

Climate Tech Insights from the Global Expert Mission to California

25 March 2025



Housekeeping

- Please note that this session is being recorded and will be shared on the Innovate UK BC website.
- Should you have any technical issues during the session, please let us know in the chat box.
- Please feel free to use the Q&A tab to ask any questions.
- All participants will be muted and cameras will be turned off.
- The presentation will be share with you at the end of the session with a survey.

Agenda - 4pm to 6pm

- Welcome
- Innovate UK and Global support
- The State of Climate Tech in the UK
- Insight on California, Opportunities for Climate Tech innovation
- Roundtable discussion on opportunities for the UK and California Collaboration on Climate Tech
- Q&A
- Conclusions and next steps

Innovate UK and Global support

Joanne Humphries - Innovate UK

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We are the UK's innovation agency

As part of UK Research and Innovation (UKRI), Innovate UK is publicly funded to drive innovation and productivity across the UK.

We work for you to create a better future by inspiring, involving and investing in businesses developing life-changing innovations.



A typical Innovate UK backed business raises

>30%

more money
from the
private sector



Than similar businesses. Since 2007

**Direct
business
benefit**



£3.61

For every £1 invested

Over a seven-year period. Based on the most recent independent evaluation.

Our purpose

We drive **productivity and economic growth** by supporting businesses to develop and realise the potential of new ideas, including those from the UK's world-class research base.

We **connect businesses to the partners, customers and investors** that can help turn these ideas into commercially successful products and services, driving productivity, and supporting business growth.

Our mission is to enable the creation and adoption of innovation across the UK.

Overview of Innovate UK Global Programme

Global Scoping Workshops

Bring together in a workshop, UK businesses, research organisations and other stakeholders in specific technology and sector areas to help identify countries offering the best prospects for partnership and collaboration with the UK.

The outputs of the workshop(s) will help to narrow down where Global Expert Missions could be used to scope opportunities in more detail.

Global Expert Missions

Group of 6-8 experts scoping opportunities for UK businesses in specific countries and technology and sector areas.

- Three stages –
- Scoping visit
 - Dissemination report
 - Dissemination workshop

Global Business Innovation Programmes

Cohort of c.15 innovative high growth businesses exploring opportunities and building collaborations and partnerships in specific countries and technology and sector areas.

- Programme over 9-12 months with 3 phases –
- Get ready
 - Visit the market
 - Exploit the opportunity

Global Incubator Programmes

Cohort of c.6-8 innovative high growth businesses building long-term relationships and foundations for future market growth.

- Programme over 12-18 months with 4 phases –
- Prepare
 - Participate
 - Pursue – 3-6 months in an incubator in country
 - Exploit

The State of Climate Tech in the UK



Nicolas Wallet – Innovate UK

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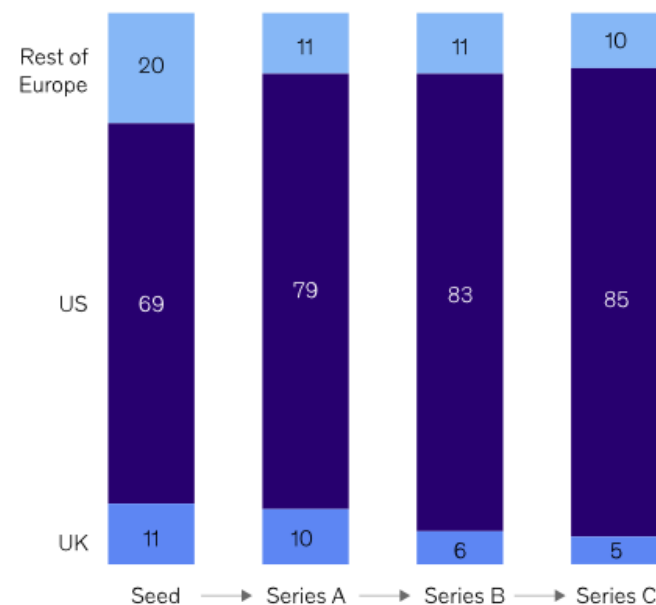
UK Climate Tech Snapshot

- **£4.5bn** raised by UK climate tech companies in 2023 – **Europe’s leading market.**
 - Over **1,700 UK companies** supported by UKRI climate programmes since 2016 .
 - Climate tech makes up **10–14% of UK startup investment** – growing year-on-year.
 - Strong national assets:
 - Leading universities in climate modelling, AI, materials.
 - Net Zero Innovation Portfolio (NZIP), SIF, NIA, ARIA, and Future Flight Challenge.
 - Infrastructure like **Teesside & HyNet** for carbon storage.
- **BUT:** A funding gap in later-stage (Series B/C) and deployment. UK lags on scale-up.



