Energy Research Partnership
Plenary Meeting

Dr Marcela Tarazona, EEG Programme Director

25 April 2017
London, U.K
Overview

• What is EEG
• Who is involved
• Where do we work
• Our approach to research
• What will the programme explore
• How can you get involved
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What is EEG?

- 5 year applied research programme
- Funded by UK Aid
- Led and managed by OPM
- In partnership with CEGA at UCB
- 2 phases:
  - Phase 1 (year 1): produce a research programme for phase 2, £1.3M
  - Phase 2 (years 2-5): applied research implementation, £11.6M
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Broad network of associates: depth, responsiveness and flexibility
Plus... we engaged in Phase 1 with
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LIC in DFID’s 28 priority countries
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Our approach to research
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EEG Phase 2

- Based on findings from Part 1
- Identifying existing best practices
- Innovative research
- Research uptake / policy engagement
- Capacity building / trainings
EEG Phase 2

1. Reliability

2. Efficient & Productive Use

3. Grid Access

4. Renewable Energy

Impact on Productivity, Gender & Poverty

Data, Technology & Policy
<table>
<thead>
<tr>
<th>Table B. Potential research projects for each priority research objective</th>
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<tbody>
<tr>
<td><strong>Data</strong></td>
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<tr>
<td><strong>Reliability</strong></td>
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<tr>
<td>GridWatch &amp; Kenya Power: Mobile app tool to measure reliability</td>
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<td><strong>Efficient &amp; Productive Use</strong></td>
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<td>OPM: Model of analysis of energy demand (MAED) survey and analysis of Consumption Patterns in Kenya</td>
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<td><strong>Grid Access</strong></td>
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<td>M-Kopa &amp; CEGA: The feasibility and effectiveness of financing appliance acquisition for households in Kenya</td>
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<td><strong>Renewable Energy</strong></td>
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<td>Earth Institute: Integrating large-scale wind in India</td>
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<tr>
<td><strong>Technology</strong></td>
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<td>Ricardo: Assessing the performance improvements enabled by a Smart Grid Pilot in Dhaka City.</td>
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<td><strong>Policy</strong></td>
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<td>OPM: GOGIG, Gas to electricity to improve supply</td>
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<td>U. of Ghana &amp; Enercom: Policies to promote energy efficient tech and consumption.</td>
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<td>Tufts &amp; Gov. of Uganda. Effects of credit constraints on new connections.</td>
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<td>OPM, EEP-SEA &amp; PIDG: Development finance to attract private investment in renewable energy in East and Southern Africa</td>
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<td><strong>Productivity Gender &amp; Poverty Impact</strong></td>
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<td>CEGA &amp; Kenya Power: Theft, usage and reliability of informal urban power supply</td>
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<tr>
<td>Dartmouth/ ESKOM. Impacts of rural electrification from 15 years’ longitudinal data</td>
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<td>UCT: Power sector reform in Kenya, Tanzania and Uganda</td>
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<td>CEGA &amp; GridWatch: Impact of reliability on firm productivity.</td>
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<td>CEGA &amp; Rural Electrification Authority: The impacts of LMCP grid expansion on economic outcomes in Kenya</td>
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<td>U. of Ibadan: Modern Energy tech and economic growth in Nigeria</td>
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<tr>
<td>Bangladesh, Ghana, Kenya, Nepal</td>
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<tr>
<td>Kenya, Ghana, India, Mozambique</td>
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<tr>
<td>East Africa, Kenya, South Africa, Uganda, Myanmar</td>
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<tr>
<td>East &amp; Southern Africa, Nigeria, India, Malawi</td>
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</tbody>
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How to get involved

• ERP workshop led to discussions with
  • Atkins
  • Catapult
  • PIDG
  • M-KOPA
• Applied research opportunities?
• Feedback to our research agenda?
• Discussions via ERP or bilateral
How to get involved

• Talk to us!
• Email us on eeg@opml.co.uk
• Join our mailing list on http://www.opml.co.uk/projects/energy-and-economic-growth
EEG and ERP...

