

Written evidence submitted by Advanced Oxford – CIC (PEG0104)

Summary

This submission of evidence has been provided by Advanced Oxford CIC, a not-for-profit organisation representing a community of innovation focused businesses and organisations from across Oxfordshire. The submission is based on evidence gathered from our members and from other businesses with whom Advanced Oxford has a relationship. The Covid-19 pandemic and the associated actions implemented to reduce the spread of the virus will create significant changes within the industrial and business landscape of the UK. Continued support and development of the knowledge economy will be essential for job creation and the prosperity of the UK.

- This submission, which does not address all questions posed by the Inquiry, focuses on the principles that should be adopted within the recovery package.
- We do not advocate prioritised support for any particular sector but present a set of ideas and challenges which relate to knowledge economy/innovation-based businesses.
- We particularly flag the need for a focus on infrastructure investment, the importance of collaboration and risk capital, the need for support for SMEs and the opportunities that a reformed planning system can offer.
- Provision of skills to support economic recovery is crucial and we discuss a number of opportunities and areas for skills development.
- In considering how policies that support economic recovery should also progress broader Government priorities, we address the levelling up agenda, inward investment in the context of levelling up, the Oxford-Cambridge Arc, Net Zero, as well as considering the importance of greening the NHS.
- Finally, we reflect on the opportunity that Local Industrial Strategies present for developing roadmaps for recovery at the local and regional level, if they are adopted and implemented, as well as calling for stability in local and regional Government in the face of potential reform.

1. Introduction and background

Advanced Oxford is a membership organisation with members drawn from R&D based/innovative companies working across Oxfordshire. Our membership includes companies, Oxford's two Universities, the NHS and providers of innovation infrastructure and support.

Advanced Oxford is research-led, providing analysis and a united voice for our members on the key issues affecting the development of the innovation ecosystem in the Oxford region. We generate our own research and work to support and inform key stakeholders involved in the development of the business environment, infrastructure, and policy. Our submission to the inquiry is based on insights and evidence from our members and from other companies with whom we have connections.

Given our focus on the knowledge economy, we have not responded to all questions posed by the inquiry. However, this does not in any way imply that we are not concerned or interested in other sectors of the economy. At the end of 2018, employees from the companies and organisations that make up Advanced Oxford participated in a Quality of Life study. The results from this research allow us to better understand the issues that affect the decision to work and live, or commute to Oxford and Oxfordshire. Access to green spaces, the countryside, and the cultural life of the region are important and highly valued, and a holistic approach to economic recovery is needed. Nevertheless, recognising that there will be significant changes in the industrial and business landscape of the UK due to the pandemic, continued support and development of the knowledge economy will be essential for job creation and the prosperity of the UK.

2. Core/guiding principles that should be adopted/prioritised in Government's recovery package

There is a need for stability in support that is provided. Whether it be through Innovate UK or Growth Hubs, there is much to be said for continuing with schemes and support that companies are familiar with. We should build on what works and not risk productivity declines through excessive change. While the innovation community in Oxfordshire is keen to see policies that support economic growth post-pandemic, they are also keen to ensure that established, evidence-based work is not dismissed or neglected. For example, the Life Sciences Industrial Strategy should continue to provide the framework for development of the Life Sciences industry, working with the academic base and the NHS. The new R&D Roadmap provides a useful framework to stimulate further investment into research, development, and innovation.

Public investment into R&D is essential, as this provides the foundation for our innovation and enterprise ecosystem, as evidenced in the track record of spin-out companies from the University of Oxford, facilitated significantly by the seed and follow on funding available from Oxford Science Innovation (OSI). OSI has invested £260m into spinouts from the University to date and their projections indicated that their funding has the potential to stimulate £4bn of investment, with co-investors, into the Oxfordshire and UK economy. What is more, the UK's high performing research base has allowed us to globally lead the research response to COVID-19 in vaccine development and in drugs trials. This capability can only be maintained by investing in the research base.

3. What measures and support will business need to rebuild consumer confidence and stimulate growth that is sustainable, both economically and environmentally?

This section of our response addresses areas of action that we consider to be important to stimulate growth and economic recovery across the knowledge economy. The inquiry has asked whether Government should prioritise certain sectors within its recovery package. We have not identified specific sectors within our response; however, we do believe that support to the knowledge economy will be vital to the UK's recovery and long-term economic health.

