

(Written evidence submitted by Professor Mariana Mazzucato (IPO0075))

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Summary: A new approach to industrial policy

1. Since its inception in 2017, the UCL Institute for Innovation and Public Purpose (IIPP) has advocated for a new 21st-century approach to industrial policy, one that puts public value creation at the heart of policymaking and emphasises the need for governments to shape and co-create markets, not just fix them.
2. Broadly speaking, industrial policy can be understood as government policy or targeted intervention that intends to alter the structure of economic activity toward sectors, technologies or goals that are deemed desirable for economic growth or societal welfare. This may lead to the transformation, promotion or winding down of some sectors. Industrial strategies often combine different measures.
3. In the past, industrial policy has focused on specific sectors or technologies (“picking winners”). **Modern industrial policy should instead be oriented around bold goals that will catalyse innovation and investment across multiple sectors.** These goals, or “missions”, should be aligned with critical policy priorities, in areas such as health, climate, housing and digital inclusion, enabling the government to direct innovation, investment and ultimately growth towards goals that matter to people and planet. This new approach to industrial strategy recognises that decisions about how to foster growth and shape economies cannot be separated from social, environmental, and health priorities. **The direction of growth matters.**^{1 2}
4. Importantly, industrial policy marks a clear break from the prevailing New Public Management (NPM) approach that sees the state as having a limited role, fixing rather than shaping markets, and with little active role in innovation or directing growth.

Current context

5. The competitiveness of the UK depends on the quality of the goods and services it produces. This is fundamentally linked to the technological, institutional and organisational innovations that transform production, distribution and consumption. Linking industrial policy measures to a system-wide transformation is therefore key.
6. The UK has a comparatively weak industrial base. Since the 1990s, the UK's manufacturing sector has experienced a more rapid decline in output compared to other European countries as well as the average of high-income countries. Whereas UK manufacturing value added represented around 16 per cent of GDP in the 1990s, it only accounts for 8 per cent today. Additionally, financial instruments such as public venture capital, loans and guarantees (excluding export finance and Covid-19 interventions) represented just 0.1% of the UK's GDP in 2021 – compared to an average of 0.7%, and over 1.5% in countries like France and Italy.³ The UK's strengths

¹ Mazzucato, Mariana (2021). Mission economy: A moonshot guide to changing capitalism. Allen Lane.

² Mazzucato, Mariana (2018). Mission-oriented innovation policies: challenges and opportunities. *Industrial and Corporate Change*, Volume 27, Issue 5, Pages 803–815, <https://doi.org/10.1093/icc/dty034>

lie primarily in its service sector – not just financial services, but professional services, design, the creative sector, education, and legal services⁴.

7. The UK has regressed on climate policies and is falling short of the ambitious goals of the Glasgow Climate Pact, for example, moving back the phase out date of petrol cars, approving a new coal mine, and supporting additional oil and gas exploration within the UK.
8. Additionally, the UK's response to significant international green industrial strategy initiatives, such as the US Inflation Reduction Act or the EU's Green Deal Industrial Plan, has been lacklustre. These initiatives are attracting green investments, emphasizing the urgency for the UK to reaffirm its commitment to climate leadership.
9. At the COP26 summit, the UK set ambitious goals for 2030 in its Nationally Determined Contribution (NDC), aiming for a minimum 68% reduction in territorial emissions compared to 1990 levels. To realize this goal, emissions reduction efforts outside the power sector need to accelerate nearly fourfold. However, ongoing delays in policy formulation and execution have made achieving the NDC targets increasingly difficult.⁵ **It is imperative for the UK to articulate a clear strategy focused on the achievement of its NDC goals that will catalyse a cross-sectoral transition towards net zero industries and technologies.**