- ERP partners working/strong presence overseas
- ERP has knowledge, skills, learning
- EEG doing capacity building / knowledge management / skills enhancement
- EEG doing research in (potential) markets for ERP partners
- EEG making best practices available to LIC
- Links between academia/ policy & decision makers/ industry/ donors/ practitioners
- Infrastructure, energy and institutional projects - opportunities for research (data collection, sharing trainings, etc.)
Thank you
Experts have committed to writing the following two state-of-knowledge papers:

1. The Impact of Energy on Economic Development from a Macro Perspective
   Authors: David Stern (ANU), Paul Burke (ANU), and Stephan Bruns (U. Kassel)

2. The Impact of Energy on Economic Development at a Micro Level
   Authors: Edward Miguel (UC Berkeley) and Catherine Wolfram (UC Berkeley)
Experts have committed to writing the following three state-of-knowledge papers:

1. **Rethinking Power Sector Reform: A Study of Contextual Heterogeneities**
   Author: Anupama Sen, Oxford Institute for Energy Studies

2. **The Political Economy of Aid for Energy Sector Reform**
   Author: Neil McCulloch (OPM) and John Ward (Vivid Economics)

3. **How do Climate Negotiations Influence Power Sector Reforms?**
   Author: Joyashree Roy (Jadavpur University)
Body of evidence on energy and economic growth

Theme 1
Electricity supply

Theme 2
Governance structures

Theme 3
Sustainable urbanization

Theme 4
Large-scale renewables

Theme 5
Role of extractives

Theme 6
Innovative design

Experts have committed to writing the following three state-of-knowledge papers:

1. The Impact of Urbanisation, Incomes and Changing Temperatures on Electricity Demand
   Authors: Maximilian Auffhammer (UC Berkeley) and Lucas Davis (UC Berkeley)

2. Energy Efficiency in the Developing World
   Authors: Meredith Fowlie (UC Berkeley) and Amol Phadke (LBNL)

3. Electricity Supply and Efficiency Measures in Supporting Sustainable Urbanisation
   Authors: Mushfiq Mobarak (Yale University), Paul Gertler (UC Berkeley) and Tavneet Suri (MIT)
Experts have committed to writing the following two state-of-knowledge papers:

1. **Economic and Non-Economic Barriers and Drivers for the Uptake of Renewables**
   Authors: Anton Eberhard (University of Cape Town), Bridget Woodman and Catherine Mitchell (Exeter), Mario Ragwitz (Fraunhofer Institute for Systems and Innovation Research)

2. **Grid and Market Integration of Large-Scale RES Deployment**
   Authors: Bridget Woodman (Exeter), Mario Ragwitz (Fraunhofer ISI)
Experts have committed to writing the following three state-of-knowledge papers:

1. **The Political Economy of Petroleum Discoveries and Fuel Prices**
   Authors: Michael Ross (UCLA) and Paasha Mahdavi (UCLA)

2. **Linkages between Domestic Fuels Markets and the Electricity Market**
   Authors: Frank Wolak and Mark Thurber (Stanford University)

3. **What Do We Know about Fuel Markets and Export Diversification in Energy-Rich States?**
   Authors: Michael Ross (UCLA) and Sambit Bhattacharyya (University of Sussex)
Experts have committed to writing the following state-of-knowledge papers:

1. Modular and Discrete? A Review of the Techno-Economics of Temporally and Spatially Scaled Build-Up of Infrastructure in Modern Power Networks
   Authors: Simon Mueller (IEA), Luis Munuera (IEA, Imperial College), Uwe Remme (IEA)

2. Reducing Generation, Transmission and Distribution Inefficiencies and the Feasibility of Low Voltage Supply in LICs
   Authors: TBD
Experts have committed to writing the following three state-of-knowledge cross cutting papers:

1. **Climate Change and Economic Growth**  
   Authors: Frank Jotzo (ANU) and John Ward (Vivid Economics)

2. **Gender Implications of Energy Use and Energy Access**  
   Author: Harold Wilhite (University of Oslo)

3. **Energy Data in the 21st Century: Challenges and Opportunities for Developing Countries**  
   Authors: Luis Munuera (IEA, Imperial College), Davide D’Ambrosio (IEA), Eric Masanet (Northwestern University) and Daniele Poponi (IEA)