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Debate

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A Call for Radical Reform: Higher Education for a Sustainable Economy

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About the author

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Acknowledgements

This publication originated from a series of talks I gave during February and March 2025 as part of a Visiting Fellowship at the Department for Continuing Education and Harris Manchester College, University of Oxford. I am indebted to Professor Matthew Weait for arranging the visit, to colleagues in the Department for their interest and collegiality and to Professor Jane Shaw and Kate Wilson for their hospitality at Harris Manchester. Attendees at the talks provided valuable feedback and insights. Paradoxically perhaps given Oxford's elitist reputation, it was a stimulating place to work on these ideas. Oxford is more inclusive than often assumed, with the Department for Continuing Education contributing in no small measure to the University's openness to people and ideas. I am also grateful to Nick Hillman for his encouragement, to the HEPI Trustees and Advisory Board whose comments on the original draft have helped improve this revised version and to colleagues at The Open University whose belief in its mission was an inspiration during the ten years I had the privilege of working with them. The graphs on page 8 are re-used in accordance with NOAA Climate.gov's content re-use policy; this does not imply NOAA endorsement of any of the content of this publication. The end result is the author's responsibility alone.

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Executive summary

Transitioning to a sustainable economy is the biggest challenge that faces public policy both in the UK and worldwide. Global warming, degrading assets, mounting debt and dis / misinformation are combining as a perfect storm for industry and government.[1] Higher education is the most important resource we have to achieve the transition to a sustainable economy and tackle misinformation with clear standards of what constitutes knowledge. These two inter-related aims need to comprise the higher education sector's single most important mission, but things need to change. Concerted government intervention will be needed to achieve the necessary reform, given lessons from past policy failures.

The UK's public sector net debt stands at almost 100 per cent of GDP and without policy change is projected to reach over 270 per cent by the mid-2070s.[2] We need to maintain essential natural and societal assets without burdening the next generation with more debt spending less on consumption. Higher education is an essential asset in which debt for investment has a critical part to play, funding the future enhancements that education and research can achieve. However, a considerable part of higher education is consumption and not investment. We should avoid this adding to debt and decide carefully how much can be funded from current income when there are other pressing demands on spending.

A lot of higher education consumption is passing on knowledge, on the basis that this is information and not misinformation, and in particular passing on the critical skills to tell the difference. Higher education must engage more forcefully with misinformation, instilling core academic standards of rigour, clarity, respect for evidence and openness to criticism into wider public, political and media arenas through what its academics practise and its students learn and put into practice. Universal access to higher education can build this knowledge commons of not just 'knowing what' and 'knowing how' but 'knowing why'. Yet there are now serious questions being asked about whether too much higher education is being consumed because the volume of knowledge passed on at any particular time is too large, the content is not 'useful' or the mode of provision adds unnecessary cost.

Given one of the most significant divides in our society is between those with and without higher education and that our economy and society are changing ever faster and have increasing complexity, the answers to these questions cannot involve excluding half or more of the population from higher education. The situation needs an expansion of higher education to universal participation, which means consuming it very differently and borrowing only for future enhancements that the next generation will value as they will be paying for them. It is the next generation that faces the possibly existential consequences of global warming and asset depletion, so the enhancements need above all to be about a sustainable economy for our children and grandchildren.

More higher education is needed but transformed from a system dominated by full-time honours degrees into a flexible, lifelong learning model for a larger number of people at more points in their lives. This should include shorter, more efficiently designed and delivered qualifications supported by a mix of individual, employer and state funding. Central to this reform is higher education accounting for its contribution to carbon reduction and sustainable economic activity – not just its buildings, energy and travel use but its curriculum, research and knowledge engagement. Alongside, the higher education sector needs to do two things: take radical steps to improve productivity so that consumption can be sustained from current income and investment leaves a debt that is fair to future generations, and adopt clear standards for what constitutes academic knowledge, with a responsibility to engage its knowledge with the public square.

Key policy recommendations

1. **Prioritise achieving a sustainable economy through course provision, teaching and research**
    - Develop and implement a mandatory carbon accounting model to steer the curriculum to achieve a sustainable economy by providing the knowledge and skills it needs.
    - Prioritise research on low-carbon and climate-positive solutions.

