Nuclear Industry Association submission to the Labour Party’s Green Recovery consultation

1. The Nuclear Industry Association (NIA) welcomes the chance to respond to the Labour Party’s Green Recovery consultation.

2. The NIA is the trade association and representative body for the civil nuclear industry in the UK. We represent around 250 companies operating across all aspects of the nuclear fuel cycle, including the current and prospective operators of nuclear power stations, the international designers and vendors of nuclear power stations, and those engaged in decommissioning, waste management and nuclear liabilities management.

3. In our recent 40’ by 50: The Nuclear Roadmap report, the NIA outlines the potential contributions of the UK nuclear industry to reaching Net Zero and details six short-term recommendations for industry and Government to meet in order to reach these ambitions.

4. A number of our members will be making their own detailed submissions. The focus of this submission is therefore on high-level, industry-wide matters.
Summary

5. To meet the challenge of climate change, the UK needs bold and urgent action through the deployment of clean energy across the country. Particularly during this difficult period, we must also protect and enhance our quality of life by ensuring there is affordable power for homes, businesses, schools and hospitals, as well as providing jobs and career opportunities in the green economy.

6. Nuclear is essential to the UK’s decarbonised electricity mix, currently supplying 20% of electricity demand and nearly a half of our low-carbon electricity. During the challenging circumstances caused by the events of the past few months, nuclear has proven its consistency in keeping the lights on even during adverse events and showcased its ability to be flexible when necessary.

7. The nuclear industry represents a multi-billion-pound economic stimulus opportunity that will contribute to critical new infrastructure, high-skilled job creation and prosperity across regions in the UK – from Cumbria and Anglesey to Suffolk and Bridgwater.

8. Supporting nuclear now will also help support technologies of the future. By investing into nuclear today we can ensure the right skills and resources are in place for the UK development and roll-out of small reactors, nuclear fusion, a hydrogen economy, medical isotopes, and district heating.

9. Like many other industries, the nuclear industry has felt the impact of COVID-19, including a loss of productivity, and the delay or cancellation of contracts that, without intervention, could cause major distribution to both current and proposed major infrastructure and research projects.

10. Our response details how nuclear will play a critical role in a post-pandemic Green Recovery in the UK and what the Labour Party can do to support this role.
What sectors do you believe are the priorities for investment from government, for a green recovery programme to build a stronger, more resilient future economy?

How can this investment reduce regional inequalities as well as address the climate crisis and environmental degradation? And what science and technologies do we need to invest in?

Given the regional and area-based impacts of this crisis, what role can a green recovery play in mitigating these impacts?

What is the scope for redeploying people from industries which are facing crisis? What are the models of retraining and support which should be examined?

11. The Labour Party has made it clear that any post-pandemic economic recovery must have a clean, green future at its heart. The decarbonisation of the power sector is critical to this aim, which is why the Labour Party must support the nuclear industry in its Green Recovery and Net Zero plans.


13. The CCC’s latest Progress Report (2020) to Government states that: “Reaching net-zero emissions in the UK will require all energy to be delivered to consumers in zero-carbon forms (i.e. electricity, hydrogen, hot water in heat networks) and come from low carbon sources (i.e. renewables and nuclear, plus bioenergy and any fossil fuels being combined with CCS).”

14. Nuclear is the only proven source of low carbon generation and its role in the energy mix has been supported by multiple reputable institutions, including the OECD, IEA (2019), EIB (2019), IPCC (2018), MIT (2018) and the Energy Systems Catapult (2020).

15. In addition, the Energy Systems Catapult has carried out further analysis into the future role of nuclear power using their highly sophisticated, peer-reviewed energy system modelling tool, and concluded that to exclude nuclear from the mix is not only extremely expensive, but would use up vast amounts of land, and puts any likelihood of the UK reaching Net Zero at unnecessary risk.

16. Nuclear is essential to the UK’s decarbonised electricity mix, currently supplying 20% of electricity demand and nearly a half of our low-carbon electricity. During the challenging circumstances caused by the events of the past few months, nuclear has proven its consistency in keeping the lights on even during adverse events and showcased its ability to be flexible when necessary.

