

Reset Call for Evidence Submission

Nesta Call for Evidence Submission to the All-Party Parliamentary Group on the Green New Deal

Summary

1. Nesta is a global innovation foundation. We back new ideas to tackle the big [challenges](#) of our time. For more information on our organisational goals see Annex A.
2. Nesta welcomes the committee's inquiry into how we might reset UK society after the Covid-19 crisis so that it is greener and fairer.
3. The post COVID-19 economy needs to be greener and more balanced.
4. Targeted support for innovation, a mission oriented approach, education for all, and making policy more evidence based and data driven are essential for a green recovery.

4.1. **Proactively guiding and supporting the development of innovations, which have clear and substantial environmental benefits, will put the UK on track for a more healthy and sustainable future.**

The eco-industry sector in the UK is underdeveloped in size, accounting for about 1.4 per cent of total employment, and 1.2 per cent of total revenue across all companies, while EU averages stood at 2.5 per cent and 2.3 per cent respectively ([Eurostat, 2020](#)).

Innovation and better technologies will result in gradual decline of environmental degradation and give rise to new economic opportunities. Despite the significant role of innovation, there are not enough companies undertaking environmental innovation (or eco-innovation) at the scale required in the UK. The [UK's eco-innovation performance is average](#) compared to EU countries.

In order to better manage this transition, the government should consider policies aimed at raising levels of private, as well as public, investment in innovation and ensure that this translates into broadly felt public benefit.

4.2. **A mission oriented approach should take account of the workforce implications of a transition towards green jobs and industries.**

As outlined in Nesta's recent '[Going Green](#)' report, the transition to net zero is likely to have a significant impact on employment in high emission industries, which currently employ 45 per cent of the UK workforce. While the UK already has taken some steps towards a

mission-oriented approach to achieving net zero through the Industrial Strategy Grand Challenges, more needs to be done to ensure that the workers in these industries have the right support to transition to greener careers through more coordinated support. A green-jobs Grand Challenge can complement the existing challenges and help bring together the skills, and other wraparound support (e.g. childcare), these workers need to transition.

4.3. The UK will need a new approach to reskilling and upskilling employees in the workforce to have sufficient capacity to compete in the green economy.

The current structure of the [adult learning system in the UK](#) is fostering social fragmentation. According to the [Labour Force Survey](#) the participation rate of employees in adult learning was about 19 per cent in 2019. Our report [Education for All](#), highlights that people in the UK who want to participate in adult education but do not, give the following reasons: clashes with work schedules (59.8 per cent), costs (45.2 per cent) and family responsibilities (38.4 per cent). What's more, adults with low qualifications – the majority of employees in high-emitting sectors – are the least likely to learn new skills. Upskilling and reskilling will be critical if workers are to find new jobs or perform new tasks in their existing jobs.

The viability of plans to support the UK's transition to a greener economy are dependent on the availability of a workforce with the right skills. As well as tailoring education and training to the demands on the new economy, there needs to be greater emphasis on life long learning and building the adaptability and resilience of the workforce.

4.4. Making policy more evidence based and data driven is essential.

Policymakers have had little reliable information about the performance of sectors, different technologies, or the economies of local areas. This makes it hard to decide where and how to invest, or for decision-makers to have confidence in investment decisions; it also makes it hard to keep an eye on how policies are working. In the absence of timely, relevant data, inertia wins the day: investment happens in the south east, we fail to focus our resources on promising industries or technologies.

Where to find Nesta's key work:

Going Green: Preparing the UK workforce for the transition to a net-zero economy
<https://www.nesta.org.uk/report/going-green-preparing-uk-workforce-transition-net-zero-economy/>

Precarious to Prepared: A manifesto for supporting the six million most at risk of losing their jobs in the next decade

<https://www.nesta.org.uk/report/precarious-to-prepared/>

Education for All: Making the case for a fairer adult learning system

https://media.nesta.org.uk/documents/Education_For_All_Making_the_case_for_a_fairer_adult_learning_system.pdf

Make it FutureFit: Four ways to design better adult learning experiences

<https://www.nesta.org.uk/report/make-it-futurefit-four-ways-design-better-adult-learning-experiences/>

