



4th UNI-SET Energy Clustering Event

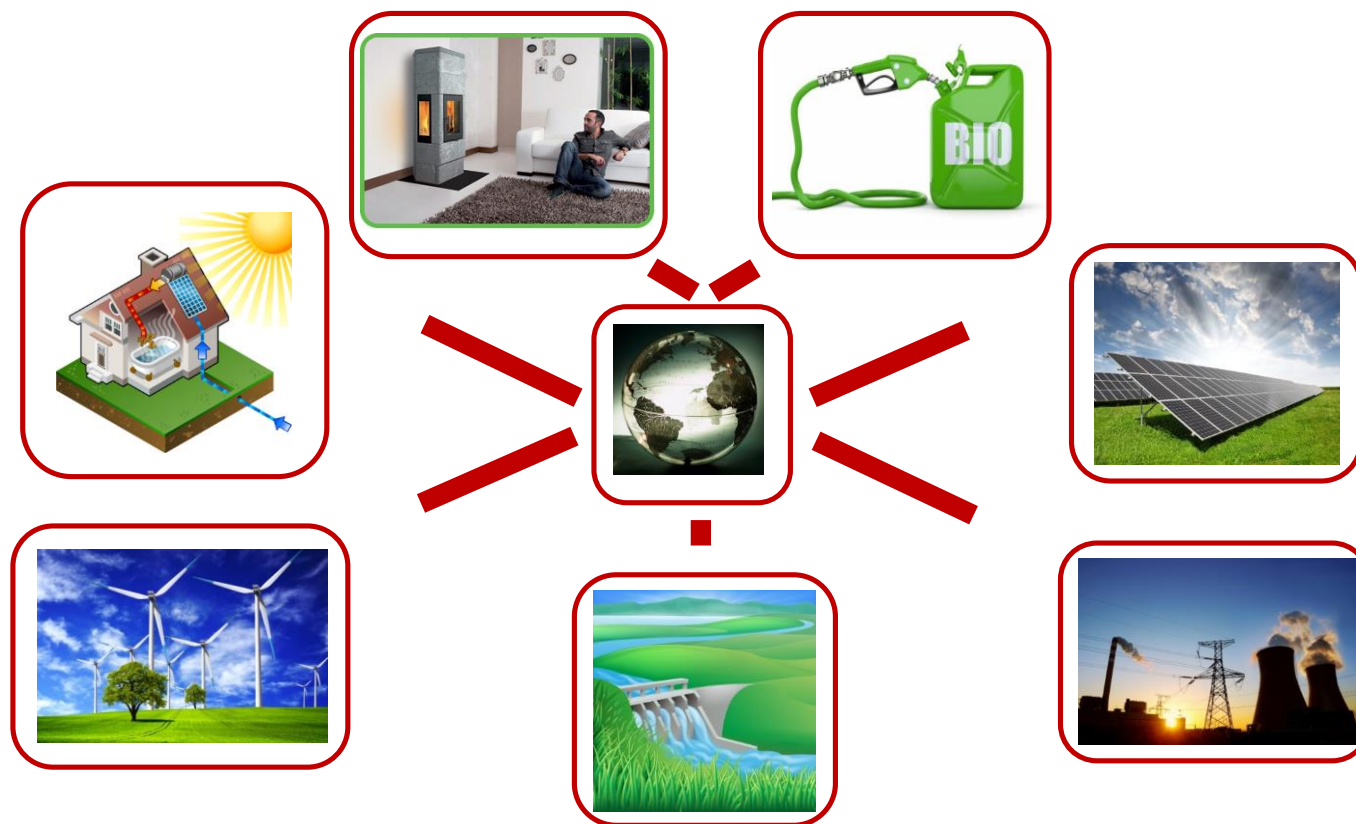
**Universities in the Energy Transition: Focus
on Sustainable Transport and Carbon
Capture, Storage and Use**

