



OCTD

Oxford Centre for Technology and Development

Climate Impact Toolkit

Overcome **Data Scarcity**

Evaluate **Climate Action**

Measure Your **Impact**

Investment in climate tech is surging.

In the past decade, there has been a 40X increase in climate VC globally.

In 2022 alone, over \$70bn VC funding was invested in climate tech.

These trends are disproportionately reflected in emerging markets.

Climate tech is a nascent industry, with most companies < 3 years old at initial funding stage.

In the context of huge investments, measuring impact, validating success, and facilitating innovation is essential and achieving these in emerging markets is a greater challenge due to data scarcity.

Data scarcity prohibits progress in emerging markets & beyond

Data is critical for setting climate strategy; developing plans; tracking progress; and making public disclosures. It helps organisations prioritise paths to net zero. It provides business cases for investment.

Deloitte Report

The Challenge

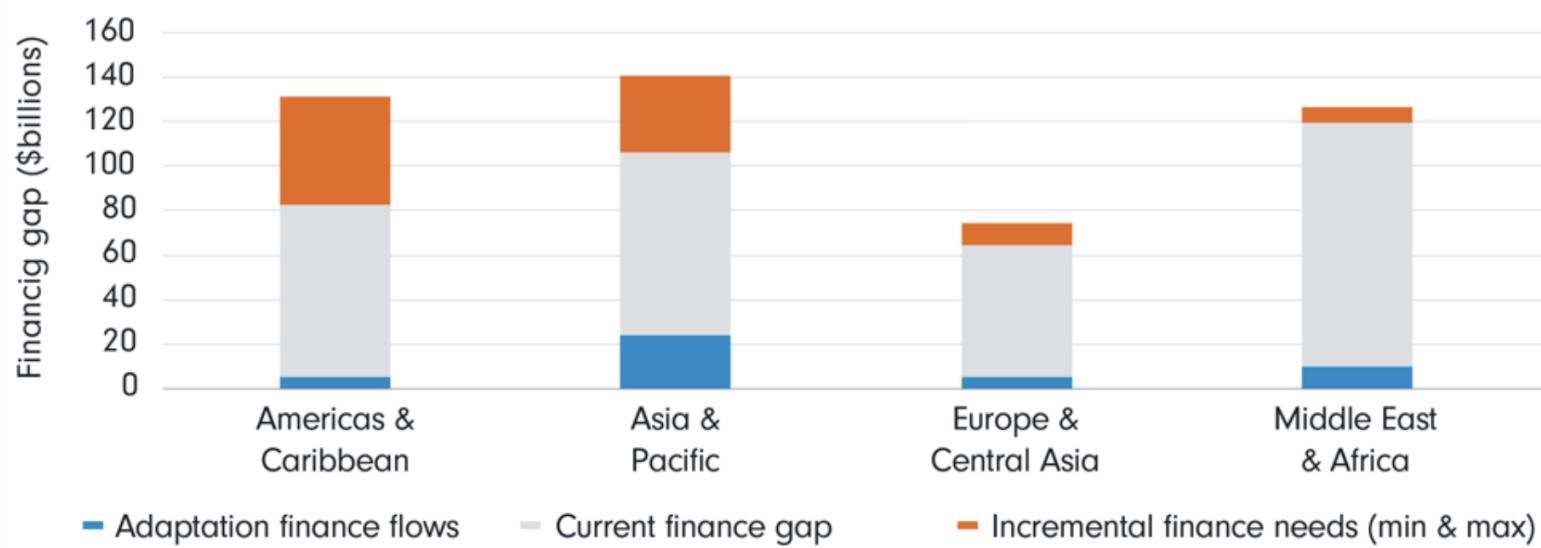
The inability to measure impact is prohibiting progress. Complex, messy, and incomplete data limits innovation and investment — and such issues are felt most in emerging markets.

"Only 8% of energy transition investments in 2021 went to emerging markets"
(Oxford Climate Tech Initiative, 2023)

▼ Why does this matter?

- **Unmet demand:** Existing and potential technologies are not developing within the communities most vulnerable to the climate crisis.
- **Investment Barrier:** Unquantifiable impact hinders entry into emerging markets, despite a strong appetite for climate investment.
- **Innovation Potential:** Emerging markets are hotbeds for crucial and innovative climate-tech solutions.

