



Future Minerals Scenarios for the UK
Report of the scenario workshop
Executive Summary

Prepared for

The UK Minerals Forum

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Introduction

1. The UK Minerals Forum (UKMF) brings together representatives of the UK's onshore extractive industries, NGOs, the sector's research organisation, local government planners and observers from central government, the territorial administrations and the main statutory regulators. The Forum provides an opportunity for members to discuss matters of common interest in a neutral space, away from the pressures of traditional lobbying, campaigning, and formal dialogue about regulatory policy, legislation, minerals supply and environmental protection.
2. The Forum sponsors Working Groups to look in detail at matters of particular interest or concern; the Working Group on *Future Mineral Scenarios for the UK* is examining the possible impacts of alternative futures on UK mineral supply out to 2050. The outcomes from the Working Group will be reported to the CBI Minerals Group *Living with Minerals 5* conference on 17th November 2014. The Working Group is particularly interested in exploring
 - how demand, sourcing and supply of minerals might vary in different scenarios;
 - how different scenarios might impact on current and future perspectives of the sector held by industry, policy makers, regulators and NGOs; and
 - what the potential drivers of future minerals demand and supply might be.
3. The Working Group held a scenario workshop at the Institute of Materials, Minerals and Mining on 5 November 2013 to explore these questions in different future scenarios and to consider what recommendations it should make on issues that might affect future mineral supplies.
4. The Working Group has not developed new scenarios, but has used the World Economic Forum's [Mining and Metals Scenarios](#) to stimulate discussion. The Working Group has extended the scenarios to 2050 and provided more detail on how the UK and its minerals sector might look in these futures.
5. The three UKMF scenarios – *Green Britain*, *Britain Powering Growth* and *Insular Britain* - explore what the UK might be like if the world moves more in one direction than another. The scenarios focus on and explore four broad areas of critical uncertainty for the world in 2050:
 - Geo-economic landscape
 - *Will economic power be shared equally or unequally?*
 - *Will cross-border flows be more open or more closed?*
 - *Will markets be free or controlled?*
 - Geopolitical landscape
 - *Will the geopolitical landscape be stable or unstable?*
 - *Will there be ideological convergence or divergence between regions?*
 - Economic outlook
 - *Will change be more predictably cyclical or more extreme and unpredictable?*
 - *Will average global GDP grow rapidly or stagnate?*
 - Environmental outlook
 - *Will the response to climate change be decisive and ambitious or reactive and incremental?*
6. The main characteristics of the three scenarios are set out in the table on page 2 of this summary. The tables on pages 3-5 show the high level outcomes of workshop participants' discussions on
 - What life is like in the different scenarios
 - The strategic challenges and opportunities facing the UK
 - Sourcing and supply of minerals in the scenariosRisks and rewards facing key stakeholders (industry, citizens and government)

Characteristics of the scenarios

| Green Britain | Britain Powering Growth | Insular Britain |
|---|--|--|
| <ul style="list-style-type: none"> • Global growth is low • Some nations take a co-ordinated and ambitious approach to tackling environmental challenges • Push for free markets and open borders but continuing instability leads to protectionist tendencies • Environmental issues are critically important to the UK. Economic growth remains important, but only if it is achieved within environmental limits • Cities are the engines of growth, creating centres of knowledge, commerce and industry • The UK is performing well overall – but there are some significant regional differences • Distributed power generation is commonplace • Recycling is an economic as well as an environmental necessity • Land use is geared towards food, energy production and some mineral production | <ul style="list-style-type: none"> • Free markets and open borders generate strong cyclical growth • The world is geopolitically stable • Short termism prevails. Nations take a reactive and incremental approach to the environment • The UK economy is the largest in Europe • UK success is built on its knowledge industries: financial services, science and technology, education, leisure, creative and design • The UK is regarded as one of the most progressive societies in which to live and work • Knowledge workers travel constantly around the world, creating value and opening markets. The UK is a 24/7 society and demand for travel, goods and services is high • Wealth creators are supported by service providers who work long hours to meet the needs of a demanding client group • Increasing consumption of goods and high-impact services means that society's waste footprint is growing unsustainably • Britain's nuclear industry is thriving | <ul style="list-style-type: none"> • Globalisation has failed - economic stagnation prevails • Geopolitical instability leads to controlled markets and closed borders • Global warming has not been tackled and there is a reactive and incremental approach to environmental challenges • The UK is no longer part of the EU. Its economy is weak • The UK still produces some oil and gas and has expanded its renewables sector but struggles to achieve self sufficiency • The price and availability of imported energy cannot be guaranteed • Government exercises strong control. Energy is rationed and travel is restricted • Citizens work long past “retirement age” • Land is worked intensively to produce food and energy. Rural communities have grown • Global warming continues to create unpredictable weather that affects both energy supply and food crops |

