Blending Insight

Volume 11, Number 2, December 2011 **Blending User's Group Newsletter**

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Spotlight on…2012..↑ or ↓ ?

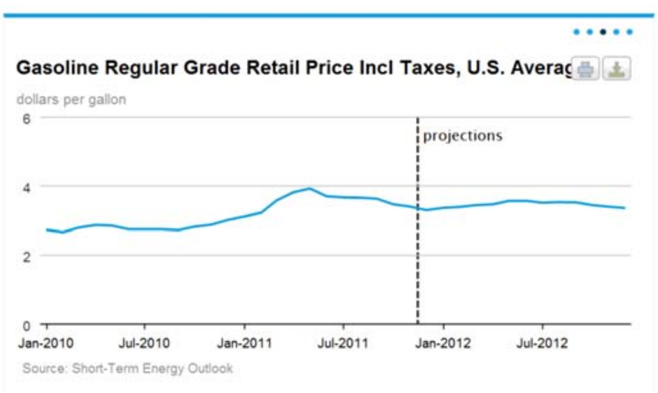
Where are we going in 2012?

The current outlook

US and European Union economic crisis caused significant decrease in liquid fuel consumption resulting in refinery closures, and reduction in shipping capacity due to weakened trade.

Forecast for 2012: Prices will stay mostly flat with some oscillations around the 2011 mean because of political uncertainty:

in US, with elections in November 2012 and uncertain Democratic or Republican outcome with radically different energy agendas, and the same with the French presidential elections in April, everybody will wait for the results, and nothing significant will occur in 2012, short of a new war in the Middle East.



Price Summary

	2009	2010	2011	2012
WTI Crude[a] (dollars per barrel)	61.65	79.40	*94.81*	*98.00*
Gasoline[b] (dollars per gallon)	2.35	2.78	*3.53*	*3.45*
Diesel[c] (dollars per gallon)	2.46	2.99	*3.85*	*3.85*
Heating Oil[d] (dollars per gallon)	2.51	2.96	*3.72*	*3.80*
Natural Gas[d] (dollars per thousand cubic feet)	12.12	11.19	*10.88*	*11.16*
Electricity[d] (cents per kilowatt hour)	11.51	11.58	*11.78*	*11.85*

[a] West Texas Intermediate.
[b] Average regular pump price.
[c] On-highway retail.
[d] U.S. Residential average.

For marine bunkers, the situation is slightly different:

In 2012, the weak trade forced a reduction in container lines shipping capacity, which results in a temporary softening of prices.

However, any improvement in the economic climate and increased trade, probably starting in early 2013 will lead to a significant (huge?) in crease in the marine bunker prices. Why? Because with fewer existing refineries, increase in refinery capacity for more profitable deep conversion (resid destruction), and no interest whatsover in desulfurizing residue, there will be a shortage of residue which will drive up the bunker prices.

In addition, the requirements for 1%S for ECA's and 0.1%S for EU/NA port berthing will put pressure on prices and survival of shipowners because of approximately US$300/ton price differentials, which translates into millions more in additional fuel expenses...

On the positive side, the big news is hydraulic fracturing (or "fracking") of shale gas and oil formations, essentially opening up an unimaginable, immense quantities of hydrocarbons just about anywhere in the world. In the case of natural gas-essentially methane-can be used directly in transportation, or indirectly via Gas To Liquids (GTL) conversion, a la Fischer-Tropsch into gasoline and diesel fuel. This has the potential to cut in half the price of gasoline and diesel, but for the politicians...

What is stopping us from "fracking"? The same corrupt and inept politicians bickering and fighting for their own gain at the expense of the population. The so-called Middle Class is an "endangered species" in US and the EU Mediterranean countries...

Elections! In US, France, etc....so politicians are worried about re-elections...and will be more flexible towards the electorate...and hopefully result in less ridiculous regulations.

On the negative side, the economic depression in US and EU, coupled with incompetent and corrupt political leadership resulted in decreased consumption of transportation fuels, affecting all of us, refiners, blenders, traders, and consumers.