Imperial College London, 27-28 March 2017

Berta Matas Güell

EERA Joint Programme Bioenergy
Management Board Member

Bioenergy – new challenges



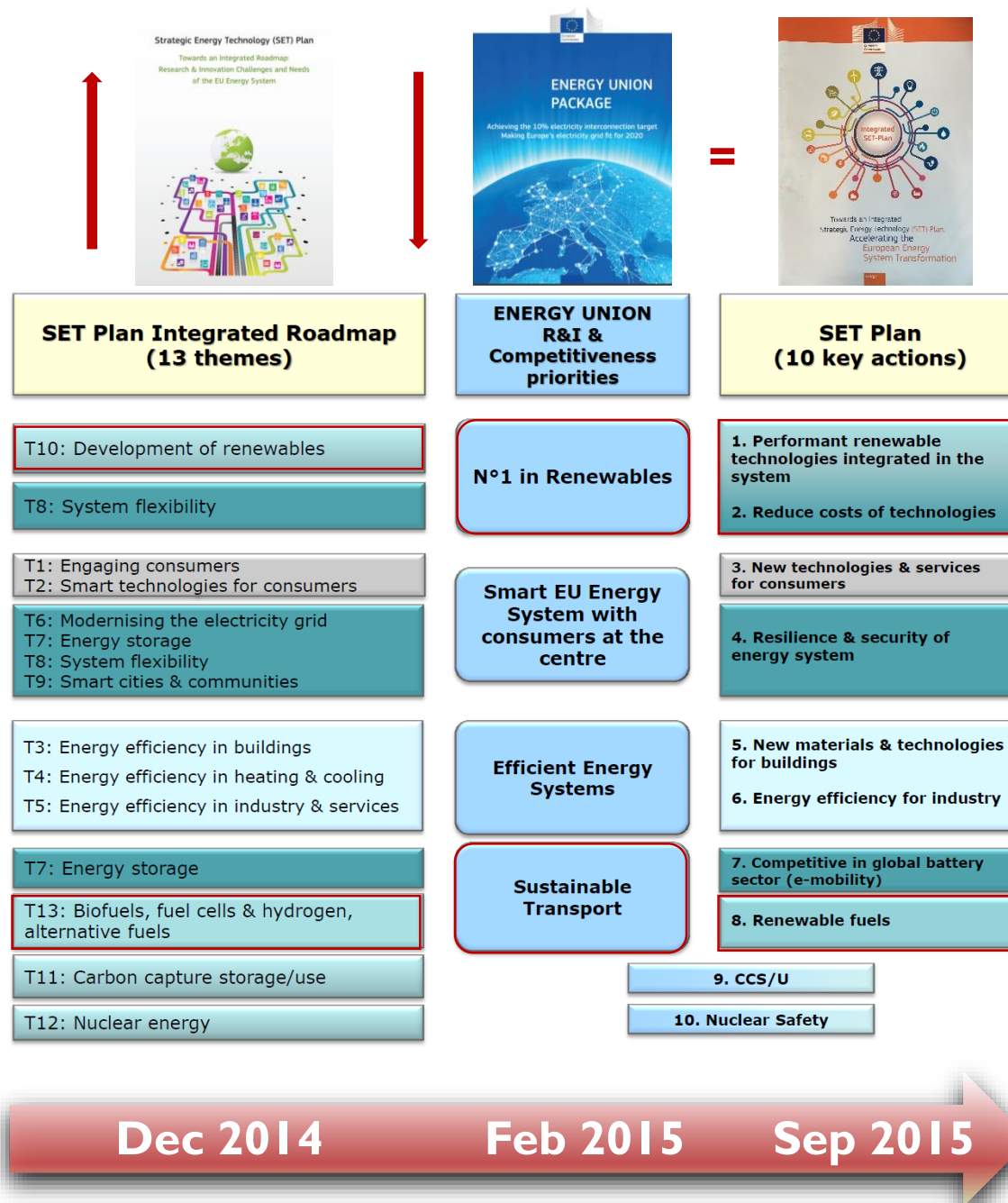
Bioenergy in the context of future energy mix including hybrid technologies

