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Bio-based economy: network, innovate, communicate

D2.3 List of relevant initiatives supporting the supporting the development and uptake of bio-based products at European and regional level

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D2.3 List of relevant initiatives supporting the supporting the development and uptake of bio-based products at European and regional level

CONTRIBUTORS	
Name	Organization
Laura Ripol	AINIA
Robert MISKUF	PEDAL CONSULTING
Susanna Albertini	FVA
William Davis	IPL
Iakovos Delioglanis	QPLAN

PEER REVIEWERS	
Name	Organization
Agata Huntley	IPL
William Davis	IPL

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		William Davis	

PARTNERS
IPL Insight Publishers (Coordinator), LOBA, FVA New Media Design, Q-PLAN International Advisors, PEDAL Consulting, University of Bologna, CIVITTA, AINIA

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1. EXECUTIVE SUMMARY

The BIOWAYS project aims to develop excellent promotional and educational material and design and implement all public engagement activities about the huge potential of bio-based products and the bio-based industry around this material. BIOWAYS intends to meet the need for better communication of bio-based products and applications and the benefits they bring. One of the project's baselines for meeting this challenge is to have a better knowledge and understanding of the research, innovation, demonstration and communication actions that are being deployed in the EU, supported with public funds.

Pursuing this aim, BIOWAYS has proceeded, as a first step, to screen and collect information about relevant European-funded projects supporting the development and uptake of bio-based products towards a sustainable bio-economy. As a second step, key actors of such projects have been identified and approached to perform qualitative interviews in order to get insights into their work and collect meaningful evidence and information regarding a series of areas such as their expected outputs and market uptake, the legislation and policy framework that affects them, the user's perspective on their outputs and the impact, visibility and exploitation potential of their project/outputs. More importantly, potential networking activities between BIOWAYS and these projects have been assessed.

A total of 292 projects have been identified, and 34 have been interviewed.

This action has yielded a valuable contact list of collaborators for the forthcoming BIOWAYS dissemination activities and interesting insights for the development of the information and educational material. The information and dissemination materials these projects are developing will be promoted through the BioWatch platform as well as through the other project communication channels and events.

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2. INTRODUCTION

This report titled "List of relevant initiatives supporting the development and uptake of bio-based products at European and regional level" is framed within Task 2.3 "Screening and collecting information on relevant initiatives at European and regional level supporting the development and uptake of bio-based products towards a sustainable bio-economy" of BIOWAYS project.

The report follows the screening and collection of information on relevant initiatives at European and regional level supporting the development and uptake of bio-based products towards a sustainable bio-economy, developed by the partners during the BIOWAYS first semester in WP2.

The aim of Task 2.3 has been to identify and collect information on both recently completed and on-going projects funded under FP7 and H2020, including those funded by the Bio-Based Industries Joint Undertaking (BBI-JU), as well as relevant initiatives at regional and European level (e.g. European Innovation Partnerships) that focus on:

- the development of bio-based products;
- community building, namely the active involvement of end-consumers in the design and production of bio-based products; and
- promoting the market uptake of bio-based products strengthening of regional bio-economies.

A desktop study of various information sources (e.g. CORDIS, the BBI-JU portal, etc.) has revealed the key actors of such projects. The BIOWAYS partners have contacted them to perform qualitative interviews in order to get insights on their work and collect meaningful evidence and information regarding:

- **Expected outputs and market uptake, addressing questions such as:** Which are the application areas/market segments related to your project's outputs? How is the current situation of the market potential and penetration of output? Which are the benefits and opportunities of these outputs? Which are the barriers, risks and concerns of these outputs? Do you expect your output to be price-competitive in comparison with its fossil-based counterpart? Does your output outperform its fossil-based counterpart? If the answer is yes, do you expect the end-users to pay a premium for it? ~~Etc~~

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- **Legislation and policy framework, addressing questions such as:** What would you consider to be the gaps and the barriers in the existing legislation affecting your output? Which is your opinion on the policy and regulatory requirements affecting the new output or new functionality (standards, safety aspects, labels and certification and REACH legislation). Describe the broader exploitation potential of your results in terms of affecting/contributing to policy making and/or uptake. Have you planned interaction activities or communication and dissemination actions with policy-makers?

- **The user's perspective, addressing questions such as:** Which are the consumers' needs, concerns and perceptions about the output and its application? How do users respond to this market area? Are they familiar with this category of products? What you think could help raise their awareness and acceptance about them? Have you planned interaction activities or communication and dissemination actions with consumer representatives? Have you identified any ethical issues regarding the development of the output?

- **Impact, visibility and exploitation potential of the project/outputs, addressing questions such as:** Which are the expected impacts of the output on key socio-economic and environmental challenges faced by Europe and its citizens (slow growth, unemployment, low competitiveness, climate change, resource scarcity, etc)? Which are their benefits in terms of sustainability? In your opinion, which is the short to medium term impact of your research work? Which are the activities taken/planned to increase visibility of your findings? Which are your main dissemination and communication means and activities? Which is your target audience beyond project implementation?

- **Potential networking activities, addressing questions such as:** Would you like to be informed about BIOWAYS' collaborative activities (workshops, thematic charrettes, barcamps, etc)? Would you like to take part in any of them? Do you give your consent to use this interview as a source of information in our deliverables? Do you agree in including your project in our BioWatch platform and other dissemination tools as social media, website, etc? How can BIOWAYS collaborate in the dissemination of your activities and outputs? Do you have any public promotional document (factsheet, leaflet, presentation, video, article, educational or training material, etc) you would like to be disseminated through BIOWAYS tools and platform? Is there any other project, initiative or representative case study you would like us to be aware of?

AINIA, as task leader, has prepared the guidelines for the analysis, including the respective template for the interviews, while all partners have been actively involved in the identification of relevant initiatives and the collection of information. The identified projects and initiatives,

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including an assessment of the collaboration potential with BIOWAYS have been summarised in this report.

The interviews have helped BIOWAYS partners a) identify potential collaborators for the deployment of BIOWAYS wide range of increase awareness activities and b) provide valuable insights for the development of the information and educational material (e.g. case studies on practical solutions, Factsheets, presentations, promotional videos, etc.). The contacts made will feed the project contact list framed in WP6. The information will be promoted through the BioWatch platform as well as through the other project communication channels and events.

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3. METHODOLOGY

For the elaboration of the present report, the following methodology has been followed:

3.1. ELABORATION OF A LONG LIST OF PROJECTS

The first step has been to perform a search in various information sources (e.g. CORDIS, the BBI-JU portal, etc.) to identify and collect information on both recently completed and on-going projects that focused in the aforementioned areas, and funded under the BBI-JU, H2020, FP7 and also those funded by other programmes such as CIP, LIFE, INTERREG, ERASMUS+, national and regional programmes, etc.

The information was identified by all the partners and collected in a collaborative spreadsheet, containing the following fields:

- Acronym
- Title
- Funding source
- Topic
- Budget
- Start date / End date
- Website
- Type of Project (RIA, IA, Demo, CSA, etc)
- Development of product or process (to highlight if a project aims to improve the process and/or characteristics of an end-product)
- Involvement of end consumers in the design/production
- Promotion of the market uptake
- Related product category, according to the categories of bio-based products described in the first SIRA (Bio-based Chemicals, Bioplastics/Bio-materials/Packaging, Biofuels, Bio-surfactants, Bio-lubricants, Food ingredients and feed, Bioenergy, Bio-economy)
- Related value chain (referring to the 5 Value Chains in the First SIRA)
- Coordinator and contact details

The Long list of projects is included in ANNEX 1.

3.2. PRESELECTION OF PROJECTS. ELABORATION OF A SHORT LIST

In order to choose the projects to conduct the qualitative interviews, the long list was narrowed into a shorter list, following one main criteria: ongoing projects and projects finished in 2016.

The short list was revised to eliminate any duplicated information and the projects were evenly assigned to BIOWAYS partners, who would then contact the project leaders in order to conduct the interviews.

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The Short list of projects is included in ANNEX 1

3.3. ELABORATION OF GUIDELINES AND SUPPORTING DOCUMENTS

AINIA, as task leader, elaborated the necessary guidelines and supporting documents for the interviews:

- **Interview request:** email template to be used by the partners to introduce BIOWAYS to the project leader and request the interview. This mail aimed to make it clear to the interviewee what the benefits of their collaboration were (fulfilment of networking and dissemination commitments, dissemination of the project in BioWatch platform, publication of an article in our website, etc).
- **Overview document:** a document summarizing the aim of the interview in the frame of BIOWAYS activities
- **Guidelines:** a document for internal with useful information about the scope of the interviews, role of the interviewee, goals in terms of number of interviews, documents to fill, deadlines, etc
- **Interview:** composed by (A) a project data sheet containing mainly the same fields of information that BBI-JU shows about its projects in its website, and (B) an interview guide composed by 5 areas of discussion: expected outputs and market uptake, legislation and policy framework, the user's perspective, impact, visibility and exploitation potential of the project/outputs, and potential networking activities.
- **Consent form**

The supporting documents are included in ANNEX 2

3.4. CONDUCTING THE INTERVIEWS

Each partner was assigned with 18 to 26 projects to approach. The aim was to accumulate 30 interviews as a total amongst all partners.

The distribution of interviews per partner was done according to nationality criteria and chosen type of product, since it would be easier for each partner to approach their nationals: they may already know them and communication would be more fluent.

The interviews were conducted prioritizing: 1) in-person interview, 2) telephone, 3) e-mail.

The interviews were conducted with the coordinating beneficiary of the project. When this was not possible, a relevant partner in the project was interviewed.

Finally, interviews were transcribed in to English.

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4. RESULTS

The main results of Task 2.3 are the following:

4.1. LIST OF IDENTIFIED PROJECTS (LONG LIST)

A search of projects in various information sources (e.g. CORDIS, the BBI-JU portal, etc.) to identify and collect information on both recently completed and on-going projects that focused in the development of bio-based products, community building, and promoting the market uptake of bio-based products, provided a list of 292 Projects.

The information collected included: Acronym, Title, Funding source, Topic, Budget, Start date / End date, Website, Type of Project, Development of product or process, Involvement of end consumers in the design/production, Promotion of the market uptake, Related product category, Related value chain, Coordinator and contact details.

The Long list of projects is included in ANNEX 1

4.2. PROJECTS PRE-SELECTED FOR THE INTERVIEWS (SHORT LIST) AND PROJECTS INTERVIEWED

A shorter list of projects to approach was elaborated narrowing the Long list to leave only ongoing projects and projects finished in the last semester of 2016, provided a list of 165 projects.

