

ASFE Position Paper Role of synthetic fuels in the 'Energy Policy for Europe'

The Alliance for Synthetic Fuels in Europe (ASFE) encourage the EU policy makers to consider the potential of synthetic fuels in diversifying the energy supply for road transport, reducing environmental impact and stimulating competitiveness.

ASFE brings together leading automotive and energy companies sharing a commitment to reducing the environmental impact of road transport through energy efficiency, improved engine technology and cleaner fuels.

Synthetic fuels are clean alternative fuels that can be made from biomass (Biomass to Liquids, BTL), natural gas (Gas to Liquids, GTL) or coal (Coal to Liquids, CTL). They are produced through a chemical transformation process known as Fischer-Tropsch, originally developed in Europe in the 1920s. Synthetic fuels are available today and can be used with existing vehicles and refuelling infrastructure. Even without engine modifications, synthetic fuels deliver immediate tailpipe emission reductions. Over the next decades synthetic fuels will provide a bridge towards renewable transportation fuels and associated vehicle technologies.

ASFE supports the European Commission's objective of diversification towards alternative energy supplies. Market penetration of synthetic fuels can crucially help the EU achieve its target to replace 20% of diesel and gasoline fuels with alternative fuels in the road transport sector by 2020, and at the same time contribute to the EU strategic goals of reinforcing energy security, enhancing environmental sustainability, and supporting competitiveness and innovation.

Ahead of upcoming key decisions on the future EU energy policy, ASFE propose the following recommendations and strategic considerations, essential to realise the full benefit and potential of synthetic fuels:

- Establish a favourable policy framework for synthetic fuels, including fiscal support, and provide incentives for building supply capacity, support further technology development, and stimulate market demand for synthetic fuels.
- Give full consideration to the share of synthetic fuels as part of the desired energy mix for the EU.
- Recognise that synthetic fuels can reduce local emissions and improve air quality, and in the case of BTL significantly reduce CO₂ emission associated with road transportation.
- Include GTL fuels in the natural gas targets for Europe, and allow the consumer to make a choice on the most cost-effective solution - in this case compressed natural gas (CNG) or GTL - to achieve the EU policy objectives. Such approach was successfully introduced into the Bio-fuels Directive, i.e. the market decides between different bio-fuels.
- Include synthetic fuels as part of portfolio of technologies supported by the European Strategic Energy Technology Plan.
- Create a stable and long-term framework for R&D investment in BTL to accelerate the development and large scale market introduction of this fuel.

Contribution to EU policy goals:

Securing energy supply:

- Synthetic fuels can play an important role in diversification of energy supplies for road transport and help reduce the EU's petroleum dependency. Synthetic fuels provide product, geographical and technological diversification.
- Synthetic fuels can help EU meet its objectives of substituting 20% of traditional fuels in road transport with alternative fuels by 2020, and increase the use of 2nd generation of bio-fuels by 2030. At the same time they provide a bridge towards a more sustainable mobility based on renewable transportation fuels and associated vehicle technologies.
- A favourable policy framework at both the EU and Member States levels is however essential to accelerate the development of synthetic fuel production capacity, as this requires market pull from consuming markets.
- To reach the EU's energy security goals, all available solutions must be kept open. The supply of GTL, already available today in limited quantities, will grow significantly with production expected to approach 100,000 barrels per day by 2010. It is estimated that as many as 10 large-scale GTL plants will be in operation by 2020, producing over 1 million barrels per day of GTL for global markets.
- BTL has the potential to use domestic resources in Europe and will be produced in the EU, with the world's first demonstration plant starting production in Germany in 2007/8. Advances in GTL technology directly benefit the BTL industry

Reducing environmental impact:

- Synthetic fuels can help improve local air quality through significant reduction in tailpipe emissions (particulate matter, nitrogen oxides, carbon monoxide and hydrocarbons). Synthetic fuels offer the opportunity to shift to alternative energy carriers and open up the way towards sustainable fuel production pathways.
- Measured on life cycle basis (LCA), greenhouse gas emissions from a GTL system are comparable to those from a conventional crude oil refinery. As a 2nd generation bio-fuel (non-food crop derived), BTL offers the potential of 60 to 90% CO₂ emissions reduction compared to petroleum-derived fuels. CTL has a carbon penalty, which can be reduced through CO₂ sequestration and other measures.
- By linking the development of advanced engine and synthetic fuels production technology it is expected that greater vehicle efficiency gains will lead to further reductions in CO₂ emissions.

Boosting competitiveness and innovation:

- The development of the synthetic fuels industry will enable new engine concepts and bring a positive impact for European competitiveness and employment. The development of advanced engines and synthetic fuels will strengthen Europe's leadership in high efficiency engine technologies.
- Europe is at the forefront of the development of the BTL industry with demonstration projects planned in Germany. There is also potential for CTL projects (with CO₂ sequestration) in several other Member States.
- Synthetic fuels can be supplied through the existing diesel distribution and refuelling infrastructure, avoiding the costly investments often associated with other alternative fuels. Synthetic fuels can utilise tankers, pipelines, barges, railcars, trucks and tanks which are already in use for movement and storage of conventional diesel fuels. This makes synthetic fuels a cost-effective option for reducing petroleum dependency and diversifying clean energy supplies for the transport sector.