

Briefing for the Science and Technology Committee: Advanced Research Projects Agency

Scope of briefing

- 1 The House of Commons' Science and Technology Committee has launched an inquiry into the nature and purpose of the proposed new funding agency for UK research, the Advanced Research Projects Agency.
- 2 To support the inquiry this note draws upon the National Audit Office's work examining the use made of taxpayers' money by public bodies. It sets out the basic principles established by HM Treasury governing the creation of new bodies and some of the questions that we regularly ask when assessing whether an organisation is set up to deliver value for money.
- 3 To foster innovation the government may want ARPA to be different to previous government innovation programmes, with greater freedom given to managers to take decisions and a recognition that success may not be guaranteed. We encourage the government, in consultation with Parliament, to consider from the outset what would constitute value for money in this context, how the organisation should be held to account, and to what standards. We would be happy to support that discussion.

Government proposals for the Advanced Research Projects Agency

- 4 In March 2020, the government announced its plans to establish a new organisation, the Advanced Research Projects Agency (ARPA).¹ This forms part of the government's push to 'support world leading research in the regions and the nations'. ARPA is described by the government as a 'new blue skies funding agency' and is intended to operate with reduced bureaucracy and innovative funding mechanisms.² The government has said that it would invest at least £800 million in this new body.³

Government guidance governing the establishment of a new body

- 5 In establishing ARPA the sponsoring department will need to have regard to the framework for establishing new public bodies. HM Treasury's *Managing Public Money* sets out guidance to central government on how to manage public funds.⁴ It includes guidance to sponsor departments on the establishment of a new arm's length body.

6 Key points for consideration raised in the guidance include:

- The functions of a new body should determine its form (agency, non-departmental public body, and so on).⁵
- A new body should have a specific purpose distinct from its parent department.
- There should be a clear advantage in establishing a new organisation – for example, separation of implementation and policy making, demonstrating the need for independent assessment, focusing on a professional skill, or introducing commercial discipline.

7 In establishing a new body, a department cannot

- give the new body authority to make decisions proper to ministers, nor to perform functions proper to sponsor departments; or
- relinquish all responsibility for the business of its arm's-length bodies by delegation.

8 The guidance also sets out expectations for oversight, stating the sponsor department should plan carefully to make sure that its oversight arrangements and the internal governance of any new arm's-length body are designed to work together harmoniously without unnecessary intrusion. The arm's-length body also needs effective internal controls and budgetary discipline so that it can live within its budget allocation and deliver its objectives.

9 Each organisation in central government – including arm's-length bodies – must have an accounting officer, usually the organisation's most senior official. This principle lies at the core of accountability of officials to Parliament for how public money is used. The responsibilities of accounting officers in departments and in arm's-length bodies are essentially similar. Formally the accounting officer is the person Parliament calls to account for stewardship of the organisation's resources. An accounting officer is expected make sure the organisation operates effectively and to a high standard of probity. *Managing Public Money* highlights some key areas where an accounting officer should take personal responsibility – such as ensuring the regularity and propriety of expenditure and its value for money.

Ensuring value for money

10 ARPA is intended to fund “visionary high risk, high reward science, engineering and technology”. In our view, it is not unique for public money to be spent on programmes where the pay-back may be highly uncertain and where ultimate success may not be known for some years, for example funding for international development projects which may have to operate in difficult and dangerous environments; programmes supporting seed corn investment for start-up businesses; and existing government support for the whole gamut of research and innovation activities.

11 The detailed proposals for the new ARPA are not yet known. We encourage government to consider from the outset what value for money would look like for the new organisation. Based on our experience, we would normally look for:

- a clear statement of the ultimate policy objectives – readily understandable to those charged with running the organisation and to those holding the organisation to account;
- a statement of what success will look like into the future – short, medium and longer term – which is particularly important for programmes where ultimate success may take years to realise;
- a roadmap which sets out the steps to deliver success along with a realistic assessment of the resources required and their timing – our work frequently points to a risk of optimism bias at the start of new programmes;
- a clear agreed sense of how risk should be managed, including the organisation’s and sponsoring department’s appetite to tolerate failure in pursuit of the objectives; and
- an agreed approach to considering progress towards meeting the objectives.

