



HM Government

HM Government Response to Professor Dame Angela McLean's Pro-Innovation Regulation of Technologies Review Cross Cutting

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Cross Cutting

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Introduction

At Autumn Statement 2022, the Chancellor announced a programme of work to advise how the UK can better regulate emerging technologies, enabling their rapid and safe introduction.

The aim of this Review is to establish the UK as the best regulated economy in the world in key growth sectors ensuring that industry and investors have the certainty they need to drive innovation, investment and growth through anticipating new developments in emerging technologies.

This Review has been led by Professor Dame Angela McLean in her role as the Government Chief Scientific Adviser. The Review was initially led by her predecessor, Sir Patrick Vallance.

This is the government's response to the Review's cross-cutting report. The Review has already published reports on Digital Technologies, Green Industries, Life Sciences and Creative Industries, and is separately publishing a report on Advanced Manufacturing.

Dame Angela's cross-cutting report offers valuable insight for how the UK can improve its approach to pro-innovation regulation. The recommendations advise where we can do more to make sure we remain world-leading and take advantage of what new technology has to offer. The report outlines proposals on how to prioritise and drive pro-innovation regulation across government, on how regulators can foster innovation, and how government and regulators can work together effectively. The government accepts eleven of the report's twelve recommendations. In respect of recommendation 2d, the government accepts there is merit in investigating this further but has not seen sufficient evidence to make a decision on this. The Smarter Regulation and regulatory landscape Call for Evidence that is currently underway will be used to seek more evidence. This response document sets out how we propose to implement them in practice as detailed below.

As the Pro-innovation Regulation of Technologies Review comes to a close with the publication of this cross-cutting paper, the government would like to thank Dame Angela for her leadership. The government would also like to thank the experts who supported Dame Angela and Sir Patrick, and also to all those who engaged with and contributed to the Review.

Response to recommendations

Part 1: DSIT and the NSTC (National Science and Technology Council) as cross-government focal points for pro-innovation regulation

Recommendation 1 – Role of DSIT SoS

DSIT SoS should set out government’s regulatory reform priorities in science and technology and oversee and support the implementation of a pro-innovation regulatory reform plan across government, working closely with DBT SoS on creating a broader pro-growth regulatory environment

Response

1. In February 2023 the government placed innovation at the heart of its agenda by establishing a new Department for Science, Innovation and Technology. The Prime Minister has set a mission to ensure the UK is the most innovative economy in the world and a science and technology superpower, articulated in the UK Science and Technology (S&T) Framework. Putting in place the right regulation is a critical part of achieving this mission. Therefore, the government accepts this recommendation. The Secretary of State for Science, Innovation and Technology will take an active lead on pro-innovation regulation and work across government to ensure that departments move quickly to grasp reform priorities. This will work hand-in-hand with the Business Secretary’s leadership on creating a broader regulatory environment that supports business and growth.

Recommendation 1a – DSIT pro-innovation work

A team within DSIT should assist SoS in delivering a pro-innovation regulatory reform plan and work across government to mainstream this approach.

Response

2. The government accepts this recommendation for DSIT as a cross-government focal point working with other departments for pro-innovation regulation. The Science and Technology Framework, published in March 2023, set out ten strategic strands to deliver the ambition of being a science and technology superpower. One of the strands is Regulation and Standards, which is led by the DSIT Secretary of State. To do this, teams in DSIT already work with the rest of government to support departments in taking a pro-innovation regulatory approach. For example, the Regulatory Horizons Council (RHC) provides independent expert advice to government on regulatory reform to support the rapid and safe introduction of technological innovations. This includes a range of technologies from neurotechnology to fusion energy.

3. Delivery of the UK S&T Framework is being overseen by DSIT and the National Science and Technology Council (NSTC). This includes the Regulation and Standards

strand – progress on pro-innovation regulation will be reported, as appropriate, and supported through the internal governance channels to drive co-ordination and pace across government departments. This will facilitate deliberation on strategic policy direction in regulating emerging technology and innovation.

