



THE LONDON SCHOOL  
OF ECONOMICS AND  
POLITICAL SCIENCE ■



Grantham Research Institute on  
Climate Change and  
the Environment

CENTRE *for* ECONOMIC  
P E R F O R M A N C E

# “Economics of Innovation, Diffusion, Growth and the Environment”

16-18 September 2015  
Royal Society of Arts  
London, United Kingdom

## Conference Programme





### **Organising Committee**

Antoine Dechezleprêtre  
*Grantham Research Institute  
on Climate Change and the  
Environment, LSE*

Joëlle Noailly  
*The Graduate Institute,  
Geneva*

Tim Swanson  
*The Graduate Institute,  
Geneva*

### **Scientific Committee**

Philippe Aghion  
Lucas Bretschger  
Antoine Dechezleprêtre  
Baran Doda  
Dominique Foray

Timo Goeschl  
Ralf Martin  
Joëlle Noailly  
Sjak Smulders  
Tim Swanson

John van Reenen  
Rick van der Ploeg  
Ralph Winkler  
Cees Withagen

### **Sinergia Partners**

École Polytechnique Fédérale de Lausanne

ETH Zürich

Graduate Institute, Geneva

London School of Economics and Political  
Science

## Venue & Directions

The conference will be held in the prestigious surroundings of the Royal Society of Arts (RSA) in Central London, 750m from the London School of Economics. The RSA's main building is located just behind the Strand in central London, within easy walking distance of underground and railway stations.

The address is 8 John Adam Street, London WC2N 6EZ. For a map please click [here](#) or see below.

### Nearest London Underground Stations

5 minute walk: Charing Cross (Northern Line, Bakerloo Line)

5 minute walk: Embankment (District and Circle Lines, Northern Line, Bakerloo Line)

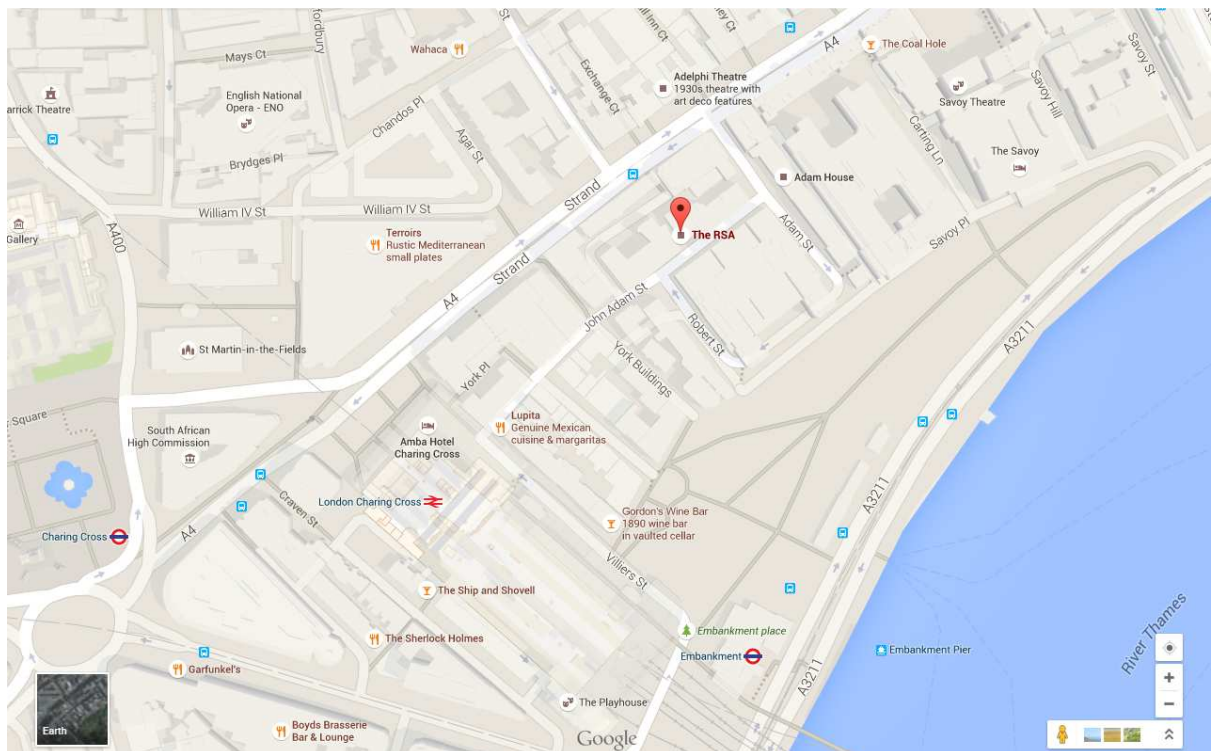
10-15 minute walk: Covent Garden (Piccadilly Line)

