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Institute for Environment and Sustainability
Sustainability Assessment Unit

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Imperial College
London

**BIOECONOMY INFORMATION SYSTEM AND
OBSERVATORY (BISO) -
ENVIRONMENTAL SUSTAINABILITY ASSESSMENT**

PROGRESS WORKSHOP

Jointly organised by

European Commission – Joint Research Centre,
Institute for Environment and Sustainability,
Sustainability Assessment Unit

and

Imperial College – London
Centre for Energy Policy & Technology

02 OCTOBER 2015

**JRC INSTITUTE FOR ENVIRONMENT AND SUSTAINABILITY,
VIA E. FERMI 2749, 21027 ISPRA (VA) ITALY,**

IES MEETING ROOM 03 – BUILDING 36B

EXPLANATORY NOTE & AGENDA

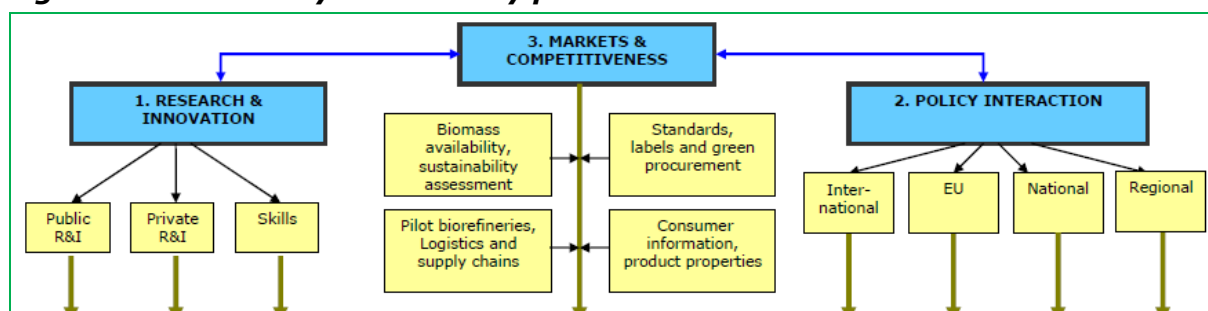
1. Background

The set-up of an EU bioeconomy observatory has been requested in the Commission Communication "Innovating for Sustainable Growth: A Bioeconomy for Europe"¹. More specifically, the "Reinforced policy interaction and stakeholder engagement" action in the Bioeconomy Action Plan foresees the establishment of a *Bioeconomy Observatory, in close collaboration with existing information systems, that allows the Commission to regularly assess the progress and impact of the bioeconomy and develop forward-looking and modelling tools...*".

Following an inter-service agreement, the set of the EU bioeconomy observatory was entrusted to the JRC². The respective project BISO (Bioeconomy Information System and Observatory) started on 01 March 2013 and has duration of three years. The execution of work is split amongst three JRC entities:

- Until November 2014, the JRC Headquarters (unit JRC.A.02) was the ultimate responsible for all deliverables and milestones, and in particular for the research & innovation and policy integration pillars (Figure 1). As of November 2014, those responsibilities were entrusted onto the JRC Institute for Environment and Sustainability (IES) in Ispra (Italy), Unit JRC.H.06 "Digital Earth and Reference Data".
- The JRC Institute for Prospective Technological Studies (IPTS) in Seville (Spain), Unit JRC.J.04 "Agriculture and Life Sciences in the Economy" supports the socio-economic analysis under the markets and competitiveness pillar (Figure 1).
- The JRC Institute for Environment and Sustainability (IES) in Ispra, Italy, Unit JRC.H.08 "Sustainability Assessment" supports the environmental sustainability assessment under the markets and competitiveness pillar (Figure 1).

Figure 1: Bioeconomy Observatory pillars



The analysis under the markets and competitiveness pillar is widely perceived as the most challenging one (compared to the analysis under the other two pillars), due to the massive shortage of coherent data and reliable information on a number of items.

2. JRC approach to the environmental sustainability assessment

Strictly sticking to the guidelines in the Bioeconomy Communication³ and in the Terms of Reference of the policy request⁴, the JRC-IES has opted to chiefly build its research and analytical work upon existing (subject to availability and accessibility) sources, databases and systems at regional, national and supra-national level. The JRC-IES research work is to cover the entire bioeconomy scope (the full and complete bioeconomy chains – Figure 2), while putting special emphasis on monitoring sustainability of biomass conversions and their supply chains.

