



All-Party Parliamentary Group on
Artificial Intelligence

AI AND FUSION ENERGY:

THE NEXT FRONTIER

APRIL 2026
POLICY FORUM



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APPG AI Secretariat



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All Party Parliamentary Group on
Artificial Intelligence

Rapporteur's Preface

Artificial intelligence and fusion energy are often discussed as **separate technological revolutions**. Increasingly, **they should not be**. AI and advanced computing may help overcome some of the scientific and engineering barriers that have kept commercial fusion on the horizon for decades. At the same time, the extraordinary growth of AI is creating its own energy challenge, increasing demand for reliable, affordable and ultimately clean power.

This convergence creates a strategic question for the UK: **can we connect our strengths in AI, fusion, advanced computing and clean energy in a way that turns scientific leadership into lasting industrial and economic advantage?**

The UK starts from a position of considerable strength. But technological leadership is not secured by research excellence alone. It depends on moving from discovery to engineering, from engineering to commercialisation, and from individual breakthroughs to industries, supply chains, investment and skills at scale.

The evidence at this joint session brought this challenge into sharp focus. **Lucy Yu, Government AI Champion for Clean Energy and CEO of the Centre for Net Zero**, examined the growing energy demand associated with AI and data centres, alongside opportunities for cleaner power, more efficient computing and smarter integration into the energy system. **Dr Rob Akers, Director of Computing Programmes and Senior Fellow at the UK Atomic Energy Authority (UKAEA)**, showed how AI, digital twins, advanced simulation and supercomputing could accelerate and de-risk fusion development, and potentially transform engineering more widely.

Dr Juan Bernabe-Moreno, Director of IBM Research Europe for the UK and Ireland, emphasised that fusion cannot be solved in isolation, highlighting the importance of open innovation, public-private partnership and international collaboration alongside AI and next-generation computing. **George Freeman MP, former Minister of State for Science, Research and Innovation**, brought the industrial challenge into focus: the UK has a rare opportunity to build a globally significant fusion industry, but must move faster on planning, procurement, industrialisation and investment if it is to secure that advantage.

A central message emerges: **the opportunity is not simply AI, and it is not simply fusion. It lies in the ecosystem created when AI, advanced computing, energy, engineering, research and capital reinforce one another**. The challenge for the UK is to connect these strengths and translate them into commercial capability, investment and economic value. This report brings together the evidence from the session, identifies its principal findings and considers the implications for the stakeholders who will determine what happens next.



**Professor
Birgitte Andersen**

Rapporteur
CEO, Big Innovation Centre,
APPG AI Secretariat

INTRODUCTION

This document is a structured transcript and summary of the principal evidence and discussion at the APPG AI x APPG Fusion Energy Joint Event held on 28 April 2026 in the House of Lords, Committee Room 6, UK Parliament.

It captures the key contributions and is not intended to provide a complete verbatim record.

DETAILS

- APPG AI x APPG Fusion Energy Joint Event: 'AI, Fusion Energy, and the Future of UK Innovation and Infrastructure'
- Time: 5:30pm – 7:00pm
- Date: Tuesday, 28 April 2026
- Venue: UK Parliament: House of Lords – Committee Room 6

CONTACT THE SECRETARIAT

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APPG Fusion Energy Secretariat

THE FUSION CLUSTER



Fusion Cluster



EVIDENCE GIVERS

- **Lucy Yu**, UK Government AI Champion for Clean Energy and CEO, Centre for Net Zero
- **Dr. Rob Akers**, Director of Computing Programmes and Senior Fellow, UK Atomic Energy Authority
- **Juan Bernabe Moreno**, Director, IBM Research Europe (UK and Ireland)

APPG AI CO-CHAIRS

The All-Party Parliamentary Group on Artificial Intelligence (APPG AI) is co-chaired by Dr Allison Gardner MP and Lord Clement-Jones CBE.

APPG FUSION ENERGY CHAIR

The All-Party Parliamentary Group on Fusion Energy (APPG Fusion Energy) is chaired by Jo White MP.

SESSION CO-CHAIRS

Dr Allison Gardner MP, Co-Chair, APPG AI.
Jo White MP, Chair APPG Fusion Cluster

OPENING REMARKS

Lord Clement-Jones CBE, Co-Chair, APPG AI.

DISCUSSION AND CHAIRING SUPPORT

Lord Ranger of Northwood, Vice-Chair, APPG AI.

RAPPORTEUR FOR THE MEETING

Professor Birgitte Andersen, CEO, Big Innovation Centre and APPG AI Secretariat.



From left to right: Juan Bernabe Moreno (IBM), Professor Birgitte Andersen (APPG AI Secretariat, Big Innovation Centre), Lord Ranger (APPG AI Vice Chair, House of Lords), Lucy Yu (Centre for Net Zero), Dr Valerie Jamieson (The Fusion Cluster), Lord Taylor, Dr. Rob Akers (UK Atomic Energy Authority), Ben Johnson (Uptitude), Agna Chungbang (Henham Strategy)

Aim of Session

The joint session of the **All-Party Parliamentary Group on Artificial Intelligence (APPG AI)** and the **All-Party Parliamentary Group on Fusion Energy** examined the growing relationship between artificial intelligence and fusion energy, and its implications for UK innovation, infrastructure and industrial leadership.

The session considered both sides of this relationship: how AI and advanced computing can accelerate fusion research and engineering, and how the rapid growth of AI and data-centre infrastructure is increasing demand for reliable, clean and sustainable power. It also examined what the UK needs to do to build on its strengths in AI, fusion and advanced computing and translate them into long-term economic and strategic advantage.

Discussion Covered

1. **How is artificial intelligence currently being used** in fusion research, and what difference is it making to timelines, costs and research capability?
2. **How significant is projected growth** in AI-related energy demand, and what implications does this have for the UK's long-term clean-energy planning?
3. **On what timescales** might fusion realistically contribute to the power needs of data centres and advanced computing infrastructure?
4. **What does the UK need** to do to retain and strengthen its competitive position at the intersection of AI, fusion and advanced computing?
5. **Are existing policy, funding and skills** frameworks sufficient to support AI-enabled fusion research, and where are the principal gaps?



Selected Images from the discussion



Allison Gardner MP
(APPG AI Co-Chair)



George Freeman MP
(APPG AI Parliamentary Member,
Former Minister of State for Science)



Lord Clement-Jones CBE
(APPG AI Co-Chair)



Jo White MP
(APPG Fusion Energy Chair)



Lord Ranger
(APPG AI Parliamentary Member)



Lord Tarassenko
(APPG AI Parliamentary Member)

Opening Remarks



Lord Tim Clement-Jones

*Co-Chair, All-Party
Parliamentary Group on
Artificial Intelligence*

A very warm welcome to what is the first joint meeting of the All-Party Parliamentary Group on Artificial Intelligence and the All-Party Parliamentary Group on Fusion Energy.