What life is like in the different scenarios

| Green Britain | Britain Powering Growth | Insular Britain |
|---|--|---|
| <ul style="list-style-type: none"> • Cities thrive • Consumption is lower • Lifestyle is capped • The environment is cleaner • There is a more sustainable energy mix • Wealth creation is challenging • The political environment is stable | <ul style="list-style-type: none"> • Growth creates wealth • An open economy is essential for continued prosperity • Work dominates people's lives • People have little time for taking the long view • Short termism prevails • The environment is under pressure | <ul style="list-style-type: none"> • The UK is struggling to keep afloat • Consumption has fallen and choice is reduced • Society faces many challenges • Communities pull together in the face of adversity • People work long and hard • Big questions remain about social cohesion |

Strategic challenges facing the UK

| Green Britain | Britain Powering Growth | Insular Britain |
|--|---|---|
| <ul style="list-style-type: none"> • Access to land is limited • Society struggles to adapt • Sustaining lowered growth is difficult • The UK has become less powerful | <ul style="list-style-type: none"> • Environmental degradation is increasing rapidly • Resources are depleting • Security of supply cannot be guaranteed • Continued growth in the UK is dependent on imports • Global markets create volatility • Social issues are pressing | <ul style="list-style-type: none"> • The environment is damaged • Government is under resourced and fire fighting • The economy is in decline • Production is fragmented • Society hangs by a thread |

Strategic opportunities facing the UK

| Green Britain | Britain Powering Growth | Insular Britain |
|--|---|--|
| <ul style="list-style-type: none"> • Green technologies provide growth opportunities • The long term future is more assured • The sustainable lifestyle is attractive to people • New jobs and skills have emerged | <ul style="list-style-type: none"> • The economy is growing • The UK has the opportunity to become a leader in tackling sustainable development • The UK can invest in the skills and innovation needed to achieve sustainable development | <ul style="list-style-type: none"> • Innovate constantly • Find new ways to trade • Maximise resource use • Increase mineral production • Pull together |

Sourcing and supply of minerals

| Green Britain | Britain Powering Growth | Insular Britain |
|---|--|--|
| <ul style="list-style-type: none"> • The UK needs to be self sufficient • We need to maximize recycling • Effective recycling lowers consumption and increases efficiency • Focussed regulation supports change • Supply requires careful strategic management | <ul style="list-style-type: none"> • Demand has increased • Production has increased • The market decides • Security of supply is fragile • No strategy for UK supply | <ul style="list-style-type: none"> • Focus on self sufficiency • Look for innovative way to maintain supply • Regulation to optimise production |