Bioenergy – new challenges



Bioenergy in the context of the biorefinery production and bioeconomy

THE NEW SET-PLAN: PRIORITIES

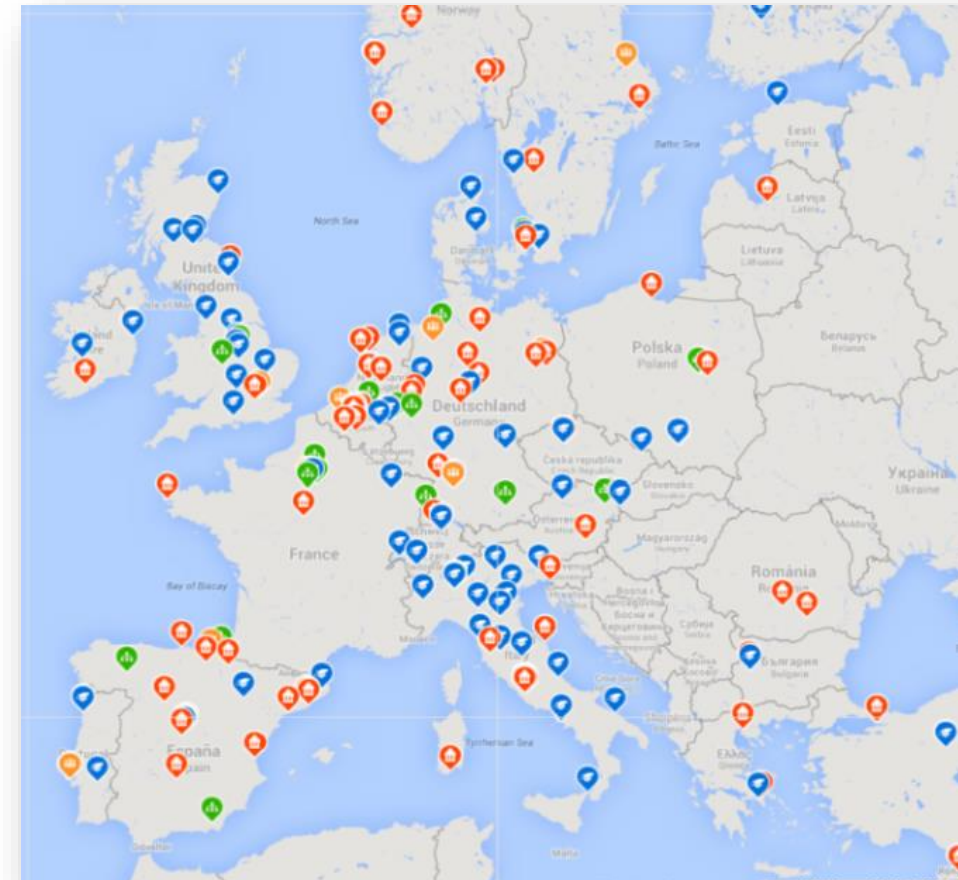


New R&I activities

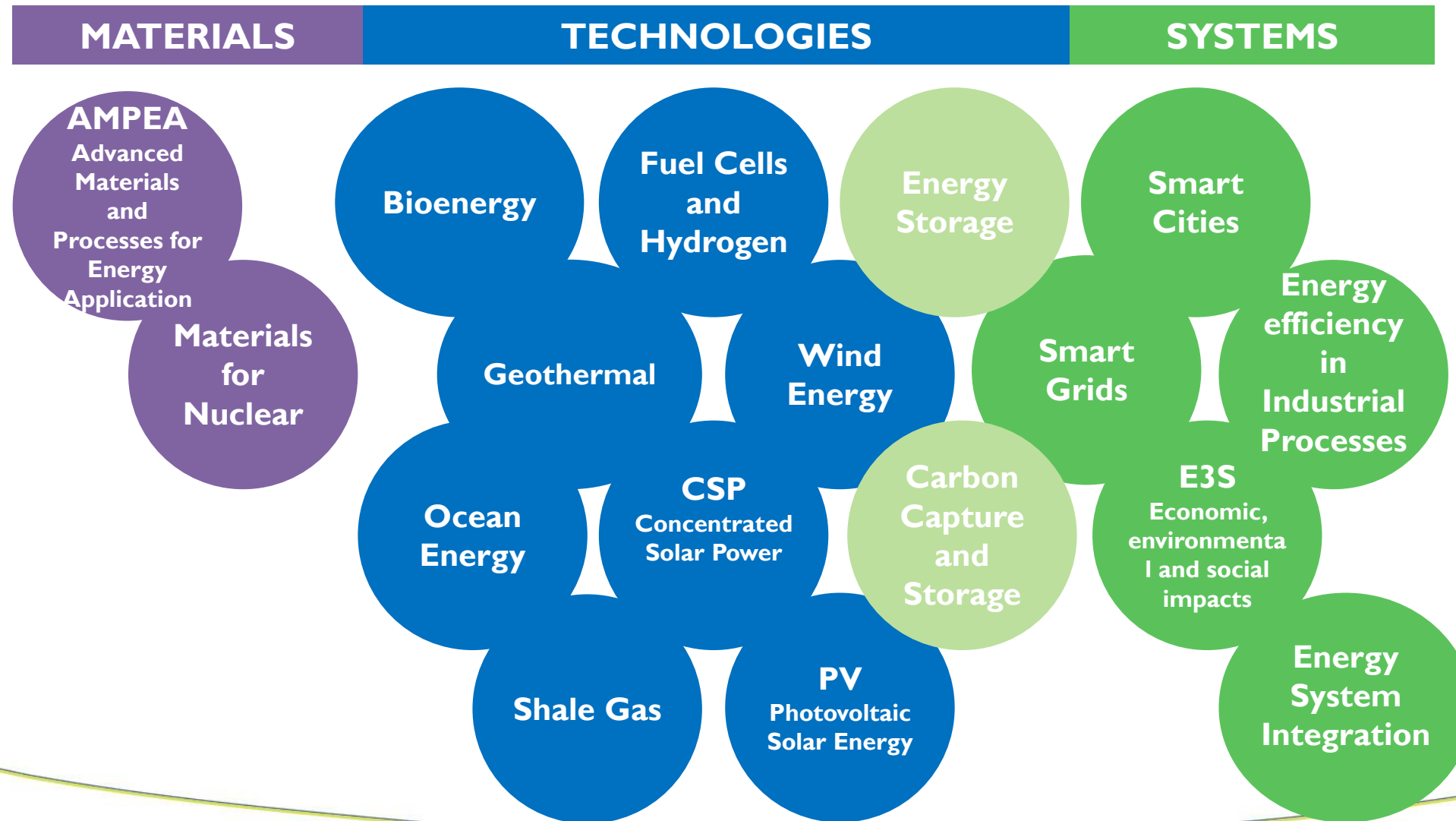


European Energy Research Alliance

- The key actor in European energy R&D
- EERA strengthens and expands Europe's capabilities in sustainable energy research by connecting European energy research activities
- A cornerstone of the European Strategic Energy Technology Plan (SET-Plan)
- Bringing together 175+ research organisations
- 17 Joint Programmes
- Covering 24 EU member states + Turkey, Norway and Switzerland
- Approx. 90% participation in FP7 projects in energy
- Collaborating with European industry through European Technology Platforms, European Industrial Initiatives and other partnerships
- Promoting national research alliances with a track record of 7 national alliances
- Global outreach