4. Though the Pro-innovation Regulation of Technologies Review has reached the end of its work, DSIT will continue to work with the Regulatory Horizons Council, with Innovate UK, the Department for Business and Trade and with other partners who work closest with innovators, to continue the Review's momentum. It will do so by identifying the most important areas for government action to enable emerging technology. Teams across DSIT will take a leading role in ensuring reforms are taken forward. As part of the delivery of the Regulation and Standards strand of the S&T Framework, a dedicated team in DSIT will engage across government to identify blockers and potential opportunities for regulatory change to unlock innovation-led growth in key priority areas and technologies. It will especially focus on cross-sectoral and territorial boundaries that do not align with existing regulatory remits. In working collaboratively with relevant policy departments and regulators, the DSIT team will assist the development of specific actions to drive progress. This may involve, for example, proposals for regulatory sandboxes to drive greater experimentation on specific areas of application of emerging technologies. In other cases, we may recommend targeted regulatory reform to ensure that regulatory frameworks and remits are fit for purpose and avoid gaps or overlaps.

5. As part of being forward leaning on innovation and building upon the Pro-innovation Regulation of Technologies Review, DSIT are today announcing that they will establish regulatory sandboxes for telecommunications spectrum sharing, engineering biology, and space. The sandboxes can help facilitate technological advancement, deepen understanding of regulation and tackle the most pressing regulatory challenges.

6. We also recognise, as highlighted in the RHC's Closing the Gap report, that regulation is not always the best or only way to ensure the safe use and deployment of new technologies. Other tools like stakeholder-led technical standards can play a critical role in ensuring interoperability and providing reassurance on the quality and safety of new products and services. As such, they are a critical part of wider technology governance alongside agile regulation. As part of the delivery of the Regulation and Standards priority, the government will continue to work with relevant standards bodies, including by building on a [joint Action Plan with the National Quality Infrastructure](#) (NQI) partners, and seek to maximise UK influence in the development of global technical standards.

7. We agree that it is important for the government to be mindful of the potential impact on innovation when devising new policy and regulations. This is why the new Better Regulation Framework incorporates innovation as one of the wider impacts that must be assessed for every new regulation.

Recommendation 1b – Navigating the regulatory landscape

The government should provide a ‘concierge service’ or ‘intelligent front door’, which could potentially be AI-enabled, to help innovators navigate the regulatory landscape and ensure they receive the advice they need to bring their products to market.

Response

8. The government agrees with the Review’s finding that regulatory fragmentation is a challenge in emerging technologies and that government should help innovators navigate the regulatory landscape. We agree that modern digital technology provides an exciting opportunity to significantly address this issue. DBT’s Digital Transformation of Regulation programme is working towards an automated service on GOV.UK.

9. We recognise that there may be instances where a digital service on its own may not provide a straightforward regulatory pathway enabling innovators to place their product on the market. This may be the case where there are gaps or overlaps in regulatory remits or where the regulatory frameworks are not adapted to emerging technologies. The government is committed to supporting innovative businesses in these circumstances. As we develop a digital solution, we will also scope the demand, functionality and options to complement this with a mechanism enabling innovators to flag regulatory blockers and providing them with a ‘concierge’ service, helping them to bring their innovation to the market. In the first instance, we will take a pilot approach to test the demand and feasibility of this service, targeting the approach to priority technologies and leveraging existing government channels to engage with key innovators.

Recommendation 1c – Regulatory Horizons Council

The government should respond to advice from the Regulatory Horizons Council within a set timeframe and, where the recommendations are accepted, set out a clear implementation plan. Progress should be overseen by the NSTC as part of its oversight of the S&T Framework Regulations and Standards strand.

Response

9. The government recognises the valuable impact that the RHC has had since it was established in 2020. Through its expert advice in an important strategic role, the RHC makes a difference in enabling emerging technology in the UK. For example, the RHC set out in a valuable report how the UK could champion the way for a non-fission approach to fusion energy. Following a consultation of a proposed regulatory framework for fusion energy, the government accepted the recommendation.

10. Having itself recognised the value of the agile, practical approach proposed by Dame Angela McLean, the RHC has already begun to explore a range of different delivery models to complement the Council’s traditional ‘deep dive’ approach to ensure that actionable recommendations are shared with departments/regulators as soon as possible. In particular, the Council is leveraging its convening power to bring regulators, industry and investors to address the practicalities of implementing innovation-friendly regulation. It has included several such projects in its 2023 programme of work, for example, the Council hosted a

roundtable at London Tech Week to develop practical proposals on how regulation can better support start-up businesses to scale up.

11. The government agrees that it is essential that the RHC is able to reflect and capture a range of expertise. At the request of the chair, the DSIT SoS has appointed Lucy Mason and Graeme Malcolm, industrial experts who will expand the reach and value of the Council. In addition, the RHC makes impartial recommendations on the basis of robust engagement with industry and other stakeholders, and confirms it intends to continue in this manner.