2. **Shift to shorter courses and lifelong learning**
    - Expand certificate, diploma and modular study over a lifetime, radically reducing full-time honours degree provision and encouraging sustainable commuting or online participation by using strong policy and funding measures.
    - Introduce standardisation of curricula to achieve efficiencies, enable mobility, focus on sustainability and simplify regulation.
3. **Build a knowledge commons by creating universal access to higher education and connecting codified academic principles for civic and political life**
    - Establish national standards that recognise a special status for academic knowledge but on the basis that academics, students and graduates practise and promote rigour, clarity, respect for evidence and openness to criticism using a new national code.
    - Support academics engaging in public, political and media arenas to confront mis- and disinformation.
    - Expand higher education participation towards a universal, comprehensive system.
4. **Increase sector productivity, reducing student and public debt**
    - Use course redesign, digital technology and Artificial Intelligence to raise sector productivity.
    - Encourage employer and self-funded co-investment.
5. **Overhaul governance and incentives**
    - Simplify regulation by requiring more standardisation and using leaner methods to achieve accountability, such as commissioners responsible for approving institutional strategies and performance reviews.

Introduction

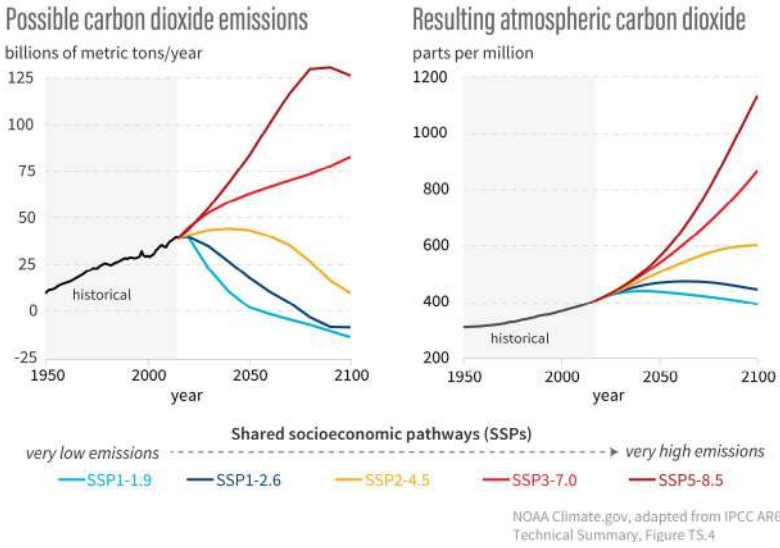
Higher education is at a critical juncture. Faced with the converging crises of climate change, fractured epistemological worlds and unsustainable economic activity, higher education must change fundamentally to respond. In the UK, the challenges are even more acute given the country's high and growing levels of debt and huge fiscal pressures. This paper therefore proposes a new strategic direction for the sector, rethinking how higher education is structured, funded and engages with society. There are three interlinked priorities: climate responsibility, knowledge integrity and fiscal resilience. This is a big agenda, for some perhaps unrealistic, but it is necessary. As Oxford economist Dieter Helm has written:

> ***It is at this late hour that choices have to be made. They 'have' to be made because the consequence of an unsustainable economy is that it will not be sustained and the point of no return is approaching fast.***[3]

The climate imperative

The most pressing existential threat humanity faces is global heating.[4] Reducing greenhouse gas emissions is vital and, while the UK has been reducing its own territorial emissions, this is not happening globally and much of the UK's carbon footprint is offshored to imports. The real determinant of environmental risk is atmospheric carbon concentration, which continues to rise worldwide and will do so for some time even if global emissions decline. The world is nearing critical thresholds – melting ice caps, sea-level rise, ecosystem collapse – that will either require vast investment in adaptation or have catastrophic consequences.

I have a NASA app on my phone that shows the monthly global concentration of carbon dioxide in the atmosphere. Taking account of seasonal cycles, the trend is a relentless rise every month.[5]. The following graphs show forecast trends in emissions and concentrations, with the scenarios depicted by the different coloured lines depending on how successful the world is with reducing its emissions.[6] They also show that the future is in humanity's hands: there is a range of pathways we could



NOAA Climate.gov, adapted from IPCC AR6 Technical Summary, Figure TS.4

take between recovery and calamity. Higher education needs to use its considerable resources and expertise to build the very low emissions pathway.

Dieter Helm's assets approach to building the sustainable economy is a compelling framework for approaching the challenge, set out in his book *Legacy*.[7] He argues that we must prioritise maintaining the primary assets required for everybody's 'capability to function' – natural capital, housing, transport, public utilities, health services, education and knowledge – and fund this from current income rather than debt.[8] He emphasises the need to pay for maintenance now, not defer costs to future generations. If our current consumption depletes these assets and we borrow to maintain them, we burden the next generation with the cost of the depletion we have caused. On the other hand, it is reasonable to fund improving these assets from debt since the next generation who will be paying off the debt will benefit from the enhancements. It is the next generation that faces the damaging and possibly existential consequences of global warming and asset depletion, so the enhancements need, above all, to be about a sustainable economy for our children and grandchildren.

