

Sustainable Energy for All?

Linking poor communities to modern energy services

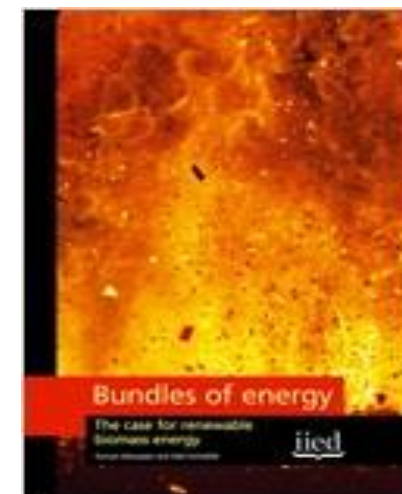
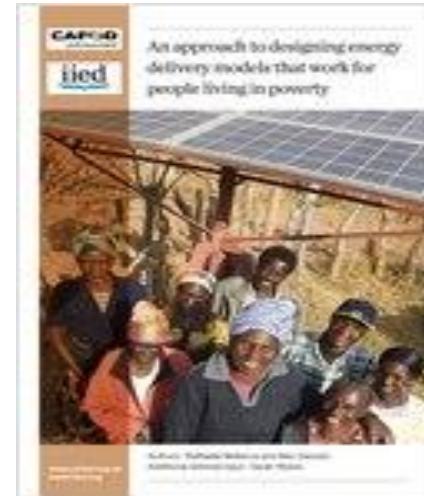
Sarah Best, International Institute for Environment and Development

I-SEE Seminar, University of Bath, 12 November 2013

About IIED

- Policy and action research organisation
- Promoting sustainable development and linking local priorities to global challenges
- Current energy work
 - ✓ Energy access “delivery models”
 - ✓ Community impacts of large-scale oil and gas
 - ✓ Bioenergy
 - ✓ Low-carbon policy and finance

<http://www.iied.org/energy>
<http://pubs.iied.org/search.php?c=energy/mining&p=2>



Structure

1. Context
2. **Un cuento argentino**
3. Priorities for energy & poverty reduction
 - Energy access delivery models
 - **Rural energy and smallholder agriculture**
 - Roles of the public and private sector
4. Energy in the post-2015 development goals

Context: 5 priorities dominating international and national political agenda

- 1. Energy security**
- 2. Climate change and environment**
- 3. Technology**
- 4. Access**
- 5. Governance of large-scale energy & minerals**

Mi cuento Argentino: Off-grid energy through PPPs in rural Argentina (the PERMER programme)



Biggest impact in schools



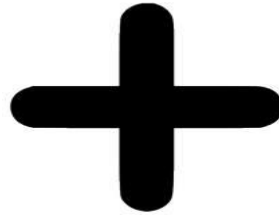
Though not always well planned



For families: incremental, not transformative, impacts



So what does this all mean?



