

## Expert Advisory Panel: Terms of Reference

### Purpose

The function of the Expert Advisory Panel is to help the Airports Commission to access, interpret and understand evidence<sup>1</sup> relating to the Commission's work, and to make judgements about its relevance, potential and application. The Panel is strictly an advisory body, and has no executive powers.

### Terms of reference

The terms of reference for the Expert Advisory Panel are to advise the Airports Commission on a range of issues including (but not limited to) economics, climate change, aircraft noise, air quality, aviation technology, and engineering, and in particular to:

- act as a sounding board on scientific, economic and technical issues relevant to the Commission's work;
- expose the Commission to the full range of views on issues relating to the Commission's work;
- advise on the quality, limitations and appropriate uses of research carried out by, or on behalf of, the Commission;
- advise on specific points from proposals on airport capacity where evidence is limited or further work is required;
- advise on specific issues and problems referred to it;
- help the Commission, where requested, to develop and maintain links with the external research community and industry experts; and
- provide research papers or presentations where requested by the Commission.

Given the range of issues that will have a bearing on the Commission's work, the Advisory Panel may need to convene smaller, more specialist, working groups to examine specific issues, drawing on external expertise where appropriate. This will be by agreement with the Chair of the Airports Commission.

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<sup>1</sup> 'Evidence' in this context covers scientific, economic and technical issues that may have a bearing on the Commission's work.

## **Expert Advisory Panel: Membership**

**(As of 3 May 2013)**

### **Professor Helen ApSimon**

Helen ApSimon is Professor of Air Pollution Studies in the Centre for Environmental Policy at Imperial College London. With thirty years of experience in air pollution modelling from continental to local scales, her research interests are now focused on scenario analysis and integrating science and policy. She has served on various expert groups including Defra's Air Quality Expert Group, and played an active part in Task Forces under the UN ECE Convention on Long-Range Trans-boundary Air Pollution. She currently chairs the Emissions, Measurement and Modelling group of the APRIL (Air Pollution Research in London) network, bringing together scientists and those responsible for air quality management.

### **Dr Charlotte Clark BSc (Hons) PhD CPsychol**

Charlotte Clark is Senior Lecturer in Environmental and Mental Health Epidemiology at Barts and the London School of Medicine, Queen Mary University of London. She is a Chartered Psychologist and environmental epidemiologist. Her research examines how the environment can influence learning, mental and physical health, well-being, quality of life, and behaviour. She has worked in the field of noise effects on health and cognition for over ten years and has published many peer-reviewed journal papers on noise and health. She co-managed the European Union funded RANCH project, examining the effect of aircraft and road traffic noise exposure on children's health and cognition and was co-director of the EU funded European Network on Noise and Health (ENNAH) – a network of over 30 partners across Europe tasked with identifying future research needs and priorities for noise and health research (2009–2012). Charlotte was Chair of Team 4 'Effects of Noise on Performance' for the International Commission of the Biological Effects of Noise (ICBEN) from 2003–2011.

### **Professor Piers Forster**

Piers Forster is Professor of Physical Climate Change at The University of Leeds (appointed 2008) and also a Royal Society Wolfson Research Merit Award Holder (appointed 2011). He researches the causes of climate change and, in particular, the role of aviation on climate via contrail formation. He was a contributing author of the Intergovernmental Panel for Climate Change (IPCC) special report on aviation in the global atmosphere and is lead author of the current IPCC Fifth Assessment Report on climate change (due out in October 2013). He holds an undergraduate degree in physics from Imperial College, London (1990) and a PhD in Meteorology from the University of Reading (1994). Prior to Leeds, he spent time working as a Research Fellow at the University of Colorado and at Monash University, Australia.

### **Dr Andrew Kempton CEng FRAeS**

Andrew Kempton is Chief Noise Specialist and Associate Fellow at Rolls-Royce, and has worked on reducing aircraft noise for the past forty years. He is a visiting professor at Southampton University where he coordinates research at the Rolls-Royce University Technology Centre in aircraft noise. He contributes to many international committees including ICAO's Committee on Aviation Environmental Protection that sets standards for aircraft noise, European and UK networks that coordinate research into aircraft noise, and the UK Sustainable Aviation aircraft noise working group.