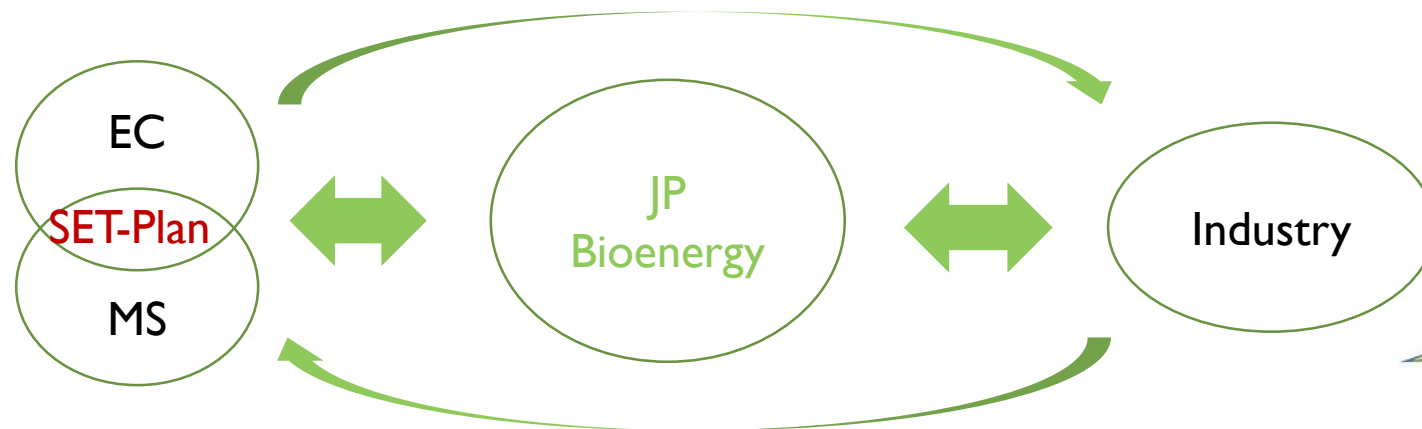


European Energy Research Alliance

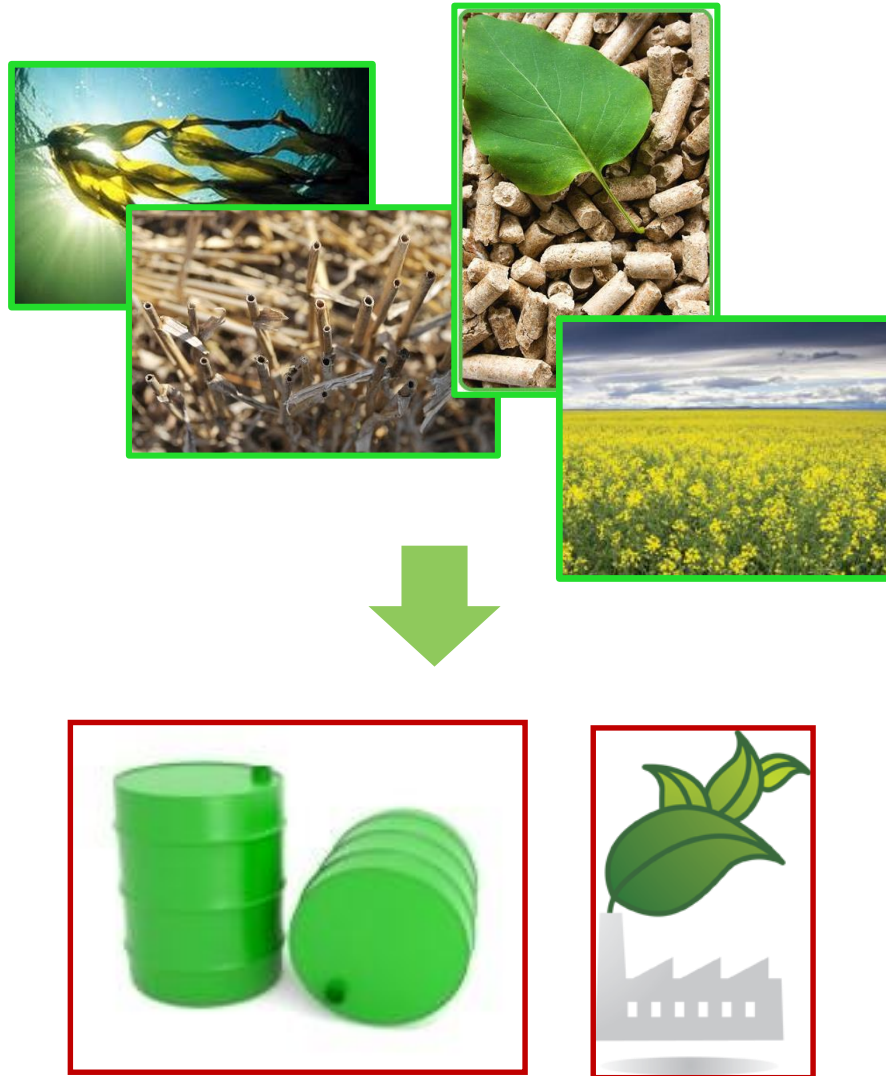


EERA JP Bioenergy – Objectives

- Overall objectives
 - **ALIGN** research activities at EERA JP bioenergy institutes to give a technical-scientific basis to further development of **advanced bioenergy** routes and to promote the possibilities for **joint** technology development, in order to contribute to accelerate the objectives of the **Set Plan**
 - **ALIGN** research **national agendas** within bioenergy
 - **ALIGN** research activities at **EERA JP bioenergy** institutions with **industrial priorities**