Higher education is a primary asset, with investment potentially producing future enhancements, so can be justifiably funded from borrowing. It also has large elements that are more like consumer services so should be funded from current income. Some aspects of full-time honours degrees, especially if they are residential and studied straight after school or college, are more like consumption than investment. This is partly because the honours degree qualification has acquired a rite of passage and signalling status often beyond the practical value of this volume of learning, learned this way and at this stage in life.

An important argument made by Helm is that we must reduce current consumption to pay for maintaining our primary assets, which we are currently not doing sufficiently to prevent infrastructure and services from degrading, or doing but funding from borrowing. Like other primary assets, higher education must be provided sustainably in a way that does not deplete the essential asset beyond what current spending replaces, something that is not happening in many institutions that are running

budget deficits just to maintain the asset. While it is understandable that the sector is calling for more funding, we need to address the argument that we may be over-consuming higher education.

Much of the current spending and investment in higher education delivers benefits that ripple through the economy and society where the return is received. This justifies recovering the cost from taxes and loan repayments, but at levels taxpayers and graduates can support from their incomes compared with competing demands, which are political decisions that affect how much can be spent and invested. To optimise the return, the higher education sector must address its productivity, ensuring that it focuses efficiently and effectively on what matters, and a sustainable economy really matters.

Extensive provision of traditional full-time honours degrees is unsustainable in a mass system, especially as we need to expand participation – for important economic and social reasons – over working lifetimes and beyond higher education's current social and geographical reach. This calls for a different type of higher education.

Rethinking the higher education model

The full-time, three or four-year honours degree, often residential, originated in an elite system. As participation expanded, the model persisted even though there were growing issues about cost, access and relevance. Today, it dominates most institutional provision, despite past initiatives to introduce shorter courses.

Although there has been a long decline in per-student funding and many UK universities face painful deficits, the sector remains relatively well-funded by international standards and compared to other education sectors.[9] Yet the current model of provision relies heavily on overseas student fees and loan-based finance for domestic students and faces severe economic and political pressures. Graduate debt is mounting; government grants – already relatively small in England compared to student loan funding – are under pressure; there are concerns about the employment outcomes of some degrees and a falling graduate wage premium; and international student fees are not a reliable income source.

Digital technologies can help if directed at making higher education more productive. Their value lies in reducing costs while enabling humans to focus on uniquely human abilities alongside their 'digital colleagues'. AI-assisted platforms, hybrid models of teaching and learning and digital assessment can potentially enable scaleable, personalised learning and student support, while reducing costs and not increasing staff workloads. These tools can also boost student engagement and improve outcomes. Already, digital assistants can support many types of learning, assessment and advice.

Achieving improved productivity using technology needs coordinated and concerted action to ensure that the investment is value for money and does not reinvent wheels across the sector. AI is especially in need of this leadership.[10] However, as well as the mode of provision, students' mode of participation needs to be redesigned to be more efficient and effective in its use of resources and achievement of outcomes that matter.

Significant benefits can be achieved by introducing measures to wind down participation in full-time honours degrees and dial up participation in shorter qualifications and modules that suit learners at different life stages and which make commuting rather than relocation more feasible. The content of these courses – Certificates and Diplomas in Higher Education, Foundation Degrees, Higher Technical Qualifications and modules – needs to be focused on building a sustainable economy. We also need professional and occupational bodies to reduce their volume of content requirements, especially for entry qualifications, recognising the trade-off between focusing on what is really essential and expecting later updating or specialisation. Transitioning to this model would better enable continuous learning over a working lifetime, rather than concentrating borrowing and educational effort into a single early-career stage. It would also better allow for co-funding by employers, self-funding later in life and re / upskilling.

England's new Lifelong Learning Entitlement (LLE), due to be introduced from September 2026, is intended to enable flexible study of a range of qualification types and modules, including new Higher Technical Qualifications. However, without a comprehensive policy approach that shifts professional, occupational and disciplinary requirements to what is essential and disincentivises full-time degrees as the initial qualification, there is a high risk this will meet with the same fate as England's HNDs and HNCs, Foundation Degrees and the Diploma of Higher Education introduced by the 1972 White Paper *Education: A Framework for Expansion*.[11] These all failed to have their intended impact because of how the honours degree retained its 'higher' status, often presenting no higher up-front cost for students than shorter qualifications. Without wider policy measures, the sector will continue with the full-time honours degree because of how its popularity and mode of provision make it cost-effective for providers compared with the overhead of managing more diversity with uncertain demand.[12]

