



Bio-energy an integral part of the low carbon economy

Paul Verhoef

Head of Unit
DG RTD.G3: Renewable Energy Sources

Paul.Verhoef@ec.europa.eu

6th Stakeholder Plenary Meeting – Brussels, 14-15 October
Biofuels for low carbon transport and energy security



"We need [...] a resilient energy union with a forward-looking climate change policy"

".. mobilise EUR 300 billion in public and above all private investments over the next three years [...] through the targeted use of the existing structural funds and of the EIB instruments .."

".. we need coordinated investment in infrastructure projects [...] in energy networks .."

"We need a reindustrialisation of Europe"

"Renewable energies and their development is a sine qua non if tomorrow's Europe really is going to create lasting, consistent and sustainable locational advantages which are directly comparable with those of other world players."

"I want the European Union to become the world number one in renewables."

*Jean-Claude Juncker,
President-elect of the European Commission*

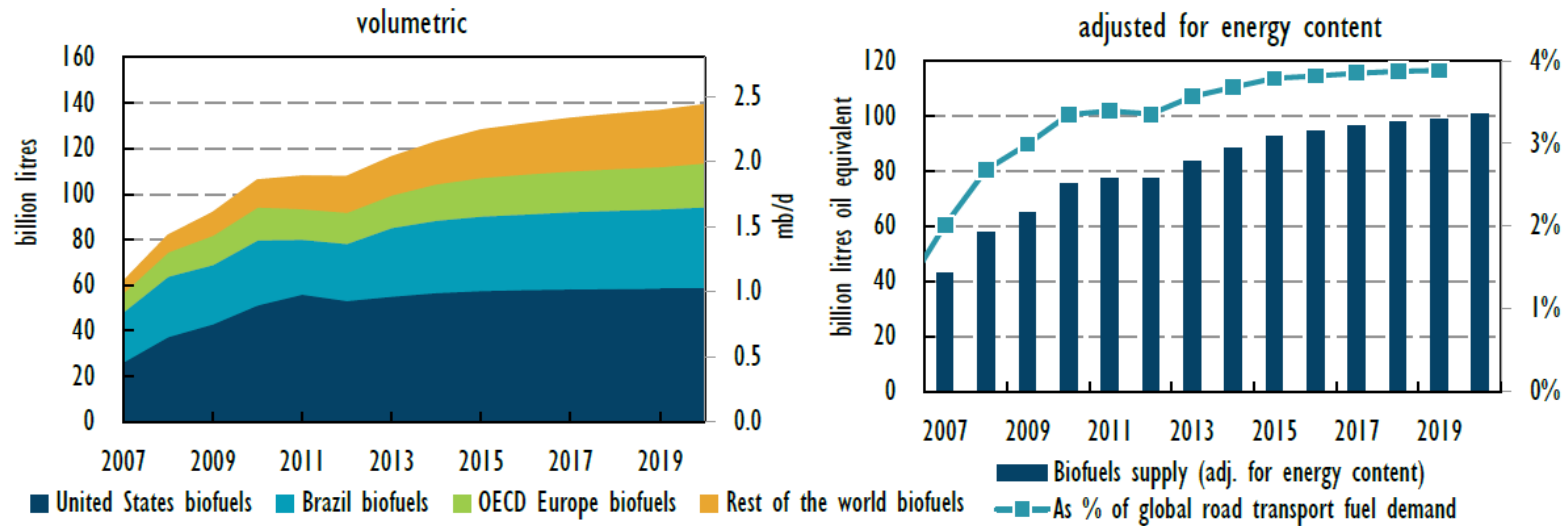


EU Energy policy priorities

- Energy security strategy
- Energy efficiency goals
- Renewable energy targets for 2030
- Infrastructure renewal and interconnection
- Smart/intelligent networks
- New players with new roles/services/technology
- Focus on needs of users