The Middle East and Africa along with the Americas and Caribbean face the largest financing gap



Notes: Range based on extrapolations using (1) population (i.e., population multiplied by demand per capita reported in NDCs) or (2) land area view (i.e., sum of land area multiplied by investment demand per sq. km reported in NDCs). Numbers are rounded to the nearest billion. Regional adaptation finance flows in 2019-2020 as reported by CPI. Adaptation finance flows to Europe and Central Asia were greater than estimated need based on NDCs. Source: NDCs; CPI Global Landscape of Climate Finance 2021; World Bank; BCG Analysis; Fidelity International, 09 January 2022.

[The Climate Data Divide](#)

[Fidelity Investment Report](#)

The importance of a **more robust, granular and frequent impact measurement** is growing every day.

Our toolkit targets the climate data gap, offering robust solutions for comprehensive impact measurement.

"...in the International Energy Agency's net-zero scenario, just over one-third of the emissions reductions occurring in 2050 depend on technologies that are currently only in development.

Innovation capital, in much larger amounts than today's sums, will therefore be vital for decades to come."

PWC, State of Climate Tech 2023

Our Solution

Oxford Centre for Technology and Development (OCTD) has developed **novel methods** to overcome data scarcity and measure the impact of climate-tech companies in emerging markets.

OCTD leverages a blend of **Oxford and Cambridge expertise** to tackle climate-tech data challenges in emerging markets. We utilise **advanced methodologies for precise impact assessment**, enabling businesses and investors to make informed decisions.

" 66% of companies are unable to quantify their climate impact" (**Climate Salad, 2023**)

These tailored solutions support investors, corporations, and multinationals to **monitor, track and measure the seemingly unquantifiable** — ranging from ESG measurement to ROI assessment and infrastructure development.

Our partners and clients range from **Google, Meta, and United Nations** agencies, conducting projects in across **Africa, Middle East and Asia**, including Jordan, Mongolia, Kenya and Turkey.

Why now?

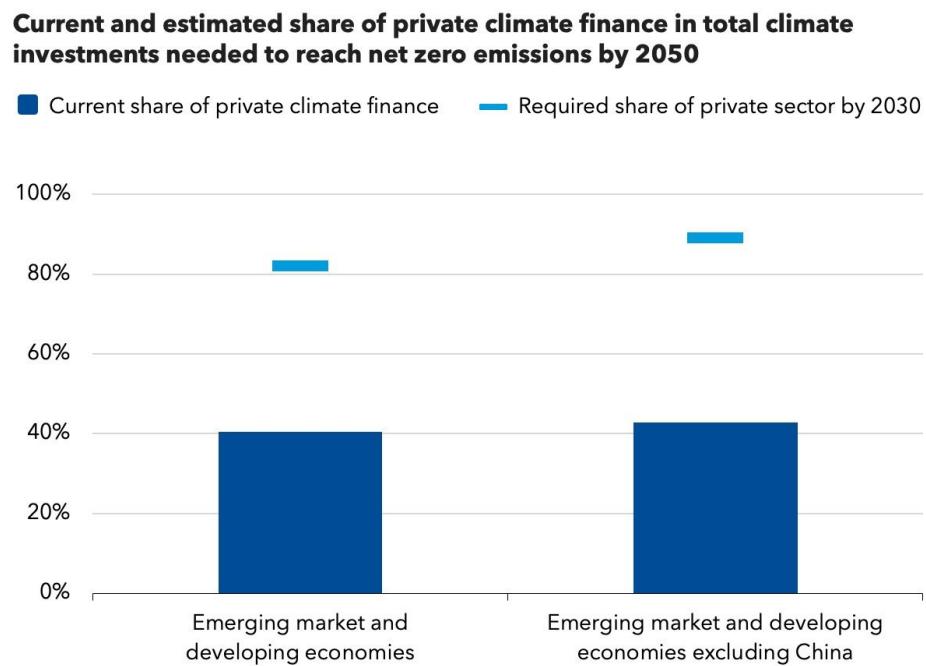
Innovation and investment in climate tech is booming.

Policymakers are facilitating the private sector to embrace climate technologies and governments are pledging millions to fund climate tech companies.

EU Carbon Border Adjustment Scheme

US Inflation Reduction Act

"A major share of climate mitigation investment in emerging market economies must come from the private sector" (IMF, 2023)



Accountability and reporting in growth, innovation, and investment demands the integration of climate considerations into business structures.

The only way to **maximise investments and consolidate climate impact** is with **effective measurement, validation, and reporting**.

AN OUTSTANDING TEAM



Dr Emre Eren Korkmaz

Founder & Director
Academic at the University of Oxford's Department of International Development.