EERA JP Bioenergy – Current focus areas



ENERGY MIX
Bio

BIOECONOMY
BIOREFINERIES

EERA JP Bioenergy – Current focus areas

Number of participants: 37
Number of universities: 11
Number of countries : 18

Joint Programme
Steering
Committee



Joint Programme
Management
Board



JP Coord: J. Carrasco – CIEMAT

SP1 Coord: J. Kiel – ECN

SP2 Coord: F. Girio - LNEG

SP4 Coord: J. Tayeb- INRA

SP5 Coord: B. Matas-Güell - SINTEF

SP1
Thermochemical
Platform

SP2
Biochemical
Platform

SP4
Feedstock
production and
sustainable biomass

SP5
Stationary
Bioenergy

Biomass upgrading

Gasification

Gas cleaning and
processing

Cell factories

Biomass
deconstruction

Hemicellulose and
lignin

Agro and forest
biomass

Alternative carbon
sources

Sustainability
scheme

System studies

Residential heating
and cooling

Industrial CHPC

Multifuel
operation



**Process for
defining new DoW
started!**

EERA JP Bioenergy – Partners

● PARTICIPANTS
● ASSOCIATES



Universities @ EERA JP Bioenergy



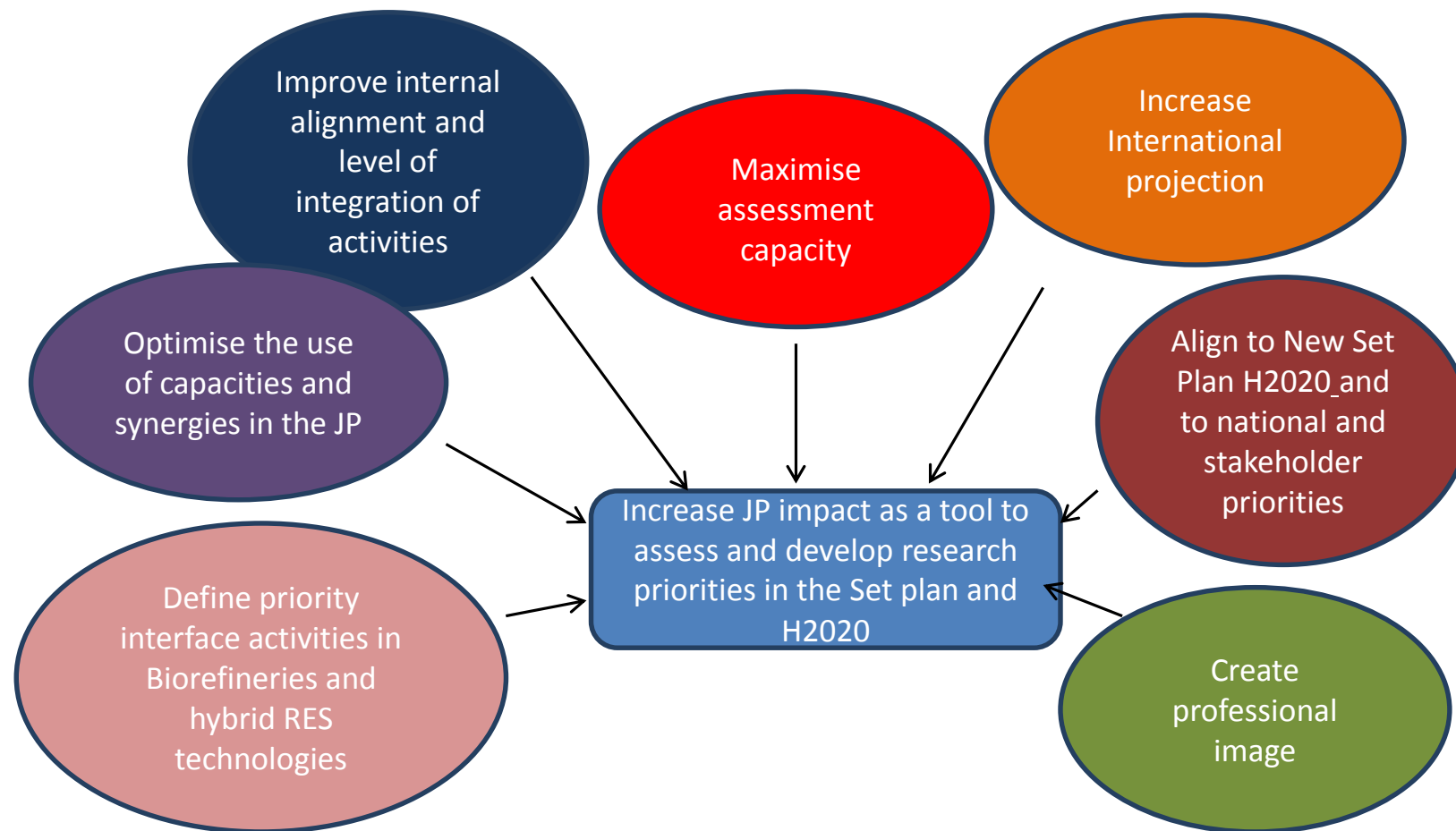
• PARTICIPANTS (3)

