Report of the Shell-IUCN Indirect Land Use Change Workshop

21-22 September 2010, Chatham House, London

Synopsis

IUCN and Shell organized a workshop on indirect land use change (iLUC) and biofuels (21-22 September 2010, Chatham House, London). The session convened a range of stakeholders including agricultural commodity producers, biofuels producers and suppliers, research institutes, environmental NGOs and regulators (see Annex 1 for background information, Annex 2 for participants list, and Annex 3 for the workshop agenda).

The primary objectives were to gain a shared understanding of how to effectively mitigate against iLUC risks from biofuel production and to explore policy options which ensure and enable mitigation. This report is a record of the discussions of the group and is publicly available for any who wish to use it, particularly to inform the European Commission's consultation on iLUC and biofuels.

The workshop produced 4 outcomes:

I) A framework to enable the selection of viable iLUC mitigation measures, in the form of success criteria;

II) Indicative list of potentially viable iLUC mitigation options;

III) Success criteria for effective iLUC mitigation policy; and

IV) Indicative list of iLUC mitigation policy options.

Outcomes

I. Success criteria to screen the viability of ILUC mitigation options

The risk that biofuels will cause iLUC is real, but it can be mitigated. But not all mitigation options work or are appropriate. The participants identified the following success criteria for screening the viability of iLUC mitigation options.

1. **Economically Feasible**: can the micro-economics of the mitigation option work?
2. **Effective**: will the option actually mitigate iLUC risks?
3. **Fair**: do the options create a bias between feedstocks (note this criterion was very difficult for the groups to use and was later re-worded when the success criteria were re-designed for policy alternatives)?
4. **Measurable & Verifiable**: can the mitigation option deliver measureable and verifiable outcomes?
5. **Politically Feasible**
6. **Practical / Technically Feasible**
7. **Based on Best Available Scientific Evidence**
8. **Scale of Impact** (note this was added by one of the groups in the discussions about the alternatives): is the mitigation option material / does it deliver material mitigation? Can it be taken to a scale that matters?

II. Complete list of iLUC mitigation options identified, in 3 categories (note that these are indicative ideas and the list is not comprehensive).

Feedstock Producers

1. Improvement of farm productivity
   - Improving yields
   - Crop choices
     - Matching crops to local conditions
     - Choosing crop with best energy and/or GHG balance
   - Diversifying crops
   - Integrating farming systems and valuing ecosystem services
   - Crop R&D

2. Maximizing use of co-products, residues and waste
   - With care for competitive uses of residues and waste

3. Choice of lands
   - Non-agricultural land use
   - Compensation, improvements elsewhere
   - Prioritizing responsible expansion on released land or marginal/underutilized/degraded land (e.g. through the Responsible Cultivation Areas (RCA) process)

Across the Supply Chain (excluding feedstock producers)

1. Efficiency
   - Conversion: maximum utilization
   - Use of co-products
   - Reducing waste along supply chain (logistical efficiency)
   - Integrated use (e.g. biorefinery)

2. New technology development to deliver new solutions
   - New high efficiency feedstocks or new conversion processes
   - Developing technologies favoring use of waste and residues
   - Biomass to synthetic hydrocarbons

3. Sourcing from low-risk iLUC feedstocks and ban on high-risk iLUC feedstocks
   - Certification/labeling
   - Creating value for iLUC-free product through a price premium

4. Investing in protection of High Biodiversity Land (linked with local risk mapping)

Other Opportunities (beyond feedstock producers and across supply chain)

1. Replace volume targets with GHG reduction/performance targets

2. Remove perverse and/or inefficient incentives

3. Use forms of bioenergy most appropriate to local situations: iLUC efficient (e.g. ethanol, or mandate non-land-sourced bioenergy forms)

4. Strategic land use planning: agriculture/forestry/environmental/social land zoning with implementation and enforcement

5. Broaden sustainability criteria and iLUC mitigation to agricultural/forestry/ecosystem-based sectors. Consider differential iLUC factors (risk-based).

