

- 1 Currently being trialled in India and Kenya by DIFD and infoDev in the form of a network of Climate Innovation Centres, CICs, across developing countries (Sagar and Bloomberg New Energy Finance, 2010)
- 2 Currently being negotiated under the UNFCCC as part of a post-Kyoto approach to delivering low carbon technology to developing countries.
- 3 The Pathways Approach of the STEPS Centre <http://steps-centre.org/approach/pathways-approach/>
- 4 De Lopez, T., Ponlok, T., Iyadomi, K., Santos, S. and McIntosh, B. (2009) "Clean Development Mechanism and Least Developed Countries: Changing the Rules for Greater Participation", *The Journal of Environment and Development* 18: 436-452
- 5 UNCTAD, 2007, "The Least Developed Country Report 2007", United Nations, Geneva - available at [http://unctad.org/en/Docs/Ldc2007\\_en.pdf](http://unctad.org/en/Docs/Ldc2007_en.pdf)
- 6 Douthwaite, B. and Ashby, J. (2005) "Innovation histories: A method for learning from experience", *Institutional Learning and Change (ILAC) Initiative*, Fiumicino - available at [http://ageconsearch.umn.edu/bitstream/52515/2/ILAC\\_Brief05\\_Histories.pdf](http://ageconsearch.umn.edu/bitstream/52515/2/ILAC_Brief05_Histories.pdf)

### Further reading

Byrne, R., Smith, A., Watson, J. and Ockwell, D. (2011) *Energy Pathways in Low-Carbon Development: From Technology Transfer to Socio-Technical Transformation*, STEPS Working Paper 46, Brighton: STEPS Centre

STEPS Briefing 46: *Energy Pathways in Low Carbon Development* [http://steps-centre.org/wpsite/wp-content/uploads/Energy\\_pathways1.pdf](http://steps-centre.org/wpsite/wp-content/uploads/Energy_pathways1.pdf)

Rob Byrne, Adrian Smith, Jim Watson and David Ockwell (2012) *Energy Pathways in Low Carbon Development: The Need to Go beyond Technology Transfer*, in Ockwell, D and Mallett, A. (Ed.s) *Low carbon technology transfer: from rhetoric to reality*. Routledge, Abingdon

### Find out more

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### Credits

This briefing was written by David Ockwell and edited by Julia Day.

### About Us

#### The Africa Technology Policy Studies

**Network (ATPS)** is a transdisciplinary network of researchers, policy makers, private sector actors and civil society actors that promotes science, technology and innovation (STI) policy research, dialogue and practice, for African development. With a Regional Secretariat in Nairobi, Kenya, it operates through National Chapters in 29 African countries and Africans in Diaspora with an expansion plan in place to cover the entire Africa.

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**The STEPS Centre** (Social, Technological and Environmental Pathways to Sustainability) is an interdisciplinary global research and policy engagement hub uniting development studies with science and technology studies. Based at the Institute of Development Studies and SPRU Science and Technology Policy Research, at the UK's University of Sussex, we work with partners around the world and are funded by the Economic and Social Research Council.

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**The Sussex Energy Group** undertakes academically rigorous, inter-disciplinary research that engages with policy-makers and practitioners. The aim of our research is to identify ways of achieving the transition to sustainable, low carbon energy systems whilst addressing other important policy objectives such as energy security. We have funding from a diverse array of sources. We are a core partner in the Tyndall Centre for Climate Change Research and part of the UK Energy Research Centre.

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## Pro-poor, low carbon development: Improving low carbon energy access and development benefits in Least Developed Countries (LDCs)

A new research project funded by the  
Climate and Development Knowledge Network

April 2012

This briefing note provides non-technical background information on a new research project based on a partnership between the African Technology Policy Studies Network (ATPS) in Kenya and the University of Sussex in the UK (including the STEPS Centre, Sussex Energy Group and Tyndall Centre). The project is funded

by the Climate and Development Knowledge Network, an initiative funded in turn by the UK Department for International Development, and runs from April 2012 to March 2014. Further details can be found at the project's web page: [www.steps-centre.org/project/low\\_carbon\\_development](http://www.steps-centre.org/project/low_carbon_development)



Studying by solar light\_EEP\_Flickr Creative Commons

## Aims

Using the case study of Solar Home Systems in Kenya, this research project aims to provide policy insights to inform the design of centre-based approaches for facilitating the transfer and uptake of low carbon energy, and other climate technologies, in Least Developed Countries (LDCs). These approaches include the Climate Innovation Centres<sup>1</sup> initiative and the proposed Climate Technology Centre and Network<sup>2</sup>.

As well as informing policy, the project aims to contribute to academic thinking in the fields of innovation studies and socio-technical transitions and is based on broader critical analysis within the framework of the STEPS Centre's Pathways Approach<sup>3</sup>. For more technical detail on the academic content of this research please refer to the further reading at the end of this note.

“International policy mechanisms to facilitate climate technology transfer have failed to deliver to all but a few developing countries”

## Background and rationale

International policy mechanisms with potential to facilitate climate technology transfer have, to date, failed to deliver to all but a few developing countries. LDCs, in particular, have seen little benefit – accounting, for example, for only around 0.2% of certified emissions reductions under the Clean Development Mechanism<sup>4</sup> (CDM). Decades of research at the University of Sussex (supported by analysis elsewhere<sup>5</sup>) into technology transfer – and more recently climate technology transfer – suggest this is due to a lack of existing innovation capacities in these countries. By “innovation capacities” we mean the technological capacities to adopt, operate, adapt and innovate around new technologies within specific local contexts.

These capacities evolve through the accumulation of both tacit and codified knowledge which can be fostered by deliberate, strategic actions by developing-country firms and governments, carefully aligned with the needs and practices of local end users. If carefully designed and implemented, the emerging centre-based policy approach to facilitating climate technology transfer and uptake has greater potential to build new innovation capacities in LDCs than traditional “hardware financing” based policy approaches like the CDM. This is part of the reason why the majority of CDM finance flows to large developing countries – these are the countries with existing innovation capacities.

“How might policy initiatives replicate the success of Solar Home Systems in Kenya in relation to other technologies and other country contexts?”



Solar phone charging\_ Naddel\_ Flickr Creative Commons



Solar charger, Kenya\_ Solio\_ Flickr Creative Commons

## Project approach

Recognising the relative success of the adoption of Solar Home Systems (SHSs) in Kenya, the project seeks to build a rich understanding of how this was achieved. It will develop a detailed picture of the full spectrum of actors (from technology importers, to retailers and end users), together with the institutional frameworks and events that assisted the uptake of this technology. The aim is to identify the key actors, events and policies that contributed to building capacity around SHSs in Kenya and to use these insights to suggest how climate innovation centres and related policy initiatives might replicate these actions in relation to other technologies and other country contexts.

The project adopts an engaged approach both to the research itself and the communication of findings. Central to the project's methodology is the use of

stakeholder workshops, seminars and interviews to inform the development of a detailed history of the uptake of SHSs in Kenya and a detailed actor-network map of those involved<sup>6</sup>. This provides multiple opportunities for stakeholders to inform the project's development, learn from its findings and to provide critical insights on the uptake of SHSs in Kenya.

## Future research in different country and climate technology contexts

Whilst the project aims to provide insights of relevance to other country and technology contexts, careful attention must be given to the extent to which lessons learned are applicable outside of the context of Kenya and to technologies other than SHSs. Efforts are being made to secure further funding to expand this approach to other developing country and climate technology contexts.