Introduction

With its first paper, the Working Group on Awareness Raising refers to the policy paper on Communication (2011)\(^1\) of the Lead Market Initiative on Bio-based Products which requires “balanced information on the benefits and limitations of the development and commercialisation of new concepts, systems and technologies. Information and awareness raising campaigns could include explanations of what bio-based products are, and how they can contribute to renewability and sustainability. All players including industry/brands, farmers/growers, policy-makers, retailers and consumer/civil society representatives, should be involved in communication and must develop aligned messaging on bio-based products.”

In addition, the Working Group follows the expectation of the European Commission on the group to tackle the following questions:

a) Which awareness raising tools would be conducive to the market uptake of bio-based products and most suitable to tackle the identified shortcomings?

b) Which resources would be required in order to design an awareness raising campaign on bio-based products?

c) Which are the main target groups in B2B and/or B2C?

d) What are the specific information needs of these target groups?

e) How to best reach out to these target groups?

f) How to measure outreach success?

g) Are there information tools already available which could be built on?

h) Which success stories could be used as a basis for a communication strategy and information campaign or further communication activities?

i) Assessment of opportunities for awareness raising event / publication / campaign, etc.

The Working Group’s role is not to outline the details of possible information campaigns, which should be decided and implemented by the Commission.

Instead the paper is meant as a starting point for the exchange of lessons learned with awareness raising measures tackling firstly the above questions. In a second step operational measures will have to be prioritized based on required resources and budgets.

1. **Who are the main target groups and what are their specific information needs?**

Awareness raising is key to facilitate the market uptake of bio-based products and calls for differentiated actions towards different target groups.

It is important to communicate the benefits of bio-based products to all stakeholders along the value chain, including producers, distributors, users and consumers, public authorities, NGOs, universities and schools.

\(^1\) [http://ec.europa.eu/DocsRoom/documents/8879](http://ec.europa.eu/DocsRoom/documents/8879)
1.1 General public

Providing information to the general public has at least four aspects:

a. dealing with controversial issues related to the development of bio-based products (e.g. answering questions such as “Are GMOs essential for the development of a bioeconomy?”, “Are bio-based products going to take resources out of the food chain?”, “Are bio-based products automatically ‘good’ and ‘sustainable’?”). Experience with other (potentially) breakthrough technologies (biotech, nanotech) has proved in the past that these issues, when not properly communicated, can backfire creating substantial problems for market uptake;

b. raising the consumers’ awareness of the positive characteristics of these products: making clear differences in terminology (bio-based, biodegradable, compostable, sustainable, etc.), products’ advantages (e.g. on climate change, resource efficiency, economic growth and jobs), their sustainability, their life cycle (e.g. origin, end-of-life and necessary consumer behaviour);

c. providing transparent and reliable information: the term “bio-based products” comprises a great variety of innovative products in ubiquitous applications. There is the need to properly define product characteristics (on-going standardization work) and effectively pass this information on to consumers (labelling). Failing in these areas could represent a major obstacle for increasing market uptake of bio-based products.

d. Informing and training young people, from elementary level up through secondary school in the frame of science, engineering, social sciences, and chemistry programmes, as well as specific teaching/training at University in MS and PhD programmes in engineering, science, agriculture (agronomy) and social sciences.

1.2 Companies

Growing markets are the key element for the development of bio-based products, therefore downstream users are a key communication target. Compared to fossil carbon-based products, innovative bio-based products are still a ‘niche’ sector, making up a relatively small share of the market: they need to be given greater visibility, their potential benefits explained, their characteristics presented, relevant regulations illustrated (e.g. labelling, certifications, standards). Brand owners should be stimulated to develop markets (e.g. for bio-based plastics and packaging, but also for other perhaps more difficult/complex products).

Even bio-based industries themselves could benefit from more easily accessible information, related programmes and policies, experiences and success stories in their own sector.

Business to business (B2B) information can be based on (existing) standards and certification schemes, as well as on dissemination strategies which may include stakeholder workshops, targeted information campaigns and other means.