Learning remotely: what to prioritise during COVID-19

<https://www.nesta.org.uk/blog/learning-remotely-during-covid-19/>

Innovation After Lockdown: Using innovation to build a more balanced, resilient economy

<https://www.nesta.org.uk/report/innovation-after-lockdown/>

The Missing £4 Billion: Making R&D work for the whole UK

<https://www.nesta.org.uk/report/the-missing-4-billion/>

Arloesiadur: a innovation policy dashboard for Wales

<https://arloesiadur.org/>

The Invisible Drag on UK R&D: How corporate incentives within the FTSE 350 inhibit innovation

<https://www.nesta.org.uk/report/invisible-drag-corporate-incentives/>

Is the UK getting innovation right?: A survey of perceptions of the impact of innovation and technology

<https://www.nesta.org.uk/report/uk-getting-innovation-right/>

The Great Innovation Challenge: How Challenge Prizes can kick start the British economy

<https://challenges.org/impact/reports/the-great-innovation-challenge/>

Testing Innovation in the Real World

<https://www.nesta.org.uk/report/testing-innovation-real-world/>

Innovation Mapping

<https://www.nesta.org.uk/report/innovation-mapping-now/>

A Mission-oriented approach to the UK Skills System

<https://www.nesta.org.uk/project-updates/mission-oriented-approach-uk-skills-system/>

Measuring regional skill mismatches

<https://www.nesta.org.uk/data-visualisation-and-interactive/measuring-regional-skills-mismatches/>

Who we are and why we are sending you our evidence?

5. [Nesta](#) is a global innovation foundation. We back new ideas to tackle the big challenges of our time. We use our knowledge, networks, funding and skills - working in partnership with others, including governments, businesses and charities. We are a UK charity but work all over the world, supported by a financial endowment.
6. Nesta is designing solutions that support a more inclusive, fair labour market that can empower workers at scale. This includes better evidence to inform policymaking (e.g. [The Future of Skills: Employment in 2030](#)); data-led insights (e.g. [Nesta's UK skills taxonomy](#)); generating evidence about what works to upskill and reskill workers at risk of job displacement (e.g. [FutureFit](#)); and supporting innovative career-guidance solutions (e.g. [Career Tech Challenge](#)).
7. Specific to this call for evidence is our recent report [Going Green: Preparing the UK workforce for the transition to a net-zero economy](#). Our new report provides evidence on how we might reset UK society after the Covid-19 crisis so that it is greener and fairer.

Part One: Lessons from Covid-19

8. The post-pandemic recovery offers an opportunity for the UK to foster a green economic recovery to accelerate the transition to net zero and avert climate crisis ([UK Parliament, 2019](#)). A green economic recovery will generate growth, create jobs, and put the UK on track for a more healthy and sustainable future.
9. However, the transformation to a greener economy in the UK, will lead to significant changes in many sectors and occupations. As [our report](#) shows, it is likely that highly polluting industries, which are responsible for 93 per cent of the UK's carbon emissions and employ 45 per cent of the UK's workforce, will face significant changes and millions of employees, mainly low-skilled, may lose their jobs. The green transition may increase inequalities for a range of sectors, regions and individuals, if it is not properly planned. Therefore, the primary aims of a post-Covid economy should be **a fair and inclusive transition to a green economy**.
10. We are encouraged by the job-creating investments in green areas of the economy that the Government of the UK has made in response to COVID-19. This includes the [£2 billion to make homes more energy efficient](#), the [£200 million to help the aerospace sector become more green](#), and the [£40 million to kick start next-gen nuclear technology](#).
11. Creating jobs is important, but to have a fair transition, we also need to focus on ensuring people are prepared to work in those jobs and not left behind. In response to the trouble young workers find themselves in during COVID-19,

the government is offering the kind of tailored support they need, but many of other vulnerable workers are not seeing the same kind of support.