The first thing I need to do is thank the secretariats of each of the All-Party Groups for bringing this meeting together: the Big Innovation Centre, which supports the AI APPG, and The Fusion Cluster, which supports the Fusion Energy APPG.

The Fusion Cluster is a UK-based collaborative network focused on accelerating the development of fusion energy. It is a national initiative, founded in 2021, bringing together fusion energy companies, supply-chain businesses, universities and researchers, investors and government bodies; - essentially the whole ecosystem.

I co-founded the AI APPG back in 2017, when artificial intelligence was still regarded by many in Westminster as a somewhat exotic preoccupation. Almost 10 years on, no one needs convincing that AI is reshaping every aspect of our economy, our public services and our national security.

The question now is not whether AI transforms the UK, but whether we have the governance, infrastructure, skills and industrial strategy to ensure that transformation works in the public interest.

And then there is energy - which is precisely the point of this evening's discussion.

The Fusion Energy APPG has been making an equally important case: that the UK's remarkable lead in fusion research, built up over decades at Culham Campus and elsewhere, represents one of our greatest long-term strategic assets.

Fusion offers the prospect of virtually limitless low-carbon energy. That is no longer science fiction. It is increasingly an engineering and commercialisation challenge, and the UK is genuinely well placed to lead.

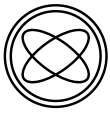


The convergence of AI and fusion

So why are we here together? Because these two frontiers - AI and fusion - are no longer parallel tracks. They are converging. And Culham Campus is the place where that convergence is happening in real time.

The Government's decision to designate Culham Campus as the UK's first AI Growth Zone is significant. A site already home to world-leading fusion experiments, including JET (the Joint European Torus) and MAST Upgrade (Mega Amp Spherical Tokamak Upgrade), is now also set to host one of the UK's largest AI data centres, scaling up to around 500 megawatts of capacity.

The Sunrise supercomputer, funded by Government and intended to support AI-enabled fusion research, will sit at the heart of that campus. That is a remarkable statement of intent. But Culham is more than a symbol. It points to a series of questions that both APPGs need to grapple with together.



AI accelerating fusion research

First, AI is already accelerating fusion research through plasma-control optimisation, materials discovery, simulation and digital twins. What investment and oversight frameworks do we need in order to capture that acceleration?



AI energy demand and clean power

Second, the energy appetite of hyperscale AI data centres is becoming a serious policy issue.

The irony should not be lost on us that AI, presented as a tool that can help us reach net zero, risks becoming one of the largest consumers of carbon-intensive electricity. Fusion, if it can be commercialised on the timelines being pursued by companies in the sector (like Tokamak Energy and First Light Fusion), could become part of the answer. The relationship between AI infrastructure and clean-energy supply cannot be treated as an afterthought. It should be central to industrial strategy.



Skills, regulation and public trust

Third, both fields share urgent needs around skills, regulation and public trust.

UK Fusion Energy Limited, the STEP (Spherical Tokamak for Energy Production) prototype plant at West Burton, Tokamak Energy's work and the AI Growth Zone at Culham Campus all depend upon a pipeline of engineers, physicists, data scientists and technicians that we are not yet producing at sufficient scale.

STEAM (science, technology, engineering, arts and mathematics) education, apprenticeships and regional skills investment are not soft additions. They are critical infrastructure.



On regulation

AI and fusion also present a related fundamental challenge: How do we design frameworks that are genuinely enabling - allowing responsible innovation to move at pace - while maintaining the accountability and public confidence that frontier technologies require?

The APPG AI has long discussed issues such as algorithmic accountability and impact assessments. There may be important lessons to share with those designing licensing and siting frameworks for fusion and equally lessons that AI policymakers can learn from fusion.

Purpose of the session: My hope for this evening is simple. I hope we leave with a shared understanding of the questions that need to be put to Government on energy, infrastructure, skills, regulation and long-term industrial strategy if the UK is to become a genuine world leader in both of these transformative technologies. There are several questions that I hope will help frame our discussion.

- How is artificial intelligence currently being used in fusion research, and what difference is it making to timelines, costs and research capability?
- How significant is the projected growth in AI-related energy demand, and what implications does that have for the UK's long-term clean-energy planning?
- On what timescales might fusion realistically contribute to the power requirements of data centres and advanced computing infrastructure?
- What does the UK need to do to retain or strengthen its competitive position at the intersection of AI, fusion and advanced computing?
- And finally, are existing policy, funding and skills frameworks sufficient to support AI-enabled fusion research, or are there identifiable gaps?



FINDINGS

EXECUTIVE SUMMARY

Summary



AI and fusion are becoming strategically interdependent. AI and advanced computing can accelerate fusion research and engineering, while the rapid expansion of AI infrastructure is increasing demand for abundant, reliable and clean electricity-creating a potentially important long-term role for fusion.



AI could materially accelerate and de-risk the commercialisation of fusion. Digital twins, surrogate models, advanced simulation and AI-enabled optimisation allow researchers to explore much larger design spaces virtually, reduce reliance on costly physical experimentation and better predict the behaviour of complex fusion systems.



The UK's existing strengths create a significant opportunity for global leadership. The combination of UK fusion expertise, AI research, advanced computing, facilities such as Culham and STEP, and the emerging AI Growth Zone provides a strong foundation for leadership at the intersection of AI, fusion and advanced engineering.



Scientific leadership alone will not secure industrial leadership. The UK needs to move more effectively from research and invention into engineering, commercialisation, manufacturing and supply-chain development. Slow planning, procurement and deployment risk allowing technologies, companies and investment to migrate to faster-moving international competitors.



Sovereign computing capability is becoming critical national infrastructure. Fusion and other strategically important technologies will increasingly depend on access to advanced AI and high-performance computing. UK capability (including initiatives such as Sunrise) will be important for national security, protection of intellectual property and maintaining technological independence.



Open innovation must be balanced with protection of strategic UK intellectual property. Fusion cannot be developed by individual organisations or countries in isolation. Data sharing, common tools and international collaboration can accelerate progress and create new markets, but the UK also needs to identify and protect strategically important technologies and ensure that value created through UK innovation is captured domestically.



SMEs and the wider supply chain need access to national AI and computing infrastructure. The benefits of public investment in supercomputing, scientific data and fusion facilities should extend beyond major institutions and companies. Enabling innovative SMEs to access these capabilities could accelerate commercialisation and help build a stronger domestic fusion and advanced-technology ecosystem.



Public investment should be used to crowd in substantially greater private capital. The UK's fusion programmes can provide the foundation for a broader public-private investment proposition, attracting international capital while anchoring companies, skills, intellectual property and supply chains in the UK.