Industrial policy around the world

10. In recent years, industrial policy has become increasingly popular with governments around the world as a tool to respond to grand challenges such as climate change, the COVID-19 pandemic, related supply chain issues and inflation, as well as geopolitical tensions. In the US, the Inflation Reduction Act, US CHIPS and Science Act and Infrastructure Investment and Jobs Act are playing a catalytic role in stimulating private investment. Similarly, the EU has implemented the EU Green Deal Industrial Plan and European Chips Act. These industrial policies aim not only to catalyse growth, but – to some extent – also seek to direct growth to shape economies that are greener, more inclusive, and more resilient. The UK cannot afford to lag behind, or to engage in piecemeal industrial policy.⁶ **It needs an ambitious, joined-up industrial strategy with a clear vision to compete in the current global context.**⁷

³ Criscuolo, C., et al. (2023), "Quantifying industrial strategies across nine OECD countries", OECD Science, Technology and Industry Policy Papers, No. 150, OECD Publishing, Paris, <https://doi.org/10.1787/5f2dcc8e-en>.

⁴ Resolution Foundation. (2023). "Ending Stagnation A New Economic Strategy for Britain." Available at <https://economy2030.resolutionfoundation.org/wp-content/uploads/2023/12/Ending-stagnation-final-report.pdf>

⁵ The Climate Change Committee (2023). Progress in reducing emissions. 2023 Report to Parliament. <https://www.theccc.org.uk/wp-content/uploads/2023/06/Progress-in-reducing-UK-emissions-2023-Report-to-Parliament-1.pdf>

⁶ Mazzucato, M. (2023). Sunak's Tories, Starmer's Labour: Britain is stuck in a doom loop of failed economics. Here's the way out. The Guardian. <https://www.theguardian.com/commentisfree/2023/sep/18/economy-growth-sustainable-government-strategy>

⁷ Mazzucato, M. (2023). Innovation-driven inclusive and sustainable growth: challenges and opportunities for Brazil. UCL Institute for Innovation and Public Purpose, Policy Report 2023/06. Available at: https://www.ucl.ac.uk/bartlett/public-purpose/Brazil_Policy_Report/2023-06

New “economics of the common good”

11. **To realise the full potential of industrial policy, a new framing of the role of the state in directing growth and shaping markets is needed.** This contrasts with the more established view of the role of the state as, at best, fixing market failures. A sustainable and inclusive economy requires a renewed social contract; in particular, one that is premised on the state approaching public-private collaboration with a view to maximising public value, undergirded by a new “economics of the common good”. There are five principles that can help to shape the economics of the common good. The first, purpose and directionality, is about promoting outcomes-oriented policies that are in the common interest. The second, co-creation and participation, is about allowing citizens and stakeholders to participate in debate, discussion and consensus- building that bring different voices to the table. The third, collective learning and knowledge-sharing, can support true purpose-oriented partnerships that drive collective intelligence. The fourth, access for all and reward-sharing, speaks to the importance of sharing the benefits of innovation and investment with all the risk takers in the economy, whether through equity schemes, royalties, pricing or collective funds. The fifth, transparency and accountability, can ensure public legitimacy and engagement by enforcing commitments amongst all actors and by aligning evaluation mechanisms. To implement these principles in practice, governments must invest in their capacity to engage effectively with businesses and civil society.⁸
12. Setting a clear direction, through bold goals or “missions”, for industrial policy is important. Governing how the resulting innovation and investment is structured is equally important. **Conditionalities are key tool for governing innovation and investment in the interests of the common good, and for changing the behaviour of firms to ensure they are not privatising the gains secured through public investment.** Conditions can be embedded in the contracts that grant businesses access to public sector grants, loans and equity investments, and in the terms of tax benefits and other incentives, to ensure that these deals maximize public value. Conditionalities can prioritize:
 - Access: ensuring equitable and affordable access to the resulting products and services (dependent on areas like pricing and intellectual property rights)
 - Directionality: directing firms’ activities towards socially desirable goals (e.g., net zero)
 - Profit-sharing: requiring profitable firms to share returns (e.g. via royalties or equity with government)
 - Reinvestment: requiring reinvestment of profits into productive activities (e.g., R&D or worker training).⁹

Mission-oriented industrial policy

⁸ Mazzucato, M. (2023). Governing the economics of the common good: from correcting market failures to shaping collective goals. *Journal of Economic Policy Reform*, DOI: 10.1080/17487870.2023.2280969.

