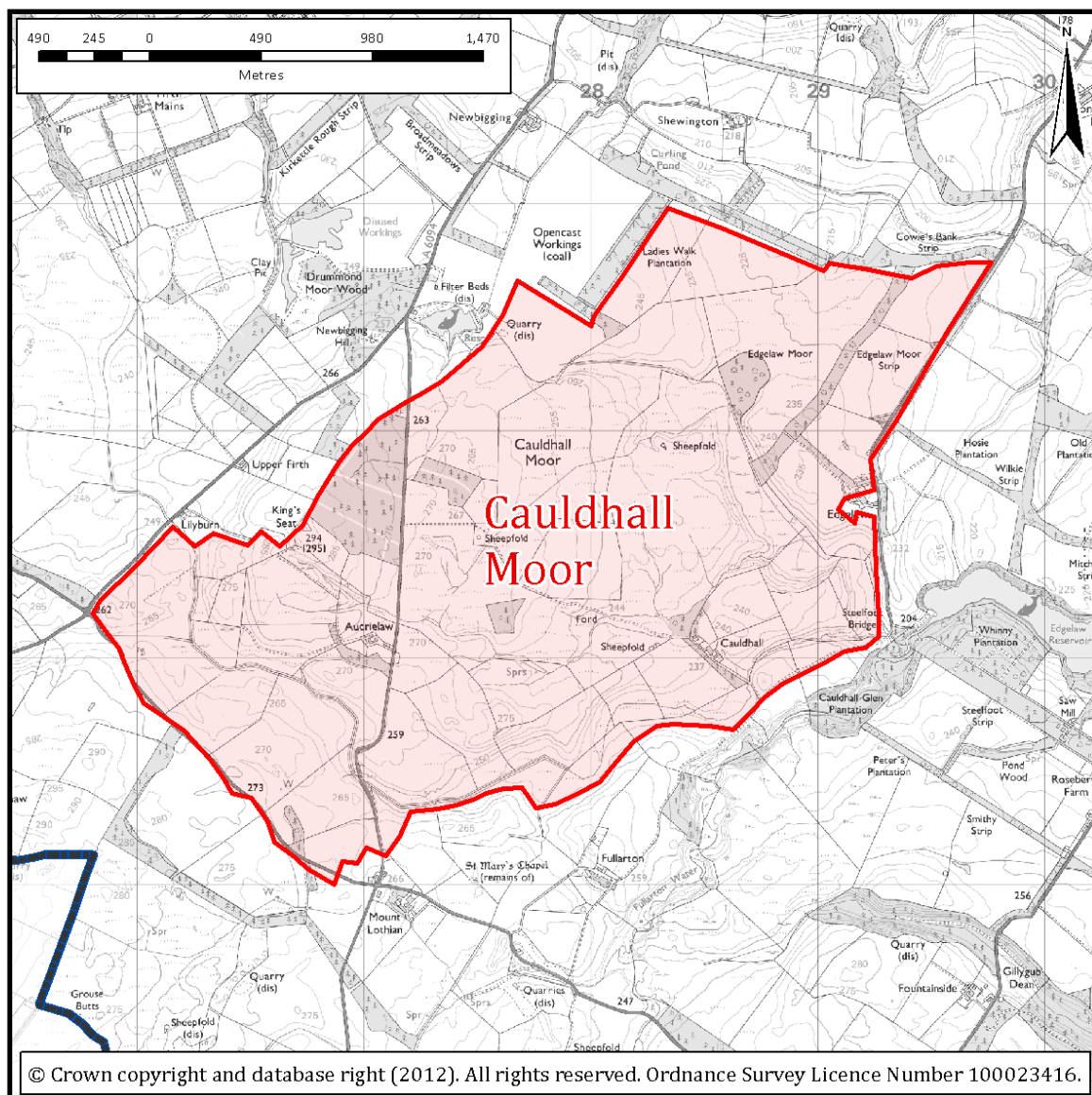
3.27 Cumulative and long-term exposure issues To the north east the Newbigging and Shewington opencast coal sites are undergoing restoration. SPP states that surface coal extraction is unlikely to be acceptable where it results in a period of disturbance to a



community of more than 10 years. The Council will have to come to a judgement as to whether any of the housing clusters around the site constitute a community and then determine if any were at risk of such long term disturbance occurring. It would be for a future EIA to consider the position at individual properties, including an assessment of long term disturbance.

**3.28 Other matters** Cauldhall Moor is a relatively isolated, upland location where it is unlikely that Midlothian Council would support built development. The long term use for the area would be to return to rough grazing, with support for retention and enhancement of the bog elements as a store of carbon and potential habitat. There may be potential to integrate restoration with measures proposed under the forthcoming Local Flood Risk Management Plan, to attenuate flood risk in downstream locations, although the operation of the reservoir perhaps makes this unnecessary. There are no obvious forthcoming uses in the proximity of the area that would sterilise the site or require quick extraction.

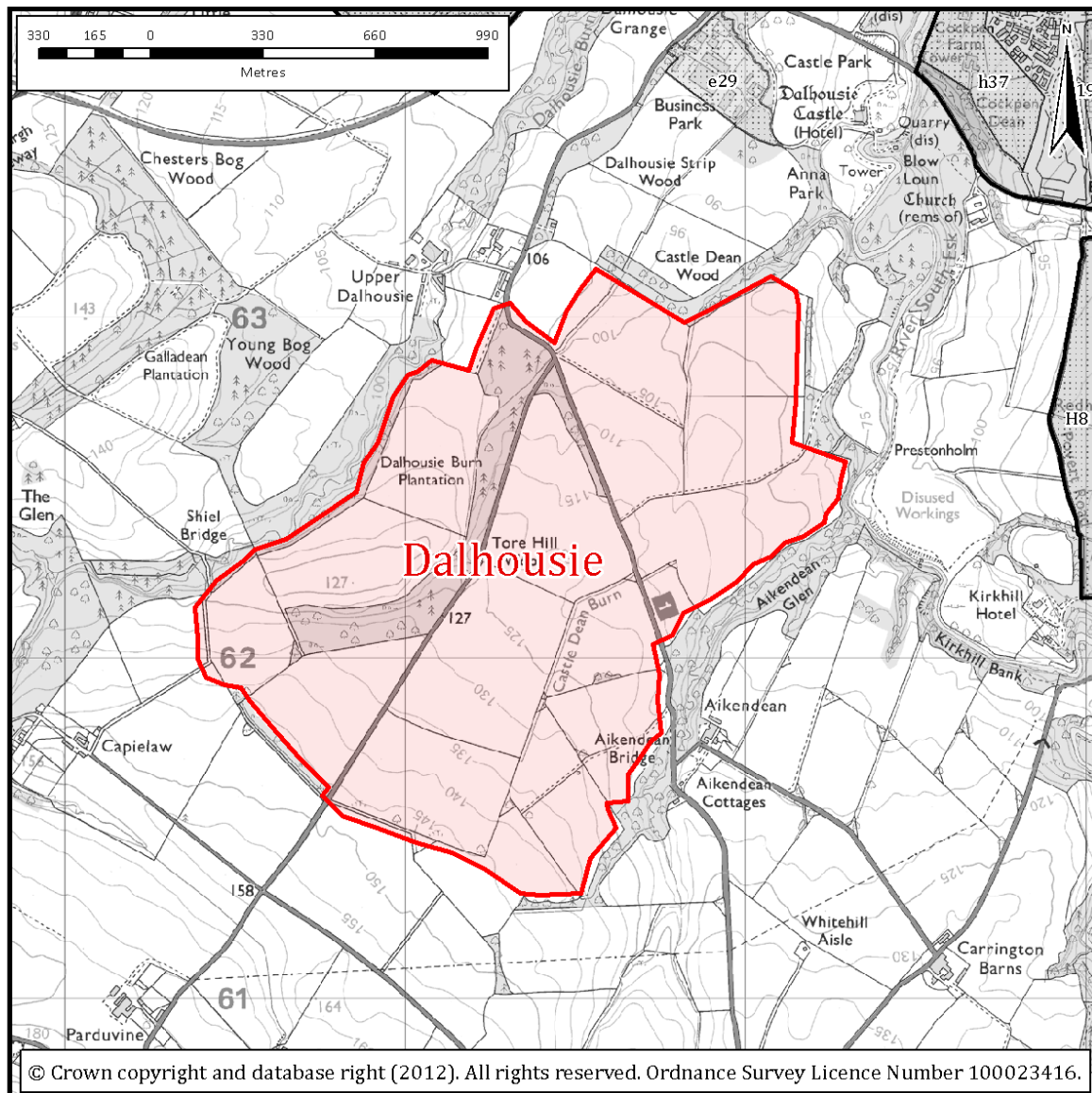
**Figure 2: Potential area of search at Cauldhall Moor including former wooded area at King's Seat (para. 3.10) but excluding land adjacent to A6094 at Upper Firth Farm (para. 3.24)**



### 3.29 Dalhousie

**Landscape** The proposed area is generally low lying and well contained. Any development would need to be managed, so that mature tree belts were not threatened. Subject to maintenance of these tree belts, the proposal does not appear to raise landscape concerns at this stage.

