Transatlantic Biofuels Policies: What’s in it for Developing Countries?

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World Fuel Ethanol Production

Ethanol from cellulose will add significant volumes

Source: F.O.Licht
NWF’s priorities are to

- Confront Global Warming, as the single most urgent challenge to protecting wildlife for our children’s future

and to

- Restore Wildlife, through a robust network of habitats (terrestrial and aquatic) to support healthy plants and animals.
Clarify **NWF** Position:

We support a long-term growth pattern to “sustainable” **Next Generation Biofuels** – as one among many long-term strategies to reduce greenhouse gas (GHG) emissions.

We propose a specific new Farm Bill program for cellulosic ethanol.
Biofuels are promoted for many reasons:

- Energy security/independence from foreign sources
- Potential to stabilize commodity prices
- Promote rural development
- Reduction of GHG emissions, and other pollutants.
--BIOFUELS CAN’T DO ALL THAT AT THE SAME TIME--

• THE BENEFITS ARE NOT PRODUCED AUTOMATICALLY, OR FOR ALL BIOFUELS.
• THEY MUST BE PRODUCED UNDER SOCIAL AND ENVIRONMENTAL SAFEGUARDS.
• NEED TO MODERATE EXPECTATIONS.
Biofuels that are produced with conservation safeguards for people and wildlife may gain support:

- Reduce ratio of fossil energy input to output.
- Use less water and more renewable energy in refineries.
- Avoid deforestation and use of valuable habitat land for energy feedstocks.
- Reduce water pollution and run-off.
Otherwise, controversy may stymie industry growth:

The pushback is already beginning
# Fossil Energy Balance

## Table 3. Fossil Energy Balances of Selected Fuel Types

<table>
<thead>
<tr>
<th>Fuel (feedstock)</th>
<th>Fossil Energy Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cellulosic ethanol</td>
<td>2–36</td>
</tr>
<tr>
<td>Biodiesel (palm oil)</td>
<td>~9</td>
</tr>
<tr>
<td>Ethanol (sugar cane)</td>
<td>~8</td>
</tr>
<tr>
<td>Biodiesel (waste vegetable oil)</td>
<td>5–6</td>
</tr>
<tr>
<td>Biodiesel (soybeans)</td>
<td>~3</td>
</tr>
<tr>
<td>Biodiesel (rapeseed, EU)</td>
<td>~2.5</td>
</tr>
<tr>
<td>Ethanol (wheat, sugar beets)</td>
<td>~2</td>
</tr>
<tr>
<td>Ethanol (corn)</td>
<td>~1.5</td>
</tr>
<tr>
<td>Diesel (crude oil)</td>
<td>0.8–0.9</td>
</tr>
<tr>
<td>Gasoline (crude oil)</td>
<td>0.8</td>
</tr>
<tr>
<td>Gasoline (tar sands)</td>
<td>~0.75</td>
</tr>
</tbody>
</table>

Note: Figures represent the amount of energy contained in the listed fuel per unit of fossil fuel input. The ratios for cellulosic biofuels are theoretical. For sources, see full report.

Source: Worldwatch Institute
Greenhouse Gas Reductions

Figure 5. Potential Reductions in GHG Emissions, by Feedstock Type

- **Fibers** (switchgrass, poplar)
- **Wastes** (waste oil, harvest, residues, sewage)
- **Sugars** (sugar cane, sugar beet)
- **Vegetable Oils** (rapeseed, sunflower seed, soybeans)
- **Starches** (corn, wheat)

*Source: IEA*
Other Recent Controversies...

- Water use – from 3 to 15 gallons of water needed to refine ethanol – not counting irrigation.
- High productivity feedstock for Biodiesel – oil palm – leading to deforestation in SE Asia, Africa?
- Impacts of “Corn surge” in US – projected increase from 76 to 93 million acres over the next decade?
- 2006: 20% of corn crop fed only 2% of US gasoline demand.
- Major shift in agriculture map translates into small shift in energy map.
International Conference in Bonn: “Sustainability Criteria for Bioenergy” October, 2006

Results:

• Compilation of concerns about the potentially serious negative impacts.
• Awareness that these concerns may produce conflicts and impede growth of the Bioenergy (including biofuels) industries.
• Chair’s Final Statement recommended next steps.
Provocative conclusion from several experts’ studies:

- If land that currently stores significant amounts of carbon (such as forests, native prairies, peat lands) is plowed up to produce **row crops** for 1st generation biofuels, the GHG impacts are **negative, not positive**.

- Even if such land is plowed up to plant **perennial** energy crops, such as palm oil trees, the GHG balance can still be **negative from 50 to 100 years**.
Key Recommendations from Bonn Conference final document:

• “Sustainability” safeguards are essential
  - To protect people and environment
  - To reduce controversies over negative environmental and social impacts.

• Certification system is needed
  - To translate sustainability safeguards into performance measures
  - To involve stakeholders and ensure credibility
  - Can be legislative or voluntary.
Roundtable on Sustainable Biofuels

- **Recently launched** private sector initiative.
- **Multi-stakeholder process**, including industry, environmental and social advocates, producer groups including from developing countries, academic experts and inter-governmental bodies.
- **Based in Switzerland** at a technical university.
- **Goal**: to build on existing internationally agreed standards and assurance schemes, to create a practical and credible evaluation process for use by purchasers, banks, NGOs, governments, etc.
- **Process** will be transparent and balanced among stakeholders.
Other Initiatives

- **The Netherlands**: developing a set of sustainability standards.
- **United Kingdom**: Low Carbon Vehicle Partnership draft environmental standards.
- **The European Parliament’s** industry committee has called for an EU-wide ban on the use of biofuels derived from palm oil.
- **California**: new Low Carbon Fuels Standard presumes need for sustainability safeguards.
- **Sustainable Biodiesel Alliance**: proposing standards for locally produced biodiesel.
- **Brazil**: biodiesel program offers financial incentives for small scale farmers.
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