UNLOCKING FINANCE FOR DECENTRALISED ENERGY ACCESS: prospects with the Paris Agreement

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### ABOUT I4CE

**I4CE – Institute for Climate Economics**

3 research areas addressing the issues faced by actors involved in the energy and climate transition

<table>
<thead>
<tr>
<th>INDUSTRY, ENERGY AND CLIMATE</th>
<th>TERRITORIES AND CLIMATE</th>
<th>FINANCE, INVESTMENT AND CLIMATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understanding policies for the low-carbon transition in the industry and energy sectors.</td>
<td>Identifying and analyzing courses of action in the fight against climate change in the agriculture and forestry sectors as well as urban areas.</td>
<td>Analyzing the mainstreaming of climate change into financial decision-making by public and private entities.</td>
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</tbody>
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Bob Dylan was right
A diplomatic success
A revolutionary trptic

An international agreement in a multilateral framework
- A long-term Agreement
- A COP Decision, immediately applicable

National policies
- Nationally Determined Contributions (NDCs)

An « Action Agenda »
- Local governments
- Corporates
- NGOs
- etc.
PARIS AGREEMENT

Aligning climate, development and finance

1. Limit global warming well below 2°C while aiming at bringing it to 1.5° with an aim to reach global peaking of GHG emissions as soon as possible” and zero-net emissions by the second half of this century.

2. Increasing the ability to adapt to the adverse impacts of climate change by promoting resilience and low-carbon development, in a manner that does not threaten food production;

Towards a ‘zero net emissions’ world

Source: UNFCCC, 2015
How to reach ‘zero net emissions’?

- Energy efficiency
- Decarbonized energy vectors (eg. Renewables)
- Fuel switching
- Processes (industry, agriculture…)

- More « out »
  - CCU
  - CCS
  - Agriculture and forestry
  - Anything else?
Leaving carbon underground?

Source: Carbon Tracker Initiative, 2014
ALIGNING FINANCIAL FLOWS

REDIRECTING 5,000 G$ per year of public & private investment

Change in infrastructure spending required for a 2°C scenario
(percentage change in expenditure over 2015-2030 compared to Business-as-usual)

Source: New Climate Economy, 2016
Above all a question of redirecting…
No MDB is aligning its investment on needs for Off-grid and Mini-Grid

- Public funding through Multilateral Development Banks (MDBs) remains well below expected levels for off-grid energy access: MDBs spent less than 2% of their energy budget on decentralized electrification between 2013 and 2015 instead of the 32% preconized by the IEA in its “Energy for all” case.

Source: Sierra Club and Oil Change International, 2016
Redirecting financial flows: unlocking opportunities

- **Unlocking finance from black finance**: Off-grid solar lighting only could cut 25bn liters of kerosene burning annually throughout the world and free an additional USD 27bn for other productive and/or mitigation uses.

- **Aligning Climate Finance to needs**: Energy represents 40% of the USD 14bn already granted on behalf of the 100bn pledge, yet decentralized energy makes up only 3.4% of these 14bn.

**Source:** ATKearney and GOGLA, 2014
Redirecting financial flows: managing barriers

- **Preference for loans versus grants:** grant-based climate finance is limited and utility-scale projects with established business models are often preferred to off-grid startups for loans.

- **Bias towards large projects:** the main public climate donors are more experienced with channeling funds towards large projects than numerous small-scale projects.

- **Possibly inadequate fund priorities:** high weight given by climate funds to e.g. mitigation impact and leveraging co-finance => Assessment is costly for low-income countries / organizations…

Source: Rai et al., 2016
Targeting small-scale projects: 4 million homes in 5 years in Bangladesh

- 150 million citizens
- Nearly 40% off-grid
- Electricity for all by 2021
- RNW target: 10% by 2030
- Set up an *ad hoc* agency: The *Infrastructure Development Company Limited* (IDCOL)

**IDCOL:** A holistic approach supporting a large range of technologies, needs and actors with a wide mixture of financial instruments

- Ability to channel large amounts of finance into lots of small-scale projects
- Supporting the whole off-grid market, not only individual projects
Private finance solutions for off-grid solar deployment: BBOXX

- Solar home systems in Kenya, Rwanda
  - Total 35 countries covered
- Based on monthly payment plans
  - 2010: Official launch
  - 2014: $5.2M ($2.5M equity, $2.7M credit lines)
  - 2015: $15M ($9.8M equity, $5.3M debt)
  - 2016: $20M investment, 350,000 customers
  - 2020: “We hope to provide energy to +20 million people”

- 2015: $500,000 Distributed Energy Asset Receivables (DEARs) using securitization as a means of financing solar home systems in Africa, allowing to realize income up to three years earlier.
- Aim: $2bn in the next five years
- “We are already deploying systems at the fastest rate in East Africa, at 10kWp of solar per day…”
TO SUM UP

Take away messages

• The bulk of the financing flows towards « zero net » will be domestic and private
• Funding Off-grid energy access: a question of redirecting financial flows …
• But also some obstacles to overcome: economic and financial risks and transaction costs
• Climate benefits and co-benefits need to be better promoted.
• Finance won’t do it all, but nothing will be achieved without finance
• A quiet revolution: Bob Dylan was right
“A vos questions !”

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