⁹ Mazzucato, M. and Rodrik, D. (2023). *Industrial Policy with Conditionalities: A Taxonomy and Sample Cases*. UCL Institute for Innovation and Public Purpose, Working Paper Series (IIPP WP 2023-07). Available at: <https://www.ucl.ac.uk/bartlett/public-purpose/wp2023-07>

13. Conventional approaches to industrial strategy involve both ‘horizontal’ policies that seek to improve conditions across the national economy, and ‘vertical’ policies that target interventions in specific areas.¹⁰ Mission-oriented industrial policy shifts the vertical dimension from a focus on sectors to a focus on problems that draw on many different sectors. Instead of ‘picking winners’, mission-oriented policy is about ‘picking the willing’.¹¹
14. Mission maps can help visualize the missions, sectors, and projects required to tackle grand challenges. See figure 1 below. Grand challenges are difficult but important, systemic, and society-wide problems that do not have obvious solutions. Missions are concrete goals that, if achieved, will help to tackle a grand challenge. They set a clear direction for the different actors and sectors whose investment, innovation, and effort is required to develop solutions. Sectors are the economic sectors that need to be involved in developing solutions to specific missions, generally in collaboration with one another. Projects are clearly articulated activities or programs that address part of the broader mission – for example, an R&D program focused on developing a new product, service, or process that could contribute to mission success.

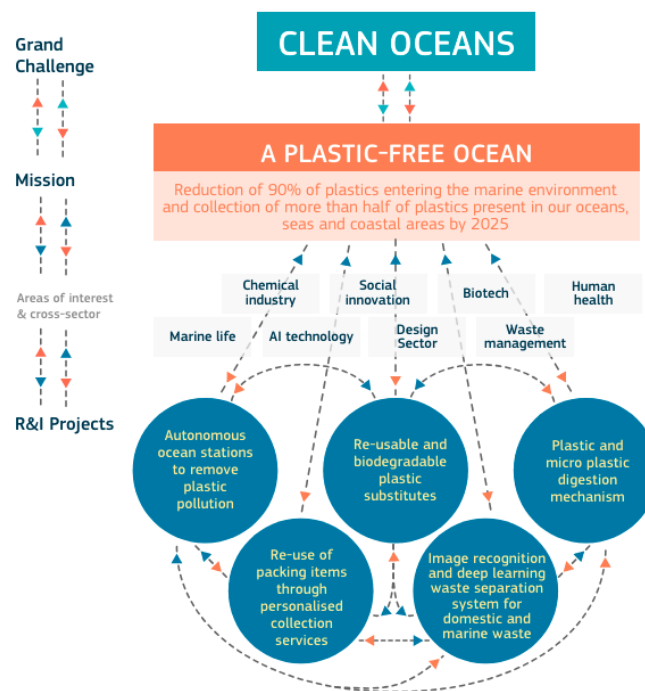


Figure 1 – Clean Oceans Mission Map.¹²

¹⁰ UCL Commission for Mission-Oriented Innovation and Industrial Strategy (MOIIS) co-chaired by Mazzucato, M. and Willetts, D. (2019). A Mission-Oriented UK Industrial Strategy. UCL Institute for Innovation and Public Purpose, Policy Report, (IIPP 2019-04). <https://www.ucl.ac.uk/bartlett/public-purpose/wp2019-04>

¹¹ Mazzucato, M. (2021). Mission economy: A moonshot guide to changing capitalism. Allen Lane.