The United Kingdom’s share of the largest venture capital funding rounds decreases at the later stages.

Top 100 largest funding rounds in Europe and US since 2017,¹ % share



¹For the latest recorded funding rounds of start-ups founded after 2017.
Source: Crunchbase; McKinsey analysis

McKinsey & Company

Strengths in UK Climate Tech

The year in numbers

In 2022/23 Innovate UK awarded **1,043** net zero-related grants and supported **1,746** companies, committing over **£720 million** to net zero research and innovation projects across the United Kingdom¹.

 **£28m**
Agriculture and Food

 **£117m**
Heat and Power

 **£144m**
Make and Use

 **£400m**
Mobility

 **£32m**
Systems Approach

Innovate UK's five-year impact

In 2023, we are focusing on scaling climate technology, which places an emphasis on small and medium-sized businesses (SMEs). SMEs awarded a Net Zero Research and Innovation grant from Innovate UK since 2018 have:

Created **13,000** jobs

Raised **£4.7bn** of private investment

Exported **£4.5bn** worth of goods and services²

Why Climate Tech, Why Now

UK has legislated net zero by 2050 — a legally binding transition with massive industrial, environmental, and economic stakes.

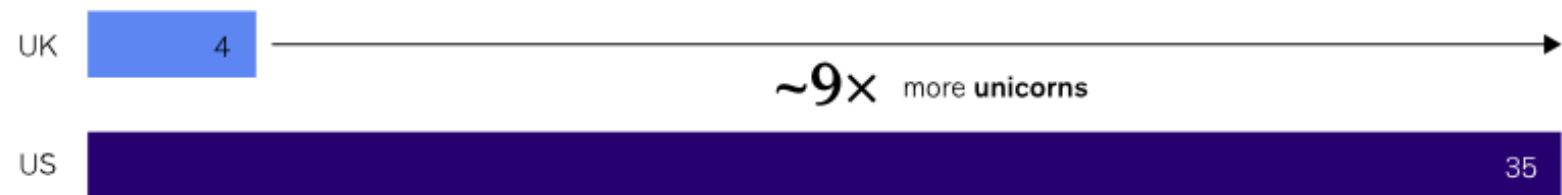
- UK is rich in innovation but **slow in scale.**

The United States has only three times as many climate technology start-ups as the United Kingdom but nine times as many unicorns.

Climate technology start-ups in the UK and US,¹ number



Climate technology unicorns in the UK and US,¹ number



¹As of 2022.
Source: HolonIQ; Statista, 2024

Startups & Innovation Ecosystem



- Strong pipeline of early-stage startups
 - CleanTech Group 2023: 15 UK startups in Top 100
 - Major hubs: London, Cambridge, Oxford, Bristol
- Support from **Innovate UK**, **EDGE**, Catapults, Climate-KIC — but lacking national scale-up routes.

A hand with white nail polish holds a small yellow flower against a blue sky with white clouds. The text is overlaid on a semi-transparent white box.

UK climate tech companies can overcome scaling challenges by adopting strategies such as setting ambitious goals, securing early customer commitments, achieving cost advantages, and building talented teams.

The Structural Weakness – Momentum & Deployment



- UK suffers from:
 - **Valley of death:** weak transition from R&D to commercial scale.
 - Siloed funding across departments.
 - Low domestic demand signals (e.g. delayed net-zero targets in housing, transport).
- We often **lead in invention, lose in deployment.**
- **As of 2023:**
 - 70% of UK climate tech funding was **pre-Series A**.
 - Scale-up capital flows offshore (e.g., US, Germany).
 - No equivalent to California's regulatory pull.

A Platform Worth Backing



- The UK has **climate science, innovation talent, technical edge**, and policy ambition.
- We now need:
 - Better **intervention design** (blended finance, public procurement).
 - **Whole-systems thinking** (energy-land-water nexus).
 - **Bold deployment** — moving from demos to business-as-usual.