10-15 minute walk: Leicester Square (Piccadilly and Northern Lines)

### Nearest Mainline Stations

5 minute walk: Charing Cross

15-20 minute walk: Waterloo



## Programme at a glance

Wednesday 16 <sup>th</sup> September 2015		Thursday 17 <sup>th</sup> September 2015		Friday 18 <sup>th</sup> September 2015	
		08.45	Conference registration & refreshments	08.45	Conference registration & refreshments
		09.15	Keynote Lecture II David Popp, Syracuse University	09.15	Keynote Lecture III Sjak Smulders, Tilburg University
		10.30	Coffee Break	10.30	Coffee Break
		11.00	Policy Panel	11.00	Parallel Session IV Lunch
13.45	Conference registration & refreshments	13.00	Lunch	13.00	Lunch
14.15	Keynote Lecture I Philippe Aghion, Harvard University	14.00	Parallel Session II	14.00	Parallel Session V
15.30	Coffee Break	16.00	Coffee Break	16.40	End of Conference
16.00	Parallel Session I	16.30	Parallel Session III		
18.00	End of Day I	18.30	End of Day II		
		19.00	Conference Dinner		

### Information on Parallel Sessions:

Each Parallel Session has 3 papers (except the final session on Friday which has 4 papers). Parallel Sessions have discussants. Each presenter will have about 25 minutes for his/her presentation, followed by 5 minutes for the discussant and 10 minutes for audience questions and answers (Q&A). Each paper (presentation, discussion, and Q&A) is allocated no more than 40 minutes, which will be strictly enforced by the session chair.

# Programme

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Wednesday 16<sup>th</sup> September 2015

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13.45 **Conference registration & refreshments**  
*(Benjamin Franklin Room)*

14.15 **Keynote Lecture I – Prof. Philippe Aghion, Harvard University**  
*(Great Room)*

15.30 **Coffee Break**  
*(Benjamin Franklin Room)*

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16.00 **Parallel Session I**

**Energy transitions**  
*(Great Room)*

Rick van der Ploeg *Abandoning fossil fuel: how fast and how much*

Roger Fouquet *A historical perspective on the development of energy technologies*

Dirk-Jan van der Ven *The historical effects of shocks in accelerating energy transitions: a threshold approach*

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**Directed technical change (session I)**  
*(Prince Philip Room)*

Rob Hart *Crowding in clean investment: climate policy and the long-run returns to factor-specific investment*

Francesco Ricci *Efficiency improvements in the use of a non-renewable resource: the case of coordination failures*

Gerard van der Meijden *Carbon lock-in: the role of expectations*

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**Technology adoption**  
*(Romney Room)*

Stefania Lovo *Investment in second-hand capital goods and energy intensity*

François Cohen *Consumer Myopia, Imperfect Competition and the Energy Efficiency Gap: Evidence from the UK Refrigerator Market*

Francesco Vona *Green skills*

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18.00 **End of Day**

**Thursday 17<sup>th</sup> September 2015**

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08.45 **Conference registration & refreshments**  
*(Benjamin Franklin Room)*

09.15 **Keynote Lecture II – Prof. David Popp, Syracuse University**  
*(Great Room)*

10.30 **Coffee Break**  
*(Benjamin Franklin Room)*

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**Policy Panel**  
11.00-13.00  
*(Great Room)*

*International cooperation and low-carbon technologies: what role can international cooperation and dialogue play in advancing the development and diffusion of low carbon technologies?*

Chair

Professor Lord Nicholas Stern

*I.G. Patel Chair of Economics and Government, Chair Grantham Research Institute on Climate Change and the Environment  
London School of Economics*

Panellists

Jean-François Gagné  
*Head of the Energy Technology Policy Division,  
International Energy Agency*