- KIT - The Research University in the Helmholtz Association (Germany)
- ASTON UNIVERSITY - UKERC (United Kingdom)
- WUR. Wageningen University & Research (The Netherlands)

• ASSOCIATES (7)

- Department of Energy Technology - Aalborg University (Denmark)
- IFK Stuttgart. Institute of Combustion and Power Plant Technology – Universität Stuttgart (Germany)
- NTUA. The National Technical University of Athens (Greece)
- UNIBO. Università di Bologna (Italy)
- Università degli Studi di Padova (Italy)
- Università degli Studi di Perugia - CRB - Biomass Research Centre (Italy)
- VŠB. Technical University of Ostrava (Czech Republic)

EERA JP Bioenergy – Process for DoW 2018-2020



EERA JP Bioenergy – Process for DoW 2018-2020

HWG

SP1 WG

SP2 WG

SP4 WG

SP5 WG

Phase 1

- Working groups established
- Co-ordinated working programme HWG and WGs and final working calendar defined

Phase 2

- Mapping of JP participants, expertise, infrastructures and interests
- Priorities in interfaces on hybrid RES Technologies and Bio-based economy fields
- Value chains and Technologies assessment.
- Co-operation areas/activities among SPs

Phase 3

- Structure and priority activities of the JP defined
- First JP 2018-2020 DoW draft. Integrated version of the WGs

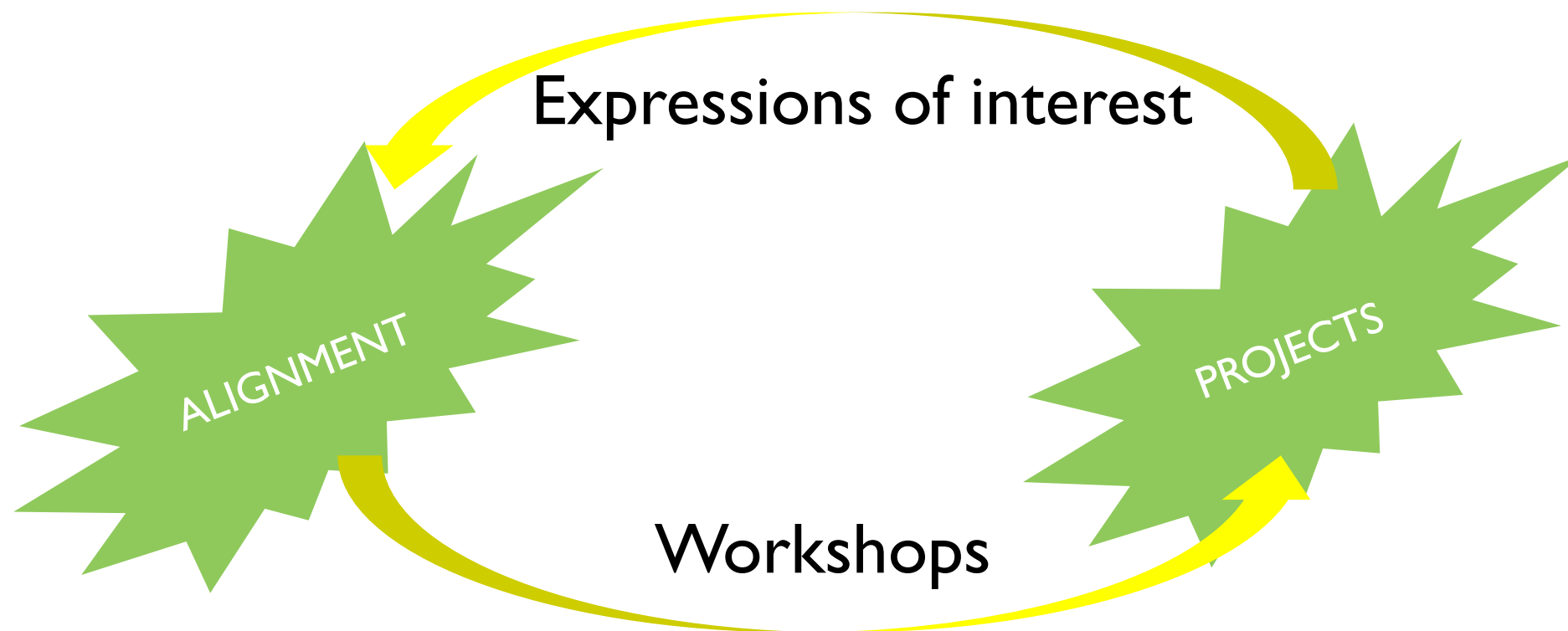
Phase 4

- Comments to DoW by all JP participants and final draft.
- JP 2018-2020 DoW draft approval

Phase 5

- Editing and publication of Bioenergy Global view paper.