**Figure 3: Scottish Coal area of interest at Dalhousie**



3.30 This proposed area lies in the Area of Great Landscape Value (AGLV). Paragraph 3.8 of this note considers the change from AGLVs to Special Landscape Areas (SLA). The area lies in the candidate South Esk and Carrington Farmland SLA. The north eastern part of this potential AofS falls within the designed landscape of Dalhousie Castle. The Lothians Landscape Character Assessment (LLCA) (SNH) 1998 classes the area as being one of 'lowland hills and ridges'. Most of the area is within landscape character area 16: the Rosewell/Carrington spur. Part of the potential AofS lies in character area 14: the South Esk River Valley; classed by the LLCA 1998 as a 'lowland river valley landscape type'. The key strategic aim for character area 16 is to conserve the existing mature woodland framework.

The guidelines focus on restoration and expansion of the existing hedgerow framework. The key strategic aim for character area 14 is to accommodate expansion and opencast coal extraction within an enhanced landscape framework. The guidelines for this character area focus on enhancing and protecting existing woodland planting. This leads to consideration of whether the area proposed by Scottish Coal should be modified in extent, particularly in relation to the designed landscape and whether a stronger requirement for post extraction enhancement should be required, perhaps supporting the objectives of the green network.

3.31 Midlothian Council's in-house landscape assessment was positive, with the strong proviso that the established woodland bounds of the area must be preserved. The buffers needed to ensure preservation of the trees will diminish the potential extraction area. The site divides into three parts based on the road pattern. A score of 9 out of 10 was given to the western part of the site, 7/8 out of 10 for the middle part, and 6/7 out of 10 for the eastern part. The in-house assessment concluded that landscape problems could be overcome, albeit with some difficulty at the eastern part of the site.

3.32 Soils There are no peat soils at this location. Most of the land is prime agricultural land, and the storage and reinstatement of any such land would be an objective of any restoration strategy.

3.33 Water matters The Indicative River and Coastal Flood Map 2006 shows that a small area of the potential AofS may be at risk of flooding. There are a number of small watercourses within the potential AofS, that may pose an element of flood risk.

3.34 New coal extraction development would be required to demonstrate no worsening of the water environment to be compatible with River Basin Management Plan (RBMP) objectives. Background to the RBMP process is set out in Paragraph 3.15 of this note. Close to the northern edge of the potential AofS is the Dalhousie Burn. The 2008 status of this water body was poor, and the RBMP objective is for it to reach good status in 2027. Within the overall classification, ecological status was poor, but the chemical status was acceptable. Pressures identified as acting upon the water body were physical impediments to fish migration, point source pollution related to sewage disposal (Scottish Water) and diffuse pollution related to farming. The condition of groundwaters is considered in para 3.17. To the east of the proposed AofS is the River South Esk, para 3.16 considers the condition of this water body (among others).

3.35 Biodiversity Initial biodiversity assessment has been carried out in association with TWIC. No designated international nature conservation sites are on or adjacent to the potential AofS. Three Local Biodiversity Sites are recorded directly adjacent to the possible AofS. A large area listed in the Ancient Woodland Inventory is noted in the possible AofS, and there are other areas around the possible AofS. Protected species are recorded in the possible AofS boundary, as are areas of neutral grassland and Integrated Habitat Network areas of broadleaf woodland. The south eastern boundary of the potential AofS is formed by Aikendean Glen. The Local Biodiversity Sites sites referred to previously are protected by MLP policy RP12 (Regionally And Locally Important Nature Conservation Sites). The woodland recorded in the Ancient Woodland Inventory is particularly important for biodiversity purposes, particularly when connected together to provide a green network for genetic exchange. Development of the green network is a Council priority in the emerging MLDP – see Green Network Technical Note for details.

3.36 Transport The junction of Carrington Rd with Cockpen Road is substandard and difficult to rectify due to the constraints at the location (viz. cemetery, watercourse, conservation area status, split land ownership and topography). Midlothian Council is seeking a widening of the Carrington Road from the junction of Cockpen Road to the entrance to the Dalhousie Business Park, but this minor enhancement is being promoted to ameliorate concerns regarding existing business park traffic and does not make the road suitable for additional coal traffic.

3.37 There are a number of options to transport coals from this potential AofS. Midlothian Council may seek a connecting road across Dalhousie Burn to the Bonnyrigg Distributor Road. This could give a better long term solution to the Dalhousie Business Park access problems. This may raise concerns with regard to biodiversity issues at Dalhousie Burn. The Burn is quite deep and this would be a significant expense. An alternative exit would be to double back to the south on minor roads, thence northward via the A6094 using the established Shewington haul route. The 'back' route is narrow in places, and represents a circuitous route with more vehicle miles and contrary to the natural haulage desire lines – therefore there would be an incentive/tendency for hauliers to short cut through Dalhousie. A further alternative is to seek the use the private haul route established in connection with Dalhousie sand extraction site. This is a single track, private road, and may require amendment of conditions pertaining to that operation to allow continued use. A connection to this route using the Shiel Bridge may be possible, and this would be necessary to avoid adverse environmental impact on the Upper Dalhousie housing group.

3.38 If the first option was pursued (a new access to Dalhousie from the Bonnyrigg Distributor Road) this would be a long term benefit from the project (there may be a precedent with the Rosewell bypass funded by opencast coal monies). The Council would have to consider whether such a link road was a reasonable provision from the coal operator (para 246 of SPP refers), and whether the road was a community benefit that outweighed the costs of extraction. The biodiversity value of the Dalhousie Burn corridor is another consideration. Paragraph 3.23 considers wider 'downstream' transport implications in relation to Cauldhall Moor, but these issues (in relation to access to rail, local roads in vicinity of major users or potential rail terminals, and trunk roads), are applicable more generally to coal extraction in Midlothian.

3.39 Proximity to settlements, residential properties and other sensitive receptors The perimeter of the potential AofS is some 700m from the edge of Bonnyrigg settlement, 900m from Rosewell, 700m from Newtongrange, and 700m from Carrington Village. The new community at Redheugh, identified in the MLP 2008, is within 700m of the edge of the potential AofS. The adopted MLP indicated that further westward expansion would be supported in future local plans, and the MLDP Main Issues Report preferred development strategy seeks the allocation of this site: bringing the area to within 100m of the new community. The Aikendean Cottages are <100m from the edge of the area, and the Upper Dalhousie housing group (5 or more units) is adjacent to the northern edge of the suggested AofS. St Josephs Hospital (which has consent to be redeveloped as part of a new community) and Capielaw Farm are around 600m to the west. There are other potentially sensitive neighbouring uses at Dalhousie Castle (Hotel), and Kirkhill Mansion Hotel (600m)

3.40 Cultural matters The north east part of the potential AofS forms part of the Dalhousie Castle designed landscape. There are two locations on the Site and Monument Record (SMR) within the suggested AofS.

3.41 Other users 'Quiet Road Links', identified in the Core Paths Plan, run through and past the potential AofS (from Dalhousie to Carrington and to Shewington). Other paths run through the area, forming part of a network from Rosewell to Aikendean and on to Dalhousie Castle, Cockpen and Redheugh. Some of these form part of the Tyne-Esk Trail.

3.42 SEPA has advised that the Dalhousie Quarry has authorisation to abstract water. If the existing geomorphological/fluvial composition of the water course was to be altered, this might adversely affect the status of the watercourse and the ability of the quarry to abstract water. Midlothian Council would wish to be satisfied that maintenance of sand extraction at Dalhousie was not prejudiced, although this is essentially a matter for development management.

3.43 Cumulative and long term exposure issues A sand extraction operation around Dalhousie (Chesters Bog Wood) to the north of Upper Dalhousie has been in operation for about 5 years, but uses a different northerly access route. It appears to be a relatively low impact operation, not involving blasting, and does not on the face of it give rise to concerns of cumulative impact from the extraction process itself. The MLDP Main Issues Report process will consider the potential for expansion of the sand extraction operation – if Dalhousie coal extraction runs concurrently with the Cauldhall Moor opencast and Upper Dalhousie sand site, this would raise concerns over shared roads such as the Bonnyrigg Distributor Road and A7.

3.44 Other matters Extension of the Redheugh site would be likely to sterilise the north east corner of the potential AofS. The allocated Redheugh area is likely to commence construction around 2014. The build rate and the timing of the further westward extension of Redheugh are still speculative to some extent, but given a 100 unit per year build rate observed at some other large Midlothian sites, the western extension might commence from 2021. Avoiding sterilisation of coal resources is an objective of national and proposed SESplan policy, but Midlothian also has commitments in terms of delivering house-building and the SESplan requirements. Scottish Coal's forward strategy suggests that this location has a lesser priority after Cauldhall Moor.