Dr Jason Bell

Senior Researcher, Marketing & Data Scarcity
Associate professor at Said Business School.



Dr Tuba Bircan

Senior Computational Social Scientist
Associate professor at the University of Cambridge.



Meric Sevgi Eren

Fellow, Business Development & Marketing
Said Business School graduate.



Thomas Serban von Davier

Senior Researcher, Artificial Intelligence
DPhil candidate at University of Oxford's Computer Science Department.



Alpin İlayda Özmen

Fellow, ESG and benchmarking
Strategy Director ESG Programs, Duke Corporate Education. Ex-McKinsey



Saru Gupta

Fellow, Green Energy, Adaptation & Climate Finance
SOAS graduate.



Michael King

Operations & Qualitative Researcher
University of Oxford graduate.



Miguel Luis Arias

Fellow, Nature-based Solutions
UNDP Nature for Development. University of Oxford graduate.

Unmatched expertise from technologists, data scientists, climate specialists, and strategists.

Advisory Board



Dr Mark Mann & Arnab Dutt
Co-Founders,
DivineOx



John Goedschalk
Climate Entrepreneur & expert



Joanna Catalano
Tech Executive



Andres Saint-Jean
Head of ESG and Digital Learning, Duke CE. Ex-McKinsey

Delivering Value to Partners

Our team strengthens data quality to support businesses and institutions in evaluating, measuring, and increasing their impact.

We reduce barriers to investment by overcoming data scarcity and providing impact measurement to enable better decision-making and clearer understanding of opaque contexts.

We empower institutions to invest in climate tech more readily in communities where solutions are needed most.

Previous clients include



How do we work at data-scarce regions?

We are experts in handling **less-than-ideal datasets**, measuring impact using specialist methodologies.

Our methods stretch from big data analysis to micro-analyses of alternative datasets. Crucial to climate tech and infrastructure development, we actively use satellite, earth observation and remote sensing data to overcome data scarcity in traditional reporting datasets.

Our methods are tailored to context, strategy, and aims, broadly categorised into three approaches:

More Efficient Use of Existing Data

- Interpolation (synthetic interpolation)
- Pooling approaches (e.g., hierarchical models)
- Regularisation and informative priors (academic and industry literature)
- Inertia (an empirical heuristic)