6. Support for agricultural development, extension services

7. Reduce energy and transport demand
   - E.g. manage fuel consumption
   - Sustainable urban planning

8. IPCC agreements on land use emissions (CAP management and carbon pricing)

9. Strengthen international agreements on deforestation (including REDD)

10. Strengthen/secure land rights

As there are barriers to mitigating iLUC risks, there is a need for policy frameworks to enable and ensure that mitigation opportunities are realised and iLUC is addressed on the ground.

III. Framework for assessing iLUC mitigation policy options, in the form of the following success factors:

1. **Economically Feasible**: does the policy give iLUC mitigation a value which can be captured by those who bear the costs of the mitigation measure? Is the policy within the means of the implementing countries?
2. **Effective**: will the policy result in iLUC mitigation happening?
3. **Pathway Neutral / Performance-Based**: is the policy framed around performance (GHG balance within the bounds of other sustainability aspects)? This is preferred to picking specific feedstocks and pathways, in order to drive innovation in all feedstocks towards agreed policy objectives.
4. **Measurable & Verifiable**: does the policy enable iLUC mitigation to be measured and verified?
5. **Politically Feasible**
6. **Practical / Technically Feasible**: does the policy enable solutions which are technically feasible to implement?
7. **Based on Best Available Scientific Evidence**
8. **Trigger Positive Change**: does the policy promote iLUC mitigation options which result in better outcomes for people and the environment?
9. **Flexible & Adaptive**: Does the policy allow for change based on experience?
10. **Scale of Impact**: Does the policy enable iLUC mitigation options which are commensurate with the needed scale?

IV. Overview of the list of policy options (see Table 1 in Annex 1 for complete list of policy options):

EU policy focus at the level of feedstock producers and elsewhere in the biofuel supply chain (not in order of priority):
- iLUC Factor - iLUC Factor + Mitigation + Exemptions - iLUC Mitigation as incentive-based policy (e.g. RCA's, differential counting, co-products) - Market segmentation: increasing % of no-iLUC biofuels - Risk-based approaches (penalty or additional criteria) - Agricultural R&D support - GHG target adjustment - Prioritizing responsible expansion on released land or marginal/underutilized/degraded land (e.g. through the Responsible Cultivation Areas process)
Policy options needed at broader levels, and that EU policy can contribute to:
- Apply sustainability criteria to other sectors (agriculture, forestry, other ecosystem-based sectors) - Strategic land use planning - Global GHG reduction agreements, including efficient REDD design and implementation - Carbon pricing across all sectors

Concluding Remarks

An attempt to map the policy options against the success criteria resulted in a robust discussion around several of the policy alternatives. There was no consensus in the room, but key points raised in the discussions are:

- There needs to be some kind of value for mitigation measures in the biofuels value chain in order to provide access to resources necessary to overcome the barriers to the implementation of the mitigation measures.
- The greenhouse gas emissions associated with unmitigated iLUC must be accounted for in the attributed lifecycle emissions, for the biofuels to be actually contributing to reductions targets.

Next Steps

1. IUCN will set up a wiki to enable sharing information on the European Commission iLUC consultation process.
2. IUCN and Shell will reconvene the group in the first quarter of 2011 to track developments in the European Commission iLUC policy process.

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Annex 1: Background Workshop Information

Background

iLUC refers to changes in land use that arise from the displacement of an existing land use practice as a result of the adoption of a new land use practice. This can occur at the local level with the displacement of human uses of a given resource or ecosystem service; or at the global level via increased demand for agricultural commodities which then triggers increased supply in national, regional or global markets.

As a small but expanding contributor to increased agricultural demand and associated production, biofuels have come under scrutiny for their potential to cause iLUC. Pre-existing land uses (cropping, grazing, or other) may be displaced by biofuel crops to other lands that, in some cases, may be forested lands, peatlands, or grasslands. This displacement can alter the greenhouse gas emissions balance of the biofuel, as well as impact people and biodiversity.

Assuming that biofuels-related iLUC is caused by increased demand for agricultural commodities for biofuels markets, the main ways of mitigating against the risk of iLUC involve increasing supplies of these commodities without displacing existing production and uses to other lands. The best outcome is to ensure proactively that iLUC does not occur, as a result of biofuels, or any other agriculture expansion activities likely to take place as agricultural demand grows.