The overall cost of the current model of higher education is already an issue for both graduates and the state. As already noted, the UK has a big public debt problem, and this is set to worsen mainly due to growing spending on healthcare and pensions as the population ages. The Office

for Budget Responsibility forecasts that, based on current policy and demographic projections, the UK's public debt will nearly triple to 270 per cent of GDP over the next 40 years.[13] This is when, on the current trajectory and with 'medium luck', large swathes of London, Kent, Lincolnshire, Cambridgeshire, Yorkshire, Somerset and Lancashire are likely to be under water.[14]

It is also sobering to think that the last time public debt was at its current level, in the 1960s, it included major investments like transport and utilities that are now private debt paid for by customers and not taxpayers.[15] Adding this private and public borrowing together, we – and especially the next generation – face staggering levels of debt just when global heating is biting. Much of the utilities borrowing will be about tackling global heating, but this is unlikely to turn the tanker in time to prevent significant impacts from sea rise and migration. Making the tax system more redistributive has a role to play but will only go so far, beyond which unintended consequences become a serious risk, and is not an alternative to using resources well.[16]

Retaining the current honours degree model would use resources better deployed to expand the types of lifelong participation that a sustainable and high-technology economy needs. There is, though, another reason why expanding participation is essential, which is just as urgent because it is a pre-condition for achieving public and political support for change: building a knowledge commons.

Countering disinformation and building a knowledge commons

A knowledge commons is not possible if knowledge is not trusted and business and political leaders are not believed to be basing what they say and do on trusted knowledge. Yet trust is eroding across the world. The Edelman Trust Barometer, an annual survey of public attitudes, shows that the percentage of people agreeing that government and business leaders purposely mislead people is at an all-time high of 70 per cent.[17] Just over 60 per cent report a sense of grievance against business, government and the rich; 70 per cent in the UK. Forty per cent agree that hostile activism is a viable means to achieve change, and all of government, the media and Non-Governmental Organisations (NGOs) score negatively for competence and ethics.

People's priorities are also fragmented. *The People and Nature Surveys for England* show that some concerns are largely held in common, such as healthcare, and some in common but change over time, such as inflation.[18] Others show a persistent difference by personal attributes. One of the most significant of these attributes is qualification status, especially the three categories of a university degree, other qualifications and no qualifications. There are marked differences of view between these categories about immigration, with higher qualifications associated with less concern. Higher qualifications are also associated with greater concern about the environment. Paradoxically, those with lower qualifications are less concerned about the economy, inequality and education (and much more concerned about crime). Among all groups, concern about lack of faith is higher than concern about education.

These differences in education mean that people are sourcing and interpreting knowledge in different ways.[19] This is fuelling relative perceptions of un / fairness and exploitation, compounded by in-group and out-group identities and social media. In turn, this fuels resentment, with 'ordinary people' believing they are paying for the agendas of 'liberal elites' – like tackling climate change and residential degree education

after school. In the face of this epistemological crisis, higher education must reclaim its civic mission to anchor public discourse in respect for evidence and openness to criticism, building a knowledge commons for informing important decisions about the future.

The Open University's collaboration with the BBC provides a powerful example from a university that is open to everyone. The co-produced TV series Blue Planet II had global reach and real-world impact far beyond students studying with the OU. Many viewers decided to sign up for courses that would enable them to know more about the issues the series brought into their living rooms. Many acted in other ways: footage of albatrosses eating plastic triggered huge public concern and drove mass abandonment of plastic straws. This kind of academic-media partnership shows how research, when communicated effectively, can influence behaviour at scale.

Yet we also see alarming reversals. Political leaders like Donald Trump have actively undermined environmental action, including reversing plastic straw bans, by framing it as elitist and disproportionate. Language is a key battleground: populist rhetoric appeals to resentment, dismisses expertise and spreads doubt. Universities must respond not just by defending their autonomy but by championing respect for evidence, openness to criticism, precision and clarity.[20] This is not 'freedom of speech', which is impossible despite recent regulatory steps in England, precisely because it is always regulated to a greater or lesser extent.[21] It is instead about codifying these principles so that academic knowledge is trusted, which is already common among professional bodies that want their practitioners to be trusted; a set of national standards that should be expected of anyone engaged in higher education and, very importantly, of how they engage in wider society. These standards would justify a special status for academic knowledge within academia and when taken into the public square. If we do not do this, we need to ask what higher education is for, because it is no longer possible to claim special status just because someone is an academic or a graduate. That special status is not because of what an academic or graduate claims to know but how they claim to know it.