12. As Nesta has discussed in its report on upskilling in the UK, [the groups that participate the least in adult learning](#) are already vulnerable, including older workers; those with low levels of education; and the unemployed. What's more, when considering the transition to a greener economy, those working in the most polluting sectors of the economy are [about half as likely to upskill as those in green jobs](#). These factors are what has made the UK's response to COVID-19 more difficult, and means that these groups that are already vulnerable will remain dependent on government support if they do not receive coordinated support from across government and the skills system.
13. Like our response to the coronavirus, we must make fundamental changes for the green transition. The current pandemic shows that a collective endeavour involving national and local institutions, organisations and individuals is possible during emergencies, and, therefore, can have a major impact on the ability of the UK to respond to the climate emergency.

Part Two: Resetting UK Society after Covid-19

14. The post COVID-19 economy needs to be greener and more balanced:
 - 14.1. **Green economy** — A plan for post COVID-19 economic recovery should be closely tied to achieving net zero carbon emissions by 2050. While necessary to achieve net zero, a transition away from polluting industries threatens to further compound the risk of worker displacement over the coming decade.

Our report '[Going Green: Preparing the UK workforce for the transition to a net-zero economy](#)', shows that the transition to net zero is likely to have a significant impact on employment in high emission industries, which currently employ about 12 million employees in the UK's workforce. As the number of jobs that will be affected by the transition is significantly high, the 'greening' of the labour market will need to create new green jobs, that can produce employment gains, and prevent net job losses. However, the current number of such jobs is extremely low. The number of jobs in the environmental sector is rather small, accounting for about 1 per cent of total employment.

Efforts to stimulate and reconfigure the economy in the wake of the COVID-19 pandemic can and should overlap with policies to cultivate and support a transition to low-carbon business models, technologies and industries.

- 14.2. **Balance** — Regional inequality and [income inequality](#) in the UK is the worst of any comparable developed country — and is growing.¹ Many of the UK's inequalities are set to be made worse by the green transition, if it is not properly planned.

The green transition may produce stark inequalities, at both a regional level, and at the level of individual workers. The shift to 'green growth' will be a significant challenge for regions with a major concentration of 'brown sector' industries. Regions in industrial transition, including Northern Ireland, the East Midlands and West Midlands – where about 50 per cent of jobs are in high-emission sectors – will require support to reduce their dependence on fossil fuels, and invest in environmental activities. The green sector is concentrated in particular regions, leading to regional inequalities. Such inequalities are likely to significantly worsen. London, where about 70 per cent of employees already work in the green sector, will be one of the areas least affected.

A wide gap may be revealed at the level of individual workers. Our report shows that men and younger workers are overrepresented in the brown sector. In addition, the majority of workers in the brown sector are low- and medium-skilled.

Addressing these damaging levels of inequality should be a priority for a green economic recovery.

15. In order to improve levels of innovation across the UK economy, a post COVID-19 economic plan should include:

- 15.1. **Support eco-innovation at regional levels** — The root causes of the UK's regional inequality are complex and long standing, but the uneven geographical distribution of innovative, environmental economic activity is a significant factor. Crucially, experience from other countries suggests that innovation policy, and particularly the direction of public R&D spending, can be used to address this problem. In '[The Missing £4 Billion](#)' a recent paper for Nesta, Richard Jones and Tom Forth outline how channelling R&D spending towards previously poor regions of east Germany has contributed to the development of innovation clusters in these places, and to their recent economic resurgence relative to comparable regions of the UK.

- 15.2. **Regional strategies for innovation recovery that respond to their specific industrial and employment structures and take account of differing needs and strengths** — In '[The Missing £4 Billion](#)', Richard Jones and Tom Forth propose that 25 per cent of the uplift to R&D spending announced in the March 2020 Budget be devolved. If the uplift goes ahead as planned, this would put up to £2.5 billion per

¹ Raikes, L. et al. (2019) 'Divided and Connected – Regional inequalities in the North, the UK and the developed world – State of the North 2019.'

year by 2027 in the hands of the UK's nations, cities and regions. We believe this amount would be of a sufficient scale to drive a rebalancing of investment, if allocated on a needs-based formula.