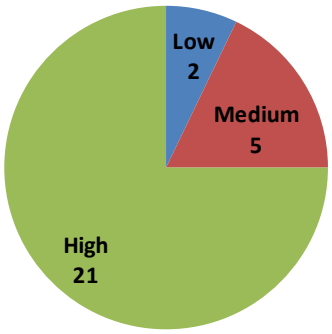
Shell and IUCN agree on the urgent need to find ways of mitigating against iLUC risks and promoting these measures in biofuels practices and policies (as well as agricultural practices and policies); it is in this context that the iLUC workshop was developed. The main expected outputs of the workshop:

- A network of diverse stakeholders gaining a shared understanding of the issue of iLUC.
- A better understanding of the viability of mitigating against iLUC risks for feedstock and biofuel producers.
- A better understanding of policy intervention strategies for iLUC mitigation; in particular to inform recommendations for the European Commission's public consultation on indirect land use change and biofuels (ending October 31st 2010).

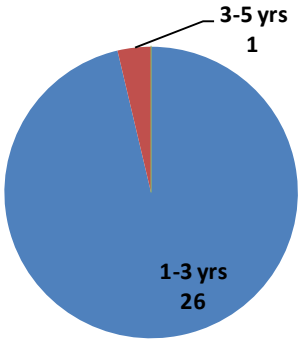
Survey

An on-site survey captured the initial perspectives of the participants (see graphs below for details). The survey demonstrated strong agreement on the importance of iLUC and the urgency for a policy to address iLUC. There was also broad agreement on the potential to mitigate iLUC risks. The room was more split on policy approaches with half the participants believing a "carrot" based approach was needed, a quarter believing a "stick" was necessary, and several other options coming to the table.

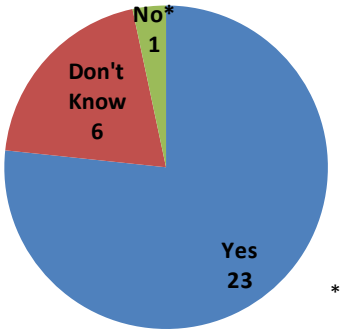
1. How important is iLUC?



2. How urgently does policy need to be in place to address iLUC?



3. Can iLUC be mitigated?



*Not in the biofuels sector

4. What kinds of policy mechanisms are needed to enable iLUC mitigation?

- ➔ Carrot: 14, Stick: 7, Market Segmentation: 2, None: 2.
- ➔ Other Suggestions: Combined approach (2), Apply EU sustainability schemes to other sectors (1), Integrated land use systems (2), iLUC Factor (1).

Session Summaries: Plenary & Group Discussions

Session 2: iLUC Context Setting.
Following presentations that defined the issue of iLUC and characterised it in the context of biofuels, a plenary discussion dealt with a range of issues at a broad level. Some key points:

- Biofuels policy is driven by an array of objectives. While climate change mitigation is a primary policy driver in the EU context, other drivers such as energy security and agricultural development should be considered, even in the context of iLUC. Policy approaches that are performance-based, technology neutral and designed to drive innovation have successfully reduced carbon intensities of biofuel feedstock production and conversion processes (e.g. California's LCFS). The limited scope of EU policies should be recognized as they will only address biofuels entering EU markets; broader policy reforms are needed in the global agricultural sector if the root of the land use issue is to be addressed. Smart policies are needed that are practical and do not shuffle impacts to other sectors, but the focus of the workshop is on biofuels policy where influence and impact can be generated.

- Technology will always be part of the solutions but care must be taken over reliance on new promises, and choosing winning technologies (e.g. funding for 2nd generation biofuels R&D is greater than for 3rd generation biofuels).

- Models are valuable in understanding the situation, but outputs need to be interpreted with a clear understanding of the underlying assumptions, and inherent uncertainties. New models that consider multiple provisioning (i.e. food, feed and industrial needs) from integrated landscapes are needed.

