

7 December 2021

Agenda Item: 5

REPORT OF THE CORPORATE DIRECTOR, PLACE**A ZERO CARBON ENERGY FUTURE FOR THE UK: POTENTIAL SITES IN
NOTTINGHAMSHIRE FOR ENERGY PRODUCTION****Purpose of the Report**

1. To provide an update to committee regarding the United Kingdom Atomic Energy Authority's (UKAEA) shortlist to locate its Spherical Tokamak for Energy Production, (STEP) fusion project and to seek approval for responding to the UK Government's UK Fusion Strategy Consultation: Towards Fusion Energy: The UK Government's proposals for a regulatory framework for fusion energy

Information

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) an executive non-departmental public body sponsored by the Department for Business, Energy & Industrial Strategy (BEIS). The UKAEA launched a nationwide search for a site to host its ground-breaking STEP fusion project in early 2021.

A Zero-Carbon future

4. To sustain economic growth, sources of energy that are emission-free, safe, globally available and economically viable, need to be developed. Fusion power is an attempt to replicate the processes of the Sun on Earth. This makes it an excellent complement for intermittent renewables such as solar power and wind generated energy and battery storage. Combined, these technologies make for a practical energy portfolio that mitigates climate change while driving economic prosperity.
5. 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.
6. At the regional level, locating the STEP project in Nottinghamshire could 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), the D2N2 Economic Recovery and Growth Strategy – 'The heart of the UK's Green Revolution', The ambitious zero-carbon energy zone at Ratcliffe

On Soar being planned as part of the East Midlands Freeport development and the Development Corporations vision for a flagship national research centre for Integrated Zero-Carbon Futures to be located in the region.

7. 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 be secured in Nottinghamshire.

Bid Preparation and Phase One Assessment

8. Policy Committee (17 March 2021) endorsed the proposal for the Council to act as the nominating body for submission of STEP Site Nomination Forms to the UKAEA promoting sites within Nottinghamshire. While Policy Committee originally considered this matter in March 2021 the Economic Development & Asset Management Committee is now firmly established and it seems appropriate that all matters related to the STEP project and its location be considered by this committee going forward.
9. The County Council played a key role in the preparation and submission of the bids, acting as the nominating body and working with the landowners, relevant Local Authorities and a wide range of stakeholders such as the LEP, local universities and businesses to gather the required information.
10. Two site nominations were submitted to the UKAEA for sites in Nottinghamshire – West Burton power station site in Bassetlaw, and Ratcliffe on Soar power station in Rushcliffe.
11. Both sites successfully cleared the ‘showstopper’ assessment stage and were included on the ‘long list’ of 15 sites published by the UKAEA in June 2021. After further assessment work during the summer, a short list of 5 sites and one reserve site was published in October 2021.
12. Ratcliffe on Soar was included on the shortlist and West Burton was identified as the reserve site. We understand that the reserve site at West Burton will only be taken forward by UKAEA if one or more of the shortlisted sites is found to be unsuitable.
13. In effect, against stiff competition, Nottinghamshire has been successful in securing one site in the last five and one sitting in reserve. This is a major achievement given the range of other competing sites in the UK.

Next Steps and Phase 2 Assessment

14. In early November 2021, the UKAEA set out its phase 2 methodology to assess the shortlisted sites in more detail. This included the key information required along with its future timetable.
15. Following on from the information supplied in the initial bid document, more detailed socio-economic and environmental evidence is required from the nominating body. This will include a wide range of information such site specific detail, wider environmental and cultural information, and socio- economic data.
16. The UKAEA also wants to build good relationships with the host community and is proposing to hold a range of consultation events with stakeholders and local communities. This is likely to be in February/March 2022.

Timetable

17. The UKAEA's timetable is as follows:

November 2021
UKAEA to request further site-specific information and undertake a technical site visit
February/March 2022
The UKAEA Executive Committee to undertake a site visit. Consultation events with stakeholders and local communities to be undertaken (dates to be confirmed)
Quarter 1 2022
Finalise site development plan based on the assessment work undertaken
Quarter 2 2022
UKAEA to make recommendation to the Secretary of state
Late 2022
Secretary of State to announce the host site

18. The UKAEA have not ruled out putting more than one site forward to the Secretary of State if they are considered equally suitable.

UK Fusion Strategy Consultation: Towards Fusion Energy: The UK Government's proposals for a regulatory framework for fusion energy.