Tools to achieve EERA JP Bioenergy's objectives




Alignment – EC/MS

- Contribution to Issue Papers on renewable fuels (#8)
 - Workshop on the preparation for Issue Papers on bioenergy - **prior issuing!**
 - Close dialogue with the EC and European industrial associations



Alignment – Industry

- Arrangement of dedicated workshops in existing international events



2015 ACTIVITIES

Gas Analysis Workshop, Vienna

Vienna, Vienna, ECRG
Planned with the following via web, connecting point

Contact and registration
Dr. Mark Hultquist Tel: +49 30 314 20302
registration email: gas-analysis@eera.eu
updated information: www.gas-analysis-workshop.org


Thursday June 4th, 18:00 - 22:30 h

Time	Topic of discussion
18:00 - 20:30	Dinner at hotel

Friday June 5th, 08:30 - 17:00 h

Time	Topic of discussion
08:30 - 09:30	Registration
09:30 - 10:00	Welcome and introduction to workshop, working group and framework conditions
10:00 - 10:30	Needs and challenges for gas analysis from industrial and scientific perspective
	• CWP application
	• Sample application
10:30 - 11:00	20 min presentation (20 min discussion)
11:00 - 11:30	Coffee break & individual discussion
11:30 - 12:00	Learning from and outlook for round robin measurements at long scale
	2 x 15 min presentation (10 min discussion)
12:00 - 13:00	Lunch break
13:00 - 14:00	The measurement: Options as offline and on-line approaches for research and industrial application
	2 x 15 min presentation (10 min discussion)
14:00 - 14:30	Quality control: Calibration, standard and gas permeability
	2 x 15 min presentation (10 min discussion)
14:30 - 15:00	Coffee break & individual discussion
15:00 - 16:00	Discussion: Analysis and needs for analysis of complex streams and others as well as analytical instruments such as FTIR and others
	2 x 15 min presentation (10 min discussion)
16:00 - 17:00	Summary of the workshop and next steps
17:00	End of meeting

Dr. Mark Hultquist, Dr. Hultquist, Dr. Hultquist, Dr. Hultquist



International Symposium, Lund, 4th November, 2015
(2.3-Biorefineries/Hemicellulose and Lignin)

Workshop: EERA Bioenergy 2nd Lund Symposium on Lignin

4th November 2015, Palaestra, Lund

In this second Lund Symposium hemicellulose valorisation will be place at Palaestra in Lundagård


The programme will start on Nov key note presentation and the m

Confirmed speakers include:

- Michael O'Donohue, INRA
- Tim Bugg, University of Warwick
- Richard Gosselink, Wageningen
- Gudbrand Rødsrud, Borrega
- Maija Tenkanen, University of Helsinki
- Christian Hultberg, Lund University
- Patrick Adlercreutz, Lund University
- Emma Master, University of Luleå
- Paul Christakopoulos, Luleå

For further details and to register

EERA Sub Programme Leader
Organising Committee: Gunna M Gorwa, K Willquist, H Ståhlbrand



2015 EERA- BIOENERGY WORKSHOPS STATUS

No.	Topic	Date	Location	EERA Bioenergy Organizer	STATUS
1 ★	JP Europe-Asia Biomass Development Forum	June 15	Vienna	J Carrasco (CIEMAT)	Held on schedule
2 ★	JP. EERA Bioenergy: Your Partner in Advanced Bioenergy Research	June 15	Vienna	J Carrasco (CIEMAT)	Held on Schedule. Very poor attendance
3 ★	SP1& SP 5: Gas Analysis Workshop	June 15	Vienna	J Kiel (ECN) and M Becidan (SINTEF)	Held on schedule
4	SP5: Current Activities and New Project Ideas	June 15	Petten	M Becidan (SINTEF)	Held on schedule.
5 ★	SP2: Targeting the European Advanced Biofuel Industry Needs through EERA Bioenergy Collaborative Research in Europe	June 15	Brussels	F Girio (LNEG)	Held on schedule
6	SP2: Developing Lignin and Hemicellulose Platforms to Other Commodities.	Nov 15	Lund	F Girio (LNEG)	Held on schedule
7	SP2: Developing Lignin and Hemicellulose Platforms to Other Commodities.	Nov 15	Lund	F Girio (LNEG)	Held on schedule
8	SP1 R&D Roadmaps for Biomass Upgrading Technologies	Oct. 15	Birmingham	J. Kiel (ECN)	Canceled
9	SP3: Joint EABA Demonstration Plants Working Group and SP3	Dec. 15	Portugal	M Barbosa (WUR)	Canceled
10	SP2: Evaluating Current and Novel Pretreatment Biomass Technologies	Sep. 15	Madrid	F Girio (LNEG)	To be held Mar. 10 th 2016
11	SP4: Land Use Aspects	Nov. 15	Paris	B Gabrielle (INRA)	Postponed
12 ★	EERA Bioenergy: Your Partner in Advanced Bioenergy Research	Oct. 15	London	J Carrasco (CIEMAT)	To be held Feb. 2nd 2016.

