

Question 4.3:

Should the legislation include measures to encourage the use of biomethane, methanol and DME in transport? If so, what?

On behalf of the global methanol industry, the Methanol Institute wishes to offer a response to Question 4.3 regarding the inclusion of methanol and DME fuel blends in the European Commission's new Energy Policy for Europe. As the struggle to develop viable alternatives to fossil fuels continues, we must ensure all of our options are available for consideration, including the use of methanol and DME as clean and renewable transportation fuels.

While most methanol is currently produced from the steam reformation of natural gas or through coal gasification, we are seeing an increasing interest – and commercial application – of renewable feedstock production. In the Netherlands, Methanol Chemie Nederland is converting a closed, world-scale methanol plant to a bio-methanol refinery. In a development plant located at a pulp mill in Sweden, Nykomb Synergetics and Chemrec are developing black liquor gasification, as a means of chemical and energy recovery for future methanol production with tremendous potential. In Germany, Schwarze Pumpe is using waste wood, waste plastics, even old bank notes, to produce methanol. In Japan, Chubu Electric is turning driftwood from dams and other waste wood into methanol, while Mitsubishi Heavy Industries is operating a plant to gasify ryegrass and rice straw for methanol production. In the United States, BEST BioFuels is running hog manure through a digester to generate synthesis gas for methanol production, and North Shore Energy Technologies is getting ready to build a 190 million liter per year methanol plant based on biomass gasification.

These renewable feedstocks for methanol production largely come from waste streams, creating the ability to produce biofuels without competing with food products. In addition, this will increase the competitiveness of the European forest sector with the pulp and paper industry creating new revenues and an estimated one million jobs. Furthermore, the gasification of biomass to methanol is both very efficient (50-70% energy efficiency) and highly productive (one ton of wood can yield more than 700 liters of methanol). The estimated current methanol potential in the EU15 from black liquor is more than 12 million tonnes per year, and from biomass the methanol potential is 130 million tonnes per year. On the automotive front, SAAB (GM Europe) is now testing M100 in parallel with E100.

Cellulosic methanol also can serve as a feedstock for the production of dimethyl ether (DME), which is an emerging alternative to diesel fuel. Automaker Volvo and the Swedish Energy Agency are developing a third generation DME heavy duty truck, with plans to field test 30 DME-powered trucks in the next few years.

Methanol and DME are clean, alternative fuels, and should be given treatment towards meeting the European Commission's transport fuel replacement goals equal to ethanol, biodiesel, biogas, etc. Current efforts to maintain the allowance for 3% methanol blending in the EU's Fuel Quality Directive is an important first step.