Innovate
UK

**UK is a climate
innovation engine, let's
make it a delivery
powerhouse**

Insight on California, Opportunities for Climate Tech innovation.

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Organisation Team



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ClimateTech GEM technical areas of interest

The purpose of the Global Expert Mission is to identify areas and programs that will **enable UK innovators to collaborate more effectively with Californian partners** to deepen research & development and innovation collaboration on ClimateTech.

The mission predominantly seeks to explore the cross-sector applications of ClimateTech in various sectors, including

- **Climate risk modelling,**
- **AI-driven decision-making tools,**
- **Nature Based Carbon Capture and**
- **Carbon Sinks and land use.**



California

- California is the **5th largest economy in the world** (behind US, China, Germany, and Japan)
- **California's venture capital ecosystem** is one of the largest in the world, specialising in **clean tech, energy transition, and sustainability solutions.**
- California has approximately 3.9 million of entrepreneurs, with **Silicon Valley**, home to major climate tech startups and global R&D centers.
- California invested \$2.5 billion in climate tech R&D in 2024
- California has achieved a 20 percent reduction in emissions since 2000, coinciding with significant economic growth.

Population
39.1 million



California is the most populous U.S. state, leading in innovation and sustainability.

2024 estimate

Economy

California remains the 5th largest economy in the world since 2017.

In 2023, California's GDP was about \$3.9 trillion, comprising

14% of national GDP
(\$27.7 trillion)



California produces 9% of the nation's international exports of goods (\$179 billion in 2023) and 20% of its exports of services (also \$179 billion in 2022). It exports 17% of US agricultural products and 18% of computer and electronic products.

Greenhouse Gas Emissions

Reduction in emissions

Since 2005
20%
decrease (2024)



Government Investment in R&D for Climate Tech

California invested

\$2.5 billion

in climate tech R&D in 2024 and is proposing

\$2.7 billion

in 2025



Climate Tech Startup Landscape

California's Share of Climate Tech Startups

Approximately
20%
of U.S. climate tech startups



Number of Entrepreneurs

California has approximately

3.9 million entrepreneurs

representing a significant portion of the U.S. entrepreneurial landscape.



Effects of Climate Change in California

- **Wildfires:** Intense heat and droughts fuel massive wildfires, destroying ecosystems and homes.
- **Drought & Water Scarcity:** The state suffers from prolonged droughts, threatening agriculture and urban water supply.
- **Soil Degradation** and water-intensive crops (almonds, grapes) worsen sustainability issues.
- **Heatwaves:** Rising temperatures strain energy grids and increase health risks.
- **Sea Level Rise & Coastal Erosion:** Coastal cities (San Francisco, Los Angeles) are at risk due to rising sea levels.
- **Ocean acidification:** Rising **CO₂ emissions** from fossil fuels drive ocean acidification globally, making local reductions in emissions critical.



Mission overview - Stakeholders

Universities and Institutes

UC Davis
Bodega Marine Lab

Climate Tech Companies

AirCapture
Taro AI
Boomitra
Planet Labs
Scout AI
Aire Labs
Conservation Metrics
Taylor Wessing