is important, but



total energy access

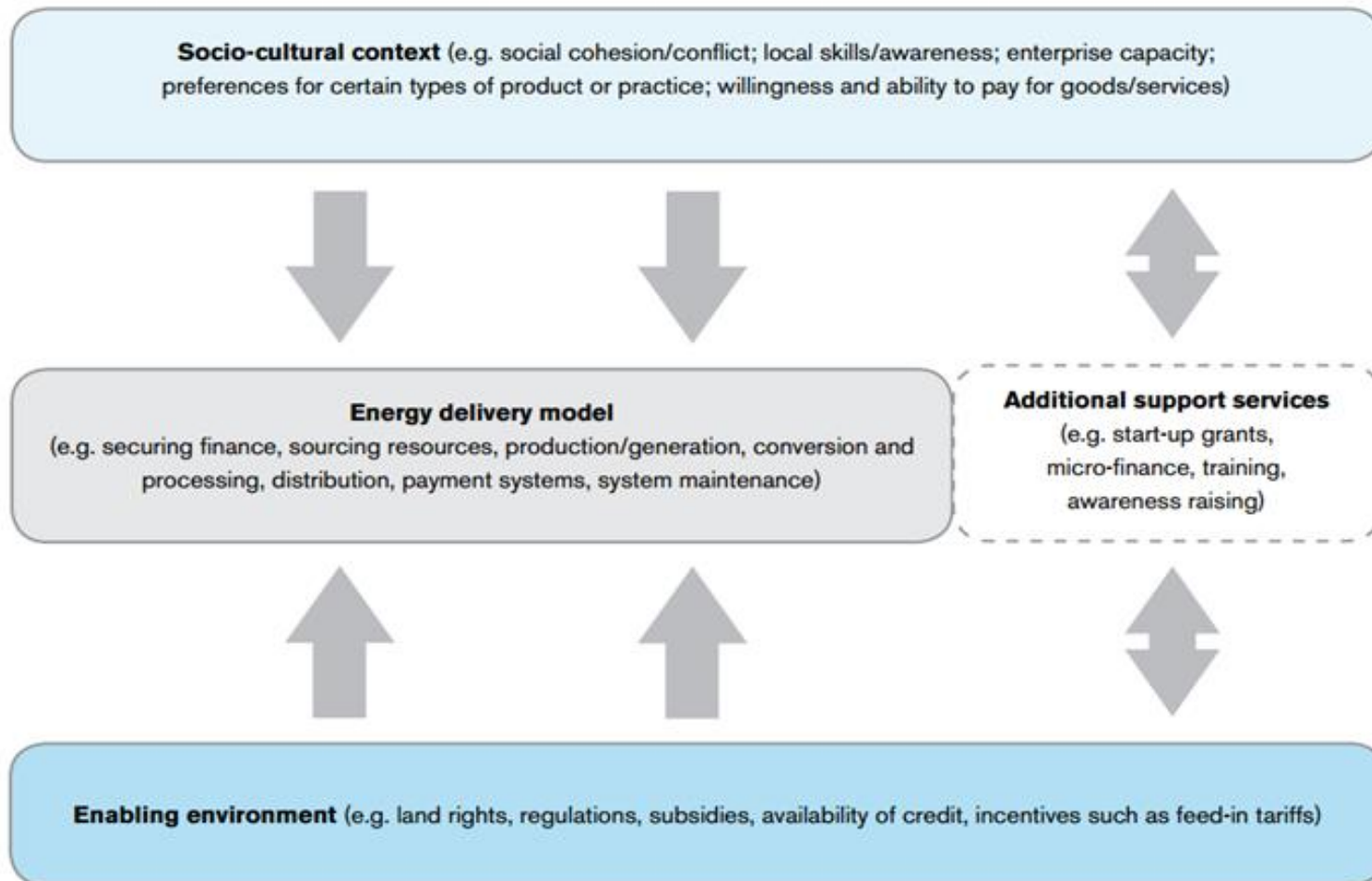
If we want to energy to reduce poverty we need to ...

1. **Be ambitious:** Go beyond 'survival needs' to delivering affordable, reliable and sufficient energy for households, productive activities and public services.
2. **Go rural:** Biggest deficits and challenges are rural – includes a focus on smallholder agriculture
3. **Think local, put people first:** Decentralised and “bottom-up” approaches need far more attention in energy plans
4. **Be integrated, address complexity:** Integrate energy with priorities for e.g. food and water security, creating jobs, empowerment of women and girls, climate resilience etc
5. **Clarify public-private roles:** The private sector cannot reach the poorest - vital role for public policy and finance

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 - Issue 1: Energy access delivery models
 - Issue 2: Rural energy and smallholder agriculture
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Issue 1: Energy “delivery models”: people-centred approach



