Let’s remove uncertainty
Petri Kukkonen  
VP, UPM Biofuels  
Headquarters: Finland

Biofuels are expected to play a major role in road transport but regulatory environments both in the US and EU remain uncertain.

The debate on ILUC centred within the European Renewable Energy Directive (RED) has delayed the decision on any new directive proposal and, over in the US, the Environmental Protection Agency (EPA) has announced to lower biofuel volume goals for 2014 from the current requirement. Regulatory uncertainty is a barrier to commercialisation for many projects.

Although the EU remains the region most focused on biodiesel, prices continue to remain low due to a weak production/consumption balance. Globally the ethanol market is still dominant, with corn and sugarcane remaining the most used raw materials, but rapeseed as a feedstock will continue to dominate the EU biodiesel market.

Waste- and residue-based advanced biofuels are being slowly brought to market but recognition of a broad range of suitable sustainable feedstocks in any new RED proposal, requiring pioneering conversion technologies, is an essential requirement for commercialisation of advanced biofuels.

UPM will bring wood-based biofuels to the market in 2014. This CTO feedstock is a residue of pulp production containing the extracts of wood. Greenhouse gas emission reduction using whole crude tall oil (CTO) as feedstock to produce renewable diesel is as high as 80% compared to fossil diesel, and it is not in conflict with food production.

Looking more broadly, in the short to mid-term, I feel the Americas will continue to dominate global ethanol supply and consumption. Brazil will continue to be Latin America’s central player in ethanol, while Europe will dominate the global biodiesel demand market despite continuing to rely on imports.

Longer-term, Asia will rise mainly by increased demand and export potential; China will increase its ethanol production while Indonesia will lead the way in Asian biodiesel production capacity.

For the EU market to grow, it needs to establish a predictable and reliable long-term biofuels policy. True sustainable biofuels are still endangered by an unclear policy framework. European companies are world leaders in developing pioneering technology however, due to a lack of favourable conditions, there is a risk investments will be made outside the European territory.

Cellulosic ethanol’s time to shine
Steve Hartig  
GM Licensing – POET-DSM Advanced Biofuels  
Headquarters: US

Cellulosic ethanol’s detractors have called it ‘phantom fuel’ and the process required to make it is not ready for prime time. In 2014, this rhetoric will evaporate as many begin producing this advanced biofuel from biomass in commercial quantities throughout the world.

Key to US industry success has been the regulatory stability provided by the Renewable Fuel Standard (RFS), overseen by the Environmental Protection Agency (EPA), which has fostered technology development and capital investment.

So we, as an industry, will be able to make bountiful, profitable fuel within a few years and, via new technology, be able to ramp up major volumes in terms of the required volumes of ethanol to be blended into the US fuel supply.

Biodiesel already surpasses US RFS volume requirements and should continue doing so, absent of any EPA- or legislature-induced reductions to the Renewable Volume Obligations (RVOs).

The US currently dominates biofuels use but Brazil, with its agricultural status and availability of sugarcane and bagasse, should remain close behind.

Across the Atlantic, the European Union has expressed favour toward cellulosic ethanol but has not put forward a consistent, supportive regulatory mechanism to encourage adoption or capital investment. Much of the continent, especially in the east, is flush with biomass and could certainly embrace production.

Due to the rhetoric which has gone back and forth on the global food-vs-fuel debate, China has made it clear biofuels development must focus on non-food feedstocks, which plays well into cellulosic ethanol’s strengths.

Cellulosic biofuels, as regulatory conditions become more favourable, will have the opportunity to flourish in China and throughout Asia. Biomass in the form of corn stover and other feedstocks is plentiful and the necessary technology exists and is proving out at commercial volumes. But the infrastructure in China to go from field to fermentor and then finished ethanol is less developed, but this can be addressed.

In India, where energy needs are developing rapidly, a bigger challenge exists. While it produces sugarcane, and a variety of other food-based crops, farming is more local and diverse than the US, Brazil or China, so securing a stable source of biomass there presents a test.
Crop residue feedstocks are low-hanging fruit and it makes the most sense to use them for production. Regardless of what is used locally, consistent availability in large volumes is critical – that’s why the word mass is incorporated into biomass! Other producers are investigating the potential of energy grasses, though we see that as a next-generation biomass because of the effort required to set up the supply chain.