Innovation Hubs

Yes SF
9Zero

Governmental bodies

San Francisco Department of the Environment
San Francisco Chamber of Commerce

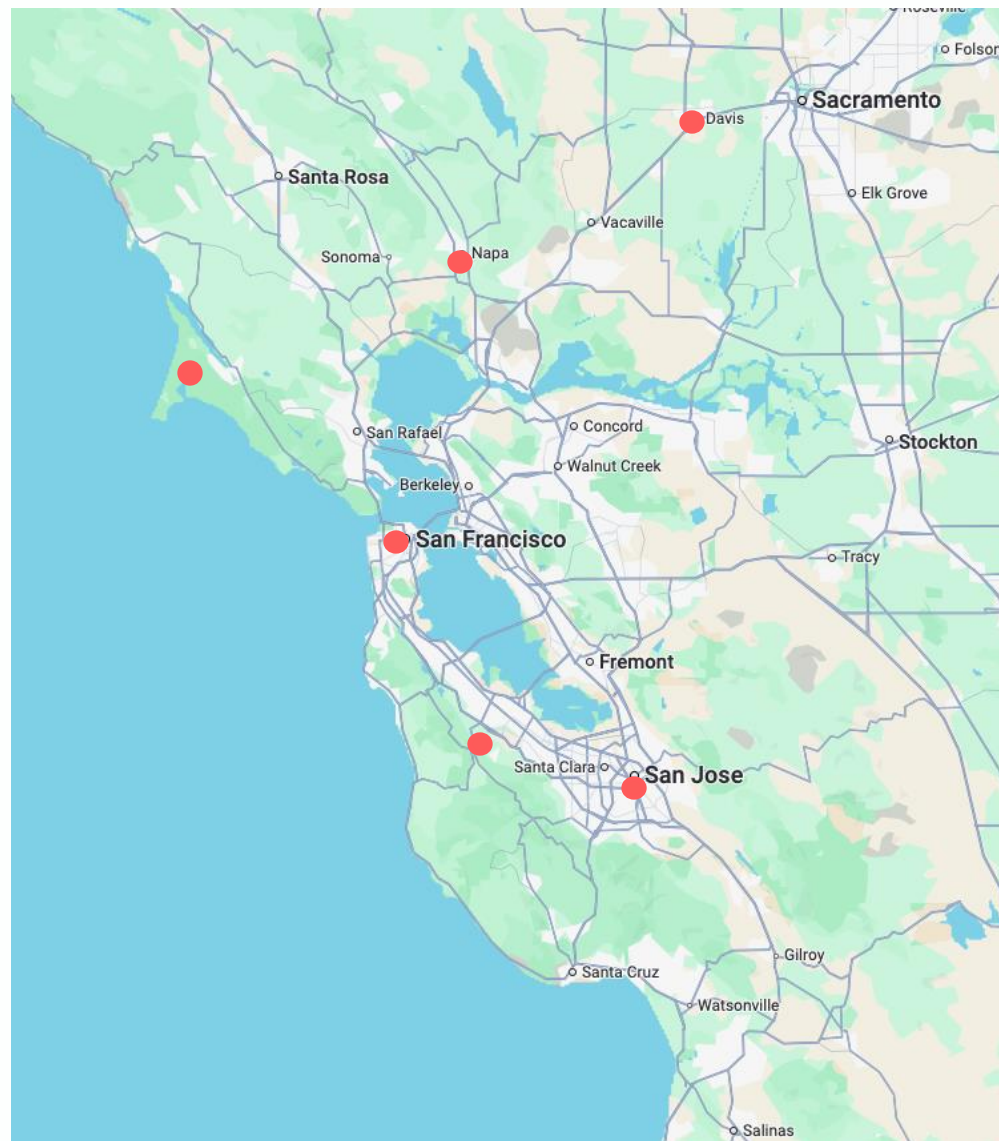
Non-profit Organisation

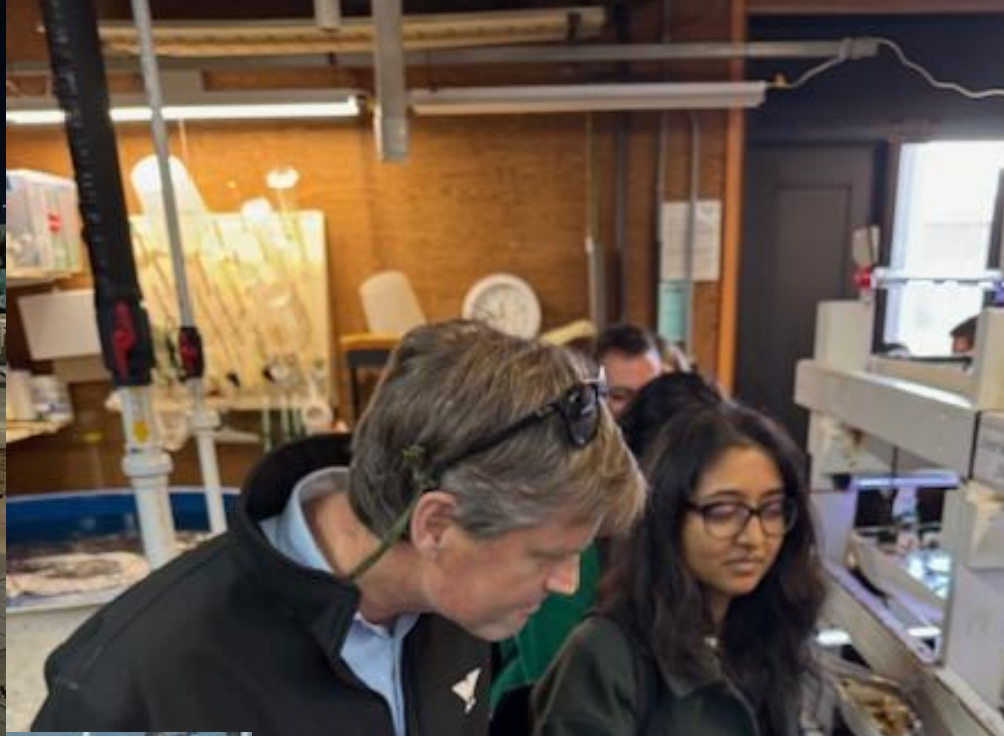
Climate Change AI
Rockefeller Foundation

