

## **RESEARCH WORKSHOP ON SUSTAINABLE BIOFUEL DEVELOPMENT IN INDONESIA, PROGRESS SO FAR AND FUTURE APPLIED RESEARCH OPPORTUNITIES**

Closing Remarks  
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In summarizing this workshop, I think we had a very fruitful and interesting, fairly comprehensive discussion of the issues relating to biofuels in Indonesia.

### Common themes

Several common themes emerged including the importance and desirability of

- a more coordinated government policy for biofuels with a stronger leadership
- stakeholder involvement and provision of advice as an input to policymakers,
- continued research in Indonesia on various aspects of biofuels, but research areas need to be prioritized to make the best use of limited funds,
- consideration of a wider range of feedstocks given the great diversity in Indonesia's agro climatic conditions ,
- consideration of policy flexibility for local governments,
- more exploration of 2<sup>nd</sup> generation biofuels such as algae and waste,
- developing an Indonesian approach to biofuels, based on local knowledge and expertise.

Many participants also stressed the importance of reforming Indonesia's biofuel pricing mechanism, especially the desirability of a subsidy system to make biofuels more cost competitive with fossil fuels. It was suggested that these subsidies could be considered an investment in production capacity rather than simply a cost. Moreover, it was pointed out that energy subsidies for fossil fuels are a significant barrier to economic viability of biofuels.

### Importance of sustainability

I think that this is a good start, and I would like to reemphasize the importance of sustainability – including social and environmental as well as economic sustainability – which was also discussed in the workshop. Several panelists, including ones involved in business, emphasized the importance of addressing social and environmental sustainability issues, since otherwise they may generate opposition which may obstruct the development of the industry. Some panelists emphasized the “renewable” aspect of bioenergy, and reminded us of the importance of preserving the soil and reducing energy input for bioenergy crops. In this respect, waste-to-biofuels, which was discussed by some panelists, seems to be one logical way to address sustainability issues. However, more research on social and environmental sustainability issues is important to their resolution (including especially waste-to-biofuels). Indonesia may have many available feedstocks, but do we really understand their social, environmental, and

economic effects? What might be the unexpected or unintended consequences of different potential directions for Indonesia's biofuel industry?

### Overall direction of biofuels

There was a range of views regarding the overall future direction and scale of biofuels in Indonesia. On one hand, some participants expressed hope that Indonesia could become the "Middle East of Biofuels," implying a strong export orientation, and possibly larger scale production in order to maximize cost competitiveness. On the other hand, many participants also expressed a hope that small and medium producers could play an important role in biofuels. These two orientations imply different kinds of promotion policies. For example, it was suggested that small producers could be helped by streamlined standards which would be less costly and easier to implement. However, if export promotion is the main goal, then the more complex and costly standards of the export markets will need to be adopted. There should be more consideration of whether or how these two goals could be compatible, and if so, it would be important to make sure that the policies designed to support one goal do not undermine the other goal.

Finally, the workshop emphasized the importance of involving all stakeholders in efforts to reform Indonesia's biofuel policies, in order to help avoid past problems and enhance the prospects that a new policy could be implemented smoothly. Broad stakeholder involvement is expected to help achieve policies that can achieve a level playing field benefiting all stakeholders by taking advantage of their specialized knowledge and giving them a kind of "ownership" of the final result. Otherwise, decision makers may overlook important information, and there will be increased risk of misunderstandings, disagreements, or conflicts, and a new policy may be difficult to implement. It was observed that Indonesia's politics and society are now in a transition stage from a more top-down, hierarchical style to a more bottom-up and democratic style, and this transition magnifies the importance for stakeholders to join together, try to reconcile their differences, and participate in advising the government on new policies. To this end, the participants in the workshop agreed to try to form a new group of stakeholders to consider the future direction of biofuel policy in Indonesia.