12. The government is committed to making the most of the Regulatory Horizons Council. We accept the Review's recommendations that the government should respond in good time and in a full manner to the RHC as per the Charter, and DSIT will work alongside relevant government departments to oversee the implementation of accepted RHC recommendations; in certain cases, this might also include taking account of RHC analysis of the effectiveness of implementation. The government will commit to providing a substantive response to the RHC's recommendations within 3 months of publication, or within 6 months if a clear rationale is provided to the Chair and DSIT SoS.

13. The RHC should continue to select its work programme independently, with regard for the government's S&T priorities, and should continue to engage with policy officials to identify potential priorities. To support the RHC to make informed decisions on its future work programme, the government will ensure open lines of communication with the Council through the RHC team based in DSIT.

14. The government wants to see the RHC continue to develop on its strengths, optimising how it is set up to deliver even greater impact in the coming years.

Recommendation 1d – Regulators' Pioneer Fund

The Regulators' Pioneer Fund should be put on a more sustainable footing and made more agile and responsive to changing priorities.

Response

15. Since it was first launched at Autumn Budget 2017, the three rounds of the Regulators' Pioneer Fund (RPF) have helped regulators (rounds 1-3) and local authorities (rounds 2 and 3) to support innovation through testing new approaches to regulation, that help encourage business innovation and investment. RPF 3 improves on previous rounds to create a more agile project structure with varying project lengths of 8 months, and 12-18 months and with pre-funding available for recruitment activities. The government recognises the exciting and impactful projects that this funding has enabled, including the MHRA's production of synthetic patient data which supported the research on Covid and cardiovascular disease and the CAA's sandboxes that explored how aviation regulation would need to adapt to accommodate drones and air taxis.

16. The government has already funded three rounds of the RPF since 2017 which demonstrates the government's support for the concept. Whilst we acknowledge the recommendation and recognise the value of the RPF, in line with normal practice, decisions on proposals with spending implications beyond 2024-2025 will be taken at the next Spending Review.

17. The government accepts the recommendation that the structure of competition windows and duration of funding commitments should be agile and flexible, whilst recognising the need to avoid burdening regulators with complex and iterative bidding processes and red tape. Agile design will be factored into any subsequent rounds of the Regulators' Pioneer Fund.

Part 2: Supporting regulators to drive innovation-led growth

Recommendation 2a – Growth Duty reporting

If Ministers are minded to activate reporting requirements under the Regulators’ Growth Duty, we recommend that a flexible approach should be set out in revised guidance, to ensure a proportionate approach to reporting, minimising burdens on regulators and business.

Response

18. As announced in May 2023 in the *Smarter Regulation to Grow the Economy* paper, the government is today launching the *Regulation for Growth* consultation which includes updated statutory guidance relating to how regulators deliver their growth duties. As part of this, the government is considering whether to require regulators to report against the Growth Duty and will appraise the format of any future Growth Duty reporting requirements within the upcoming consultation on the Growth Duty statutory guidance.

19. The government agrees that flexibility and proportionality will be important considerations when considering reporting requirements. The government recognises that it could be advantageous to establish a system that encourages all regulators to pursue and exhibit best practice behaviours, and a degree of commonality of format might aid transparency and intelligibility for interested stakeholders including Parliament and the public.

20. The government is consulting on whether statutory reporting on the performance of the Growth Duty should be commenced or whether alternative arrangements for reporting with regulators might be preferred. In deciding the best approach, the government will want to understand what works for regulators, whilst also wanting sufficient commitment from regulators to deliver on the aim, as recognised in the Review, that reporting will provide regulators with an opportunity to evidence pro-growth activity, aiding transparency and confidence in regulatory decisions overall.

Recommendation 2b – Growth Duty guidance

To ensure the relevant guidance underpinning the Growth Duty is up to date and effective, we recommend the guidance explicitly mentions the most relevant drivers of growth and includes a set of principles to ensure that regulators and industry have clarity on expectations.

Response

21. The government welcomes this recommendation and agrees with the points made by the Review on this issue. The government is today consulting on updated statutory guidance for the Growth Duty which incorporates the findings from the Review.

22. In particular, the government accepts the Review’s findings that the statutory guidance should be broadened to better consider pro-innovation regulation. ‘Innovation’ is included as a Driver of Growth, and ‘Pro-innovation’ is included as a Behaviour of Smarter

Regulation in the statutory guidance – this reflects the central importance of innovation to good regulation. Furthermore, the Review’s additional principles on pro-innovation regulation are included in the guidance.