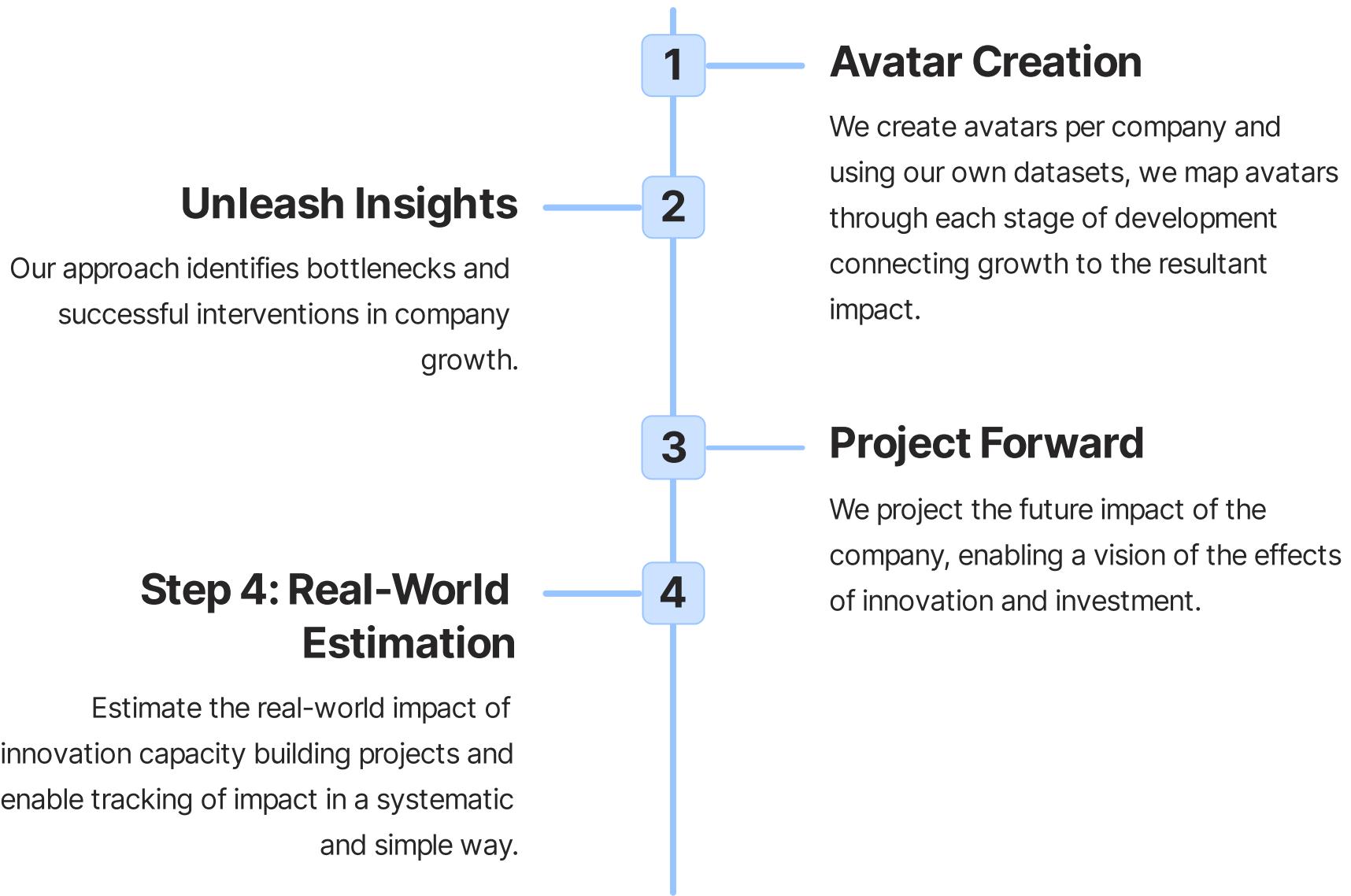
Augment Existing Data

- Data fusion (micro/macro, intertemporal)
- Surrogate models (short and long term)
- Leading indicator data (search interest, social mentions)
- Data enrichment through expert elicitation

Risk Mitigation

- Uncertainty quantification (probabilistic estimates)
- Loss function integration (from “most likely” to “most important”)

