



Promoting stakeholder engagement and public awareness
for a participative governance of the European bioeconomy



The future is bright, the future is the European bioeconomy? Exploring sustainability, policy issues and engagement

Proceedings of the first BioSTEP Stakeholder Workshop

14 April 2016, Hotel NH Utrecht, the Netherlands



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KEY MESSAGES

This document summarizes the discussions during BioSTEP's first stakeholder workshop. The following key messages emerged from the discussions:

1. Engagement in the Bioeconomy

- Broad stakeholder and public engagement is a precondition for the development of bioeconomy strategies and projects that are inclusive and reconcile different interests and views; it generates better decisions and outcomes based on different perspectives, types of knowledge and experiences.
- Citizens need to be regarded as stakeholders in the bioeconomy; public engagement should not just be a "talking exercise" - the public needs to be actively involved in the development of bioeconomy strategies.
- A mix of bottom-up (e.g. learning from best practices in other communities) and top-down measures (e.g. changing students' curriculum) is needed.
- Move from consultation towards approaches more tailored to communities (more creative, fun and innovative approaches) – information alone does not bring change.

2. Sustainable Resource Management

- Better knowledge is needed on how to sustainably produce and use biomass.
- Marine biomass and forestry should be given greater consideration in the debate.
- In the long run, biomass will be needed for bio-based materials and products and should not be used for energy production.
- With regard to bioenergy, looking at the demand side would be a more effective approach.
- The construction sector is a sector that could contribute effectively to energy reduction, e.g. by substituting steel and concrete with bio-based materials.

3. Public Acceptance

- Trustworthy institutions should facilitate public engagement at the regional and local levels.
- Best practices from other sectors and debates (e.g. climate change) should be considered when designing public engagement strategies at regional and local levels.
- Increased efforts towards a participative governance of the bioeconomy could enhance and secure public acceptance of biomass-based solutions (i.e. energetic and material use) and the emerging bioeconomy in general.

4. Sustainability Assurance

- The sustainability of the bio-based economy needs to be credibly demonstrated through assurance systems such as voluntary standards and certification.
- Robust, flexible and user-friendly assurance systems for bio-based products need to be developed.
- Besides third-party audits, entry-level processes (e.g. second-party audits, monitoring by societal actors and authorities) should be developed to enhance inclusiveness and stimulate continuous improvement.
- Socio-economic impacts should be addressed in a more stringent manner compared to existing biofuels regulations (RED/FQD) when developing a sustainability framework for bio-based products.
- Stable long-term policies and policy coherence are essential to guarantee a suitable business environment within the bioeconomy.

1 Introduction

BioSTEP's first stakeholder workshop took place on 14 April 2016 in the context of the 4th Bio-Economy Stakeholders' Conference ([BioEconomy Utrecht 2016](#)) in Utrecht, the Netherlands. The aim of the workshop was to identify and discuss challenges, opportunities and policy gaps surrounding the development and strengthening of inclusive bioeconomy strategies across Europe. The workshop [agenda](#) was to a large degree built on the [results](#) of BioSTEP's stakeholder consultation, which took place in November and December 2016. The consultation had identified four key challenges related to the further development of the European bioeconomy, which the workshop took up in the form of four thematic discussions on public engagement, sustainable resource management, public acceptance, and sustainability assurance. The discussions around these four themes are summarized in the following sections.

The workshop was attended by [37 bioeconomy stakeholders](#) from science and academia, consultancies, industry, and the public sector. Researchers from universities and research centres were slightly overrepresented, making up about one third of the participants. While no representatives of non-governmental organisations (NGOs) took part in the workshop, civil-society organisations (CSOs) were represented in the form of business associations and trade unions. Overall, stakeholders came from ten different EU Member States, and stakeholders from the Netherlands, Germany and Belgium (as the official seat of many European associations and institutions) represented the majority of the participants.

This first workshop will be complemented by two further workshops at the regional level, which BioSTEP will organise in the course of 2016. The proceedings of each workshop will feed into a list of targeted policy recommendations for the (further) development of inclusive bioeconomy strategies at the regional, national and European levels. These recommendations will be presented and discussed at a stakeholder conference in March 2017 in Brussels.

