

Faulty Assumptions In Europe's Renewable Energy Directive

Demand for fuels is on the rise again as economies recover from the global recession triggered by the recent credit crunch in the US financial market. The leading economies must face a choice in global energy use because the need to reduce reliance on fossil fuels has never been more apparent. Emissions of carbon dioxide and other greenhouse gases (GHG) continue to rise, threatening to worsen global climate change.

There is no better time to embrace sustainable and renewable energy sources, including bio-fuels. Palm oil has proven to be a cost-effective and 'green' alternative to coal and oil. Its claim to sustainability cannot be challenged, as it fully satisfies the 3Ps (Planet-People-Profit) and ID (Development) aims of economic growth with a human face.

Yet, objections to the use of palm oil are being registered by commercial and environmental groups in developed countries - and not necessarily for altruistic reasons. European Union (EU) policy makers have responded by mounting bureaucratic roadblocks that will restrict trade in palm bio-diesel. The most troubling of these rules, from the standpoint of the palm oil industry, is the Renewable Energy Directive (RED).

The problems are exposed in new research published earlier this year by Dr Gernot Pehnelt of the University of Jena, Germany, in cooperation with C Vietze. The paper, 'European Policies Towards Palm Oil: Sorting Out Some Facts', (page 4) demonstrates that many of the default assumptions about the ecological and energy impacts of the use of non-European bio-fuels are intentionally prejudiced and seriously flawed.

Table 1: Comparison of Production Yield and Energy Output

	RSO	PO
Yield of seed, fruits	4.11 t/ha/a	18.35 t/ha/a
Oil available from process	30%	17.7%
Yield of plant oil	1.23 t/ha/a	3.25 t/ha/a*
Yield of bio-diesel	1 L/L oil	0.944 t/t oil
Yield of bio-diesel	1.19 t/ha/a	3.07 t/ha/a
Gross energy of bio-diesel (bio-diesel energy value: 39 GJ/t)	46.5 GJ/ha/a	119.6 GJ/ha/a
Total parasitic energy	21.21 GJ/ha/a	45.35 GJ/ha/a
Net energy of bio-diesel	25.29 GJ/ha/a	74.23 GJ/ha/a

Source: Thamsiriroj and Murphy (2009)

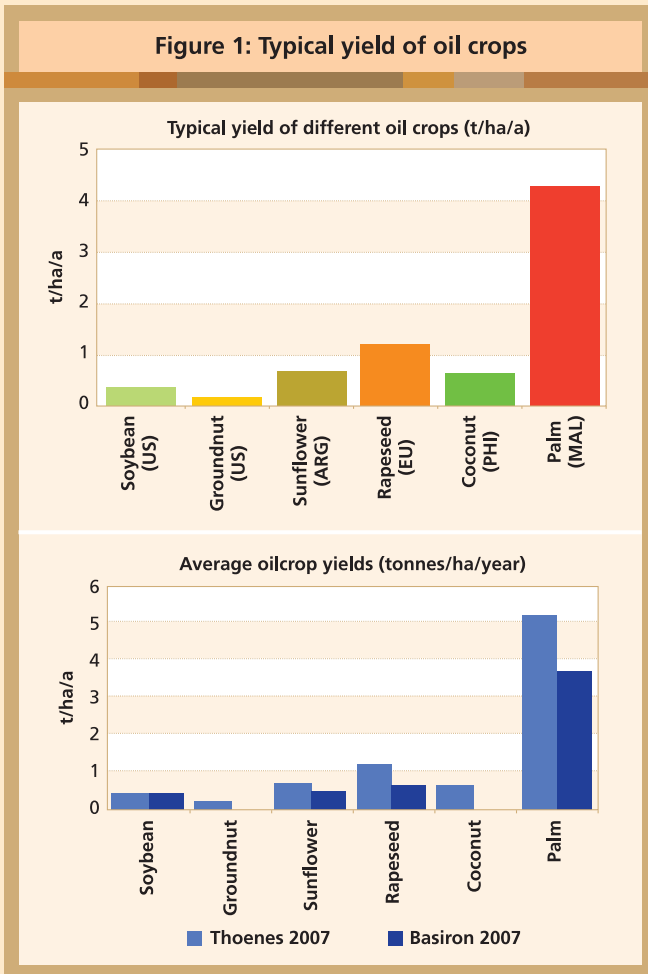
* The gross energy of crude palm kernel oil is not included in this estimation; if included, the total yield of palm oil would increase by 14% to 3.71 t/ha/a.

