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Company Prospectus

Information provided in relation to PS22410 –
Futures Framework

Cambridge Econometrics
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Cambridge Econometrics' mission is to provide clear and useful insights, based on rigorous and independent economic analysis, to address the complex challenges facing society.

www.camecon.com

Cambridge Econometrics Limited is owned by a charitable body, the Cambridge Trust for New Thinking in Economics.

www.neweconomicthinking.org

Overview of Cambridge Econometrics

Cambridge Econometrics (CE) is an economics consultancy that works globally from offices in Cambridge (UK), Brussels, Budapest and Northampton, Massachusetts.

We specialise in economic research and the application of economic modelling and data analysis techniques for policy assessment and scenario planning. Our mission is to provide clear and useful insights, based on rigorous and independent economic analysis, to address the complex challenges facing society.

We began life in the late 1970s as a spin-off from the University of Cambridge, taking forward the work carried out in the Cambridge Growth Project founded by Nobel Prize winner Richard Stone, and are now majority-owned by the educational charity the Cambridge Trust for New Thinking in Economics. We have been included in the Financial Times' annual list of the UK's leading management consultancies since 2020.

1.1. Our work

The scope of our work includes:

Economy:

- Innovation
- Infrastructure
- Tax & finance,
- Sectors, trade & competitiveness
- Regions, cities & local

Society:

- Jobs & skills
- Inequality & poverty
- Population, migration & housing
- Health & social care

Environment:

- Energy
- Climate
- Circular economy
- Natural resources

1.2. Our skills and expertise

We have specific expertise around methodologies which *explore the dynamics of change and describe what the future might be like, and developing and testing policy and strategy.*

CE's core work is economic research and the application of economic modelling and data analysis techniques for policy assessment and scenario planning, and we provide: strategic planning, Policy evaluation, Foresight and forecasting, Scenario modelling and Impact assessment.

A major proportion of our work focuses on the application of whole-economy macro-sectoral models, notably our global E3ME model. These powerful tools give us the ability to explore, analyse and interpret a wide range of topics and scenarios.

Cambridge Econometric technical skills and expertise

Future Toolkit methodologies	Technical expertise
Horizon scanning	Macroeconomic / E3 modelling
Driver Mapping	Stakeholder interviews
Axes of Uncertainty	Econometric/other statistical techniques
Scenarios	Green book-compliant evaluations
SWOT Analysis	Benchmarking
Policy Stress-testing	Trend analysis/forecasting
Roadmapping	

Key personnel

Presented below are a selection of senior staff who could be involved in Futures work (depending on the particular thematic area). They would be supported by other colleagues as appropriate.



Jon Stenning

Director

Jon Stenning is a Director at Cambridge Econometrics, where he heads up the Environment team, with overall responsibility for work on energy and climate. He specialises in distilling complex economic and econometric analysis into policy-relevant messages. He has sixteen years' experience managing and delivering projects for a wide range of clients and presenting technical content to both technical and non-technical audiences. Examples of his Foresight work includes: a study for BEIS on the economics of energy innovation and system transition (EEIST) the potential macroeconomic implications of demand-pull innovation.



Chris Thoung

Director

Chris Thoung is a Director at Cambridge Econometrics with responsibility for the company's portfolio of work on social policy, including jobs and skills. He is an economist and quantitative researcher with over a decade of experience in analysis for public policy, spanning research consultancy, the public sector and think tanks. His work typically involves analysis of a wide range of datasets, whether individual-level or aggregate in nature, and the application of statistical techniques for modelling/forecasting.

Examples of his Foresight work includes skills anticipation studies in UK, Europe and internationally.



Adam Brown

Principal Economist

Adam Brown is Principal Economist and Head of Regions and Cities at Cambridge Econometrics. With a PhD in complex systems modelling and a first-class honours degree in Economics and Management, Adam specialises in applying a systems analytics approach to tackling complex social and economic questions. His research focuses primarily on understanding how local economies evolve over time and the role of public policy in shaping

these outcomes, including policies relating to agglomeration, transport and housing, net-zero initiatives, labour markets, and innovation.



Jennifer Dicks,
Managing Economist

Jennifer Dicks is a Managing Economist within the Environment Team at Cambridge Econometrics. She specialises in studies which examine the interactions between the economics, energy and environment domains, extracting relevant messages from quantitative modelling and analysis, for both technical and non-technical audiences. Previous foresight work includes many projects examining the socio-economic implications of the energy transition.



Shyamoli Patel
Principal Economist

Shyamoli Patel is a Principal Economist at Cambridge Econometrics working extensively on issues of regional and local economic development. Her skills are in using quantitative analysis and economic modelling to inform long term policy development.

Case studies

The following three case studies highlight our areas of expertise in carrying out Futures work.

1.

UK Shared Socioeconomic Pathways (UK-SSPs), for Met Office

The challenge

The client required an internally consistent set of socioeconomic scenarios for the UK (UK-SSPs) coherent with the IPCC community Shared Socioeconomic Pathways (SSPs) that would provide the basis for further UK research on climate risk and resilience.

Our approach

Using a range of quantitative and qualitative methods, Cambridge Econometrics downscaled and extended (spatially, temporally, and sectorally) the full set of five global SSPs for the UK to support more detailed analyses of climate risk and resilience

Stakeholder workshops

Narratives for the UK SSPs and semi-quantitative trends for a wide range of socioeconomic indicators and system diagrams were created through a workshop with 35 stakeholders, representing academia, public policy interests and wider business. During the workshop, plenary and breakout group sessions were alternated to bring together different expert and local knowledge, viewpoints and insights. Semi-structured interviews with individual stakeholders followed the wider stakeholder workshop to help fill gaps in the country-specific details for England, Wales, Scotland and Northern Ireland.