Professor Ambuj D. Sagar  
*Vipula and Mahesh Chaturvedi Professor of Policy Studies,  
Indian Institute of Technology Delhi*

Matthew Knight  
*Head of Strategy and Government Relations,  
Siemens*

Dr Matthew Kennedy  
*Chair, Climate Technology Centre Network;  
Member, UNFCCC Technology Executive Committee*

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13.00 **Lunch**  
*(Benjamin Franklin Room)*

**Thursday 17<sup>th</sup> September 2015 (cont'd)**

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14.00

**Parallel Session II**

**Porter Hypothesis**  
*(Great Room)*

Pierre Mohnen *Revisiting the Porter Hypothesis: an empirical analysis of green innovation for the Netherlands*

Mark Cohen *The impact of environmental regulation on firm competitiveness: a meta-analysis of the Porter Hypothesis*

Damien Dussaux *A new test of the Porter Hypothesis*

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**Energy-saving technical change**  
*(Prince Philip Room)*

Johanna Vogel *The bias of technological change in Europe*

Jules-Daniel Wurlod *How much is green innovation driving the decline of energy-intensity across sectors? An empirical analysis for OECD countries*

Jan Witajewski-Baltvilks *Directed technological change and energy efficiency improvements*

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**Growth**  
*(Romney Room)*

Andreas Schäfer *Dirty history versus clean expectations: can energy policies provide momentum for growth?*

Alexandra Vinogradova *Growth and mitigation policies with uncertain climate damage*

Armon Rezai *Intergenerational inequality aversion, growth and the role of damages: Occam's rule for the global carbon tax*

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16.00

**Coffee Break** *(Benjamin Franklin Room)*



**Thursday 17<sup>th</sup> September 2015 (cont'd)**

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16.30

**Parallel Session III**

**Productivity**  
*(Prince Philip Room)*

Claudia Pellegrin

*Green process innovation and production cost savings*

Ankai Xu

*Environmental regulation on firms' competitiveness: an empirical examination with Chinese firm data*

Tomasz Koźluk

*Environmental policies and productivity growth: evidence across industries and firms*

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**Directed technical change (session II)**  
*(Auditorium)*

Matthieu Glachant

*When strengthening environmental regulation reduces green innovation: theory and evidence from the auto industry*

Kyle Meng

*Path dependence in U.S. coal-fired electricity*

Joëlle Noailly

*Environmental policy, multinational firms and green innovation*

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**Renewables**  
*(Romney Room)*

Stefan Ambec

*Environmental policy with intermittent sources of energy*

Marc Baudry

*Market pull instruments and the development of wind power in Europe: a counterfactual analysis*

Laura Diaz Anadon

*Mind the gaps – why hasn't Chinese wind power lived up to its technical potential*

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18.30

**End of Day**

18.45

**Conference Dinner**  
*(Benjamin Franklin Room)*

## Friday 18<sup>th</sup> September 2015

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08.45 **Conference registration & refreshments**  
*(Benjamin Franklin Room)*

09.15 **Keynote Lecture III – Prof. Sjak Smulders, Tilburg University**  
*(Great Room)*

10.30 **Coffee Break**  
*(Benjamin Franklin Room)*

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11.00 **Parallel Session IV**

### **Directed technical change (session III)** *(Great Room)*

Corrado di Maria *The cost of environmental policy under induced technical change*

Julien Daubanes *Green paradox and directed technical change: the effect of subsidies to clean R&D*

Giulia Valacchi *Directed technical change and natural resources: the tragedy of the locals*

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### **Elasticity of substitution** *(Prince Philip Room)*

Claudio Baccianti *The aggregate elasticity between clean and dirty inputs, multiple energy demands and innovation*

Marianne Saam *Substitution between clean and dirty energy inputs – a macroeconomic perspective*

Clas Eriksson *Phasing out a polluting input*

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### **International technology diffusion** *(Romney Room)*

Julie Ing *When being a good Samaritan? The incentives to green technology transfer*

Suchita Srinivasan *The light at the end of the tunnel: the impact of policy on the global diffusion of fluorescent lamps*

Mare Sarr *Will technological change save the world? Technological diffusion and the choice of development path*

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13.00 **Lunch**  
*(Benjamin Franklin Room)*

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**Friday 18<sup>th</sup> September 2015 (cont'd)**