Work needs to start now on defining and codifying these principles of respect for evidence, openness to criticism, precision and clarity, which can be summed up as epistemic responsibility. Students should learn not only subject knowledge and skills but epistemic responsibility when using them, be able to explain in lay terms how they know what they know and expect the same of anyone claiming to know otherwise. A re-energised engagement mission needs to socialise the principles, recognising that all knowledge of 'how' and 'what' is provisional but requiring counter claims to be tested against the standards. This need not impose more work on the sector. It is about how academics practise and communicate. When they talk about their subjects and research, they need to call out how mis- and disinformation are undermining democratic society and our children and grandchildren's future, with the reason being that we are so often not using these standards in our conversations.

This is not to argue that all knowledge should be subject to these standards, but that academic knowledge should be. Many matters are not provable to others even in the provisional terms of academic knowledge but are value judgements or matters of aesthetics or faith, although they may be claimed to have effects that can be considered in these terms, such as claims that a more equal society would be a healthier society or that public art fosters community identity. Academic knowledge should have a special status but as part of a knowledge commons based on these standards of respect for evidence and openness to criticism. Searchable repositories of peer-reviewed academic literature are already a type of knowledge commons, although need to be both open access and have clear lay summaries to be truly so.

Repositories are a good example of how just making peer-reviewed knowledge available is not enough because expertise is needed to use them; skills learned in higher education that almost everyone should be able to acquire. Disinformation thrives when educational divides exist, and one of the sharpest divides has been created by higher education, which selects less than half of the population to be 'highly' educated.[22] In addition to the economic case for expanding participation in higher education because of its relationship to productivity and sustainability, there is a social case because of its relationship to knowing.

Access to higher education needs to be universal and not selective. There is no biological basis for believing that more than about 10 per cent of the population would not be capable of participating successfully on a well taught and supported higher education course they want to study.[23] Some with prior disadvantages will need support or initial foundation courses, but these should be part of the ladder of opportunity higher education offers. One of the best opportunities that can be offered is to be taught among peers who have not had the same disadvantages, leveraging the well-documented benefits of classroom diversity and peer-to-peer learning in supporting educational achievement: the comprehensive education model at its best.[24]

Expansion on this scale would need the type of productivity improvements considered in the previous section if it is to be affordable, but it would be an enhancement justifying investment. Political leaders could promote a more efficient and accessible higher education system designed to help transition to a sustainable economy. They could build trust in knowledge as a measure of national success, in the same way that the state of the NHS reflects in many people's minds how we are doing as a nation, addressing the depletion of our knowledge assets by disinformation and of our economic assets by climate change and ecological breakdown.

A tertiary vision for an integrated and inclusive education system

Critics who argue that higher education has created status, social and economic divides between graduates and non-graduates have a lot of evidence on their side. Graduates generally have broadly progressive views and professional employment while non-graduates generally have more conservative views and trade, technician and care jobs.[25] However, their arguments would be stronger if framed as the status division between *honours degrees* and other supposedly 'lower' qualifications. This has driven the trend of professional bodies seeking 'graduate status' for their occupations when, like History or Chemistry, there is no clear reason why a licence to practise needs such a volume of initial learning – at least 360 credits or 3,600 hours of learning for an honours degree – especially if this is at the cost of later opportunities to update or reskill.

Integrating further and higher education into a single tertiary system would help break down these status distinctions and create frameworks for progression and reskilling that are easier for learners to navigate. It would also help to break down divisions between 'vocational / technical' and 'academic' courses, which we already see happening in the labour market with job specifications seeking hybrid combinations of these competencies.[26] The most cost-effective and useful way for students to participate in tertiary education is likely to become hybrid too, with people flexing over a lifetime between full-time and part-time study of shorter courses and digital, augmented and analogue modes of participation. This spreads the cost of participation over many years, potentially avoiding accumulating large amounts of interest. It may mean it is unnecessary to draw on loan funding for later topping up and could facilitate co-funding by employers and the state because of the smaller and more affordable blocks of study. Shifting initial participation from full-time degrees to diplomas and certificates, supplemented by freestanding modules, would also better manage the risk of 'over

education' and wrong choices, as well as create more opportunity for later topping up to reskill, upskill or just learn something new.

The Lifelong Learning Entitlement (LLE) is ideally suited to this kind of arrangement, with its creation of lifetime loan accounts. While it may be less efficient for providers to manage smaller blocks of study and processes such as articulation and credit transfer, technology is likely to help. Even more impactful, however, would be standardisation of the curriculum. Institutions devote considerable time and resources to creating their own unique courses in the same subject area as other institutions, including often having very different admission criteria for the same subject. This cottage industry of bespoke production is very inefficient and inhibits students moving between institutions because curricula do not match or join up. The curriculum is already standardised in professional and vocational subjects where a service user needs to know that, for example, a physiotherapist educated at one provider is as well-qualified to practise as one from another provider. Why is this is not regarded as necessary for, say, a historian or a chemist? Subject benchmark statements and disciplinary accreditations have moved the sector in this direction but explicitly avoid prescription or a national curriculum.[27] This diversity is no longer affordable or desirable.