### **Professor Peter Mackie**

Peter Mackie is Research Professor of Transport Studies at the Institute for Transport Studies, University of Leeds. His principal areas of work are on the economic appraisal of transport projects/policies and on the economic organisation and regulation of the transport sector, notably the bus industry. He was a member of the Government's Standing Advisory Committee on Trunk Road Assessment (SACTRA) for its three reports in the 1990s, a member of the 2006 Eddington Friends Group, and chaired the peer review group for the DfT's refresh of the New Approach to Appraisal in 2009. He has worked for all levels of governance from World Bank and OECD to EU, national and local government.

### **Professor Andrew McNaughton FREng**

Andrew McNaughton is Technical Director of High Speed Two Ltd, responsible for operational, engineering and environmental standards and design. He is also a Special Advisor to the Australian Government on high speed rail. In addition, Andrew is Honorary Professor of Rail Engineering at Nottingham University, and a Visiting Professor at both Imperial College, London and Southampton University. He has lectured widely on rail transport.

Andrew has been engaged in railway engineering and management since 1973, holding senior positions in operational and business management before becoming Chief Engineer of Network Rail, where he was also responsible for research and development and investment authorisation. Andrew is a Fellow of the Royal Academy of Engineers, the Institution of Civil Engineers, the Chartered Institute of Logistics and Transport and the Royal Geographical Society. He has been a Vice Chairman of the EU Transport Advisory Group and Chairman of the International Railway Union Infrastructure Forum.

**Professor Henry Overman BSc (Bristol) Msc (LSE) PhD (LSE) AcSS FRSA**

Henry Overman is Professor of Economic Geography in the department of Geography and Environment at the London School of Economics and director of the Spatial Economics Research Centre. His current research interests include the causes and consequences of spatial disparities and the impact of urban and regional policy. His research has been published in leading economics journals (The Review of Economics Studies and The Quarterly Journal of Economics) and leading economic geography journals (Environment and Planning and Journal of Economic Geography). He has provided policy advice to, amongst others, the European Commission, Department for International Development, Department for Business Innovation and Skills, Department for Communities and Local Government and the Department for Transport, HM Treasury, the Manchester Independent Economic Review, the North East Independent Economic Review and Birmingham City Council.

**Mr George Paulson FCILT, FRAeS**

George Paulson graduated from Southampton University and following post graduate work on V/STOL feasibility for civil operations joined WS Atkins to undertake airport development work. In 1972 he joined the Civil Aviation Authority. For over a decade he was responsible for runway and airspace capacity assessment and optimisation. He was seconded to ICAO for two years. On return, as Director Planning Analysis, he was architect of NATS' Operational Strategic Plan helping to shape operational evolution out to the millennium. He then became responsible for NATS international co-ordination.

In 1998 he joined Eurocontrol. As Director Safety and Airspace and ATM Programmes he was responsible for delivering major European ATM improvements through multinational programmes including airspace reorganisation (RVSM), enhanced safety (ACAS) and integration of airports into the ATM network (CDM). Following retirement from Eurocontrol, he is Director of a consultancy specialising in ATM. He is FCILT and FRAeS.

**Dr David Quarmby CBE MA PhD Hon DEng Hon DSc FCILT FCIHT FTS CORS**

David Quarmby's career has embraced policy, planning, management, operations and research in transport, retailing and tourism, with 38 years' board level experience in government, public agencies, and in the private sector. He is currently chairman of the RAC Foundation, member of Woolwich Regeneration Board, and advisor to Greenwich Council on transport policy. In 2010 he led a government review on the winter resilience of England's transport systems, and advised the Heathrow Enquiry Panel following their winter disruption Christmas 2010. In 2008 he was a Member of the A12 Commission of Inquiry.