12 In the Annex to this paper we have drawn further from our back catalogue to identify lessons from our work looking at government’s approach to innovation and to the oversight of long-term programmes and investments.

13 We are also currently undertaking a value for money review of UKRI’s management of the Industrial Strategy Challenge Fund. The Fund is central to government’s commitment to increase funding in research and development over the next four years. It is investing in what it describes as ‘highly-innovative businesses to address the biggest industrial and societal challenges today’. We expect to publish a report to Parliament at the turn of the year.

Balancing independence with control

14 One of the biggest challenges in setting up any new public body is getting the balance between independence and control right. This will be an importance consideration is establishing ARPA. Previous NAO reports have commented on departments’ oversight of arm’s length bodies and on approaches to accountability more generally.

15 In our 2016 report on the oversight of arms-length bodies we concluded:

“Getting the best from arm’s-length bodies means balancing assurance and control with an appropriate degree of independence consistent with an arm’s-length body’s function, for example freedom to form impartial judgements and apply technical or operational expertise. This is, in itself, not an easy balance to strike. But there are other contextual pressures on departments, such as the need to reduce costs, which may encourage departments to make decisions that are based on factors other than balancing necessary independence and control. And if independence reduces too far, the benefits which arm’s-length bodies are intended to bring might be restricted, and the very point of having an arm’s-length body compromised. Effective and proportionate oversight arrangements are therefore critical in enabling arm’s-length bodies to deliver value for money.”

16 This report also identified a set of principles for effective oversight of arm's-length bodies.

- Clarity of purpose and an appropriate form and structure to reflect that purpose.
- Clear alignment of objectives between single departmental plans, through framework documents and performance frameworks, to those of arm's-length bodies; these objectives should be central to oversight arrangements.
- A balanced approach that focuses effort on the wider risks to achieving departmental and arm's-length body objectives as well as financial risk.
- A proportionate and transparent approach to oversight based on the role and purpose of the arm's-length body, their contribution to departmental objectives, a thorough understanding of risk, and a consideration of the arm's-length body's capability to manage this.
- Streamlined processes that avoid overlap with the arm's-length body's own governance arrangements, do not duplicate requests and recognise the costs of reporting arrangements for arm's-length bodies.
- Opportunities maximised to provide greater value by involving arm's-length bodies in policy development and operational decision-making where relevant, identifying where targeted support is most in demand and facilitating targeted links between arm's-length bodies to exploit their skills and knowledge, and leveraging the experience and expertise of non-executive directors.

17 Depending on the nature and focus of any review we completed on an arm's-length body, we would look to report on the extent of adherence to these principles in practice. Our work in this area has identified weaknesses in, amongst other things, the oversight of financial and non-financial performance, an absence of or weaknesses in evaluations, and the lack of a perspective on the progress and performance of the portfolio of programmes.

Annex: Lessons drawn from previous NAO reports

On fostering innovation in government

18 Our work on innovation across government has looked at the factors which lead to organisations being well placed to support innovation. While this work has focused on innovation within public bodies rather than sponsoring successful innovation some of the principles are likely to be still relevant. Our 2009 report on innovation identified the following attributes:⁶

- Leaders have a good understanding about, and communicate, what innovation means in relation to the organisation's objectives.
- Individual and organisational targets and objectives create incentives that focus leaders and staff throughout the organisation on continuous innovation and which are outcome based (as opposed to prescribing how they do their jobs) so as to give flexibility in allowing for innovative responses.
- Staff are given the time and resources to develop innovative ideas and available funding is used to support innovations being tested, piloted and built upon.
- Innovations are delivered effectively – for example, making sure risks are well managed, that signs of failure are acted on quickly.
- Measures of success are in place for individual innovations and there are mechanisms for learning lessons from both success and failure.
- There are systems in place for disseminating what works, to other parts of the organisation and to other organisations, and for adopting innovative ideas developed elsewhere. These are underpinned by budgets, senior management direction and incentives.

On research and development

19 In our report *Cross-government funding for research and development* we developed a set of principles which brought together the features of well-coordinated funding of research and development. – leadership and coordination, priority setting, informed decision making, and evaluation.

20 Amongst other things we identified examples of well-coordinated research and development, some areas of science lacked sufficiently developed leadership. We also emphasised the need for effective coordination of research and development – requiring the involvement of the right participants, clarity around their objectives, production of tangible outputs, clear roles and responsibilities and effective incentives for staying involved.

