

## Written evidence submitted by Green Alliance (IND0032)

### About Green Alliance

Green Alliance is a charity and independent think tank focused on ambitious leadership for the environment. Since 1979, we have been working with a growing network of influential leaders in business, NGOs and politics to stimulate new thinking and dialogue on environmental policy and increase political action and support for environmental solutions in the UK.

This submission builds on the [primary](#) and [supplementary](#) evidence submitted to the original inquiry ‘Securing the domestic supply chain’, which outlined Green Alliance’s stance on topics relevant to the inquiry including steel and electric vehicles manufacturing. Since the original inquiry we have published further evidence, with our recent publication [Mission critical: safeguarding resources for UK energy security](#) in particular covering in greater detail topics relevant to this inquiry.<sup>1</sup>

### Summary

The government’s mission to ‘Make Britain a Clean Energy Superpower’ and achieve clean power by 2030 will increase the UK’s resilience and reduce exposure to volatile international fossil fuel markets. In their new approach to industrial strategy, the government should look to capture the economic benefits of this change. While 2030 is achievable with the right policy and ambition, it is not without risks that need to be managed. This submission focuses on one such risk: the UK’s access to critical minerals.

Since the last inquiry, some factors have not shifted. China remains dominant in many critical minerals, particularly in processing. The UK remains a largely resource-poor country, even compared to the EU. But we are seeing an increasingly fractious world, with growing risk of trade wars and barriers. The number of minerals deemed critical to the UK has grown significantly from 18 to 34, and the UK is 100 per cent reliant on imports for 26 of these.

Both business and civil society are calling for a more robust approach on critical minerals. Building in demand reduction will help ensure the UK does not trade exposure to fossil fuel markets for exposure to mineral markets. Expanding domestic midstream processing is a growth opportunity for the UK. Promoting circularity will unlock the value of critical minerals building up around us that otherwise risk becoming ‘waste’ or being lost to the economy through export. A robust approach to these materials will create new industries while enhancing the UK’s resilience.

The government has opened the door to a new approach with the upcoming Industrial Strategy, Critical Minerals Strategy, and Circular Economy Strategy. Working together, these initiatives can enable the clean energy mission and capture the growth of the industries of the future.

### Detailed comments

#### **Q1. How can UK plc capture its fair share of the economic potential of emerging or less developed energy technologies?**

- 1.1 There have been increasing calls from business for the UK government to develop a more robust approach to critical raw materials needed for the energy transition – one that goes

beyond the current and dominant focus on diversifying supply given the increasingly fraught state of international supply chain and increasing demand for materials.

- 1.1.1 Green Alliance consulted extensively with businesses for our *Mission critical* report, which looked at achieving long term energy security in a renewables dominated future. Those we spoke to feared that the UK government's reluctance to intervene on critical raw materials means that other nations will establish infrastructure and secure supply chains, and the UK will be left without a domestic reuse and recycling industry to support its independent energy system. While the private sector and trade associations say they have the expertise to achieve circularity, they feel political leadership and government investment in circular economy infrastructure has been absent.
- 1.1.2 These businesses expressed support for an industrial strategy focused on midstream processing and circularity for critical raw materials as a potential opportunity to increase investment.
- 1.1.3 Additionally, while businesses have previously been reluctant to speak out about supply chain concerns, in November last year 29 industry leaders, including from energy companies, waste firms, renewables firms, and professional bodies, wrote to the government to call for a more robust UK strategy that would develop a circular economy for critical raw materials to protect the UK from supply chain risks, invigorate the economy and address the environmental and social challenges that can be associated with these materials in global supply chains.<sup>ii</sup>
- 1.1.4 Representing organisations including Good Energy, OVO Energy, PS Renewables, Ethical Power, RenewableUK, Solar Energy UK, and SSE, the signatories highlighted concerns over dependence on volatile supply chains that expose businesses and the economy to risks including to the environment and to communities and indigenous peoples. They said: "We support an ambitious strategy that would develop a circular economy for critical raw materials to protect the UK from supply chain risks, invigorate the economy and address the environmental and social challenges that can be associated with these materials in global supply chains."

## **Q2. What more can the Government do to encourage greater domestic supply chain investment in the energy industry by 2035, including through the Contracts for Difference scheme?**

2.1 Greater supply chain investment is needed in circularity for critical raw materials. A lack of innovation funding, particularly the reluctance to ringfence funds for circularity as seen in the EU, has meant there have only been short term funding pots available. In *Mission critical* we recommend that greater investment in midstream processing and circular technologies could be supported through measures such as:

- 2.1.1 The National Wealth Fund should be directed to invest in line with industrial strategy, including in the infrastructure needed to collect, store, dismantle, reuse, remanufacture and recycle products containing critical raw materials.