#### 3.45 **Chesters Wood**

Landscape. This is a highly prominent area, and would not be visually acceptable in the extraction phase. The potential AofS sits in the AGLV. Paragraph 3.8 of this note considers the change from Areas of Great to Special Landscape Areas (SLA). The potential AofS is within the candidate Tyne Valley SLA. The Lothians Landscape Character Assessment (SNH) 1998 classes the area as 'lowland hills and ridges'. It falls within character area 15: the Mayfield/Tranent ridge. The key strategic aim is to restore the integrity of rural character. The guidelines stress the need to respect local variations in visual sensitivity in considering appropriate locations for mineral extraction.

3.46 Midlothian Council's in-house landscape assessment was negative, and the site was scored as 2/3 out of 10. A small part of the suggested AofS (the lower lying south east part





did not lead to flooding. Indicative River and Coastal Flood Maps show that a small area of the potential AofS may be at risk of flooding.

3.50 New coal extraction development would be required to demonstrate no worsening of the water environment to be compatible with River Basin Management Plan (RBMP) objectives, and the treatment of run-off and measures to contain potential contaminants would have to be considered carefully at planning application stage. Background to the RBMP process is set out in paragraph 3.15 of this note. The Vogrie and Dewar Town Burns take water running off the slope from the eastern side of the Tranent Ridge, and convey it to the Tyne Water. The 2008 status of this water body was poor, and the RBMP objective is for it to reach good status in 2027. Within the overall classification, ecological status was poor, but the chemical status was acceptable. Pressures identified as acting upon the water body were physical impediments to fish migration, point source pollution related to sewage disposal (Scottish Water) and industry, and diffuse pollution related to farming. The condition of groundwaters in this area is set out in paragraph 3.17.

3.51 Biodiversity Initial biodiversity assessment has been carried out in association with TWIC. No designated international nature conservation sites or statutory national, regional or local nature conservation sites are in the envelope of the proposed AofS. TWIC note that the Camp Hill wildlife site is adjacent, but consider that it is unlikely to be affected. Small areas of Ancient Woodland Inventory woodland are noted on the edge of the potential AofS. A small area of semi-natural broadleaf woodland is noted within the site boundary, as are small areas of Integrated Habitat Network broadleaf woodland.

3.52 Transport A haul route using the B6372 and A68 looks to be most effective. In terms of congestion and safety this route appeared to operate acceptably in connection with earlier opencast operations. Some upgrading (footpath installation) was carried out in connection with the previous site. However, environmental disruption would seem inevitable to Dewarton settlement if this access option was pursued. There may be potential alternative haul road options, but these too may raise problems. Paragraph 3.23 considers wider 'downstream' transport implications in relation to Cauldhall Moor, but these issues (in relation to access to rail, local roads in vicinity of major users or potential rail terminals, and trunk roads), are applicable more generally to coal extraction in Midlothian.

3.53 Cultural matters Southfield Farm within the potential AofS is a listed building. The potential AofS is close to a Scheduled Ancient Monument at Camp Wood fort. There are six locations on the Site and Monument Record (SMR) within the suggested AofS.

3.54 Other users Core Paths 7-22, 7-26 and 7-29 run through and on the edge of the potential AofS, providing links from Newlandrig, Dewarton and Vogrie Country Park towards Mayfield. The road link from Edgehead past Southfield Farm to Mayfield is identified as a 'Quiet Road Link' in the Core Paths Plan. Some of these routes form part of the Tyne-Esk (Vogrie) trail. Vogrie Country Park is a tranquil area of immense value to Midlothian's residents, and of significance to the County's developing tourism strategy. The site overlaps a high pressure gas pipeline, which is relevant to the method and extent of extraction around the north eastern part of the potential AofS.

3.55 Cumulative and long-term exposure issues Contaminated land is indicated to the north of the potential AofS, coterminous with Scottish Coal's suggested AofS boundary.

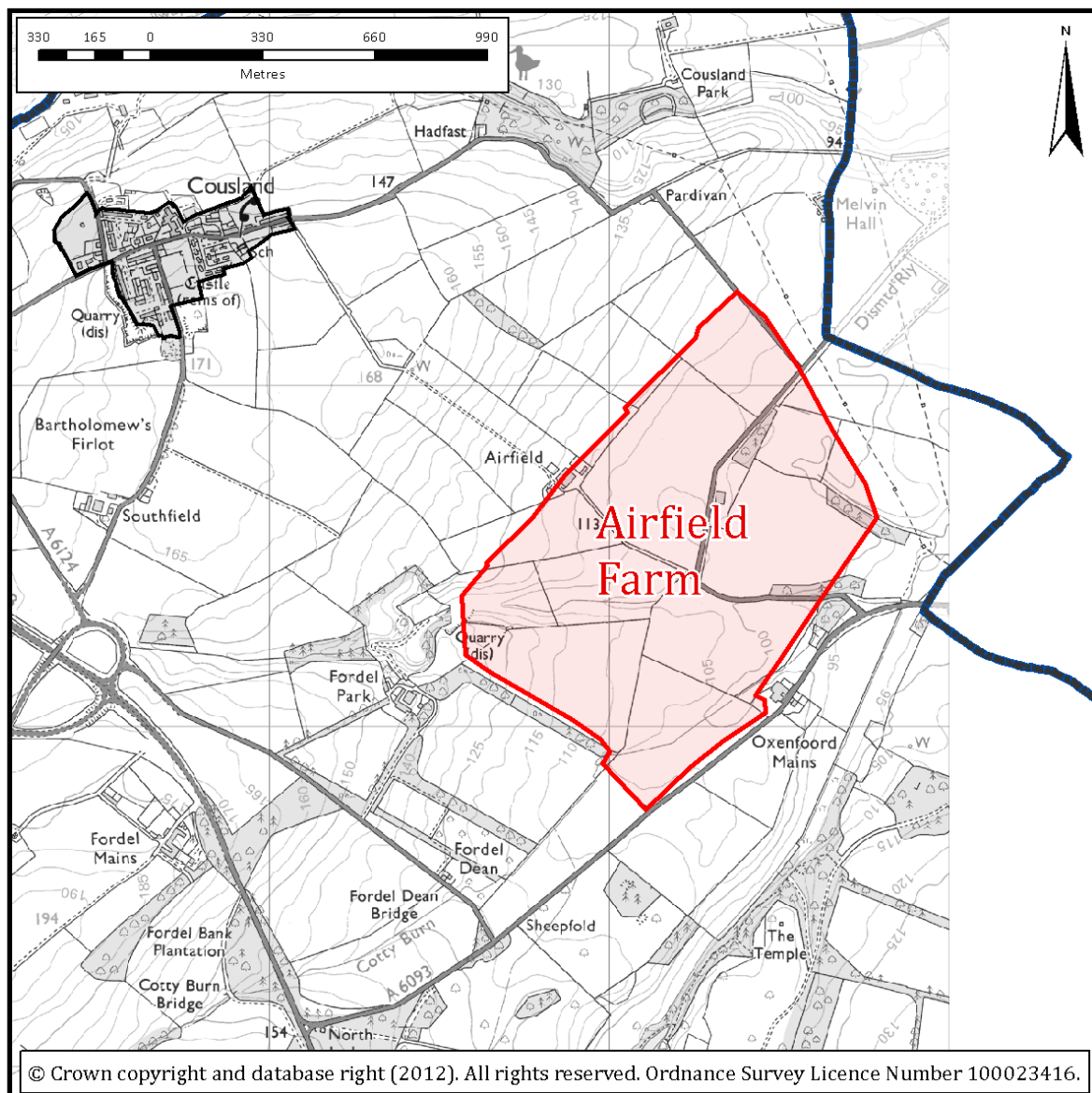
There was opencast mining into the last decade to the west of this location (ceasing in 2002). Scottish Government guidance is that no community should be subject to 10 years of continuous extraction. Midlothian Council would have to come to a judgement as to whether it was fair to these communities to permit the resumption of opencast mining in an area which has recently experienced operations. Scotland's previous Sustainable Development Strategy (Choosing Our Future) raised the issue of environmental justice, and the equitable sharing of environmental burdens. This would be a matter for Midlothian Council to form a judgement on.

3.56 Other matters None have emerged at this early stage of assessment.

### 3.57 **Airfield Farm**

Part of this location was the subject of a planning application and EIA in 2009 (ref 09/00349/FUL), so more is known about its potential and problems than the other locations.

**Figure 5: Scottish Coal area of interest at Airfield Farm**





3.58 Landscape The proposed AofS has been drawn back from the upper slopes compared to the previous proposal, and Midlothian Council's initial in-house landscape appraisal is positive. The area was scored 8/10 and it was concluded that landscape problems could be overcome provided that existing mature trees and woodland cover are retained.