2 Thematic Discussion I: Engagement in the Bioeconomy - Opportunities and Challenges

The goal of the first session was to discuss the role of stakeholder and public engagement (SPE) in current bioeconomy strategies, specifically reflecting on current approaches and arising opportunities and challenges. Kate Millar and Barbara Ribeiro from the Centre for Applied Bioethics at the University of Nottingham (UK) facilitated the thematic session.

After kicking off the discussion with a brief [presentation](#) on SPE in current bioeconomy strategies, the workshop participants were divided into four breakout groups. The breakout discussions followed a two-step process: At first, existing challenges related to SPE (one per group) were discussed and the most prominent ones identified. Afterwards, the discussion focussed on the question of what the 'solutions' might be (e.g. policy measures, funding measures, events, etc.) to tackle each of the four most prominent challenges. The main objective of this thematic session was to identify recommendations on how to address the identified challenges related to SPE in the bioeconomy.

Given the diverse backgrounds of the workshop participants and their different motivations for engagement, participants were first asked to elaborate on the question of **why engagement is required** and **at what level** (e.g. national strategy, project). The participants pointed out the need to engage with different stakeholders in order to draw strategies, projects, etc. that are inclusive and reconcile as many different interests and views as possible and to generate better decisions and outcomes based on different perspectives, types of knowledge and experience. Furthermore, the participants stressed the role of public engagement in the social appreciation of the bioeconomy and the successful uptake of new technologies. The participants highlighted the need to anticipate potential future goal conflicts and to identify options for coping with diverging trends and preferences.

Other key insights on the opportunities of engagement are summarized below:

- to share knowledge and expertise with policy-makers;
- to raise awareness of the bioeconomy and elevate its position;

- to develop the concept of bioeconomy: What it is about? What are the positive effects/advantages of the bioeconomy?
- to contribute to a transformation towards more sustainable consumer behaviour;
- to overcome mental barriers (social science needed, also education of school children);
- to make potential trade-offs explicit (e.g. at the regional level);
- to verify results;
- to share and communicate information;
- to set the framework for the bioeconomy;
- to engage with consumers and understand their values in purchasing bio-based products.

With regard to the **level of engagement**, the focus was particularly on the regional level (projects, regional activities, regional clusters, where concrete products were being developed). Nevertheless, all other levels were mentioned too.

On the question of **whom to engage with**, it was pointed out that besides the typical stakeholder groups (policy, industry, research, NGOs, CSOs), other groups exist such as feedstock producers, the general (also uninformed) public, voters and consumers.

With regard to **existing challenges** related to SPE, involving the general public was identified as a key challenge. The participants pointed out that even if we engaged with NGOs and CSOs, they do not necessarily represent a broad mix of citizens. It was further discussed that the current approach to engagement is too academic. Another challenging issue identified by the participants is to overcome the individual short-term interest and to focus on the long-term perspective. The diverging interests among stakeholders and conflict of use (e.g. the diverging views on (optimal) land use, sustainable land use, best use of biomass feedstock, environmental impacts of feedstock) present a major challenge for stakeholder and public engagement. The different kinds of definitions and different levels of understanding and knowledge, the different levels of awareness of all kinds of groups and the wide range of publics and stakeholders are hampering stakeholder engagement, too.

The most prominent challenges and possible ways to address them are summarized below.

KEY CHALLENGES

- How to engage the “normal” people (to motivate and make them feel it is “their” knowledge-based bioeconomy);
- How to move from a narrow (i.e. individual) to a broader view (i.e. societal), including on long-term issues;
- How to manage different levels of understanding (in terms of knowledge and awareness) among stakeholders;
- How to reconcile different interests and concerns and how to prioritise issues (balance).

