



The role of advanced biofuels in the EU's energy and climate strategy

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In 2050....

*We are likely to need around **100 Mtoe of biofuels** that saves substantial amounts of GHG emissions.*

*Today we use around **14 Mtoe**, but including estimated indirect effects, these biofuels only **save around 20%** GHG emissions compared to the fossil fuels they replace.*

In order to achieve the envisaged 80% reduction of GHG emission in 2050, we will need biofuels that save substantial amounts of GHG emissions (75% and more).

Such high savings are likely to be achieved only with biofuels based on waste or residues or other types of advanced biofuels.





The Policy Framework for renewable transport fuels

Fuel Quality Directive

- 6% greenhouse gas reduction target in carbon intensity of road transport fuels in 2020

Renewable Energy Directive

- 20% share renewable energy by 2020
- 10% renewable energy in transport by 2020

Significant contribution to both FQD and RED is expected to come from biofuels





The Commission proposal on ILUC:

- **A limit of 5% to the amount of 1st generation biofuels that can count towards the Renewable Energy Directive targets**
- **Enhanced incentives for advanced non-land using biofuels (quadruple accounting)**
- **An increase to 60% greenhouse gas savings requirement for new installations**
- **ILUC-factors included in the reporting of greenhouse gas savings in both Directives**





Council Working Party: ILUC issues

- **Cap of 7% for conventional biofuels**
- **Voluntary subtarget for advanced biofuels (excl. UCO/TME and RE electricity)**
- **all "advanced" feedstocks double counted towards the subtarget and the 10% target, some feedstocks (excl. UCO/TME) also double counted towards the overall RE target.**
- **ILUC-values for reporting of greenhouse gas savings in both Directives**
- **Increase multipliers for RE electricity (road 5, non-road 2.5)**





European Parliament

- **ILUC resolution adopted 11 September (first reading)**
- **Early second reading ruled out (no negotiating mandate to the rapporteur)**





EP ILUC resolution

6% cap on land-using crops of 2020 (also for FQD and as sustainability criteria)

2.5% target for Annex IX part A and C (new). Only quadruple accounting for part C (algae, renewable fuel of non-bio origin, CCU, bacteria). Double counting of only UCO/TME (outside subtarget)

ILUC-factors in the FQD accounting as of 2020





Specific ethanol in petrol target (7.5%)

CCU fuels

'non-food ligno-cellulosic material' dropped from Annex IX

Biofuels used in aviation can also count towards the FQD target

Waste hierarchy and the principle of cascading use





Next Steps

- **Council Presidency works towards political agreement at December Energy Council (13.12.)**
- **Unclear how/when the second reading in the EP will take place (retreat in April)**