¹² Mazzucato, M. (2018). Mission-oriented research and innovation in the European Union. <https://op.europa.eu/en/publication-detail/-/publication/5b2811d1-16be-11e8-9253-01aa75ed71a1/language-en>

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15. Growth should not be treated as the goal of economic policy, but rather as an outcome of well-designed missions. Missions can help steer innovation and investment in the direction of solving societal challenges, while also generating technological spill-overs, boosting productivity, creating jobs, and generating economic growth. Through a mission-oriented approach, the government can turn challenges into business opportunities and investment pathways. Through industrial policy measures, the UK government can make strategic interventions in the economy to drive competitiveness and, through market-opportunity creation, crowd different forms of finance (such as venture capital) into priority areas. Importantly, missions foster cross-sectoral collaboration, innovation and investment that is focused on solving problems; these are areas where the government has the levers to shape market opportunities that benefit business as well as people and the planet.^{13 14}
16. Missions can lead to a multiplier effect – with an initial public investment generating an amplified impact on GDP by crowding in private investment and innovation.¹⁵ Public investment should focus on generating additionality: incentivising investment that otherwise would not have occurred.^{16 17} Previous evidence has shown a greater multiplier for investments (that is, greater impact on GDP growth, from an initial level of public investment) guided by mission-oriented policies that respond to grand socio-economic and environmental challenges and engage different sectors across the economy (Deleidi and Mazzucato, 2019). Shifting from using a static multiplier to more dynamic evaluation methodologies can help governments capture the spillovers generated by and multiplicative effects of mission-oriented public investment.¹⁸
17. A mission-oriented approach is not a top-down process. It requires fostering dynamic engagement across society and across sectors to nurture multiple, bottom-up solutions to solving big challenges.

The Ox/AZ vaccine: an example

18. The creation of COVID-19 vaccines offers a good example of how an ambitious goal can catalyse investment and innovation, leading to economic as well as public health gains. In the UK, the success of the Ox/AZ vaccine, developed within a year, was possible through the contributions of scientists, venture capitalists, manufacturing

¹³ Mazzucato, M. (2021) *Mission Economy: a moonshot guide to changing capitalism*. London: Allen Lane.

¹⁴ Mazzucato, M. (2019). *Governing Missions in the European Union*. European Commission, Directorate-General for Research and Innovation. Available at: https://ec.europa.eu/info/sites/info/files/research_and_innovation/contact/documents/ec_rtd_mazzucato-report-issue2_072019.pdf

¹⁵ Deleidi, M., De Lipsis, V., Mazzucato, M., Ryan-Collins, J. and Agnolucci, P. (2019). *The macroeconomic impact of government innovation policies: A quantitative assessment*. UCL Institute for Innovation and Public Purpose, Policy Report (IIPP 2019-06). <https://www.ucl.ac.uk/bartlett/public-purpose/wp2019-06>

¹⁶ Mazzucato, M. (2023). *Financing the Sustainable Development Goals through mission-oriented development banks*. UN DESA Policy Brief Special issue. New York: UN Department of Economic and Social Affairs.

¹⁷ UN High-level Advisory Board on Economic and Social Affairs; University College London Institute for Innovation and Public Purpose. September. Available at: <https://www.ucl.ac.uk/bartlett/public-purpose/publications/2023/sep/financing-sustainable-development-goals-through-mission-oriented-development-0>

¹⁸ UCL IIPP (2020). *Alternative Policy Evaluation Frameworks and Tools*. BEIS Research Paper Number 2020/044. https://www.ucl.ac.uk/bartlett/public-purpose/sites/public-purpose/files/iipp-beis-alternative_policy_evaluation_frameworks_and_tools_oct_2020_final.pdf

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experts, regulators, civil servants, and volunteers, each playing a pivotal role at various points in the supply chain. This example underscores the effectiveness of a mission-oriented approach in mobilizing the capabilities of the public, private, and third sectors, and in bringing key policy tools – including public procurement, R&D investments, public finance, regulation, etc. – into alignment with the mission goal. A case study by the Industrial Strategy Council reveals that government involvement was instrumental at every phase of the Ox/AZ vaccine supply chain.¹⁹ Importantly, the Ox/AZ vaccine (in contrast to other COVID-19 vaccines) was also designed with clear conditions on public investments to ensure access and affordability.^{20 21}

