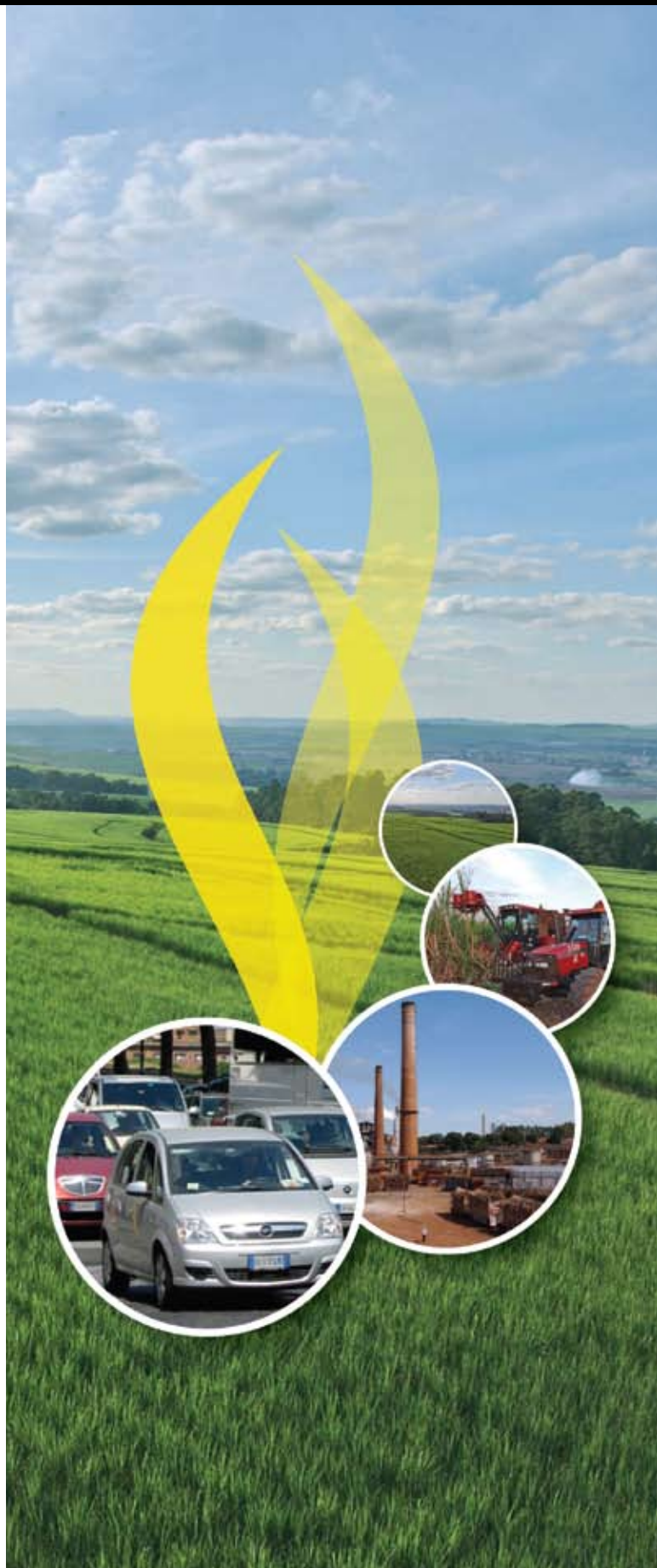


THE STATE OF FOOD AND AGRICULTURE 2008

BIOFUELS: prospects, risks and opportunities

- Do biofuels threaten food security?
- Will biofuels reduce greenhouse gases?
- Do biofuels put land, water and biodiversity resources at risk?
- Can biofuels help promote agricultural development?
- How do we balance the risks and opportunities of biofuels?

World food and agriculture in review



BIOFUELS: prospects, risks and opportunities

In recent years, liquid biofuels for transport based on agricultural commodities have shown rapid growth, driven mostly by policies supporting biofuel production and consumption, especially in some Organisation for Economic Co-operation and Development (OECD) countries. A number of developing countries are also now implementing policies promoting biofuels. Biofuel growth is projected to continue, but the contribution of liquid biofuels to transport energy is, and will remain, limited. Nevertheless, they have a major impact on global agricultural markets, on the environment and on food security.

This new source of demand for agricultural commodities may offer an opportunity for developing countries to harness agricultural growth for broader rural development and poverty reduction. However, there is a risk that higher food prices may have severe negative implications for the food security of the world's poorest people. In addition, demand for biofuels could place substantial additional pressure on the natural resource base, with potentially harmful environmental and social consequences.

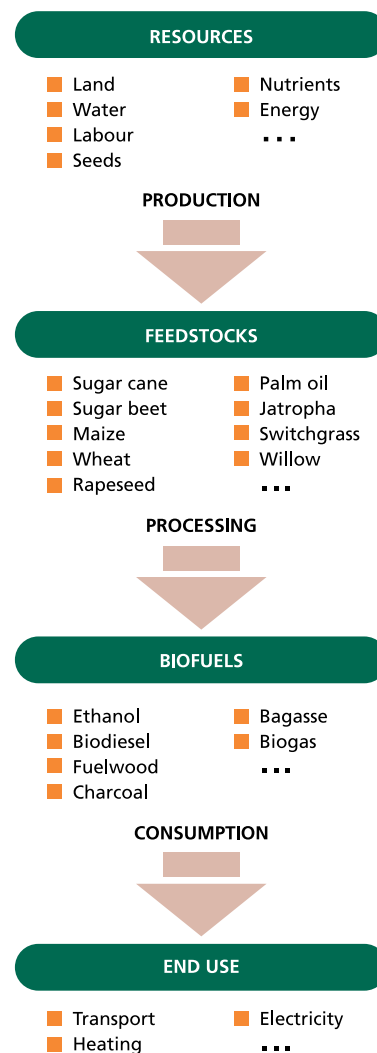
The main drivers behind policies supporting biofuels have been the objectives of energy security and climate-change mitigation through reduced greenhouse gas emissions combined with a desire to support agriculture. These concerns are not diminishing. Today, however, the role of biofuels in addressing these concerns, including the appropriate policies to be applied, is coming under closer scrutiny.