Energy policy is increasingly also economic, security and resilience policy. The transition to clean energy should not be framed solely around climate targets. Reliable and affordable low-carbon energy, secure computing infrastructure and domestic technological capability are becoming increasingly interconnected elements of UK economic resilience and national security.



Overall finding

The convergence of AI, fusion and advanced computing presents the UK with a significant strategic opportunity; - but converting scientific strength into global industrial leadership will require faster deployment, sustained investment, sovereign capability and closer coordination between government, industry and research.

Implications for Key Stakeholders



1. Parliament and Policymakers

- **Connect the policy landscape:** Consider AI, fusion, energy infrastructure and advanced computing as **interconnected strategic policy areas**, rather than addressing them through separate policy frameworks.
- **Scrutinise the pace of delivery:** Scrutinise whether current planning, procurement and funding processes are sufficiently fast to enable the UK to convert its scientific strengths into industrial leadership.
- **Plan for AI energy demand:** Examine the implications of rapidly growing AI and data-centre electricity demand for the UK's long-term energy strategy, grid infrastructure and clean-power requirements.
- **Balance openness and strategic capability:** Support an appropriate balance between **international collaboration, open innovation and protection of strategically important UK intellectual property and capability**.
- **Maintain strategic oversight:** Maintain parliamentary oversight of the security, resilience and sovereignty implications of increasingly critical AI and computing infrastructure.



2. UK Government

- **Build a joined-up strategy:** Develop a more joined-up strategy connecting **AI Growth Zones, fusion, advanced computing, energy infrastructure and industrial policy**.
- **Accelerate delivery:** Accelerate planning, procurement and infrastructure development where lengthy processes risk weakening the UK's competitive position.
- **Strengthen sovereign computing:** Maintain investment in **sovereign AI and high-performance computing capability**, including infrastructure supporting fusion research and advanced engineering.

- **Crowd in private capital:** Use public investment in programmes such as STEP (Spherical Tokamak for Energy Production) and advanced computing to **crowd in substantially greater levels of domestic and international private capital**.
- **Bridge research and commercialisation:** Ensure that UK scientific breakthroughs are supported through the difficult transition from research to **engineering, commercialisation, manufacturing and scale-up**.
- **Integrate AI into energy planning:** Integrate projected data-centre and AI electricity demand more explicitly into long-term energy-system planning.
- **Treat energy as strategic infrastructure:** Treat clean and secure energy increasingly as an issue of **economic competitiveness, national resilience and security**, as well as decarbonisation.



3. Regions, AI Growth Zones and Local Authorities

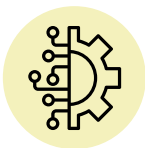
- **Build local economic capability:** Connect AI and fusion investment with jobs, skills, apprenticeships, local business growth and regional investment to create **regional innovation ecosystems**, rather than viewing data centres or major research facilities as isolated infrastructure projects.
- **Connect infrastructure to local growth:** Connect new infrastructure with local supply chains, universities, skills programmes, start-ups and inward investment.
- **Enable strategic development:** Develop planning and infrastructure processes capable of supporting strategically important projects at greater speed while maintaining appropriate local scrutiny.
- **Co-locate strategic capabilities:** Explore opportunities to co-locate **computing, clean energy, research and industrial capability**, building on the emerging model around Culham.
- **Capture local economic benefits:** Ensure that local and regional communities capture wider economic benefits through jobs, skills, apprenticeships, business growth and investment.



4. Universities and Research Organisations

- **Strengthen interdisciplinary research:** Strengthen collaboration across **fusion science, AI, computing, materials science, engineering and energy systems**, reflecting the increasingly interdisciplinary nature of the challenge.
- **Accelerate discovery through AI:** Make greater use of AI, simulation, digital twins and advanced computing to accelerate scientific discovery and engineering development.

- **Broaden access to national capabilities:** Work with government and industry to enable wider access to publicly supported scientific data and computing infrastructure, helping generate wider research and economic value.
- **Balance openness and IP protection:** Develop approaches to **open science and open innovation** that encourage collaboration while protecting genuinely strategic IP.
- **Strengthen commercialisation pathways:** Expand pathways for translating research into start-ups, industrial applications and UK-based commercial activity.
- **Build multidisciplinary skills:** Help build the multidisciplinary skills pipeline required across AI, fusion, advanced computing and engineering.



5. Industry, Technology Companies and SMEs

- **Engage with national programmes:** Engage early with national fusion, AI and computing programmes to identify commercial applications and supply-chain opportunities.
- **Broaden access to advanced computing:** Build partnerships between large technology companies, fusion developers and innovative SMEs so that advanced computing capability is accessible beyond major institutions.
- **Drive energy-efficient AI:** Invest in more **energy-efficient AI**, including improved hardware, chip technologies, algorithms and computing architectures that reduce energy requirements.
- **Develop shared infrastructure responsibly:** Work with government and research institutions to develop shared infrastructure and tools while establishing clear arrangements around commercially sensitive IP.
- **Look beyond energy generation:** View fusion not only as a future energy technology but as a potential driver of new markets in advanced engineering, computing, materials and manufacturing.



6. Investors and the Financial Community

- **Recognise the industrial opportunity:** Recognise fusion as an emerging **industrial and infrastructure opportunity**, rather than solely a long-term scientific research programme.
- **Mobilise private capital:** Explore public-private co-investment models capable of leveraging government commitments into substantially larger pools of private capital.

- **Finance the scale-up gap:** Support companies through the difficult scale-up phase between scientific proof and commercial deployment, where significant capital is required.
- **Invest across the ecosystem:** Consider opportunities across the wider fusion ecosystem — including computing, materials, engineering, components and supply chains — not only investment in fusion power developers themselves.
- **Keep growth capital in the UK:** Work with government to ensure that promising UK companies can access growth capital domestically rather than needing to relocate or sell prematurely to overseas investors.



7. Skills and Workforce

- **Build an integrated skills pipeline:** Develop a coordinated skills pipeline spanning **AI, fusion physics, advanced computing, engineering, materials science and energy systems**.
- **Expand technical pathways:** Expand apprenticeships and technical routes alongside university-level scientific and engineering education.
- **Connect skills to regional clusters:** Connect skills programmes directly to emerging regional clusters such as Culham and West Burton so that investment creates sustainable local capability.
- **Prepare for converging disciplines:** Anticipate the convergence of disciplines: future fusion programmes will increasingly require professionals able to work across **physics, engineering, data and AI**, rather than within traditional disciplinary boundaries.

Overall: Implications for Stakeholders

The evidence suggests that UK leadership will depend not on any single institution or technology, but on the ability of Parliament, government, regions, research institutions, industry and investors to build an integrated AI–fusion ecosystem capable of moving from scientific leadership to commercial scale.