¹ COM(2012) 60 final, 13.2.2012

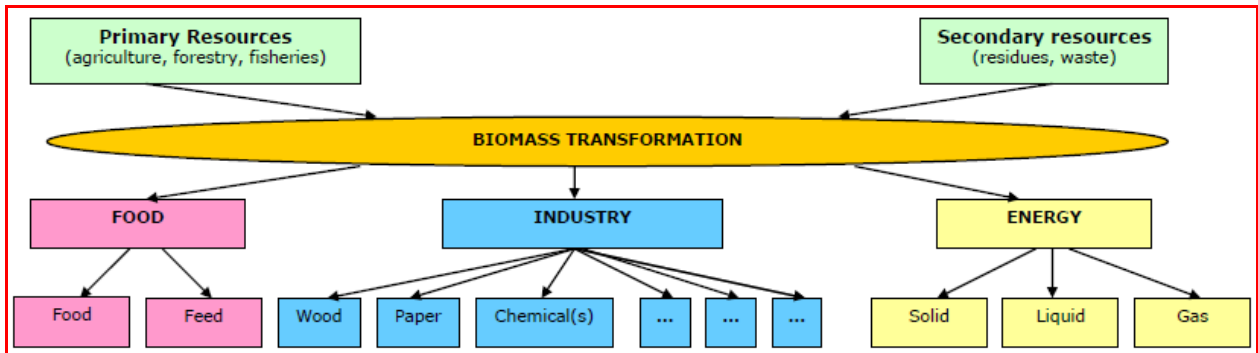
² Grant Agreement R&I / JRC, Ref. 341300 /BISO/

³ COM(2012) 60 final, 13.2.2012

⁴ Work Programme 2013 Cooperation, Theme 2: Food, Agriculture and Fisheries and Biotechnology, European Commission C(2012) 4536 of 9 July 2012.

In line with these guiding principles, the JRC-IES has planned to undertake a thorough critical review of a number of major recent European projects, related to bio-economy, e.g. under FP6 and FP7, IEE programme, EEA activities, OECD and OECD-IEA, FAO, etc.

Figure 2: Bioeconomy chains



3. Environmental sustainability assessment tasks

According to the official workplan, the JRC-IES has to execute to the feasible extent (i.e. depending on the availability and accessibility of trustful data and information) the following tasks related to the environmental sustainability assessment of bioeconomy chains:

- ✓ Developing relevant key environmental indicators concerning biomass production, logistics and use;
- ✓ Comparative life-cycle based assessment of example bio-based products and their supply chains, from the primary production of biological resources to end-of-life processes;
- ✓ Sustainability assessment:
 - Designing minimum sustainability criteria for biomass production, mobilization and its industrial applications (e.g. in terms of resource efficiency, GHG emissions, land use change, forest exploitation, etc.);
 - Elaboration/integration of comprehensive, multi-criteria sustainability assessment tools for both existing and emerging bio-products' (e.g. bio-based chemicals, bio-based plastics, enzymes, bio-based materials, biofuels) performance, in terms of environmental impact;
 - Developing methodological tools for tracing the bio-products' sustainability criteria compliance across the whole supply chain;
 - Coping with the competing use options of both biomass and land in a multi-sector / multi-region approach;
 - Developing methodological tools for sustainability assessment of the existing and prospective technologies;

4. Goals of this workshop

This workshop, which is co-organised at own initiative by the JRC-IES Unit JRC.H.08 "Sustainability Assessment" and Imperial College – London (The UK), aims at presenting and discussing with both EC and non-EC stakeholders;

- The achieved progress since the last workshop (November 2014) in the environmental sustainability assessment of bioeconomy chains by sectors (food & feed, bio-products and bioenergy from Figure 2);
- The so-identified gaps and consequently – the indicative plans for the future;

5. Indicative Agenda of the Workshop – Friday, 02 October 2015

| | |
|----------------------|--|
| 08:40-09:00 | <i>Delegates check-in & coffee</i> |
| 09:00-09:10 | Welcome – Mr. Constantin Ciupagea (Head of Sustainability Assessment Unit /SAU/, JRC-IES) |
| 09:10-09:25 | <i>Presentation EC services</i> |
| 09:25-09:40 | <i>Presentation EC services</i> |
| 09:40-09:55 | <i>Presentation EC services</i> |
| 09:55-10:10 | <i>Presentation EC services</i> |
| 10:10-10:25 | Bioeconomy: A Vision for sustainable & efficient biomass use – Mrs. Calliope Panoutsou (Workshop Co-coordinator, Imperial College – London) |
| 10:25-10:40 | Questions & Answers |
| 10:40-11:00 | <i>Coffee break & discussion</i> |
| 11:00-11:10 | Environmental sustainability assessment in the framework of EU Bioeconomy Observatory – Mr. Boyan Kavalov (Workshop Co-coordinator, JRC-IES-SAU) |
| 11:10-11:40 | Environmental sustainability assessment: Update on the Food & Feed, Bio-Products and Bioenergy Pillars – Mr. Jean-Philippe Aurambout, Mrs. Cristina Torres de Matos, Mr. Jorge Cristobal Garcia (JRC-IES-SAU) |
| 11:40-12:10 | <i>Update on the visualisation tool, comparative and exemplary LCA analysis, detailed plans for modelling activities</i> |
| 12:10-12:25 | Questions & Answers |
| 12:25-12:30 | Closing remarks – Mrs. Calliope Panoutsou (Imperial College – London) & Mr. Boyan Kavalov (JRC-IES-SAU) |
| 12:30-14:00 | <i>Adjourn lunch and discussion</i> |
| 14:00 onwards | <i>Depart to airport / train station</i> |