Risks and rewards facing stakeholders

| Green Britain | | Britain Powering Growth | | Insular Britain | |
|---|--|--|--|--|--|
| Risks | Rewards | Risks | Rewards | Risks | Rewards |
| <p>Industry</p> <ul style="list-style-type: none"> • Costs will increase • Competition will increase • Need long term strategy to manage supply | <p>Industry</p> <ul style="list-style-type: none"> • Export opportunities will increase • Sustainable business growth offers potential | <p>Industry</p> <ul style="list-style-type: none"> • Barriers to production will increase • Business will be more competitive • Infrastructure will be weaker • Public opinion will be unfavourable • Political challenges will increase | <p>Industry</p> <ul style="list-style-type: none"> • Strong demand means big rewards | <p>Industry</p> <ul style="list-style-type: none"> • Investment is reduced • Demand declines • Production is compromised | <p>Industry</p> <ul style="list-style-type: none"> • Markets may be more predictable • Opportunities for increased production |
| <p>Citizens</p> <ul style="list-style-type: none"> • Cost of living will increase • Choice will reduce • Central government will take more control • Citizens will need to retain a global focus | <p>Citizens</p> <ul style="list-style-type: none"> • Society will have a sense of shared purpose • Change will create new opportunities | <p>Citizens</p> <ul style="list-style-type: none"> • Environmental risks will increase • Individualism will increase • Societal tensions will increase | <p>Citizens</p> <ul style="list-style-type: none"> • Rewards will be unevenly distributed | <p>Citizens</p> <ul style="list-style-type: none"> • Quality of life will fall • Insecurity will rise • UK will be marginalized | <p>Citizens</p> <ul style="list-style-type: none"> • Communities might feel more empowered • UK will be self reliant |
| <p>Government</p> <ul style="list-style-type: none"> • The transition will be difficult domestically • Societal divisions could be reinforced • Different approaches may cause global instability | <p>Government</p> <ul style="list-style-type: none"> • Societal wellbeing will increase | <p>Government</p> <ul style="list-style-type: none"> • Some big challenges to maintaining the <i>status quo</i> | <p>Government</p> <ul style="list-style-type: none"> • Plenty of funding available to build a stronger society | <p>Government</p> <ul style="list-style-type: none"> • UK will be politically and economically isolated • Social unrest • Demographics are a challenge | <p>Government</p> <ul style="list-style-type: none"> • Government has greater control over resources |

Recommendations to support future development of the sector

7. Within the context of each scenario discussion, participants suggested recommendations the Forum Working Group should make about future development of the sector:

| Green Britain | Britain Powering Growth | Insular Britain |
|--|---|--|
| <ul style="list-style-type: none"> • Secure political commitment to the development of a long term vision for the minerals sector • Develop thinking on paying for environmental externalities • Plan for sustainable living • Manage our resources • Invest in green technology • Set up processes to review and monitor transition of the sector to make sure it is on the right track • Encourage global collaboration | <ul style="list-style-type: none"> • The UK needs an effective policy framework for managing future supply of minerals • The UK needs an effective policy framework for managing future demand for minerals • Develop foresight to anticipate future development • Boost the resilience of the UK industry • Basic infrastructure needs to be systematically reviewed and managed • The long term strategy needs to consider a range of contingencies | <ul style="list-style-type: none"> • Develop a national contingency plan • Bring forward legislation to encourage behaviours that protect supply • Invest in renewables • Invest in the UK Skill base • Increase efforts to keep global trade open • Identify areas of strategic importance that may need development under difficult economic or political conditions |

Plausibility and favourability of the scenarios

8. Around two thirds of the group saw *Britain Powering Growth* as the most plausible scenario; and nearly all the group saw it as the scenario which is closest to now, suggesting they believe the *status quo* is likely to remain in place. 60% of the group believe that government policy is creating a future like the one described in *Britain Powering Growth*
9. The vote also suggested that the group thought any future that resembles *Britain Powering Growth* cannot be sustained and that the world must therefore revert to one of the other two scenarios.

10. The logic of the scenarios suggests that the more positive alternative – *Green Britain* – will only happen if Britain takes an early, proactive and strategic perspective of the future development of the sector. Failing to do so risks the UK falling into the more negative and challenging future defined by *Insular Britain*.
11. Just over half the group suggested their organisation is already planning for a future that is closer to *Green Britain* than to *Britain Powering Growth*.

Conclusions and recommendations

12. The report highlights 5 recommendations from the workshop discussions. These are not the only recommendations that need to be followed up, but they offer a good starting point. The report makes one further recommendation of our own.

13. The six recommendations are

- Secure political commitment to the development of a shared long term vision for the minerals sector;
- Plan for sustainable living;
- Set up processes to review and monitor transition of the sector to make sure it is on the right track;
- Boost the resilience of the UK industry;
- Develop foresight to anticipate future development; and
- Continue to work together and challenge yourselves