Venture Capitalist

Shell Ventures
Cathay Innovation

VERGE 24





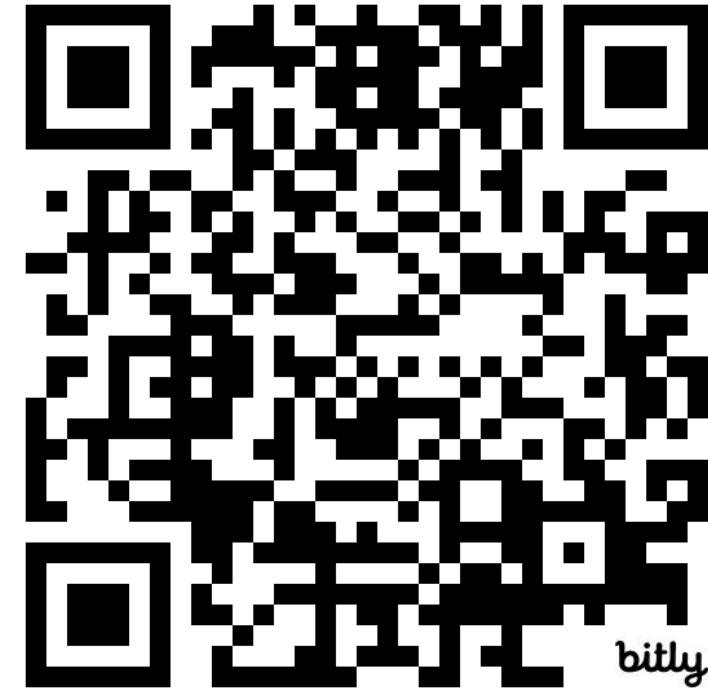
Global Expert Mission Report – Climate Tech in California



Innovate UK
Global Expert Mission Report
Climate Tech California USA 2024



28th October – 1st November 2024



Innovate UK Global Expert Mission Report
Climate Tech in California



Collaboration Opportunities



1 UK and California have strengths in different parts of the innovation journey

The UK is recognised for its ability to nurture ideas in the early stages of their innovation journey, and California excels in scaling, thanks to Silicon Valley firms and innovative policies. A UK-California partnership would establish strong support for SMEs during their innovation journey.

