SEA for Minerals: Impacts and opportunities

Please Note

- This presentation provides a list of the potential impacts of minerals development on the SA/SEA topics
- It is important to note that the list should not be read as definitive but simply provides an idea of some potential impacts

Impacts – Air Quality

- **Dust and emissions**
- **Mitigation**
  - Dust suppression techniques often use water which will generate run-off containing a high degree of suspended particulates
  - Impacts on water resources

Topic - Biodiversity

- **Habitat Damage, Loss and Fragmentation**
- **Noise – might affect wildlife**
  - e.g. sensitive or rare species, designated areas
- **Dust – might affect ecology**
  - Physical effects & chemical effects
- **Water Environment**
  - Suspended solids can damage fisheries and wildlife habitats
  - Contaminated run-off could affect flora and fauna in nearby water courses
- **Consider geodiversity**
- **Restoration**
  - An enormous opportunity to enhance, restore and create new habitats
  - Adopt a landscape approach

Topic - Climatic factors

- **Transport and Site Operations**
  - CO_2 emissions
  - Encourage transport by rail and water
  - Reduce distance between source and end use
- **(Methane from landfill)**

Topic – Cultural Heritage

- **Vibration**
  - Damage to listed buildings, scheduled monuments etc.
- **Excavation**
  - Damage or loss to existing or unknown archaeological sites
  - Subsidence or ground settlement of monuments and historic buildings
  - Long-term setting and character of an historic monument might be affected by disruption of rights of way, access and heavy traffic
- **Dust**
  - Could have negative impacts especially if the dust is chemically active
- **Water**
  - Dewatering and the disruption of drainage regimes may affect the preservation of waterlogged archaeological sites
- **Potential for the preservation and investigation of unknown sites**

Topic - Landscape

- **Loss of Tranquillity**
- **Light pollution**
- **Excavation**
  - Changes in physical landscape e.g. removal of trees and top soil
  - Changes inconsistent with landscape character
  - Visual impacts on the local population
- **Waste dumps**
  - Visual impacts when dumped off-site or piled-up above the skyline, especially when not landscaped or vegetated
- **Restoration**
  - Positive impacts on landscape character and visual impacts if surrounding landscape is taken into account
- **Mitigation measures can cause issues**
  - E.g. sound barriers

Topic – Material Assets

- **Impacts on infrastructure**
  - Road network
- **Land take from the construction of the quarry**
- **Increased amount of traffic on roads leading to increased congestion**
- **Agricultural land (grades 1, 2 and 3a)**
- **Waste**
  - Generation
  - Recycling

Topic – Population & Human Health

- **Noise**
  - Can cause increased levels of stress and sleep disturbance
  - Sensitive receptors include schools, hospitals, residential areas
  - Noise from after-use
- **Light**
  - Can cause increased light pollution
- **Dust**
  - Nuisance – dust on windows and cars outside houses
  - Sensitive receptors include hospitals and clinics, retirement homes, hi-tech industries, painting and furnishing, food processing

Topic – Population & Human Health

- **Vibration**
  - In the ground nearby houses
  - Main reasons for complaint: fear of damage and nuisance
- **Transport**
  - Increased congestion, visual intrusion, air pollution, dust and noise
  - Increased road accidents levels
  - Potential community severance (i.e. difficulty for a community to cross roads with heavy traffic)
- **Restoration**
  - Provision of green space and/or recreational facilities – health benefits
  - Improved wellbeing
- **(Adverse effects of landfill)**

Topic - Soil

- **Loss of agricultural land and change in soil nature**
- **Damage to soils through compaction, poor storage.**

- **SNIFFER (2004) *Planning for Soil: Advice on how the planning system can help protect and enhance soils*.**
- **Defra (2004) *The First Soil Action plan for England 2004-2006***

Topic - Water

- **Groundwater**
  - Change in water table due to abstraction
  - Effects on Source Protection Zones
- **Surface Water**
  - Suspended solids
  - Contaminated outflows and run-off
  - Water abstraction affecting river flow
  - Water supply and quality issues
  - Nitrate vulnerable zones
  - Flood alleviation role of river valley sites

Restoration and After Use

- **Need to consider the effects of after use**
  - E.g. effects on communities of a popular recreational facility
- **Identify sites based on potential after-use?**
  - Opportunities mapping
- **Considered design and continuing management are important for successful restoration**

Minerals specific advice note?

- Feedback welcome
- Sources of evidence
- A MIRO initiative?