EVIDENCE

EVIDENCE GIVERS:

- Lucy Yu
- Dr. Rob Akers
- Juan Bernabe Moreno



Lucy Yu

Government AI Champion for Clean Energy and CEO, Centre for Net Zero

“We need to have more of a systems-level conversation about this.”

***Key Message:** AI will significantly increase electricity demand, but cleaner power, more efficient computing and smarter energy-system integration can change the equation.*

(1) AI-related energy demand and the future energy system

How does the growth of AI-related energy demand affect our future energy system? Well, it means an increase in demand, and that is primarily associated with new data centres. Let me try to answer how significant that projected growth in demand is.

First, I am going to give you the figures from **National Energy System Operator (NESO)**'s Clean Power 2030 plan. Under that plan, which NESO published around a year ago, it assumed a fourfold increase in the energy demands of data centres. By 2030, that would have taken us to total data-centre electricity demand of somewhere between 15 and 25 terawatt hours annually. Now let us bring that closer to reality and look at what is actually in the grid connection queue.

By mid-2025, there were around **140 data-centre schemes** in the grid connection queue, totalling approximately 50 gigawatts. If I translate that 50 gigawatts into annual terawatt hours, it would be somewhere in the region of 200 terawatt hours.

You therefore immediately get a sense of the disparity between what NESO was assuming and planning for under Clean Power 2030 and what was actually in the grid connection queue by mid-2025.

We can ground that further by looking at the maturity of those 140 schemes. If we focus on projects that have reached final investment decision, meaning significant investment has been committed and we can regard the projects as relatively mature and certain, they represent around 20 gigawatts of that 50 gigawatts.

That is lower than the entire queue, of course, but it is still a very significant increase in demand and significantly higher than what was originally anticipated in the Clean Power 2030 plan. For context, current peak electricity demand across Great Britain is around 45 gigawatts. That is not just data centres; that is everything.

So, to put those numbers alongside each other, current GB peak demand is around 45 gigawatts; the data-centre connection queue was around 50 gigawatts; and projects at final investment decision or an advanced stage represented around 20 gigawatts. That gives a sense of the scale we are talking about.

(2) Uncertainty around future demand

There are, however, a lot of uncertainties here. I think it is reasonable to say that we will see an increase in energy demand from new data centres, but it is very difficult to say with any real degree of confidence exactly what that increase will look like.

One important trend concerns the difference between AI training and inference.

- Large language models such as ChatGPT, Gemini and Claude first have to be trained. At the moment, a lot of activity in research and development involves training different models: in some cases very large foundation models, and in other cases smaller specialised models.
- Over the next few years, we are likely to see more training for different applications across the economy. But as we move into the medium to long term, I think we will see less of that initial training activity and much more activity associated with inference.

Inference is what happens every time you actually use one of these models.

Training is an extremely energy-intensive activity, but it only happens occasionally: when you create the model initially, perhaps when you update it, and when there is some retraining.

Inference has a lower energy demand for each individual activity, but it happens continuously. As AI becomes embedded throughout the economy, some estimates suggest that inference could ultimately account for something like 80 to 90 per cent of total AI energy demand.

Editor input / explanation:

In AI, inference means using a trained AI model to produce an answer, prediction or output.

The easiest distinction is:

- *Training = teaching/building the AI model using large amounts of data and computing power.*
- *Inference = using that trained model afterwards.*

For example, when you ask ChatGPT, Gemini or Claude a question, the model has already been trained. The computing required to interpret your question and generate the response is inference.

(3) Technological efficiency

We should also assume that the technology itself will become more efficient.

That applies both to hardware and software. Chip technology is likely to improve significantly. We may see completely different approaches emerge, including quantum computing, and algorithms themselves will become more energy efficient.

But in the short term, I think it is reasonable to suggest that any energy savings arising from greater efficiency are likely to be offset by the overall increase in demand for AI applications and services.

(4) Looking at AI at system level

I would really like us to have more of a systems-level conversation about this.

My expectation is that AI will generate downstream emissions savings across the economy, but there is likely to be a lag before we see those savings.

If, for example, you are using AI to find a less carbon-intensive material for construction, or to optimise a highly emissions-intensive industrial process, you are not necessarily going to arrive at the solution overnight. It could take months or even years of work.

But when you reach that point, and hopefully find something significantly better than what we are doing today, that is when those downstream savings occur.

Those downstream effects are extremely difficult to measure and predict today.

If we simply look at the direct energy demand of AI now and do not consider how AI is being used across the economy and what the downstream impacts could be, we are not getting an accurate picture of its system-level impact.

(5) Data centres do not necessarily require fossil-fuel power

It is also important to recognise that it is not a given that AI demand cannot be clean. We should not assume that the rush to develop data centres inevitably means that they have to be powered by gas.

Speed to power is one of the things we know data-centre operators and developers care about most.

But there are clean sources such as solar and wind that can also be permitted and installed relatively quickly.

At the Centre for Net Zero, we have done a lot of modelling around microgrids and private wires for data centres. In particular, we have looked at microgrids comprising offshore wind, solar and significant amounts of storage, including onsite batteries.

We modelled a system supplying a 120-megawatt data centre with offshore wind, solar, battery storage and a relatively small amount of backup gas.

Importantly, the model was optimised for cost, rather than for carbon, because we know cost is one of the things data-centre operators care about.

In that cost-optimised model, the renewable part of the microgrid was capable of meeting the continuous demand of the 120-megawatt data centre around 80 per cent of the time.

If we were optimising for carbon instead, we could change that configuration, probably including additional batteries and storage, and potentially increase that proportion further.

(6) Higher electricity demand could have some benefits

There is another interesting aspect to increasing electricity demand in Great Britain.

In the short term, greater energy demand may not necessarily be a bad thing.

Up until around 2024–25, Great Britain had experienced almost two decades of declining electricity demand.

There were various reasons for that, including greater energy efficiency and the shift in the economy away from manufacturing and towards services and less heavy industry.

Energy demand has now started to increase again.

There are significant costs in our energy system that are effectively non-energy costs: the infrastructure associated with building and operating the grid, for example.

At present, those costs are allocated on a per-unit basis. If fewer kilowatt hours are being consumed, those fixed costs are effectively being socialised over a smaller volume.

If additional demand from data centres means that we put substantially more volume through the system, those costs can be socialised across a larger base.

There may therefore be ways of thinking about data-centre demand and reconsidering how system costs are apportioned which could ultimately help with household energy bills.

(7) Waste heat from data centres

On the question of recovering heat from data centres, that was not included in the modelling I described.

But it is certainly an area in which people are very interested. At the moment, I think a lot of the waste heat generated by data centres is literally wasted rather than reused.

