EURAGRI work shop

12 June 2014, 10.30 – 17.00

Kowi, 98 rue du Trône. 1050 Brussels, Belgium

**Changing the research and innovation landscape – the case for agriculture in a bioeconomy world**

The Europe 2020 strategy (2010) proposed by the European Commission aims at ‘smart, sustainable and inclusive growth’. The Commission’s bioeconomy strategy (2012) proposes a comprehensive approach to address some of the global grand challenges (i.e. climate change, food security, diminishing fossil fuels) and to promote the bioeconomy as a driver for economic growth. The future bioeconomy will introduce more processing chains to an already complex market for renewable biomass based products, geographically (local, regional and global). This also holds true with regard to chain diversification (commodities, small and complex high value processing chains) further interlinked by the need to fully use and recycle all possible by-products. The bioeconomy depends on new thinking concerning the ways we have organised ourselves as societies and as economies. Thus it relies on diverse and multiple innovation chains to tackle the challenges ahead and to make it viable in the long-run. Horizon 2020 (2013) the actual EU research frame work programme is meant to support this. The focus of the programme has shifted more towards output and impact and on innovation aspects.

As a result in Horizon 2020 the COM introduced for the first time Technology Readiness Levels (TRLs), a measurement of the maturity level of particular technologies, thus providing a common understanding of the respective technology status. TRLs address the entire innovation chain. The scale consists of 9 levels. Each level characterises the progress in the development of a technology from ‘basic principle observed’ (level 1) to ‘actual system proven in operational environment’ (level 9; the TRLs as defined in H2020 are attached as Annex I.).

In our domain, agricultural research and innovation, this scale can be applied to categorise institutions and enterprises dealing with research and innovation concerning all from primary production to any final marketable product or service. This might be helpful as an instrument to address various aspects of the bioeconomy.

During this workshop we would like to invite the participants to discuss if this instrument could enable the diverse actors of the agricultural research and production system to improve the innovation efforts within the sector given the opportunities of the bioeconmy and the constraints of the planetary boundaries.

Positioning the institutions and organisations on the TRLs according to the maturity level of their (technical) outputs might help to discover innovation capacity gaps at national and regional level. It might give insights on how a research and innovation policy should distribute priorities between the scales 1 to 9. In H2020 the TRL scale is used to channel applicants to research funding programmes according to the technology level of the planned output. [[1]](#footnote-1) It might also be used to design research programmes to integrate from the start different actors along the technology innovation scale to make innovation partnerships successful. Thus it might help to more systematically approach issues concerning the mode of cooperation and IPR issues between organisations located at different levels of the TRL. Furthermore, it might help to define the needs of the respective institutions/organisations with regard to a well and appropriately educated and skilled workforce.

However, this one dimensional scale is limited to (technological) market maturity levels of products and services. It does not supply any information on other very important aims of the EU 2020 and bioeconomy strategy that are related to the grand challenges and lie particular within our domain; climate change, food security and decarbonising of the economy. Therefore we propose an extension of the TRLs scale with a further dimension describing the respective actors/players scaling according to sustainability level. Positioning important players of the bioeconomy in such a 2-dimensional system will give an indication on the dynamics of the emerging bioeconmy also with regard to these increasingly pressing problems. It can help us to get clearer insights on our actual movement towards an economy that is willing and capable to respect planetary boundaries. The above mentioned aspects with regard to research programming, communication and dissemination aspects and concerning competencies and skills will still apply but should also be discussed under this 2-dimensional scale.

The establishment of a ‘landscape’ of the many and diverse actors within the broad agricultural research and production system might help to clarify the respective drivers and roles for and of these actors and their interactions in realising a European bioeconomy in a globalised world.

In this context the main questions to be discussed are:

* Will the increased focus on innovation and growth in national and European research programmes actually help to diminish the innovation gap? Are the available institutions/organisations ready to deliver that? Will we need further and/or different designs of research programmes to achieve our targets?
* What influence and consequences has the position of a given institution/organisation/business on its interactions with other institutions positioned at different scales? Are there unexploited synergies with regard to projects, knowledge dissemination and education?
* Can a scale extended with a sustainability dimension differentiate the debate with regard to realising a bioeconmy that will provide sustainability as well as productivity?

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Venue: KOWI, 98 rue du Trône, 1050 Brussels, Belgium

10.30- 10.45 **Welcome and introduction to the workshop**

Bettina Heimann, Secretary General EURAGRI

10.45-13.00 **Session I: TRLs and the innovation effort in the agricultural research, innovation and production system**

Introduction: Christian Huyghe, INRA

Successful interactions and the lack of these between the different actors of the agricultural research, innovation and production system has become under scrutiny in recent years in the effort to address the more and more pressing global challenges.

Would the positioning of the system’s players (research institutions, advisory services, farmers, companies etc.) according to TRLs support their mode of cooperation and help to clarify IPR issues? Could this approach help research and innovation funders to design more effective programmes? How?

13.00-14.00 Lunch

14.00-16.00 **Session II: A 2nd dimension – additional scaling according to sustainability level**

Introduction: Uno Svedin, University of Stockholm

In the face of the global challenges technical readiness cannot stand alone. Innovations to promote the bioeconomy as outlined in the EU bioeconomy strategy need to respect to a higher extend planetary boundaries and global social inclusion to be sustainable in the long-run. Would the positioning of the system’s players in a 2-dimensional landscape, TRLs and sustainability level, support the achievement of this aim? How does the distribution of economic risks among the actors relate to their respective positions and influence interactions between them and their decision taking?

16-16.30 **Comprehensive reflections from the day and summary**

Uno Svedin/Christian Huyghe

1. The status of a given technology/research-innovation project on this scale also has an impact on the programme under which technology developers/researchers can apply for money. For example funding for technologies with lower TRLs is addressed in the Future and Emerging Technologies section of the H2020 Work Programme, while funding for technologies with high TRLs can be found in the ‘Leadership in enabling and industrial technologies’ section.

   [↑](#footnote-ref-1)