3.59 The potential AofS sits in the Area of Great Landscape Value (AGLV). Paragraph 3.8 of this note considers the change from Areas of Great to Special Landscape Areas (SLA). The potential AofS is mostly within the candidate Tyne Valley SLA, although some parts of the area are excluded. The landscape character of the area was considered previously in the Lothians Landscape Character Assessment (LLCA), SNH 1998. Most of the area falls within character area 15: the Mayfield/Tranent ridge. The LLCA classes this character area as one of 'lowland hills and ridges'. The key strategic aim is to restore the integrity of the rural character. The guidelines stress the need to respect local variations in visual sensitivity in considering appropriate locations for mineral extraction. The eastern extremity of the potential AofS lies in the Haddington Plain, where respect for localised variations in visual sensitivity (specifically retention and enhancement of the field boundary pattern) are identified as key considerations in the LLCA.

3.60 Proximity to settlements, residential properties and other sensitive receptors Airfield Farm lies within the potential AofS (the understanding at the time of the previous application was that the farmhouse would not be occupied during extraction). There is a housing group of 5 or more houses at Oxenfoord Mains within 500m. There are also individual houses at Melvin Hall, Pardivan and Fordel Park within 500m. The settlements of Cousland and Ormiston are 1km and 1.3km respectively, from the edge of the potential area. Assessment of the previous proposals found unacceptable impacts on individual properties around Oxenfoord Mains in connection with dust. In relation to the previous application, it was considered that the proposed development would introduce an additional source of noise into a relatively quiet rural area, which would have a negative effect in terms of the amenity of local communities and residents. The new suggested area would still be close to the properties along the A6093, although it is reasonable to assume that working faces could be set further back within the suggested area.

3.61 Soils Characterisation of the soils has been based on the BGS mineral Resources Map released in co-operation with the SG and the Macaulay Land Use Research Institute (MLURI) Land Capability for Agriculture Classification Map. There are no peat soils at this location. Most of the land is prime agricultural land.

3.62 Water matters SEPA state that the Cotty Burn on the southern edge of the potential AofS may pose an element of flood risk. The waters arising in the area form part of the Tyne river system.

3.63 New coal extraction development would be required to demonstrate no worsening of the water environment to be compatible with River Basin Management Plan (RBMP) objectives, and the treatment of run-off and measures to contain potential contaminants would have to be considered carefully at planning application stage. Background to the RBMP process is set out in paragraph 3.15 of this note. Water running off the slope from the eastern side of the Tranent Ridge, is conveyed to the Tyne Water. The 2008 status of this water body was poor, and the RBMP objective is for it to reach good status in 2027. Within

the overall classification, ecological status was poor, but the chemical status was acceptable. Pressures identified as acting upon the water body were physical impediments to fish migration, point source pollution related to sewage disposal and industry, and diffuse pollution related to farming. The condition of groundwaters in this area is set out in para 3.17.

3.64 Biodiversity Initial biodiversity assessment has been carried out in association with TWIC. No designated international nature conservation sites or statutory national, regional or local nature conservation sites are in the envelope of (or adjacent to) the potential Area of Search. Small areas of unimproved neutral grassland and Integrated Habitat Network areas of broad leaf woodland and neutral grassland were noted within the site boundary. In relation to the previous application, the refusal of permission did not adduce any reasons related to the ecological interests of the site.

3.65 Transport A haul route using the A6093 and A68 does not appear to present significant problems, although this would be dependent on the intensity of any operation. Paragraph 3.23 considers wider 'downstream' transport implications in relation to Cauldhall Moor, but these issues (in relation to access to rail, local roads in vicinity of major users or potential rail terminals, and trunk roads), are applicable more generally to coal extraction in Midlothian.

3.66 Cultural matters The potential AofS adjoins a Scheduled Ancient Monument at the south east corner (Oxenfoord Mains, enclosure). There are five locations on the Site and Monument Record (SMR) within the potential AofS. In relation to the previous application, no matters relating to cultural heritage interests (subject to confirmation through further survey work) were found that would justify refusing planning permission.

3.67 Other users Core Path 7-1 and a 'Quiet Road Link' identified in the Core Paths Plan run through the potential AofS. The area has appeared well used with walkers and cyclists on the occasion of Midlothian Council site visits.

3.68 Cumulative and long-term exposure issues The formation of the Smeaton waste management facility in East Lothian has caused some environmental disturbance in the locality, but this appears to have been primarily in the formation of the site rather than its ongoing operation.

3.69 Other matters The A68 Dalkeith northern bypass is one of the few main roads in Midlothian operating without congestion problems.

3.70 Contaminated land records indicate that contaminated land exists to the east of Airfield Farm. The area around Cousland was the focus for historic limestone working: concern was expressed at the time of the previous proposal that opencast working could weaken the 'pillars' between the worked areas with consequent subsidence problems above. The report to Planning Committee concerning the previous application appraised the available evidence and noted that vibrations would be perceptible. The Report did not adduce subsidence among the reasons for refusal. It did however state that '...if it is decided to grant planning permission, consent should not be issued until the following issues have been fully resolved: [among others] a more detailed appraisal of the vibration impact assessment will have to be undertaken, to ensure that the underground mine workings around Cousland will not be affected by on-site blasting ;....'. (Report to Planning

Committee, 12 October 2010, Re: application reference 09/00349/FUL). In respect of potential areas of search, Midlothian Council shall have to come to a judgement as to the degree to which it is reasonable for all potential effects to be fully investigated in advance of the application and EIA stage.

3.71 Evidence submitted in connection with the previous application suggests that there is a vibrant rural economy based on rural pursuits and leisure/tourism in the locality. In terms of walking, cycling and horeseriding; these would probably be affected for the duration of operations, both in and around the site and on the haul road. Midlothian Council will have to weigh these effects and come to a judgement accordingly.

3.72 This potential AofS presents a difficulty, in that development on the higher slopes moves closer to Cousland settlement and has higher visual impact. Development on the lower slopes gives rise to concerns at the scattered houses and small housing groups along the A6093. Within this location, detailed assessment may identify an acceptable zone for working which balances these two factors.

### 3.73 Comparison of options

A matrix comparing the key attributes of the potential area of search locations is presented below, although this presents the features of the sites in rough outline only. This is an early stage assessment and does not seek to weight or score the different attributes.

**Table 1: Key attributes of locations assessed as potential areas of search for opencast coal**

Attribute	Cauldhall Moor	Dalhousie	Chesters Wood	Airfield Farm
Acceptable landscape impact	Y <sup>*1</sup>	Y	N	Y
Avoids proximity to settlements (within 500m or less)	Y	N <sup>*2</sup>	N	Y
Avoids proximity to residential properties and other sensitive receptors (within 500m or less from edge of suggested AofS boundary)	N	N	N	N
Avoids peatland	N	Y	Y	Y
Avoids prime agricultural land	Y	N	N	N
Avoids flood risk implications <sup>*3</sup>	N	N	N	N
Avoids international, national or local nature designations	Y	N <sup>*4</sup>	Y	Y
Likely to have acceptable haul route which avoids settlements	Y <sup>*5</sup>	Y <sup>*5 **6</sup>	N	Y
Avoids Scheduled Ancient Monument in area boundary	Y	Y	Y	Y

Avoids Site Monuments Record site in area boundary	N	N	N	N
Avoids Core Path, in or on edge of area	N	N	N	N
Avoids cumulative impact	N <sup>*7</sup>	N <sup>*7</sup>	Y	Y
Avoids cumulative impact in terms of exposing same locations to longer term effects <sup>*8</sup>	N	Y	N	Y
Potential positive benefits to community	Y <sup>*9</sup>	N <sup>*9</sup>	N	N

### Notes

\*1: If developed area includes the southern part of the site (south of the Lilyburn) described in landscape assessment, then negative rating would be given. Landscape assessment based on earlier February 2012 boundary.

\*2: In respect of proposed expanded Redheugh new settlement.

\*3: SEPA comments do not amount to a Flood Risk Assessment that would accompany an application or EIA. SEPA concerns relate to small parts of possible AofS.

\*4: TWIC considered that site warranted negative appraisal in terms of three Local Biodiversity sites directly adjacent to area.

\*5: Route appears on the face of it acceptable, but cumulative effect of these and other sites (viz. Dalhousie sand, Drummond Moor landfill, Auchencorth OCCS (in Scottish Borders Council area) may raise concerns. Assumption is that Dalhousie traffic would use Independent Aggregates approach road and avoid Cockpen crossroads.

\*6: Assumption is that Dalhousie traffic would use Independent Aggregates approach road and avoid Cockpen crossroads.

\*7: Running Cauldhall and Dalhousie together may give rise to cumulative concerns. Traffic from mining operations in the SBC area and from other non coal operations is also a concern.

\*8: Most locations in Midlothian have experienced mining at some time. In the case of Cauldhall and Chesters Wood there have been operations within the last 10 years.