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14.00

**Parallel Session V**

**Trade**  
*(Prince Philip Room)*

Mirabelle Muûls

*International outsourcing and innovation in clean technologies*

Carolyn Fischer

*Strategic subsidies for green goods*

Chiara Ravetti

*Invisible handshakes: green shocks, labour institutions and coal miners in South Africa*

Lin Zhang

*On research sector: productivity, efficiency, and spillovers*

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**Knowledge spillovers**  
*(Romney Room)*

Christos Karydas

*Optimal R&D subsidies in the presence of intersectoral and intertemporal knowledge spillovers*

Antoine Dechezleprêtre

*Knowledge spillovers from clean and dirty technologies*

Elena Verdolini

*Intra-EU knowledge flows in the renewable energy sector: a patent citation analysis*

Emilson Silva

*Overlapping international green R&D agreements*

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**Environmental policy instruments**  
*(Great Room)*

Brita Bye

*The impacts of alternative policy instruments on environmental performance: a firm level study of temporary and persistent effects*

Frans de Vries

*Dynamic efficiency in experimental emissions trading markets with investment uncertainty*

Giovanni Marin

*The impact of emission trading schemes on market power: an empirical analysis of the EU ETS*

Cees Withagen

*Optimal carbon capture policies*

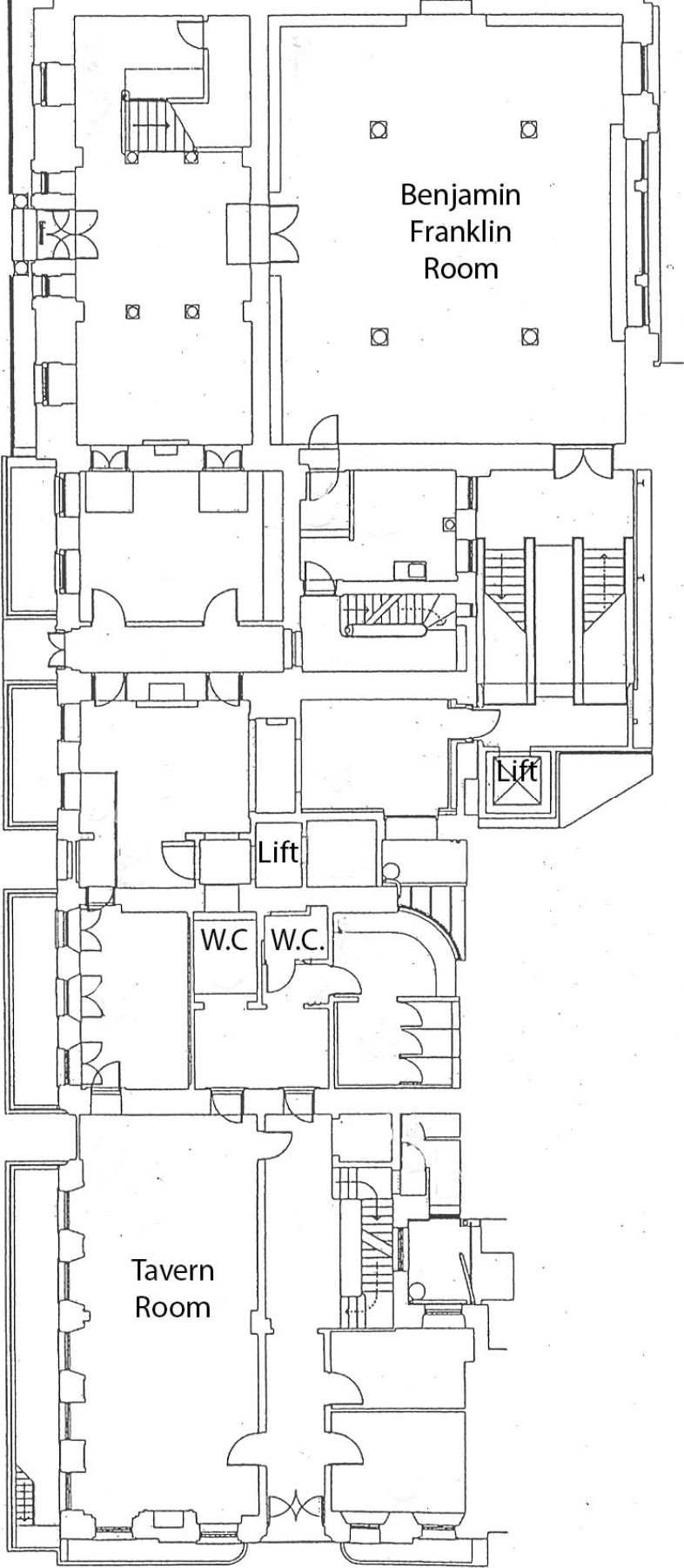
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16.40

