

Convergence of the Fuel, Food and Fiber Markets - A Forest Sector Perspective

Summary

Don G. Roberts

Managing Director, CIBC World Markets Inc.
Ottawa, Canada

A background paper for the conference "Towards a New Global Forest Agenda"

Organized by the Rights and Resources Initiative, Swedish International Development Cooperation Agency, and the Stockholm School of Economics
Stockholm, Sweden 29 October 2007



The biofuels sector will continue to experience significant growth over the coming decades, and over time its development will lead to a convergence of the markets for fuel, food and fiber (e.g. wood). These three markets will converge in the sense that their primary feedstocks will tend to trade on the basis of their "energy equivalency".

There are a number of underlying forces driving the convergence of the fuel, food and fiber markets, and they all can be viewed in terms of "security". Although the relative importance of the forms of security varies by country, the concerns relate to:

- Environmental Security (i.e., amelioration of climate change);
- Economic Security (i.e., protection against the real rising price of oil);
- National Security (i.e., decreasing North American and European dependence on the Middle East/Russia for fossil fuels); and
- Political Security (i.e., greater rural development and increased support from the rural population).

Four key variables drive the economics of biofuel production: (1) the price of oil, the main substitute; (2) the cost of the feedstock inputs, which can be 50 – 80 percent of the variable cost; (3) the conversion technology; and (4) regulations, which stimulate demand. At present all four of these variables are in a state of flux.

In response to the perceived need for more biofuel, significant amounts of capital have been flowing into the emerging global biofuels industry. One of the key drivers for this is government-mandated minimum renewable fuel content, with the primary focus on the transport sector. We expect capital to continue to flow into the sector once the re-pricing of risk in the financial markets is completed later this year.

One sign that convergence is occurring is the number and nature of strategic alliances that are being formed between companies in different industries, but with a focus on biofuels. At another level are the alliances on Research and Development. In most cases these R&D initiatives involve oil or chemical companies with "feedstock companies".

Key fuel, food and fiber prices have been on an upward trend. Structural changes in the biofuel industry could mean high prices for the next decade, with cereals, sugar, and oilseed and vegetable oils all affected. Furthermore, prices for corn could rise 23 percent and oilseeds by 43 percent by 2020, in response to expected increases in their demand for use as biofuel. Our expectation is that

with biofuel production spreading, the world price for oil will become a support price for farm and lower quality forest products.

In some regions we expect shifts in land use as the bio-energy sector develops. Especially in the southern hemisphere, we expect less land to be devoted to forestry as it is switched into the production of other crops which are even more attractive for the production of bio-energy and food. On a net basis, we expect the “bio-energy shock” to shift the regional price curve for wood fiber upwards as it stimulates demand. Yet given likely decreases in land available for forestry, southern hemisphere producers will tend to see greater price increases, and the global price curve may become flatter.

We could well see a decrease in the “intensive margin” for forestry, as the relative financial returns of forestry decline on lands well-suited to growing alternative crops. At the same time, there may be an increase in the “extensive” margin of forestry, as harvesting is extended into more remote regions in response to higher absolute wood prices. While the southern hemisphere is expected to maintain its absolute advantage in growing wood fiber, at the margin the comparative advantage may start to shift back to producers in the northern hemisphere.

Winners. The convergence of the fuel, food and fiber markets will have positive outcomes for some.

- **Tropical countries** where crop yields are higher and land and labor costs are lower – these countries have the largest potential for bio energy.
- **Landowners** will benefit from increasing value of the land as the input most inelastic in supply.
- **Owners of the key technologies** will benefit where there is adequate patent protection.
- **Solid wood processors** will benefit with a new alternative and valuable outlet for residual fiber, which can constitute about 50 percent of a sawlog.

Losers. Others will be subject to new pressures and threats.

- **Forest dwellers without secure property rights** could suffer displacement or marginalization on their own lands, unless steps are taken to ensure property rights and engage rural forest dwellers in the growing and processing of biofuels. A biofuel industry focused more on the local market is more likely to benefit the rural community and less vulnerable to external exploitation and market fluctuation.
- **Biodiversity** will decline to the extent that natural forests are replaced with mono-culture bio-energy crops.
- **Non-market goods, environmental services, and non-wood forest products** at the “extensive margin” of current forest industry activity will jeopardize goods and services outside the standard industrial model unless appropriate forestry practices are applied and the access rights of local peoples ensured.
- **Existing users of residual wood fiber**, particularly the pulp and paper industry, will face new pressures from increasing demand for fiber inputs. **Overall employment** may also decline – in the case of Europe the production of pulp and paper generates 13x more employment and 8x more value added than the production of energy from wood.