\*9: Potential positive benefits are possible creation of expanded peatland habitat as part of enhanced restoration at Cauldhall Moor; if a new road link was formed in connection with Dalhousie, this might also be a positive long term benefit (although this seems a less likely prospect). This appraisal excludes wider community contributions from coal mining, that go beyond land use planning matters.

3.74 Cauldhall Moor has a more upland setting, and so differs from the lowland sites, with consequently less population in the locality and fewer developed features to contend with. The maintenance of the peatlands, safeguarding of the water levels, and consideration of cumulative impact (both in terms of length of exposure and combined effects of similar

operations all at once) emerge as important issues needing resolution. It is recommended that this area be put forward as an area of search in the Main Issues Report (MIR) preferred strategy for mineral working, for consultation (see Figure 2 above). It is proposed to include the whole of the February 2012 submission area in this potential AofS. The Council considers that the revised June 2012 boundary may raise concerns with proximity to sensitive receptors, and proposes a boundary that incorporates the area of woodland to the east of the King's Seat ridgeline but excludes other parts of Scottish Coal's June 2012 submission along the A6094. Furthermore, although the intricate landscape to the south of the area around the Lily Burn watercourse is not likely to be acceptable for development, the MLDP will seek to identify areas of search rather than site specific proposals – detailed matters could be considered more fully at planning application stage (including a landscape assessment as part of the EIA).

3.75 In relation to Dalhousie, there is some conflict between the case for speedy extraction prior to development of the Redheugh new community and the cumulative impacts of multiple intensive HGV users upon the A6094 and A7. There may be potential to consider a smaller area at a later stage, drawn back from proximity to Redheugh, but it is not proposed to put this area forward as an AofS in the MIR preferred strategy for mineral working. It is unlikely that Scottish Coal would extract coal from both this site and Cauldhall Moor at the same time.

3.76 The Chesters Wood appraisal is negative. The landscape factors appear difficult to overcome, and the settlements are in situ, which differs from the position at Dalhousie-Redheugh. The transport options are more intrusive. It is recommended that this area should not be put forward as an AofS in the MIR preferred strategy for mineral working.

3.77 Airfield Farm benefits from a good potential haulage route along the new A68. A larger area was considered in some detail as part of a previous planning application. At that time unacceptable environmental impacts were found at some of the smaller properties and communities around the site. In addition to not being in an AofS at that time, the refusal was grounded on a number of environmental factors, which remain of potential concern. Midlothian Council is required where possible to identify reasonable alternatives for comparison purposes under the Environment Assessment (Scotland) Act 2005. The trade off between unacceptable landscape impact on the higher slope, and unacceptable impact on sensitive receptors at the bottom of the slope may find resolution through careful siting of working faces and other intrusive activities. It is recommended that this area should be included alongside Cauldhall Moor AofS in a 'reasonable alternative' strategy for mineral working, for consultation through the Main Issues Report.

3.78 The Cauldhall Moor site, on its own, has the potential to generate significantly more coal over a ten-year period than Midlothian has produced in the recent history of its opencast sites. Scottish Coal has indicated that it may contain c.12 million tonnes of coal, which if extracted over 10 years would indicate Midlothian output might be 5 times that achieved recently. In the context of the DECC projection of a 75% fall in the amount of electricity generated from coal (described in Part 2 of this note), this increase is significant. There is no system of target totals or apportionment of coal output to individual planning authorities. In terms of considering how great a contribution Midlothian should make to national energy requirements, it is relevant to note that Midlothian is in the Edinburgh travel to work area (and has many alternative economic options), and does not have developed rail

infrastructure or many high quality strategic roads. In this context it seems appropriate that Cauldhall Moor alone should be the preferred area of search.

### **3.79 Conclusion**

The preferred strategy for mineral working with respect to opencast coal, as presented for consultation in the Main Issues Report, comprises:

Cauldhall Moor (incorporating existing Ancrielaw area) as preferred area of search for coal (as shown in Figure 2 above).

Deletion of Mountskip/Stobs, Newbigging and Shewington, and Halkerston North as areas of search for coal.

In addition, Airfield Farm would be identified as a 'reasonable alternative' area of search for coal (boundary as shown in Figure 5); the alternative strategy would comprise both Cauldhall Moor and Airfield Farm.

## **Part 4: Other Non-renewable Energy Matters, including Unconventional Gas and Underground Coal Gasification**

### **4.1 Background**

SPP aims to maximise the potential of Scotland's oil and gas reserves in an environmentally acceptable manner (para 236). Development plans for areas covered by Petroleum Exploration and Development Licences (PEDL) should identify the factors that will be taken into account when determining planning applications for wellheads and transmission plant. Where PEDL licences extend across local authority boundaries, planning authorities should work together to ensure a consistent approach, including consideration of cumulative effects. NPF2 requires planning authorities in the central belt to consider the potential for onshore gas extraction when preparing their development plans. The SESplan PP states that LDPs should support onshore gas extraction subject to local environmental factors.

4.2 The description 'unconventional gas' is applied to cover the range of techniques from extraction of coal bed methane, shale gas production and extraction from tight gas sands. Separate from these processes is coal gasification (this is treated as a coal related activity and so is licensed by the Coal Authority).

4.3 In Midlothian, coal bed methane is a realisable prospect, but shale gas production is far more uncertain. A Petroleum Exploration and Development Licence (PEDL) is required from DECC to pursue oil and gas activities, but must also be followed by requisite environmental consents. As an engineering and mining operation above and below the ground, such operations will require planning permission. In the life of the MLP 2008 there was some interest in pursuing coal bed methane extraction, but this did not proceed to an application. A PEDL licence (reference PEDL 103) was issued to Alkane Energy for a block including much of Midlothian and parts of East Lothian and City of Edinburgh, in Licensing Round 10. The licence expired in 2008. The block is being offered again through Round 14. Coal Bed Methane (CBM) extraction requires a multitude of small wellheads over an extended land area, with a relatively short duration drilling phase (3-4 months quoted for

contemporary Clackmannanshire operation) and longer subsequent collection phase (possibly 5-15 years). The gas is sent through a local pipe network, to a point where it can be processed/gathered, and then on to the point of consumption through the national gas distribution system; or it might be converted to electricity near the point of collection, using similar plant to those running on collected gas at landfill sites. In Scottish conditions CBM extraction is likely to employ de-watering and not hydraulic fracturing.

4.4 Shale gas is now being extracted in significant quantities in the USA, and this has stimulated interest in other countries. In the UK, one licence has been issued for extraction in Lancashire. DECC's overview of UK resources (The Unconventional Hydrocarbon Resources of Britain's Onshore Basins – Shale Gas 2011), based on US analogies, suggested that Scotland's Midland Valley (including parts of Midlothian) was one area where there may be some potential resource. It is not seen as one of the best areas however, and on the balance of probabilities it is unlikely that shale gas extraction will occur in the life of the MLDP. Some of the potential environmental problems go beyond the planning system, and will require input from SEPA and the Health and Safety Executive. There is a need for coordinated regulation to ensure that there are no gaps or duplication. The regulatory guidance of the HSE and SEPA is considered below in para 4.9.

4.5 Underground coal gasification is thought by the Coal Authority to have particular utility in connection with exhausted coalfields. There are no current approved operations in the UK, and like shale gas extraction, this seems a more distant prospect. Gasified coal can be used in a combined cycle gas power station. The process works through directing an ignited stream of steam, air and oxygen towards the coal seam through an injection well. This acts upon the coal, causing it to be gasified, the resultant gas is collected through a production well. The ability to capture and store CO<sub>2</sub> arising from the operation is unclear as is the role and position of the UK and Scottish Governments in terms of requiring such sequestration. Issues of groundwater protection, subsidence, pollution control at the wellhead would all need to be considered, and involve other regulatory agencies, in addition to the planning authority. The planning implications of this emerging technology are still far from clear, but it would seem to raise similar issues to CBM extraction and require a network of wells with potential disturbance to sensitive receptors in the immediate locality.

#### **4.6 Towards an MLDP policy for onshore gas and coal gasification**

Midlothian has a comprehensive set of Resource Protection policies in its adopted MLP, and the activities of SEPA, the HSE and the Coal Authority provide further protection. Midlothian Council will have to come to a judgement on whether to rely on general resource protection and minerals policies or whether a specific onshore gas/coal gasification policy is required. This could take the form of directing such operations to a preferred area, or might be a development management orientated policy to assess applications.

4.7 The establishment of gas collection wellheads might be considered in countryside areas where there is no adverse impact on the amenity of sensitive users, particularly residential properties. To minimise environmental intrusion existing roads could be utilised, in preference to the formation of additional access roads. Landscape considerations will be important. To consider the impact on amenity it is necessary to know if it is envisaged that excess gas will be flared off routinely. The air quality impacts of any fugitive emissions are a further factor. Cumulative effects of other industrial and extractive uses in the countryside would have to be considered. Further consultation, particularly with SEPA, may indicate

areas of sensitive groundwaters, where such operations are not favoured. In relation to extraction of shale gas, DECC concluded that the experimental operation in Lancashire induced a low magnitude seismic event. Were shale gas to be promoted in Midlothian, the Council would need more information as to whether the more aggressive techniques associated with hydraulic fracturing are compatible with Midlothian's coal mining legacy and ground stability.