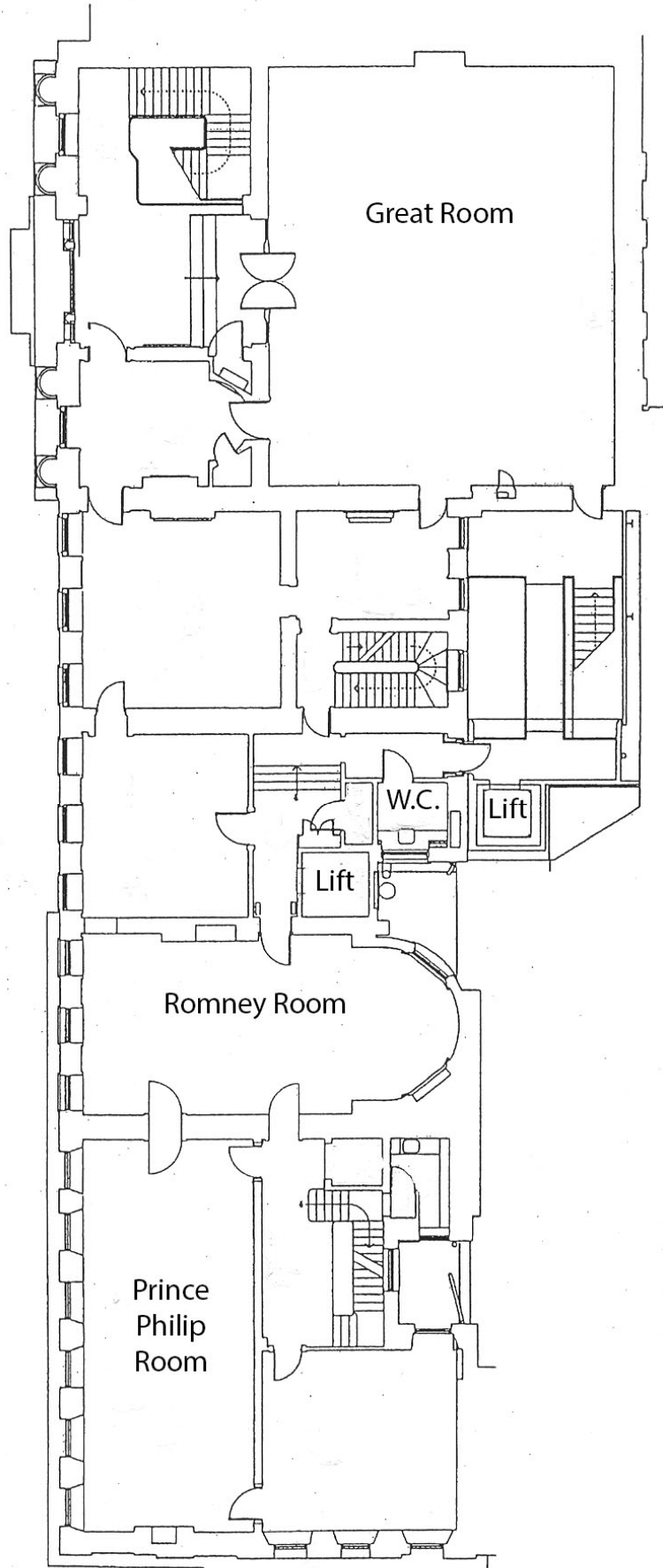
**End of Conference**

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**RSA Ground Floor Room Plan**



