

## International Policy

### EU Energy & Climate

*Mixed Bag of Six Clean Fuel Vehicle Directives: It's Disjointed, But Moving in the Right Direction*

The wide-ranging Climate and Energy package adopted by the European Parliament in Strasbourg on December 17 represents an ambitious attempt to lay out a comprehensive, long-term plan to reduce greenhouse gas emissions from 1990 levels by 20%. Authorities want to have 20% of the European Union's total consumption satisfied via renewable energy while achieving 20% savings through energy efficiency by 2020. The "package," a collection of six Directives, affects all energy sectors.

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#### No Standout Alt Fuels Opportunity

For the transportation sector and alt fuels the package is a somewhat disjointed compilation of mandates and incentives that will have varying impacts – both positive and negative – on the different fuel groups and technologies.

Liquid biofuels receive the most attention and support. Electric vehicles are on-going favorites and hydrogen fuel cells still represent the long-term vision.

The other gaseous fuels – natural gas, and liquefied petroleum gas (LPG/propane), are highlighted and included primarily by definition only.

Renewable biomethane, included under the banner of biofuels, is recognized for its low carbon dioxide contribution but is seen as more likely to generate electricity than to fuel natural gas vehicles.

#### Loopholes and Pitfalls

Companies hoping to help implement the transportation elements of this amorphous Energy and Climate Package will have to contend with pitfalls, loopholes, and derogations. Nevertheless, there are many European policy makers who are committed to developing various petroleum alternatives so even incremental steps that can be achieved will be in the right direction.

Energy and Climate Package directives include

- **Carbon Dioxide and Cars**, which requires CO2 reductions to 120 gram per kilometer by 2015 and 95 g/km by 2020, with financial incentives for E85 in EU member states where 30% of fuel stations sell E85. Vehicle manufacturers can receive a "supercredit" equal to 3.5 cars for each registered flex-fuel vehicle emitting less than 50 g/km CO2. The incentive drops to 1.5 cars by 2014 and ends after 2015. To date, only electric vehicles can reach such low CO2 limits.

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- **Fuel Quality** tightens environmental quality of fuels and introduces a phase-in of 10% ethanol in gasoline;
- **Promotion and Use of Energy from Renewable Sources** includes a mandatory target of a 20% share of renewable energies in overall EU energy consumption by 2020 and a mandatory 10% minimum target for the share of biofuels in transport petrol and diesel consumption by 2020. After a long debate to define "sustainable" biofuels due to concerns over food-chain and other impacts, limits were set on CO2 savings required



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for each biofuel: 35% to 2017 and 50% CO2 reduction thereafter for existing biofuel production and 60% for new plant start-ups after 2017. Current generation European biofuels such as ethanol from sugar beets cannot achieve the 50% so the levels will be subject to review.

- **Shared Effort to Reduce Greenhouse Gas Emissions** assigns each European member state an emissions reduction objective for construction, road and maritime transport, services, agriculture, waste, and small industrial installations. These are sectors omitted from the EU Energy Trading Directive, another part of the package, which requires other large energy and industrial sectors to reduce their emissions by 10% by 2020 (in comparison to 2005 emissions). Each country's specific obligation to reduce emissions in the transport sector has yet to be established.

The last element of the package, **Carbon Capture and Storage**, sponsors demonstrations programs to sequester CO2 emissions mostly from large industries and does not involve the transport sector.

Separate from December's six-part package, a **Clean and Efficient Vehicles** directive mandates government agency use of alternative fuel vehicles. Those AFVs could be an important market stimulus when coupled with the other requirements of the Energy and Climate Package.

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Clean vehicles have gotten the attention of European policymakers