Issue 2: energy in smallholder agriculture

Large-scale

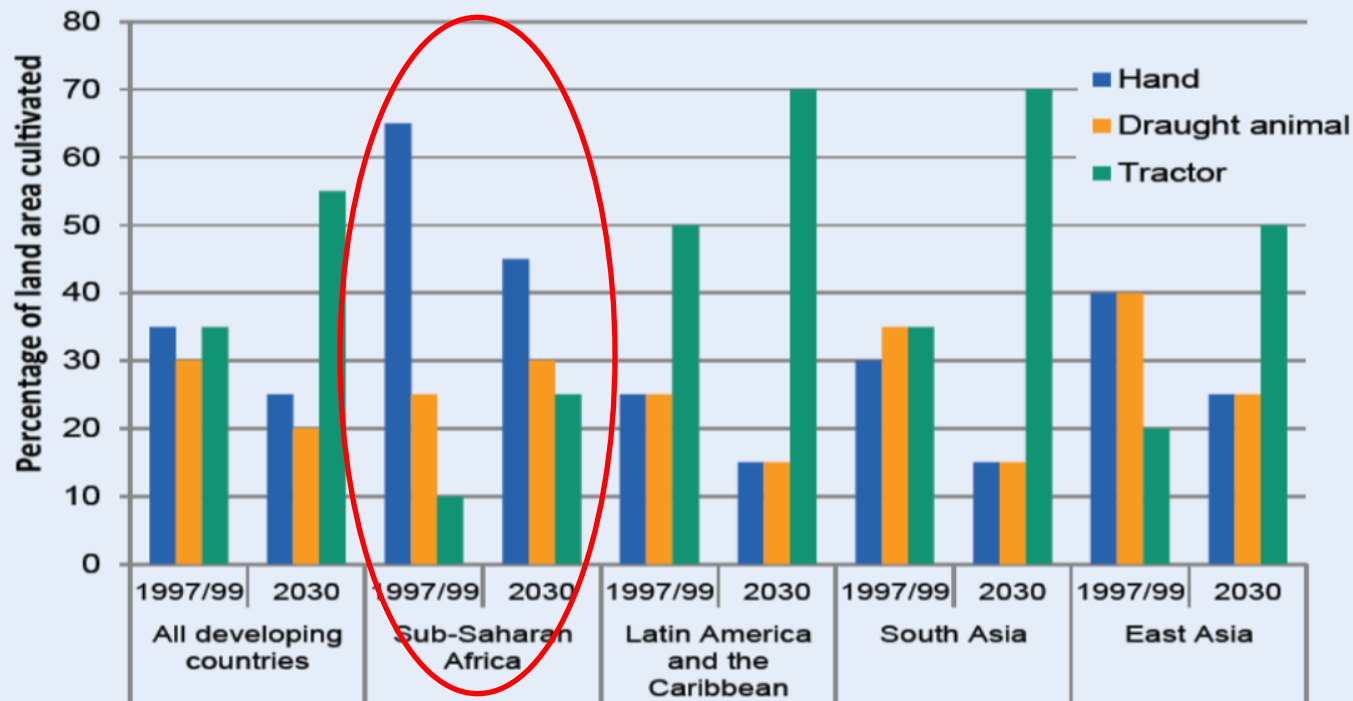


and small-scale



Manual/animal labour dominates, especially in SSA

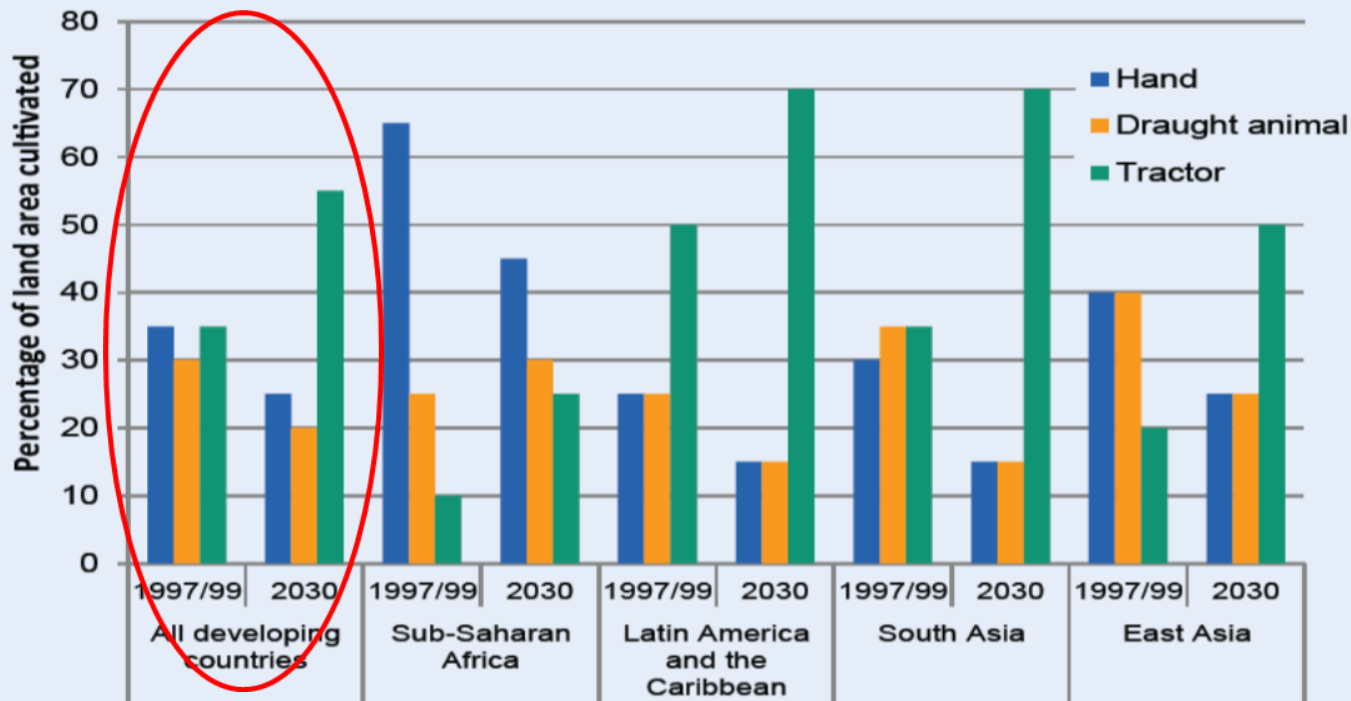
Figure 2.2 Proportion of land cultivated by different power sources, 1997/99 and estimated for 2030



Source: FAO, 2003

Manual/animal labour dominates, especially in SSA – but mechanisation increasing to 2030

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Source: FAO, 2003

Energy & smallholder agriculture

Why is it important?