(1) A continuing need for infrastructure to support the innovation eco-system

There is a need to speed up the delivery of vital laboratory space, housing and other infrastructure that can attract talent and ensure fast-growing start-ups, spinouts and maturing companies can remain in Britain rather than relocate to other major science hubs.

Property consultancy Bidwells, a member of Advanced Oxford, reported in February 2020 that office rents rose by 24.3 per cent in a year in Oxfordshire's research cluster and more than 1.1 million sq ft of office and laboratory space was being sought, with just about half that amount currently available. A similar picture was found in Cambridge, where prime rents rose 12 per cent in the same period. Availability of business space being around half that required to meet demand. March 2020 data from Savills reported that the UK had a much smaller percentage of available laboratory and R&D space compared to that of other global cities: about 90,000 sq ft in London, in stark contrast to 14.6 million sq ft in Boston and 1.36 million sq ft in New York.¹

Access to laboratory and grow-on space continues to be a challenge within the region and it would appear that the demand for these spaces has not dried up during the pandemic. While the nature of the office is likely to change, with lower occupancy and social distancing, scientific research, development, and manufacturing require dedicated spaces

¹ [Savills.co.uk/research-articles/229130/296959-0](https://www.savills.co.uk/research-articles/229130/296959-0)

and equipment. The scientific campuses and parks among Advanced Oxford's membership have continued to operate throughout lockdown and the demand for space in the right place has been demonstrated by Milton Park which has signed 5 new tenancy agreements during the lockdown period, alongside an additional 5 that were agreed prior to March, 2020. The Begbroke and Harwell campuses have continued to see increased demand for laboratory space during this period too and the need for more investment into laboratory space has been echoed by OSI and by the BioEscalator, owned and operated by University of Oxford. Laboratory design in the future may need to be rethought as small individual units, particularly for young and start-up companies, have resulted in difficulties in maintaining social distancing, often with limitations on the number of staff that can work within the setting at the same time.

The Covid-19 pandemic has resulted in a new and positive focus on the role of vaccines and at a global level, we can expect to see a significant rise in the level of vaccine manufacturing and production in the medium term. This is positive but could have impacts on other parts of the life sciences industry which rely on the same manufacturing facilities and services of Contract Manufacturing Organisations (CMOs), in particular the advanced therapies sub-sector (cell and gene therapy based approaches) which uses the same skills and infrastructure. Given the strength of the UK within the fields of vaccines research and advanced therapies, there is likely to be a need to grow manufacturing infrastructure to meet the demands of the life sciences sector.

There is still a real imperative to ensure high quality and effective telecommunications and broadband coverage across the whole of the UK, not only to support the unusual lock-down environment that we are currently experiencing, but to support productivity gains. Our members tell us that telecoms coverage is extremely variable across Oxfordshire and this infrastructure is essential for our recovery and for growth.

(2) Support to seed and grow collaborative research

Collaboration, sharing of ideas, solutions and capabilities is critical to economic recovery within the knowledge economy. Policies and support that drive collaboration will be essential. There is a need for increased brokering to stimulate collaboration, to match-make and to build consortia. The shift to remote methods of working during the lockdown, while positive in many respects, have increased the need for mechanism to encourage and stimulate collaboration.

There is still a need to stimulate business, particularly SME, and Higher Education Institution (HEI) interactions. SMEs often perceive barriers that are not there; Technology Transfer offices frequently prioritise engagement with larger companies/industry. The costs and terms, particularly in relation to new IP generation, continue to create barriers; with HEIs needing to secure new revenues due to an expected decrease in foreign student numbers, there may be few incentives for HEIs to reduce costs and IP ownership requirements.

However, SME/HEI interactions are an important part of the innovation ecosystem and are vital to knowledge exchange and the generation of high quality, high impact research.

More should also be done to encourage inter-HEI/industry collaboration. The Connecting Capabilities Fund (CCF) provides some excellent examples of programmes to support broader institutional collaboration, coupled with industry/SME engagement. While HEIs continue to build good links to the SME industrial base, a CCF programme that actively targets SME innovation, drawing in cluster organisations, industry groups and trade bodies, as delivery partners alongside the HEIs could be beneficial in encouraging growth in R&D levels and knowledge exchange, as well as supporting new spin-out and start-up idea generation. There is also the opportunity to use mechanisms like the CCF to support the levelling up agenda, as a means to encourage partnering across regions and to encourage industrial engagement across wider geographies.