The projects in the short list were approached by the BIOWAYS partners to conduct the interviews, aiming to 30 interviews. A final total of 34 projects were interviewed.

No.	ACRONYM	TITLE	PROGRAMME	START DATE	END DATE	LEADER
1	AgriMax	Agri and food waste valorisation co-ops based on flexible multi-feedstocks biorefinery processing technologies for new high added value applications	BBI-JU, H2020	10/01/2016	30/09/2020	INNOVACIO I RECERCA INDUSTRIAL I SOSTENIBLE SL
2	BIOrescue	Enhanced bioconversion of agricultural residues through cascading use	BBI-JU, H2020	01/09/2016	31/08/2019	FUNDACION CENER-CIEMAT
3	SmartLi	Smart Technologies for the Conversion of Industrial Lignins into Sustainable Materials	BBI-JU, H2020	07/01/2015	30/06/2018	
4	TECH4EFFECT	Techniques and Technologies for Effective Wood Procurement	BBI-JU, H2020	10/01/2016	30/09/2020	Norwegian Institute of Bioeconomy Research (NIBIO)
5	greenGain	Supporting Sustainable Energy Production from Biomass from Landscape Conservation and Maintenance Work	H2020	01/01/2015	31/12/2017	Fachagentur Nachwachsende Rohstoffe e.V.
6	SteamBio	Flexible Superheated Steam Torrefaction and Grinding of Indigenous Biomass from	H2020	02/01/2015	31/01/2018	FRAUNHOFER GESELLSCHAFT ZUR

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		Remote Rural Sources to Produce Stable Densified Feedstocks for Chemical and Energy Applications				FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.
7	SECURECHAIN	Securing future-proof environmentally compatible bioenergy chains	H2020	04/01/2015	31/3/2018	INTERNATIONALES INSTITUT FUR WALD UND HOLZ NRW EV
8	BioRES	Sustainable Regional Supply Chains for Woody Bioenergy	H2020	01/01/2015	30/6/2017	DEUTSCHE GESELLSCHAFT FUR INTERNATIONALE ZUSAMMENARBEIT (GIZ) GMBH
9	ISAAC	Increasing Social Awarness and ACceptance of biogas and biomethane	H2020	01/01/2016	30/6/2018	AZZERO CO2 SRL
10	Bin2Grid	Turning unexploited food waste into biomethane supplied through local filling stations network	H2020	01/01/2015	31/12/2017	ZAGREBACKI HOLDING DOO
11	ButaNexT	Next Generation Bio-butanol	H2020	01/05/2015	30/04/2018	Green Biologics Ltd.
12	FORBIO	Fostering Sustainable Feedstock Production for Advanced Biofuels on underutilised land in Europe	H2020	01/01/2016	31/12/2018	WIRTSCHAFT UND INFRASTRUKTUR GMBH & CO PLANUNGS KG
13	EBTP-SABS	European Biofuels Technology Platform - Support for Advanced Biofuels Stakeholders	FP7-ENERGY	01/09/2013	31/08/2016	Fachagentur Nachwachsende Rohstoffe e.V.
14	MOBILE FLIP	Mobile and Flexible Industrial Processing of Biomass	H2020	01/01/2015	31/12/2018	TEKNOLOGIAN TUTKIMUSKESKUS VTT
15	INMARE	Industrial Applications of Marine Enzymes: Innovative screening and expression platforms to discover and use the functional protein diversity from the sea	H2020	01/04/2015	31/03/2019	BANGOR UNIVERSITY
16	P4SB	From Plastic waste to Plastic value using Pseudomonas putida Synthetic Biology	H2020	01/04/2015	31/03/2019	RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN
17	DAFIA	Biomacromolecules from municipal solid bio-waste fractions and fish waste for high added value applications	H2020	01/01/2017	31/12/2020	AIMPLAS - ASOCIACION DE INVESTIGACION DE MATERIALES PLASTICOS Y CONEXAS
18	RES URBIS	REsources from URban BIo-waSte	H2020	01/01/2017	31/12/2019	UNIVERSITA DEGLI STUDI DI ROMA LA SAPIENZA
19	REHAP	Systemic approach to Reduce Energy demand and CO2 emissions of processesthat transform agroforestry waste into High Added value Products	H2020	01/10/2016	30/09/2020	FUNDACION TECNALIA RESEARCH & INNOVATION
20	InnoREX	Continuous, highly precise, metal-free polymerisation of PLA using alternative energies for reactive extrusion	FP7	01/12/2012	31/05/2016	FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.
21	FIRST2RUN	Flagship demonstration of an integrated biorefinery for dry crops sustainable emploitation towards biobased materials production	H2020	01/07/2015	30/06/2019	NOVAMONT SPA
22	BioLinX	Creating links to speed-up innovation in the bio economy	H2020	01/03/2015	28/02/2018	REWIN PROJECTEN BV
23	ProBIO	Professional support to the uptake of bioeconomy RD results towards market,	H2020-	01/03/2015	31/08/2017	AZIENDA SPECIALE INNOVHUB - STAZIONI

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		further research and policy for a more competitive European bioeconomy				SPERIMENTALI PER L'INDUSTRIA
24	InnProBio	Forum for Bio-Based Innovation in Public Procurement	H2020	01/03/2015	28/02/2018	Fachagentur Nachwachsende Rohstoffe e.V.
25	RRI-Practice	Responsible Research and Innovation in Practice	H2020	01/09/2016	31/08/2019	HOGSKOLEN I OSLO OG AKERSHUS
26	SIM4NEXUS	Sustainable Integrated Management FOR the NEXUS of water-land-food-energy-climate for a resource-efficient Europe	H2020	01/06/2016	31/05/2020	STICHTING WAGENINGEN RESEARCH
27	SOILCARE	Soil Care for profitable and sustainable crop production in Europe	H2020	01/03/2016	28/02/2021	STICHTING WAGENINGEN RESEARCH
28	OPEN-BIO	Opening bio-based markets via standards, labelling and procurement	KBBE/FP7	01/11/2013	31/10/2016	STICHTING NEDERLANDS NORMALISATIE - INSTITUUT
29	PHBOTTLE	Newsustainable, functionalized and competitive PHBmaterial based infruit by-products getting advanced solutions for packaging and non-packaging applications	FP7-NMP	01/05/2012	31/06/2016	AINIA
30	WHEYPACK	Reduction of CO2 emissions by the PHBuseobtained from whey:demonstration in dairy products packaging.	LIFE+	01/06/2014	31/07/2017	AINIA
31	BIOSEA	Innovative cost-effective technology for maximizing aquatic biomass-based molecules for food, feed and cosmetic applications	H2020-BBI-JTI	01/06/2017	31/05/2020	ASOCIACION DE INVESTIGACION DE LA INDUSTRIA TEXTIL
32	PERCAL	Chemical building blocks from versatile MSW biorefinery.	BBI-JU, H2020	01/07/2017	30/06/2020	INDUSTRIAS MECANICAS ALCUDIA S.A.
33	URBIOFIN	Demonstration of an integrated innovative biorefinery for the transformation of Municipal Solid Waste (MSW) into new BioBased products	BBI-JU, H2020	01/06/2017	31/05/2021	INDUSTRIAS MECANICAS ALCUDIA S.A.
34	BIOBARR	New bio-based food packaging materials with enhanced barrier properties	BBI-JU, H2020	2017-06-01	31/05/2021	Tecnoalimenti S.C.p.A.

The persons approached were mainly interested in collaborating in the study. For those who declined to participate, the main reason alluded were agenda issues and lack of time for the interview.

Additionally, 3 other relevant initiatives were approached and interviewed in the frame of this task: the Bio-based and Biodegradable Industries Association, the Joint Research Council's and its project Biomass Assessment Study and the Swedish Bioenergy Association.

4.3. RESULT OF THE INTERVIEWS

There are two main products of the interviews:

- a project data sheet or Factsheets

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- a transcript of the discussion on 5 areas: expected outputs and market uptake, legislation and policy framework, the user's perspective, impact, visibility and exploitation potential of the project/outputs, and potential networking activities.

The project data sheets gather public information of the projects. They will be included in the project database and eventually could be used to promote these projects through the BioWatch platform. The interviewees will be included in the contact list.

The discussion gathers very interesting information, from technical results to potential collaboration with BIOWAYS, from public facts to expert/personal opinions. It should be remembered that these were designed as qualitative interviews and the results cannot be assessed in quantitative terms.

All projects have given its consent to use this information to prepare Delivarable D2.3. Also, all the projects have shown interest in potential networking activities: they want to be informed about BIOWAYS collaborative activities (workshops, thematic charrettes, barcamps, etc), they agree in including their project in our BioWatch platform and other dissemination tools, they are open to let BIOWAYS collaborate in the dissemination of their activities and outputs. More specific results of the 5 points of discussion are shown below.

4.3.1. Factsheets

The basic and general information about the project was registered in a factsheet template, containing the following information:

- Title and acronym
- Programme
- Beginning & Ending date
- Coordinator
- Webpage
- Type of action (RIA, IA, CSA, demonstration, other)
- Value Chain
- Budget / EU contribution
- Focus on (select one)
- Summary
- Objectives
- Expected Impacts
- Leader
- Consortium

The contact details of the person interviewee were also registered, specifically:

- Name
- Position

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- Role in the project
- Contact info (tel, e-mail)
- Other participants

4.3.2. B.1 Expected outputs and market uptake

Regarding the application areas/market segments related to your project's bio-based product, the projects cover a wide range of different products, such as enzymes, bioplastics, lubricants, cosmetics, pharmaceuticals, additives, packaging, coatings, flame retardants, biofuels, …

Regarding the current situation of the market potential and penetration of the output, it ranges from very interesting, for products whose fossil-based counterpart is very expensive to a less optimal situation, for outputs that have to compete with optimized industrial processes and products, being the later the more common scenario.

The benefits and opportunities of these outputs are, once the industrial process is optimised, more efficient processes, lower fabrication costs and improved/new properties and functionalities, less energy consumption, improved environmental performance, etc

The barriers, risks and concerns of these products are, if any, higher prices, lower/different performance compared to its fossil based counterparts, lack or unfavorable regulatory conditions, lack of investment, food/health safety issues, .

In terms of price, projects usually include studies to assess the economic viability and technical feasibility, in order to know if it will be price-competitive in comparison with its fossil-based counterpart. Ongoing projects cannot be positive about this point: it is too early to know the final production costs, although they aim to obtain high added value products from waste and by-products, that can to offer economic and environmental advantages. However, it is not likely that the end-users would pay a premium for it.

