THEME EDITORIAL

Carbon finance for clean cooking – time to grasp the opportunity

Philip Mann; University of Oxford, Environmental Change Institute, Dyson Perrins Building South Parks Road, Oxford, OX1 3QY, United Kingdom. Email: philip.mann@eci.ox.ac.uk Website: www.eci.ox.ac.uk

This issue of Boiling Point comes at a highly opportune moment, bringing together the very local issue of household energy with the global matter of climate change. Currently climate change is rarely out of the news, with the recent IPCC 4th Assessment Report stressing the urgent need for action and the likely future impacts of climate change. Addressing the issue of clean cooking in developing countries, while much less high profile, is now recognized to be essential if the MDGs are to be achieved. What has been less well recognized, until recently, is the prospect that climate change finance could make a tangible difference to improving the domestic cooking situation of the 2 billion plus people relying on traditional biomass. While the voluntary market has blazed a trail in this area for some time, there is now the additional prospect of support from the compliance market through the Clean Development Mechanism – or CDM.

The main driver for cooking programmes to date has been health and forest conservation. However, as most improved cooking stoves and alternative fuels can offer significantly reduced GHG emissions, the potential for carbon funding to transform the sector is considerable. This is an area where the goals of development and climate mitigation overlap and improved cooking stoves could benefit from carbon finance on a large scale. Some of the barriers existing just 12 months ago are now being tackled, as is evident from the articles within this issue of Boiling Point.

Progress at the Bali COP/MOP

The Bali climate COP/MOP meeting in December 2007 yielded one very encouraging outcome for the HEDON community. For a number of years a key barrier to the carbon financing of cooking projects has been the lack of suitable methodologies[1] under the CDM, with the issue of non-renewable biomass[2] being a sticking point for some involved in the decision making process. However after much debate, the CDM decision from Bali included a request to the CDM Executive Board (EB) to approve, at its first meeting in 2008, the simplified small-scale methodologies for *replacing non renewable biomass by renewable energy* and *improving efficiency in non-renewable biomass end-use*. While the EB has been asked to incorporate some changes to the methodologies before approval, and even though the details of the methodologies arguably do not reflect the magnitude of GHG reductions that cooking projects could yield, this is a very positive decision. It coincides with a general increase in recognition of the importance of end-use energy efficiency within the CDM.

Bali also marked the first COP/MOP since the launch of procedures for *programmatic CDM* (officially *Programmes of Activity*). The introduction of a programmatic approach within the CDM could have a profound impact on the cooking sector. Once it has been shown to be workable in practice, it could facilitate the support of actions able to deliver scale-up through market transformation within the sector.

Bali outcomes also stressed the importance of dealing with the impacts of climate change on the poor, following on from the adaptation focus of the previous COP/MOP in Nairobi. Climate change impacts on biomass production for household energy could be a key issue for the future. The article by Practical Action in this issue highlights their work at a local level to increase the resilience of the poor to climate change impacts; it reminds us that though the poorest have contributed least to GHG emissions, they are the most vulnerable to climate impacts.

Opportunity

Cooking and climate mitigation is an exciting area for a number of reasons. Firstly, although there is much talk about sustainable development in the CDM, analysis of the current CDM portfolio shows limited development dividend, as highlighted by both Cooper and Sanchez. However cooking interventions bring undisputable development benefits in terms of health, gender, energy security, forestry etc. An article by Marlis Kees from GTZ in this issue quantifies these benefits using an economic analysis of a cooking programme to highlight a 1:25 ratio of costs to benefits delivered over a 10 year period from a cooking programme in Uganda.

Secondly, for most types of larger scale carbon offset project activity, carbon finance makes up only a small percentage of costs and revenues. For cooking interventions, however, there is the prospect of carbon finance pro-

Figure 1. Woman beside LPG stove at Wau Nour Camp, Kassala, Sudan (Photo: Liz Bates)

viding a large fraction of the finance required, especially if undertaken at a scale where relative transaction costs are reduced.

Thirdly the scale of the opportunity represents a real chance to deliver significant untapped development and climate mitigation benefits. In this issue Bailis et al highlight the scale of the issue for Africa, providing a detailed analysis, based on various scenarios for domestic fuel choices and forest management practices in Africa to 2050, of the future impacts on human health and greenhouse gas emissions. Their results highlight the subtle inter-play between policies for environment and human health, and stress the likely future importance of charcoal.