As the development of bio-based products relies on the creation of new, longer value chains, industry awareness on the need to cooperate and the opportunities that may arise from this cooperation should not be overlooked.
1.3 Public authorities

Information delivery to public authorities is at least three-fold:

a. *as buyers:* public markets may be a potential driver for the development of bio-based product markets – taking into account the specific constraints of EU legislation\(^2\). They can also play a role with more innovative instruments, such as PCP (Pre-Commercial Procurement), PPI (Public Procurement of Innovative Solutions) or GPP (Green Public Procurement).

b. *as regulators:* the development of a market for bio-based products significantly depends on regulations. This therefore calls for coordinated actions by public authorities (with different roles at different levels) with different remits: innovation, industrial policy, environment, health, agriculture, trade. Raising their awareness on the most relevant issues, communicating and circulating success stories on particularly effective initiatives, fostering cooperation and knowledge sharing are key issues for the market up-take of bio-based products;

c. *as officials responsible for economic development:* bio-based products and the bio-economy at large represent a substantial opportunity to be seized in order to foster economic growth and job creation. Therefore public authorities have a crucial role to play in the creation of the most favourable framework conditions for its development (demand and supply policies).

2. How to best reach out to different target audiences

| General public | • Identify practical examples, products, tangible effects of bio-based products  
                  • Provide the media with qualified information for further distribution  
                  • Make sure information initiatives are adequately funded |
|---------------|--------------------------------------------------------------------------------------------------|
| Companies     | • Continue with the technical work for the actual development of bio-based products markets (standards, legislation, etc.)  
                  • Customize information (sector-oriented) on specific bio-based products categories to inform potential customers about BBP and their specific advantages  
                  • Circulate business oriented information (market data, news, new products, projects, investment, research studies, business surveys, standards, financing opportunities, business events) |
| Public authorities | • Inform about bio-based products and their specific advantages  
                            • Share best practices on policies (PCP, PPI, GPP, grants & loans, legislation, etc.) |

3. How to measure outreach success

The evaluation of success is extremely difficult. It largely depends on the initiative: in a seminar or conference, it can be the number of attendees; for a press release, the media impact (number of media that picked up on the news and total coverage) may be used; for initiatives targeted to the

\(^2\) It should also be taken into account that new EU-rules on public procurement will introduce award criteria which will put more emphasis on quality, environmental considerations, social aspects and innovation. The adoption of the new Directives on public procurement and concessions constitutes a major evolution, as the new rules provide for many novelties, opening up new opportunities in the single market for bio-based products.
general public, it is very difficult to assess their impact. It also depends on the amount of resources that can be allocated to calculate it (it can range from almost zero cost, e.g. a feedback collected via questionnaire after a conference, to expensive initiatives, such as individual interviews to gather feedback and perspectives).

It is very difficult to define general criteria, although it should be underlined that whenever possible, in terms of resources, any possible measure should be undertaken in order to collect feedback on each specific initiative.

4. **Are there information tools already available which could be built on?**

The WG considers of the utmost importance the avoidance of overlap with existing activities. In particular because in recent years a substantial number of initiatives on bio-based products – and the bioeconomy in general – have been promoted at regional, national and European level. Taking advantage of existing networks, projects, communities, platforms and initiatives (seminars, trade fairs, workshops) is a key element for keeping every initiative economical and for increasing potential impact. Such measures include the need to:

- Learn from existing experiences, ensure coherence between different initiatives launched by the Commission (e.g. Bioeconomy Panel, Bioeconomy Observatory, Renewable Raw Materials Working Group in DG GROW) but also create synergies and complementarities with them; good coordination is crucial;

- Promote education/awareness raising initiatives within DGs, MS, industry groups;

- Map and monitor what is going on in different projects with related tasks (e.g. [www.commnet.eu](http://commnet.eu); [www.berst.eu](http://www.berst.eu); [www.biobasedeconomy.eu](http://www.biobasedeconomy.eu));

- Monitor, discuss and give feedback to CEN/TC 411 standardisation committee (and vice versa);

- Use the best implementation experiences put in place by the most active EU Member States and case studies/successful actions for priority revision/amendments and the identification of new instruments/action needs;

- Monitor new bio-based related initiatives, such as the H2020 support actions (e.g. ISIB7, 8A and 8B) to exploit synergies.

5. **Which success stories could be used as a basis for a communication strategy and information campaign or further communication activities?**

The Awareness Raising Group could first identify a set of important messages that are felt as particularly critical to communicate (e.g. the potential impact of bio-based products on employment and re-industrialisation; opportunities for local bio-based resource exploitation, rural development; the setting up of new, win-win, cooperation agreements between economic players; the environmental benefits of specific products; special, easy to understand, positive characteristics of bio-based products).

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3 For example, the EU co-financed in the past specific information initiatives, such as CommNet – Communicating the bio-economy (http://commnet.eu). More additional initiatives on awareness raising and supporting bio-based innovation research to reach the market have just been launched under H2020; DG Research is studying general public targeted communication activities and more call on this topic have been planned for future H2020 calls.
For each of these messages, the group can identify **one or more “success stories”** using its network of contacts and knowledge of the sector. The identified success stories could then be proposed as tools for an awareness raising campaign to the European Commission for further evaluation.