A life-cycle assessment (LCA) comparing product and its fossil-based counterpart is included in most projects.

Regarding the potential hurdles on the new product or new functionality, projects mainly point to a) resistance from established industrial sectors and b) unfavourable public perception of bio-based products and applications.

Regarding the eventual inclusion of the output in public, 'green', pre-commercial innovation procurement, it depends on the category of the product. For instance, it is foreseen for applications in the construction sector but not as much in other sectors such as food ingredients.

4.3.3. B.2 Legislation and policy framework

Regarding the gaps and barriers in the existing legislation affecting the outputs, the policy and regulatory requirements affecting the new product or new functionality (standards, safety aspects, labels and certification and REACH legislation), some projects have pointed out that regulations tend to be reactive, and adapt to new safety hazards, alerts or societal pressure

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against a suspicious technology. This fact makes new developments vulnerable, either by the lack of regulation or by a too strict new regulation. Also, different legislations affecting the same product, for example REACH and food contact legislation, can sometime be incoherent. In other cases, there is just no specific legislation, for example, there are no additional requirements for food packaging made from waste, the regulation is the same as for regular food packaging.

Regarding the broader exploitation potential of the results in terms of affecting/contributing to policy making and/or uptake, most of the projects contribute to the policies related with environmental protection, by reducing the amount of waste that has to be treated or landfilled. Scientific research, applied research innovation actions and pilot demonstrations could contribute to the modification or adoptions of related directives.

Most of the projects have planned interaction activities or communication and dissemination actions with policy-makers.

4.3.4. B.3 The user's perspective

Regarding the consumers' needs, concerns and perceptions about the output and its application, how do users respond to this market area and their familiarity with these outputs? Customers and end users perceive bio-products in general in a positive way, although they are familiar with only a short list of them, mostly consumer goods, but not as much with industrial products. Nevertheless, there is a perception among most projects that the general public is not really aware of the characteristics, properties, disposing methods and benefits of bio-based products compared to their fossil-based counterparts. There is confusion about the meaning of concepts such as organic, biodegradable, bio-based, compostable, eco, eco-friendly and the like.

In order to help raise their awareness and acceptance about these developments, some interviewees point out that mass media and specific campaigns and advertisings at national level could help people know and understand better these kinds of products. Some EU states are ahead in these public dissemination actions, and so are their citizens. Also, an adequate and clear labelling of the products is needed to adequately inform the consumers.

Not all the projects have planned specific interaction activities or dissemination actions with consumer representatives. RIA's, in particular, tend to see the industry and regulators as the main dissemination target, more than consumers. Some IA and CSA projects, on the other hand, have planned surveys on consumer perceptions. Relating to the ethical issues regarding the development of the product, the development of the output causes no ethical issues, but it is pointed out the importance of correctly labelling any product to give enough and clear information to the consumer.

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4.3.5. B4. Impact, visibility and exploitation potential of the project/outputs

Regarding the expected impacts of the output on key socio-economic and environmental challenges faced by Europe and its citizens (slow growth, unemployment, low competitiveness, climate change, resource scarcity, etc), and the benefits in terms of sustainability, the interviewees are mainly optimistic, but once again differences appear depending on the type of project (RIA, IA, demo, CSA…) and whether they are starting or near to the end. Higher starting TRLs relate to a bigger knowledge of the impacts and confidence. Also, projects being close to the end, close to final results and specially if they have developed deliverables related to exploitation, tend to be confident about the impacts.

Some of the mentioned impacts are, for example: the development of a new industry (in line with the socio-economic challenges of growth, employment and competitiveness in the EU), the use of waste or by-products, reduction of our dependence on fossil energy, the reduction in the use of chemicals hazardous for the environment, reduction of carbon footprint and greenhouse emissions, reduction of the use of soil (by reduction of composting and landfilling), reduction of energy consumption, etc

In your opinion, which is the short to medium term impact of your research work?

Regarding the activities taken/planned to increase visibility of the project's findings and the main dissemination and communication means and activities, they are usually the same for almost all projects: website, social media, leaflets, posters, promotional video, participation in workshops, seminars and congresses, etc. Some projects include interesting activities addressed to schools and students.

Projects tend to include in their stakeholder target group key industry partners, clusters and regulators., to maximize the impact.

What is your target audience beyond project implementation?

The target audience for the interviewed projects mostly depends on the type of action and/or the TRL of the final output. The industry (agricultural, construction, chemical, packaging, food, pharmaceutical, automotive, energy, etc) is the main audience, but also regulators and, for high TRL and CSA projects, also consumers, students and society in general.

4.3.6. B.5 Potential networking activities

The interviewees were asked whether they would like to be informed about BIOWAYS' collaborative activities (workshops, thematic charrettes, barcamps, etc). Regarding their willingness to take part in any of them, they were mainly open to assessing it once the nature of the activity was known and, mostly, the scheduled date and city. As a rule of thumb, we can

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expect their participation in events located in their same city/area, and scheduled sufficiently in advance. It is important to point out that interviewees don't know about the nature of thematic charrettes and barcamps. This has to be taken into account when designing, scheduling and promoting these events.

The interviewees give their consent to use this interview as a source of information in our deliverables, and to include their project in BioWatch platform and other dissemination tools as social media, website.

Regarding how BIOWAYS can collaborate in the dissemination of their activities and outputs, including public promotional documentation and public outputs (factsheets, leaflets, presentations, videos, articles, educational or training materials, games, e-books and training materials, workshops and events, thematic communities, policy briefs, factsheets, ICT tools, etc), the answer is mainly positive. A concern arises depending on the timeline of each project and when the main effort in dissemination activities is scheduled: some projects point out that, by the time they focus on the dissemination of their results, BIOWAYS will be finished. Details about the continuation of the BioWatch platform after the end of BIOWAYS were given to the contact person.

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5. CONCLUSIONS

5.1. GENERAL CONCLUSIONS

A direct relationship has been established between BIOWAYS and 34 related projects. We have got a direct insight into their activities and have a contact person for reference and extending any collaboration. The contact person will be included in the BIOWAYS contact list (framed in WP6) and will be duly informed of newsletter publications, events and other activities. This activity should be included in the next update of the Dissemination and Communication Plan. On their side, thanks to this activity the coordinators or representatives of these projects have a direct knowledge of BIOWAYS' activities and have a contact person among the partners.

All of the projects are interested in cooperating. RIAs and IAs welcome the possibility of communicating and disseminating through BioWatch, since dissemination is compulsory in funded projects. CSAs are specially interested in sharing knowledge and receiving knowledge, and the opportunity of reciprocal promotion. A specific letter acknowledging their collaboration in Task 2.3, introducing BioWatch and explaining the steps to access to it and use it as a project will be sent to the coordinators at the launch of the platform when it has example content to demonstrate.

On a side note, some of the people who accepted the interview were pleasantly surprised about the idea of collaboration between funded projects, showing that this concept is still not as widespread as one might think. This is certainly an area for further exploration.

5.2. USE OF THE LIST OF PROJECTS BY BIOWAYS. EXPLOITATION OF RESULTS.

This document facilitates the forthcoming work in WP4, WP5 and WP6. To make this happen, it is important to be able to capitalize the work done. As explained in the Results section, projects were totally open to let BIOWAYS collaborate in the dissemination of their activities and outputs, and to be informed of and eventually participate in our events and activities.

It is relevant to say that the exploitation of the network of related projects achieved in Task 2.3 makes part of a broader strategy to foster collaboration and share knowledge and resources.

The BioWatch platform has been planned (and is being developed) to be the collaboration framework to achieve this goal. While designing and developing the platform, it is important to establish clearly the inputs that BIOWAYS will request from the projects and establish a uniform way of collecting the information about events (type of activity, planned date/period, where, why, etc.), reports, dissemination or educational material, etc. The aim will be to offer a global

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vision of what is forecasted and what to expect in the field of the bioeconomy coming from EU projects.

Until BioWatch goes live, BIOWAYS may contact the projects directly to offer this collaboration and request the needed information. A template to collect this information should be developed. For instance, we should send them invitations for BIOWAYS events by mail.

After its launch, BIOWAYS will share through it its results, news and materials. It will also contain a repository of the library materials, searchable through a variety of criteria. On its side, projects themselves will be able to add information to the platform, share news of events, build groups and promote results:

- **News:** will either be sent to BIOWAYS or uploaded to each project's own SEED. From there, it will appear as latest news in the relevant thematic sector.
- **Events:** the planned events of the projects will be mapped in a systematic manner, aiming to a) promote these events through BIOWAYS dissemination platform (BioWatch) and b) identify and exploit synergies with BIOWAYS, for example, co-hosting events such as thematic workshops, barcamps or thematic charrettes. Events will be added to a project's calendar and will appear on a main thematic calendar. Invitations will be sent from the calendar, or the SEED, to target audiences and delegates/speakers/participants
- **Contents:** will be added by BIOWAYS or by projects to their individual SEED. These contents will be searchable through a variety of criteria

A strategy on how to encourage and ensure these and other projects become actively involved with BioWatch has to be carefully developed.

5.3. EVENTUAL PUBLIC USE OF THE FACTSHEETS AND INTERVIEWS

A specific result of Task 2.3 are the projects factsheets and the interviews. This result may be capitalized by publishing them in the BioWatch platform. In this case, coordinators must be contacted again, asked for specific consent and a revision of the interviews must be done with them, in order to update the information with the last inputs, provide the text with a dissemination style and add pictures, links and contact details. The viability of this action will be assessed by BIOWAYS consortium.

5.4. UPDATE OF THE LIST OF PROJECTS DURING THE SECOND YEAR:

The long list of identified projects should be continuously updated until de end of the project to add projects that have been approved and have started later in 2017 and 2018. Although recently-started projects tend to focus less on dissemination or networking activities, because of their scheduled workplans, they can still make use of the information gathered in the

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BioWatch platform and nourish it with their own contributions as they reach their milestones. Special attention will be given to update BBI-JU funded projects.

On the other hand, the aim of Task 2.3 was not to interview the totality of the identified projects, but a short representative list. Through this short list we have achieved our goal of setting a network of related projects and foster synergies with BIOWAYS. The benefits of the collaboration with BIOWAYS, however, should be extended to the totality of the identified projects and the newly-identified projects, at least at an informative level.

A specific communication campaign should be designed and launched to all these projects. This activity is included in the last update of the Dissemination and Communication Plan.

An update of the project list and specific communication campaign should be done, at least, by the time of and related to the launching of the BioWatch platform.

