**A green and digital future: 2023 focus is ‘Delivering Growth’**

A decarbonised and cost-effective energy system is essential for delivering growth. To realise this, the system itself must be improved, by deploying low carbon generation via new renewables and nuclear deployments.

MoltexFLEX is just one example of where British-born technology can deliver. Our FLEX reactor would be a first of a kind molten salt reactor in the UK, and can help deliver on the UK’s ambitions whilst creating hundreds, then potentially thousands, of high-quality jobs in STEM and beyond.

New nuclear is critical to success, but faces major challenges, notably around costs. The FLEX reactor’s design is extremely simple compared to conventional reactors and doesn’t require the same level of expensive steel and concrete structures. This simplicity addresses the CapEx cost challenges facing new nuclear and the design has greatly reduced operational and maintenance costs as well. This technology is comfortably within the reach of private developers and requires no government financing to succeed.

If the UK is going to meet its target of 24GW of nuclear generation by 2050, we also need to address the challenge of scaling up deployment of a diverse array of nuclear technologies, which as well as de-risking nuclear deployment, also presents new applications to strengthen the system.

Renewables are rightly critical to the future net zero energy system and Labour has a clear roadmap to deliver more. However, the inherent intermittency means the system requires flexible energy options ensure resilience. Currently we are reliant on CCGT to provide this flexibility, and the current capacity market looks set to continue rewarding unabated gas. One of the strongest applications of advanced nuclear, specifically the FLEX reactor is its ability to ‘dispatch’ energy at short notice, load-following the grid and levelling out the fluctuations of demand and renewable supply. This makes it a perfect partner to renewables. This is an example of how the nuclear and renewables sectors can work together; there are even options for MoltexFLEX’s non-nuclear molten salt energy storage systems to work as a store for renewable energy, demonstrating deeper collaboration potential. MoltexFLEX aims to bring these to market at speed.

The case for new advanced nuclear which strengthens the system, improves resilience, supports renewables and advances net zero is clear, but more is needed by a future government to support these technologies, and unlock advanced nuclear technologies (ANT) potential:

1. Overtly acknowledge the value of different ANTs, like molten salt reactors. Outlining explicitly the role for advanced technologies would show investors and industry there is a sustained pathway for the technologies. Labour should develop such statements as part of its policy development, and its manifesto.
2. We urge Labour to create an environment that allows technologically mature and cost competitive ANTs to succeed in the market. Committing to better-resourcing the nuclear regulator (ONR) to establish the capacity to assess multiple nuclear technologies would achieve this.
3. Creating clarity on planning consent and whether Government plans to allow a developer-led process following the launch of GBN will deliver an ecosystem that enables ANT providers to attract private investment to the UK and considerably streamline the deployment process, thus speeding up new nuclear deployments in the future.
4. Investment in funding and research mechanisms for nuclear technology development, which could be modelled on previously deployed mechanisms like the AMR competition would deliver incredible value for UK-based nuclear vendors.
5. Labour’s Great British Energy (GBE) has the potential to establish itself as a national champion for clean energy generation. However to meet net zero energy generation promises, the policy suggestions outlined in this submission must be seriously considered to progress the deployment of new (advanced) nuclear.