(3) Support to small companies

There is an on-going need for one to one business support, advice, and guidance to smaller companies particularly those in the 1 – 25 FTE range. Innovative companies within the region have seen a range of negative effects from the pandemic, including drop in demand, the breakdown or loss of Corporate partnerships and a drive to reduce costs. Within the life sciences sector, there has been a significant impact on clinical trials, due to reduced capacity within health services globally and shifts in practice such as the widespread shut down of elective admissions and procedures. While there have been examples of rapid take-up of innovation within the NHS at a pace and scale previously unseen, for other companies, the NHS market has become even harder to penetrate and we have examples of technologies that have been held up and hampered by regulatory inertia or failure to communicate requirements. The current NHS procurement framework, which operates on a 4 year cycle, continues to create a significant barrier to entry for new technologies which fall outside this 4 year time cycle and there is a need to move to a dynamic and real-time framework as a matter of urgency to ensure that the NHS provides a real market opportunity to innovators.

Some companies have responded by pursuing Covid-19 related opportunities but in many instances these pivots in the business are a temporary stopgap and do not represent a genuine and long-term shift in business plan and model. For smaller innovation-based companies, recovery will require confidence from markets, a continued focus on early-stage investment, development of commercial expertise and the development of skills that respond to new ways of working, with a focus on business development when relationships are being built in very different ways and a continued focus on meaningful and expert export and internationalisation support. Even for experienced companies, there is no roadmap for operating in an increasingly virtual marketplace, where business travel and relationship building is curtailed. Connecting businesses to commercial experience should be a focus for business support and Growth Hub activity.

During our consultation with business in preparation for this submission, the ‘Undertaking in Difficulty’ test was flagged as a particular issue for knowledge-based companies and a case of EU law that has created real problems for growth companies. SMEs that are less than 3 years old are exempt; however, for older companies, the rules can create real difficulty in securing grants and has ruled companies out of loan schemes. This state aid rule can prevent perfectly viable R&D intensive businesses receiving grants and other support. Many more companies are likely to fall into the excluded category in the current environment.

(4) Risk Capital Investment

Research undertaken by Advanced Oxford over the last 4 months with both innovation-based companies and with early-stage investors, has shown that investors intend to prioritise support to existing portfolio companies, and we can anticipate a significant reduction in investment from angels and seed/VC funding, which threatens the viability of many small R&D intensive businesses². This will particularly affect young companies that are in the first stages of fund-raising or have only attracted early and small amounts of seed investment. These findings support an enhanced role for Innovate UK in supporting companies. However, given significant concerns about cash-flow and cash preservation, identified through our research, Innovate UK might consider paying in advance (as opposed to arrears) for existing and future grant schemes, and reducing the match funding requirements in the short to medium term.

Our research, in conjunction Oxford Investment Opportunity Network, provides valuable insight from a group of active investors, all of whom have an interest in early-stage investment, all of whom invest in knowledge-economy sectors. While there is cause for optimism that just over half expect to make the same level of investment, or more investment, when compared to the previous 12 months, just under a half expect their level of investment to reduce. There appears to be a strong preference for focusing on investment into existing portfolio companies and an expectation that the amount of money available for investment into early-stage companies will reduce. This may mean that some younger, early-stage companies will struggle to attract investment in the short to medium term, particularly where they are raising investment for the first time. These companies are also the companies that fall outside the eligibility for Government’s Future Fund and as a result, other interventions may be needed to encourage and incentivise seed and early-stage investment. While investors seem to be focused on supporting companies within their investment portfolios, there is an expectation that there will be higher level of company failure than previously predicted.

² Will Covid-19 change levels of early-stage investment within the knowledge economy? Advanced Oxford, May 2020

Based on this research, investors intend to support existing portfolio companies, but we can anticipate a significant reduction in investment from angels and seed/VC funding which threatens the viability of many small R&D intensive businesses. As a result, we recommend,

- Increasing R&D tax credits.
- Increase (temporarily) tax incentives for S/EIS investments.
- More and simpler co-investments alongside angels.