5.5. ADDITIONAL CONCLUSIONS

Although we knew about the novelty of events such as thematic charrettes and barcamps, it has been proven by the interviews that most of the people are not familiar with the nature of these types of events. It is even easy for them to mistake them for other not-so-innovative formats like TEDx or Ignite talks and similar. This novelty has to be taken into account when designing, scheduling and promoting these BIOWAYS events, in order to be successful.

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6. ANEXES

6.1. LIST OF RELEVANT INITIATIVES SUPPORTING THE SUPPORTING THE DEVELOPMENT AND UPTAKE OF BIO-BASED PRODUCTS AT EUROPEAN AND REGIONAL LEVEL (INCLUDING REFERENCE TO THE PRESELECTED PROJECTS AND INTERVIEWED PROJECTS)

6.2. SUPPORTING MATERIALS USED: INTERVIEW REQUEST (EMAIL TEMPLATE), OVERVIEW DOCUMENT, GUIDELINES FOR INTERNAL USE, INTERVIEW: PROJECT DATA SHEET TEMPLATE (A) AND DISCUSSION (B), CONSENT FORM

6.3. FACTSHEETS AND INTERVIEWS TO PROJECTS

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ANNEX 1 – List of relevant initiatives supporting the supporting the development and uptake of bio-based products at European and regional level (including reference to the preselected projects and interviewed projects)

ANNEX 2 – SUPPORTING MATERIALS: INTERVIEW REQUEST (EMAIL TEMPLATE), OVERVIEW DOCUMENT, GUIDELINES FOR INTERNAL USE, INTERVIEW: PROJECT DATA SHEET TEMPLATE (A) AND DISCUSSION (B), CONSENT FORM

INTERVIEW REQUEST – EMAIL TEMPLATE

Email subject: **Your participation in EU bio-based products projects list - Network of relevant initiatives supporting the development and uptake of bio-based products at European level**

Dear xxxx,

We are writing to you in your capacity as beneficiary for the Project XX, within the context of the BIOWAYS project (www.bioways.eu), funded by the Bio-based Industries Joint Undertaking (BBI-JU). BIOWAYS aims to raise public awareness of bio-based products and to promote their applications and benefits to society at large and highlight the role of the bio-based industries, using a variety of communication techniques and educational tools and materials.

We are conducting a survey on relevant initiatives at European and regional level that focus on the development of bio-based products, community building (namely the active involvement of end-consumers in the design and production of bio-based products) and promoting the market uptake of bio-based products towards a sustainable bioeconomy. We have identified Project XX as one of the projects that fits into this description.

The results of the screening will be promoted through the dedicated platform Bio-Watch (to be launched) as well as through the other project communication channels and events. Also, an article on your project will be published in the BIOWAYS website.

I would appreciate if we could arrange a short phone call/ skype meeting/f-f meeting, etc. to discuss further on the issue. The interview should not take more than 20 minutes of your time. Your collaboration will be invaluable to us.

Should you be interested, please let me know about the day/time/place that would be the most suitable for you.

For your information, please find attached a short background document on the scope of our analysis.

I remain at your disposal

Kind regards,

Xxx

OVERVIEW DOCUMENT

Screening of relevant initiatives at European and regional level supporting the development and uptake of bio-based products towards a sustainable bioeconomy

About BIOWAYS

The BIOWAYS project, started on October 2016, is funded by the Bio-Based Industries Joint Undertaking. Its aim is to raise public awareness of bio-based products and to promote their applications and benefits to society at large and highlight the role of the bio-based industries, using a variety of communication techniques and educational tools and materials.

Scope of the analysis

The aim of this screening is to collect information on both recently completed and on-going projects funded under FP7 and H2020 as well as relevant initiatives at regional and European level (e.g. European Innovation Partnerships) that focus on:

- the development of bio-based products;
- community building, namely the active involvement of end-consumers in the design and production of bio-based products; and
- promoting the market uptake of bio-based products strengthening of regional bioeconomies.

A desk top study in various information sources (e.g. CORDIS, the BBI-JU portal, etc.) has identified the key actors of such products. Qualitative interviews are being conducted with representatives of the identified projects and initiatives to get insights on their work and collect meaningful evidence and information regarding, for example:

- The short-to-medium term impact of their research work on key socio-economic and environmental challenges Europe and its citizens are facing;
- The activities taken / planned to increase visibility of their findings as well as their target audience beyond project implementation;
- The broader exploitation potential of their results in terms of affecting/contributing to policy making and/or uptake;

The information about the projects participating in this survey will be promoted through the dedicated platform Bio-Watch (to be launched) as well as through the other project communication channels and events.

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The interviews will help BIOWAYS to identify potential collaborators for the deployment of its wide range of increase awareness activities and to provide valuable insights for the development of the information and educational material (e.g. case studies on practical solutions, Fact Sheets, presentations, promotional videos, etc.).

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GUIDELINES FOR INTERNAL USE

Scope of the analysis (as written in the proposal)

A report following the screening and collection of information on relevant initiatives at European and regional level supporting the development and uptake of bio-based products towards a sustainable bioeconomy.

The aim of Task 2.3 is to collect information on both recently completed and on-going projects funded under FP7 and H2020, including those funded by the Bio Based Industries Joint Undertaking, as well as relevant initiatives at regional and European level (e.g. European Innovation Partnerships) that focus on:

- the development of bio-based products;
- community building, namely the active involvement of end-consumers in the design and production of bio-based products; and
- promoting the market uptake of bio-based products strengthening of regional bioeconomies.

A desk top study in various information sources (e.g. CORDIS, the BBI-JU portal, etc.) will reveal the key actors of such products. The BIOWAYS partners will contact them (qualitative interviews) to get insights on their work and collect meaningful evidence and information regarding, for example:

- The short-to-medium term impact of their research work on key socio-economic and environmental challenges Europe and its citizens are facing;
- The activities taken / planned to increase visibility of their findings as well as their target audience beyond project implementation;
- The broader exploitation potential of their results in terms of affecting/contributing to policy making and/or uptake;

AINIA will prepare the guidelines for the analysis, including the respective template for the interviews, while all partners will be actively involved in the identification of relevant initiatives and the collection of information. The identified projects and initiatives, including an assessment of the collaboration potential with BIOWAYS will be summarised in a short report titled “List of relevant initiatives supporting the supporting the development and uptake of bio-based products at European and regional level” to be prepared by M12.

The interviews will help BIOWAYS partners a) identify potential collaborators for the deployment of BIOWAYS wide range of increase awareness activities and b) provide valuable insights for the development of the information and educational material (e.g. case studies on practical solutions, Fact Sheets, presentations, promotional videos, etc.). The information will

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be promoted through the Bio-Watch platform as well as through the other project communication channels and events.

Finally, Deliverable D.2.3 will be issued and feed Bio-Watch platform (WP3) and other project communication channels and events (WP6)

Scope of the interviews

- assessment of potential collaboration with BIOWAYS (workshops, events, dissemination activities, educational/trainning activities, networking programme)
- identification of publishable outputs of interest to be promoted through BioWatch
- valuable insights for the development of the information and educational material to be promoted through BioWatch (case studies on practical solutions, Fact Sheets, presentations, promotional videos, etc

Type of stakeholders for the interviews

Coordinating beneficiary of the project, whenever possible. As a second option, a relevant partner in the project.

Number of interviews

As agreed in second meeting, we aim to conduct 3 to 4 interviews per category and 5 to 6 per partner. We aim to a total of 30 to 40 interviews.

Process

Ainia will pre-select the projects to be approached. Please check the excel file and use the autofilter feature in the last column to filter your projects.

Priorities:

- Projects funded by BBI: cells marked in green colour. These should be prioritized. Each partner has 4 to 5 in its list

- Ongoing / recently finished. Ongoing should be prioritized.

- Demo and flagship projects should be prioritized.

The distribution of interviews per partner has been done attending nationality criteria and chosen type of product. We believe it will be easier for each partner to approach its nationals since they may already know them and communication will be more fluent.

Each partner has a list of 18 to 26 projects to choose from, attending to the priorities described before.

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The interviews could be conducted prioritizing: 1) in-person interview, 2) telephone, 3) e-mail. Make clear to the interviewee which are the benefits of their collaboration (fulfillment of networking and dissemination commitments: dissemination of the project in Bio-Watch platform, publication of an article in our website, etc).

Steps after the interview

Transcript the interviews in English.

Get the consent form.

Fill the Project Data Sheet.

Revise for accuracy and complete the excel file (projects short list) as necessary.

Elaborate a preliminar assessment report (short report).

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INTERVIEW: PROJECT DATA SHEET TEMPLATE (A) AND DISCUSSION (B)

A. GENERAL INFO (project mapping)

PROJECT DATA SHEET (EXAMPLE: *https://www.bbi-europe.eu/projects/pdf/AgriMax)*		
A.1 Project (for projects under BBI, check Project info in BBI website)		
Title and acronym		
Programme		
Beginning & Ending date		
Coordinator		
Webpage		
Type of action (RIA, IA, CSA, demonstration, other)		*Initial TRL:* *Final TRL:* (If applicable. Not for CSAs)
Value Chain		
Budget / EU contribution		
Focus on (select one)	a) Development of bio-based product b) Community building (active involvement of end-consumers in the design and production of bio-based products) c) promoting the market uptake of bio-based products strengthening of regional bioeconomies	
Summary		
Objectives		
Expected Impacts		
Leader		
Consortium		
A.2 Interviewee		
Name		
Position		
Role in the project		

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Contact info (tel, e-mail)	
Other participants	

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B. DISCUSSION

B.1 Expected outputs and market uptake

- ✓ Which are the application areas/market segments related to your project's bio-based products/technology/service/outputs (PBBPO)?
- ✓ How is the current situation of the market potential and penetration of PBBPO?
- ✓ Which are the benefits and opportunities of these PBBPO?
- ✓ Which are the barriers, risks and concerns of these PBBPO?
- ✓ Do you expect your PBBPO to be price-competitive in comparison with its fossil-based counterpart?
- ✓ Does your PBBPO outperform its fossil-based counterpart? If the answer is yes, do you expect the end-users to pay a premium for it?
- ✓ Is there a life-cycle analysis (LCA) comparing PBBPO and its fossil-based counterpart?
- ✓ Your opinion on potential hurdles on the new PBBPO or new functionality:
    - o low public and private (industrial) demand (in terms of procurement and application)
    - o resistance from established industrial sectors
    - o unfavourable public perception of bio-based products and applications
- ✓ Do you expect including your PBBPO in public, 'green', pre-commercial innovation procurement?