Making progress

The community of practice for cooking and carbon has made great strides since a meeting hosted in Oxford in 2005. While in the past a number of factors have hampered progress in scaling up cooking interventions in general, and the carbon financing of them in particular, this issue shows that many of the barriers have been or are being removed.

Measuring emissions reductions from cooking projects is a complex business, and it is clear that rigor is required if the cooking sector is to benefit from mainstream carbon finance. Harvey suggests a means of tackling the thorny issue of determining the degree of renewability of biomass fuel. The approach includes use of a GIS system entitled WISDOM (Woodfuel Integrated Supply/Demand Overview Mapping model) outlined by Johnson et al.

Progress has also been made in the development of monitoring approaches. Whilst monitoring dispersed projects is not easy, one very positive aspect of carbon finance, highlighted by Harvey, is that it gives a value to the delivery of outcomes rather than inputs; this provides an incentive to ensure the long-term functioning of stove interventions, an element often missing in past stove programmes. Johnson et al highlight the importance of primary data collection for stove emissions and fuel renewability, using a case study in Mexico to show that GHG reductions can be significantly underestimated using standard figures or regional estimates. If their results are indicative of other stove programmes, the general rule of thumb for GHG savings (of 1–1.5 tonnes CO_2 per stove per year) may have to be increased. It is clear that monitoring approaches for cooking/carbon finance will need to ensure both acceptable costs and environmental integrity, which may require some careful balancing.

The results of ongoing work by GTZ in the household energy sector are also highlighted. One key lesson learned is the importance of taking a professional approach to marketing and business development. This suggests that while carbon finance may provide a new revenue stream, there is a need to be strategic in the way this finance is used in order to develop self-sustaining markets for better cooking technologies, which is surely the ultimate objective. Is carbon finance best used for direct stove subsidies, or should the priority be in building the capacity of local businesses, in marketing or in the development of new technology? The approach taken needs to reflect local conditions, and complement existing activities and markets, and is likely to be a combination of all of these approaches. Learning lessons from the break-through of technologies of the past could help guide the way.

Crucially this issue of Boiling Point details real experiences of 'cooking and carbon' projects by practitioners in the field. These include project developers Pioneer Carbon and CarbonAided, Blue Ventures, a small conservation NGO, and the development NGO, Practical Action. For the latter Sanchez raises several interesting questions for reflection, including how to approach situations in which technology choice requires a trade-off between development and climate mitigation.

Next steps

Scaling up improved cooking with the support of carbon finance could lead to a win-win opportunity. The voluntary market has led the way and looks set to expand. At the same time the compliance market now presents huge potential. In the scramble for good projects the focus must remain on activities delivering both real development benefits and environmental integrity.

However, some key questions remain. Firstly how to integrate the amassed knowledge presented within this issue – and elsewhere – to provide the rigor demanded of the carbon market and attract finance at scale to household energy? Secondly, once secured, how to use this new finance stream in a way that optimises the prospects of developing self-sustaining markets for improved cooking technologies, thus making clean cooking the norm rather than the exception? Finally how can our community of practice continue to share experiences and ideas, and influence those developing the framework of the carbon market such that it encourages the type of household energy interventions that genuinely benefit the poor? This edition of Boiling Point provides a valuable contribution to the debate, and moves us closer to realising the potential of the carbon market to deliver, at scale, sustainable energy development at the household level.

Notes and References

1. Methodologies are for additionality and baseline determination and monitoring approaches
2. CO_2 reductions from cooking projects can only be claimed as carbon offsets in situations where growth of biomass in the fuel collection area does not match biomass extraction rates.

Profile of the author

Philip Mann has been working in the fields of energy and development for 18 years, and is currently a researcher at the University of Oxford's Environmental Change Institute. He previously worked - as a seconded expert on behalf of the UK's DFID - on energy policy for Africa at the European Commission's DG Development, and before that on UK and IEA energy programmes. For the last 7 years Philip has been a Trustee of a UK-registered child-focused social welfare charity, CWS, operating in Nepal (www.childwelfarescheme.org). In 1999 Philip helped to establish an improved cook-stove programme for the charity. He started working life as a teacher of science in a remote secondary school in Sierra Leone, where he introduced a photovoltaic lighting system and cooked on a three-stone fire for some time.

www.hedon.info/User:PhilipMann