

Palm oil: Economic and environmental impacts

Economical and versatile, palm oil has become the world's most widely used vegetable oil. However, its production comes at a heavy environmental cost, especially in Indonesia, the world's largest producer. Certification schemes aim to improve sustainability but standards could be tightened.

Palm oil: a vital commodity

Oil palm trees are native to West Africa, but were introduced to tropical regions of Southeast Asia and Latin America in the late 19th century. Oil extracted from the fruit was traditionally used in Africa for cooking, but has now found a wider range of uses: as a substitute for animal fats such as butter in baked products, soaps and cosmetics, or as a basis for biodiesel. Around [half](#) of packaged products in supermarkets contain palm oil. Although palm oil is not particularly [healthy](#) (it contains higher levels of saturated fats than most other vegetable oils), it has many advantages: [compared](#) to soybean (the world's [second](#) most widely consumed vegetable oil after palm oil), it requires only one-tenth as much land, one-seventh as much fertiliser, one-fourteenth as much pesticide and one-sixth of the energy to produce the same quantity of oil, and is therefore very cheap. In addition, palm oil is highly resistant to oxidation, making it suitable for frying and giving it a long shelf life. As a result, [consumption](#) of palm oil has doubled over the past 15 years to nearly 8 kg per inhabitant of the globe, and shows no signs of slowing down. Until the 1960s oil palms were mainly grown in Africa, but since then production has shifted to Southeast Asia: according to [FAO statistics](#), Indonesia (53 % of global output) and Malaysia (29 %) are the leading producers, followed by Thailand (4 %), Nigeria (2.6 %), Colombia (2.3 %) and Ecuador (1 %).

The economic and social impact of oil palm cultivation

Palm oil is the main agricultural export of Indonesia and Malaysia, generating [10 %](#) and [5 %](#) respectively of their exports. The sector provides employment for 721 000 smallholders and labourers in [Malaysia](#), and 4 million in [Indonesia](#); a further 11 million in the two countries are indirectly dependent on it. Most oil palm jobs are in remote rural areas, where alternative employment is scarce, thus helping to promote rural development and alleviate poverty. However, not all have benefited; in both countries, indigenous communities often lack [legal documents](#) certifying their ownership of land, and there are many legal conflicts between oil palm companies granted government concessions in forested areas, and the people who have used the land for centuries. In some cases, this has led to local people [losing](#) access to land and resources. As a result of such problems, in one [survey](#) nearly half of 187 villages in Indonesian Borneo were opposed to palm oil companies. There are also serious [concerns](#) about abusive labour conditions on some plantations.

The environmental impact of oil palm

A European Commission [study](#) (2013) estimates that between 1990 and 2008, [5.5 million hectares](#) (an area nearly twice the size of Belgium) of forest were lost to oil palm plantations, including 3.1 million in Indonesia and 1.4 million in Malaysia. This process continues in Indonesia, with [half a million](#) hectares of additional plantations every year – one of the reasons why the country lost nearly 700 000 hectares of forest a year between 2010 and 2015. Malaysia is adding around 80 000 hectares of plantations every year, but most of the recent expansion there has been into land converted from other crops, such as rubber.

Deforestation is a major concern for several reasons. Compared to rainforests, oil palm plantations support only [one fifth](#) as many animal species. By eating into the habitats of the [orang-utan](#) and Sumatran tiger (both critically endangered species) as well as numerous smaller animals, they threaten biodiversity. At the same time, oil palms have less than 20 % as much above-ground biomass as rainforest trees, and a correspondingly lower capacity to absorb carbon dioxide from the atmosphere. That effect is exacerbated for the estimated [one third](#) of Indonesian and Malaysian plantations located on waterlogged carbon-rich peaty soils. Draining



such soils, which is necessary for the oil palms to grow, exposes the peat to oxygen, causing it to decompose and release huge quantities of carbon dioxide into the atmosphere. Peat drainage in Southeast Asia, largely in order to clear land for oil palms, is estimated to cause the equivalent of [2 %](#) of global fossil fuel CO₂ emissions. Forest fires are another even bigger contributor to global warming and a recurrent environmental disaster in Indonesia. Such fires can occur naturally, but many are started deliberately – mostly by smallholders practising ['slash and burn'](#) agriculture, but sometimes also by large plantation operators. In the dry season, fires can easily get out of control, destroying huge tracts of forest. Around [one-fifth](#) of such fires can be directly attributed to palm oil, which also contributes indirectly, given that drained peat soils burn easily, helping fires to spread. Some of Indonesia's worst forest fires to date were in [2015](#). Over several weeks, Indonesia became the world's biggest emitter of greenhouse gases, as fires [destroyed](#) an area almost the size of Belgium. Choking haze spread as far as Singapore, causing as many as [100 000](#) premature deaths across south-east Asia.