All provision should be aligned with national curricula to create a truly national higher and further education system with defined progression pathways regardless of the particular institution at which a student is studying. If a student wants to articulate from, say, a Level 5 qualification at one institution to Level 6 at another, this should be straightforward and not need bespoke curriculum mapping to approve it. If they have to move from one part of the country to another, they should similarly be able to transfer course easily. Student choice could still be achieved with use of electives or additional modules, and this could help break down the dichotomy between 'academic' and 'vocational' courses by creating opportunities to study a module in, say, History alongside a qualification in Engineering.[28]

This does not mean 'anything goes' for the curriculum, especially in the context of our affordability and sustainability crises. In fact, much

stronger steers are needed to incentivise courses that are essential to human wellbeing and survival. Currently, we have a system that allocates government grant funding to priority subjects, approves via accreditation courses that lead to occupational competency and uses audit and regulation to disincentivise providing courses that have poor completion and employment outcomes. This complexity is a big overhead, especially when higher and degree apprenticeships are added. It can be made leaner.

Commissioners could replace the complex and expensive apparatus of England's Office for Students and focus attention on institutions' strategies. Through their strategies, institutions would submit to a commissioner what they plan to achieve over the planning period and how this includes meeting government-defined national priorities. The commissioner would approve the latter alongside approving how the institution reports progress to its governing body for both its own and national priorities. Thus, the system would be driven by institutions' own strategies and performance reporting, but with a requirement that the former include national priorities and the latter is submitted for regular monitoring by the commissioner's office. Annual visits by a commissioner would address concerns as well as identify good practice to be shared sector wide and confirm funding allocations. This has similarities with how the old Higher Education Funding Council for England (HEFCE) operated. Twenty home-based commissioners with similarly home-based office support could oversee England's 400 or so higher education providers at a cost of around £10 million a year compared with the Office for Students' operating cost (excluding funds allocated to providers) of around £33 million.[29]

How should national priorities be defined? This is an area where more spending is needed and could be funded from other regulatory savings because there is really only one top national priority, which is the transition to and maintenance of a sustainable economy. Instead of assessing courses by the financial returns to the student and state, we should be assessing them in terms of their contribution to carbon reduction: creating and using green technologies, regulation, achieving sustainable behaviours, reducing consumption and obsolescence,

maintaining primary assets, re-use and regeneration of materials and products, renaturing and regenerative agriculture and so on. These need to be embedded in national curricula. Higher education institutions would still have to reduce their carbon emissions, as required by the Climate Change Act (2008), but would also have to account for the expected carbon footprint of what their students learn, how they learn and what they are likely to do with their learning.

This could be part of the new national curriculum system with subjects grouped according to their expected carbon footprint, from carbon negative to positive, and prioritised accordingly. An expert group would categorise subjects into bands using information such as teaching mode and intensity, content, digital demand, travel and accommodation requirements and occupational outcomes. Some subjects would do better than others and some that do less well will still be priorities for other reasons. Introducing a carbon credit system akin to existing carbon trading would allow an institution to provide a mixed portfolio of higher, lower, zero and carbon positive courses, but with a requirement to sell or purchase credits if above or below carbon reduction targets agreed with the commissioners, with these derived from an overall sector carbon reduction target that increases with time. A similar approach could be taken to research. This would need considerable work, but even a coarse-grained set of classifications is surely appropriate and possible given the risks we face. It echoes calls for introducing lifecycle assessment that accounts for the carbon footprint of all stages of a commercial product's life.

It is of course necessary for this supply-side reform of higher education provision to be complemented by strong government policies to create demand for these skills and knowledge. Current industrial strategy will not achieve this because there are major gaps, such as the need for pollution pricing. It needs far-reaching actions to reindustrialise the UK and renew infrastructures: a truly green industrial strategy.

Conclusion

There is much debate about the extent to which the purpose of higher education should be to serve economic needs and employability compared with other benefits such as participation in society and socialising students in 'a global common good'.[30] There is, though, no reason why it is only – or even largely – higher education that can achieve these benefits; they can be achieved by other organisations and in other contexts, often at lower cost. What the sector is uniquely well-equipped to do is deploy teaching, research and engagement together to produce the knowledge and skills needed for the sustainable economy, just as it is especially well-equipped to tackle mis- and disinformation. These two increasingly inter-linked priorities should now be core to the sector's mission.

