RED Reformed

What next and what are the Opportunities for the European Market?

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team

ISCC Regional Stakeholder Dialogue
Joint ISCC Technical Committee Meeting
North and South America (ISCC TC NA + SA)

24 June 2015 - Miami
Outline

A revamped RED
Towards an Energy Union
Market outlook
Summary
Who am I?

Graduated (master level) in Political Science and European law (University of Nijmegen - NL).

4 years Ph D research on EU external security matters.

8 years working experience in the European Parliament.

6 years of experience in the Management Consultancy business (Deloitte & Touche, then set up an own consultancy company), mainly worked on internal market matters in general and financial services in particular.

12 years of running (3) associations for the European Ethanol Sector (AFTA, eBIO and ePURE). Set up the latter two.

Over 25 years experience operating in the EU Brussels environment.

Since September 2014 (voluntarily) back to basics: self-employed consultant on bioenergy (and related) matters.
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Policy changes proposed by the European Commission (17/10/2012)

- Limiting food/feed crop (1G) based biofuels to 5%e (to safeguard investments); no more government support for 1G after 2020.

- MS to report ILUC GHG emissions (12-13 gCO₂/MJ for sugar/starch and 55 gCO₂/MJ for oils). No ILUC factors for accounting (yet). Possibly after 2017 when science is “updated”.

- New installations from 1st July 2014 onwards need to achieve 60% direct GHG emissions savings.

- Multiple counting: advanced biofuels and EVs through 2x and 4x counting.

- Bonus (of 29 gCO₂/MJ) for crops from idle/degraded land deleted.

- Positive: the minimum 10% RE in transport target 2020 kept in place.
Various positions on key proposed policy changes

<table>
<thead>
<tr>
<th>Topic</th>
<th>Commission</th>
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<tbody>
<tr>
<td><strong>Cap on 1G biofuel</strong></td>
<td>5% + no more support beyond 2020</td>
<td>6% + all energy crops</td>
<td>7%</td>
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<td><strong>ILUC factors</strong></td>
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<td>Reporting + accounting in FQD after 2020</td>
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<tr>
<td><strong>Advanced biofuels</strong></td>
<td>multiple counting</td>
<td>mandate 1.25% + multiple counting</td>
<td>Mandate 0.5% + multiple counting and escape options</td>
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Final outcome compared to proposal (28/04/2015)

Limiting food/feed crop based biofuels to 7%e including certain e-crops; no more government support for 1G after 2020

- MS need to report ILUC GHG emissions (12-13 gCO₂/MJ for sugar/starch and 55 gCO₂/MJ for oils)

No ILUC factors for accounting (yet). Possibly after 2017 when science is “updated”. Very negative for biodiesel; with a 55 g penalty it becomes more polluting than any fossil fuel and will not be used any longer.

- New installations from 1st July 2014 onwards need to achieve 60% direct GHG emissions savings.

- Multiple counting: advanced biofuels (2x), EVs (5x) and Trains (2.5x)

+ Bonus for crops from idle/degraded land kept.

+ The 10% RE target 2020 still in place.
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Clarification of core changes

- **Energy crops** are exempted from the 7% cap if produced according to sustainability standards and on certain types of land only.

- **ILUC factors**: these are ‘provisional’ and ‘estimated’ additional emissions expressed in gCO2eq/MJ (12 for starchy crops, 13 for sugars and 55 for oil crops) to be used by the COM to report on the GHG emission savings achieved. The COM needs to include in its report direct emission savings from co-products applying the substitution method. First report 2017.

- **Advanced biofuel “mandate”**: 1) list of allowed feedstocks is determined with grandfather clause; 2) Member States can lower the target (of 0.5%) if a) not enough dedicated feedstock available; or b) absence of a suitable vehicle fleet, or c) if they put enough money in using renewable electricity.
Other changes of importance

- To limit fraud for “advanced biofuel feedstocks” a track & trace system to be encouraged.
- The COM can propose to add feedstock to the “ABF”-list but not shorten the list.
- For new plants operating from September 2017 the GHG emission saving has to be at least 60%. For those already operating until 1 January 2018, 35% and after that date 50%.
- A more onerous regime for Voluntary Schemes.
- End 2016 a report on sustainability (ILUC effects included) and cost-efficiency of non-land using feedstocks.
- Introduction of the concept of “Low ILUC risk biofuels”. COM needs to present a report on what this is.
- New law to be adopted in September 2015; national transposition within 24 months, target for advanced biofuel to be set within 18 months.
New rules on Voluntary Schemes

- At least once a year VS need to publish a list of their certifiers, what national body authorised and monitors it
- To address fraud the COM (by delegated Act) can set standards of independent auditing. Non-compliance means repealing permit.

- By April 30 2016 every VS needs to submit a report to the COM and this every year stating:
  - the independence, modality and frequency of audits
  - the availability of methods for identifying non-compliance by those using the scheme
  - transparency and accessibility (translation) of the schemes and auditor reports
  - stakeholder involvement
  - robustness of the scheme
  - market update, volume of feedstock and biofuel verified by country of origin, type, number of participants
  - effectiveness of implementing a system that tracks the proofs of conformity with the sustainability criteria
  - options for entities to be authorised to recognise and monitor certification bodies
  - criteria for the recognition or accreditation of certification bodies
  - rules on how the monitoring of the certification bodies is to be conducted
  - possibilities to facilitate or improve promotion of best practice

- The COM needs to submit to Council and Parliament a report analysing all the above identifying best practice
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Is the tide changing?