Producer country and EU efforts to make palm oil more sustainable

Indonesia has taken several measures to limit the social and environmental costs of palm oil, with varying results. For example, the [One Map](#) initiative aims to systematically record land ownership to prevent disputes between plantations and indigenous communities. In 2011, the government imposed a moratorium on issuing new permits for agricultural and logging activity in primary (not previously cleared) forests and peat lands, recently [extended](#) till May 2019; however, the moratorium has had little effect as large areas of forest are outside its scope, and in any case enforcement has been [patchy](#). A few palm oil companies have been [fined](#) for their part in forest fires, but many more have [escaped](#) punishment.

In order to limit the need for new land, Malaysia hopes to raise output through increased [productivity](#); however, there is no evidence of this happening yet, as palm oil yields per hectare have [stagnated](#) for several years. Planting palms on degraded land, on which forests have already been cleared or burned down, is an option, although one estimate suggests that in Indonesia just [0.3 million](#) hectares of such land are suitable for oil palm – not nearly enough for the sector to avoid deforestation at its current rate of expansion.

Since 2014, [EU law](#) requires food products to list palm oil to be clearly identified as an ingredient on labels (and not merely as 'vegetable oil'). France [considered](#) imposing a 'Nutella tax' on palm oil imports, but the proposal met with strong protests from Indonesia and Malaysia, and was [dropped](#) in 2016. In any case, deterring consumers from palm oil containing products may not help the environment given that [other vegetable oils](#) such as soy and rapeseed are also linked to large-scale deforestation.

Particularly controversial is the use of palm oil to manufacture biofuels. To reduce dependence on imported oil, Indonesia has set an ambitious target of [30 %](#) palm oil blending in domestic fuels (Malaysia's target is [15 %](#)); for its part, the EU uses [45 %](#) of its palm oil imports for biodiesel, and a further 15 % to produce heat and power. Given that at present more palm oil production is likely to mean more deforestation, total greenhouse gas emissions from palm biodiesel are probably [higher](#) than from fossil fuels. In January 2018, the European Parliament proposed [amendments](#) to the EU's proposed directive on renewable energy, which if accepted by the Council would result in palm oil-based biofuels no longer counting towards EU renewable targets.

Sustainable palm oil certification schemes

In its April 2017 [resolution](#) on palm oil and deforestation, the Parliament also recommends ensuring that all palm oil entering the EU is sustainable. Voluntary certification schemes already exist, of which the most widespread is the international Roundtable on Sustainable Palm Oil ([RSPO](#)). The governments of eight EU [countries](#) (Belgium, Denmark, France, Germany, Italy, the Netherlands, Sweden and the United Kingdom), as well as several major [companies](#), have already committed to only buying from producers certified as sustainable. Among other things, RSPO [standards](#) include commitments not to clear primary forest, set off fires, or plant oil palms on land whose ownership is disputed. However, environmentalists [argue](#) that such commitments do not go far enough, as they do not ban deforestation in general. The European Parliament is in [favour](#) of a new certification scheme with tougher standards, to replace the RSPO and similar schemes. For its part, RSPO [points out](#) that higher standards would make it even harder to get producers on board; at present, just 19 % of global output is RSPO-certified, and most of this goes to Europe. Around [two-thirds](#) of the world's palm oil is consumed in Asia, where there is less willingness to pay more for sustainable products. Moreover, RSPO's standards are occasionally violated by the scheme's certified producers, some of which [plant](#) in areas claimed by indigenous communities without their consent. EU criticism has drawn a sharp response from producer countries, with Malaysia [describing](#) the proposed phasing out of palm oil in biofuels as 'crop apartheid' and threatening to boycott EU products.