- 2.1.2 The ‘valley of death’, where new products or services struggle to reach commercialisation, should be bridged. The UK has strong R&D, including in recycling technologies, but struggles to capture subsequent economic benefits.<sup>iii</sup> Innovation support, moving from demonstration to commercial roll-out, should be targeted at recycling innovations for critical raw materials as a strategic priority.
  - 2.1.3 Private investment in circular businesses should be supported by a new approach to financial risk, recognising the risks in current linear business models and fairly assessing new circular business models. The Sustainable Finance Platform of the Netherlands central bank is developing proposals to integrate circularity into financial risk models. As a first step, it has created a risks scorecard to assess circular investment opportunities.<sup>iv</sup> Proposals like these should be considered by the Bank of England for inclusion in UK financial guidance.
- 2.2 The government should also introduce targets to incentivise greater investment in reuse and remanufacturing within the domestic supply chain.
- 2.2.1 The EU’s new Battery Regulation includes targets for recycled content and material recovery, carbon footprint requirements, and battery passports detailing chemical components to enable safe disassembly for remanufacturing or recycling.<sup>v</sup> Businesses expect these regulations to boost battery recycling by creating a price premium for recycled content. As such, any UK targets should at least match the EU’s Battery Regulation.
  - 2.2.2 For the UK’s specific context, though, targets should not be restricted to recycling or recycled content; in some instances, for instance, where primary manufacturing occurs and is likely to continue to occur elsewhere, targets for reuse and remanufacturing may be more suited and impactful, leading to greater opportunities for growth of domestic supply chains. For instance, analysis for the Coalition for Wind Industry Circularity has shown that remanufacturing just ten wind turbine components with well established supply chains over the next ten years could create a UK market worth £9.6 billion.<sup>vi</sup>

#### **Q4. To what extent would growing the domestic supply chain bolster UK energy security?**

- 4.1 In a renewables dominated system, the UK will move away from dependence on gas and oil from countries like Russia and the US and instead, if we continue on our current trajectory, rely on countries that can supply the critical raw materials needed for renewable power technologies.
  - 4.1.1 Of the 34 materials the UK Critical Minerals Intelligence Centre has identified as being ‘critical’ to the UK economy, the UK is currently: 100 per cent reliant on imports for 26; more than 90 per cent reliant for a further six; and reliant for the majority of the remaining two.<sup>vii</sup>

- 4.1.2 Since all countries are looking to secure the materials they need to meet their Paris Agreement goals, demand for critical raw materials in the global energy transition is expected to grow 3.5 times by 2030.<sup>viii</sup> Competition will be strong, so achieving energy security will require reducing reliance on volatile international supply chains as much as possible.
- 4.2 To achieve energy security, it is not enough for the UK to copy strategies used by the US, Canada, Australia and others, which mostly focus on increasing domestic mining and diversifying the rest of their supply. Businesses we consulted for *Mission critical* told us that for most minerals, it is highly unlikely the UK could ever meet its demand for critical raw materials through domestic extraction alone, given our limited geological resources.
- 4.3 Instead, the UK is well positioned to achieve energy security by developing a domestic reuse, remanufacturing and recycling industry around critical raw materials already present in our existing products and infrastructure. As an importer of significant volumes of products, the UK has an advantage over countries like Japan, which export more than they import. This makes the UK particularly suited to pursuing circularity.
- 4.4 As our previous submission noted, creating a circular economy for these materials by reusing and recycling products, components, and materials can meet an increasing proportion of demand as technologies like batteries and wind turbines reach the end of their life in the coming decade

**Q5. What are the key concerns with respect to the availability of raw materials in the supply chain and how might those be addressed?**

- 5.1 Alongside the measures outlined in this and our previous submissions, our *Mission critical* report proposes several actions the government can take to address the challenges in raw materials supply chains. These include:
- 5.1.1 Making access to responsibly mined or reprocessed critical raw materials an international priority.
- 5.1.1.1 Access to critical raw materials will be a crucial part of diplomacy around clean energy. The UK should champion circularity and material reduction to ensure all countries have access to the supplies they need and that countries disadvantaged by previous energy revolutions are not disadvantaged by this one.
- 5.1.1.2 The UK should only import from the highest environmental, social and governance (ESG) mining operations, and push for meaningful international standards, including ambitious product design standards in international fora, that enable easier and safer disassembly, reuse, repair and recycling. Businesses were clear that better design standards are vital to unlock greater circularity and improve the viability of recovering critical raw materials.
- 5.1.2 Poor data and a lack of supply chain tracking hinders meaningful action in this area. To gather the necessary data, the UK government should:

- 5.1.2.1 Require scope 3 emissions reporting and wider environmental and social due diligence data on supply chains.
  - 5.1.2.2 Introduce product passports, starting with batteries, as the EU has done, so that, amongst other benefits, data on chemical and material content is available to secondary users.
  - 5.1.2.3 Create the promised National Materials Datahub now, to track stocks and flows of materials through the economy, starting with critical raw materials.
  - 5.1.2.4 Commission a review of the material needed and circular economy opportunities of the energy system, including for wind turbines, batteries and solar panels. This should involve: the material needs to meet energy ambitions, according to different pathways; a criticality assessment of those materials; assessment of the resources available within existing infrastructure and decommissioning timelines; evaluation of the infrastructure requirements and market development opportunities for reuse, recycling and remanufacturing for specific materials, products and parts.
- 5.1.3 The government should integrate demand reduction and circularity into industrial strategy and climate policy. It can do so using the following measures:
- 5.1.3.1 Public procurement should require reused or recycled content in products. The government is a major procurer of technologies, eg defence. In addition, non-price factors in contracts for difference could be used to require reused or recycled content in wind turbines and solar panels, and the Crown Estate could introduce similar requirements into seabed leasing decisions for offshore wind.
  - 5.1.3.2 Policy levers across departments should be employed to reduce demand for critical raw materials; for example, by offering incentives to purchase smaller cars, such as a weight tax on vehicles with engines over a certain size. and encouraging greater public transport and car sharing.<sup>ix,x,x</sup> Smarter electricity grids should be developed with demand side flexibility to reduce energy wastage.<sup>xii</sup> Energy use in buildings should be reduced through faster rollout of energy efficiency improvements, and improved heating and cooling standards for new builds.<sup>xiii</sup>
  - 5.1.3.3 Existing powers in the Environment Act should be used to accelerate circularity, including setting targets for recycled content in products like batteries, and improving design regulations to require durability and ease of disassembly.

- 5.1.4 The workforce does not have the necessary skills in mining and metals processing. To build this, the government should:
- 5.1.4.1 Conduct a quantitative assessment of the future workforce skills needed and a gap analysis of education and training provision should be conducted. The workforce previously trained through the coal industry is now reaching retirement age, and young people do not see mining and metals processing as an attractive career.<sup>xiv</sup>
  - 5.1.4.2 A plan is needed to fill skills gaps, including dedicated, funded apprenticeships, T-Levels or Higher Technical Qualifications in mining and metals related skills. These should be available to workers of all ages, including those with relevant skills who are moving away from jobs in industries such as oil and gas.
  - 5.1.4.3 More should be done to improve the visibility of these careers and the communication of their importance to achieving net zero, to attract young people to the industry.

*February 2025*

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<sup>i</sup> Green Alliance, 2024, *Mission critical: safeguarding resources for UK energy security*

<sup>ii</sup> Green Alliance, 19 November 2024, 'Access to critical raw materials must be "an international priority" for UK, say industry leaders'

<sup>iii</sup> Engineering the Future, February 2012, response to the House of Commons Science and Technology Select Committee, Bridging the "valley of death": improving the commercialisation of research inquiry

<sup>iv</sup> De Nederlandsche Bank, 'Sustainable finance platform circular economy working group', [www.dnb.nl/en/green-economy/sustainable-finance-platform/circular-economy-working-group/](http://www.dnb.nl/en/green-economy/sustainable-finance-platform/circular-economy-working-group/)

<sup>v</sup> European Commission, 17 August 2023, 'Circular economy: new law on more sustainable, circular and safe batteries'

<sup>vi</sup> BVGAssociates, March 2023, *Circularity market analysis*

<sup>vii</sup> UK Critical Minerals Intelligence Centre, November 2024, *UK 2024 Criticality Assessment*

<sup>viii</sup> International Energy Agency, 'The role of critical minerals in clean energy transitions', [www.iea.org/topics/critical-minerals](http://www.iea.org/topics/critical-minerals)

<sup>ix</sup> Green Alliance briefing, November 2023, 'Big car, little car: the sustainability implications of growing vehicle sizes'

<sup>x</sup> Green Alliance, 2023, *Moving on: greener travel for the UK*

<sup>xi</sup> CREDS, 2019, *Shared mobility - where now, where next? Second report of the Commission on Travel Demand*

<sup>xii</sup> GridX, 29 January 2024, 'Demand-side flexibility'; and Green Alliance, 2020, *Balancing the energy equation: three steps to cutting UK demand*

<sup>xiii</sup> Ibid

<sup>xiv</sup> IOM3, July 2023, *The talent gap: critical skills for critical materials*