The benefits of the bio-based products should be focused on all three aspects of sustainability - social, economic and environmental. Showcases and case studies should be focused on whole value chains; it is necessary to bring examples that cover a broad range of sectors to increase inclusion and engagement.

**Another way to proceed** is to make first a list of the success stories – which should be relatively easy to collect - and then distil common messages from them.

**6. Assessment of opportunities for awareness raising events / publications / campaigns, etc.**

Strictly connected to question no. 4, the group could work on a list of events, media, groups, where certain awareness raising initiatives could take place or be promoted.
Annex 1 - Potential media per target audience

Note: This section tries to provide more detailed suggestions/assessments concerning the specific tools for each target audience, but without ranking the measures according to required resources and budgets. It also tries to split target audiences into more specific categories.

It needs to be complemented with a list of “success stories” referring to two categories:

1. **Awareness raising initiatives**: existing/past activities to e.g. increase awareness on the bioeconomy, involve stakeholders, promote an open debate, provide information and/or information material, support existing and cross value chain co-operation, etc.

2. **Business bioeconomy success cases**: this should provide examples of successful “bioeconomy in practice”: new products with substantial advantages, better performance, activation of new investments (the Bioeconomy PPP is one of these cases), recovery of deindustrializing areas, rural redevelopment, increased employment opportunities, more efficient use of resources as required by both the Bioeconomy and Circular Economy (e.g. a reduction of waste/emission or the transformation of waste into raw materials). The goal is to provide cases where the bioeconomy is not just a “great opportunity” but a hard fact.

<table>
<thead>
<tr>
<th>Main target</th>
<th>Sub target</th>
<th>Media (i.e. use of general purpose communication tools)</th>
<th>Direct contact (personal inter-action)</th>
</tr>
</thead>
<tbody>
<tr>
<td>General public</td>
<td>Consumers</td>
<td>TV, radio advertising campaigns on bio-based products’ advantages</td>
<td>Not applicable</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Pros</strong>: reach potentially every household, help creating favourable environment for bio-based innovation, increase awareness, potentially promote markets for bio-based products, already experienced in the past</td>
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<td></td>
<td></td>
<td><strong>Cons</strong>: Extremely expensive, difficult to assess the impact</td>
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<tr>
<td>General public</td>
<td>adolescent generation in particular</td>
<td>Social networks, internet; school targeted initiatives (promoting scientific studies, raising environmental awareness on consumers behaviour, promote the bioeconomy as professional opportunity)</td>
<td>Production of information material for national, regional and local events; universities, schools as intermediaries of the information (science like biology and chemistry, involvement of already existing sites that are e.g. science oriented and that have millions of likes (e.g. in Italy scienze fanpage). etc.)</td>
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<td></td>
<td></td>
<td><strong>Pros</strong>: relatively low cost per contact, only tools available to directly reach the target, inexpensive compared to other media, popular</td>
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<td></td>
<td></td>
<td><strong>Cons</strong>: expensive for the inherent dynamism of the media (need heavy management, can't be static)</td>
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<td></td>
<td></td>
<td><strong>Pros</strong>: uses existing, well established channels, adds on to related messages</td>
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<tr>
<td></td>
<td></td>
<td><strong>Cons</strong>: Very expensive, long transmission chain, mega challenge, impossible to assess results, school not necessarily the best media to reach young generations</td>
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<tr>
<td>General public</td>
<td>NGOs</td>
<td>Data and evidence on bio-based products advantages through various media (paper, internet, press office) <strong>Pros:</strong> provides strong evidence and brings discussion to factual level, strengthens the feeling of active involvement and participation (no black box effect) <strong>Cons:</strong> not necessarily effective, difficult to identify appropriate media</td>
<td>Direct involvement in initiatives, working groups, stakeholder consultations, meetings with other stakeholders and public authorities <strong>Pros:</strong> strengthens the feeling of active involvement, inclusion and participation (no black box effect) <strong>Cons:</strong> labour intensive, not easy to identify qualified counterparts. Can make decision processes longer</td>
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<td>Companies</td>
<td>SMEs</td>
<td>Drafting of business cases, best practices, success stories; easily understandable information on market trends and on-going policies (fool proof writing). Circulation through various media (specialised press and internet sites; production of materials for further circulation) <strong>Pros:</strong> concrete, easily understandable messages, down to earth statements <strong>Cons:</strong> difficult to identify effective messages, difficult balance between specific real cases and general messages; opportunity to associate resources to support investment (R&amp;D&amp;I programmes, ERDF, etc.)</td>
<td>Use existing business networks such as EEN (Enterprise Europe Network); participation to fairs and exhibitions; support to bottom up initiatives</td>
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<tr>
<td>Companies</td>
<td>Large companies</td>
<td>Communication in specialised media (sectorial and business); economic, statistical and business data; policy outlooks <strong>Pros:</strong> well identified media, well targeted <strong>Cons:</strong> costly</td>
<td>High level meetings, involvement in high level working groups, selected high level presentations and targeted initiatives <strong>Pros:</strong> direct contact with key figures can make a difference <strong>Cons:</strong> requires high level senior commitment on both sides, robust preparation, concrete proposals; practically very heavy to implement</td>
</tr>
<tr>
<td>Public authorities</td>
<td>Local</td>
<td>Case histories, best practices, networking opportunities promoted via different media (press, news services, intermediary organisations, internet web sites) <strong>Pros:</strong> relatively low cost/contact <strong>Cons:</strong> difficult to identify appropriate resources</td>
<td>Not-feasible, unless piggy backing existing targeted initiatives and networks</td>
</tr>
<tr>
<td>Public authorities</td>
<td>National</td>
<td>Official communications, reports, economic data and statistics (e.g. via the Bioeconomy Observatory)</td>
<td>High level meetings, involvement in high level working groups, selected high level presentations and targeted initiatives</td>
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<td><strong>Pros</strong>: well identified media, well targeted</td>
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<td></td>
<td></td>
<td><strong>Cons</strong>: costly, difficult to assess impact and actual distribution</td>
<td><strong>Cons</strong>: requires high level senior commitment on both sides, robust preparation, concrete proposals; practically very demanding to implement</td>
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Annex 2 – Glossary of terms and definitions