(8) Efficient inference, edge computing and sovereign AI

There is considerable uncertainty about how some of this will develop.

I agree that on-premise computing could become important, but so could the extent to which computing moves towards the edge and is carried out on our own personal and portable devices.

On sovereign AI, I think there is considerable agreement as well.

The Government has announced AI Growth Zones, and I would like us to think seriously about how we could connect those with a sovereign AI ambition.

One of the important metrics for data centres and their operators is speed, but another increasingly important metric is effectively tokens per watt per second.

The UK has had some very interesting deep-tech companies developing new types of chip technology. We have seen companies such as Graphcore, and there is now another generation of companies developing in this area.

What interests me is whether we can create some kind of flywheel mechanism in which we incentivise companies to develop increasingly efficient chip technologies and then connect that to an offer of cheaper energy for operating data centres that use those technologies.

There may be a mechanism through which you create a ratchet effect: continually improving the performance metrics of UK companies, generating greater economic returns, while at the same time connecting that improvement in efficiency with lower-cost energy for the data centres adopting the technology.



Dr Rob Akers

Director of Computing Programmes and
Senior Fellow, UK Atomic Energy Authority



**AI is going to be a
turbocharger, an accelerator,
a de-risking mechanism.**

***Key Message:** AI can be a
“turbocharger” for fusion, enabling
researchers to explore, optimise and de-
risk complex engineering designs before
building them in the physical world.*

(1) What is fusion?

I have the honour of explaining what fusion is. I should be able to answer this because I have worked for the UK Atomic Energy Authority for 30 years, so if I get this wrong there is something horribly wrong in the system.

Fusion is actually the most primordial form of energy production. It is ubiquitous. We owe our very lives to it.

There is, effectively, **one working fusion reactor that we experience every day**, and that is **the Sun**.

We know, or we believe we know, how it works. Every day it is turning protons into heavier elements. The elements that make up the human body were ultimately produced through processes within stars.

You have probably heard the expression that we are all made of stardust. In fact, that is true. We are made from the remnants of long-dead stars.

The Sun is where we get most of our energy from. We think immediately of solar panels when we say that, but if you burn oil or gas, those materials captured solar energy millions of years ago and converted it into the fossil fuels from which we now release that energy.

Even the uranium used in a fission reactor was created through stellar processes billions of years ago.

Fusion is therefore one of the most fundamental energy-production mechanisms.

In principle, if we can replicate it here on Earth, we could produce a power source where the fuel is abundant, where we do not create very long-lived radioactive waste, and which can provide baseload energy.

That baseload aspect is very important. Fusion does not suffer from the intermittency challenges associated with solar and wind power.

If we want to power our industrial base and society robustly over the very long term, fusion therefore offers enormous promise.

The challenge is that replicating the conditions of a star here on Earth is by no means easy.

It requires incredibly challenging engineering to create the “bottle” (the containment system) capable of holding something as hot as a star and extracting energy from that fourth state of matter as efficiently as possible.

We have been working on that for many decades. The question now is whether we can take fusion into the commercial era. We have some new tools in our arsenal, and AI is one of them. That is incredibly exciting.

(2) How AI is being used in fusion

The name of the game is working out how to predict how something we might design is actually going to behave.

Throughout the history of engineering, we have largely relied on test-based design. That is why, for example, aircraft today still look quite similar to aircraft from the 1960s. We make lots and lots of relatively small improvements. We learn by doing.

You can think about this through what is called **the engineering S-curve**: moving from a concept through to maturity. Most products follow an S-shaped maturity curve over time.

A lot of industry sits towards the top of that S-curve. Every year you make incremental improvements, but you do not make giant leaps.

Making a giant leap means predicting something we have never actually seen before; - something a long way outside our previous domain of experience.

The way we do that is through models and simulation.

Fusion has used supercomputers for many decades. I have spent most of my career doing this.

About 15 years ago, I was already making the case for investment in exascale computing: the extremely powerful supercomputers of the kind we now see in the United States, Japan and Europe.

What is new is artificial intelligence.

AI algorithms themselves have existed for many years, but the graphics processing units developed by companies such as NVIDIA for computer gaming turned out to be extremely powerful for training AI systems and undertaking inference.

Riding on the back of GPUs, we now have a way of solving AI problems at scale.

That allows us to start bringing together empirical and experimental data (the data that historically allowed us to learn by building things in the real world) with models and theory, representing what we regard as the underlying physical ground truth.

We increasingly hear about the convergence of experimental data, simulation and multimodal AI.

In future, we should be able to combine models built from text, in a way analogous to systems such as ChatGPT, with time-series data collected over decades from fusion experiments such as the Joint European Torus (JET).

We can begin to put these together into foundation models that also contain physical constraints.

That gives us a potentially much more accurate way of taking giant leaps and predicting what happens as we move forward, but doing that first in the virtual world rather than the physical world.

It allows us to learn by doing virtually and potentially anticipate black-swan phenomena that can emerge when you construct enormously complex coupled systems.

(3) Digital twins and surrogate models

What we are talking about is effectively digital twins. The idea is that we will digitally twin machines such as STEP (Spherical Tokamak for Energy Production).

Those digital twins will be informed by experimental machines from which we are collecting real-world data, and we will combine that experimental data with simulation data.

Experimental data allows us to understand and move efficiently within regions we have already explored. Simulation is what allows us to extrapolate beyond them.

Combining the two is extremely powerful.

Artificial intelligence also allows us to collapse enormous simulations into something that is much more useful as an engineering tool. You will hear the term “surrogate model” used frequently.

We can drive very large simulations on exascale supercomputers and use techniques such as active learning to run the simulations we actually need, rather than running more than necessary.

We then build a much cheaper AI model which captures the relevant physics. That can give us many orders of magnitude of speed-up.

It is worth remembering that exascale computing itself is an enormous consumer of resources and energy. These machines can consume upwards of 20 megawatts when running at scale and are extremely expensive facilities to operate.

AI potentially allows us to collapse models that require machines of that size into something capable of operating on a laptop. We can then run many instances of those digital twins simultaneously and learn where the coupling between different systems is important.

Historically, we have often had to ignore some of those couplings because we simply lacked sufficient computing power.

With exascale computing, we can understand how important different parts of the physics are and begin putting back into our models physics that we previously had to remove.

(4) “Putting the physics back”

The computers simply have not been powerful enough to solve all the equations that we regard as representing the ground truth. We have therefore had to cripple the models, effectively.

That gives you a partial view and introduces what we call epistemic uncertainty into the model; - error arising from what the model itself does not know or cannot represent.

When you then take a large step outside the region you already understand and extrapolate, that error can balloon.

We therefore need to understand where we should now focus on “putting the physics back” into the models.

(5) The Sunrise supercomputer

The machine we are standing up is called Sunrise.

