Plugging the West Coast Carbon Short:

**ISCC and PRIMA host an international overview of California’s LCFS market**

International efforts to reduce carbon emissions from the transport sector are racing to catch up with progress in the utility and industrial sectors, promising accelerating growth in demand for sustainable low carbon transport fuel solutions and the audits needed to demonstrate their sustainability credentials. Developments in overseas markets have started to concentrate Californian minds on the effects higher international demand will have on the world’s most ambitious carbon cutting transport mandate, the state’s LCFS program, according to delegates attending a joint ISCC/PRIMA event in San Francisco on 6th April.

**The Global Fight for Low Carbon Fuel**

The rising demand for low carbon fuels globally is a concern for LCFS program supply fundamentals. Current California greenhouse gas (GHG) thresholds demand a 3% carbon saving, while in Europe, Germany’s GHG savings thresholds have already hit 4%. While Californian GHG savings targets rise incrementally to 10pc by 2020, EU legislation requires a 6% saving across the remaining members of the bloc by 2020. Carbon saving is also motivating fresh thinking on transport fuel mandates across neighboring West Coast US states and Canadian provinces, with the concept also trickling through to mammoth biofuel consuming markets and existing US West Coast suppliers such as Brazil.

The growing demand for low carbon intensity fuels, compounded by a cap on crop-based biofuels consumed in Europe is already driving demand higher for waste-based biofuel feedstocks internationally, according to Matthew Stone, Managing Director at PRIMA.

ISCC is drawing on its years of experience providing auditing and traceability services to international renewables markets to inform development of California’s own sustainability outlines as the state’s supply lines stretch further overseas.

**CARB Watches the World**

“We’re watching the supply and demand balance very carefully, looking at policy changes in Europe and Canada and other places,” says Sam Wade, Branch Chief Transportation Fuels at LCFS program administrator CARB.
“We really do see ourselves as part of this global marketplace and in competition for these low carbon fuels,” Wade says, citing CARB’s desire to oversee a transport carbon credit market delivering a semi-stable price signal to the low carbon fuel supply chain for the medium to long term.

**California Low Carbon Gold Rush**

LCFS low carbon pathways and the monetary incentives on offer in California’s tradable ticket market already offer the equivalent of a gold rush for the domestic biodiesel sector, Harry Simpson, Crimson Renewable Energy president and chief executive, told delegates. Soaring biodiesel consumption has brought its own problems of limited blending infrastructure, Simpson said.

More positively for West Coast biodiesel producers, the LCFS program has skirited the worst case senario of an immediate shut out of biodiesel from the ticketing program after an April court ruling froze the mandate at current levels until problems with CARB’s diesel NOx methodology are fixed.

**"We see ourselves in competition for these low carbon fuels": CARB**

Given California’s aggressive carbon reduction targets, the state’s current surplus of banked LCFS credits could easily tip into a deficit by 2020, according to Heather Zhang, analyst at PRIMA.

Investments by petroleum refiners to convert refinery units from processing hydrocarbon based feedstocks to low carbon waste oils and fats are acting as an early accelerator of demand for low carbon waste feedstocks to be processed into drop-in renewable diesel fuel.

Operating profits from renewable fuels were higher than those for the conventional refining business at Neste, the world’s largest renewable diesel producer, for the first time ever last year, according to the firm’s Houston-based GM and President Neville Fernandes.

The firm has pledged to erase crop-based feedstocks from its 2.2mn t/yr and growing renewable diesel production portfolio by 2020.
Federal Shortfalls Add To Waste Demand

The prospect of rising US tariff barriers on refined biofuel imports could quickly intensify the scramble for substitute feedstocks to be processed into renewable fuel.

The US Department of Commerce and the US International Trade Commission investigations into alleged dumping of subsidized biodiesel by Argentine and Indonesian renewable fuel producers have already chilled the northbound arbitrage from the US’s largest overseas supplier of biofuel, thinning flows until recently equal to over a quarter of US biodiesel supply.

2017 could witness a a 200-250mn gallon drop in biodiesel imports following a ruling against Argentinian and Indonesian producers, with 2018 imports possibly collapsing to near zero for each country, PRIMA’s Zhang estimates.

If the rulings are successful, and the US ITC and DOC find reason to place antidumping and countervailing duty orders on each country, waste greases and fats are likely to come into increasing demand to feed biodiesel plants nationwide, crimping California’s supply options, Zhang maintains.

Tracking Low Carbon Pathways

As demand for low CI fuels continues to grow through the end of the decade and beyond, waste based feedstocks will play an increasingly vital role in meeting CARB’s target to reduce carbon intensity in transport fuel. Supplies of waste based feedstocks however remain inelastic relative to expanding demand, with high prices an incentive to the fraudulent supply of feedstock declared low carbon or waste derived.

Certificates for supply chains manufactured from wastes and residues already make up nearly 40% of the sustainability certificates issued by ISCC, the world’s largest sustainability auditing firm with system users already in over 100 countries, ISCC’s Dr Jan Henke says.

ISCC’s certification programs deliver GHG calculations along traceable supply chains for both biomass and non-biomass feedstocks including the array of new low carbon technology solutions which are appearing alongside more conventional waste streams. As well as working with CARB to help California prepare its own rules on supply chain sustainability audits, ISCC last year opened its first North American office in San Francisco.

Dr Jan Henke demonstrates ISCC’s deep experience in international sustainability

ISCC’s Dr Norbert Schmitz demonstrated how ISCC auditing can make global waste-to-biofuel supply chains more secure and guarantee feedstock claims, carbon intensity numbers and volumes.

"Over time, ISCC has developed risk-based and efficient verification approaches which are well accepted by more than 3,000 companies around the world," Schmitz said.

Malaysia’s Eco Oils is one firm looking to ISCC certification as its quality guarantee when delivering waste- based feedstocks to international buyers, Eco Oil’s Vasu R Vasuthewan told San Francisco delegates.
The palm waste and residue refiner operates three vegoil residue recycling plants in Malaysia, reprocessing 90% of the spent bleach earth generated by the country’s vegoil plants.

**Looking To The Low Carbon Future**

Neste is looking to diversify its medium term input streams of waste fats and oils into technologically advanced biological, thermo-catalytic and photo-synthesis pathways longer term, Fernandes says.

Similarly Aemetis, California’s largest biofuel producer, plans to move its first generation footprint to advanced biofuels via a $120mn cellulosic ethanol plant the firm sees as critical to meeting demand growth for clean high octane ethanol fuel.

Canada’s Enerkem meanwhile is eyeing sales into Europe alongside California to consume output from its Alberta garbage to waste plant.

For sugar to jet fuel manufacturer GEVO, schemes such as California's LCFS are secondary to the need to position to meet a growing public expectation for clean fuel delivery.

"We are worried about the public allowing us the freedom to operate so we are going to put systems in place to solve our needs as we grow," says Gevo's Glenn Johnston.

CARB meanwhile is clear about its commitment to the LCFS program as the foundation of the state's low carbon transport future.

“We’re committed to this program through 2030. We hope it provides enough certainty for people to make these credits part of their investment decisions going forward,” says CARB's Wade.

For more information on ISCC, go to www.iscc-system.org

[www.prima-markets.com](http://www.prima-markets.com)

To see PRIMA's daily reporting on California's LCFS market and California low carbon fuel consumption, contact patrick.meister@primamarkets.com