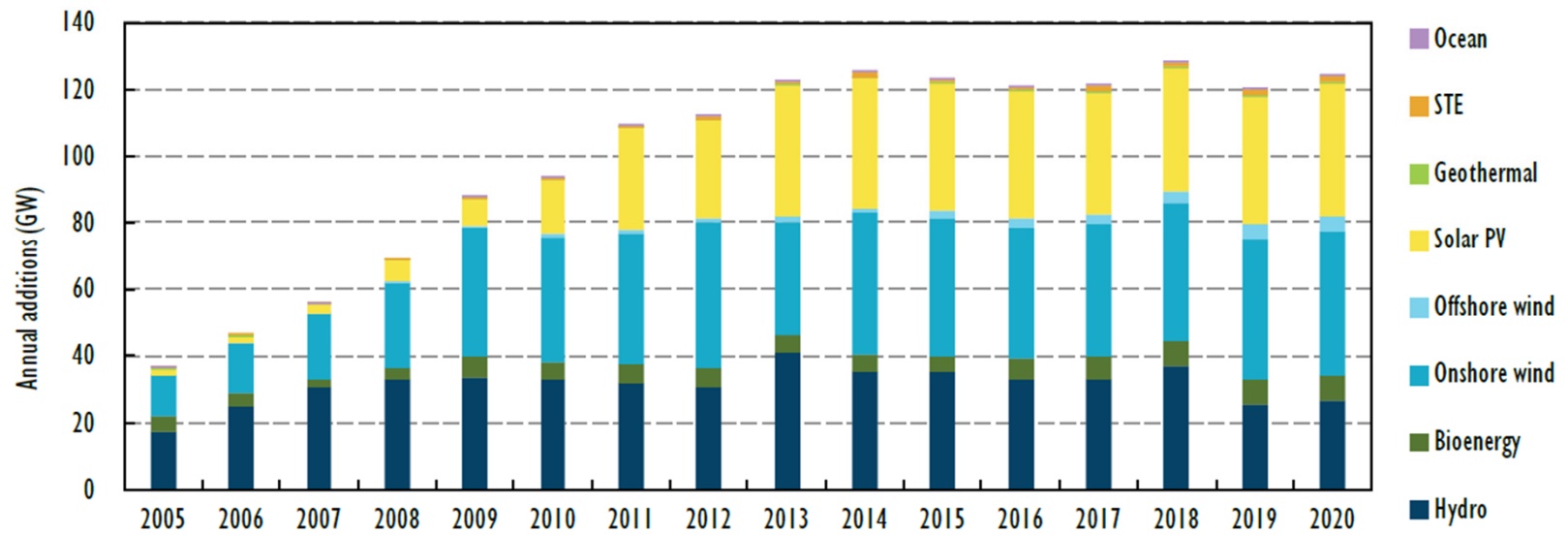


Figure 7 World biofuels production, historical and projected



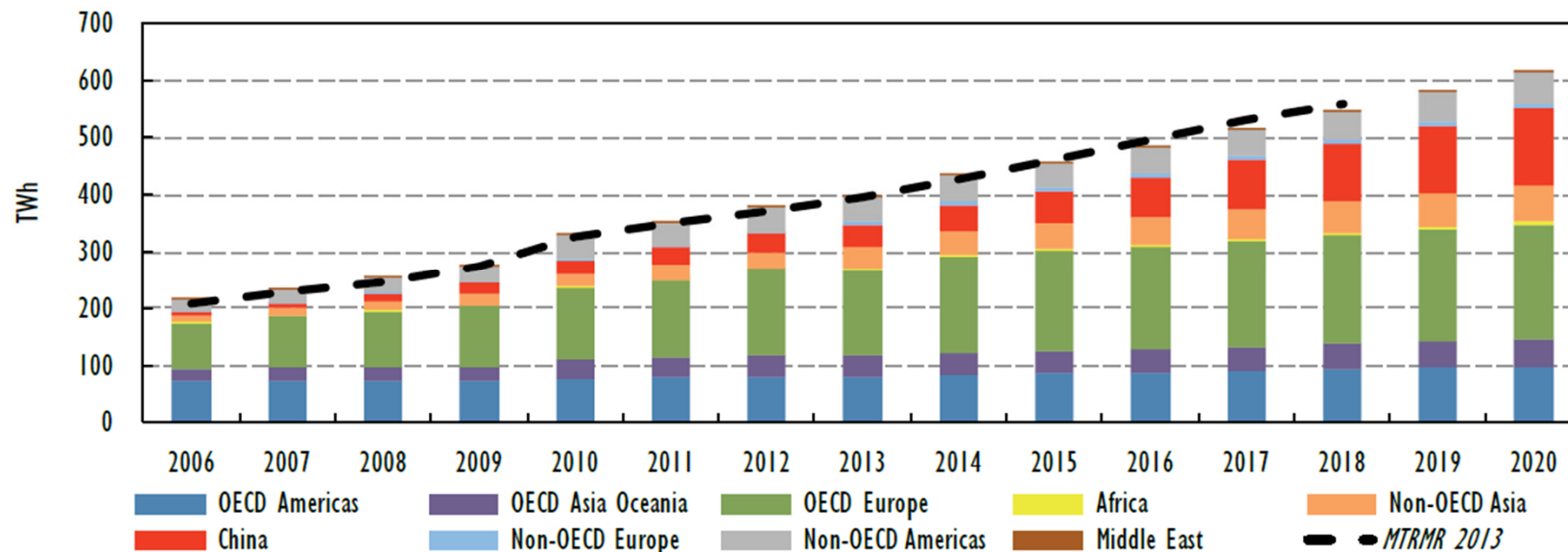
Source: IEA – 2014

Figure 59 World renewable electricity net annual capacity additions, historical and projected



Source: IEA - 2014

Figure 63 Bioenergy power generation and projection by region



Note: includes generation from renewable municipal solid waste.

Source: IEA - 2014





The SET-Plan

The Strategic Energy Technology (SET) Plan* is the technology pillar of the EU's energy and climate change policy

- **European Industrial Bioenergy Initiative (EIBI):**
Update to the Implementation Plan for 2013-2015 (2013)
- **Integrated Roadmap**** currently being finalised
- **ACTION PLAN** is under development

* COM (2007)723, ** COM(2013) 253

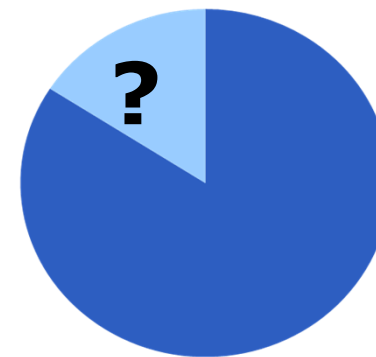
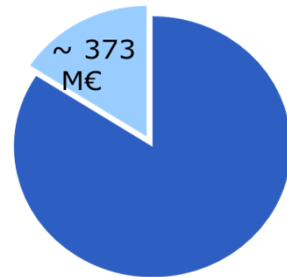


Energy Budget in FP7 and Horizon 2020

FP7: 2350 M €

H2020: 5931 M €

Bioenergy part





Advanced biofuels in Horizon 2020

WP 2014/2015

LCE 1: New knowledge and technologies

(TRL 2 – TRL 3-4)

LCE 11: Developing next generation technologies for biofuels and sustainable alternative fuels

(TRL 3-4 – TRL 4-5)

LCE 12: Demonstrating advanced biofuel technologies

(TRL 5-6 – TRL 6-7)

LCE 14: Market uptake of existing and emerging sustainable bioenergy (TRL-7-9)





NER300

- **Allowances** reserved in the new entrants reserve (NER) of ETS for financing commercial CCS and innovative RE demonstration projects
- **EIBI strategy was instrumental** in defining eligibility criteria for bioenergy projects
- First call: 8 bioenergy project selected for funding
(max NER300 funding: 629 M€)
- Second call: 6 bioenergy project selected for funding (max NER300 funding: 304 M€)