“The Sunrise supercomputer is a £45 million 1.4 megawatt (MW) mission-focused AI supercomputer. It is funded by the Department for Energy Security and Net Zero (DESNZ), owned by UK Atomic Energy Authority (UKAEA) and operated by the University of Cambridge. It is part of the UK fusion strategy 2026.

We expect Sunrise to become the world’s most powerful supercomputer dedicated to fusion energy development. It ranks in the TOP500 list of the world’s most powerful supercomputers.”

<https://www.ukaea.org/service/sunrise/>

It is what we describe as an application-readiness programme machine.

Whenever the United States has stood up a large exascale machine, it has not done so from a blank sheet of paper. It has first had a smaller machine that allows the applications, systems and ecosystem to be developed in preparation.

Sunrise will allow us to design the future computing ecosystem the UK needs if it is going to commercialise and deliver fusion. I would argue that this is its most important role.

But there is another equally important role: the spin-offs that will emerge.

One of the interesting things about fusion is that it is effectively a superset of engineering problems.

It contains thermal hydraulics, electromagnetics, structural mechanics and many other areas. Ultimately, a great deal of this comes down to solving highly complex systems of coupled equations. There are therefore enormous numbers of applications in other sectors.

Small modular reactors, carbon capture and storage and next-generation batteries, for example, share significant characteristics with fusion problems.

Fusion can help those sectors, and equally ideas emerging in those sectors can feed back into fusion.

So Sunrise is not simply about building surrogate models or doing fusion research faster and more cheaply.

It can act as a magnet for an ecosystem that changes the way we undertake engineering itself: moving away from purely test-based design and towards a more probabilistic, simulation-led form of engineering.

I think it can be a turbocharger at the heart of the Culham Growth Zone. Culham will also have an important sovereign dimension. There will be commercial partners, but we need sovereign computing capability.

We have to think about export controls. We have to think about intellectual property protection. And I expect significant adjacency with other government missions. It therefore has many different faces, but I think the sum can become much greater than the individual parts.

(6) Can AI accelerate commercial fusion?

When will we solve fusion? That is the billion-dollar - or trillion-dollar - question.

We need models that allow us to extrapolate with a sufficient level of accuracy.

AI is going to act as a **turbocharger**, an **accelerator** and a **de-risking** mechanism.

It will allow us to collapse the enormous cost of exascale simulations into models that are tractable and fast enough, while still sufficiently accurate to explore the design space and identify optimal engineered solutions.

We can then explore those solutions in the physical world.

When we build a new experimental facility or test rig, we want to be reasonably confident that it will produce the particular new information we need in order to take another large step forward.

We do not know that all of this is going to work. A great deal may depend upon how much the UK invests in supercomputing, AI, quantum technologies and the wider infrastructure around them.

But we can be reasonably sure that these technologies will accelerate development, de-risk it and create significant spin-offs.

I hope fusion is one of the technologies that reaches the commercial era within my lifetime. We have the best opportunity we have had during the 30 years I have worked in this field.

We have seen enormous change in fusion during those three decades, but arguably even greater exponential change in the technology sector.

The task now is to work out how to leverage that change for the benefit of fusion and the wider UK economy.

(7) How much fusion design space remains unexplored?

There is currently something like a Cambrian explosion of new confinement concepts around the world.

A lot of those ideas have been explored in the past, but they were explored without the benefit of today's supercomputers and AI optimisation. There is therefore still an enormous amount to learn. Even within tokamaks there is substantial design variation.

The Joint European Torus (JET) has one topology, which you might think of as being like a tractor tyre or conventional ring doughnut.

MAST (Mega Amp Spherical Tokamak) Upgrade has a different configuration: more like a fat doughnut with a hole through the middle, or a cored apple.

As you move from one topology to another, the physics changes. Some things become easier and other things become harder.

There are also other concepts, including the stellarator, which might turn out to be more compelling in future. And there are probably plasma topologies (ways of forming and confining the plasma) that we have not yet even imagined.

So when you ask whether we are effectively looking for AI's equivalent of an unexpected AlphaGo move: yes, exactly.

There are more opportunities to discover. The trick is whether we can use artificial intelligence to wrap our arms around the enormous complexity we are dealing with as an international community. I hope we do not retreat into tribalism. There is still an enormous amount to learn through international collaboration.



Juan Bernabe-Moreno

Director, IBM Research Europe
(UK and Ireland)

“ These types of problems
cannot be solved in isolation.

Key Message: *Fusion cannot be solved in isolation: UK leadership will depend on combining AI and next-generation computing with open innovation, partnership and international collaboration.*

(1) Why collaboration matters

What is imperative is that problems of this kind cannot be solved in isolation by any single party.

At IBM Research, our job is to advance computing, and you cannot advance computing in isolation.

It is very rare to find a domain which, as Dr Rob Akers described, acts as a proxy for so many different problems across so many other domains.

We have been working here in the UK in partnership with UKRI (UK Research and Innovation), and when we came together around two years ago, we recognised fusion as exactly the sort of challenge we wanted to address.

We have been focused on applying AI to difficult problems in science, and fusion is one of those problems. These kinds of partnerships enable that interaction.

Importantly, we have been doing the work openly. UKAEA has open-sourced its data, and the models have also been made available to the broader community.

Working in that way creates immediate advantages because we can bring together experts from the application domain with technology specialists, alongside the expertise of organisations such as STFC and UKRI.

(2) Maintaining the UK's competitive position

The first step is to believe that the UK genuinely is leading in these areas. If we are serious about maintaining that leadership, then it is very important to double down on investment.

Fusion will not happen without the right convergence of technologies. AI is one of those technologies, but there are others coming. We have heard about analogue computing and quantum computing.

A problem of this complexity can only be tackled through the convergence of multiple technologies. Those technologies also need to be treated as matters of national sovereignty, because that is part of how you defend a leadership position.

I work for a US company, and I can tell you that people in the United States are looking to the UK when it comes to fusion.

We have recently released what we believe to be the first foundation model for fusion for a tokamak, openly, and I have been told by important players in the United States that the UK is becoming a reference point when it comes to applying AI to this particular field.

We have taken the first step. We now need to keep pushing and find the right structures to sustain that momentum and continue investing in it.

(3) Open innovation, IP and economic value

The key concept here is open innovation. It is very important to embrace that paradigm. It will create intellectual property on the ground. It can enable new start-ups to emerge.

When IBM comes to the UK, for example, we also want to support local companies emerging on top of our technology. That is in our own interest, but it also creates jobs in the UK and helps put the country at the forefront of particular niche technologies.

I think open innovation is the paradigm that we should embrace, and so far it has been working very well.

(4) Where current AI reaches its limits

Our job is also to understand where a technology such as AI reaches its limits.