B.2 Legislation and policy framework

- ✓ What would you consider to be the gaps and the barriers in the existing legislation affecting your PBBPO? Which is your opinion on the policy and regulatory requirements affecting the new PBBPO or new functionality (standards, safety aspects, labels and certification and REACH legislation)
- ✓ Describe the broader exploitation potential of your results in terms of affecting/contributing to policy making and/or uptake
- ✓ Have you planned interaction activities or communication and dissemination actions with policy-makers?

B.3 The user's perspective

- ✓ Which are the consumers' needs, concerns and perceptions about the PBBPO and its application? How do users respond to this market area? Are they familiar with this category of products? What you think could help raise their awareness and acceptance about them?
- ✓ Have you planned interaction activities or communication and dissemination actions with consumer representatives?
- ✓ Have you identified any ethical issues regarding the development of the PBBPO?

B4. Impact, visibility and explotation potential of the project/outputs

- ✓ Which are the expected impacts of the PBBPO on key socio-economic and environmental challenges faced by Europe and its citizens (slow growth, unemployment, low competitiveness, climate change, resource scarcity, etc)? Which are their benefits in terms of sustainability?
- ✓ In your opinion, which is the short to medium term impact of your research work?
- ✓ Which are the activities taken/planned to increase visibility of your findings? Which are your main dissemination and communication means and activities?

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- ✓ Which is your target audience beyond project implementation?

B.5 Potential networking activities

- ✓ Would you like to be informed in BIOWAYS collaborative activities (workshops, thematic charrettes, barcamps, etc)? Would you like to take part in any of them?
- ✓ Do you give your consent to use this interview as a source of information in our deliverables? Do you agree in including your project in our Bio-Watch platform and other dissemination tools as social media, website, etc?
- ✓ How can BIOWAYS collaborate in the dissemination of your activities and outputs? Do you have any public promotional document (factsheet, leaflet, presentation, video, article, educational or trainning material, etc) you would like to be disseminated through BIOWAYS tools and platform?
- ✓ Is there any other project, initiative or representative case study you would like us to be aware of?

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CONSENT FORM

Consent form

Within the framework of the project

"Increasing public awareness of bio-based products and applications and supporting the growth of the European bioeconomy" - BIOWAYS

Please initial each box

✓ I have read and understood the Information Sheet provided. I have been given a full explanation by the investigators of the nature, purpose, location and likely duration of the interview, and of what I will be expected to do	☐
✓ I give consent to the interview being audio recorded (if applicable)	☐
✓ I give consent to anonymous verbatim quotations being used in reports and other publications about the project	☐
✓ I understand that my personal data is held and processed in confidence and in accordance with the principles laid out by the Directive 95/46/EC of the European Parliament and of the Council on the "Protection of individuals with regard to the processing of personal data and on the free movement of such data" (24 October 1995) and its revisions, as well as with the national regulations and laws	☐
✓ I understand that I am free to withdraw from the study at any time without needing to justify my decision	☐
✓ I confirm that I have read and understood the above and freely consent to participating in this study. I have been given adequate time to consider my participation	☐

Name of interviewee (*BLOCK CAPITALS*): .....

Signed: .....

Date: .....

{*Please add a signature and date space if a witness is required*}

Name of person taking consent (BLOCK CAPITALS): .....

Signed: .....

Date: .....

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ANNEX 3 – INTERVIEWS

FIRST2RUN		
A.1 Project		
Title and acronym	"Flagship demonstration of an integrated biorefinery for dry crops sustainable exploitation towards biobased materials production" FIRST2RUN	
Programme	Horizon 2020 / BBI-JU	
Beginning & Ending date	01/07/2015 – 30/06/2019	
Coordinator	NOVAMONT SPA	
Webpage	http://www.first2run.eu/	
Type of action (RIA, IA, CSA, demonstration, other)	BBI.VC3.F1 - Added value products from underutilised agricultural resources Type of action: BBI-IA-FLAGSHIP	Initial TRL: 7 Final TRL: 9 (If applicable. Not for CSAs)
Value Chain	VC3 – agro-based	
Budget / EU contribution	**6.3.1. Total cost: EUR 25 022 688,75** 6.3.2. **EU contribution: EUR 16 995 882**	
Focus on (select one)	**d) Development of bio-based product** e) Community building (active involvement of end-consumers in the design and production of bio-based products) f) promoting the market uptake of bio-based products strengthening of regional bioeconomies	
Summary	The FIRST2RUN project aims at demonstrating the techno, economical and environmental sustainability at industrial scale of a first-of-kind value chain where low input and underutilized oil crops (i.e. cardoon) grown in arid and/or marginal lands and not in competition with food or feed, are exploited for the extraction of vegetable oils to be further converted into bio-monomers (mainly pelargonic and azelaic acids) as building blocks for high added value bioproducts, biolubricants, cosmetics, bioplastics, additives through the integration of chemical and biotechnological processes. By and co-products from the process will be valorised both for energy, feed for animals and added value chemicals productions in order to increase the sustainability of the value chain.	

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	Standardization, certification and dissemination activities will support the project in relation to increased marketability as well as social acceptability of developed biobased products in view of their penetration in the market
Objectives	***1.****AGRONOMIC OBJECTIVES - A) LARGE SCALE CULTIVATION, THANKS TO STRONG INVOLVEMENT AND SUPPORT OF LOCAL FARMERS, OF CARDOON CROP (UP TO 3.5 KHA) THROUGH THE APPLICATION OF LOW INPUT OPTIMIZED TECHNICAL/AGRONOMIC PROTOCOLS. B) IMPLEMENTATION OF INNOVATIVE MECHANICAL OIL EXTRACTION TECHNIQUES.* ***2.Industrial Objectives – a) Application of sustainable, cost-effective and innovative catalytic and biocatalytic processes for the production of bio-building blocks from high oleic oils (such as azelaic acid, pelargonic acid and glycerol); b) Demonstration of biobased azelaic and pelargonic acid production using a continuous production plant up to 10,000 tonnes/year each and demonstration of biodegradable esters batch production up to 20k tonnes/year; c) Integration of chemical and biotech processes for the developed biobased materials in the formulation of bioproducts with improved technical performances, biodegradability and compostability, such as biolubricants for different applications, bioplastics and cosmetics; d) Valorization of downstream process by- and co-products, such us extraction panel for feed application as well as the use compost***
Expected Impacts	○ Creation of new employment opportunities. ○ Push to adopt models of collaboration that could make the relationships among the different key players of the whole value chain more effective ○ Development of products with sustainable environmental profiles with a reduction in GHG emission of 35% ○ Reduction of thermal and electric energy consumption of chemical processes respectively up to 50% and 20%
Leader	NOVAMONT SPA
Consortium	NOVAMONT SPA – Italy (Coordinator) MATRICA SPA - Italy SOLIQZ BV - Netherlands SIP LIMITED - United Kingdom BIOPHIL CENTRAL EUROPE SRO - Slovakia ALMA MATER STUDIORUM-UNIVERSITA DI BOLOGNA - Italy ROELMI HPC SRL - Italy
A.2 Interviewee	
Name	Maria Teresa Riolo
Position	

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Role in the project	Dissemination and Communication
Contact info (tel, e-mail)	+39 0321 699 611
Other participants	Lucia Vannini
B. Discussion	
B.1 Expected outputs and market uptake	This project is related to the cultivation of cardoon, which is a underutilized oil crop grown in arid and/or marginal lands, to be further used for the production of bio-monomers i.e. pelargonic and azelaic acids. Such bio-chemicals are important as they are building blocks that can be further used for high added value bioproducts: mainly bioplastics, but also biolubricants, cosmetics and additives. Project activities are mainly focused on the processes for the production of high volumes of the building blocks, and no end-products are produced. However, they have several market applications, the main one is represented by bioplastics (mainly for carrier bags) that the Coordinator (Novamont company) anyway produces. Concerning bioplastics, the market potentials are really wide and the penetration is increasing each year. Also companies producing "traditional" plastics are aware of the overall benefits of the bio-based products and that this tendency/market area will unavoidably increase, so there is not a strong resistance. If bioplastics are compared to the fossil counterparts, obviously they cannot compete for the higher price and for some technical performances. However, the point of view must be wider and effects also on the environmental and social aspects must be considered, e.g. new workplaces in the agro-industry area in addition to land protection.
B.2 Legislation and policy framework	Concerning bioplastics, there is no gap/barrier in the current legislation. In fact for example in Italy it is mandatory by law to use bioplastics instead of fossil-based products e.g. for carrier bags. The main problem in practice is that there is no body responsible to check that shops (like supermarket) really use it. A real concern is related to green washing, which is rather difficult to block/limit also considering that no specific action is taken at national level.
B.3 The user's perspective	In order to evaluate consumers perception and awareness on issues related to bio-based products in general, and namely bioplastics, a survey was conducted among consumers . Overall, it resulted that the majority of the respondents are not really aware of the benefits of bio-based products and cons of the fossil-derived products, and therefore a deep information campaign should be adopted at national level. According to the experience acquired one of the best and more "penetrating" tool is represented by advertising. The

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	situation is obviously different with the consumers who are sensitive to matters related to protection of the environment and its natural resources since they are already informed on bio-based products and look for them when buying everyday life products.
B4. Impact, visibility and explotation potential of the project/outputs	The impacts of the project results on socio-economic and environmental aspects will be strong, since it focuses on the whole chain, from agronomic aspects to biotechnological industrial processes to produce the building blocks and exploit the side streams. Goals include achieving chemical processes with reduced energy consumption as well as reduction of GHG emissions. Within the project activities participation to several public events and conferences/workshops, BBI initiatives has already occurred and is also planned for future. There is also involvement in a project to host students from schools to visit our research and production plants to favour their knowledge on bioeconomy and opportunities from renewable resources. There is also support for and involvment in a Ms course on “Bioeconomy in the circular economy”.
B.5 Potential networking activities	FIRST2RUN Consortium is in principle interested in all the activities and events which will be organized by BIOWAYS. Info material related to MAKER FAIRE has been sent to be evaluated by the Coordinator/Consortium. Paeticipation into future activities organized by BIOWAYS will be evaluated also considering they have already planned their participation in several national/international ativities and conferences in future months.