Our Approach to Impact Measurement



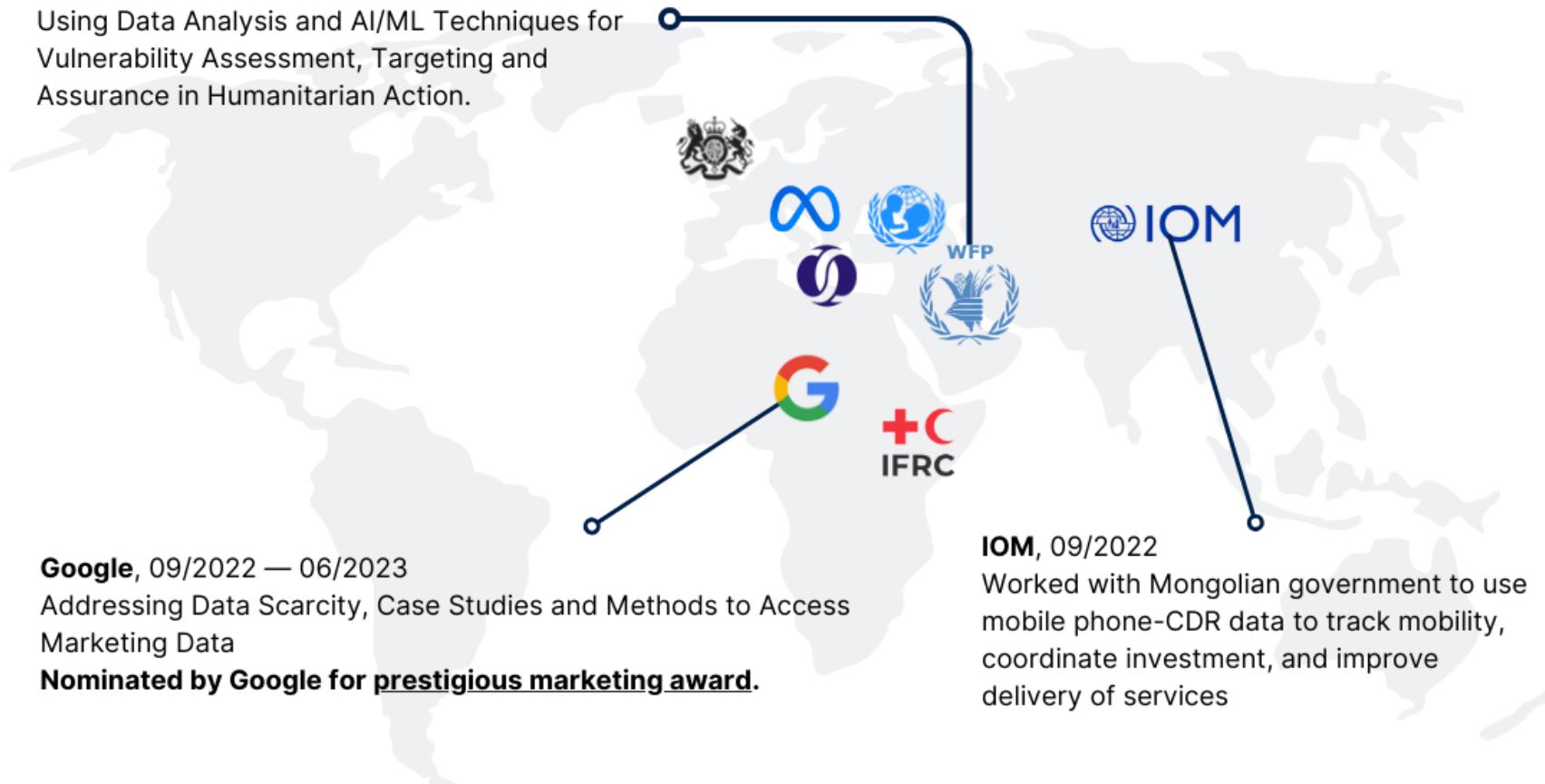
CASE STUDIES

We deliver for partners worldwide, **testing our novel methods with excellent results.**

In each partner project, we invest in our own services and technology, growing our toolkit to overcome data scarcity in emerging markets to generate greater impact and resilience against the climate crisis worldwide.

World Food Programme, 09/2023-ongoing

Using Data Analysis and AI/ML Techniques for Vulnerability Assessment, Targeting and Assurance in Humanitarian Action.



Working Together

OCTD continues to develop its project-based services across the world. Our tailored solutions support investors, corporations, and multinationals to **monitor, track and measure the seemingly unquantifiable** — ranging from ESG measurement to ROI assessment and infrastructure development.

Partners submit assignments to measure impact. We determine available, relevant data and identify data gaps. Our experts work to strengthen and validate existing data, and generate datasets from specialist and alternative methodologies where required.

The result? **A robust foundation for measuring and validating impact, empowering you to make data-driven decisions and seize new investment opportunities.**

Our services cater to a diverse range of potential clients, including investors, insurance companies, financial institutions, development banks, and climate tech-focused venture capitalists.

Possibilities for Impact

Development Bank — funding a motorway with a key target to reduce air pollution in capital city. The evaluation team spent over one month to measure this due to insufficient data.

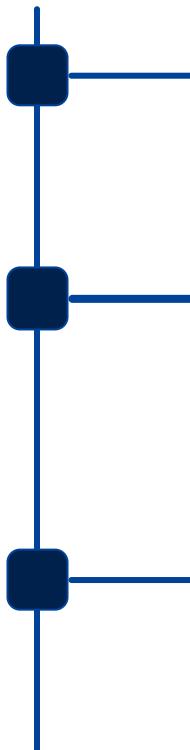
HR Tech — HR Tech company introduces a Green HR model to decrease carbon footprint by 16% but cannot validate this process.

ESG — Organisational requirements to prepare ESG reports without ability to measure the E.

Start-ups — Climate tech start-up aiming to raise funding for its new product

Impact investor — Investors aiming to monitor and measure the impact of climate tech companies on their portfolio

Scaling our service

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- OCTD has raised over **£600,000 in 'seed funding' via assignments**, operating as a project-led service. Our team is growing and we continue to bring in new clients.
 - Through continued investment in our own services and technologies, we **continue to grow our toolkit to overcome data scarcity and measure the impact of climate-tech companies in emerging markets**.
 - Over the next 24-months, **OCTD will develop an AI-powered data management platform, aiming to revolutionise climate-tech impact measurement and establish new industry benchmarks**.

Oxford Center for Technology and Development

We are an Oxford-based research and consultancy company. We research, manage projects, and provide training on issues related to technology and development.

Google, Meta, Red Cross, EBRD, IOM, World Food Programme, and UNICEF are among our clients.

[Discover More about OCTD](#)

[Contact Us at info@octd.co.uk](mailto:info@octd.co.uk)