2 Creation of a UK-California working group to facilitate knowledge exchange

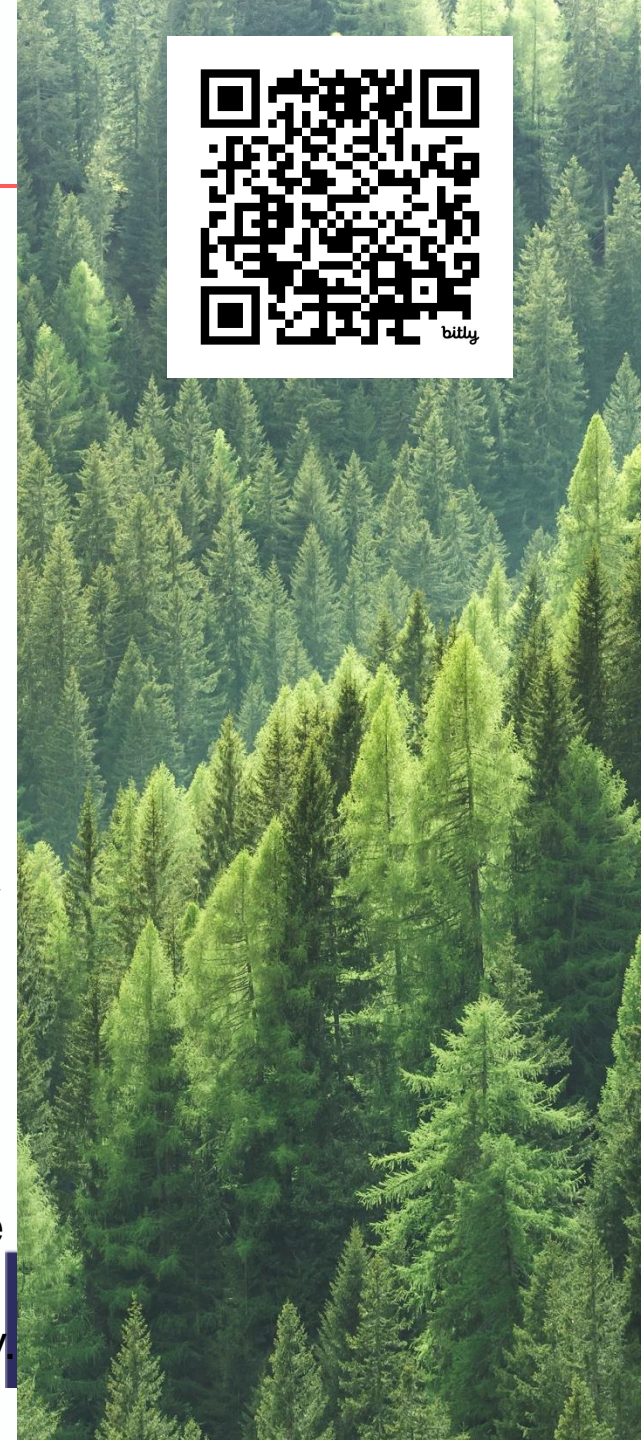
A UK-California working group would facilitate international data sharing, recommend global standards, and enable knowledge exchange to address climate issues.

3 Establishment and upkeep of a global Public Data sharing platform

As AI integrates into climate solutions, there is a need for validated and accessible data to train language models effectively. Sustaining public data internationally would better support climate innovations, enhance collaboration, speed up market entry, and yield higher-quality solutions for climate issues.

4 Guidance for International Carbon Credit Markets Standards

The GEM noted a booming market for SMEs in carbon credits and rising interest from the public and private sectors. The UK and California could collaborate on international standards for carbon credit markets, enabling SMEs to scale and expand internationally.



Collaboration Opportunities

5 Co-developing Carbon Capture Technologies

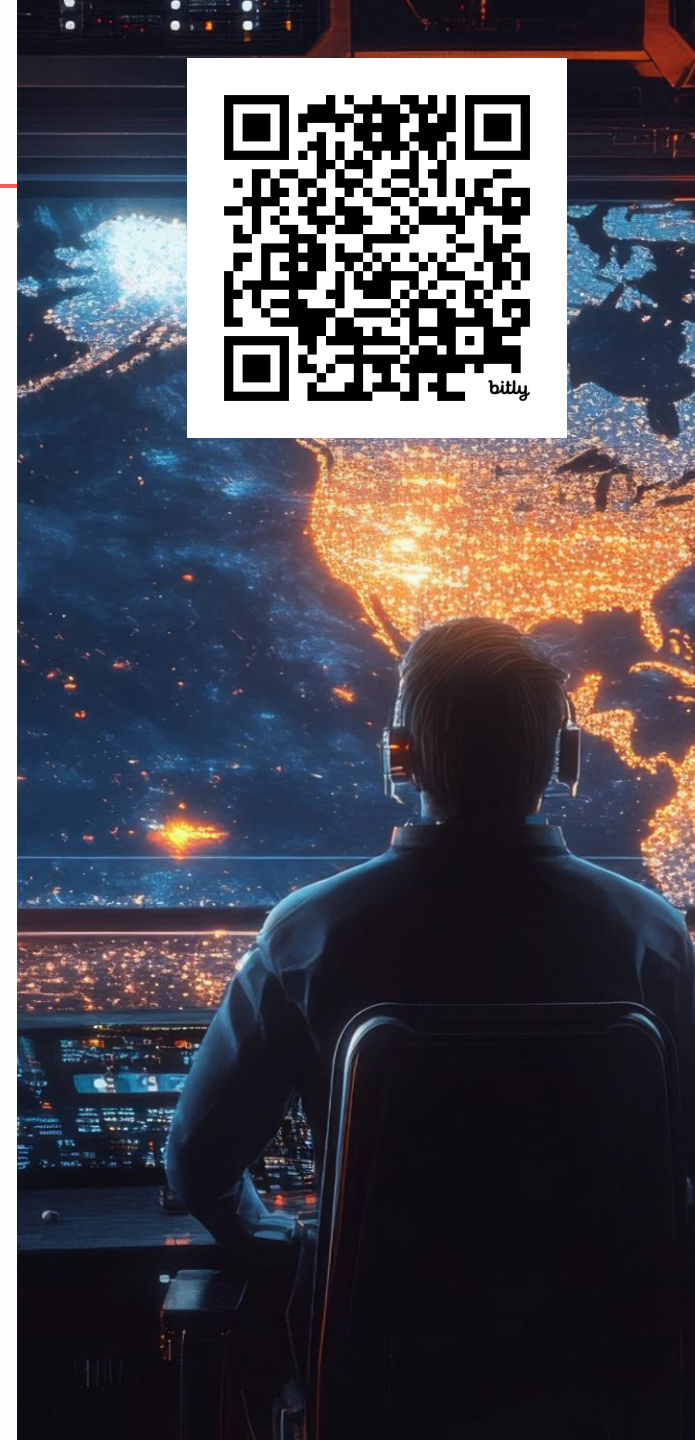
California and the UK have a unique opportunity to learn from each other in carbon capture technology. The UK could provide valuable insights or act as a consultant in developing alternative carbon capture and reduction solutions, such as the deployment of enhanced anaerobic digestion.