**RSA First Floor Room Plan**



## Conference Participants

Participant	Affiliation
Philippe Aghion	Harvard University
Andrew Aitken	University of Southampton
Stefan Ambec	Toulouse School of Economics
Claudio Baccianti	Centre for European Economic Research (ZEW)
Elizabeth Baldwin	Grantham Research Institute, LSE
Marc Baudry	EconomiX
Geoff Beacon	Pollution Tax Association
Lucas Bretschger	ETH Zürich
Brita Bye	Statistics Norway
Federica Coelli	University of Oslo
François Cohen	Grantham Research Institute, LSE
Mark Cohen	Owen Graduate School of Management, Vanderbilt University
Adam Daigneault	Landcare Research - Manaaki Whenua
Julien Daubanes	ETH Zürich
Frans de Vries	University of Stirling Management School
Nicky Dean	Nature Energy
Antoine Dechezleprêtre	Grantham Research Institute, LSE
Corrado Di Maria	University of East Anglia
Laura Diaz Anadon	University College London
Baran Doda	Grantham Research Institute, LSE
Damien Dussaux	Grantham Research Institute, LSE
Florian Egli	Graduate Institute, Geneva
Clas Eriksson	Mälardalen University
Carolyn Fischer	Resources for the Future
Dominique Foray	École polytechnique fédérale de Lausanne
Roger Fouquet	Grantham Research Institute, LSE
Matthieu Glachant	MINES ParisTech
Christopher Grainger	University College London
Felix Grey	University of Cambridge
Regina Gusmao	University College London
Rob Hart	Swedish University of Agricultural Sciences
Ingrid Hjort	University of Oslo
Julie Ing	ETH Zürich
Christos Karydas	ETH Zürich
Matthew Kennedy	Climate Technology Centre Network
Tomasz Koźluk	Organisation for Economic Cooperation and Development
Stefania Lovo	Grantham Research Institute, LSE
Giovanni Marin	Institute for Advanced Studies Lucca
Ralph Martin	Imperial College London
Geoffrey McCarney	University of Ottawa
Will McDowall	University College London
Kyle Meng	University of California, Santa Barbara

<b>Participant</b>	<b>Affiliation</b>
Pierre Mohnen	United Nations University/Maastricht University
Mirabelle Muûls	London School of Economics (LSE)
Yuzuki Nagakoshi	The Institute of Intellectual Property/Max Planck Institute for Innovation and Competition
Diana Nefiodow	Independent Consultant, Kondratieff Cycles
Joëlle Noailly	Graduate Institute, Geneva
Claudia Pellegrin	École polytechnique fédérale de Lausanne (EPFL)
Paul Pizzala	Climate Risk Ltd
David Popp	Syracuse University
Chiara Ravetti	Graduate Institute, Geneva
Ivonia Rebelo	London Metropolitan University
Tobias Reinauer	University College London
Armon Rezai	Wirtschaftsuniversität Wien – Vienna University of Economics & Business
Francesco Ricci	Université de Montpellier
Marianne Saam	Centre for European Economic Research (ZEW)
Ambuj Sagar	Indian Institute of Technology, Delhi
Marre Sarr	University of Cape Town
Andreas Schäfer	ETH Zürich
Gregor Semieniuk	University of Sussex
Emilson Silva	University of Alberta
Roberta Sisto	University of Foggia
Sjak Smulders	Tilburg University
Suchita Srinivasan	Graduate Institute, Geneva
Thomas Stoerk	Grantham Research Institute, LSE
Tim Swanson	Graduate Institute, Geneva
Luca Taschini	Grantham Research Institute, LSE
Alexander Teytelboym	INET, University of Oxford
Tania Theoduloz	University of Cape Town
Giulia Valacchi	Graduate Institute, Geneva
Simone Valente	University of East Anglia
Gerard van der Meijden	VU University Amsterdam
Rick van der Ploeg	University of Oxford
Dirk-Jan van der Ven	Basque Centre for Climate Change
Chris Vellacott	Pictet Asset Management
Elena Verdolini	FEEM - Fondazione Eni Enrico Mattei
Alexandrea Vinogradova	ETH Zürich
Johanna Vogel	Austrian Institute of Economic Research
Francesco Vona	OFCE SciencesPo and SKEMA Business School
Jan Witajewski-Baltvilks	Institute for Structural Research in Warsaw
Cees Withagen	VU University Amsterdam
Jules-Daniel Wurlod	Graduate Institute, Geneva
Ankai Xu	Graduate Institute, Geneva
Dimitri Zenghelis	Grantham Research Institute, LSE
Lin Zhang	ETH Zürich
Shanshan Zhou	Istituto di Management, Scuola Superiore Sant'Anna