SOLUTIONS

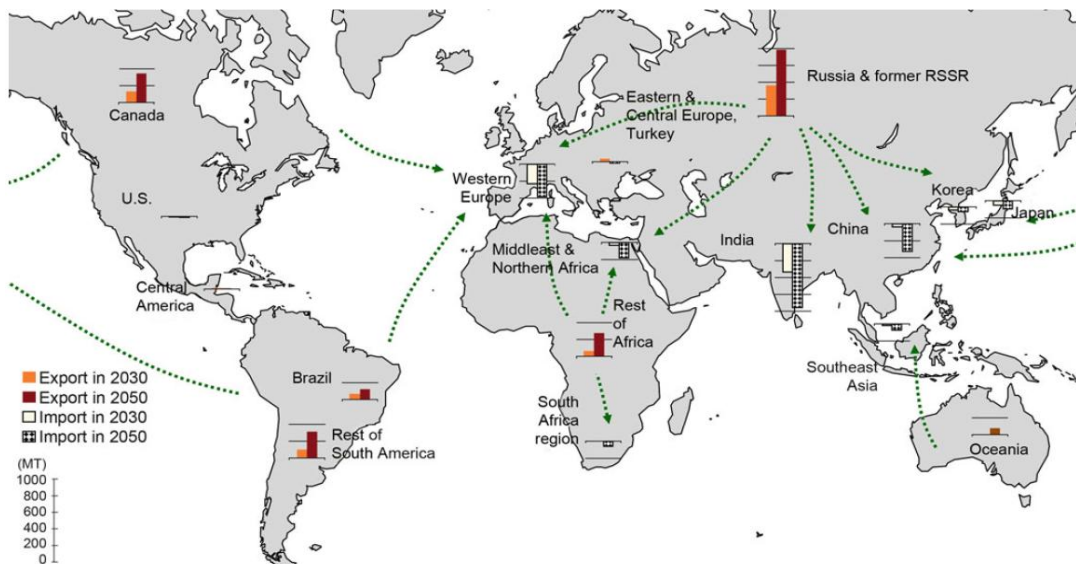
- A mix of bottom-up and top-down measures. First, a more bottom-up approach would include learning from best practices in other policy areas (e.g. climate change, climate change adaptation) and other communities (e.g. climate communities in Germany and Austria) in terms of how they come together and produce change); second, to change students’ curriculums (top-down);
- To find out what citizens care about in order to motivate people to engage (e.g. products) and use them, for example, in science museums and the media;
- Move from consultation towards approaches more tailored to communities (more creative, fun and innovative approaches) – information alone does not bring change; emotion-based responses of the public to the bioeconomy can help mobilize true emotions and values.
- Invest in education (early on in schools);
- Bring industries together to bring different interests and concerns to the surface.

3 Thematic Discussion II: Sustainable Resource Management

The second thematic discussion focused on the environmental and social impacts associated with increasing feedstock production for the bio-based economy. The session was facilitated by Martin Junginger of the Copernicus Institute of Sustainable Development at Utrecht University (the Netherlands). In his introductory [presentation](#), he set the stage for the discussion by outlining biomass resource potentials and key uncertainties related to biomass use, focusing on bioenergy potentials and deployment levels.

Specifically, Martin Junginger outlined that rising energy demand cannot be met by increasing biomass production only. He explained that the demand for biomass for energy would, in the short-run, exceed that for biomaterials. In the short-run, biomass for bioenergy is needed to meet climate goals. In the long run, however, biomass should no longer be used for energy generation (assuming a further increase in e.g. wind, solar, electric cars). He concluded by arguing that with more biomass produced and increased global biomass transport (see Figure 1), the environmental impacts of biomass use would need to be critically analyzed and evaluated.

Figure 1: Global solid trade by 2030 and 2050



For the subsequent discussion, four participants with different backgrounds and stakeholder affiliations (industry, policy, research, consultancy) had been approached by Martin Junginger beforehand to prepare short statements on potential measures that could be applied to address the negative environmental and social impacts of the bioeconomy. The workshop participants stated that more knowledge is needed on how to sustainably produce and use biomass. Marine biomass should also be considered in the debate (while it was stated that, under current conditions, using algae for fuel is too costly). Many of the new technologies (e.g. electric cars) will not be available before 2030-40, while conventional biomass is now available and “we need to work with it while the rest is scaled up.” In the long run, however, biomass will be needed for bio-based materials and products and should not be used for energy production. It was argued that the current discussion focuses too much on agriculture, and that there is a need to include forestry in the discussion, as it holds potential to play a major role in the transition to a bio-based economy (potential to increase forest productivity: tree species, breeding). Particularly with regard to bioenergy, it was argued that looking at the demand side would be a more effective approach; changing behaviours and lifestyles would be required for sustainable resource management and the transition towards a sustainable bioeconomy. The construction sector was pointed out as a sector that could contribute effectively to energy reduction, e.g. by substituting steel and concrete with bio-based materials.