4.8 DECCs Strategic Environmental Assessment (SEA) for the 14<sup>th</sup> round of onshore oil and gas licensing gives some indication of the environmental issues that may arise in respect of onshore oil and gas production. Extracts from the SEA Non Technical Summary are set out below *italics*.

*The main stages of oil and gas activity (including gas storage) are:*

- *Exploration, including seismic survey and exploration drilling*
- *Development, including production facility installation, generally with construction of an export pipeline, and the drilling of producer and injector wells*
- *Production/operation, with routine supply, production of wastes, power generation, chemical use, produced water reinjection management and reservoir monitoring*
- *Maintenance*
- *Decommissioning, including cleaning and removal of facilities*

The main potential sources of environmental effects set out in the SEA are:

- *Noise from seismic survey and piling during installation*
- *Noise (semi-continuous or continuous) from drilling rigs, production facilities, generators and vehicles*
- *Physical damage to geological or physical (including geomorphological and hydrological) features, biota and features of archaeological interest from drilling rig construction, pipeline construction and cable laying*
- *Physical presence of structures, visual intrusion*
- *Chemical contamination (routine) from drilling and other discharges*
- *Chemical contamination (accidental) from spills*
- *Atmospheric emissions from fuel combustion, venting and flaring*

The DECC SEA summary of environmental effects on specific receptors are set out below in turn (*italicised*), with Midlothian Council comments on planning policy implications below (not *italicised*):

#### *Biodiversity, Habitats, Flora and Fauna*

*Exploration activities are typically of short duration whilst production and export facilities are in place for longer. Environmental Impact Assessment under the operator's Environmental Management System (EMS) and regulatory requirements will provide effective mitigation through consultation and site and timing selection to obviate or minimise effects.*

Habitats and species of local to international importance are protected by Midlothian Local Plan Resource Protection policies; a similar level of protection is expected to be provided by the MLDP.



### *Geology and Soils*

*Facility siting under the existing planning regime would normally be required to avoid localised geological features of interest, flood plains, highly graded agricultural land etc. Entry onto land requires landowner approval.*

Extraction would be a sensitive use, existing resource protection policies could prevent development in the 1:200 flood risk zone. Through consultation with key agencies the appropriateness of requiring a higher flood risk threshold could be evaluated. Land take of drilling and collection sites is not significant, and development on prime agricultural land could be acceptable subject to restoration conditions. Peatland is more challenging to restore; a specific special soils policy in the MLDP could be provided or an onshore gas policy could seek to prevent development at peatland locations. Proliferation of new access roads in the countryside would not be supported, and a specific onshore gas policy could seek to prevent such development.

### *Landscape*

*Valued landscapes include designated and non-designated areas. In general, similar considerations apply to the siting of temporary and longer-term hydrocarbon related facilities, which aim to reduce visibility and promote effective restoration of disturbed ground. The planning consent process is effective in controlling adverse impact on the landscape.*

Onshore gas extraction would be a temporary operation. The drilling/installation rig is more prominent but is present for a comparatively short time. The collection facility might be present for around 15 years. Existing policies protect the AGLV and landscape character more generally. Such facilities might be directed away from particularly sensitive areas: examples - the Pentland Hills Regional Park, the Green Belt, the River Valley Protection Area, and north of the A720 under the terms of an onshore gas policy. An appropriate stand-off distance from communities will have to be considered. Robust arrangements for restoration would be required. One aspect that is unclear is whether onshore gas extraction requires at any time to have a visible flare to avoid venting excess gases – this would introduce an unattractive industrial aspect into the countryside.

### *Water Environment (aquifers, groundwater, surface waters)*

*The location of surface waters and aquifers (especially those of potable water) are well known and their protection is effectively addressed through design standards and the approvals processes for exploration, production and export facilities.*

All waters, including groundwaters are subject to the Water Framework Directive and SEPA would be involved through the Controlled Activities Regulations (CAR) regime. An onshore gas policy could reinforce the SEPA controls or seek to direct such operations to preferred areas where such risks are less.

### *Air Quality*

*The existing regulatory controls on transport, power generation and gas flaring are regarded as adequate. EIA to support planning and other consents would be expected to give due consideration to the potential implications of the planned activity on attainment of local and regional air quality plans. Atmospheric emissions and contributions to climate change*

*typically form key performance indicators for operators leading to internally driven pressure to control and reduce such emissions.*

This aspect is controlled beyond planning by the Integrated Pollution Prevention and Control (IPPC) regime. An onshore gas policy might complement IPPC however by indicating a stand-off distance between gas extraction facilities and communities, individual properties and other sensitive uses. There is one Air Quality Management Area (AQMA) in Midlothian (at Pathhead), which is expected to be removed as a consequence of the introduction of mains gas supplies; an onshore gas policy could seek to prevent operations within the locality of AQMAs.

#### *Climatic Factors*

*The existing regulatory controls on transport, power generation and gas flaring are regarded as adequate; however, it is recognised that new controls are likely be introduced during the currency of the Plan as part of a suite of measures in response to climate change concerns. Atmospheric emissions and contributions to climate change typically form key performance indicators for operators leading to internally driven pressure to control and reduce such emissions.*

The DECC SEA sums up the position, which goes beyond the scope of land use planning.

#### *Population and Human Health*

*Existing regulatory controls on the location and design of facilities, the timing of operations, resultant wastes and emissions, accidental events, export routes and facilities etc. are regarded as effective in minimising potential effects on human health and communities.*

An onshore gas policy could indicate a stand-off distance between gas extraction facilities and communities, individual properties and other sensitive uses, to help meet these objectives. The Council would require more evidence and technical assistance to come to a judgement on this matter. Cumulative effects of other extractive or disposal uses would need to be taken into account in the formulation of any development management orientated policy, or if the MLDP was to identify appropriate areas for onshore gas extraction.

#### *Material Assets (infrastructure, other natural resources)*

*Existing planning and other controls e.g. through the Mineral Planning Authorities and equivalent bodies, are viewed as effective in reducing the potential effects of hydrocarbon exploration and production activities to non-significant levels. Waste minimisation is being promoted through fiscal mechanisms as well as by the implementation of operator EMS processes.*

Through a planned approach and the identification of preferred areas, these potential effects could be reduced. An alternative approach would be to seek to control this activity through the development management system, supported by relevant policies. Many of the effects on natural resources are considered above.

#### *Cultural Heritage, including architectural and archaeological heritage*

*Through planning controls, archaeological desk studies, field investigations, and watching briefs are required for exploration and production facility site works [sic]. In addition planning*

*controls require that due regard is taken of buildings and other features of architectural value.*

The MLP 2008 contains policies to protect cultural heritage and archaeology, the Council would come to a judgement on whether specific onshore gas control is required, or how to treat such areas if it is decided to identify preferred areas for onshore gas.

4.9 The HSE and SEPA have produced regulatory guidance for onshore and unconventional gas: in considering land use planning policy it is pertinent to consider if these ensure co-ordinated regulation. The HSE role is to ensure the health and safety management of the site, and in particular well integrity. SEPA's Regulatory Guidance on Coal Bed Methane and Shale Gas (version 121119) was released in January 2013. The guidance sets out SEPA's understanding of possible environmental impacts associated with unconventional gas production: possible adverse effects on the water environment (viz. cross contamination of aquifers due to poor borehole construction, pollution from an unexpected release of gas or fracturing fluid into other parts of the water environment, pollution from uncontrolled disposal of liquid or solid waste containing potentially polluting substances, abstraction of uncontrolled quantities of water which could lead to an unacceptable impact on the water environment); possible increased seismic activity during fracturing operations, and potential increased greenhouse gas emissions from fugitive releases.

4.10 Unconventional gas and underground coal gasification are emerging energy technologies, and Midlothian Council has no direct experience of the environmental and planning issues these types of development raise. The requirements of national and regional policy, and changes in the energy market mean that they cannot be ignored. The Main Issues Report (MIR) process has the potential to gather further information and informed views on the best way to approach this topic.

## **Part 5: Waste**

(Note: Not including mineral waste, or issues relating to the Minerals Waste Directive, see para 2.23 above).

### **5.1 Background**

The EU Waste Framework Directive (2006/98/EC) and Landfill Directive (1999/31/EC) establish the framework for waste policy. These EU Directives may lead to fines for member states if certain quantitative measures are not met. Waste authorities across Scotland have significantly increased the recycling rate over the last 10 years as a consequence. Table 2 sets out quantitative requirements from EU and national targets, incorporated into the Zero Waste Plan. The Waste Framework Directive states that Member States must have a National Waste Management Plan, including sufficient information on the locational criteria of future disposal or major recovery installations. The Commission recognises that the directive can be fulfilled by Scotland's tiered system of planning which includes development plans. For planning purposes, the Zero Waste Plan will constitute the National Waste Management Plan along with: the NPF2, SPP, PAN63, SEPA waste data sources including

Waste Data Digests, Local Waste Management Reports, Site Capacity and Infrastructure Reports & Maps, and the SEPA Thermal Treatment of Waste Guidelines 2009.

