

Challenges to Certify Sustainability for Bioenergy Production



CBES

Center for BioEnergy
Sustainability

<http://www.ornl.gov/sci/besd/cbes>



US Department of Energy

Plenary Discussion Question
and Response – IEA Bioenergy Joint
Task Workshop in Campinas Brazil

by Keith Kline

Center for BioEnergy Sustainability
Oak Ridge National Laboratory
Oak Ridge, Tennessee USA



Question Posed: Can certification ensure sustainability?

Keith's response: *There are several possible answers to this question:*

1. No. Nothing can **ensure** sustainability.

However, under some conditions, some certification schemes might help shift production toward more sustainable paths.*

** This depends on the degree to which the scheme actually causes changes in behavior that generate significant and measurable changes in sustainability indicators, which in turn depend on (a) how many producers actually adopt the scheme and (b) how effective the scheme's incentives are in promoting improvements and change from 'business as usual' practices.*

Question Posed: Can certification ensure sustainability?

Keith's response: *There are several possible answers to this question:*

2. No. Because there are simply too many opportunities for substitution in the relevant markets.
3. No. Because the transaction costs for certification, monitoring and verification are too high relative to the value of the product (biomass) in the market place.**

*** Transaction costs have proven to be a barrier for certification schemes in other markets. Something as simple as 'Chain of Custody' has proven difficult and costly to implement, even for higher value products.*

Question Posed: Can certification ensure sustainability?

Keith's response: *There are several possible answers to this question:*

4. No. Because there is no evidence of “market premiums” sufficiently large enough to offset transaction costs.
5. No. Because even well-designed schemes can be too easily “gamed” (and it only takes a few well-publicized problem cases to undermine credibility of the certification system).

Question Posed: Can certification ensure sustainability?

Keith's response: *There are several possible answers to this question:*

6. Yes. Certification can help. But to make a difference, it must be developed with users and provide tools that move production toward more sustainable and profitable paths (from users' perspectives) incrementally.

7. Yes, to the degree the scheme is ADOPTED by users, MEETS LOCAL NEEDS, and is ADAPTABLE to changing situations and priorities.

(The scheme should be simple and easily adopted by new participants (welcoming), generate value for their operations, and provide incentives for continual improvement.)***

Question Posed: Can certification ensure sustainability?

Keith's response: *There are several possible answers to this question:*

*** Yes, but schemes that merely show differentiation in the market (e.g. certifying producers who meet a given set of requirements) are not necessarily effective tools to promote sustainability because (a) sustainability is not a fixed state and (b) such systems can merely reinforce current practices rather than provide incentives to make changes that show measurable differences in indicators of sustainability.

Thank you!

<http://www.ornl.gov/sci/besd/cbes>

- **Reports**
- **Forums**
- **Other presentations**
- **Recent publications**



This research was supported by the U.S. Department of Energy (DOE) under the Office of the Biomass Program and performed at Oak Ridge National Laboratory (ORNL). Oak Ridge National Laboratory is managed by the UT-Battelle, LLC, for DOE under contract DE-AC05-00OR22725. The views in this presentation are those of the author, who is responsible for any errors or omissions.



Sustainability

- Issues are global but actions and effects depend on locality
- Sustainability is contextual and relative (more/less)
- Process based: a trajectory not a “state”
- Scales matter
- Systems approaches can optimize socio-economic and ecologic benefits of bioenergy
- Sustainability implications of biofuel choices are complex
- Definitions and assessment involves stakeholder participation and a suite of measures
- ***You can only manage what you can measure***