Although the Future Fund has been a positive development, from discussions with our members there is a view that the scheme was not particularly suited to the life sciences industry due to the terms of the scheme and a perception that it has been targeted more to digital technology based companies.

Investment is the life blood of the knowledge economy. Grants provide short term stimulus and the interventions by Government in terms of increased funding and speed of action from Innovate UK have been welcome. However, there is a continued need to drive institutional and private investment into the knowledge economy. There is still not a deep pool of UK institutional, long-term investment into the UK knowledge economy and we continue to be dependent upon the US and European funders. Success in investment is about relationship building; it has typically relied on face to face engagement and the flow of UK companies attending global investment conferences, such as the annual, San Francisco-based, JPMorgan conference, demonstrates the value in getting on the plane and going to where the money congregates. While investors are having to adjust to new ways of working in the same way as the rest of industry, we should be looking for ways to encourage international investors to set up offices and place people on the ground within the UK. This should be a particular focus for inward investment activities and will need to be encouraged as we exit the EU.

(5) R&D Tax Credit regime

HMT is currently consulting on changes to the R&D tax credit regime. If proposals are agreed this will reduce R&D tax credits and these changes could come into effect on 1st April 2021. We would strongly recommend revisiting this consultation, or at least pausing it. R&D tax credits have played a very important role in supporting innovative companies and are also an intervention that plays a significant role in determining the competitiveness of the UK from an inward investment perspective. Outsourcing research and development activities to Universities could become an ineligible cost. This is counter to other policies which are seeking to encourage increased engagement and collaboration between industry and the academic base and would appear to be in conflict with the principles of the recently published R&D roadmap, which is seeking to encourage increased levels of industrial R&D. We also believe that Government could consider increasing the R&D tax credit provision in some sectors to act as a stimulus, for example to low carbon technologies.

(6) Planning

Living closer to your workplace, or to an effective hub for public transport, can significantly reduce the burden of travel and have a consequent impact on the environment.

Unfortunately, this is simply not an option for many of our employees. Our Quality of Life survey asked employees about their experience of transport and travel to work. Fewer than half of our survey respondents had a commute of less than 30 minutes and while 26% often take public transport and 23% cycle, still 78% normally travel to work by car. 69% of respondents agreed that congestion was worse in Oxfordshire than in other areas of the south east of England.

The issues of housing, transport and congestion are all interlinked. Not only do we need an increase in housing stock, but we also need housing that is built in the right place. Housing development on small scale and in the wrong place can add to car usage, so not only do we need housing development close to centres of work, but we also need it close to existing public transport infrastructure. *Capital cities – How the planning system creates housing shortages and drives wealth inequality*, a report by the Centre for Cities³ highlighted the inherent inequalities that result in the mismatch between supply and demand. Oxford has one of the lowest levels of home ownership amongst the under 50s. While Oxford has one of the highest average weekly wages in the UK at £523 per week, it also has one of the smallest increases in private dwellings between 2013–2018.

The Centre for Cities report calls for a reform to planning and for the voices of future residents to be taken into account. This has also been called for by The Radical Regeneration Manifesto⁴. Where housing equity has increased significantly, there is a strong disincentive to existing residents to support growth in house building. Oxford has the third highest level of housing equity, behind only London and Cambridge.

Government's Planning White Paper provides an opportunity to drive the development of housing, appropriate transport, and infrastructure. This, coupled with land release, could provide an enormous economic boost and a source of inward investment, particularly where international investors see great opportunity to support the knowledge economy, but regard the UK as slow to bring forward and progress development opportunities.

4. Skills for sustainable growth

³ Capital cities - How the planning system creates housing shortages and drives wealth inequality, Anthony Breach, 11/06/2019, Centre for Cities

⁴ <https://blackstock.co.uk/wp-content/uploads/2020/01/Radical-Regeneration-Manifesto-2020.pdf>

There is a general perception among our members that the UK continues to be reactive in terms of skills development. Sector based roadmaps are needed that look ahead; investment into future skills requirements needs to be stimulated. The training centre at Culham Science Centre provides a blue-print for the type of long-term approach that is needed and Harwell Campus is also developing plans, through the Science and Technology Facilities Council (STFC) to create the capacity to offer strategic skills development for the space and satellite industry for the UK, working with other STFC sites across the country. Centring skills development on campuses like Culham and Harwell provides opportunities to develop cross-sectoral skills, reflecting the multi-disciplinary approaches on these sites – Harwell Campus is home to a Health Technologies cluster, an Energy cluster and a Space/Satellite cluster of companies, organisations, research capability and infrastructure – technical skills need to be coupled with multi-disciplinary working and collaboration building skills.