Session 3: Sectoral Perspectives
This session opened with presentations on iLUC modelling approaches and global perspectives on proactively avoiding iLUC including through the Responsible Cultivation Areas (RCA) approach. These were followed by group discussions. Some key points:

- Feedstock Producers: it is important to distinguish between European producers and low income country producers as considerations around improving yields, integrating land uses, and implementing best practices are already being made in Europe. It is also important to consider the treatment of co-products, which can reduce the extent to which biofuel crops displace existing products and uses to other lands. A better understanding is needed of what the biggest contributors to land conversion are, including factors such as population growth and commodity economics, and how much biofuel feedstocks contribute to land use change now and in the future.

- Biofuels Producers & Suppliers: much of the discussion around mitigating iLUC on the ground falls outside the biofuel conversion and supply value chain. Thus some effective options (e.g. reduction of waste in other value chains, RCA approach) might be challenging for the biofuels value chain to implement. Mechanisms that enable such options in multiple value chains are important. For example, the RCA approach will not gain traction unless it is promoted by policy frameworks. It is also important to avoid policy frameworks that are too prescriptive – the broader the diversity of mitigation approaches, the greater opportunity for implementation.

- Environmental NGOs: given the policy driver of climate change mitigation, biofuels must deliver real GHG reductions compared to fossil fuel baselines. If emissions associated with iLUC have the potential of making biofuels a contributor to climate change rather than part of the solution, mitigation options must be implemented on the ground. iLUC also impacts biodiversity, ecosystems, food security and local communities: these factors must be considered for truly sustainable solutions to indirect impacts from biofuels. Ideally, biofuels demand should be met without any negative land conversion and should trigger positive land use change.

Table 1. Complete list of policy mechanisms for enabling iLUC mitigation options, from each group.

Group 1	Group 2	Group 3
- ILUC Factor + Exemptions - ILUC Bonus: best practices incentivized - Move towards GHG performance-based standards + establish mitigation strategy - Have a global carbon market that includes LUC (+ taking into account biodiversity) - Additional sustainability criteria for high carbon risk feedstock - Increase GHG thresholds - Targets only met from no-iLUC biofuels: co-products, yield increase, waste. - Progressively increase the % of no-iLUC biofuels - Establish a baseline and monitoring system for land use change (at a higher level) - Extend sustainability criteria to all biomass products - International bank for knowledge + funding dedicated to increasing yields → iLUC offsets.	- Enhance EU RED, FQD - ILUC Factor - Incentivized system - Market segmentation - Reduce demand for land-based biofuels - Risk-based penalties - Differential counting - GHG targets, not volumetric mandates - Global strategic land use planning - Efficient REDD design and implementation - Improve governance of protected areas and strategic land use - Carbon price / global carbon cap - Agricultural R&D support	- iLUC Penalty: GHG default values representing perceived ILUC emissions - iLUC Penalty + Mitigation Options (e.g. co-products, RCA, set-asides etc.) - iLUC Mitigation Options: methodology for identifying iLUC mitigation practices (a "learning" system , i.e. new innovations can be added) - Direct funding of iLUC mitigation options (e.g. new crop R&D) - Global emissions reductions agreements - Broadening sustainability criteria to other commodities and sectors - Strategic land-use planning

Annex 2: Workshop Participants & Email Addresses

Organisation	Name	Email
Bright Green Learning	Gillian Mehers (Facilitator)	gillian@mehers.com
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Annex 3: Shell-IUCN iLUC Workshop Agenda