The Introduction to the paper notes in part:

For quite a while bio-fuels have been perceived as a possible saviour of environmental energy problems in the world and initiatives have been implemented in order to support bio-fuels. However, in recent times bio-fuels have been rather deemed to be worse than the problem. Palm oil has been on top of the agenda.

Campaigns initiated by environmentalist lobby groups like Friends of the Earth and Greenpeace have been arguing against palm oil as a source for bio-diesel and in general. In particular, these campaigns suggest that the palm oil industry causes deforestation and contributes to GHG emissions as well as a loss of biodiversity in the tropical world. These cam-

Figure 1: Typical yield of oil crops



campaigns have been quite successful in shifting public perception and government attitudes regarding bio-fuels (Karmee 2005).

In the course of this shift and lobbyist pressure from European farmers, the EU announced certain preconditions for 'sustainable' bio-fuels in the [RED ...]. Although the primal proposal to ban soy[bean]- and palm-based bio-diesel in general has not been supported in the European Commission's review and was eventually dropped, measures against palm oil still remain in the GHG emission saving default value (Schill 2009) and the availability of palm oil products in the EU is restricted.

Discriminatory calculation

In addition to the imposition of sustainability standards designed to block imports of Asian palm oil that was exposed by the research of Dr Fredrik Erixon of the European Centre for International Political Economy in

Brussels, RED also introduces a discriminatory and unfair calculation for GHG emissions savings for palm oil.

RED sets a 35% CO₂ savings threshold for bio-fuels entering the EU. Unfortunately, RED permits European bio-fuel producers to secure a higher GHG percentage of savings to achieve the target more readily than foreign-made bio-fuels, thus unfairly discriminating against palm oil producers by allowing one bio-fuel to be defined as 'sustainable' over the other.

How do they do this?

The EU set the value for palm bio-diesel at 36% ('typical') versus 19% ('default') if the methane by-product is not captured in the production process. Palm oil though can only achieve 36% if the oil palm is produced in Europe, which is not possible.

And to achieve the 19% (default), all methane from palm oil would have to be captured in order to qualify, meaning that every gram of palm oil on a ship for example to the EU market will have to have captured methane in order to qualify. If for example the methane is captured, the values for palm bio-diesel are 62% ('typical') versus 56% ('default').

This dichotomy applies not only to palm bio-diesel but to other imports including rapeseed bio-diesel and sugar beet ethanol. Even these alternative sources are assessed differently, with domestically produced rapeseed bio-diesel and sugar beet ethanol enjoying a 7% and 9% GHG savings premium over identical, imported bio-fuels. In short, EU countries (and therefore rapeseed producers) get to use the typical value in the assessment of bio-fuels, while foreign producers are assigned the default value.

The paper argues that the calculation of the target 'is particularly problematic since any reasonable emissions budgeting comparison shows that palm-derived bio-fuel is less carbon intensive than those produced elsewhere, including Europe'. Overall, if given a fair and unbiased calculation, palm oil would easily reach the target set by RED.

Figure 2: GHG emission savings - Rapeseed vs palm bio-diesel



The authors go on to say that 'what is rather missing in the current discussion of palm oil is the development perspective'. They drive home a fact that is all but lost to critics:

Perhaps most importantly, palm oil acts as a substantial driver of economic growth in the developing world, drastically reducing hunger and poverty in regions that actively cultivate this valuable crop. It's time for Europe to not only recognise the energy and environment benefits of palm oil, but also the suffering in low-income, tropical countries that palm oil critics continue to perpetuate.

Their research bears out the prevailing concern:

- In 2009, more than one billion people went hungry every day.
- Almost all of the world's undernourished people live in developing countries in tropical areas.
- In Asia and the Pacific, an estimated 642 million people suffer from chronic hunger and in Sub-Saharan Africa, 265 million (FAO 2009).