Tools, Institutions and Capabilities

19. To implement a mission-oriented approach to industrial strategy in practice, governments must invest in redesigned tools such as procurement and institutions such as public development banks, and in dynamic capabilities. **Mission-oriented industrial strategy constitutes a radical shift, and requires a commensurate state transformation.**²²
20. Public procurement, which represents 12% of GDP in OECD countries, is an effective tool for shaping markets that align with mission-oriented industrial strategy. The UK government spent £306 billion on procuring goods and services in 2020/21.²³ There is a significant opportunity to leverage this spending to create a market pull for innovation and investment that aligns with mission goals. Mission-oriented procurement requires a broader notion of *public value* - which goes beyond the more accepted *social value* framework.²⁴ This would mean that, rather than providing a static analysis at a single point in time, commissioners would take into account the potential for different providers to contribute towards long term mission goals, and aim to proactively shape the market in that direction. Green public procurement can be seen as a special case of mission-oriented stimulus, whereby public organisations expand markets for sustainable products.
21. Patient public finance is critical to successful industrial policy. In addition to government spending through budget and fiscal reviews, patient public finance can also stem from sovereign wealth funds and development banks.^{25,26} The governance

¹⁹ Balawejder, F., Sampson, S., and Stratton, T., (2021). Lessons for industrial policy from development of the Oxford/AstraZeneca Covid-19 vaccine. Industrial Strategy Council Research Paper.

<https://industrialstrategyCouncil.org/sites/default/files/attachments/Covid-19%20vaccine%20-%20lessons%20for%20the%20IS.pdf>

²⁰ Mazzucato, Mariana. (2023). Unlocking Health Technology's Potential for All. Project Syndicate. <https://www.project-syndicate.org/commentary/health-technology-mrna-governance-conditions-to-serve-common-good-by-mariana-mazzucato-2023-10?barrier=accesspaylog>

²¹ WHO Council on the Economics of Health for All (2023). Final report: transforming economies to deliver what matters. Geneva: World Health Organization. Available at: <https://www.who.int/publications/m/item/health-for-all--transforming-economies-to-deliver-what-matters>

²² Mazzucato, M. (2022). Transformational change in Latin America and the Caribbean: a mission-oriented approach (LC/TS.2022/150), Santiago, Economic Commission for Latin America and the Caribbean (ECLAC). Available at: <https://www.cepal.org/en/publications/48299-transformational-change-latin-america-and-caribbean-mission-oriented-approach>

²³ House of Commons Library (2023). Procurement Statistics: A Short Guide.

²⁴ Mazzucato, M and Wainwright, D. (2024). Mission-led procurement and market shaping: lessons from Camden Council. UCL Institute for Innovation and Public Purpose. Forthcoming.

²⁵ Mazzucato, M. and Macfarlane, L. (2019). A mission-oriented framework for the Scottish National Investment Bank. UCL

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frameworks guiding these public financial institutions typically insulate them from the pressures of generating immediate returns. This unique position enables them to commit resources to long-term, transformative endeavours, offering a vital source of capital for projects that necessitate extended timelines to mature and yield benefits. A mission-oriented, long-term lens can be applied to public financial institutions at all levels of government, turning governments into investors of first resort rather than lenders of last resort. One local level example is Camden's new Community Wealth Fund, which IIPP informed.²⁷

22. Successful execution of mission-oriented industrial policy will require investment and reform within the civil service to bolster the state's capacity coordinate across ministries and to actively and confidently shape markets and direct growth. Industrial policy measures must be guided by a new understanding of the role of the state in driving broad-scale economic transformation, and by investments in the dynamic capabilities required to implement this transformation.^{28,29} This requires a shift away from austerity measures, and away from an over-reliance on large consulting firms, which undercut the capacity of the civil service to solve problems and drive ambitious policy agendas forward.³⁰

About Professor Mariana Mazzucato

[Mariana Mazzucato](#) is Professor in the Economics of Innovation and Public Value at University College London, where she is Founding Director of the UCL [Institute for Innovation and Public Purpose](#) (IIPP). Her previous posts include the RM Phillips Professorial Chair at the Science Policy Research Unit at Sussex University.

