



Support of bioenergy and advanced biofuel technologies in the Horizon 2020 Work Programme "Secure, Clean and Efficient Energy"

Thomas SCHLEKER, PhD

European Commission
DG Research & Innovation
Renewable Energy Sources

Outline

- EU Energy Policy framework
- EU-Energy Research Policy framework
- Opportunities and Challenges for Bioenergy and Advanced Biofuels from R&D perspective

Vice-President for Energy Union Maroš Šefčovič at the Energy Union Conference, Riga 06/02/2015

*"...We now have a unique opportunity to look beyond energy and climate policy and **link it up with other areas** such as **industrial policy, transport, competition, agriculture, foreign, trade and development policy, or research**. This is the only way to transcend the so-called contradiction between '**competitiveness**' and '**decarbonisation**'. There is no such contradiction, we need both at the same time"*

The 5 dimensions of the EU's Energy Union Strategy

- Security, solidarity and trust
- A fully-integrated internal energy market
- Energy efficiency
- Climate action – decarbonising the economy
- Research, innovation and competitiveness



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2030 climate and energy Framework

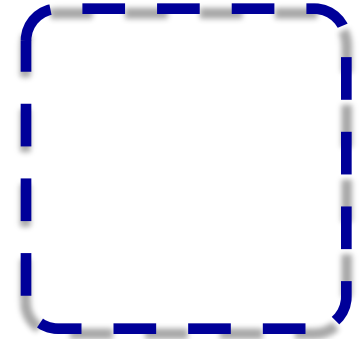
2020

20 %
GHG

20%
RES

10 % RES
in
transport

20 %
EE



2030

40 %
GHG

27 %
RES

No target
in
transport



27 %
EE

New Key
Indicators

New governance system

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SET PLAN CEEC 2016

TOWARDS A TRANSFORMED EUROPEAN ENERGY SYSTEM
WITH THE NEW RESEARCH, INNOVATION AND COMPETITIVENESS
STRATEGY

30 November - 2 December 2016 | BRATISLAVA

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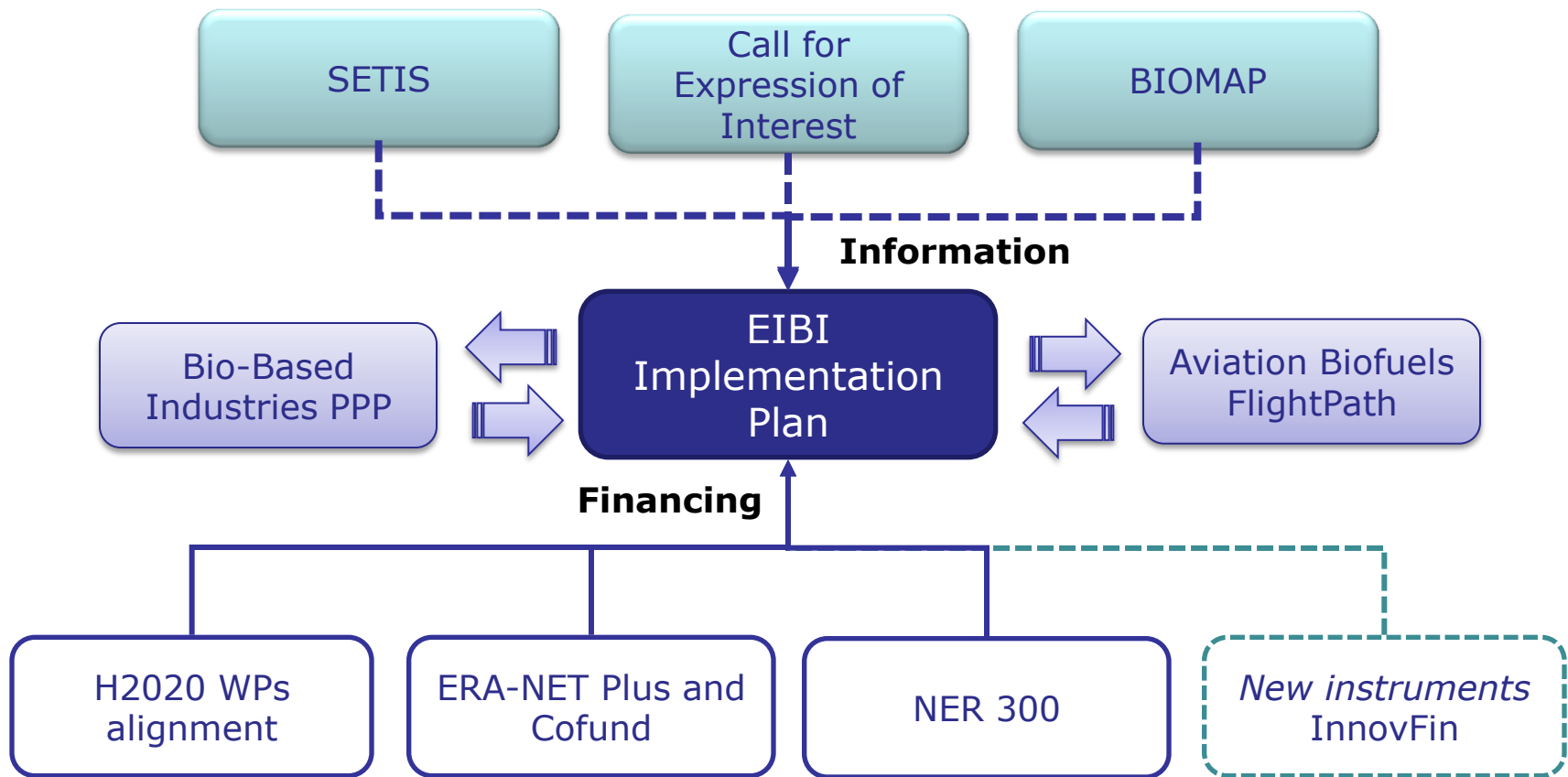
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The SET-Plan: coordinating research and innovation across Europe

