

**REPORT OF THE CABINET MEMBER FOR ECONOMIC DEVELOPMENT AND ASSET
MANAGEMENT****SPHERICAL TOKAMAK for ENERGY PRODUCTION (STEP) FUSION PROJECT UPDATE****Purpose of the Report**

1. To provide an update to Cabinet regarding the United Kingdom Atomic Energy Authority's (UKAEA) Spherical Tokamak for Energy Production, (STEP) fusion project and to seek approval for the County Council's further role in facilitating the benefits of the STEP prototype being located at West Burton.

Background

2. STEP was announced as part of the Government's Ten Point Plan for a Green Industrial Revolution in 2020, and is an ambitious Government led programme to design and construct a prototype fusion power plant. It would result in the UK being one of the first countries in the world to commercialise fusion energy and would be at the international forefront of the clean energy revolution, bringing visibility on a global stage.
3. The programme is being led by the United Kingdom Atomic Energy Authority (UKAEA) who launched a nationwide search for a site to host its ground-breaking STEP fusion project in early 2021.
4. STEP is an ambitious programme to design and construct a prototype fusion power plant by 2040 with £222 million funding from the UK Government to produce a concept design by 2024. The STEP prototype reactor will be used to research and develop the technology and enable a fleet of commercial plants to follow in the years after 2040.
5. The aim for this first phase of work is to produce a 'concept design' by 2024. Between 2024 and 2032, the design will be further developed through detailed engineering design and, at the same time, planning permission to build the power plant will be sought. The aim is to have a fully evolved design and approval to build by 2032, enabling construction to begin. By 2040 STEP will bring the world's first commercially viable fusion plant into commission.
6. On 6 February 2023 the Science and Innovation Minister, George Freeman, speaking at West Burton stated that: *'Fusion energy now has the potential to transform our world for the better by harnessing the same process powering the sun to provide cheap, abundant, low-carbon energy across the world. The UK is the world-leader in fusion science and technology, and now we are moving to turn fusion from cutting edge science into a billion-pound clean energy industry to create thousands of UK jobs across the UK, grow exports and drive regeneration of this former coalfield site through a fusion innovation cluster in Nottinghamshire.'*
7. The Minister also announced the creation of UK Industrial Fusion Solutions Ltd. The establishment of Industrial Fusion Solutions will enable STEP to accelerate its journey towards

delivery of electricity from fusion energy to the grid. The new body, which will be formed over the next 18 months, will be established as a programme delivery organisation, driving performance and pace and engaging industry in this endeavour.

8. Alongside the establishment of the new organisation, the UKAEA are beginning to map out future skills requirements and, as part of this, they are committing to the development of a STEP Skills Centre at West Burton. This will provide as many opportunities as possible to people across the area.
9. Speaking at the same event Professor Sir Ian Chapman, UKAEA Chief Executive, said: *‘We look forward to working with people in the region to develop our ambitious plans and realising broader social and economic benefits’.*

A zero-carbon future

10. In May 2021 the County Council declared a Climate Emergency to achieve carbon neutrality in all of its activities by 2030. The STEP project would be a major advancement in delivering the Council’s own policy objectives for delivering environmental improvements and economic growth.
11. At the regional level, locating the STEP project in Nottinghamshire would also create thousands of highly skilled jobs linking directly into and driving forward a range of Green Recovery projects and strategies already in place. This would include transformational projects such as the Energy Research Accelerator (ERA) and the D2N2 Economic Recovery and Growth Strategy – ‘The heart of the UK’s Green Revolution’.
12. Given the significant benefits that could be derived from playing a leading role in the development of a Zero-carbon economy, it is clear that a high-profile project such as STEP should continue to be supported in Nottinghamshire.

Securing STEP in Nottinghamshire

13. Policy Committee (17 March 2021) endorsed the proposal for the County Council to act as the nominating body for submission of STEP Site nominations to the UKAEA promoting sites within Nottinghamshire. While Policy Committee originally considered this matter in March 2021 the Economic Development & Asset Management Committee (7 December 2021) further considered all matters related to the STEP project and its location.
14. The County Council played a key role in the preparation and submission of the bids, acting as the nominating body and working with EDF as the landowner, relevant Local Authorities and a wide range of stakeholders such as Bassetlaw District Council, Midlands Engine, D2N2 LEP, local universities and businesses to promote West Burton as the site for STEP.
15. Central Government announced in October 2022, that Nottinghamshire had been successful in securing West Burton as the UKAEA’s site for STEP. This is a major achievement given the range of other competing sites in the UK.