- 15.3. **The Creation of regional offices for UK Research and Innovation** — A regional structure for UKRI could act as a source of expertise for regional decision makers, helping to ensure that local R&D funding allocation decisions are made with the best possible evidence and expertise, and that local decisions are joined up with national innovation and industrial strategy.
- 15.4. **Devolution of part of the new National Skills Fund** to enable local decision makers to create holistic recovery plans that combine investment in R&D, business support and skills.
- 15.5. **Measures to stimulate and facilitate R&D investments** — Government expenditure on environmental protection research and development in the United Kingdom dropped from £496 million in 2013/14 to £207 million in 2018/19, while total general government expenditure on environmental protection was less than 0.7 per cent of GDP ([Eurostat, 2020](#)). Public engagement and polling captured in the Nesta report [‘Is the UK getting innovation right?’](#) shows that the UK public believes the government should invest in innovations that tackle climate change. Directing R&D spending towards big societal challenges like the climate emergency will likely be a prerequisite of longer term public acceptance of increased government spending on innovation.
- 15.6. **Taking action to address skewed incentive structures inhibiting corporate innovation** — When it comes to the large companies, Nesta's 2019 report [The Invisible Drag on UK R&D](#), identifies how corporate incentive structures inhibit innovation. A study of 350 FTSE executives' suggested that their long-term incentive plans are strongly skewed towards discouraging executives from innovating at a ratio of 6:1.
- 15.7. **Using business accelerators and incubators in supporting environmental sustainability** — As outlined in the 2019 BEIS research paper [‘The impact of businesses accelerators and incubators in the UK’](#), the use of business accelerators and incubators is positively correlated with startup survival, employee growth and funds raised. According to the paper, most startups who used an incubator or accelerators consider it to have been significant or even vital to their success.
- 15.8. **Using regulation and procurement to cultivate favourable conditions for firms working on eco-innovation** — Government can actively establish favourable conditions for innovative firms in particular sectors, by creating and shaping new markets for green technologies, products and services through ‘smart procurement’ and by setting regulatory standards that encourage certain kinds of innovation. For this reason, the Regulators' Pioneer Fund, which has

supported regulators to experiment with innovation enabling, ‘anticipatory’ approaches to regulation have been a positive step. In future, more should be done to make this approach to regulation the default.

Experience from other countries suggests that innovation policy, and particularly the direction of public R&D spending, can be used to address this problem. Nesta’s recent paper [‘The Missing £4 Billion’](#) outlines how channelling R&D spending towards previously poor regions of east Germany has contributed to their recent economic resurgence relative to comparable regions of the UK.

- 15.9. **Address a lack of evidence as to why SMEs don’t innovate or adopt innovations** — Looking at smaller firms, there is still a relative lack of evidence about how to encourage them to innovate, and to adopt the latest technologies and management practices, particularly throughout the green transition. Expanding initiatives like the The Business Basics Fund, which finances pilots to use experimental approaches to find out more about the barriers to SMEs adopting green technologies and management practices, and to work out how to best support them to do so, could help address this problem.
 - 15.10. **Promote a greener and more inclusive financial system** — According to the Community Innovation Survey, the main barrier to innovation is the availability of finance ([BEIS, 2020](#)). The emergence of potentially disruptive innovations, such as crowdfunding and peer-to-peer lending, could change the traditional provision of services in the sector, and lead to the development of green innovations. However, the UK financial sector is blocking radical and deep-rooted change ([Nesta, 2015](#)). As [Nesta has argued](#) the government has an important role to play through regulation.
 - 15.11. **Provide support for experimentation in foundational sectors** — Firms and organisations in foundational sectors are often not in a position to undertake the experimentation necessary to find working models that make best use of the potential offered by new technologies or management practices. To address this problem, government could provide support for testbeds (initiatives that provide a controlled or bounded space for testing innovation in real-world, or close to real-world, conditions) that focus on working out how to make best use of emerging technologies, and organisational and social innovations, and to improve productivity in particular sectors of the foundational economy, such as social care.
16. **In order to increase the chances of achieving net zero by 2050, the government should consider a mission oriented approach to a green transition. Within this, government may want to consider:**
 - 16.1. **Direct a large section of the funding provided by the new ‘UK ARPA’ towards the realisation of the net zero carbon ‘mission’** — Given the scale of the transformation required, the UK does not yet have an adequate funding mechanism for achieving net zero carbon.