Immigration and the consequences of Brexit on the labour market for highly skilled staff is a concern for science-based companies within the Oxford region. Many companies are international in their make-up and will regularly recruit PhD qualified staff from outside the UK to draw in the right capabilities and scientific skills. For example, within the life sciences sector, there continues to be skills shortages in genomics, data science and clinical pharmacology. We need a flexible and light touch system that does not slow or impede the ability of companies to find and secure the right talent.

Innovate UK should consider an expansion of Knowledge Transfer Partnerships and do more to raise awareness of this route with business and with graduate recruits. Allowing business to contribute less financially, perhaps through provision of other support, such as in-kind contributions, could attract more businesses to come forward with projects.

Commercial skills are required and in need of development, particularly if we are going to see increased level of scale-up. This is not necessarily about dedicated training or MBA level of education but helping companies to understand what good looks like. Business coaches, mentors and role modelling is required. 8 years ago, Tokamak Energy was supported to identify an outstanding mentor, who was exceptionally well matched to their needs at the time. Quality of matching is essential and this mentor and the matching scheme that facilitated the pairing was funded through a Government backed business growth programme. Access to experienced non-executive Director talent has also been flagged as an area that could be better supported.

It has long been recognised that leadership and management skills are lower in the UK than in other comparable companies. This is often, again, because management does not know what good looks like and does not even realise that there is a problem. If management does not perceive a problem, they are unlikely to seek help or intervention, so we need to find

new ways to incentivise managers to build and develop their skills. It is unlikely that alone Universities can plug this gap.

Innovation-based companies that we work with have fed-back that programmes like apprentice levy are over-constrained so do not always help business. They can also be difficult to explain to international headquarters of multi-national companies that do not necessarily understand the UK skills system.

5. Progressing broader Government priorities

(1) Levelling up

Levelling up must not mean levelling down. While Oxfordshire has benefitted historically and recently from investments into strategic scientific infrastructure, such as the Diamond Light Source, the Rosalind Franklin Institute and the Vaccine Manufacturing Innovation Centre, these are investments for the whole of the UK, providing access to knowledge, facilities and training. These investments, based on scientific excellence and capability, provide an opportunity to support developments elsewhere in the UK through collaboration, partnering and skills development. Science and Innovation audits and local industrial strategies should be used to provide an evidence-base for joining up institutions and areas of self-identified strength.

Lockdown has introduced new ways of working which is allowing businesses to rethink who you work with and who you employ. Virtual working opens up opportunities for employment of staff outside the South East of England and companies can be much more agnostic in terms of geography when looking for skills and talent.

(2) Levelling up and inward investment

Inward investors typically have a clear understanding of where they want to locate and this is based on a blend of issues relating to talent, networks, clustering, access to academic and industrial expertise, property costs, regulation, and the investment environment. While the levelling up agenda creates an imperative to invest into the Midlands, the North and the devolved administrations, the concentration of expertise and capability within the south-east of England, as well as the region's response to the Covid-19 pandemic, which is globally recognised and will act as an effective marketing tool, particularly for the life sciences sector, calls for continued investment and support for growth within the south. This growth and development cannot and should not be taken for granted, however. There is still much that needs to be done, drawing on holistic approaches, better coordination across the region and programmes, such as the Oxford – Cambridge arc, and increased urgency to act.

Inward Investment needs to build on strengths and to work in concert with the inbound company's plans and intentions. For example, Lockheed Martin was attracted to Harwell Campus due to the strength in science and capability, but once established there, has looked at investment into other parts of the UK.

Where there are internationally-owned companies that provide an opportunity for expansion and future development, Government and the Department of International Trade must respect the UK-based corporate's right to develop a business plan that is right for the company and appealing to headquarters. In some cases, this will mean that an investment is not suited to some parts of the UK should not be viewed in the context of levelling up. In many instances UK-based companies are competing within their own organisation to pitch investment into the UK, competing with other markets and jurisdictions – from within our membership, we see potential projects where the UK is just one of a number of options that are being considered by global headquarters. While some investments could be located anywhere within the UK, we need to remember that the UK is competing with the rest of the World and internal competition within regions can act as a distraction and delay opportunities.