23. When done well and in collaboration with business, regulation can catalyse economic growth and the co -creation of new markets. Development of the updated statutory guidance will ensure that the principles-based, and outcomes-based logic established by the Review will be central to the draft guidance upon which the consultation will be conducted.

Recommendation 2c – statements on risk appetite

To support regulators in taking a balanced and evidence-based approach to risk, the government should articulate in advance clear views of acceptable levels of risk for different types of risk and in different sectors.

Response

24. Strategic Policy Statements can help calibrate a regulator’s view on risk, whilst accepting that the regulator maintains its statutory responsibilities. *Smarter regulation to grow the economy* (May 2023) set out the government’s intention to use Strategic Policy Statements to guide regulators to be more pro-innovation, pro-investment, and pro-growth. In future Strategic Policy Statements (or similar documents such as regulator remit letters), issued by the government will consider including greater clarity about acceptable levels of risk.

25. The government are aware that among other things, concerns have been raised about the performance of, and risk tolerance of the independent regulators. Addressing these issues is a core pillar of Smarter Regulation, alongside addressing the stock of existing regulation and putting downward pressure on regulatory creation. To effectively respond to this challenge and deliver meaningful change, a comprehensive evidence base is needed that collates evidence on precisely how the regulatory landscape is impacting businesses, consumers, and regulators. Therefore, the government have already begun conducting a call for evidence to understand what works well and what could be improved in how regulators operate to deliver for the sectors they serve (further detail of this is included in the response to recommendation 2d).

26. To be impactful, Strategic Policy Statements will need to be underpinned by the development of suitable regulatory cultures. Supporting innovation will in most cases entail regulators adopting a proportionate approach to risk and taking appropriate account of benefits. The RHC’s *Closing the Gap*, published in 2022, offers guidance to support the UK’s regulators to responsibly place proportionality at the heart of their approach, considering the benefits of a product, alongside a nuanced consideration of the risk of harm. The RHC is running a series of projects with regulators, and other stakeholders, building on the recommendations of the *Closing the Gap* report.

Recommendation 2d – regulator requests for guidance on risk

In conjunction with recommendation 2c, the government should facilitate an ‘evidence gathering pilot’ whereby regulators may seek clarification from the government on balancing strategic risks, if needed.

Response

27. It is natural in the normal course of government that regulators have regular dialogue with sponsoring departments’ ministers and officials. This routine engagement allows an exchange of views on matters of strategy and risk, without prejudicing the independence of the regulator. The Review presents the question of whether a more formal mechanism would be helpful.

28. The government understands that regulators did not present the Review with clear cases of where they would have used the proposed mechanism had it existed previously. However, this is understandable given the short time period for this part of the Review.

29. Stakeholder feedback and views are essential to driving the Smarter Regulation programme forwards. When delivered effectively, regulation and the work of regulators plays a vital role in protecting consumers, the environment and setting the right frameworks for businesses to thrive. As part of its Smarter Regulation programme, and as part of the response to recommendation 2c, the government have commenced a call for evidence on the regulatory landscape. Within this, regulators are asked to provide the government with information on specific areas including, but not limited to; where regulators may find further steer or guidance helpful to deliver better outcomes, complexity and ease of understanding the regulatory system, regulator agility responsiveness and skills, proportionality of regulatory implementation, and the process and governance of regulators. We will reflect on responses to the call for evidence and will remain open to hearing of use cases where this would have changed outcomes.

Recommendation 2e – Smart data

The government should make full use of the opportunities provided by the Data Protection and Digital Information (No 2) Bill to implement Smart Data schemes, by collaborating with regulators in priority sectors where a scheme has high potential to empower consumers and turbo-charge competition.

Response

30. The government agrees that Smart Data has enormous potential to improve consumer outcomes and to increase competition across the economy. We launched a Smart Data Council in April 2023, bringing key regulators, government departments, industry, and consumer groups together, in order to find ways to extend the benefits of Smart Data to new sectors. The work of the Smart Data Council will be key in supporting government and regulators to work together to develop interoperable and coordinated Smart Data schemes.

31. The government recognises the need to accelerate progress towards Smart Data schemes in priority sectors, in collaboration with regulators. At Autumn Statement we are kickstarting a Smart Data Big Bang by exploring potential in seven sectors. We will therefore

publish a Roadmap in early 2024 with our vision for the Smart Data ecosystem. This Roadmap will set out how we will explore the potential for Smart Data schemes within energy, finance, banking, retail, telecoms, transport and homebuying sectors. This builds on recent government commitments towards moving Open Banking to a long-term regulatory framework, and for establishing an open data scheme for fuel prices.