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INMARE		
A.1 Project		
Title and acronym	**6.4. "INDUSTRIAL APPLICATIONS OF MARINE ENZYMES: INNOVATIVE SCREENING AND EXPRESSION PLATFORMS TO DISCOVER AND USE THE FUNCTIONAL PROTEIN DIVERSITY FROM THE SEA" –** **6.5. INMARE**	
Programme	H2020 – Innovation Action	
Beginning & Ending date	01/04/2015 to 31/03/2019	
Coordinator	BANGOR UNIVERSITY - UK	
Webpage	http://www.inmare-h2020.eu/	
Type of action (RIA, IA, CSA, demonstration, other)	Innovation action	For the main innovative approaches: *Initial TRL:1* *Final TRL:6* For selected new enzymatic applications: *Final TRL:7-9*
Value Chain	N/A	
Budget / EU contribution	**6.5.1. Total cost:** EUR 7 396 689,65 **6.5.2. EU contribution:** EUR 5 999 557,13	
Focus on (select one)	**g) Development of bio-based product** h) Community building (active involvement of end-consumers in the design and production of bio-based products) i) promoting the market uptake of bio-based products strengthening of regional bioeconomies	
Summary	INMARE stands for "Industrial Applications of Marine Enzymes: Innovative screening and expression platforms to discover and use the functional protein diversity from the sea". It is a collaborative Innovation Action to streamline the pathways of discovery and industrial applications of new marine enzymes and bioactives for targeted production of fine chemicals, drugs and in environmental clean-up applications.	

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	The INMARE consortium will unify the multidisciplinary expertise and facilities of academic and industry partners. This will include integrating the following core activities: advanced technologies to access and sample unique marine biodiversity hot-spots; state-of-the art technologies for construction of metagenomic libraries; innovative enzyme screening assays and platforms; cutting-edge sequence annotation pipelines and bioinformatics resources; high-end activity screening technology; bioanalytical and bioprocess engineering facilities and expertise, nanoparticle-biocatalysts; high-quality protein crystallization and structural analysis facilities and experts in IP management for biotechnology. The companies involved in the project are market leaders in enzyme production and biocatalysis processes designed to efficiently deliver safer (pharmaceuticals) cheaper (agriculture) and biobased (biopolymers) products. They also have impressive track record in environmental clean-up technologies and are committed to promoting public understanding, awareness and dissemination of scientific research. The main emphasis will be focused on streamlining and shortening the pipelines for enzyme and 'bioactive compound' discovery towards industrial applications through the establishing of marine enzyme collections with a high proportion of enzymes-"allrounders". The project will also prioritize the identification of novel lead products and the delivery of improved prototypes for new biocatalytic processes.
Objectives	The objectives for this project are: 1. Establishing a smoothly functioning consortium of research-excellent academic institutions and industrial partners with leading positions on the market. 2. Streamlining and shortening pipelines of enzyme and bioactives' discovery towards industrial applications by increasing the value of enzyme collections. 3. Identification of new lead products and prototypes and delivery of new biocatalytic processes within the project lifetime.
Expected Impacts	• Enhancing the competitiveness and sustainability of European industry sectors through increase in efficiency in the enzyme identification-to-market success rate. • Bringing broad societal benefits by facilitating the development of novel, improved or more economic and eco-friendly end-products and processes.
Leader	BANGOR UNIVERSITY - UK
Consortium	1. BANGOR UNIVERSITY – UK (Coordinator) 2. UNIVERSITAET HAMBURG – Germany 3. HEINRICH-HEINE-UNIVERSITAET DUESSELDORF -Germany 4. CONSIGLIO NAZIONALE DELLE RICERCHE – Italy

PARTNERS
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	5. AGENCIA ESTATAL CONSEJO SUPERIOR DEINVESTIGACIONES CIENTIFICAS – Spain 6. Bayer Pharma AG – Germany 7. BAYER TECHNOLOGY SERVICES GMBH – Germany 8. NOVOZYMES A/S - Denmark 9. UNIVERSITETET I BERGEN – Norway 10. UNIVERSITY COLLEGE CORK, NATIONAL UNIVERSITY OF IRELAND, CORK – Ireland 11. VILNIAUS UNIVERSITETAS – Lithuania 12. JACOBS UNIVERSITY BREMEN GGMBH- Germany 13. PHARMAMAR, S.A.- Spain 14. THE RESEARCH COMMITTEE OF THE TECHNICAL UNIVERSITY OF CRETE – Greece 15. ALMA MATER STUDIORUM-UNIVERSITA DI BOLOGNA - Italy 16. ASSOCIACAO DO INSTITUTO SUPERIOR TECNICO PARA A INVESTIGACAO E DESENVOLVIMENTO – Portugal 17. EVOCATAL GMBH – Germany 18. INOFEA AG- Switzerland 19. FACHHOCHSCHULE NORDWESTSCHWEIZ – Switzerland 20. LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE - United Kingdom 21. CLUSTER INDUSTRIELLE BIOTECHNOLOGIE 2021 E.V. – Germany 22. THE GOVERNING COUNCIL OF THE UNIVERSITY OF TORONTO – Canada 23. SEASCAPE CONSULTANTS LTD - United Kingdom 24. UNI RESEARCH AS – Norway 25. UNIVERSITA DEGLI STUDI DI MILANO -Italy
A.2 Interviewee	
Name	Giulio Zanaroli (University of Bologna)
Position	Assistant Professor
Role in the project	Principal Investigator University of Bologna
Contact info (tel, e-mail)	+39 0512090317, giuio.zanaroli@unibo.it
Other participants	Lucia Vannini
B. Discussion	
B.1 Expected outputs and market uptake	**Which are the application areas/market segments related to your project's bio-based products/outputs (PBBPO)?** The novel enzymes will be targeted and studied to for their use in the areas of pharmaceuticals, cosmetics, fine chemicals; bioremediation **Which are the benefits and opportunities of these PBBPO?**

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	Benefits and opportunities of new marine enzymes may include the possibility: i) for the pharma industry to synthesize desired enantiomers very efficiently, thus reducing the risk of unwanted side effects and allowing the production of the active enantiomer with a significant reduction of costs; ii) to use milder process conditions for chemicals production, leading to less energy consumption, lower use of organic solvents and less unwanted by-products; iii) to develop processes and production systems that would be cost- and energy-efficient and thus more profitable (resulting in reducing the carbon footprint, greenhouse gases emissions the use of environmentally harmful organic solvents and undesirable waste products), more efficient in using renewable feedstock materials and lowering our dependence on fossil energy and iv) to develop products that are non-toxic and reusable, renewables-based and better-performing, more stable durable and not persistent after their useful life. **Which are the possible barriers, risks and concerns of these PBBPO? (examples of possible hurdles include: low public and private (industrial) demand; resistance from established industrial sectors; unfavourable public perception of bio-based products and applications** No specific barriers currently exist for enzymes application in industrial processes.
B.2 Legislation and policy framework	**What would you consider to be the gaps and the barriers in the existing legislation affecting your PBBPO? Which is your opinion on the policy and regulatory requirements affecting the new PBBPO or new functionality (standards, safety aspects, labels and certification and REACH legislation)** There are no specific barriers in the current legislation for enzymes application in industrial processes. **If possible, describe the broader exploitation potential of your results in terms of affecting/contributing to policy making and/or uptake** **Have you planned interaction activities or communication and dissemination actions with policy-makers?** Within the project the establishment of a Panel of Stakeholders and Policymakers is planned in order to have access to a wider network of relevant organizations, platforms and influential individuals, as well as to get feedbacks on the INMARE activities and products. These feedbacks and activities will strengthen the societal impact and reach of INMARE objectives
B.3 The user's perspective	**Which are the consumers' needs, concerns and perceptions about the PBBPO and its application?**

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	Are consumers familiar with this category of products? What you think could help raise their awareness and acceptance about them? **Have you planned interaction activities or communication and dissemination actions with consumer representatives?** Since the overall aim of the project is to streamline the pathways of discovery and industrial applications of new marine enzymes (for further targeted production of fine chemicals, drugs and in environmental clean-up applications) it is not possible to identify specific consumers, also because no end-products are produced within the project. On the other hand, the consortium includes some of the biggest companies producing/selling enzymes, which will target possible concerns of the end-consumers, once the possible exploitation areas of the new enzymes will have been identified
B4. Impact, visibility and explotation potential of the project/outputs	**In your opinion, which is the short to medium term impact of your research work?** **Which are the means and activities taken/planned by INMARE to increase visibility (dissemination and communication) of your findings?** **Which is your target audience beyond project implementation?** INMARE will mobilize key industry partners involved in the project such as Bayer AG, Novozymes A/S, Pharma Mar S.A., evocatal, INOFEA and the Cluster Industrial Biotechnology CLIB2021. Their involvement will ensure that the business potential of INMARE research results will be thoroughly investigated and fully exploited.
B.5 Potential networking activities	**Do you give your consent to use this interview as a source of information in our deliverables?** **How can BIOWAYS collaborate in the dissemination of your activities and outputs? Do you have any public promotional document (factsheet, leaflet, presentation, video, article, educational or trainning material, etc) you would like to be disseminated through BIOWAYS tools, platform or events?** **Is there any other project, initiative or representative case study you would like us to be aware of?** Due to the potential business and exploitation opportunities of the results of INMARE, and the presence within the consortium of companies directly interested and involved in the enzymes market area, confidentiality issue on the project results are really relevant. Likelihood to share project results is really poor, but interest in collaboration activities cannot be excluded

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D2.3 List of relevant initiatives supporting the supporting the development and uptake of bio-based products at European and regional level

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InnoRex		
A.1 Project		
Title and acronym	InnoRex	
Programme	FP7	
Beginning & Ending date	January 2012 – May 2016	
Coordinator	FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.	
Webpage	http://www.innorex.eu/index.php	
Type of action (RIA, IA, CSA, demonstration, other)	Demonstration	***Initial TRL:*** ***Final TRL:*** **(If applicable. Not for CSAs)**
Value Chain	Improved agro-based production	
Budget / EU contribution	EUR 4 486 786,29/ EU Contribution EUR 3 322 715	
Focus on (select one)	j) Development of bio-based product k) Community building (active involvement of end-consumers in the design and production of bio-based products) **l)** promoting the market uptake of bio-based products strengthening of regional bioeconomies	
Summary	The overall goal of the Innorex Project was to develop a novel reactor concept using alternative energies for the continuous, highly precise, metal-free polymerisation of PLA. Metal-containing catalysts was replaced by organic catalysts. These have been shown to efficiently control the polymerisation of lactide, but their activity must have been still improved to meet industrial standards. This was achieved by the low-intensity but highly-targeted application of alternative energies (microwaves, ultrasound, laser light). These energies increase catalyst activity and enable precise	