Since 1996 he has been a non-executive director of Abellio, the international bus and rail subsidiary of Netherland Railways, a director of Colin Buchanan and Partners, deputy chairman and then chairman of the Strategic Rail Authority, chairman of the Docklands Light Railway, board member of TfL, chairman of the British Tourist Authority, and the first non-executive director at the Department for Transport. Prior to 1996 David was for 12 years a main board director of Sainsbury's, first as Logistics Director and then Joint Managing Director responsible for all company operations. Before 1984 he was Board Member for Planning and then Managing Director (Buses) at London Transport. In the 1960's he was an Economic Adviser at the Ministry of Transport.

### **Professor Andreas Schäfer**

Andreas W. Schäfer is a Professor in Energy and Transport at the UCL Energy Institute at University College London. Prior to this position, he held appointments at the International Institute for Applied Systems Analysis (IIASA), the Massachusetts Institute of Technology (MIT), the University of Cambridge, and Stanford University. He holds an MSc in Aerospace Engineering and a PhD in Energy Economics, both from the University of Stuttgart, Germany. His research interests include energy and transportation systems analysis. He is lead author of *Transportation in a Climate-Constrained World* (MIT Press, 2009).

### **Professor Keith P Shine FRS**

Keith Shine is Professor of Physical Meteorology at the University of Reading. His undergraduate degree is in Physics (Imperial College, London) and his PhD degree is in Meteorology (University of Edinburgh). He moved to Reading 25 years ago, following periods as a researcher at the Universities of Liverpool and Oxford. He was elected a Fellow of the Royal Society in 2009.

He specialises in climate physics, concentrating most on understanding the mechanisms (so-called "radiative forcings") that drive climate change. He has contributed significantly to the assessment reports of the Intergovernmental Panel on Climate Change and is a Review Editor on its ongoing Fifth Assessment Report. He is actively involved in quantifying the climate impact of aviation, including the quantification of the non-CO<sub>2</sub> effects, such as contrails and the effects of emissions of oxides of nitrogen and water vapour, collaborating widely in Europe.

### **Mr David Starkie**

David Starkie is senior associate at Case Associates, London and visiting professor in industrial economics, Hochschule Bremen, Germany. He is also visiting research fellow University of Adelaide, Australia, where he was previously South Australian Government professorial fellow. His former appointments include director of transport planning and research, Government of Western Australia, and director of Putnam Hayes & Bartlett Inc. Cambridge Mass.

He has been a member of advisory committees including the road transport committee of the Australian Road Research Board and a specialist adviser for a dozen House of Commons select committee inquiries including 'Privatisation of National Air Traffic Services' (1995) and 'UK Airport Capacity' (1996). David was lead expert witness, High Court New Zealand, Wellington airport v Air NZ and others, (1994); economic advisor to the European Commission's CAEP delegation, Montreal and Washington DC (1995–97) and a member of the CAA expert panels for the NATS price cap (2006) and airport competition framework assessments (2010–11). His books feature Japanese and Chinese editions; his latest is *Aviation Markets: Studies in Competition and Regulatory Reform* (Ashgate).

### **Professor Callum Thomas PhD ARCS FRAeS**

Callum Thomas is Professor of Sustainable Aviation at the Manchester Metropolitan University having returned to academia in 1998 after 13 years working in the aviation industry. He has since been responsible (with colleagues) for establishing the Centre for Aviation, Transport and the Environment (CATE). He has been an advisor to the European Commission, the Civil Aviation Administration of China, UK Government, airports and airlines on aviation, environment, and sustainability issues. He was responsible for establishing and managing Manchester Airport's Bird Control Unit, its Environment Department and Community Relations Department.

His expertise involves the sustainable development of aviation, managing environmental constraints upon airport growth and the impact of airport operations on local communities. Most recently his research has focused upon carbon management at airports, the implications of a changing climate upon air transport and the relationship between aviation, tourism and climate change. By training he is a bird biologist who spent many years researching the behaviour and ecology of seabirds before moving on to address the hazards posed by birds to aircraft. He has co-authored five books and over 60 papers. In 2008 he was invited to become a Fellow of the Royal Aeronautical Society for his lifetime contribution to aviation.