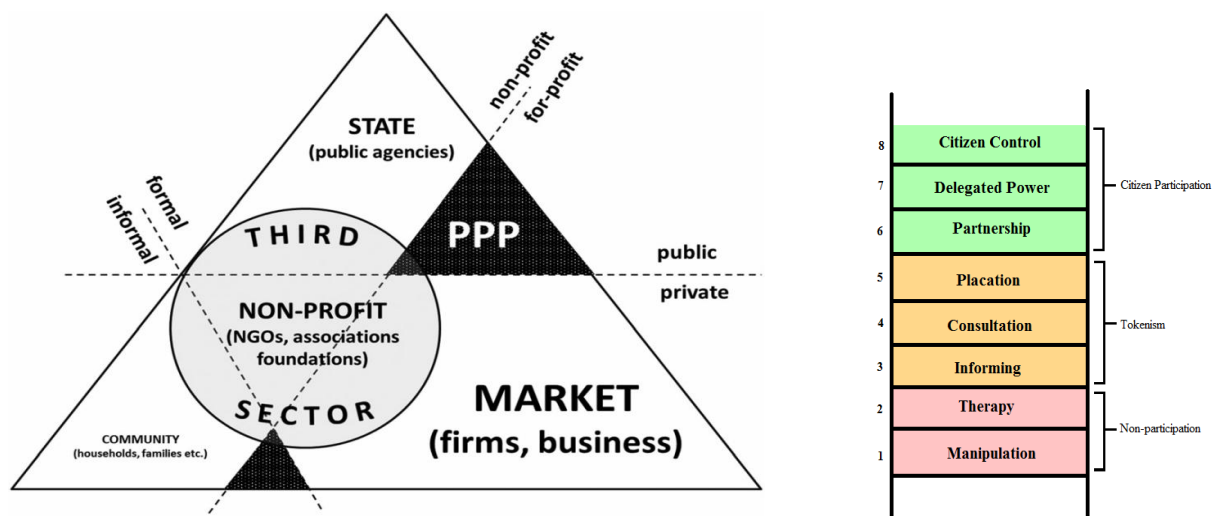
With regard to the design and implementation of sustainable resource management in the context of the bioeconomy, the participants stated that there should be a strong coalition between bioenergy experts and biomaterial experts. They should engage in a constructive dialogue and “join forces against fossil fuels.”

4 Thematic Discussion III: Public Acceptance

The session was facilitated by Volkert Beekman of the Agricultural Economics Research Institute (LEI) at Wageningen University and Research (the Netherlands). The objective of the session was to discuss measures that address issues related to the public acceptance of the bioeconomy, including the problems associated with biorefinery plants in people’s backyards, employment, income levels and distribution, the engagement of NGOs and CSOs in regional biocluster development and mainstreaming bioeconomy at the regional level. Related to the overall theme of the workshop, the session also focussed on the role that wider engagement can play in identifying public acceptance factors.

The introductory [presentation](#) described the concepts that frame the interaction of key stakeholders in regional bioeconomy clusters. First, the constellation of societal actors in a given context was presented as an important factor on which any potential interaction between key stakeholders (state agencies, industry, academia and civil society) is dependent. Within this framework, public participation may take several forms, ranging from direct citizen participation to tokenism to non-participation. The degree of public acceptance depends largely on the mode of participation that is granted to civil society or its representatives.

Figure 2: Multi-actor approach and participation ladder



The following discussion centred on the following questions: Why should stakeholders and citizens be engaged in the further development of the bioeconomy? Who should be engaged and at what stage of the development? How should stakeholders and citizens be engaged?