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	control of the reaction by exciting only small parts of the reaction mixture without response time.
Objectives	The demand for biobased polymers is growing fast. According to the current state of the art, metal-containing catalysts are needed to improve the polymerisation rate of lactones, posing a hazard to health and the environment. InnoREX developed a novel reactor concept using alternative energies for the continuous, highly precise, metal-free polymerisation of PLA. In InnoREX, metal-containing catalysts was replaced by organic catalysts. These have been shown to efficiently control the polymerisation of lactide, but their activity must still be improved to meet industrial standards. This will be achieved by the low-intensity but highly-targeted application of alternative energies (microwaves, ultrasound, laser light). These energies increase catalyst activity and enable precise control of the reaction by exciting only small parts of the reaction mixture without response time. To ensure short market entry times commercially well-established co-rotating twin screw extruders were used as reaction vessels. The reason commercial polymerisations are not yet carried out in twin screw extruders is the short residence time and the static energy input of the extruder, which allows no dynamic control of the reaction. Again, these obstacles have been overcome in InnoREX. The project utilised the rapid response time of microwaves, ultrasound and laser light to achieve a precisely-controlled and efficient continuous polymerisation of high molecular weight PLA in a twin screw extruder. Additionally, significant energy savings were achieved by combining polymerisation, compounding and shaping in one production step. For a deepened scientific and engineering understanding of the reaction, the effect of the alternative energies on the reaction kinetics and the potential applications for alternative energies in reactive extrusion, offline chemical and polymer analytics and online characterisation and simulation of the process within the reactor was carried out.
Expected Impacts	- Development of an innovative reactor using alternative energies that allow for a continuous and precise polymerization process. - Development of ecofriendly organic catalysts suitable for this new process. - Development of a novel reaction concept for the continuous, highly precise, tin-free production of PLA via reactive extrusion using the alternative energies microwaves and ultrasound. - Modification of conventional co-rotating twin screw extruders to act as reaction vessels, equipped with the

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	additional input of alternative energies to enhance the polymerization kinetics on the basis of organic catalysts
Leader	FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.
Consortium	Fraunhofer Gesellschaft Zur Forderung Der Angewandten Forschung Ev (Germany), GNEUSS GMBH (Germany), UNIVERSITE DE MONS (Belgium), HIELSCHER ULTRASONICS GMBH (Germany), Muegge Electronic GMBH (Germany), Sciences and Computers Consultants Sarl (France), Materia Nova ASBL (Belgium), BH Industries Project Spolka Z Organiczona Odpoweidzialnoscia (Poland), Talleres Pohuer SL (Spain), AIMPLAS – Asociacion De Investigacion De Materiales Plasticos Y Conexas (Spain), Associazione Nazionale Costruttori Di Macchine E Stampi Per Materie Plastiche E Gomma (Italy) and Cranfeild University (United Kingdom)
A.2 Interviewee	
Name	Bjoern Bergmann
Position	Project Technical Coordination
Role in the project	Project Coordinator
Contact info (tel, e-mail)	+49 721 4640-423 Bjoern.Bergmann@ict.fraunhofer.de
Other participants	Mateeka Innocent, Robert Miskuf (Pedal Consulting)
B. Discussion	
B.1 Expected outputs and market uptake	The application areas for the outputs were; the enhancement of the production of polymers allowing for a large scale production at reasonable prices using the polylactide as the actionable polymer majorly used in food packaging and the enhancement of reaction kinetics, speeding up the process of polymerization using twin screw extruders by using alternative energies microwave and ultrasound. And as a result the products have been marked available and there are a number of suppliers taking up production and adopting the process. The process leading to this led to a new polymerisation technology being created and also the introduction of microwaves and ultrasound into the extruder provided additional highly targeted energy and enhancing the reaction leading to an enhanced, controlled and efficient polymerization of PLA in a twin screw extruder. The project also looked at alternative energy outputs and it was established that some energies were not beneficial and that the laser lights showed no real potential. The

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	project could prove machinery output and it was also established that the product was feasible. Analysis was conducted and it was difficult to compare data with fossil based counterparts but results showed LCA benefits for some targets for example local products. It was proven by the project that the technology is feasible and that the different novel processes work. The hurdles on the product functionality were not for the material but for PLA. And there's hope of including the product in public 'green' pre-commercial innovation procurement.
B.2 Legislation and policy framework	In these terms, there are no specific gaps in relation to the product it is more about the process than the legislation. There is potential for medium scale production of command processes like containerization. There are a number of interaction activities organized with policy makers and as result there is a workshop taking place in Brussels in the month of October where there will be discussions with policy makers.
B.3 The user's perspective	Flexible production – introduction of new polymers (bio-polymers) as an alternative to the process has proven ability of making the production low scale and versatile of production – in Kilogram & 100km. There are a number of activities planned in the near future with consumer representatives. There were no ethical issues involved during the development of the PBBO.
B4. Impact, visibility and explotation potential of the project/outputs	Increased use of biopolymers in the manufacturing process and the target audience beyond project implementation are the raw material makers.
B.5 Potential networking activities	Open to receiving information about Bioways project. And are available to actively participate. Consent to use the infomation provided here granted. They are willing to share with us some information to disseminate through our channels.

AGRIMAX
A.1 Project

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IPL Insight Publishers (Coordinator), LOBA, FVA New Media Design, Q-PLAN International Advisors, PEDAL Consulting, University of Bologna, CIVITTA, AINIA
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Title and acronym	Agri and food waste valorisation co-ops based on flexible multi-feedstocks biorefinery processing technologies for new high added value applications - AGRIMAX
Programme	BBI JU
Beginning & Ending date	1/10/2016 – 30/09/2020
Coordinator	IRIS - Innovacio i Recerca Industrial i Sostenible SL, Spain
Webpage	http://agrimax-project.eu/
Type of action (RIA, IA, CSA, demonstration, other)	Innovation Action - Demonstration
Value Chain	VC3 – agro-based
Budget / EU contribution	BBI JU contribution: €12,484,461.46
Focus on (select one)	m) Development of bio-based product
Summary	Around a third of all food produced globally is wasted each year. This waste occurs throughout the whole value chain, from farmers to consumers. However, there are significant amounts of valuable compounds contained in the wasted food that could and should be recovered. The AgriMax project is designed to establish the technical and economic viability using bio-refining process on waste from crops and food processing to deliver new bio-compounds for the chemical, bio-plastic, food, fertilisers, packaging and agriculture sectors. The project will combine affordable and flexible processing technologies, including ultrasound assisted and solvent extraction, filtration, thermal and enzymatic treatments for the valorising side streams from horticultural and food processing industries that can be used in a cooperative approach by local stakeholders.
Objectives	Agrimax will combine flexible processing technologies to valorise residues and by-products from the agriculture and food processing industry to extract valuable biocompounds used to produce active ingredients, packaging and agricultural materials among others. The objectives are: • To map the available Agricultural and Food Processing Waste (AFPW) and their features • To set up two flexible pilot plants for processing bio-wastes to process AFPW into value added biocompounds • To validate and demonstrate the use of derived biocompounds in packaging applications, food and agricultural applications

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	• To demonstrate the safety & regulatory compliance, as well as environmental & economic sustainability of the developed processes and products • To implement a joint stakeholder platform for cooperatively operating the processing plants and propose suitable business
Expected Impacts	• Minimise the impact of agriculture and food processing industry on the environment by reducing the amount of waste that is not properly treated and by reducing the raw materials and fossil fuel usage. The overall environmental impact and greenhouse gas emissions (methane, nitrous oxide and CO2) will be decreased along the new value chains. • Produce economic benefits through the new business opportunities generated in the commercialisation of the new products and complementary biogas. • Maximise agriculture and food industry growth and competitiveness.
Leader	IRIS - Innovacio i Recerca Industrial i Sostenible SL, Spain
Consortium	Asociación de Investigación de Materiales Plásticos y Conexas, Spain Universiteit Gent, Belgium Consorzio Inter Universitario Scienza e Tecnologia dei Materiali, Italy Institut de Recerca i Tecnologia Agroalimentàries, Spain Nofima AS, Norway Instituto Tecnológico del Embalaje, Transporte y Logística, Spain Università di Bologna, Italy Fraunhofer Gesellschaft, Germany Stazione Sperimentale per l'Industria delle Conserve Alimentare, Italy University College Dublin, Dublin Universidad de Almería, Spain Biovale Ltd, United Kingdom Federació de Cooperatives Agràries de Catalunya, Spain Food Industry Federation Austria, Austria Gospodarsko Interesno Združenje Grozd Plasttehnika, Slovenia Chiesa Virginio, Italy Exergy Ltd, United Kingdom Laboratori ARCHA srl, Italy Femto Engineering srl, Italy Laser Consult Ltd, Hungary Mycoplast di Federico Maria Grati e Stefano Babbini S.n.c., Italy

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	Organic Waste Systems NV, Belgium Bioprocess Pilot Facility B.V., The Netherlands Fertinagro Nutrientes, S.L., Spain Gaviplas, S.L., Spain Barilla G.E.R. Fratelli spa, Italy Indulleida SA, Spain Ardagh Group Italy srl, Italy
A.2 Interviewee	
Name	Raquel Giner (AIMPLAS)
Position	Expert Project Manager
Role in the project	Project Manager of AIMPLAS
Contact info (tel, e-mail)	rginer@aimplas.es / +34 967366040
Other participants	
B. Discussion (*CONSENT FOR PUBLICATION OF INTERVIEW IS PENDING)	
B.1 Expected outputs and market uptake	
B.2 Legislation and policy framework	
B.3 The user's perspective	
B4. Impact, visibility and explotation potential of the project/outputs	
B.5 Potential networking activities	

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ACRONYM	
Title/ Initiative Name	Bio-based and Biodegradable Industries Association
Programme	N/A
Beginning & Ending date	N/A
Coordinator	David Newman
Webpage	http://bbia.org.uk/
Type of action (RIA, IA, CSA, demonstration, other)	Demonstration
Value Chain	Waste valorisation
Budget / EU contribution	N/A
Focus on	a) Community building (active involvement of end-consumers in the design and production of bio-based products) b) Promoting the market uptake of bio-based products strengthening of regional bioeconomies
Summary	The interview focuses on the work of BBIA and its mission to promote the bioeconomy in the UK.
Objectives	BBIA's mission is to unite those working in the biodegradable and bio-based industries and to develop partnerships with those who share our vision: to put the bioeconomy agenda at the centre of the political debate on sustainability and economic growth in the UK.
Expected Impacts	Opportunities and standards opened up in the emerging green economy market thanks to BBIA working with companies and organisations involved in the production of bio-based and biodegradable chemicals and polymers for the benefit of the environment.
Leader	David Newman
Consortium	N/A