Fusion demonstrates that extremely clearly. You can build surrogate models and learn the physics up to a certain point, but ultimately you can only learn the physics contained in the data you have.

Sometimes the data simply does not capture everything. That means new ways of representing information become important if we want to push further.

We have mentioned quantum computing several times.

One thing we sometimes get confused about is the idea that quantum computing is simply something far off in the future, rather like the traditional perception of fusion.

- First, quantum computing is not in a horse race with AI. It is not an either/or question.
- Second, it is likely to become specialised in solving particular classes of problems where AI currently performs poorly.
- And third, importantly, it is already at the engineering stage. It is no longer simply a science or physics experiment.

That is relevant because at IBM Research we explore the frontier of technology.

When you have a problem of the extraordinary complexity of fusion, you can see very clearly where even the best AI models begin reaching their boundaries. They move outside their training distribution and predictions that previously looked convincing no longer make sense. That tells you that a piece of the puzzle is still missing. Fusion is therefore valuable not simply because computing technologies can help us solve fusion. Fusion itself helps us understand the limits of today's computing and what the next generation of computing needs to become.

That is how we see the opportunity, and why we want to continue exploring these frontiers and pushing them further.



DISCUSSION

**PARLIAMENTARY INTERVENTION:
ACCELERATING THE UK FUSION
OPPORTUNITY**



George Freeman MP

Former Minister of State for Science



I think this is a huge opportunity. These things don't come along very often.

Key Message: *The UK has a rare opportunity to lead the global fusion industry, but it must move faster to industrialise, attract private capital and secure that advantage.*

I am George Freeman, Member of Parliament for Mid Norfolk and former Minister of State for Science.

I spent 15 years making the argument here that the only way we are going to get out of debt and low growth is to make the UK home to sectors that are growing at 15 or 20 per cent a year. That is how you get the trend rate of growth up to three per cent.

I was therefore very proud, as Minister of State, that we got the funding for STEP, the Spherical Tokamak for Energy Production, over the line.

In negotiating to get us back into Horizon, I also got us out of Euratom (European Atomic Energy Community), on the advice of the sector, so that money could go into funding industrial fusion solutions.

I think this represents a genuine opportunity for us. Opportunities like this are pretty rare. I am a little sceptical about how much of the AI sector we can genuinely own, but in fusion it is clear to me that there is a major industrial opportunity for the UK.

It is not often that we have an opportunity to win and beat the Americans; - if we move at pace.

My worry is that we are moving at the speed of slow public-sector procurement on the spherical tokamak programme.

At West Burton, we should already be building fusion incubators and a fusion industrial business park. American venture capitalists have said, in effect: *this is brilliant; - crowd us in so that we can help grow the supply chain.*

I have really come here to signal my support for that.

Everyone used to say to me, “George, fusion will be 20 years away.” But if we keep saying it will be 20 years away, that becomes a self-fulfilling prophecy.

When I went around West Burton, when we gave the site to the UK fusion programme, I thought the location offered a remarkable opportunity. It is a former coalfield site.

There is not the same level of wildlife, NIMBY (Not In My Back Yard), or campaigning constraint that you would have in many other locations.

I asked: *how do we speed this up?*

One of the answers was planning. Why not designate it as critical national infrastructure? That could take three years off the process. If we pursue this like an Olympic victory, I think we could get to the deployment of fusion - not in five years, but on a timescale that people can actually see.

The application of AI to this is huge. But I am worried that we need to speed up procurement as part of the industrial strategy.

Further intervention

I fear that we are now two and a half years further on and are slowly losing the race. If we are not careful, we are going to see great UK fusion companies being taken out and used to anchor other countries' programmes. That is why I came here to signal that we need to move. There is also a huge opportunity around private funding.

As a trade envoy travelling around the world, I see that there is a wall of money available. We could, and should, be turning the £700 million STEP (Spherical Tokamak for Energy Production) commitment and the £650 million associated with Euratom (European Atomic Energy Community) into a global co-investment proposition: a fusion public-private partnership capable of attracting that international private capital.

Discussion: Additional Points

The wider parliamentary and audience discussion developed a number of additional issues beyond those highlighted in the contributions above.

Planning, infrastructure and international collaboration. Lord Taylor of Warwick

raised the challenge of securing planning permission for increasingly large data centres and asked whether Government should do more to accelerate development, including where proposals interact with Green Belt considerations. He also raised the wider strategic question of how the UK can pursue national leadership in fusion while maintaining the international cooperation on which scientific progress depends.

The discussion highlighted AI Growth Zones as one mechanism for accelerating planning, grid connections and infrastructure, while emphasising that international collaboration and UK competitive advantage need not be mutually exclusive.

Efficient AI and sovereign capability.

Lord Tarassenko highlighted the potential for more AI inference to take place locally, including through edge and on-premise computing, rather than relying exclusively on large data centres.

George Freeman MP'S intervention also raised the importance of sovereign AI capability.



This prompted discussion of whether AI Growth Zones could be connected more explicitly to a UK sovereign AI strategy, including support for domestic innovation in more energy-efficient chips and computing technologies.

Accelerating fusion through AI and advanced computing. Lord Ranger of Northwood, who moderated the evidence session, explored how AI is already being applied to fusion and whether it could materially accelerate commercialisation. The discussion examined digital twins, surrogate models, exascale computing and the Sunrise programme, as well as the potential for AI to allow researchers to explore much larger engineering design spaces virtually before committing to expensive physical experiments.

Access to national computing infrastructure for SMEs. Participants stressed that the UK's investment in supercomputing, scientific data and fusion research should be accessible to smaller companies and innovators. The UK Atomic Energy Authority (UKAEA) is exploring mechanisms for connecting industry and SMEs to these capabilities, potentially involving the British Business Bank, Sovereign AI, Innovate UK and ARIA.

Geopolitical risk, cybersecurity and strategic capability. The discussion also considered industrial espionage, protection of UK intellectual property and the security of strategically important AI and fusion technologies.

This reinforced the case for sovereign computing infrastructure and secure data environments, while recognising that excessive technological isolation could undermine the international collaboration required to advance fusion.

Net zero as resilience, security and affordability. The discussion emphasised that clean energy should not be framed solely in terms of climate targets. In the current geopolitical environment, the transition to cleaner energy is also increasingly connected to energy resilience, national security and affordability.

Open innovation and the STEP (Spherical Tokamak for Energy Production) intellectual-property model. Questions were raised about how open innovation can be reconciled with the protection of primary intellectual property within STEP.

The discussion suggested that approaches to IP are likely to evolve as STEP develops its industrial partnerships and supply chain, requiring a balance between protecting strategically important technologies and enabling wider industrial participation.