Many of the world's poor and hungry are smallholder farmers in developing countries. Yet they have the potential not only to meet their own needs but to boost food security and catalyse broader economic growth, say the authors. They add:

With no doubt, agricultural development in the developing world is the only sustainable way out of the misery of poverty and hunger and could be a major contributor to higher incomes for the rural poor and subsequent economic growth and development.

Plant oil is already an important pillar of rural development in some tropical countries and a major generator of jobs and prosperity. Palm oil as the most prominent plant oil offers great opportunities not just for Southeast Asia but also for Sub-Saharan Africa.

In calling on the EU to reshape its policies and work with the palm oil sector, the authors conclude that such a strategy would prevent trade disputes while contributing to GHG emissions savings goals 'on a fair and reasonable basis'.

Dubious claims

It is not surprising that European bio-fuel producers are resisting competition. History shows that, any time a domestic manufacturer has difficulty competing, it will appeal to its government for protection.

In dealing with palm oil, the European agri-business sector has teamed up with NGOs to push its protectionist agenda. It believes that it can get European regulators to block trade in palm oil based on environmental concerns, thereby skirting established international trade law.

However, the paper rebuts their claims, pointing to '...the rich biodiversity in oil palm plantations, the excellent crown cover oil palms provide and the yield per hectare advantages of this low-energy, low-fertiliser crop'.

CASE IN POINT

European Policies Towards Palm Oil: Sorting Out Some Facts

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and

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Abstract

Bio-fuel use is increasing throughout the EU. This has raised some concerns about the environmental impact of these fuels. Of particular concern is palm bio-fuel.

This paper analyses the role of palm oil and its sustainability from different perspectives. First, we consider the role of palm oil within the GHG context. Second, we discuss the impact of oil palm on biodiversity. Third, we analyse how palm oil can contribute to economic growth and development in tropical countries. Finally, based on this analysis, we assess the current concerns about and politics towards palm oil with special focus on the EU.

Policy makers and the public, concerned about greenhouse gas (GHG) emissions from industrial use, have been seeking alternatives to carbon-rich fuels such as coal. Bio-fuels have emerged as an attractive alternative because they generate far fewer GHG than conventional fuels. As a result, many countries throughout Europe are eager to use bio-fuels for their electricity-generation and transportation systems.

Palm oil is a low-energy and low-fertiliser crop that offers much higher yields per hectare than other oil crops. Furthermore, if the energy obtained by the residuals in the production process is used properly, the energy balance of palm oil production is much more favourable compared to other bio-fuels. Overall, palm oil turns out to be much more efficient than other oil crops and therefore offers significant advantages within the context of GHG savings.

Contrary to some recent campaigns and the perception among some European citizens, deforestation associated with oil palm plantings is much less significant than postulated. Indeed, the European Commission is considering classifying oil palm plantations as forests due to the excellent crown cover they provide. Furthermore, biodiversity in oil

palm plantations is much higher than in most monocultures in the EU.

Palm oil is an important driver of economic development and growth in tropical countries and contributes to the reduction of poverty and hunger in the developing world.

The RED is discriminatory from the outset and the GHG saving values and their interpretation are based on wrong assumptions and faulty calculations. For example, bio-fuel producers in the EU are permitted to claim higher GHG savings than bio-fuel producers outside the EU.

This is protectionism and clearly in violation of established international trade laws. It is particularly problematic since any reasonable emissions budgeting comparison shows that palm-derived bio-fuel is less carbon-intensive than those produced elsewhere, including Europe.

The EU should reshape its policies towards palm oil, conduct objective and non-discriminatory calculations regarding the GHG emissions saving values, and support palm oil imports from developing countries rather than restrict them.

Together with certain initiatives to further enhance energy efficiency and to protect precious habitats, combined with strategies to strengthen property rights and encourage efficient land use and successful strategies of agricultural development, this would not only prevent political conflicts and trade disputes in conjunction with the issue of palm oil but also foster economic growth and development, reduce poverty and - not least - contribute to the ambitious GHG emissions savings goals on a fair and reasonable basis.

Source: GlobEcon

This is an edited version of the Abstract.