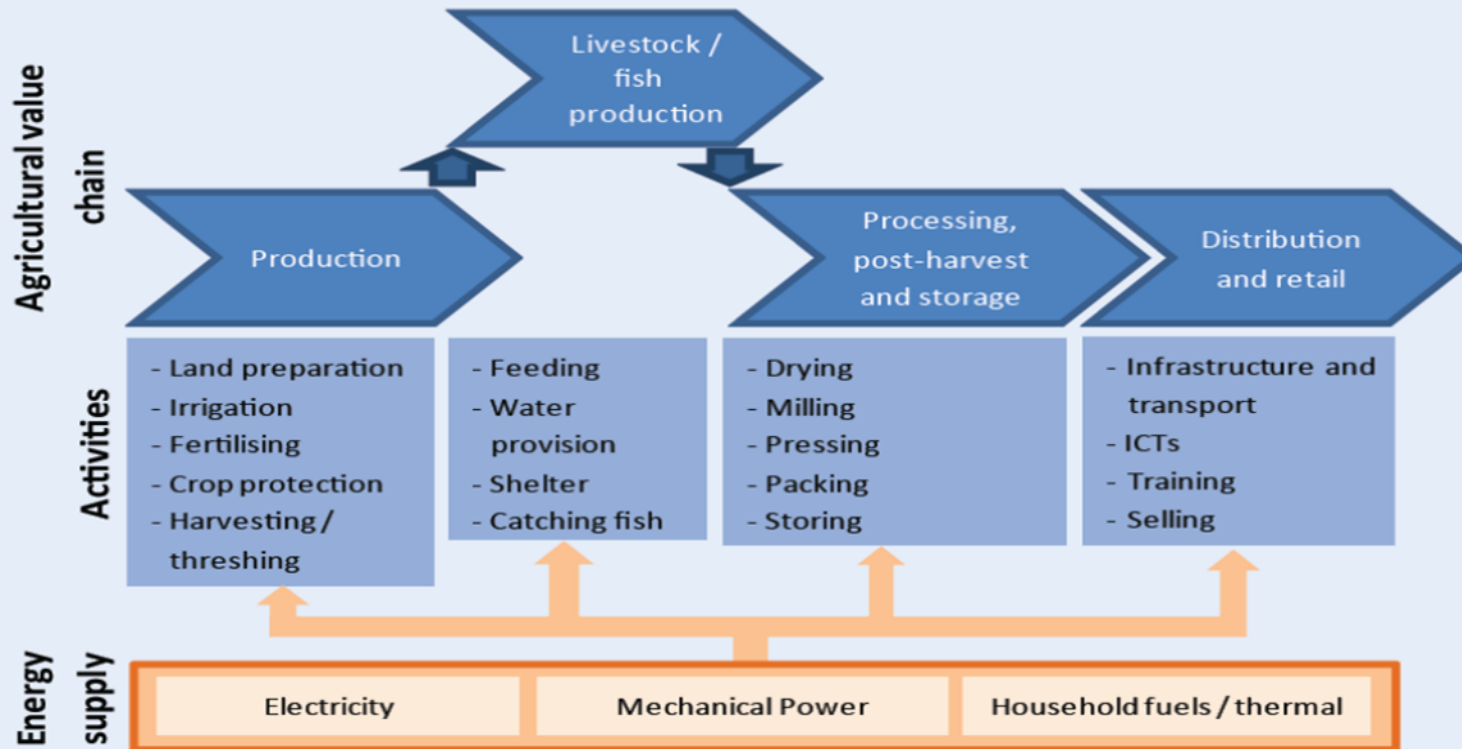
- Smallholder agriculture is critical for food supply & growth - yet most smallholder households are poor, hungry and marginalised
- Energy important for reducing drudgery, raising productivity, yields & incomes – and avoiding high food losses
- But energy just one component alongside to access to land, water, seeds, equipment, extension services, roads, markets etc
- Growing policy discourse on “energy-food-(water-climate)” nexus e.g. biofuels, pesticides – but ‘access’ piece is largely missing

What are the energy needs?

- E.g. Irrigation, harvesting, processing, storage, transport, ICT
- Plus indirect energy inputs e.g. fertilizer production
- Needs vary hugely (cereals, vegetables, fish, livestock).