**Bio-based**

Derived from biomass (CEN/TC 411 2014). Note 1 to entry: Biomass can have undergone physical, chemical or biological treatment(s). Note 2 to entry: The correct spelling of "bio-based" is with a hyphen (-). It is however in common usage sometimes spelt without a hyphen. Note 3 to entry: The methods to determine and communicate "bio-based" as a characteristic are detailed in specific standards of CEN/TC 411.

**Bio-based carbon / biogenic carbon**

Carbon derived from biomass (CEN/TC 411 2014) Note to entry: Biogenic carbon is defined in ISO/TS 14067:2013 by the same definition.

**Bio-based content / Biomass content**

Fraction of a product derived from biomass (CEN/TC 411 2014). Note 1 to entry: Normally expressed as a percentage of the total mass of the product. Note 2 to entry: For the methodology to determine the bio-based content, see FprCEN/TR 16721.

**Bio-based product**

Product wholly or partly derived from biomass (CEN/TC 411 2014) Note 1 to entry: The bio-based product is normally characterised by the bio-based carbon content or the bio-based content. For the determination and declaration of the bio-based content and the bio-based carbon content, see the relevant standards of CEN/TC 411. Note 2 to entry: Product can be an intermediate, material, semi-finished or final product. Note 3 to entry: "bio-based product" is often used to refer to a product which is partly bio-based. In those cases the claim should be accompanied by a quantification of the bio-based content.

**Bioeconomy**

The European Commission has defined bioeconomy as the production of biomass and the conversion of biomass into value added products, such as food, feed, bio-based products and bioenergy. It includes the sectors of agriculture, forestry, fisheries, food and pulp and paper production, as well as parts of chemical, biotechnological and energy industries. Reference: EU Bioeconomy Communication COM(2012)60

**Bioenergy**

Energy from biomass. (CEN/TC 411 2012)

**Biofuel**

Liquid or gaseous fuel for transport produced from biomass. (EU Renewable Energy Directive)

**Biomass**

Material of biological origin excluding material embedded in geological formations and/or fossilized. (CEN/TC 411 2014). Examples: (whole or parts of) plants, trees, algae, marine organisms, micro-organisms, animals, etc.
Biorefining

Biorefining is the sustainable processing of biomass into a spectrum of marketable products and energy. (International Energy Agency Bioenergy Task 42)

Biotechnology

The application of science and technology to living organisms, as well as parts, products and models thereof, to alter living or non-living materials for the production of knowledge, goods and services. (OECD 2012; Eurostat Glossary)

Source: Bioeconomy Observatory (https://biobs.jrc.ec.europa.eu/glossary/B)