Key messages of the report

- **Demand for agricultural feedstocks for liquid biofuels will be a significant factor for agricultural markets over the next decade and perhaps beyond.** It may help reverse the long-term decline in real agricultural commodity prices. All countries and all agricultural markets will face the impact of liquid biofuel development – whether or not they participate directly in the sector.
- **Rapidly growing demand for biofuel feedstocks has contributed to higher food prices, threatening the food security of poor**

net food buyers in both urban and rural areas. Safety nets are urgently needed to protect the world's poorest and most vulnerable people and ensure their access to adequate food. But safety nets should be carefully targeted and should not block the transmission of price signals to agricultural producers.

Biofuels – from feedstock to end use



Source: FAO.

- **In the longer term, expanded demand and increased prices for agricultural commodities may represent an opportunity for agricultural and rural development.** However, higher commodity prices alone are not enough; investments in productivity- and sustainability-enhancing research, enabling institutions, infrastructure and sound policies are also urgently needed. A strong focus on the needs of the poorest and least resource-endowed population groups is crucial.
- **The impact of biofuels on greenhouse gas emissions differs according to feedstock, location, agricultural practices and conversion technology.** In some cases, the net effect is unfavourable. The largest impact is determined by land-use change – for example through deforestation – as agricultural area is expanded. Other possible negative environmental effects – on land and water resources, as well as on biodiversity – also depend to a large extent on land-use changes.
- **Harmonized approaches for assessing greenhouse balances and other environmental impacts of biofuel production are needed.** Criteria for sustainable production can contribute to improving the environmental footprint of biofuels, but they must focus on global public goods, be based on internationally agreed standards and must not put developing countries at a competitive disadvantage.
- **Liquid biofuels are likely to replace only a small share of global energy supplies.** Land requirements would be too large to allow displacement of fossil fuels on a larger scale. The possible future introduction of second-generation biofuels based on lignocellulosic feedstocks would greatly expand potential.
- **Given existing technologies, production of liquid biofuels in many countries is not currently economically viable without subsidies.** However, the competitiveness of biofuels varies widely, according to the specific biofuel, feedstock and location. Also, economic viability can change as a result of changing market prices for inputs and oil and of technological advances in the biofuel industry.

Investment in research and development is critical for the future of biofuels.

- **Policy interventions, especially in the form of subsidies and mandated blending of biofuels with fossil fuels, are driving the rush to liquid biofuels.** However, many of the measures being implemented by both developed and developing countries have high economic, social and environmental costs.

Policy challenges

The rapid policy-induced development of biofuels has, in many ways, been significantly in advance of actual scientific knowledge about their effects and impacts. As our understanding of their environmental and socio-economic implications improves, the need arises to put biofuel policies on a more solid base. Ensuring environmentally, economically and socially sustainable biofuel production requires policy action in the following broad areas:

- protecting the poor and food-insecure;
- taking advantage of opportunities for agricultural and rural development;
- ensuring environmental sustainability;
- reviewing existing biofuel policies;
- making the international system supportive of sustainable biofuel development.

World food and agriculture in review

The State of Food and Agriculture 2008 contains an overview of the current global agricultural situation, focusing on the surge in food prices in 2007 and 2008. It discusses the underlying causes of the current agricultural situation and anticipates possible future commodity market developments. It also analyses some of the leading sources of uncertainty currently facing world agriculture and presents scenarios outlining the possible implications of alternative assumptions regarding key factors underpinning the agricultural commodity price surge.





2008

THE STATE OF FOOD AND AGRICULTURE

The State of Food and Agriculture 2008 explores the implications of the rapid recent growth in production of biofuels based on agricultural commodities. The boom in liquid biofuels has been largely induced by policies in developed countries, based on their anticipated positive contributions to climate-change mitigation, energy security and agricultural development. The growing demand for agricultural commodities for the production of biofuels is having significant repercussions on agricultural markets, and concerns are mounting over their negative impact on the food security of millions of people across the world. At the same time, the environmental impacts of biofuels are also coming under closer scrutiny. But biofuels also offer the opportunity for agricultural and rural development – if appropriate policies and investments are put in place. This report reviews the current state of the debate and the available evidence on these critical questions. It finds that concerted efforts to reform policies and invest in agriculture will be essential if the risks associated with biofuels are to be reduced, and the opportunities more widely shared.

FURTHER INFORMATION

The State of Food and Agriculture is published by the Agricultural and Development Economics Division (ESA) on behalf of the Food and Agriculture Organization of the United Nations. This report, ESA Working Papers and other publications of the Division are available electronically at www.fao.org/es/esa.

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