5.2 Policy on waste at national level is set out in the Zero Waste Plan for Scotland (ZWP). The documents relating to national policy for waste have changed significantly since the MLP 2008 was adopted, with the replacement of the National Waste Strategy, National Waste Plan, and the Lothian and Borders Area Waste Plan. The underlying intent of waste policy has however remained: to promote (in order of preference) reduction, reuse, recycling, and energy recovery and to seek to move waste away from landfill. Achieving these goals requires measures which go beyond the scope of the land use planning system.

5.3 At the top of the waste hierarchy is reduction – avoiding waste by not creating it in the first place. The ZWP states that the Scottish Government will bring out further regulations in this regard, but there is no obvious land use implication. Next on the hierarchy is reuse. This generates a need for facilities to bring and exchange goods. Further down the hierarchy is recycling; this generates a demand for facilities from civic amenity sites and localised drop off points through to processing facilities. Further down still is composting and energy recovery. This can involve incineration provided it is efficient – and may require the capture and use of waste heat. Disposal is at the bottom of the waste hierarchy: landfill of putrescible wastes leads to release of greenhouses gas (although this effect can be partially ameliorated by gas collection systems) and gives rise to environmental effects which require long term management long after the material has been deposited.

5.4 While previous waste plans have concentrated on municipal waste (waste generated by households), the ZWP sets out an approach covering all forms of waste including waste generated by construction and the commercial and industrial sectors. The ZWP sets out the following targets.

**Table 2: Zero Waste Plan targets**

Summary of Target	Year to be implemented	Derivation
40% recycling and composting from households *1	2010	Scottish Government Target
No more than 2.7 million tonnes of biodegradable municipal waste to be sent to landfill	2010	Article 5(2) of the EU Landfill Directive
50% recycling and composting from households	2013	Scottish Government Target
No more than 1.8 million tonnes of biodegradable municipal waste to be sent to landfill	2013	Article 5(2) of the EU Landfill Directive
Preparing for the reuse and recycling of 50% of waste materials such as paper, metal, plastic and glass from household waste and similar	2020	Article 11(2)a of the EU Waste Framework Directive
60% recycling and	2020	Scottish Government Target

composting from households		
No more than 1.26 million tonnes of biodegradable municipal waste to be sent to landfill <sup>*2</sup>	2020	Article 5(2) of the EU Landfill Directive
70% recycling and preparing for reuse of construction and demolition waste	2020	Article 11(2)a of the EU Waste Framework Directive
No more than 5% of all waste to go to landfill	2025	Scottish Government Target
70% recycling and preparing for reuse of all waste by 2025	2025	Scottish Government Target

\*1 Targets and measurement expressed in terms of tonnage. In addition, from 2013, a carbon weighted metric will be used. Note, this metric is still under development and will need further work, but by 2025 it is expected that the carbon metric will be used for all waste streams. The Scottish Government has established a task group comprising experts and practitioners to take forward development of the carbon metric. (Source: Zero Waste Plan, Annex A, SG June 2010)

\*2 Subsequent Zero Waste Regulations (to be introduced at Scottish level) propose to ban municipal biodegradable waste from landfill by 2020.

5.5 The ZWP states that the planning system must support implementation of the EU Directives. Circular 1/2009 (Development Planning) requires LDPs to be properly integrated with other strategies, including the national waste management plan. The waste hierarchy will be the 'bedrock' of all waste management policy. Development plans should consider site allocation at the local level, and take local responsibility for treatment and disposal. Development plans must provide for new waste management infrastructure covering all forms of waste, not just municipal waste, through policy, site allocations and action programmes in order to meet expected future waste infrastructure needs (drawing on data provided by SEPA). Planning policy for all developments not just waste related infrastructure should have due regard to the provisions of the waste hierarchy giving preference to prevention, reuse, reduction and recycling over disposal.

5.6 Annex B of the ZWP considers the role of the land use planning system in relation to zero waste. It states that LDPs should identify a plentiful supply of employment and industrial land as a network of sites suitable for waste management uses, consistent with SPP, to ensure private sector competition: employment and industrial land supply is considered in the separate Monitoring Statement. The ZWP states that development plans should include policies to require all new developments (including commercial, business, industrial and residential) to demonstrate that they can minimise the generation of waste during the construction and operational phases e.g. through the use of Site Waste Management Plans.

5.7 The ZWP states that modern waste management infrastructure is compatible with sites allocated for employment and industrial use. Degraded, contaminated or derelict land, existing waste sites, sites with potential to reuse waste heat, sites with good accessibility and active or dormant quarries are also suggested as potential suitable sites. Development plans must safeguard all active and consented waste management sites (including consideration of safeguarding from nearby developments which might compromise waste handling operations, and the potential for expansion) and identify appropriate locations for all

waste management facilities, where possible on specific sites or supported by a policy framework to facilitate development. Existing waste sites are set out in Table 3.

5.8 Efforts should be made to ensure that proposed waste management facilities for all wastes are consistent with neighbouring local authority approaches in order to provide adequate capacity. Where local authorities are working singly or in collaboration to address their waste responsibilities, this may be discharged in the development plan or through joint development plan approaches, with site allocations informed by evidence on waste data flows in and out of the plan area. The types, quantities and geographical destinations of imported and exported wastes are contained in SEPA's Area Waste Management Reports. Quantitative matters relating to waste management are considered from para 5.11 below.

5.9 The ZWP Annex C considers further measures to meet the directives and reduce the need for residual waste management capacity: the Annex proposes to introduce further regulatory changes to require source segregation and separate collection of specific materials; restrictions on the waste materials that can be sent to Energy from Waste (EfW) facilities (to replace the 25% cap on local authority collected waste that can be sent to EfW plants); and landfill bans on specific types of material. The Scottish Government has subsequently published Zero Waste Regulations: there is an increased emphasis on source segregation of recyclable materials complemented by bans on these materials going to incineration or landfill, municipal biodegradable waste shall be banned from landfill by 2020. Detailed discussion between the Scottish Government, local authorities and SEPA on their specific roles should take place to clarify roles and ensure that a proportionate system of regulation and enforcement is established to implement the regulations.

5.10 Existing waste management sites in Midlothian, at the start of 2010, are set out in Table 3. National guidance and regional policy stresses the need not to compromise the function of operational waste sites, this matter is considered further in paragraph 5.23.

**Table 3 Existing waste sites in Midlothian**

Site name	Site type	Notes
Eldin Industrial Estate, Loanhead	Transfer Station	
Old Pentland Sawmill, nr Loanhead	Transfer Station	
Mayfield Industrial Estate	Transfer Stations	
Robertson's Bank, Gorebridge	Metal Recycler	
Engine Road, Loanhead	Metal Recycler	
Newtonloan Toll, nr Newtongrange	Metal Recycler	
Pentland Science Park, nr Roslin	Incinerator	
Stobhill Depot, nr Newtongrange	Civic Amenity site, transfer station, sorting	
Bellman's Road, Penicuik	Civic Amenity site	An application has been lodged for an alternative facility in Eastfield Industrial Estate, to replace this site.
Drummond Moor, nr Rosewell	Landfill	

Oatslie, nr Roslin	Landfill	Ceased landfilling 2011
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Source: SEPA Waste Management Facility Maps (correct at 2010)

#### 5.11 Infrastructure Requirements

The ZWP sets out additional operational waste management infrastructure requirements to meet Zero Waste Plan targets (ZWP, Annex B, table, December 2011). At December 2011 760,000 tonnes of additional annual processing capacity was required in the SESplan region, comprised of 410,000 tonnes capacity required to manage source segregated recyclables and 350,000 tonnes capacity to manage unsorted waste. A ten year rolling landfill capacity requirement of 10 million tonnes was identified. The requirements exist at a regional level, and it is not necessary or advisable for each local authority area to become self sufficient. These figures are a snapshot and are amended each year as new facilities are commissioned and as waste arisings change.

5.12 As the ZWP is implemented, more waste will be eliminated through the upper tiers of the waste hierarchy (prevention and reuse), and the consequent capacity gap will decrease. The ZWP also anticipates that improvements made to existing collection systems and associated infrastructure will cause more waste to flow through existing infrastructure. Projects with planning consent may also be brought into operation and other proposals may come forward over the life of the development plan.

