

**UK Atomic Energy Authority (UKAEA) Spherical Tokamak for Energy Production (STEP) Siting Process**

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**Summary:**

This paper provides an update to members on the siting process launched by the UK Atomic Energy Authority in late 2020 to identify a site for the development of a future Fusion facility, known as “STEP”.

Since the previous report in February, the Cumbria LEP in partnership with Copeland Borough Council has nominated the Moorside site into this process.

**Recommendation:**

That members of the Board:

1. Note the information in this paper.

**1. Background**

- 1.1. The STEP programme is an UKAEA and UK Government initiative to accelerate progress towards commercially-viable fusion power, through design and construction of a prototype fusion reactor by 2040.
- 1.2. The STEP programme aims to build on the UK’s world-leadership in compact fusion technology, and aims to transition from a research-led sector to industrial-design and delivery.
- 1.3. To date, the UK’s fusion development activity has been focussed at the Culham Centre for Fusion Energy in Oxfordshire, home to the Joint European Torus (JET) and Mega Ampere Spherical Tokamak (MAST) fusion test reactors.

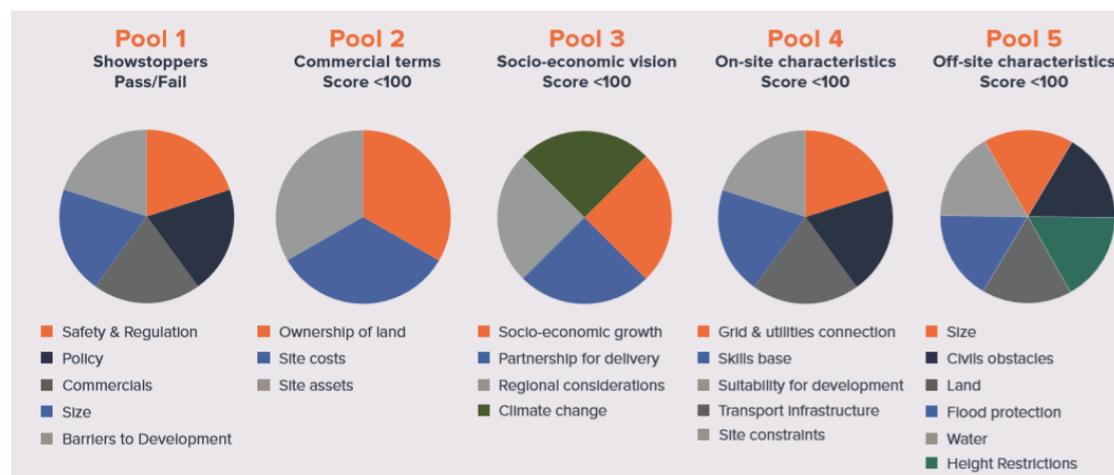
- 1.4. However, the UKAEA is now searching for a site elsewhere in the UK to construct the STEP facility and to host the associated industrial and supply chain facilities.

## 2. The Siting Process

- 2.1. UKAEA has set out the criteria by which sites will be assessed:

1. Showstoppers: pass/fail
2. Commercial terms: score/100
3. Socio-economic vision: score/100
4. On-site characteristics: score/100
5. Off-site characteristics: score/100

- 2.2. The elements of these 5 “pools” are shown in the image below:



- 2.3. Nominations were invited from a range of organisations that meet some basic criteria:

- The entity is capable (in personnel and funding) to work with UKAEA as we assess the proposal
- The entity has some form of jurisdiction (council, LEP, business group, devolved Government) for the area of the site
- That not more than one entity propose the same site
- That the proposing entity has the agreement of the landowner to propose the site

- 2.4. Further information on the STEP facility and siting process is available on the UKAEA website, accessible via the following link:

<https://step.ukaea.uk/>

### **3. Strategic Opportunity**

- 3.1. This development aligns closely with the vision set out in the Cumbria Nuclear Prospectus for a multi-technology clean energy park around Moorside, and with the ambition set out in the Copeland Vision 2040 for Copeland to be a “globally recognised place of innovation” and to become a “major clean energy hub for the UK”.
- 3.2. The scale of development is likely to be comparable to an operational power station, with associated infrastructure and research and development facilities. The programme will require investment in skills development from apprenticeships to higher level skills and UKAEA has committed to working with local education and training providers early in the programme.
- 3.3. It is likely that the programme will be consented as a Nationally Significant Infrastructure Project (NSIP) under a Development Consent Order (DCO). STEP will be a project at the international forefront of the clean energy revolution, bringing visibility to the community on a global stage.
- 3.4. The siting process is seeking to identify a site of at least 100 hectares to host the STEP facility and associated modern, low-carbon, high-skill and high-value supply chain activity. This £multi-billion programme could have a significant immediate and long-term positive economic and regenerative effect to West Cumbria.
- 3.5. As the UK’s Centre of Nuclear Excellence, host to a wealth of nuclear capability across industry, supply chain and R&D, Copeland is well-placed to support this development. This is further reinforced by the potential for transferability with the development of advanced fission which already takes place in West Cumbria, led

by National Nuclear Laboratory as the UK authority on advanced fuels and reactor technology.

#### **4. Update – the Cumbrian Nomination**

- 4.1. Members will recall that the Council's nomination of the Moorside site into the Cumbria mini-competition led by the Cumbria LEP was successful. As a result, the Council's Portfolio Holder for Nuclear and Corporate Services supported by officers have worked with the Cumbria LEP to develop the final nomination, which was submitted to UKAEA by the deadline on 31<sup>st</sup> March 2021.
- 4.2. The UKAEA has since indicated that the nomination has passed the showstoppers (pass/fail) screening exercise, and will now be assessed against criteria described at 2.2 above.
- 4.3. A Memorandum of Understanding will be signed between UKAEA and the nominating authorities, setting out how we will work together throughout the remainder of the site assessment and selection process.
- 4.4. Further updates will be provided to SNEB and via Executive Portfolio Holder reports to Executive Committee and Full Council as appropriate.