As [Nesta has argued in the past](#), the main ‘mission-oriented’ funding stream, the Industrial Strategy Challenge Fund, is spread too thinly over too many challenge areas and uses conventional R&D grant funding to pursue its goals. By providing a substantial source of non-grant based funding for the development of green technologies and practices, a UK ARPA could be used to effectively fill this funding gap.

A focus on decarbonisation would also help with UK ARPA’s political viability, demonstrating to the public that the increase in R&D spending required to finance its £800 million per year budget is being directed towards the solution of a tangible, pressing problem.

- 16.2. **Adopting a portfolio approach to mission-oriented funding, with funding approaches and criteria differentiated appropriately —** As the Commission on Mission-Oriented Innovation and Industrial Strategy set out, innovation missions require cross-sector action. To implement them effectively, the government will need to invest in a wide portfolio of programmes that add up to a bigger whole.² Funding instruments should be flexible to support different types of projects with different goals and stakeholders. For example, levels of match funding expected might be lower for programmes that aim to support emerging sectors or bring forward new business models, compared with programmes aimed at helping existing industries to transform.
- 16.3. **Using an experimental, iterative approach to implementing missions —** It is difficult to predict the societal and distributional consequences of innovations in advance. The government should provide early support for a variety of potential solutions to identified problems, enabling informed decisions about which to prioritise later. As outlined in our report [‘The Great Innovation Challenge: How Challenge Prizes can kick start the British economy’](#), Challenge prizes are a good mechanism for this as they allow the government to support a greater number of early stage solutions, with fewer strings attached. These are particularly useful where new, genuinely disruptive ideas are sought. Rather than picking one team and providing a subsidy based on the most credible proposal (the traditional R&D grants model), challenge prizes incentivise multiple teams to compete to provide the most impactful solution. The result is a greater number and variety of innovators working on a topic, and hence an ability to support more radical or unproven technologies as well as the safer bets typically funded through grant mechanisms.
- 16.4. **Take opportunities to link investments in achieving net zero investments to a place-based agenda —** This could be achieved

² UCL Institute for Innovation and Public Purpose (2019) ‘A Mission-Oriented Industrial Strategy.’ UCL Commission for Mission-Oriented Innovation and Industrial Strategy (MOIS) [online]. Available from: https://www.ucl.ac.uk/bartlett/publicpurpose/sites/public-purpose/files/190515_iipp_report_mois_final_artwork_digital_export.pdf (Accessed 1 June 2020).

through directing investments to regions where latent innovative potential in low carbon technologies or organising models has been identified, or by locating new translational research institutes that can drive green technology in parts of the country with below-average public R&D investment.

16.5. **A mission-oriented approach to the UK skills system** — [A mission oriented approach](#) should also take account of the need to manage the skills and workforce implications of a transition towards green jobs and industries.

17. In order to better manage this transition, the government should consider skills policies aimed at developing the skills base required to move from high-polluting to green industries and to support workers to train and transition. Within this, government may want to consider:

17.1. **Funding customised training for people transitioning out of jobs in polluting industries to those sectors less affected by environmental change** — Our project, [FutureFit](#), highlights that there are many different kinds of adult learners and they have many different learning needs. There is no one-size fits-all solution, and it is vital to examine potential ways of increasing participation in upskilling and reskilling by different types of learners with different barriers to learning, such as clashes with work schedules (39.9 per cent) and family responsibilities (32.5 per cent). It is crucial to adapt the [design or approach of a learning experience](#) according to the characteristics and needs of individual learners.

17.2. **Government departments (for Business, Energy and Industrial Strategy, for Work and Pensions and for Education) working together to provide additional rights for workers who have been identified as being at risk of job loss** — This might include, for example, the right to take time off work to re-train (updating the currently restrictive time off work policy), and the right to financial support to re-train (similar to Swedish job security councils that provide financial and job counselling support, financed by employers, to help people back into work). Priority could be given to skills that would be relevant to green jobs.