STEP Enabling Collaboration: a proposed approach

16. In light of the Council's successful role as the nominating body for the STEP programme siting process, the Council is now considering, together with stakeholders, proposed arrangements to continue the collaborative working which has been recognised by the Science and Innovation Minister, George Freeman, as a factor in the success of West Burton being the chosen location for STEP.
17. At this embryonic stage, the County Council wishes to build on the successful collaboration that helped to secure STEP and to build a strong network to ensure that the socio-economic benefits are realised for the communities, businesses and academic institutions of the County and wider geography. If the UK is to move from a fusion science superpower to a fusion industry superpower, we need to help the emerging fusion sector to plan with clarity and confidence. It is now time to look at how the stakeholders can support this growing fusion industry whilst maintaining the benefits locally.
18. In the Review of Nuclear and Related Industries in the Midlands Report (January 2023) the Midlands Engine recommendations include: *'Support the development of the fusion energy sector. The government's announcement that the new STEP Fusion plant will be built at West Burton A in north Nottinghamshire will enable a significant Midlands-based fusion technology sector to develop and will strengthen the local supply chain'*. It goes on to recognise *'the siting of this key fusion facility in the Midlands Engine is an outstanding opportunity for growth as well as high-value jobs and skills and will almost certainly be a magnet for inward investment'*. It proposes an action to: *'Establish a fusion working group involving universities, industry and local authorities to ensure benefits from engaging with this new sector are maximised'* with an outcome of *'An active ecosystem supporting the major development of fusion in the region and beyond'*.
19. To enable these aspirations to be realised, the following proposals are in discussion with stakeholders. Members are invited to consider these arrangements at this stage. Depending on how it is decided to establish these Boards, further reports may be required to the relevant decision makers to agree these arrangements. The establishment of any of these Boards would include agreeing terms of reference for each.

STEP Strategic Collaboration Board

Chaired by Sir John Peace (Midlands Engine) with representatives from EDF, UKAEA, academia, the local MP. The representatives from the County Council would include the Chief Executive, the Leader and the Cabinet Member for Economic Development & Asset Management who would be present in his role as chair of the Regional Collaboration Board.

Purpose: Set up to support and create an attractive inward investment environment for fusion and associated industries in the region. Its aims are to maximise the benefits of the STEP programme being located in Nottinghamshire, and to promote wider enabling matters not covered by the STEP programme but complimentary to it. It will also provide an ambassadorial role linking into government departments and agencies and encouraging and working with fusion companies and organisations wishing to relocate to the region to better understand the conditions required to improve the long term success of the region as a base for such industries.

STEP Regional Collaboration Board

Chaired by the County Council's Cabinet Member for Economic Development & Asset Management with Leaders and/or portfolio holders for economic development from neighbouring local authorities plus their officer supports.

Purpose: To advise on strategic economic development issues to drive STEP enabling work. Its aims are to review and oversee future enabling investment in the locality and region around STEP and to ensure all board members plans are aligned with and contributing to the delivery of STEP. The board will also make recommendations to the Strategic Collaboration Board around matters that should be deliberated at a government level.

STEP Programme Interface Board

Chaired by the County Council's Chief Executive with senior officer representatives from the County Council, the UKAEA and the Chief Executive of Bassetlaw District Council.

Purpose: To align the STEP programme deliverables and objectives with the enabling work within the region. To oversee the key issues and matters arising from the Strategic Collaboration Board and Regional Collaboration Board to enable the most appropriate delivery and/or funding route. To direct and guide the work of the Collaboration Programme Team (STEP Enabling) to ensure alignment with the STEP Programme, Strategic Collaboration Board and Regional Collaboration Board. To direct and guide the work of the Collaboration Programme Team (STEP Enabling) including the organisation and delivery of workstreams to assist with the enabling work with a particular focus on stakeholder management and communications, infrastructure, planning; planning; education and skills; investment zones and economic development (inward investment); supply chain (creation of) and availability of development land in the region.

STEP Collaboration Programme Team

Chaired by the County Council's Programme Director with officer representatives from Bassetlaw District Council, West Lindsey District Council, Lincolnshire County Council, Midlands Engine, D2N2 LEP, UKAEA, EDF and the Energy Research Accelerator (ERA) and continues to meet.