She is winner of international prizes including the [Grande Ufficiale Ordine al Merito della Repubblica Italiana](#) in 2021, Italy's highest civilian honour, the [2020 John von Neumann Award](#), the 2019 [All European Academies Madame de Staël Prize for Cultural Values](#), and the 2018 [Leontief Prize for Advancing the Frontiers of Economic Thought](#). Most recently, Pope Francis appointed her to the Pontifical Academy for Life for bringing 'more humanity' to the world.

As well as [The Entrepreneurial State: debunking public vs. private sector myths](#) (2013), she is the author of [The Value of Everything: making and taking in the global](#)

Institute for Innovation and Public Purpose, Policy Paper (IIPP 2019-02). Available at:

<https://www.ucl.ac.uk/bartlett/public-purpose/wp2019-02>

²⁶ Mazzucato, M. and Macfarlane, L. (2023). Mission-oriented development banks: the case of KfW and BNDES. UCL Institute for Innovation and Public Purpose, Working Paper Series (IIPP WP 2023-13). Available at:

<https://www.ucl.ac.uk/bartlett/public-purpose/wp2023-13>

²⁷ Mazzucato, M., Macfarlane, L., Mikheeva, O., Bellinson, R. (2022). A mission-oriented community wealth fund for Camden. UCL Institute for Innovation and Public Purpose, IIPP Policy Report No.2022/03. Available at:

<https://www.ucl.ac.uk/bartlett/public-purpose/2022-03>

²⁸ Kattel, R. and Mazzucato, M. (2018). Mission-oriented innovation policy and dynamic capabilities in the public sector. *Industrial and Corporate Change*, 27 (5): 787–801.

²⁹ Mazzucato, M. and Kattel, R. (2020). COVID-19 and public-sector capacity. *Oxford Review of Economic Policy*, 36(1): 256–269.

³⁰ Mazzucato, M., and Collington, R. (2023). *The Big Con: How the Consulting Industry Weakens Our Businesses, Infantilizes Our Governments, and Warps Our Economies*. London: Penguin Allen Lane; New York, NY: Penguin Press.

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[economy](#) (2018), [Mission Economy: a moonshot guide to changing capitalism](#) (2021) and [The Big Con: How the Consulting Industry Weakens our Businesses, Infantilizes our Governments and Warps our Economies](#) (2023).

She advises policy makers around the world on innovation-led inclusive and sustainable growth. Her roles have included for example Chair of the [World Health Organization's Council on the Economics of Health for All](#), Co-Chair of the [Global Commission on the Economics of Water](#), Co-Chair on the [Council on Urban Initiatives](#), and a member of the [South African President's Economic Advisory Council](#). Previously, through her role as Special Advisor for the EC Commissioner for Research, Science and Innovation (2017-2019), she authored the high-impact report on [Mission-Oriented Research and Innovation in the European Union](#), turning “missions” into a crucial new instrument in the European Commission's Horizon innovation programme, and more recently, authored a report with the [UN's Economic Commission for Latin America and the Caribbean \(ECLAC\)](#) on [Transformational Change in Latin America and the Caribbean: A mission-oriented approach](#).

About the Institute for Innovation and Public Purpose

[The Institute for Innovation and Public Purpose \(IIPP\) at University College London \(UCL\)](#) aims to develop a new framework for creating, nurturing and evaluating public value in order to achieve economic growth that is more innovation-led, inclusive and sustainable. This requires rethinking the underlying economics that has informed the education of global civil servants and the design of government policies. Our work feeds into innovation and industrial policy, financial reform, institutional change and sustainable development. A key pillar of IIPP's research is its understanding of markets as outcomes of the interactions between different actors. In this context, public policy should not be seen as simply fixing market failures, but also as actively shaping and co-creating markets. Re-focusing and designing public organisations around mission-led, public purpose aims will help tackle the grand challenges facing the 21st century.

IIPP is a department within UCL - and part of The Bartlett, which consistently ranks in the top two faculties for architecture and the built environment in the world.