19. The UK Government recently published a Fusion Strategy, which sets out how the UK aims to use its leadership in fusion research and development to commercialise fusion energy technology. Alongside this, the Government has also published a Green Paper setting out its proposals for the regulation of future fusion energy facilities. The consultation on these proposals will run until the deadline of 11.45 pm on 24th December 2021.

20. Given the Council's involvement as the nominating body for the STEP programme siting process, the Department for Business, Energy and Industrial Strategy would very much welcome the Council's response to this consultation, to inform the Government's policy development.

21. In the Fusion Strategy the Government sets out its aspirations:

- *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 regulatory framework for fusion can support this growing fusion industry whilst maintaining the UK's high standards of public and environmental protections.*
- *This paper sets out the UK Government's proposals for the regulation of fusion energy. We want to trailblaze a proportionate and pro-innovation approach and collaborate internationally to maximise fusion's long-term global potential. With this plan, the UK hopes to lead the world on fusion regulation and enable the safe and rapid development of this revolutionary low carbon technology.*

22. The Government further sets out its rationale for consulting on the Strategy as:

- *Designs for fusion energy prototype power plants are now being developed around the world by fusion research organisations and private companies, targeting deployment in the 2030s and 2040s. Fusion energy facilities will need to be regulated appropriately and proportionately in the UK to maintain public and environmental protections, provide public assurances and enable the growth of this low carbon energy industry. We want fusion developers to be able to plan with confidence and the public to understand the basis for the Government's approach to the regulation of this emerging technology.*
- *To inform policy on the regulation of fusion energy in the UK, we want to provide an opportunity for the public, industry, academia and other fusion stakeholders to share knowledge and offer views on the proposals in this paper.*

23. Further details are provided at <https://www.gov.uk/government/consultations/towards-fusion-energy-proposals-for-a-regulatory-framework>

24. As Nottinghamshire is bidding to be the home for the UK's first commercial fusion reactor it seems highly appropriate that the Council should take the opportunity to respond to the consultation document.

Other Options Considered

25. The shortlisting of the Ratcliffe on Soar site nomination presents the opportunity to secure the high-profile STEP project in Nottinghamshire. This could 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

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

27. By acting as the nominating body, the Council can continue to facilitate the site nomination process and ensure that the knowledge from a wide range of bodies and stakeholders can be harnessed and fed into the next important assessment stage.

Statutory and Policy Implications

28. 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

29. 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. Given the level of increased technical input and the need to liaise and seek buy-in from key stakeholders and landowners there is a continued

requirement for a dedicated County Council project team to support site nominations going forward.

30. The focus on supporting the additional work within the timeframe as set out in this report has identified an additional budget requirement of up to £100,000 including programme leadership, technical information gathering, research, public relations and associated activity. A range of these resources including officer capacity have been commissioned through Arc Partnership Limited. These costs will be met from the existing Investment and Growth Services budget for major projects.
31. Should the site nomination process be successful the Council would use resources to fund ongoing support. As previously reported, it is still unclear what the nature of that support will be, Council officers will review the position as further information emerges, including any potential impacts, risks and issues, which will be reported back to Committee as part of a further update report.

RECOMMENDATIONS

It is recommended that Economic Development & Asset Management Committee:

- 1) Delegates authority to the Corporate Director Place, in consultation with the Chairman of the Economic Development & Asset Management Committee, to approve the final content of the consultation response on the UK Government's Fusion Strategy to the Department for Business, Energy and Industrial Strategy to be submitted by 11.45 pm on 24 December 2021;
- 2) Agrees to receive a further report to consider any implications for the County Council, should the nominated sites be taken forward to the next stage by UKAEA and BEIS; and
- 3) Agrees to setting aside a funding requirement of up to £100,000 from the major programmes delivery work budget to further the necessary work to support the selection process.

Adrian Smith
Corporate Director, Place

For any enquiries about this report please contact: Matthew Neal, Service Director Investment and Growth, 0115 977 3822

Constitutional Comments (LPW 12/11/2021)

32. The recommendations fall within the remit of the Economic Development and Asset Management Committee by virtue of its terms of reference.

Financial Comments (RWK 15/11/2021)

33. The report further work being undertaken in support of a bid to the STEP fusion project at a cost of up to £100,000. These costs will be funded from the budget for Delivering Major Projects of Work for which a sum of £430,000 has been included in the 2021/22 revenue 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](#)

Electoral Division(s) and Member(s) Affected

- All.