Day 1: Tuesday 21 September 2010

Time	Event	Content	Facilitator/ Chair
09:00	**Arrival & Registration** *(Chatham House)*	Participants arrive and collect workshop materials.	
09:30	*Session 1* **Welcome and Introduction to the Workshop**	• *Pre-meeting Safety Briefing* • Welcome, objectives and background of the meeting, **Andrea Athanas, IUCN, Rosie Rafferty, Shell International** • Schedule, methodology, norms, and participant introductions, **Gillian Martin Mehers, Lead Facilitator, Bright Green Learning**	Jeff McNeely Andrea Athanas Rosie Rafferty Gillian Martin Mehers
10:45	**Coffee break**		
11:00	*Session 2* **ILUC – Context Setting**	• ILUC- What is ILUC and why does it matter for biofuels? **Jeff McNeely, IUCN** and **Aaron Berry, Head of Carbon and Sustainability, UK Renewable Fuels Agency** • Plenary Discussion	Gillian Martin Mehers
12:30	**Lunch**		
13:15	*Session 3* **Sectoral Perspectives and Ideas for ILUC**	• Exchanging Perspectives: what is the perspective of your group on ILUC options (for feedstocks, for getting increased quantity of biofuels into the market)? • **Panel Discussion: Efforts and Opportunities, Chair, Jeff McNeely** • Panelists: **Rick Malpas, Shell International** (*Determining ILUC: what efforts have been made so far to model ILUC risks associated with the production of biofuels?),* **Andrea Athanas, IUCN** (Video: *What range of opportunities exist for mitigating and/or avoiding ILUC risks?*) and **Laszlo Mathe, WWF International** (*Deep dive into producer/supplier-led ILUC risk mitigation measures: Responsible Cultivation Areas*) • Discussion	Gillian Martin Mehers
15:15	**Coffee break**		
15:30	*Session 4* **Ideas Elaboration**	• Identify success criteria for ILUC mitigation options to ensure that they are workable (including from producer and regulator perspectives) and achieve a reduction in indirect impacts. • Carousel Discussion and Brainstorming: 1. What are our opportunities to mitigate ILUC through producer practices? 2. What are our opportunities to mitigate ILUC elsewhere in supply chain? 3. What other opportunities exist to	Gillian Martin Mehers

		mitigate ILUC (e.g. through regulator intervention)? • Review of results and discussion	
17:30	*Session 5* **Reflections on the Day**	• Reflections on the day, **Jeff McNeely, IUCN** • Participants' reflections – new insights about the Dialogue today? • Overview of next day schedule and logistics	Jeff McNeely Gillian Martin Mehers
18:00	**End of the Day**		
18:00	**Reception**	Participants invited to reception at Chatham House.	
19:30	**Reception end**		

Day 2: Wednesday 22 September 2010

Time	Event	Content	Facilitator/ Chair
09:00	Coffee	Participants are welcome to arrive early for coffee.	
09:30	*Session 6* **Day Opening and Review –What Makes for Good Policy Outcomes?**	• Overview of the day's goals and schedule, and introduction to new participants • Review of yesterday's results**, Jeff McNeely, IUCN** • Update on current EU policy landscape regarding ILUC: *The challenge of ILUC for policymakers,* **Noor Yafai, Government Relations Adviser, Shell International** • Discussion	Gillian Martin Mehers
11:00	**Coffee Break**		
11:15	*Session 7* **Identifying Elements of Policy and Approach**	• Reminder of success criteria and options from Session 4. The group will identify critical success factors for a regulatory framework that promotes ILUC mitigation. • Small group work: Regulatory frameworks for ILUC mitigation and meeting the critical success factors. Prioritization of the top regulatory approaches. • Presentation of ideas by groups.	Gillian Martin Mehers
12:45	*Session 8* **Discussion on Policy Language**	• Cross-check of policy options with regards to the most viable mitigation option.	Gillian Martin Mehers
13:15	**Lunch**		
14:15	*Session 9* **Strategies for Sharing Policy Recommendations**	• Groups reporting from Session 8 • Pairs discussion - Key questions: 1) Will what we are discussing achieve our outcome? Will there be unintended outcomes (if YES, what?) Or no outcome? What more is needed?	Gillian Martin Mehers
15:00	*Session 10*	• Reflections on discussion. Thoughts and	Gillian Martin

	Next Steps and Closing	reflections for taking this forward and gathering support in your constituencies? • Next steps: Report from the Workshop and follow-up, **Andrea Athanas and Rosie Rafferty** • Final words: Meeting Chair, Jeff McNeely	Mehers
15:40	**End of Workshop**		
15:45	**Coffee break available**	Coffee available prior to departures.	