Part 3: Ensuring regulators can access the right skills and resources

Recommendation 3a – regulators’ pay and conditions

The government could support regulators to develop the specialist skills necessary to regulate emerging technology. This could include granting regulators greater flexibility to develop a cadre of technical experts and determine the right pay and conditions to attract talented individuals.

Response

32. The government agrees in principle with this recommendation, noting further work would be required to explore and implement any changes. We will ensure that any changes are consistent with our wider approach to public sector pay, where we seek to recruit and retain the right people to manage vital public services while ensuring that pay is sustainable and offers value for money to the taxpayer.

33. The government recognises that regulators compete within the regulatory ecosystem and with wider industry to access staff with specialist skills. This is particularly acute in areas identified by the Review, such as data scientists. In this context, the government will do further work to explore options to better enable regulators to recruit and retain the talent they need, potentially modelled on pay and conditions flexibilities that are available in the DDAT profession (Digital, Data and Technology) in government departments. As part of this further work, we will seek views from industry, academia and regulators themselves in the call for evidence on the regulatory landscape to support the development of interventions to support the development of specialist skills in regulators.

34. The Government Science and Engineering (GSE) Profession is also exploring options to increase skills retention, skills capability and attraction through appropriate reward options. This includes options to explore the development of a profession-wide best practice reward framework, with a diverse range of critical roles/skills in scope. Implementation sits with Departments, and they will be encouraged to use the best practice framework for their core and partner organisations, including by engaging relevant eligible regulators within their purview to understand needs and opportunities.

Recommendation 3b – regulator secondments

The government should facilitate secondments between government departments, regulators, academia and industry on a systematic basis, notably by working with bodies such as UKRI and the Whitehall and Industry Group and drawing on available good practice.

Response

35. The government agrees and accepts this recommendation. Increasing the number of secondments will help to promote innovative ways of working and could help to meet skills shortages. However, there is a wider context where regulators are facing challenges recruiting people with the required skills (such as data scientists) to foster innovative approaches, and then retaining them.

36. STEM Futures, which is run by the Government Science and Engineering (GSE) Profession, is a partnership of organisations across the public sector (including regulators), industry and academia. The scheme enables cross-sector opportunities including shadowing, mentoring and secondments to promote and exchange STEM knowledge. Work is currently underway to expand the number of organisations involved and technical areas covered by the scheme.

37. DSIT launched its Expert Exchange Programme in spring 2023. Starting with secondments for experts from industry and academia, the Expert Exchange is overhauling the way DSIT works with the science and technology sectors to bring cutting-edge expertise into the heart of government and facilitate a deepened Civil Service understanding of the sectors and industries we serve.

38. The UK Regulators Network (UKRN) is currently developing a pilot 'Jobs Board' on behalf of their 14 regulatory members. This board will work to provide a single location for externally advertised regulatory roles with the specialised and in-demand skills needed, and enable easy access for external interested individuals. The job board addresses a recruitment and retention challenge faced by regulators, as their current recruitment advertising is dispersed across a wide range of sites that reflect the various institutional forms of each regulator. By combining the advertisements for regulatory jobs, secondments and other forms of employment into a single location, UKRN will enable the easier facilitation of cross departmental, academic, regulator, and industry work.

39. The UKRN is simultaneously developing an early careers site targeting those in further education and in industry looking for a potential career change. The site will promote the work of the regulators, and spotlight regulation as a career/profession. The intent of this work is to build a pipeline of new talent to help regulators compete for talent with private industry. The site will also work to raise awareness of secondments into and between member regulators, and to provide an outline of the opportunities available within member regulators.

40. The Department of Business and Trade will work with UKRN to support their initiatives to improve recruitment, retention and skills mix in regulators. We expect this to include:

1. Expanding the UKRN Job Board to include all UK regulators, thereby increasing the facilitation of cross departmental, academic, regulator and industry secondments and employment.
2. Enhancing the UKRN the Jobs Board to include details on routes to employment in regulators (secondments, internships, graduate schemes etc) and case studies.
3. Supporting the work of the UKRN in reinforcing the expertise of the regulatory profession through training and continuing professional development, and linking this offer back into an enhanced offer to those seeking a career in regulation.
4. Supporting a UKRN review of a cross government, regulatory, academic, and industry secondment process that would facilitate the sharing of skills across the different regulators.



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