17.3. In addition to these changes, **local governments may want to consider experimenting with individual learning accounts** (such as the ones piloted in Scotland and Wales) to enable at-risk workers to learn, even when they can't access training through their jobs. To test what levels work best in stimulating change, we propose initial annual entitlements of £500-£1500 supported by rights to paid time off.

18. **Making policy more evidence based and data driven is essential for a green recovery.**
 - 18.1. **To achieve a fair transition to a net zero economy we need to take a data driven approach.** Policymakers have had little information about the green jobs, eco-innovation, or profile of workers in the brown and green sectors. This makes it hard to decide where and how to invest, or for decision-makers to have confidence in investment decisions. It also makes it hard to keep an eye on how policies are working.
 - 18.2. **Some of this data is already available, but it needs to be used consistently.** In the absence of timely, relevant data, inertia wins the day: investment happens in the south east, we fail to focus our resources on promising industries or technologies, potentially damaging acquisitions are waved through with no challenge.
 - 18.3. **Providing more open data on jobs and skills to enable people to better navigate a changing labour market —** As part of this, government could create an eco-jobs classification to indicate ‘leader’ jobs that actively help to fight the climate crisis and a laggard and follower or ‘brown jobs’ classification, so that people understand what employment may be negatively impacted by the climate crisis.
19. Nesta is involved in a range of [research and practical ideas](#) to tackle the challenges presented by the changing labour market: from data-driven careers advice and tools tailored to individual learning needs, to empowering workers with the skills they need for tomorrow and equipping today's children with more resilient skills for a changing jobs market.
 - 19.1. [FutureFit](#) is a major training and research project led by Nesta, focused on creating an effective adult learning system to help tackle inequality and social exclusion. In partnership with unions, leading researchers, employers and adult learning experts, FutureFit is upskilling over 1,000 workers in Europe and conducting a large evaluation about what works, so that solutions can be scaled.
 - 19.2. Nesta uses big data to map green sectors and jobs, and public and open datasets to obtain a more comprehensive view of the UK's green economy. Our report, [Going Green: Preparing the UK workforce for the transition to a net-zero economy](#), by analysing 10 datasets (including Office of National Statistics, Organisation for Economic Co-operation and Development and Eurostat), identifies sectoral and regional patterns of green transition and provide a series of recommendations on how to make the transition smoother for individuals and regions.
 - 19.3. Nesta has worked on developing and investigating specific tools that will be of use in informing policies for decarbonisation. As outlined in the report ‘Innovation Mapping Now’, Nesta’s Innovation Mapping team have been developing a set of approaches to provide new, more

detailed and timely data, powerful analytics and ways of presenting information

Annex A: About Nesta

Nesta is a global innovation foundation. We back new ideas to tackle the big challenges of our time.

We use our knowledge, networks, funding and skills - working in partnership with others, including governments, businesses and charities. We are a UK charity but work all over the world, supported by a financial endowment.

To find out more visit www.nesta.org.uk

At Nesta we are experts in methods for innovation. We apply these methods in priority fields where there are big challenges and our capacities are suited to the action that's needed: health; education; government innovation; the creative economy, arts and culture; and innovation policy.

In each field we bring together research, funding for practical work, convening and advocacy - focusing on areas where the combination of digital technology, empowered individuals, and better use of data and evidence can have the biggest impact.

Health: We explore how people can better use technology, data and mutual support to manage and improve their health and wellbeing.

Education: We are preparing young people for an increasingly digital workplace by understanding the future of work, backing digital learning technologies and campaigning for more creative, robot-resistant skills.

Government Innovation: We help governments achieve more with less, making the most of digital technologies to engage their populations in decisions and the daily life of public services.

The Creative Economy, Arts and Culture: We help arts and cultural organisations develop new sources of funding and reach new audiences. And we advise governments at every level on how to grow the creative economy.

Innovation Policy: We gather, analyse and spread the best methods from around the world that governments can use to support successful innovation in the economy and society.