

Biodiesel won't drive down global warming

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EU legislation to promote the uptake of biodiesel will not make any difference to global warming, and could potentially result in greater emissions of greenhouse gases than from conventional petroleum derived diesel. This is the conclusion of a new study reported today in *Chemistry & Industry*.

Analysts at SRI Consulting compared the emissions of greenhouse gases by the two fuels across their overall life cycles from production to combustion in cars.

The results show that biodiesel derived from rapeseed grown on dedicated farmland emits nearly the same amount of greenhouse gas emissions (defined as CO₂ equivalents) per km driven as does conventional diesel.

However, if the land used to grow rapeseed was instead used to grow trees, petroleum diesel would emit only a third of the CO₂ equivalent emissions as biodiesel.

Petroleum diesel emits 85% of its greenhouse gases at the final stage, when burnt in the engine. By contrast, two-thirds of the emissions produced by rapeseed derived biodiesel (RME) occur during farming of the crop, when cropland emits nitrous oxide (N₂O), otherwise known as laughing gas, that is 200-300x as potent a greenhouse gas as CO₂.

The results of this analysis should have big implications for policymakers. The 2003 EU Biofuels Directive aims to increase the

levels of biofuels to 5.75% of all transport fuels by 2010, up from roughly 2% currently. This will be further increased to a 10% share in 2010, the Commission announced in January this year.

Transportation currently accounts for more than a fifth of all greenhouse gas emissions emitted in the EU. Rapeseed-derived biodiesel is the major renewables-derived biofuel used across Europe and, as well as helping to improve energy security, is expected to play an important role in helping to meet the EU's Kyoto commitment to reduce levels of greenhouse gas emissions by 8% by 2012 relative to 1990 levels, and by 20% by 2020.

Source: Society of Chemical Industry

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