17. Nuclear represents a multi-billion-pound economic stimulus opportunity as the country looks to rebound from the impact of COVID-19 and establish strong and enduring global trading relationships. By acting now, we can secure major domestic investment, maximise export potential and lock in a pipeline of engineering innovation which will deliver high quality, inspiring jobs for future generations, in every nation and region of the UK.

18. The industry currently provides around 65,000 direct jobs, extending to 160,000 when further job creation in the wider supply chain is included. Annually, the sector contributes £6.2 billion in Gross Value Added (GVA) to the national economy, with £4bn in the Northern Powerhouse area alone.
A programme of nuclear new build, from large to small-scale, would bring major strategic benefits to the UK, including economic levelling up and global industry leadership opportunities.

New nuclear projects have beneficial supply chain impacts on major strategic industries. An example is UK steel, with 200,000 tonnes of Welsh steel being used on the Hinkley Point C project alone. There are several large-scale nuclear sites in the UK that are under development, some of which are shovel ready. With political and financial support these projects will help bring prosperity to the regions in which they sit. They are:

- **Hinkley Point C, Somerset** – Hinkley is the only new nuclear plant currently under construction in the UK. To date, £1.67bn has been spent in the South-West, 10,300 jobs have been created including 644 apprentices, and there has been £199m directly invested into the community
- **Sizewell C, Suffolk** – Early progress on Sizewell would see the creation of 2500-3000 jobs in the next 3-4 years, excluding the many more potential jobs in the UK supply chain created as a result of the project progressing. Up to 70% of the construction value will be spent with UK companies, with an estimated total of £1.5bn spent over the construction period in the local supply chain alone
- **Wylfa Newydd, Anglesey** – Work on Wylfa was paused in January 2019. Starting construction on the site will trigger £5.3bn in supply chain opportunities; £875m of which will be seen in first two years alone. Work will also create up to 9,000 jobs including over 700 apprentices, and contribute £100m of GVA a year locally for 60+ years
- **Bradwell B, Essex** – This station will generate enough electricity to power 4m homes. It offers long-term employment opportunities and 10,000s of jobs during construction, 3,000 of which will go to the local population. The local and regional economy will benefit from billions of pounds of investment, including support for schools and colleges in the development of STEM skills

Our growing expertise in the next generation of nuclear technologies includes Small Modular Reactors (SMRs) and Advanced Modular Reactors (AMRs). There are several UK companies and consortia which are well-placed to develop SMRs and AMRs. These include Rolls-Royce, Moltex Energy, U-Battery and Westinghouse. Internationally, the USA, Canada and China are actively pursuing development pipelines, including designs by NuScalePower, GE Hitachi and the China National Nuclear Corporation. There is strong interest from international players in the UK market, including opportunities to localise content.

The UK SMR consortium led by Rolls-Royce estimates that exporting SMR technology could be worth £250bn if its programme is successful. The consortium predict construction on the reactors could start as early as next year, with expected deployment by 2025, creating thousands of jobs.

Investment into small reactors today will also enable the nuclear industry’s potential in the development of clean hydrogen and district heating, creating further jobs and prosperity in regions with SMRs.
24. The UK already plays a major role in the international decommissioning market, and this will only increase as other countries’ plants also retire, putting us at an advantage of capitalising on an emerging global market worth hundreds of billions of pounds.

25. The UK’s first generation of nuclear power stations and early research facilities have left a legacy which requires management and, as a result, the UK has a varied portfolio of facilities to decommission. Technologies and expertise developed in the UK have been successfully deployed in highly hazardous and complex sites around the world, saving those nations years of R&D, and significantly reducing any further risks.

26. The Labour Party has always been committed to levelling-up classically disadvantaged areas of the UK. Nuclear’s history is deep-rooted in these communities, such as Copeland, Hartlepool, Anglesey and Bridgwater, and the sector has showcased how to successfully engage with and support local economies, through the creation of jobs, supply chains and educational resources.

27. As with any economic recession, these areas will likely be disproportionately affected by COVID-19. There are many of brownfield sites across the UK that could be appropriate for both large and small nuclear reactors to bring prosperity to those areas, adding not only sources of low-carbon electricity but also clean heat and production of hydrogen in industrial clusters that will help safeguard strategic industries, such as steel production, as they decarbonise.