With regard to the question of **how public acceptance of the bioeconomy could be encouraged**, the workshop participants expressed that “acceptance” might not be the right term - one should rather talk about the “involvement” of the public in dialogues on the bioeconomy. It was held that people need to be able to have an impact, i.e. the option to actually influence decisions at an early point in time. In this context, the current lack of awareness about bio-based products and process and the bioeconomy as such was seen as a major factor that might actually hinder public involvement. It is therefore crucial to “ask the right questions at the right level” and to “use an appropriate language”, talking about concrete, tangible examples of bio-based products and processes. A focus

should be on the personal benefits that the bioeconomy might provide to citizens. With regard to potential institutions that might take the role of communicators and facilitators at regional level, it was stressed that they need to be “trustworthy” (museums were mentioned as examples as they are seen by the public as open and neutral and staff is trained in communicating with the public). With reference to the biodiesel example in the United States, it was also proposed to establish local “ambassadors of the bioeconomy” (actors and other celebrities) who can help promote the bioeconomy. Local news services could also be established to communicate the local benefits of the bioeconomy.

The workshop participants identified a number of **measures that could improve stakeholder and citizen engagement**. It was stressed that citizens should be regarded as stakeholders in the bioeconomy. Narratives should be developed that communicate the benefits of the bioeconomy at regional level. However, no unrealistic expectations should be raised among citizens when communicating the potential impacts of the bioeconomy (“Tell the truth!”). It was stressed that “trustworthy parties” are required to facilitate public engagement at the regional and local levels. Public engagement, in general, should not just be a “talking exercise” - the public should be actively involved in the development of bioeconomy strategies.

5 Thematic Discussion IV: Sustainability Assurance

The goal of the session was to discuss policy measures that could be applied to ensure the sustainability of bio-based products and processes, including voluntary and mandatory sustainability certification of bio-based feedstock, limitations (cap) on production volumes, monitoring of sustainability performance, and incentives to improve sustainability performance. The session was also meant to discuss what role wider engagement can play in defining policy measures.

Sébastien Haye, Sector Leader Sustainability & Resources at E4tech (Switzerland), facilitated the session. He started with an introductory [presentation](#), in which he explained the concept of “assurance” in the context of biomass production and described existing assurance mechanisms in the EU’s Renewable Energy Directive (2009/28/EC) and the EU’s Fuel Quality Directive (2009/30/EC) (RED/FQD). He then referred to the results of BioSTEP’s stakeholder consultation by showing that monitoring of sustainability performance, incentives to improve sustainability performance and mandatory sustainability certification of bio-based feedstock were regarded as the most important instruments for sustainability assurance among stakeholders.

In the following, the workshop participants were divided into four subgroups to discuss the issues of monitoring, continuous improvement, certification and cap on volumes in more detail.

Regarding the **monitoring** of sustainability performance, the guiding questions were what kind of evidence or claims would businesses and civil society like to have, what role third-party audits should play and how relevant logistic constraints are. The three pillars of sustainability (economy, society, environment) framed the discussion. In this context, the need for relevant criteria, indicators and data was stressed. Specifically, reliable evidence is required regarding potential impacts on social well-being, resource abundance, and economic performance. The EU forest sector was put forward as an example where a set of voluntary sustainability criteria is applied and where the EU Timber Regulation (95/2010) already establishes a mandatory due diligence system including monitoring to allow traceability. A monitoring scheme should include social issues and take account of the perceptions of local stakeholders. It was stressed that, on the side of the end-user, it is crucial to create trust into potential labelling schemes. Third-party audits were seen as an effective, however costly, instrument, which might only be feasible for larger companies. Any kind of self-auditing should be managed by a public authority. Issues related to storage and the mixing of fuels were seen as logistic constraints that might hamper the implementation of a monitoring scheme. After all, it was stressed that the monitoring of sustainability performance should also apply to fossil fuel production in order to create a level playing field.

With regard to **continuous improvement**, the discussion centred around the questions of who should define continuous improvement targets and entry levels, how claim issues can be avoided, and how potential funding mechanisms could be designed. It was held that criteria for improvement should apply across the board to ensure a level-playing field, while for starters the focus should be on

EU-level regulation. A risk-based approach was seen as preferred over an approach that advocates monitoring every single stand. The discussants stressed the need for independent assessors.