• In the EU nationalistic forces are becoming stronger. There is a strong call for less Brussels-based rule making and more responsibility for Member States.

• The plans presented to build an Energy Union by 2030 are in line with this thinking

• The Commission has stepped back from proposing for the policy post 2020 a) individual Member States targets and b) sector specific targets.

• Post 2020 no longer at EU level a RE target for transport, neither in the RED or the FQD. Possibly an advanced biofuel target but no guarantees yet.

• However, post 2020 Member States can still have national biofuel targets. Biofuels would then need to comply with the RED sustainability criteria.

• Until 2020 BAU
Looking beyond 2020: The Energy Union

“The European Union is committed to becoming the world leader in renewable energy, the global hub for developing the next generation of technically advanced and competitive renewable energies. The EU needs to invest in advanced, sustainable alternative fuels, including biofuel production processes, and in the bio-economy more generally.”

(Taken from “A Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy” - 25 February 2015)

Changing the goal posts on Energy & Climate policy 2020-2030:

- 40% reduction in CO₂ emissions by 2030 (base year 1990),
- For non-ETS sectors (like transport) the CO₂ reduction should be 30%,
- At least 27% of RE in the EU’s energy mix.

Between 2015-17 a total of 44 policy/regulatory actions.
A few examples of what is in the pipeline

- **A Strategic Framework** for the Energy Union that will focus on a.o. energy supply security; integration of national energy markets; reduction in European energy demand; **decarbonising the energy mix** and promoting research and innovation in the energy field. It will include the revision of the EU Emissions Trading System as part of the legislative framework post-2020. This Framework will have 8 action lines.

- Preparation for a **new Renewable Energy Package** in 2016-2017. This will include a new policy for sustainable biomass and biofuels as well as legislation to ensure that the 2030 EU target is met cost-effectively.

- In 2016 a **Communication on waste to energy**.

- In 2016 a **Communication on Decarbonisation of Transport**, including an action plan on second and third generation biofuels and other alternative, sustainable fuels.

- A mid-term review of the **White Paper on Transport**.
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EU fuel ethanol (P&C)

Voluntary target set:
5.75% e/e by 2010
(Not yet achieved in 2014!)

Mandatory target set: at least 10% e/e by 2020

Why shrinking demand?
- Policy uncertainty
- More efficient gasoline cars
- More favourable tax structure for diesel
- Economic downturn

Sources: ePURE, F.O.Licht’s, Biofuels Barometer 2014
Fuel ethanol consumption key EU Member States (2000-2014)

- France: Less gasoline / more diesel
- Favourable taxation for diesel but not in the UK

Sources: F.O.Licht’s, Biofuels Barometer 2014
Ethanol imports and exports by region - CN 2207 (2008-2014)

Sources: F.O. Licht’s, Eurostat, SECEX, USITC
Factors that influence the future EU EtOH market

- **Stability of policy** - Are we there now?
- **Fair taxation of all fuels** - Addressing dieselisation
- **Development of vehicle fleet** - Will we all drive electric by 2020?
- Development of **double counting** product - Breakthrough of 2G?
- **National support** for biofuels - Will Member States follow ‘Brussels’?
Market potential by 2020

- EU production ethanol for fuel
- Potential demand
- EU ethanol fuel consumption

Assumptions:
- Car fleet composition
- Fuel efficiency
- E10 roll out
- National biofuel targets

Sources: JRC, PRIMES, Agra CEAS
Implementing RED revised - Review

(ae) ...... the relative share of bioethanol and biodiesel on the Union market and the share of energy from renewable sources in petrol.

The Commission shall also assess the drivers that affect the share of energy from renewable sources in petrol, including any barriers to deployment.

This should include costs, fuel standards, infrastructure and climatic conditions.

If appropriate, the Commission may make recommendations on how to overcome any barriers identified;
Growth of new vehicle market
EVs account for just 0.3% of the total market of around 12.55 million passenger cars sold during 2014 in the EU (Source: ACEA)
2G in development

- **Italy**: BetaRenewables - LC to EtOH - 14 m gallons/yr
- **Finland**: St1 - waste to EtOH - 1.3 Mgy; UPM - crude tall oil to biodiesel - 31 Mgy
- **Sweden**: St1 - waste to EtOH - 1.3 Mgy; Chemrec - demo - pulp/paper to DME (Dimethyl ether)
- **Spain**: Abengoa - pilot - MSW to EtOH
- **Denmark**: DONG - demo - straw to EtOH - 1.4 Mgy
- **Germany**: Clariant - demo - straw to EtOH - 300 Kgy
- **France**: Futurol - demo - e-crop to EtOH - 47 Kgy; UPM - woody biomass to biodiesel
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- Notwithstanding the huge battle against biofuels the outcome of the ILUC-debate could have been far worse;
- Regulatory complexity has increased but policy uncertainty is over;
- Post 2020 no more mandates only overall targets on CO₂ and RE;
- Post 2020 Member States will have much more freedom to achieve these overall targets;
- Post 2020 it is up to the Member States to decide if they want to use biofuels and what kind of biofuel
- Up to 2020 the 1G biofuel use will grow as there is no strong uptake of EV’s neither enough advanced biofuel capacity and production;
- Fuel ethanol use will grow faster than biodiesel as diesel cars will diminish (health concerns) and the use of hybrid/gasoline cars will increase.