On oversight of long term programmes

21 Our value for money work frequently looks at departments' oversight of long-term programmes. This work highlights the challenges to securing value for money in these circumstances, examples of which are set out below.

- Our report *The Nuclear Decommissioning Authority: progress with reducing risk at Sellafield* highlighted the challenges in reconciling annual assessments of performance with the longer term milestones.⁷ We also found that the organisations involved in this programme had no clear or shared understanding of what constitutes value for money in nuclear decommissioning and, in particular, how the balance should be struck between near-term affordability and long-term value for money considerations.
- In our report *The Equipment Plan 2019 to 2029* we examined the Ministry of Defence's approach to assessing the affordability of its Equipment Plan 2019–2029 (the Plan summarises the Ministry of Defence's investment programme over a 10 year period because of the long term nature of large, complex defence programmes.⁸ Amongst other things we concluded that the Ministry of Defence needed to make decisions to develop an affordable long term Plan, as its focus on short-term financial management was risking longer-term value for money.
- Our report *Progress with the Road Investment Strategy* examined, amongst other things, the approach taken by the Department for Transport and Highways England to drawing up the Road Investment Strategy in a structured way, with clear objectives and a focus on long term value for money.⁹ We concluded that, while the Strategy represented a significant improvement in efficient management of the strategic road network, the speed with which it was put together created risks to deliverability, affordability and value for money.
- Our report *Venture capital support to small businesses* looked at the (then) Department for Business, Innovation and Skills' (the Department's) financial support through venture capital funds aimed at supporting small businesses seeking equity investment.¹⁰ The funds were administered by private sector fund managers who were responsible for making investment decisions, offering businesses in receipt of funding the technical and managerial expertise needed to help them grow and for managing the portfolio of investments over the cycle of the fund's life. The success of the fund, and the returns from it, were typically expected in the longer term. We found that some businesses had clearly benefited from the support. However, at the start of the programme the Department had not established a robust framework of objectives, and associated baselines, to enable it to judge whether the taxpayers' investment offered value for money. The Department had set multiple aims for each fund but these had not been translated into clear measurable objectives or prioritised.

Endnotes

- 1 Budget 2020. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/871802/Budget_2020_Print.pdf. Page 60 set out the proposal for a new body.
- 2 UK Research and Development Roadmap (July 2020). Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/896799/UK_Research_and_Development_Roadmap.pdf.
- 3 The Budget did not set out what this funding covers.
- 4 Managing Public Money (updated September 2019). Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/835558/Managing_Public_Money_MPM_with_annexes_2019.pdf.
- 5 Annex 7.1 of *Managing Public Money* provides detailed guidance on this matter to help a department determine what form a body might take in particular circumstances.
- 6 C&AG's report *Innovation across central government* (March 2009). Available at: www.nao.org.uk/wp-content/uploads/2009/03/080912.pdf.
- 7 C&AG's report *The Nuclear Decommissioning Authority: progress with reducing risk at Sellafield* (June 2018). Available at: www.nao.org.uk/wp-content/uploads/2018/06/The-Nuclear-Decommissioning-Authority-progress-with-reducing-risk-at-Sellafield.pdf.
- 8 C&AG's report *The Equipment Plan 2019 to 2029* (February 2020). Available at: www.nao.org.uk/wp-content/uploads/2020/02/The-Equipment-Plan-2019-to-2029.pdf.
- 9 C&AG's report *Progress with the Road Investment Strategy* (March 2017). Available at: www.nao.org.uk/wp-content/uploads/2017/03/Progress-with-the-Road-Investment-Strategy.pdf.
- 10 C&AG's report *Venture capital support to small businesses*. Available at: www.nao.org.uk/wp-content/uploads/2009/12/091023.pdf.

Where to find out more

The National Audit Office (NAO) scrutinises public spending for Parliament and is independent of government and the civil service. We help Parliament hold government to account and we use our insights to help people who manage and govern public bodies improve public services.

You can find our reports on our website: www.nao.org.uk

These include good practice guidance and lessons learned reports that bring together what we know on important recurring issues to make it easier for others to understand and apply the lessons from our work.

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