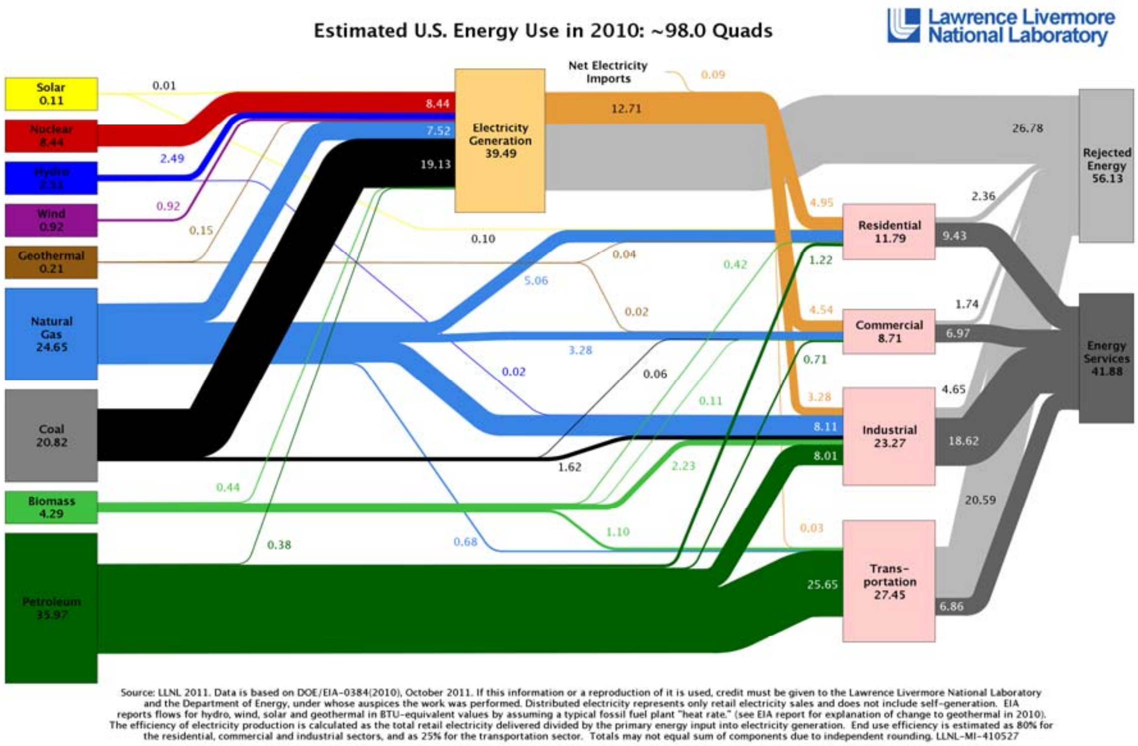
In the US and EU, the consumption between 2008-2011 decreased by 5 to 7%, and a number of refineries closed because of negative profit margins. In addition, US and EU regulators, ignoring the economic crisis and high unemployment, are going crazy with new more stringent environmental rules which will make it very difficult and expensive to stay in business.

If you think that the BRIC countries or the Middle East are immune to all of this, they are not , because a significant part of their output goes to the "relatively" economically depressed countries (US, EU), which currently are buying less.

Other Trends

Renewables are taking a "hit". After all the propaganda and untold billions of dollars spent, they are still a minuscule part, and besides high costs and not so low pollution levels, enthusiasm is starting to wane. In the US, we just missed the RFS2 target, and it will get worse in the next 2 years when we hit the Ethanol "Blend Wall"!..

Same with electric cars, solar power, and windmills...See the 2011 US National Research Council report on renewables....A good picture of the energy flows in the US is the study by Lawrence Livermore Lab (energy research as backup for their nuclear weapons work!): 4 quads biomass vs. 98 total energy consumption!



To get a copy of the report, click below.

[Learn more]

New Fuels Specifications

USA:

- EPA approved E15 gasoline is "frozen"
- EPA proposed Tier 3 Gasoline
  - o Lower Sulfur to 10ppm or less from today's 30ppm average and 80ppm cap
  - o Impact: US up front capital required of $10-17 billion, and operating cost of 5-13 billion/year
- CARB new rule for bunkers extends the 1%S fuel usage from 24nm to 40nm

[Get copy Of Colonial Pipeline Dec 2011 Product Specs]

World-Wide

Bunker Fuel Reminder!!!

- January 1, 2012 Sulfur max 3.5%
- August 1, 2012 All ECA's Sulfur max 1%
- Currently, All EU community ports Sulfur max is 0.1% if berthed for 2 or more hours

- ECA visitors: be prepared for double fuel bills: higher fuel costs and the need to carry and switch between fuels

Use of Renewables: Ethanol and BioDiesel

This varies by country, so it is important to check with the local authorities for the latest rules.