The Energy-Biofuels Workprogramme and the *Bio-based Industries Joint Undertaking*

- Bio-based Industries Initiative: targets the production of materials, chemicals and biofuels by following the bio-refinery concept and by focussing on certain technologies.
- Work programme Secure, clean and efficient energy: covers a broader technological spectrum and is focussed on the delivery of the important energy-specific tasks, but not excluding the production of valuable non-energy by-products. Main output must be energy.
- Synergies exist in the following areas:
 - Biomass availability
 - Feedstock processing and logistics
 - Conversion technologies including long-term R&D for certain biochemical pathways





Our appreciation of the current situation

- Biofuel investments are progressing
- European production technology is showing to be a critical component of new plants outside Europe
- EU technology providers are very present in these investments
- EU technology base continues to be very strong
- European production capacity planning and investments remain weak
- Regulatory uncertainties not resolved
- Continued high level of bio-energy proposals under H2020 calls





Critical issues to address

- Regulatory situation – particularly for 2nd generation biofuels
- Availability of risk-funding (grants/loans)
- Analysis of biomass availability in Europe
- Coordinated R&I funding (H2020, national, Eranet's)
- Interactions between biofuel and bio-product strategies/actions
- Both production and production technology issues
- International cooperation





HORIZON 2020

**Thank you
for your attention!**

Find out more:

<http://ec.europa.eu/programmes/horizon2020/en/>

HORIZON 2020