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

- **Includes stakeholder platforms**
(ETIP-Bioenergy, RHC-ETIP)
- ***Towards an Integrated Roadmap***
puts forward key research and innovation actions
- ***Towards an Integrated SET-Plan***
in the context of the Energy Union C(2015) 6317 final

EC support to advanced biofuels/bioenergy



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2nd Gen. / Advanced Fuels: Road to Market

Current status: ~ 5% biofuels in road transportation

<< 1% 2G + advanced biofuels

EIBI activities in 7 value chains

CORE

Industrial projects of European relevance, with a potential for large scale deployment



DEMONSTRATION
Last pre-commercial step



FLAGSHIP
First commercial units

COMPLEMENTARY

Longer-term R&D



Biomass supply



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RHC Platform: Biomass Technology Roadmap 2014

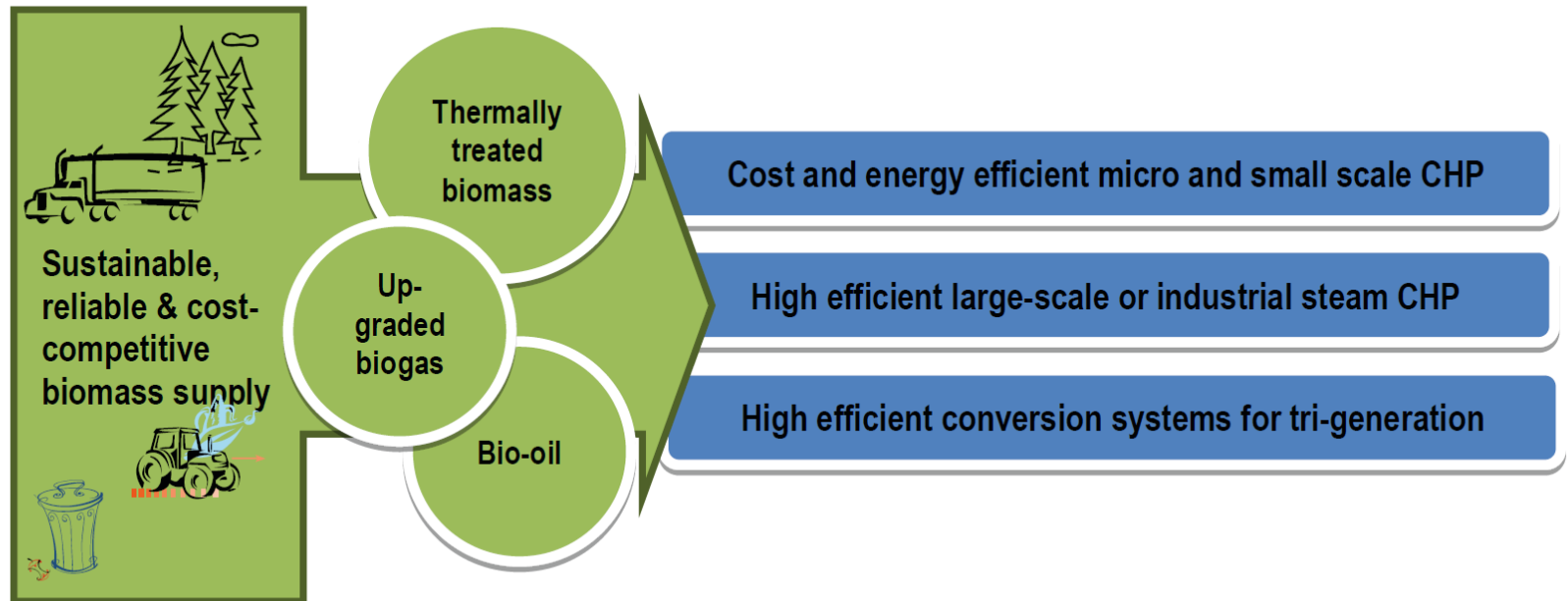


Figure 1 - Value chain approach

Advanced Biofuels – Strategy

Overall strategy is to target the following sector challenges:

- Technology and cost competitiveness
 - ✓ Technology improvement and diversification
- Feedstock availability
 - ✓ Feedstock diversification
- Commercialization
 - ✓ Focus on particular transport sectorial needs
 - ✓ Aligned market up-take measures

Strategy for research in the area of CHP

- To increase the technology performance, feedstock basis and resource efficiency with the aim to improve cost effectiveness and reduce emissions
- To develop energy intermediates as storable renewable energy source in integrated systems



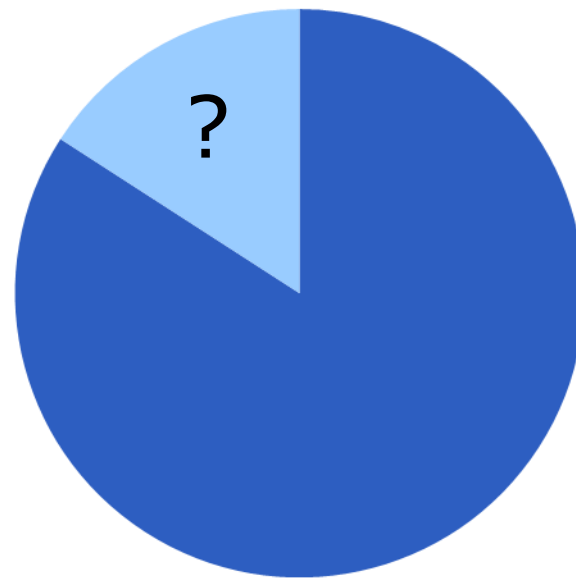
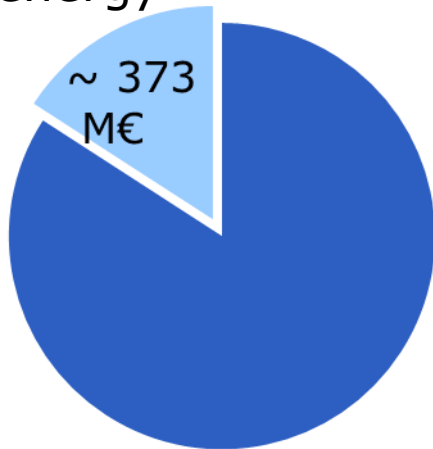
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Energy Budget in FP7 and Horizon 2020

FP7: 2350 M €

HORIZON 2020: 5931 M €

Bioenergy



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Bioenergy in Horizon 2020 WP 2014/2015

Bioenergy

LCE 1: New knowledge and technologies (TRL 2 – TRL 3-4)

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

Advanced Biofuels:

LCE 11: Developing next generation technologies for biofuels and sustainable alternative fuels (TRL3-4 –TRL 4-5)

LCE 12: Demonstrating advanced biofuel technologies (TRL 5-6 – TRL 6-7)

CHP:

LCE 2: Developing the next generation technologies of renewable electricity and heating/cooling (TRL3-4 –TRL 4-5)

Bioenergy in Horizon 2020 WP 2016/2017

General topics:

LCE 06: New knowledge and technologies (– TRL 4)

LCE 07: Developing the next generation technologies of renewable electricity and heating/cooling (– TRL 4-5)

LCE 21: Market uptake of renewable energy technologies

Advanced Biofuels:

LCE 08: Developing of next generation biofuel technologies (TRL3-4 –TRL 4-5)

LCE 19: Demonstration of the most promising advanced biofuel pathways (TRL 5-6 – TRL 6-7)

LCE 20: Enabling pre-commercial production of advanced aviation biofuel(TRL 5-6 – TRL 6-7)

LCE 22: International Cooperation with Brazil on advanced lignocellulosic biofuels

Bioenergy in Horizon 2020

Running Projects: currently >130 Mio. €

RIA

LCE2: Bio-HyPP, FlexiFuel-SOFC, Residue2Heat, FlexiFuel-CHX

LCE7: Bioefficiency, HiEff-BioPower

LCE8: BioMates, FLEDGED

LCE11: Photofuel, ButaNexT, MacroFuels, WASTE2FUELS, BABET-REAL5, SUN-to-LIQUID

LCE33 (ECRIA): Ambition, BALANCE

IA

LCE12: 2G BIOPIC, STEELANOL

CSA

LCE14: Bin2Grid, Bioenergy4Business, BioRES, BIOSUR, greenGain, SECURECHAIN,
BioVill, FORBIO, Biomassud Plus, SEEMLA, ISAAC, BiogasAction, uP-running, ISABEL

LCE20: BioEnergyTrain

+ ERA-NET Cofund BESTF 3



Bioenergy in Horizon 2020 WP 2018-2020

The WP2018-2020 is expected to be launched in October 2017

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Jean-Claude Juncker, President of the European Commission

From the political guidelines:

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

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HORIZON 2020

Thank you for your attention!

Find out more:

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