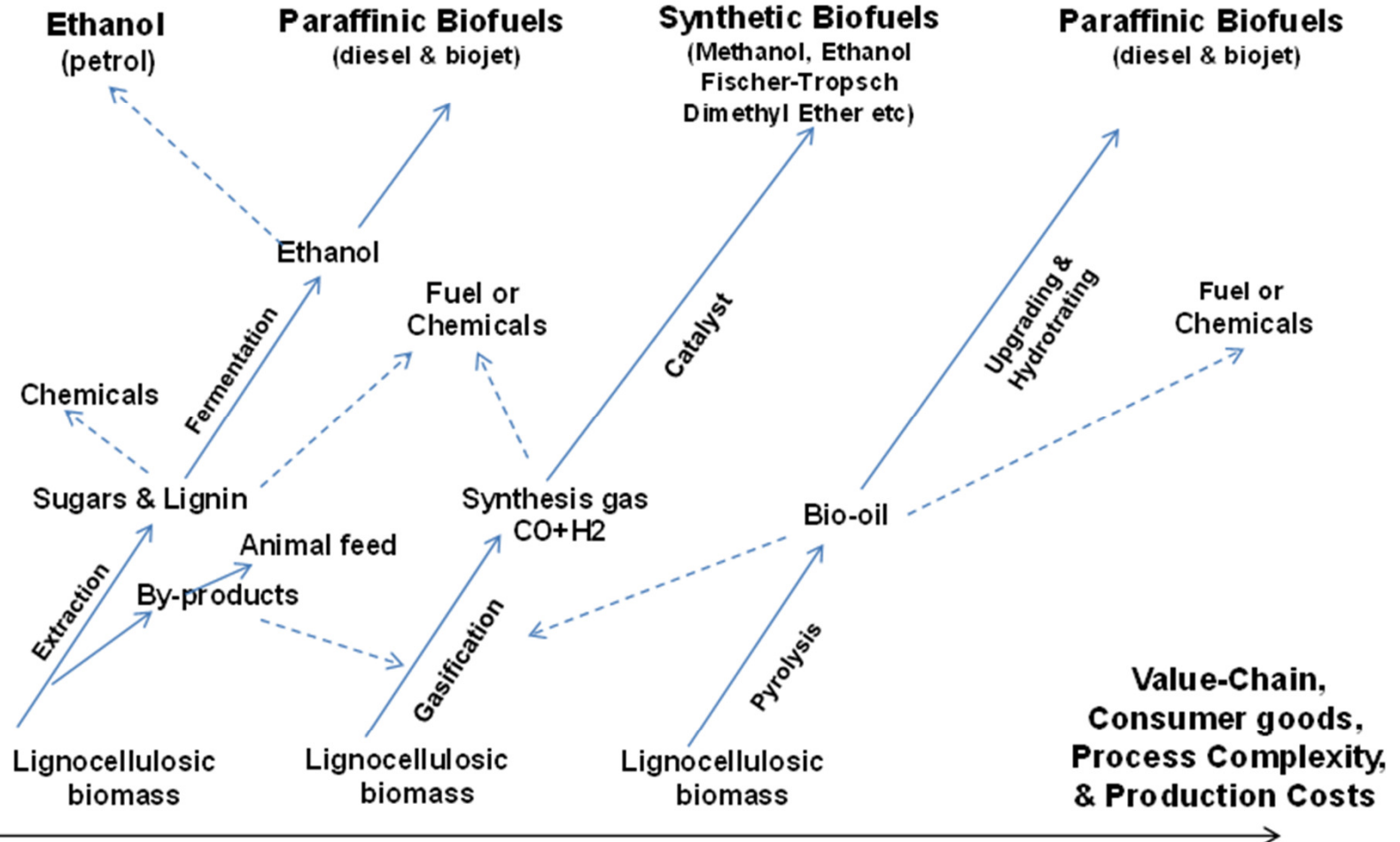
What have we achieved on Technology and Innovation under FP7