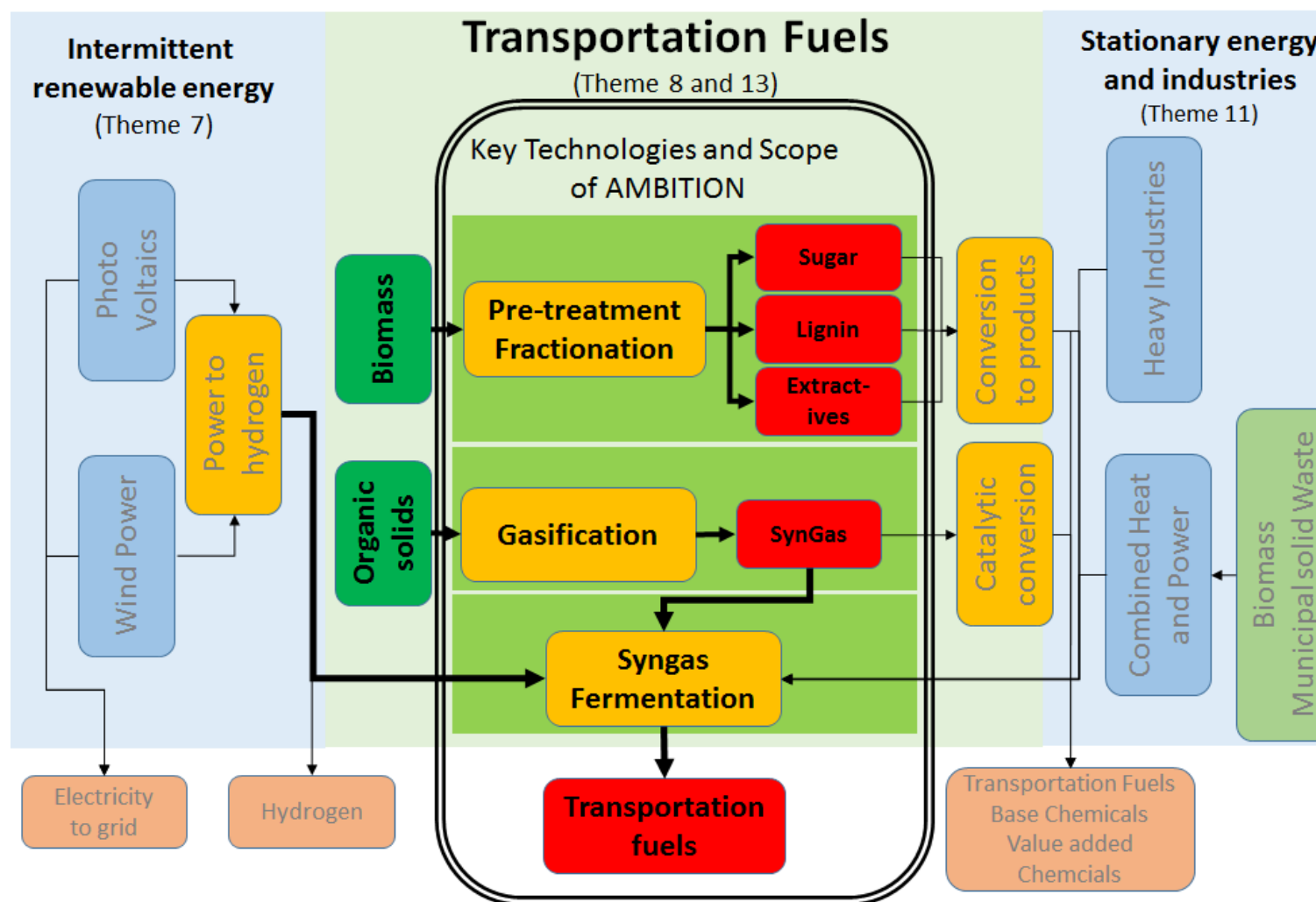
EERA-bioenergy JPSC meeting, Brussels, 13 th, January 2016

Project proposals 2016 as a result of Workshops

	Proposals submitted (Acronym/Coordinator)	Call	EERA Bio Partners	RTO & Univ.	Total number of partners
	BIORAV/LNEG (JP member)	LCE-6	5	6	12
	FLAME/WFBR (JP member)	LCE-6	6	6	6
	HTFLEX/CEA (JP member)	LCE-8	4	7	12
	ECOFUELS/LTU (Non JP member)	LCE-8	2	3	8
	ALG-Ternative/LNEG(JP member)	LCE-8	5	8	12
Granted	BECOOOL/Unibo (JP member)	LCE-22	4	8	14
Granted	AMBITION/SINTEF (JP member)	LCE-33	8	8	8
	BIOMGRIDS/CIEMAT (JP member)	LCE-33	8	7	8
Granted	BRISK II/KTH (non JP member)	INFRAIA01	7	15	15

AMBITION

Advanced biofuel production with energy system integration





THANK YOU

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