6 Land-based Solutions

The UK leads in Dynamic Land Intelligence™ (DLI) through data-driven strategies, satellite monitoring, AI, and IoT to optimise land use. There is potential for collaboration to enhance sustainable practices beyond traditional methods and approaches.

7 AI-based Climate solutions for cross-sector innovation

With an increased focus on climate innovation, there's an opportunity to share insights across industries, promoting the scaling of essential innovations and infrastructure to tackle climate issues. Innovations in satellite data, advanced manufacturing, materials, land use, and agriculture can integrate with supply chains to enhance development and speed up adoption.



Global Challenges

1 California's Self-sufficiency

California's innovation ecosystem is appealing but poses challenges due to its self-reliant nature. Silicon Valley's attractiveness has resulted in over 30% of Bay Area residents being international, showcasing a wealth of skills. Significant number of businesses and universities share an 'America First' mindset. California excels in supporting companies during scaling, with its private ecosystem providing 46% of US private funding. However, many public funding schemes for start-ups require a US headquarters.

2 Regulation Misalignment

California, a leader in US climate policy, faces notable market differences with the UK. Varying decarbonisation timelines may affect demand for innovations, requiring shifts in business strategies.

Despite the significant changes in US climate policy under the new administration, California has publicly stated its intention to maintain California's regulatory standards and uphold its leadership in climate policy



Global Challenges



3 The Climate Tech sectors in California and the UK address different innovation needs due to their distinct environmental challenges

While both focus on carbon capture and decarbonising buildings, California prioritises wildfire management, groundwater depletion, and drought control in agriculture.

4 Lack of Open Data

California's lack of open data hampers climate startups' technology development. Companies need environmental, water, and emissions data for predictive models and resource management. Fragmented reporting systems and transparency issues limit access to this vital information, slowing innovation and hindering technologies to address climate challenges like drought and wildfire prevention.

Round table Discussion

Next steps for collaboration

Scarlette Lesma
Energy Systems Catapult



Roundtable Discussion - Next steps for collaboration



Manish Goyal
Business Development Manager, Technology, Clean Technology and Green Business, Life Sciences and Healthcare Sectors Office of Economic and Workforce Development.
City of San Francisco

Caitlin Curtin,
Senior Consultant
European American Business Organization

Meyrick Evans
VP Finance
Brilliant Planet Limited

Jonathan Hendry
Chief Technology Officer
4EI Ltd

Sholto Moger
CEO
Harrier Ltd

Krupa Nanda Kumar
Climate services development manager
Space4Climate

Peter Hammond
Chief Technology Officer
CCm Technology

Questions?

Please use the Q&A function



Conclusion and Next steps



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Innovate UK Global Expert Mission Report
Climate Tech in California



Thank you

ClimateTech Insights from the
Global Expert Mission to California