**Encouraging investors**

*Rick Taylor*
Commercial director,
Vivergo Fuels
Headquarters: UK

“During the last few weeks of 2013, while margins were helped by falling grain prices, we also witnessed a drop in ethanol prices as we headed into the winter season, so we expect a tough environment for the first quarter of 2014.

The main challenge facing the industry in 2014 continues to be the uncertainty around legislation. While proposals to introduce a 5% cap on crop-based biofuels in Europe have stalled, there is still a strong sense that the Commission is not fully supporting the existing target of achieving a 10% biofuel mix in transport fuel by 2020. We hope the UK government continues to support the bioethanol industry and looks to increase current blend levels from 4.75% – in fact, we’d hope to see some positive support of E10.

As we produce bioethanol and DDGS from the same wheat, which would have been used to make animal feed anyway, we believe we have a strong argument for producing food and fuel, negating the debate around a cap on bioethanol. I can’t foresee a significant change in European feedstocks for bioethanol production over 2014 as second generation biofuels are not yet ready for large-scale commercialisation. Therefore we’ll continue to see product derived from the usual suspects, such as wheat, sugar beet, maize and barley.

We expect, as Europe is still short on bioethanol, to see product continuing to come in from outside the continent. I would expect that a range of countries will continue to play a bigger role in biofuel supply into the EU, filling a gap left by the US and Brazil. With the potential that the US and/or Brazil could return to EU markets, and the threat of a change in the current legislation still hanging in the air, the EU ethanol industry may have a tough time in the short-term.

It would be great to see more investment in the European sector, but the continued uncertainty around legislation is damaging to the industry as it reduces investor confidence. We’re confident that our industry has a positive outlook for the longer term future however.

**Biodiesel: smashing targets**

*Tyson Keever*
GM, Sequential Pacific Biodiesel
Headquarters: US

“It’s difficult to tell what 2014 will bring for the biofuels industry, especially in the US where it faces uncertainty due to Environmental Protection Agency (EPA) proposals to lower figures regarding the Renewable Volume Obligation (RVO). Any reduction for biodiesel would have a negative impact which could see a return of the industry climate of previous years when growth stalled for many producers due to a lack of federal support.

Not all looks bleak on the targets for these countries will move as planned, but others which will declare ethanol blending policies in the future are the ones to watch – countries like the Philippines, Vietnam and Guatemala have shown an active interest in second generation biofuels for example. Both the Americas are the likeliest to stay at the top of the producing tree but I feel south east Asia could emerge as a significant player too.

When considering feedstocks, wheat, which already forms more than 50% of the EU and UK share of ethanol, will continue to dominate the first generation landscape. But, in the not too distant future, we will see the emergence of second generation biofuels which will satisfy EU targets based on wheat straw, forest residue and corn stover. Both generations

**Our industries are resilient**

*Pramod Chaudhari*
Executive chairman,
Praj Industries
Headquarters: India

“Many reports suggest biofuels mandates have spread across more than 80 countries to date. This is a good base to springboard to the next level of blending targets. While policy-related challenges continue in the US and Europe, will weather the storm.

First generation biofuels has not been deterred by matters including the withdrawal of subsidies and the food vs fuel debate, for example. The biofuels community has looked at each challenge positively which shows in the increasing momentum of second generation. The commercialisation process usually leads to better viabilities and insights into technology and its application. We will soon see this as more projects move toward this end.

One of the key ingredients to biofuels success rests with the availability of funding. For financial institutes to gain renewed interest in the sector, stronger and consistent government policies should be in place for longer. Fossil fuels have had nearly domination compared to biofuels which have around for just over 40. Many agree our industry has to make second generation biofuels more viable and sustainable, but that can only happen if it receives the right regulatory climate to help breed confidence.

We have market experience in more than 60 countries across five continents but starting with India, the Group of Ministers has recommended an increase in the ethanol blending programme from 5 to 10%, despite the 5% mandate itself yet to be fully implemented. Countries such as Thailand, Colombia and Argentina have already set enhanced blend targets and are chasing them earnestly.

Thailand, in particular, has a robust mechanism in place for ethanol blending and has reaped rich dividend from this