5.13 The increasing population of the SESplan area, which will be particularly evident in Midlothian, will be a factor operating to increase waste arisings. The planning system is largely concerned with facilities at the lower ends of the waste hierarchy. New waste management development will therefore be only one part of the sustainable management of waste, and the land use planning system cannot address all sustainable waste issues by itself. There are a number of proposals currently with planning consent, which if implemented, would contribute to meeting the capacity gap set out in para 5.11 for both source segregated and unsorted waste. The City of Edinburgh and Midlothian Councils are collaborating to procure a joint waste treatment facility at Millerhill. In January 2012 this project had received planning permission in principle. In January 2013 a detailed application to develop the first stage of the facility (an anaerobic digestion plant and access roads) was received, and this was pending consideration at the time this note was prepared (early 2013). Work is continuing on taking forward other elements of the project. This site has advantages in terms of proximity to main population centres, the trunk road network, and the rail network. Nearby land allocations for development give rise to potential users for waste heat (although the proposals final suitability will have to be tested through the planning application process).

5.14 The potential contribution of new facilities at an advanced stage of development as at start 2010 (either with planning permission or in pre-application discussion) to meet the identified capacity gap is set out in Tables 4 and 5 of the SESplan Waste Technical Note. This found a potential capacity of 925,000 tonnes per annum to handle source segregated waste and 1,010,000 tonnes per annum to handle unsorted waste if all schemes were implemented. At that time the capacity gap was estimated to be 410,000 tonnes for segregated and 580,000 tonnes per annum for unsorted waste, so it would appear that the capacity gap should be closed by schemes 'in the pipeline' for both source segregated and unsorted waste, even before taking into account the implementation of the ZWP and the

non-land use planning related initiatives. However, it is by no means certain that all of these schemes shall proceed to completion, and it seems appropriate to advise that applications to recycle waste and to recover energy from waste are viewed favourably in principle, until the capacity gap is closed. In addition, some local authorities may wish to have their own dedicated facilities irrespective of merchant capacity and a level of competition is desirable to ensure reasonable costs for waste disposal. Some new sites may emerge that are more efficient in environmental terms, with respect to reuse of waste heat and transport, so there may be a case to allow further development where a public and environmental interest is served. Given the substantial costs from failing to meet landfill diversion targets, this approach is considered to incorporate the least risk.

5.15 As detailed in Table 2 (above), the ZWP sets a 5% limit on the proportion of waste arisings which may be landfilled by 2025. The Scottish Government will deem Scotland as having an adequate network of landfill facilities so long as capacity sufficient for 10 years of disposal is maintained. The ZWP sets out the 10 year rolling landfill capacity requirement: 10 million tonnes in the SESplan area at December 2011 (compared to 12 million tonnes in January 2010, used in the SESplan Technical Note assessment). From SEPA's landfill capacity reports it is possible to compare residual capacity with demand. At the time of the SESplan PP preparation there was residual capacity of 23.147m tonnes, around double the 10 year requirement identified at that time. The latest landfill capacity report (31<sup>st</sup> December 2010) suggests that there is now residual capacity of 22.339m tonnes, more than twice the current 10 year requirement. Within Midlothian, there were 1,673,000 tonnes of capacity left at the county's one remaining operational landfill site at Drummond Moor.

5.16 It is likely that as the ZWP and sustainable waste management initiatives take effect, the quantity of waste disposed to landfill will reduce each year. If demand is reduced in conformity with the ZWP this may have the effect of extending the expected lifespan of the remaining landfill resource even as finite capacity is consumed – this has certainly happened between 2010 and 2011.

#### **5.17 National Planning Framework for Scotland 2**

NPF 2 notes the policy background to the issue, and states that 'additional facilities for the treatment and recycling of municipal, commercial and industrial wastes are therefore urgently needed.' The greenhouse gas potency of methane is highlighted, together with an appreciation of the economic opportunities arising from the operation of waste management installations. Facilitating the National Waste Management Plan (the ZWP) is indicated as one of the main elements of the spatial strategy to 2030. NPF2 highlights a need to consider the relationships between waste, heat and other forms of energy at an early stage of the preparation of development plans. The relevance of the siting of installations in proximity to the markets they serve, the importance of the transport network, the relationship between different tiers of waste handling facility, and the compatibility of modern facilities with industrial estates are also highlighted.

#### **5.18 Strategic Development Plan**

The Strategic Development Plan for Edinburgh and South East Scotland (SESplan) Proposed Plan notes that there is no case for additional landfill, based on the quantitative situation set out in the SESplan Waste Technical Note, unless it forms part of land remediation. The SESplan PP notes the need to avoid compromising the function of operational sites.



5.19 SESplan PP Policy 14 (a) requires LDPs to encourage proposals for the recycling and recovery of waste where in accordance with the ZWP, subject to consideration of environmental and other factors; (b) sets a very restrictive framework for any future landfill; and (c) requires Millerhill Marshalling Yards (amongst other sites in the SESplan area) to be safeguarded for waste treatment facilities.

#### 5.20 **Summary**

The site at Millerhill for a waste recycling and treatment facility will be allocated in the MLDP in conformity with the SESplan PP (although this is to some extent overtaken by events as the facility has planning permission in principle). Through the MLDP Main Issues Report consultation, views on possible further industrial facilities on site - making use of materials recovered from the waste stream, or users that can particularly benefit from waste heat or the site's road-rail access may emerge.

5.21 It is proposed to ask through the Main Issues Report, whether there are specific sites for waste processing facilities that should be allocated to meet Zero Waste Plan objectives. It is expected that a policy to encourage recycling and recovery operations compatible with the ZWP will be included in the MLDP.

5.22 Waste processing has been traditionally treated as a 'bad neighbour' development. National guidance now considers that waste processing is compatible with sites allocated for employment and industrial use. It is proposed to allow waste processing uses (subject to other policies of the plan) on land identified in the established economic land supply for general industry, business/general industry, and storage & distribution, but not on land identified solely for business use, nor on land identified for research and development.

5.23 Existing waste site safeguarding: If 'sensitive receptors' such as housing encounter deleterious noise impacts from a nearby use, such as waste processing, this may lead to the originator of the nuisance being required to modify or cease their operations. This principle is applicable, irrespective of which use was established first. National and regional policy requires that the function of operational waste sites is not compromised. SEPA maintain a record of operational waste management sites (Table 2). One approach might be simply to have regard to these sites when making allocations, alternatively a safeguarding policy could be included.

5.24 Thermal Treatment of Waste: SEPA has issued guidelines ('Thermal Treatment of Waste Guidelines 2009'), to help ensure that Energy from Waste Plants are efficient. Implementation of these guidelines is a matter for SEPA licensing, but SEPA will also advise planning authorities as to the appropriateness of the energy recovery and efficiency arrangements. The guidelines require that thermal treatment plants only treat residual waste after all efforts have been made to extract recyclable materials; that such plants are part of a network of recycling, composting and waste recycling facilities; and that energy is recovered from the waste efficiently through high levels of electrical conversion efficiency and/or heat use capability. The guidelines are applicable to the treatment of waste by incineration, gasification, pyrolysis, plasma systems, anaerobic digestion and other potential thermal recovery technologies.

5.25 Since the guidelines were issued, further regulations concerning what wastes may be sent to thermal treatment plants have been published (Zero Waste Regulations, referred to

in para 5.9). The guidelines note that Scotland does not yet have mature heat networks, but there are opportunities to use heat by co-locating thermal treatment plants with existing energy and heat intensive industries, or by locating development in areas with the potential for the co-development of heat using industries. The guidelines use efficiency standards based on the Department of Environment and Rural Affairs (DEFRA) Quality Assurance for Combined Heat and Power (CHPQA) standard (the CHPQA is a way of calculating combining thermal and electrical efficiency factors and combining these in an aggregate score). Heat and Power plans are required to be submitted by SEPA, which would indicate how efficient the plant is expected to be, including reference to waste heat uptake.

5.26 There is one potential thermal treatment plant consented in principle in Midlothian (Millerhill). There is potential to achieve high reuse of waste heat at Millerhill through development in the surrounding locality. Given the requirements identified in the SESplan area, and the scale of potential provision elsewhere (see SESplan Waste Technical Note tables 5 and 6), it is not expected that there will be many more such applications. It is not clear how the land use planning system can best encourage take up of waste heat. The Main Issues Report raises this matter (in the Renewable Energy section).

5.27 Landfill: There appears to be little justification for permitting additional landfill capacity, other than where environmental benefits may be achieved through landfilling, in particular by facilitating the reclamation of derelict land or enabling the restoration of disused mineral workings to a productive after use which could not otherwise be achieved. It is proposed to maintain a landfill policy in the MLDP, but to require any applications to either demonstrate a quantifiable need by reference to the ZWP and SEPA capacity reports or justify themselves in terms of land remediation.

5.28 Waste minimisation: There are strong fiscal incentives to minimise waste through the aggregates and landfill taxes, and developers are already incentivised to act in their own best interests. It is noteworthy that a requirement in England for Site Waste Management Plan in large developments has been abandoned.

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Contact 0131 270 7500 or email: [enquiries@midlothian.gov.uk](mailto:enquiries@midlothian.gov.uk)