In US, the rules cover

- a FIXED amount of Ethanol, e.g. 10vol% max; the 15vol% is not approved by US Congress....
- a variable amount of FAME-type BioDiesel, up to 5% max
- A fuel producer "quota" is in the latest Renewable Fuels Standard (RFS2)

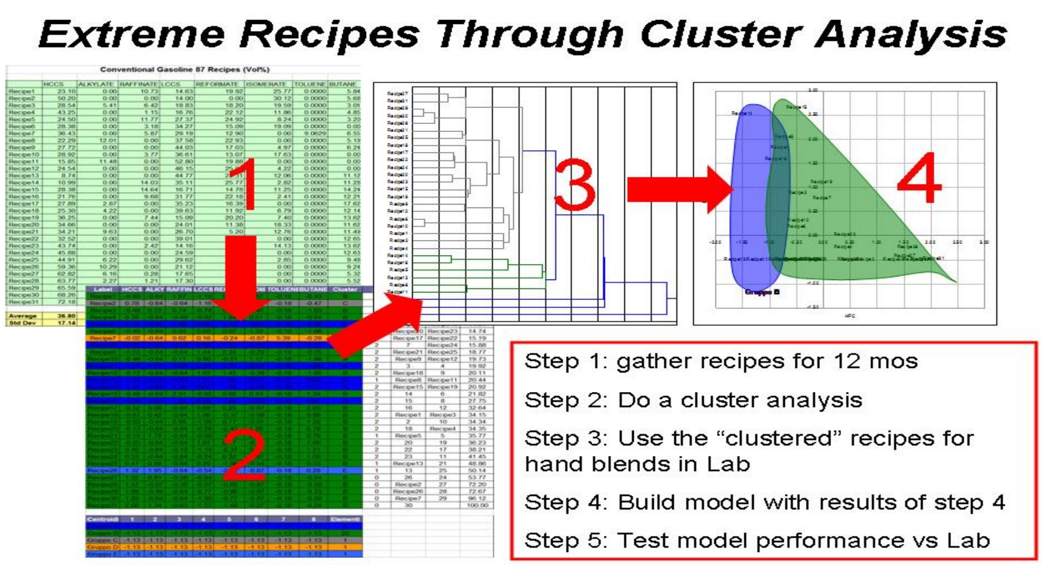
In EU, each member state has a different calendar for adopting the EU mandate

Get copy Of EU directive and quotas by country, and biofuels specs here

NIR Analyzer Modeling Using Cluster Analysis

NIR and NMR multi-property analyzers are cheap per property measured (up to 15-20 properties), fast (for good property control), and very reliable. analyzers.

The challenge is to build a reasonable model following the ASTM NIR-modeling "bible", ASTM E1655. You can use a Cluster Analysis of your blending recipes for the previous 12 months (per grade) to reduce them to a handful of recipes based on statistical similarity.You can get a free



Cluster Analyzer Excel add-in from Fernando Cinquegrani's web site (Microsoft Italia)

Download….

"Miracle" Bunker Scrubber

Low Sulfur Bunker with 1% or lower Sulfur costs at least USD 200 to 300 more per ton than the conventional 3.5% Sulfur bunker.

Scrubbers make it possible to cut significantly on the cost of a voyage by allowing you to minimize or completely avoid the use of 1% or 0.1%S in ECA's.

New, revolutionary technology developed by Ecospec, called CSNOX for cleaning exhaust gas system without chemicals and no residuals is in sea trials. www.ecospec.com

Blending Training Courses

Upcoming Blending Courses

January 16-17, 2012 Singapore:.	**Bunker**	Register
January 18-20, 2012 Singapore:.	**Gas+Diesel**	Register

Fuels (Gasoline and Diesel) Blending Technology and Economics (FBTE)

This is a 3 day in-depth blending course for Refiners, Traders, and independent terminal operators examining the latest specs, Ethanol and Biodiesel blending, EPA Complex Model, RFS2 and RIN calculations, blend component properties and pricing methods, blending equipment, Lab and on-line analysis, and use of optimizers to maximize blend profit

Bunker Fuel Blending (BFB)

This is a 2 day in-depth blending course for Bunkering Terminals Operators, Traders, and examining the latest ISO 8217:2005 and 2010 specs, ECA/SECA specs, blending techniques, calculation of nonlinear properties like viscosity, CCAI, compatibility, etc; blending equipment, Lab and on-line sampling and analysis, basis for dispute resolution (both quality and quantity), and use of optimizers to maximize blend profit.

Blending Courses Schedule

January 16-17, 2012 Singapore:.	**Bunker**	Register
January 18-20, 2012 Singapore:.	**Gas+Diesel**	Register
May 9 - 10, 2012 Bahrain	**Gas+Diesel**	Register
May 13-14, 2012 Dubai	**Bunker**	Register
May 17-18, 2012 Singapore:.	**Bunker**	Register

Happy Holidays-Merry Christmas-Happy 2012

Have a wonderful, safe and prosperous Holiday Season and New Year!

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