In the light of past experience, strong intervention by government will be necessary. This will need to be preceded by a programme to build public support for such fundamental reform. The communication approach should focus on tangible risks – sea level rise, climate refugees, the fate awaiting our children and grandchildren without a sustainable economy – and the good fortune of the UK having a higher and further education system capable of rising to the challenge.

Advances in digital technologies, especially artificial intelligence, already mean that the sector needs reform as these innovations increasingly disrupt traditional curriculum production, teaching and assessment. These advances can be harnessed to improve productivity, releasing resources to fund expansion and new modes of participation. They also illustrate the need for the focus on the sustainable economy to be the North Star driving reform, since digital technologies can drive up carbon emissions and promulgate disinformation if not harnessed by policies designed to achieve the opposite.

Policy intervention to ensure that higher education lives and promotes the principles of rigour, clarity, respect for evidence and openness to criticism as part of the sector's 'licence to practise' is needed, not least

to safeguard democracy. Similarly, the sector should be held to account for its contributions from the curriculum, teaching and research not only to carbon reduction but to building a sustainable economy, its prime mission, for which Dieter Helm's work is an excellent guide. The criticisms that higher education has divided society need to be taken seriously, but are not arguments for not by rolling it back. We need more but different higher education, integrated into a tertiary system, with more accessible and affordable types and modes of provision designed for lifelong learning, narrowed in scope to the prime mission in terms of what state expenditure funds, and not undermined by other spending.[31]

The stakes are immense. Climate and ecological disruption, democratic erosion from disinformation and economic insecurity from resource depletion are already here, with effects that are accelerating at a time when the UK's fiscal room for manoeuvre is small. Higher education can step up to this challenge but needs help to do so from strong policy interventions that recognise not only how serious our situation is but also the huge potential of the sector to address the situation. In fact, without higher education playing the role set out in this paper, we are unlikely to build our way out of a spiral towards an environmental reckoning that threatens this and especially the next generation, our children and grandchildren.

Endnotes

1 'Misinformation' is used from this point to include 'disinformation'. Misinformation is knowledge disseminated by someone who does not realise that it is false. Disinformation is misinformation deliberately disseminated even when known to be false, often with a motive. All information is uncertain knowledge to a greater or lesser extent, but the extent of that uncertainty is an important part of knowing something as academic knowledge.

2 Office for Budget Responsibility – Economic and fiscal outlook, CP 1289, March 2025 **https://obr.uk/docs/dlm_uploads/OBR_Economic_and_fiscal_outlook_March_2025.pdf**

3 Dieter Helm, Legacy: How to Build the Sustainable Economy, Cambridge University Press, p. 220 (free to download), 2023 **https://www.cambridge.org/core/services/aop-cambridge-core/content/view/FBC79EFE59814788F7FFCAA96DF85632/9781009449229AR.pdf/Legacy.pdf?event-type=FTLA**

4 NASA, The Effects of Climate Change, 2024. Available at **https://science.nasa.gov/climate-change/effects/#:~:text=The%20scientific%20evidence%20is%20unequivocal,to%20secure%20a%20liveable%20future (Accessed 13/09/2025)**

5 In August 2025, the Trump administration published proposals to end funding for NASA's Orbiting Carbon Observatory, which provides the global carbon dioxide measures for this app. See Canela Andrade, Trump Administration's Budget Threatens NASA Climate and Carbon- Monitoring Satellites, Clear Blue Markets, 12 August 2025 **https://www.clearbluemarkets.com/knowledge-base/trump-administrations-budget-threatens-nasa-climate-and-carbon-monitoring-satellites#:~:text=Trump%27s%20administration%20is%20seeking%20to,have%20significantly%20advanced%20climate%20science (Accessed 13/09/2025)**

6 **https://www.climate.gov/media/14617?utm_source=chatgpt.com**

7 Dieter Helm, Legacy: How to Build the Sustainable Economy, Cambridge University Press, p. 220 (free to download), 2023 **https://www.cambridge.org/core/services/aop-cambridge-core/content/view/FBC79EFE59814788F7FFCAA96DF85632/9781009449229AR.pdf/Legacy.pdf?event-type=FTLA**

8 Arguably defence should be added to this list.

9 OECD, Education at a Glance 2024: OECD Indicators, OECD Publishing, Paris, 2024

10 A huge topic not addressed directly in this paper but very relevant, from its potential to achieve productivity improvements to the kind of labour markets that people are in or enter after their qualification. Debate ranges from needing to prepare for new or reshaped jobs with new mixes of required competencies to preparing for many fewer jobs and redistributive measures such as a universal basic income or tax-funded creation of jobs in health and social care.

11 Scotland has not experienced the same collapse of HNDs and HNCs that occurred in England following the ending of student number controls for degree entry.