Fusion and the future energy requirements of AI. Participants considered whether fusion should increasingly be incorporated into long-term scenarios for meeting the substantial future electricity demand associated with AI and data centres. It was also emphasised that AI itself is likely to become substantially more energy efficient through developments in models, hardware, quantisation and specialised computing.

A group of people are seated in a wood-paneled room, likely a committee hearing or a formal meeting. The room features ornate green patterned wallpaper and wooden paneling. A large screen in the background displays the text "BREXITWOOD AND CHSAR" and the time "17:48". The people are seated at long wooden desks, and some are looking towards the camera while others are looking at their phones or documents. The overall atmosphere is formal and professional.

BIOGRAPHIES

OF EVIDENCE GIVERS



Lucy Yu

CEO and Founder, Centre for Net Zero

Lucy Yu is CEO and Founder of the Centre for Net Zero, an independent, non-profit energy and AI research institute established by Octopus Energy Group. She is the UK Government's AI Champion for Clean Energy and a member of the AI Energy Council and Smart Data Council. She has more than 20 years' experience building and scaling technology ventures across AI, energy and mobility, alongside developing technology policy and regulation for the UK Government, European Commission and United Nations. Her work focuses on the intersection of technology, energy systems and public policy, including how AI and data can support the transition towards a cleaner, more flexible energy system.



Dr Rob Akers

Director of Computing Programmes and Senior Fellow, UK Atomic Energy Authority (UKAEA)

Dr Rob Akers is Director of Computing Programmes and Senior Fellow at the UK Atomic Energy Authority (UKAEA). He has more than 30 years' experience spanning fusion science, simulation, high-performance computing, artificial intelligence and digital engineering. At UKAEA, he has helped shape advanced computing strategy and the use of AI, high-performance computing and digital engineering as tools for accelerating fusion development. His work encompasses areas including exascale computing, AI for science, digital twins and engineering simulation, with a particular interest in using advanced computational approaches to improve how complex engineering systems are designed, modelled and delivered.



Dr Juan Bernabe-Moreno

Director, IBM Research Europe, UK and Ireland

Dr Juan Bernabe-Moreno is Director of **IBM Research Europe for the UK** and Ireland, leading research teams across IBM's laboratories in Dublin, Hursley and Daresbury working in areas including artificial intelligence, quantum computing, semiconductors and advanced computing. He also leads IBM Research's Accelerated Discovery Strategy for Climate and Sustainability across seven global research laboratories. Before joining IBM, he was Chief Data Officer and Global Head of Analytics and AI at E.ON, where he applied data and AI to support the energy transition. He holds a PhD in Computer Science from the University of Granada and has more than 20 years' experience in data and AI.



About APPG AI

ABOUT

APPGs are informal cross-party groups in the UK Parliament. They are run by and for Members of the Commons and Lords. The All-Party Parliamentary Group on Artificial Intelligence (APPG AI) functions as the permanent, authoritative voice within the UK Parliament (House of Commons and House of Lords) on all AI-related matters, and it has also become a recognisable forum in the AI policy ecosystem both in the UK and internationally.

Parliamentary APPG AI Members: House of Commons

- Dr Allison Gardner MP Labour (APPG AI Co-Chair)
- Alison Griffiths MP Conservative
- Andrew Pakes MP Labour
- Bell Ribeiro-Addy MP Labour
- Chris Kane MP Labour
- Daniel Aldridge MP Labour
- The Rt Hon Damian Hinds MP Conservative
- Dr Danny Chambers MP Liberal Democrat
- Dawn Butler MP Labour (APPG AI Vice-Chair)
- David Reed MP Conservative
- Dave Robertson MP Labour
- The Rt Hon Esther McVey MP Conservative
- Emily Darlington MP Labour
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- Juliet Campbell MP Labour
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- Tim Roca MP Labour
- Tom Collins MP Labour
- Tom Gorden MP Liberal Democrat
- Tony Vaughan MP Labour
- Zöe Franklin MP Liberal Democrat
- Dr Zubir Ahmed MP Labour

Parliamentary APPG AI Members: House of Lords

- Lord Clement-Jones (Tim Clement-Jones) Liberal Democrat (APPG AI Co-Chair)
- Lord Bilimoria (Karan Faridoon Bilimoria) - Crossbench
- Viscount Colville Of Culross (Charles Mark Townshend Colville) Crossbench
- Lord Craig of Radley (David Brownrigg Craig) Crossbench
- Lord Cromwell (Godfrey Cromwell) Crossbench
- Viscount Camrose (Jonathan William Berry) Conservative
- Lord Hunt of Kings Heath (Philip Hunt) Labour
- Lord Janvrin (Robin Berry Janvrin) Crossbench
- Baroness Kramer (Susan Veronica Kramer) Liberal Democrat
- Baroness McGregor-Smith (Ruby McGregor-Smith) Non-affiliated
- Lord McNicol (Iain Mackenzie McNicol) Labour
- Lord Pitkeathley of Camden Town (Simon Pitkeathley) Labour
- Lord Ranger of Northwood (Kulveer Ranger) Conservative (APPG AI Vice-Chair)
- The Lord Bishop of Oxford (Stephen Croft) Bishops
- Viscount Stansgate (Stephen Stansgate) Labour
- Baroness Thangam Debbonaire (Thangam Elizabeth Rachel Debbonaire) Labour
- Professor Lord Tarassenko (Lionel Tarassenko) Crossbench
- Lord Taylor of Warwick (John David Beckett Taylor) Non-affiliated (APPG AI honorary Vice-Chair)
- Baroness Uddin (Manzila Pola Uddin) Non-affiliated (APPG AI honorary Vice-Chair)



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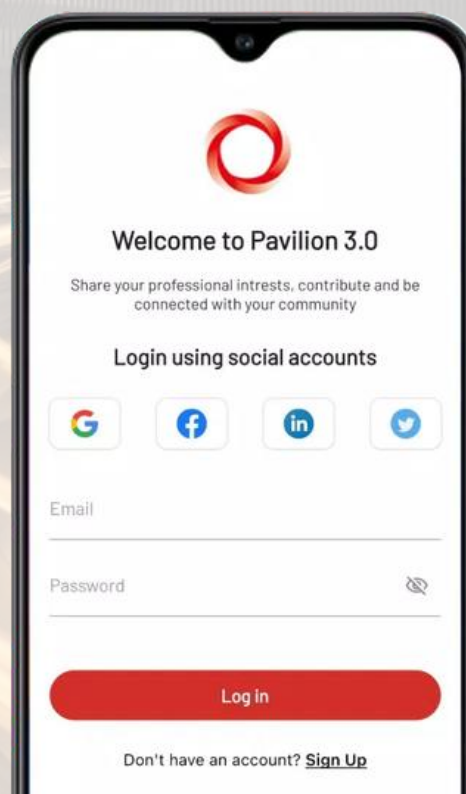
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