Value of product

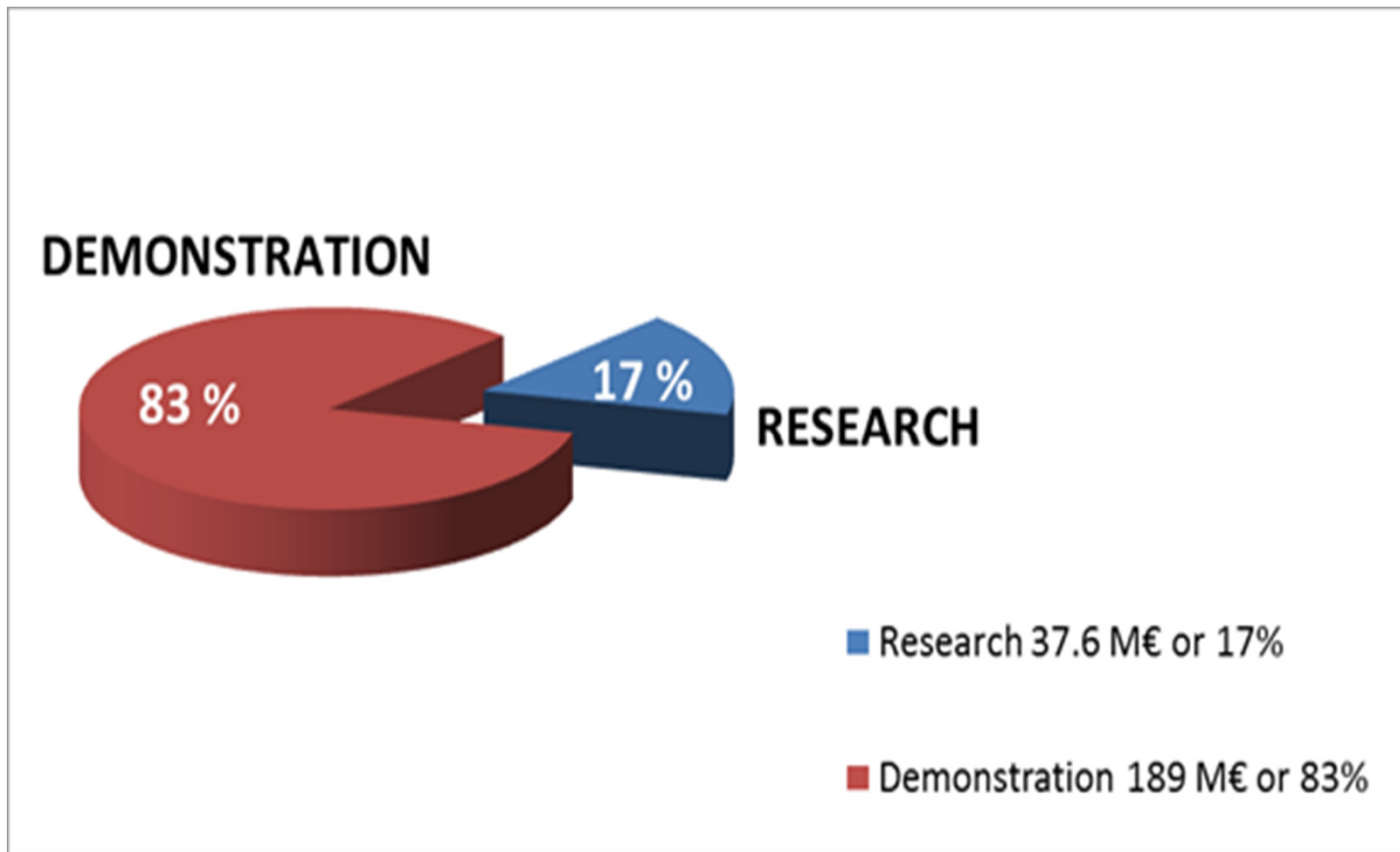
Biological Processing

Thermochemical Processing



Adding value to biomass by processing to 2nd generation biofuels

Total FP7 budget RD&D Biofuel 2G projects = 227 M Euro





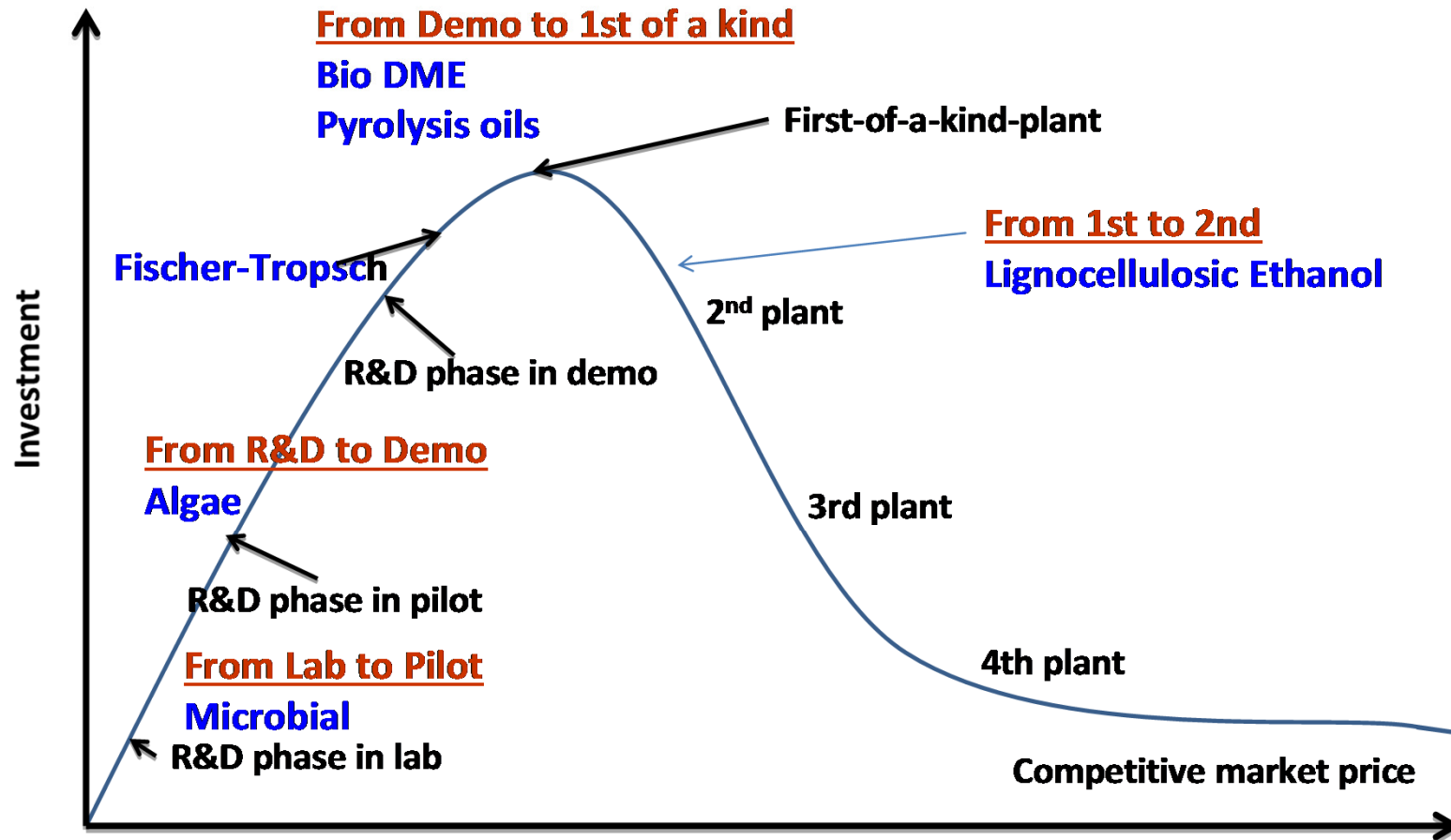
NER 300 projects

Project	Biofuel	Member State	Funding MEuro
Ajos BTL	Fischer-Tropsch	Finland	88,5
BEST	Ethanol	Italy	28,4
CEG	Ethanol	Poland	30,9
UPM Stracel	Fischer-Tropsch	France	170,0
Woodspirit	Methanol synthetic	Netherlands	199,0
GoBiGas Ph 2	Biomethane	Sweden	58,8
Verbio Straw	Biomethane	Germany	59,1