UK Government should reconsider the support provided to attract and secure inward investment – capital or meaningful financial support. As many LEPs are particularly focused on start-up and SME support, it can be difficult for LEPs to respond to inward investment opportunities in a way that can make a meaningful difference to the chances of attracting investment. The inward investment landscape is not a level playing field and other markets use incentives and co-investment mechanisms to attract and land inward investment projects. This includes other EU companies that manage to find ways to put in place support packages which are compliant with state aid rules. One company that we work with, a renewable energy company, is scaling their manufacturing capability in Germany, having dismissed the UK as a location for manufacture. Their experience in the UK was poor, with unresponsive locations (outside the Oxford region) that had to be chased. The German location provided the polar-opposite experience – a sense of hunger for the investment, access to skills and supportive local government engagement that continues to look for ways to support the company.

(3) The Ox-Camb Arc

We see the Oxford-Cambridge arc as an essential project which is not in conflict with the levelling up agenda, but provides an opportunity to join up the super-cluster of the Golden Triangle and to support greater levels of collaboration, opening up a greater flow of skills and talent across the region. While our perspective is positive, we recognise that there is a need to communicate the benefits to citizens who may see this as a new motorway/new houses/new towns development of physical infrastructure. We recognise that organisations like Advanced Oxford have a role to play in this communication effort.

While remote and home-based working practices have become common-place within innovation-based companies during the pandemic, it is clear that there is only so much that can be achieved through remote working. Relationship building, skills development and the opportunity to seed new collaborations and business development opportunities are all areas that have suffered through the lockdown period. We expect to see a reduced focus on big offices within central London, with a potential shift for companies to have several inter-connected hubs or campuses containing companies spread across multiple buildings. This provides an opportunity to think about how the Oxford-Cambridge arc can be developed and built to accommodate these new ways of working. It also provides a challenge from a transport perspective as this model risks a greater reliance on cars and provision of car parking, so finding the best locations for these hubs and campuses, integrated with public transport systems will be key.

The NLA's recent report, *Knowledge Networks: London and the Ox-Cam Arc*⁵ calls for Government to streamline planning to speed up development in the region and enable the creation of a supercluster in the Golden Triangle, comparable to the best international exemplars.

(4) Net Zero

For the short to medium term, most companies are operating in survival mode, working to preserve cash and to keep their businesses operating in the face of uncertain markets. While sustainability and a move to Net Zero is a policy priority, at the level of the individual business it is low on the priority list and will only happen with significant stimulus. Nevertheless, with shifts in ways of working, such as the reductions in commuting, business could be incentivised to invest in greener, more sustainable technologies, and consideration should be given to providing capital allowances for sustainable equipment, heating and lighting systems, as well as on-line conferencing, events and meeting platforms.

Recent work by University of Oxford has identified five policies with high potential on both economic multiplier and climate impact metrics. These are clean physical infrastructure, building efficiency retrofits, investment in education and training, natural capital investment, and clean R&D.⁶

We have already identified the need for action on housing, transport, innovation-infrastructure, planning and land-use. All of this should be viewed as an opportunity to embed zero-carbon principles and technologies. There is a real need to incorporate upgraded and improved rail infrastructure, with rail at the heart of housing and community

⁵ <https://nla.london/insights/knowledge-networks-london-and-the-ox-cam-arc>

⁶ <https://www.smithschool.ox.ac.uk/publications/wpapers/workingpaper20-02.pdf> - Hepburn, C., O'Callaghan, B., Stern, N., Stiglitz, J., and Zenghelis, D. (2020), 'Will COVID-19 fiscal recovery packages accelerate or retard progress on climate change?', Smith School Working Paper 20-02

development. As stated elsewhere in this submission, employees of Advanced Oxford members rely on car/road transport due to the lack of effective and efficient public transport alternatives. Recent work by Advanced Oxford, looking at high level objectives for the re-development of Oxford Station, identified the following three priorities:

- Increased capacity/frequency of rail services to provide a real alternative to roads
- Providing an effective interchange with other public transport modalities (buses and cycling were particularly highlighted)
- Opening up new infrastructure, in particular: branch lines, new stations where you can get on and off, opening up Cowley and links to Oxfordshire's science parks and science campuses is a particular priority

We would also encourage the development and investment into effective demonstration of zero-carbon technologies, including batteries/energy storage, hydrogen and solar. This is essential to risk-capital investment and market making. Equally, the Oxfordshire Local Industrial Strategy, produced by OxLEP, proposes the creation of a number of Living Laboratories⁷. While the term is now over-used and subject to interpretation, the creation of well run, appropriately resourced and externally connected and engaged demonstration capability will be essential to the acceleration of innovation and technology development and uptake.