28. With potentially thousands of highly-skilled jobs – many of which are signposted for the local population – nuclear sites can offer both short and long-term prosperity to these regions as laid out in the examples of above.

29. Jobs at risk in manufacturing could be easily transferrable into the nuclear industry, either in the construction of new sites or in STEM roles. Recruitment remains a key priority for the sector, as detailed in the Nuclear Sector Deal published in 2018.

30. It is a misconception that to get a job in the nuclear industry, you have to have a nuclear physics degree. The nuclear sector offers a range of technical apprenticeships as well as graduate positions which can build the skills base ready for new build projects and ongoing decommissioning work.

31. The nuclear industry has already been focusing on reskilling and transferability as a result of the Net Zero target and as the UK moves away from fossil fuels. It is therefore well prepared to accept skilled workers that may have lost their livelihood as a result of COVID-19. However, a growth in jobs is reliant on political support for nuclear and its significant contributions to Net Zero.

32. An investment programme in the nuclear industry will drive regional economic growth, innovation, and centres of excellence beyond metropolitan areas. The North West Nuclear Arc spanning from Anglesey in North Wales, across to Manchester and beyond to West Cumbria is well placed to benefit, along with the East and South West of England.
How should sector-specific support for business during this crisis be used to both protect and promote employment and to pursue our climate and nature objectives?

How can we help existing businesses, including SMEs, to adapt as a result of the crisis, including through measures for a green recovery? How can these measures be allied to the improvement of productivity and viability for these companies?

33. As with most industries, companies in the nuclear supply chain have faced additional pressures due to the COVID-19 pandemic. Business failures risk long-term damage to the UK’s ability to achieve its Net Zero commitments and deliver other infrastructure programmes.

34. Capability and capacity have been limited in many areas, and the loss of strategically important companies – including key SMEs – will have consequences on the UK’s ability to deliver on major projects. These include projects which are fundamental to our prosperity and security, and where strong UK content is needed to keep value within the UK, create export potential and attract inward investment.

35. Many organisations in the nuclear supply chain do not work exclusively in the nuclear sector. Many companies also operate in sectors such as oil & gas and aerospace, which are particularly hard hit by the COVID-19 pandemic. These companies are at a higher risk of significant losses of revenue in the medium to long term. Even if nuclear sector activity holds steady, such companies are at a high risk of failure.

36. Short-term impacts on businesses include but are not limited to:

- With a number of staff furloughed, productivity is down
- Delayed or cancelled contracts
- Companies in the fuel cycle are concerned about delays to security checks of suppliers and partners
- Bid processes have slowed significantly
- Challenges with transition to working from home, with some companies reporting an unexpected significant cost in updating IT infrastructure

37. Long-term impacts on businesses include but are not limited to:

- A lack of PPE. Many companies have donated their resources to the NHS and will likely take priority until the pandemic is over, meaning the nuclear industry may not have supplies of their own to continue crucial work
- Further contract cancellations or delays

38. The nuclear supply chain faces particular demographic challenges to skills retention, with a high proportion of key staff nearing retirement – the average age of an engineer in the nuclear industry is 54. An extended period of restrictions or furlough will increase the risk that such individuals will choose not to return to work, with reduced opportunities for knowledge capture.

39. The NIA therefore asks that the Labour Party support the continuation of supply chain investment in publicly funded programmes, such as those ran by the Nuclear Decommissioning Authority and the Ministry of Defence.
40. Noting the Thirty by 2030 report which the Labour Party published in Autumn 2019, the NIA recommends that any and all policies relating to the future Net Zero energy mix should be supported by robust system modelling undertaken by a comprehensive and respected independent organisation. This would ensure both security and reliability of supply.

41. It should be considered that despite the challenges of the current pandemic, the industry has remained resilient throughout this time of crisis and will play an important role in the UK’s economic recovery. But to unlock the opportunities and access the benefits laid out in this response, the Government must make both short and long-term commitments to the industry through robust regulatory and financial policymaking.