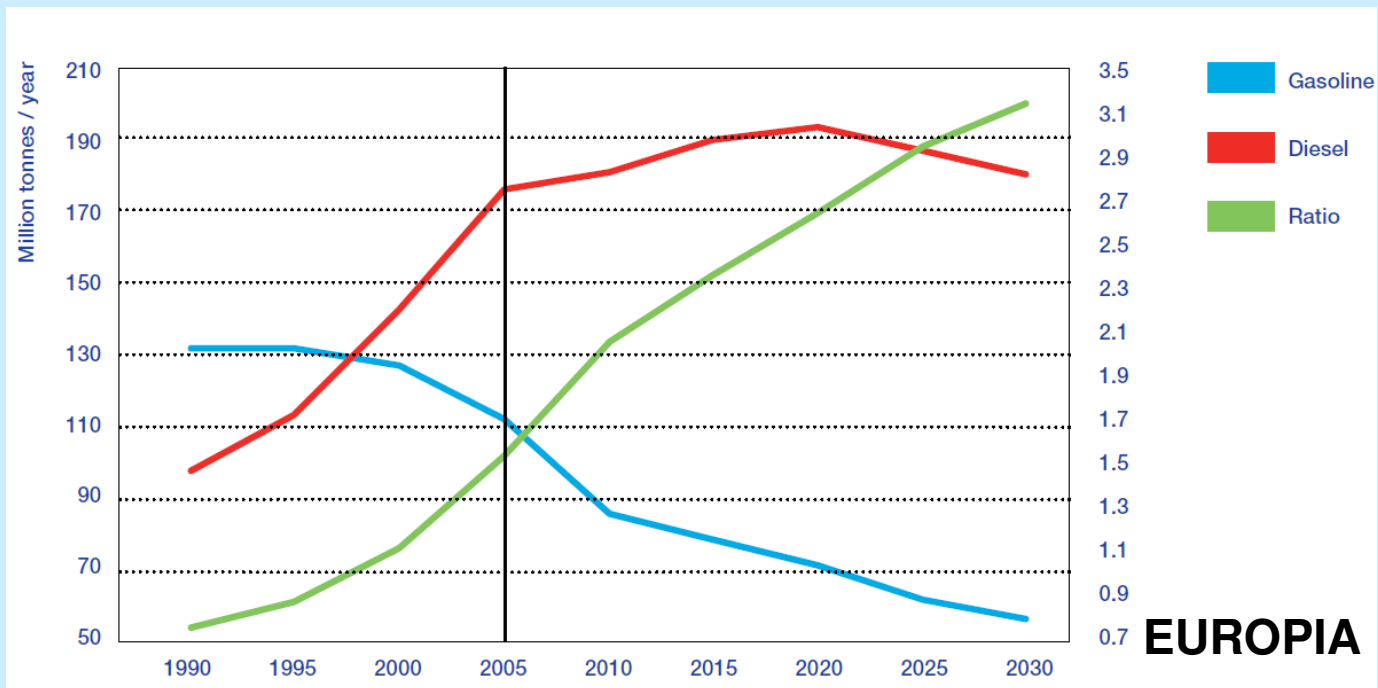




Technology Valley of death : Positioning of FP7 supported technologie:



Diesel/Petrol balance continues to increase



Ethanol in diesel market
Ethanol to bio-jet



The European Biofuels FlightPath Initiative

2 MTons of Aviation BioFuels in 2020 = 4% of EU fuel consumption

Cross Industry & government collaboration and consensus



By 2015:

- Set-up financial mechanisms
- Secure sustainable feedstock production to feed 3 refineries
- Construct 3 new refineries and launch Biofuel production
- Manage communication strategy

Objective → 3 Refineries
Cost → 1.300 M€

By 2018:

- Regular commercial flights using bio-jet fuel blends
- Construct 4 additional refineries
- Construct 2 additional refineries producing algal & microbial oil based aviation Biofuels

Objective → 6 Refineries
Cost → 1.700 M€

By 2020:

- Full deployment of at least 2 million tons of biofuels per annum for EU aviation

9 Refineries
and 3.000 M€ total Cost

Conclusions

- **Biofuels remain essential for addressing current climate and energy challenges**
- **Advanced biofuels are particularly important in this respect and are promoted through**
 - **Regulatory measures (ILUC)**
 - **RTD measures (Horizon 2020)**