(5) Greening the NHS

The Covid 19 crisis has thrown into sharp relief the importance of PPE and there is a clear need for more reusable and sustainable PPE. Throughout the crisis there has been a reliance on international supply chain, but also a sharp increase in the use of single use plastics associated with PPE. The Oxford Academic Science Network has suggested that there is a risk associated with the amount of clinical landfill space within the UK, given the rate of usage.

The NHS has also experienced a dramatic change in operational patterns and resource utilisation, particularly with a shift to embrace digital/technology solutions and to embrace remote consultations. These changes require a radical rethink about how patients engage with the NHS and the impact on NHS estates. A significant continued reduction in patients visiting NHS providers will have a significant impact on the NHS's carbon footprint.

Sustainability principles need to be incorporated into innovation entering the NHS supply chain, with increased reuse, cleanable and recyclable materials. As the Academic Health Science Network within England has a key role to play as a bridge between innovators and

⁷ Oxfordshire Local Enterprise Partnership, The Oxfordshire Local Industrial Strategy, 2019
<https://www.oxfordshirelep.com/lis>

the NHS market, we suggest that sustainability within innovation becomes an explicit part of the AHSN's commission. With the AHSNs' ability to work end to end across the innovation pathway and to support real world evidence, this capability should be applied to greening the NHS, and its supply chains.

6. Is the Industrial Strategy still a relevant and appropriate vehicle?

As stated at the beginning of this submission, there is much to be said for stability and for continuing with existing strategies where they are working, particularly where business has been embedded in the strategy development process and is fully engaged in the implementation, such as the Life Sciences Industrial Strategy. Many local economies have already invested heavily in supporting the development of Local Industrial Strategies and are working to support implementation. Oxfordshire LEP (OxLEP) was one of the first LEPs to produce a Local Industrial Strategy and it has usefully provided a focus for consensus building with industry, academia, social enterprise and other stakeholders. There is much to be said for working with these strategies, rather than starting afresh, although they will need to be viewed through the lens of Covid-19 and its impact on local economies.

Local economic groups, including LEPs, invested considerable time in previous years in developing Science and Innovation audits. Although there are examples of these being used to support economic development and as an evidence base for Local Industrial Strategies, they were an exercise without a defined purpose and the original objectives for the audits were somewhat neglected by Government. We would therefore recommend that lessons are learned from this experience and that Government works with the LEPs and with regional/local organisations to determine how industrial strategies can be implemented and used as a roadmap for local economic recovery and growth.

Government has as yet to consult on its ERDF replacement mechanism – the Shared Prosperity Fund. This is expected to provide a route to local economic growth funding in the future, but it should be recognised that all regions of the UK have challenges deserving of funding and we would strongly caution against an approach that does not provide for investment into areas like Oxfordshire. For example, Oxford Brookes University recently published a report on Scale-Up Support in Oxfordshire – a project supported and funded by OxLEP. The report identifies fragmentation in the ecosystem for scale-up support and areas for improvement in leadership, support and delivery. This is a UK-wide problem and Oxfordshire is not immune from needing to drive greater levels of scale-up activity within the region. A failure to support the region to address issues it has identified would result in lost potential for the UK economy.

7. How should regional and local government in England be reformed and better equipped to deliver growth locally?

Government has confirmed plans to publish a White Paper on Devolution in the autumn. It is questionable whether this is the time to commence a debate on local government reorganisation given the pressure on local and regional authorities to respond to the Covid-19 pandemic. We need investors to view the UK as a good and stable environment in which to invest. From observing changes in other regions, the creation of new local authority structures takes time and there can be considerable stasis in the intervening period. More than ever, we need stability and pace in decision making to support an effective and long-term economic recovery.

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