The consensus views on the semi-quantitative trends resulting from the workshop process were further complemented with additional trends in variables sourced from the global SSP scenario database, the UK-SCAPE project and consultations with the project's User Panel.

Quantified projections for 25 socioeconomic indicators

Separate to the stakeholder workshop process, a set of detailed quantified projections were produced for 25 socioeconomic indicators. A variety of complex methodologies were applied to construct the projections. Preliminary quantification results were iterated multiple times within the project team to define parameters and adjustments in a way that ensures internal consistency with the narratives and semi-quantitative trends produced earlier in the project.

The outcome / impact

The work produced four products that have provided major benefits for future research into UK climate risk and resilience:

- Narratives for all five SSPs for the UK and its countries that have been regionally, sectorally and temporally extended from the global SSPs;
- Library of semiquantitative trends for a wide range of socioeconomic indicators;

- Quantified projections for specific indicators at the appropriate temporal and spatial resolution (ranging from a 1km grid to the whole of the UK);
- A set of system diagrams that visualise and quantify the interrelationships between the key drivers represented in the scenarios and ensure internal consistency in their future projections, enabling the UK research community to add new variables or quantifications in the future.

To help communicate the benefits of these products to the UK climate resilience research community and other key audiences, a dedicated webpage was developed to host all the outcomes of the project, including an infographic and videoexplainers providing an overview of the project and the individual scenarios.

The products of the UK-SSPs have been widely used since their publications within climate resilience research. Users include The Met Office, Defra, The Tyndall Centre, UK Centre for Ecology & Hydrology, Department for Education, James Hutton Institute and the Universities of Leeds, Reading and York.

2.

Economics of Energy Innovation and System Transition (EEIST), for BEIS

The challenge

The client required an improved evidence base to support decision making around innovation and technological change so as to facilitate a more rapid transition to a low-carbon environment across the UK, EU, China, India and Brazil. The particular focus was on alternative approaches to economic appraisal which better capture the real economics of innovation and transition, particularly in relation to the challenge of deep decarbonisation.

Our approach

As part of a University of Exeter led team, Cambridge Econometrics' role focused on applying its E3ME macroeconomic model and Future Technology Transformations (FTT) sub-modules to explore scenarios of future transitions. The team worked closely with industry, academia and government experts across the partner countries China, India and Brazil to model relevant policy scenarios, exploring (amongst other topics) the policies required to achieve net zero, different options for electricity market design, and the potential impacts of accelerated EV deployments.

In addition to the collaborative approach to modelling policy scenarios, Cambridge Econometrics led workshops for academic and policymaking audiences in each of the three partner countries, focused on building capacity in local institutions to understand and use the new models and methods featured in the EEIST project, including E3ME-FTT.

The outcome / impact

The EEIST programme has lasting impact with its focus on supporting governments in their missions to respond to the catastrophic impacts of climate change and inform transformative policy solutions, bringing together experts and policymakers across the world.

- Networks to support global sustainable development: Strengthened knowledge sharing and expertise across the partner countries through building a network of world-leading experts in complex systems modelling, and policy experts in economics, climate and environment to better understand and inform rigorous science climate policy initiatives in China, Brazil, India, the UK and the EU.
- New methods: Using E3ME-FTT, applications of new methods of economic analysis to the transition in China, India and Brazil were published as part of a wider report.
- Knowledge sharing and training: Academics, policymakers and think tanks in the partner countries were introduced to the new analytical and modelling approaches featured across the EEIST programme and given practical training on how to use and apply the new tools developed.

3.

Scottish Futures Scenario Modelling, for Scottish Futures Trust

The challenge

The client needed an evidence base to inform the development of an infrastructure needs assessment for the Scottish economy. Taking on a broader definition of infrastructure beyond energy, transport, digital and utilities, the needs assessment needed to also include justice, leisure, culture, flood defences, health and education. It was important to the client that the infrastructure needs assessment considered future needs against a range of potential scenarios relevant to Scotland's future..

Our approach

The work involved three parallel workstreams:

1. Scenario development
2. Economic forecasting
3. Infrastructure demand forecasting.

The scenarios were developed through a series of roundtable discussions with various stakeholders and experts to identify the most salient futures that might affect the Scottish economy, society, and demand for infrastructure.

A long list of potentially relevant themes (including technological development, changes in behaviour and consumption patterns and climate change) were narrowed down to three: population change; changes in behaviour; the future economic direction of Scotland:

For each theme, two alternative narratives 'Green industrial revival' and 'Service led growth' were developed representing future possibilities.

Each of the possible permutations of the three themes was assessed qualitatively and quantitatively. Cambridge Econometrics quantified the alternative scenarios using the well-established and reputable Local Economy Forecasting Model (LEFM). The core model was extended to model six regions of Scotland, and to link demand for the different types of

infrastructure to the social and economic variables quantified in LEFM. This drew on a significant review of existing evidence.

The outcome / impact

The project delivered:

- a number of workshops providing the space for open discussion among stakeholders of the future socio-economic trends, resulting in consensus on a number of agreed scenarios that could be used as necessary outside this study
- a report clearly highlighting the implications for future infrastructure demand, the key drivers and patterns of note: findings will help shape the future long term investment plans
- an interactive dashboard tool was developed to aid dissemination within the client organisation of what was a complex set of results.