Energy inputs in agriculture

Figure 2.1 Energy inputs to enable activities in the agricultural value chain



Source: adapted from FAO, 2009 and GIZ, 2011

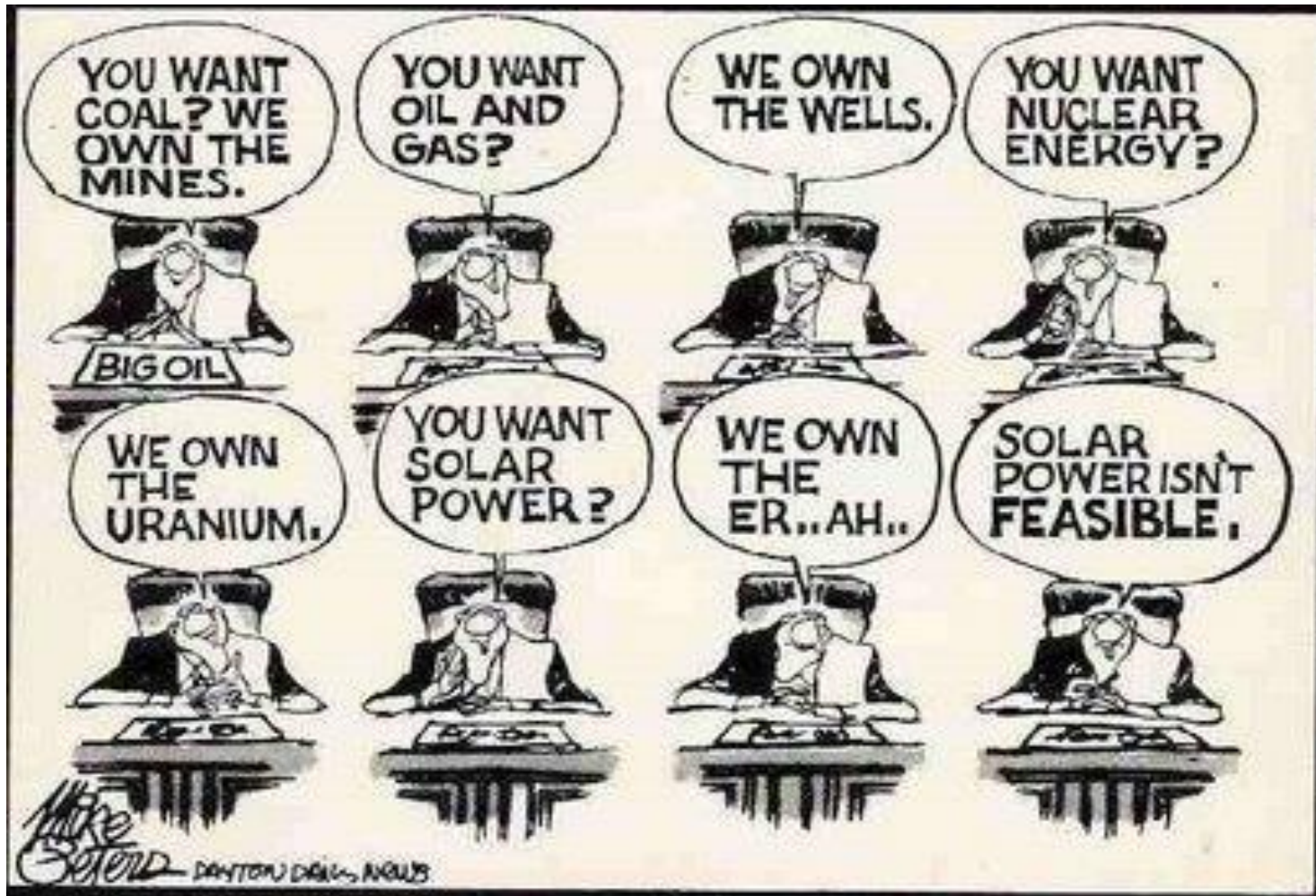
What's been tried? Mapping out approaches

- **Technology-led:** multi-functional platforms (MFPs), treadle pumps, 2-wheel tractors, solar fridges/dryers, mini-grids
- **Policy-led:** subsidised electricity in India; China rural electrification
- **Farming system-led:** “Integrated Food and Farming Systems” (IFES); large estate model
- **Market/energy supplier led?:** ESCOs

Emerging lessons e.g.

- “Delivery model” approach (maintenance, spare parts, costs-benefit analysis, farmer participation)
- IFES: Some achieve scale, but many at pilot phase, with significant hurdles, trade-offs and lack of lesson-learning

Issue 3: role private and public sector finance in access for all?



Key finance gaps and barriers

- High expectations in some quarters re private sector role in serving low-income markets (e.g. UN SE4ALL initiative)
- But huge challenges: low returns, investment size, capital costs, political risks, shortage of proven business models
- Many finance gaps, including:
 - **Consumer finance** and affordable payment schedules
 - **Enterprise finance** for SMEs and social entrepreneurs
- Innovation is happening (e.g. impact investing, crowd funding, new payment models, special purpose vehicles)
- Need more clarity roles of public and private sector, and multi-sector partnerships, to scale-up pro-poor investment

Final thoughts & questions

- What are the priorities and promising options for expanding energy services to smallholders?
- What's a pragmatic way to promote 'integrated approaches' (food-energy-water-climate)
- What's the best use of public policy and finance to incentivise the market – and fill gaps the market will never reach?
- Where and how can global frameworks, like the post 2015 development goals, make a difference?

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- What's a pragmatic way to promote 'integrated approaches'?
- What's the best use of public policy and finance to incentivise the market – and fill gaps the market will never reach?
- Where and how can global frameworks, like the post 2015 development goals, make a difference?
 - Shaping the discourse, focusing priorities
 - Co-ordinating and channelling finance
 - Improving state-citizen accountability for energy policy

Thank you

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