Purpose: This is the programme team which worked together to submit the successful nomination for STEP at West Burton and it continues to build upon robust working relationships. The team will continue to work with the stakeholders to support the collaborative working and the setting up of the arrangements and Boards going forwards.

Other Options Considered

20. The selection of the West Burton site has secured the high-profile STEP project in Nottinghamshire. This will result in the creation of thousands of highly skilled jobs in Nottinghamshire and across the East Midlands and drive the green industrial revolution. As a result, the 'do nothing' option was discounted.

Reasons for Recommendations

21. Fusion generated energy is needed to radically decrease carbon emissions. The County Council has an ambition to raise the profile of Nottinghamshire, doing all the authority can to create the best conditions for investment and growth. Nottinghamshire as home to the UK's ground-breaking prototype fusion power plant will pave the way to a supply of low carbon, clean energy and help support thousands of new highly skilled jobs.

22. By acting as the nominating body, the County Council was instrumental in securing STEP in the County. It can continue to facilitate the delivery process and ensure that the knowledge from a wide range of bodies and stakeholders can be harnessed and fed into the next stage to ensure economic growth opportunities are fully realised.

Statutory and Policy Implications

23. This report has been compiled after consideration of implications in respect of crime and disorder, data protection and information governance, finance, human resources, human rights, the NHS Constitution (public health services), the public sector equality duty, safeguarding of children and adults at risk, service users, smarter working, sustainability and the environment and where such implications are material they are described below. Appropriate consultation has been undertaken and advice sought on these issues as required.

Financial Implications

24. There were short term County Council resource requirements to support the successful STEP site nomination submission which amounted to £50,000 which was funded through the Investment and Growth Services budget.
25. The focus on supporting the additional work for the final stages of the nomination process were identified as an additional budget requirement of up to £100,000 including programme leadership, technical information gathering, research, public relations, programme coordination and associated activity. A range of these resources including officer capacity have previously been commissioned through Arc Partnership Limited. Those costs were met from the Investment and Growth Services budget for major projects.
26. Now that the site nomination process has been successful the County Council requires further resources in order to fund ongoing support such as programme coordination and associated activity as previously provided during the nomination stages. It is still unclear what the exact nature of the additional support will be, but examples include a baseline economic impact assessment which would assist the cases for the development of offsite infrastructure improvements for instance.
27. Stakeholders including the UKAEA, Midlands Engine and Bassetlaw District Council have indicated a willingness to combine expertise and financial resources in order to fund studies such as the economic impact assessment. For the next year it is therefore proposed that the County Council provides an allocation of up to £200,000 from the existing Investment & Growth Services budget to continue to develop the STEP programme for economic growth alongside contributions from other parties.

RECOMMENDATIONS

It is recommended that Cabinet:

- 1) notes the current proposals for the regional collaboration arrangements which continue to be progressed as outlined in the report, subject to any future approvals by the relevant decision makers required to establish these bodies, agree their terms of reference and nominate relevant members and officers to them;
- 2) approves a funding requirement of up to £200,000 from the existing Investment & Growth Services budget to further the necessary work to support the STEP programme: and
- 3) agrees to receive a further report to review the delivery of STEP and the collaboration arrangements in twelve months' time.

Councillor Keith Girling
Cabinet Member for Economic Development and Asset Management

For any enquiries about this report please contact: Matthew Neal, Service Director Investment and Growth, 0115 9773822

Constitutional Comments (CEH 23.02.2023)

The report and recommendations can be considered by Cabinet.

Financial Comments (KRP 24/02/2023)

The financial comments are as set out in the report with the proposed funding of up to £200k being contained within the existing Investment & Growth Services budget.

Background Papers and Published Documents

Except for previously published documents, which will be available elsewhere, the documents listed here will be available for inspection in accordance with Section 100D of the Local Government Act 1972.

- [Policy Committee 17 March 2021: A zero carbon energy future for the UK: Potential sites in Nottinghamshire for energy production](#)
- Economic Development & Asset Management Committee 7 December 2021: [A zero carbon energy future for the UK: potential sites in Nottinghamshire for energy production](#)
- [Midlands Engine: Review of nuclear & related industries in the Midlands](#)

Electoral Division(s) and Member(s) Affected

- All.