On the topic of **certification** (Should certification be more or less stringent than for biofuels? Should it apply to feedstock only?), it was held that social criteria are not stringent enough yet: the overall set of criteria is limited and there is generally a gap between theory and practice (focus on reporting only). With regard to standards, it was stressed that fragmentation should be avoided, as well as ad-hoc decisions. The scale of the industry was identified as an important criterion for the uptake and adoption of certification schemes for bio-based products. The participants claimed that certification as a tool usually appears too late and is generally not proactive enough. A redesign of the certification system should include defined cycles. Active roles in the supply chain should be promoted.

The subgroup of **caps on volumes** discussed what lessons can be learned from biofuel policies, if there are risks as with conventional biofuels, and how an undermining of the industry can be avoided. It was held that stable long-term policies are crucial in order to guarantee a suitable business environment, economic growth and job creation. In this context, caps on volumes were regarded as part of the solution. They could be a tool to limit the negative impacts of short-sighted subsidies. However, caps on volumes might also hinder competition vis-à-vis the fossil-based industry. It was held that the discussion on food vs. fuel/energy that arose in the context of biofuels will probably also emerge in the context of bio-based products. The effectiveness of any cap system will depend on how the caps on volume are organized and implemented. It was recommended to introduce caps on volume step-wise.

Overall, the session led to the conclusion that the sustainability of the bio-based economy needs to be credibly demonstrated through assurance systems such as voluntary standards and certification. Lessons learnt from existing examples, like the biofuel regulations (RED/FQD), sustainable forest management criteria or the European timber trade due diligence systems, should be used to develop robust, flexible and user-friendly assurance systems for bio-based products. While third-party audits remain the most reliable assurance mechanism, entry-level processes could be developed to enhance inclusiveness and stimulate continuous improvement, e.g. second-party audits and monitoring by societal actors and authorities. When developing a sustainability framework for bio-based products, socio-economic impacts should be addressed in a more stringent manner than in RED/FQD.

6 In-depth discussion with members of the Energy & Resources Research Group

The concluding session of the workshop focussed on competing uses of biomass for energy and material purposes, taking into account perspectives from different spatial and temporal scales and outlining implications for stakeholder engagement and policy-making. The session kicked off with two introductory presentations by [Vassilis Daioglou](#) and [Ric Hoefnagels](#) of the Energy & Resources Research Group, which is based at the Copernicus Institute of Sustainable Development at Utrecht University, the Netherlands. The subsequent discussion was facilitated by Rainer Janssen of WIP Renewable Energies (Germany).

The discussion following the presentations by Vassilis Daioglou and Ric Hoefnagels started with the question of whether some kind of stakeholder involvement and stakeholder consultation was employed in the framework of the modelling studies on the future role of biomass for different energetic and material purposes. Both studies did verify model assumptions and techno-economic input data with scientific and technical experts in the field, but did not reach out to the “general public”. The impacts of such “common practice” for techno-economic studies on public perception and public acceptance was discussed and there was general agreement that public acceptance for biomass-based solutions, for energetic and material use, as well as in the framework of the emerging bioeconomy could be enhanced and secured by further efforts in the area of participative governance within the bioeconomy. Such efforts, however, may generally be difficult to integrate into all techno-economic research performed at universities and research centres (e.g. within PhD thesis work) due to the extra work involved for the candidates. Therefore, it was concluded that solutions should be found to establish stronger links between techno-economic and social approaches without creating excessive burdens on either side.

On a more specific level it was stated that for the presented techno-economic studies, the biomass demand for materials use was taken as given (i.e. prioritised). A remark from the audience highlighted that there may be additional future demand for biomass fibres in the construction and textile sectors which may impact the results of the studies.

The results of the presented studies suggest identifying the “best use” for each ton of biomass (with respect to addressing societal targets such as climate change mitigation) rather than narrowing the focus on (mandatory) cascading use of biomass resources as is currently suggested by a number of stakeholders.