12 Although technology will reduce this overhead.

13 Office for Budget Responsibility, Economic and fiscal outlook, March 2025 **https://obr.uk/docs/dlm_uploads/OBR_Economic_and_fiscal_outlook_March_2025.pdf**

14 Climate Central, Land projected to be below annual flood level in 2070 **https://www.edelman.com/trust/trust-barometer**

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17 Edelman Trust Institute, 2025 Edelman Trust Barometer **https://www.edelman.com/trust/trust-barometer**

18 Natural England / Department for Environment, Food & Rural Affairs, The People and Nature Surveys for England **https://www.gov.uk/government/collections/people-and-nature-survey-for-england**

19 Gillian Tett, 'Five ways to fix the knowledge crisis in the age of Trump', Financial Times, 24 January 2025 **https://www.ft.com/content/b4de95a2-c0da-4de8-8ad4-097f0d045633**

20 I have taken these principles from Stefan Collini, What are Universities For?, Penguin, 2012, although he adds 'and so on'. The key ones are openness to criticism and respect for evidence, which interrelate. Evidence needs to be open to criticism, while criticism needs evidence.

21 In Phoenix v. The Open University the judgment considered briefly what distinguishes academic practice from 'emotionally charged value judgements', citing rigour and evidence. I am arguing that this needs considerable amplification, expecting academics to abide by these standards, suitably codified. Codification will be difficult, but many professional bodies have managed it. Academics in general need such a code to justify the special status of academic knowledge (which cannot have its justification just from being an academic). That special status is then a powerful weapon against mis- and disinformation. See **https://www.judiciary.uk/wp-content/uploads/2024/01/Joanna-Phoenix-v-The-Open-University-Employment-Tribunal-Reserved-Judgment.pdf**

22 Gov.uk, Education and training statistics for the UK, 2025 **https://explore-education-statistics.service.gov.uk/find-statistics/education-and-training-statistics-for-the-uk/2024**

23 Stanislas Dehaene, How We Learn: The New Science of Education and the Brain, Penguin Books, 2021

24 Tim Blackman, The Comphrensive University: An Alternative to Social Stratification by Academic Selection, Occasional Paper 17, July 2017 **https://www.hepi.ac.uk/wp-content/uploads/2017/07/Hepi-The-Comprehensive-University_Occasional-Paper-17-11_07_17.pdf**

25 The evidence and arguments are set out in David Goodhart, Head Hand Heart: The Struggle for Dignity and Status in the 21st Century, Allen Lane, 2020

26 Z_punkt The Foresight Company and the Centre for Research in Futures and Innovation (undated), The Future of Work: Jobs and Skills in 2030, UK Commission for Employment and Skills. Available at **https://assets.publishing.service.gov.uk/media/5a7dd8e1e5274a5eaea66b20/the_future_of_work_key_findings_edit.pdf**

27 QAA, Subject Benchmark Statements **https://www.qaa.ac.uk/the-quality-code/subject-benchmark-statements**

28 Tim Blackman, 'Raymond Williams and the new industrial trainers: a critique and a proposal', Oxford Review of Education, Volume 48, Issue 5, 2022, pp.555-569 **https://www.tandfonline.com/doi/full/10.1080/03054985.2021.1997732**

29 Office for Students, Annual report and accounts 2024-25, HC 1080, 2025 **https://www.officeforstudents.org.uk/media/3jylg2yd/ofs-annual-report-and-accounts-2025.pdf**

30 For an overview, see Simon Marginson (ed) et al, Assessing the Contributions of Higher Education: Knowledge for a Disordered World, Edward Elgar, 2023

31 Such as growth in private provision that exacerbates education inequalities or escapes carbon reduction targets.

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Debate

41

By 2065, within the lifetime of many people living today, large swathes of coastal and riverine Britain, from London to Lancashire, could be under water. By then, the UK's public debt could be nearly 300% of annual GDP. In this hard-hitting contribution to HEPI's Debate Paper series, Tim Blackman argues that higher education has both contributed to, and has the capability to solve, these emerging threats.

To realise this capability on the scale needed, fundamental change is necessary, elements of which are apparent in higher education reform agendas across the UK. But these are insufficiently radical and focused to achieve the transformation needed to avoid the catastrophic breakdowns in our economy, environment and democracy that current data suggest we are heading towards.

The paper is a call to action. An economy that is not sustainable will not be sustained. The situation could hardly be more serious for this and future generations.

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October 2025
978-1-915744-50-0
Higher Education Policy Institute
99 Banbury Road,
Oxford OX2 6JX
www.hepi.ac.uk

Printed by Holywell, Buckingham
Typesetting:
Steve Billington, jarmanassociates.co.uk