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Bin2Grid		
A.1 Project		
Title and acronym	Bin2Grid	
Programme	HORIZON 2020	
Beginning & Ending date	January 2015- December 2017	
Coordinator	Zagreb Holding	
Webpage	http://www.bin2grid.eu	
Type of action (RIA, IA, CSA, demonstration, other)	Demonstration	*Initial TRL:* *Final TRL:* (If applicable. Not for CSAs)
Value Chain	Waste valorization	
Budget / EU contribution	€710.000/100%	
Focus on (select one)	n) Development of bio-based product o) Community building (active involvement of end-consumers in the design and production of bio-based products) p) promoting the market uptake of bio-based products strengthening of regional bioeconomies	
Summary	The overall objective of Bin2Grid concept is to promote segregated collection of food waste as energy source, conversion to biogas, and its upgrading to biomethane and utilization in associated network of filling stations. Accent is given to defining strategies for establishing efficient network of food and beverage waste collection methods and practices. Four target cities were selected (Zagreb, Skopje, Malaga, Paris) to study the potential of biofuel production from food waste. Concept implementation for the target cities was based on different events, including workshops, foodwaste working group meetings and study tours.	
Objectives	To promote segregated collection of food waste from specific and various waste producers (food and beverage industry, catering, residential) in order to produce biofuel (biomethane) and its usage through local filling stations network.	
Expected Impacts	- increase of the renewable energy production through sustainable management of food waste - determination of energy potential from food and beverage	

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	- promote technologies for environmental friendly food waste management and biofuel production
Leader	Zagreb Holding
Consortium	Zagreb Holding (Croatia), Faculty of Mechanical Engineering and Naval Architecture (Croatia), WIP Renewable Energies (Germany), Gussing Energy Technologies (Austria), JSP Skopje (Skopje), City of Skopje (Skopje), Andalusian Institute of Techny (Spain), Ile-De-France Region Waste Management Observatory (France),
A.2 Interviewee	
Name	Bojan Ribić
Position	
Role in the project	Project coordinator
Contact info (tel, e-mail)	bojan.ribic@zgh.hr
Other participants	Eleni Karachaliou, Evangelia Tsagaraki (Q-PLAN)
B. Discussion	
B.1 Expected outputs and market uptake	Project work is divided in two main parts: the waste management part (collection and use of food waste) and the energy production part (production of biomethane to be used as biofuel). All activities regarding waste management have been already finished and the energy production tasks are now being finalized. Focusing on the potential of separate food waste collection, four pilots have been organised in Zagreb, Skopje, Malaga and Paris. In the next months, a concluding deliverable for all four pilot cities regarding energy production potential from biowaste will be available. Focused on separate collection of biowaste in 4 cities, ran some pilots, but made an assessment of quantities, infrastructure.
B.2 Legislation and policy framework	There is no legal obligation for separate collection of biowaste on the EU level. Nevertheless, obligations are regarding the decrease of landfilling of biodegradable waste (biwaste, paper, wood, etc.).
B.3 The user's perspective	The main target groups of Bin2Grid were primarily the authorities of the four pilot cities (Zagreb, Skopje, Malaga and Paris), the decision makers and the relevant ministries, the food waste producers (industry, catering and households) and finally the citizens as potential biomethane end-users. Surveys were conducted among citizens and cater services in the four target cities of the project about separate food collection. There were no issues with users' acceptance as the technologies studied are already mature. There are 300-400 biogas plants in

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	Europe using foodwaste for energy utilization. Also the use of biomethane as transport fuel already favors a good users acceptance.The project is focused also on development of local network of CNG filling stations.
B4. Impact, visibility and explotation potential of the project/outputs	All pilot results studying all options and possibilities for the four cities to collect food waste and produce biomethane to be used as biofuel have been presented in deliverables and will be concluded in the final report of the project, to be used by relevant decision makers. Also several good practices, guidelines and feasibility studies about food waste management in the four pilot cities have been elaborated. Finally, two benchmarking tools have been developed, about environmental sustainablity of collection of organic waste and about economic analysis of biomethane production, which are available to anyone interested. There were different promotion activities for the different target groups of the project (citizens, decision makers and authorities representatives and food waste producers). These included promotional and awareness campaigns, foodwaste working group meetings, training courses on food and beverage waste management.
B.5 Potential networking activities	All public deliverables of Bin2Grid could be uploaded at the Bin2Grid web site (http://www.bin2grid.eu). The only remaining event of the project is the final conference to be organized in Brussels on November 24th with two other HORIZON 2020 projects. Mr. Ribic would be happy to present Bin2Grid in one of BIOWAYS events after September and until the end of 2017, and even beyond.

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BioBarr		
A.1 Project		
Title and acronym	***6.6. "NEW BIO-BASED FOOD PACKAGING MATERIALS WITH ENHANCED BARRIER PROPERTIES – BIOBARRIER"*** **BioBarr**	
Programme	H2020-EU.3.2.6. / BBI-JU	
Beginning & Ending date	01/06/2017 – 31/05/2021	
Coordinator	TECNOALIMENTI S.C.P.A	
Webpage	http://www.biobarr.eu/	
Type of action (RIA, IA, CSA, demonstration, other)	BBI-2016-R05 - Advanced biomaterials for smart food packaging Type of action: BBI-RIA	Initial TRL: 2 Final TRL: 4-5 (If applicable. Not for CSAs)
Value Chain	VC3 – agro-based	
Budget / EU contribution	**6.6.1. Total cost: EUR 3 784 375** 6.6.2. **EU contribution: EUR 3 253 437,50**	
Focus on (select one)	**q) Development of bio-based product** r) Community building (active involvement of end-consumers in the design and production of bio-based products) s) promoting the market uptake of bio-based products strengthening of regional bioeconomies	
Summary	BioBarr will develop new bio-based and biodegradable food packaging materials by improving the barrier functionalities of the biopolymer PHAs (polyhydroxyalkanoates). The innovative biomaterial will be produced from agricultural wastes, co-products and/or by-products, extruded to get a film and functionalised through two different techniques. The film will be validated on an industrial scale, initially on a limited number of food products, with different shelf life and durability requirements.	
Objectives	○ To make and study different films based on PHA suitable for the targeted food packaging applications. These films will be	

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	produced using completely natural processes, using raw material derived from wastes and agro-industrial co-/by-products. ○ To study methods of PHA coating treatments without affecting the biodegradability. ○ To study methods to combine PHA with PLA (polylactic acid) to improve the oxygen and humidity barrier properties. ○ To determine the food safety, the legislative compliance and the industrial economic feasibility of these materials for food packaging applications. ○ To test the most promising materials as food packaging for bakery products, in collaboration with the food industry. ○ To assess environmental and economic performance of the bio-based materials
Expected Impacts	○ Create a viable bio-based alternative to fossil-based polymers for food packaging. ○ Reduce overall costs, as measured on a life cycle analysis basis, compared to on-market materials. ○ Improve the mechanical and/or functional properties of the new packaging materials in a specific field, as compared to state-of-the-art. ○ Increase the shelf-life of the targeted food products by at least 10 percent. ○ In the specific area of biodegradability, to contribute to the EU target of reducing the recyclable content in landfilled waste, by demonstrating that landfilling reduces as an end-of-life option for packaging material.
Leader	TECNOALIMENTI S.C.P.A (IT)
Consortium	TECNOALIMENTI S.C.P.A - Italy (Coordinator) BIO-ON SPA - Italy KAO CHIMIGRAF SLU - Spain Centro Nacional de Tecnología y Seguridad Alimentaria (CNTA) - Laboratorio del Ebro - Spain DANMARKS TEKNISKE UNIVERSITET - Denmark ICIMENDUE SRL - Italy TTY-SAATIO - Finland
A.2 Interviewee	
Name	Marianna Faraldi
Position	
Role in the project	Coordinator
Contact info (tel, e-mail)	m.faraldi@tecnoalimenti.com
Other participants	Lucia Vannini

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B. Discussion	
B.1 Expected outputs and market uptake	The application area is food packaging. Currently several bio-based plastics are on the market and largely used for food packaging or carrier bags. Among bioplastics, PHA (which will be studied in the BioBarr project) is not a new one. However, it has some critical aspects which limit its application as a food packaging, i.e. medium/low barrier properties towards gasess and water vapour. Therefore the project aims to develop and optimize a proper functionalization process to improve PHA barrier activity. This result will allow its use also for those foods which require low oxygen and relative humidity during storage in order to preserve their quality and increase their shelf-life. Currently no risks or barriers exist for this bioplastic since it is already widely studied and /or used. At this stage it is difficult to express about the price of the PHA packaging that will be produced within the project. Surely it will be more expensive than fosill-derived plastics, but compared to the traditional PHA such a difference in price is likely to be lower. On the other hand, it will be counter-balanced by the improved functional properties which will allow a wider applications in the food area. Overall, economic as well as environmental and sustainability aspects will be evaluated on the basis of LCA and LCC analyses. No hurdles are expected for the new functionalities nor from the industry (i.e. food industry or packaging producers) since it will increase the market of PHA, nor from the public since the project activities include assessment of the safety and absence of any risk the for the functionalized packaging that will be developed.
B.2 Legislation and policy framework	Within the project no specific activity to interact and contribute to policy makers decisions has been planned. On the other hand there is a task specifically devoted to check the compliance of the bio-based packaging (that will be developed within the project) to the current legislation requirements. At the end of the project, all the information and data collected on this issue will be anyway forwarded to policy-makers in case they can be useful for other bio-based packaging materials.
B.3 The user's perspective	Consumers are not the real "end-users" of the packaging material that will be developed, since it will be used by companies producing and selling packagings to food industries. At industry level, there are obviously no concerns and barriers, but only interest to have a new (i.e. with improved performances) bio-based packaging material, provided that it really has higher properties compared to the benchmarks and it complies all the legal requirements and safety issues.

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	Consumers are already quite well familiar with bio-plastics as food packaging and therefore no specific concern can be expected. Although dissemination activities will be targeted mainly to packaging companies and researchers, information also to Consumers associations will be performed through a final conference, but they will not be the primary target group of our communication events. No ethical issue is related to the project since we will use agricultural wastes/co-products/by-products as feedstocks and (bio)technological processes to produce PHA
B4. Impact, visibility and explotation potential of the project/outputs	Dissemination activities planned within the project include mainly participation to conferences and events targeting researchers and the industry (mainly food and packaging fairs, B2B events,...). Since the project outputs are expected to have high business potential, results are strongly sensitive to confidentiality issues and a careful planning of the dissemination actions is foreseen. No specific event for the consumers is planned, except for the final conference at which also consumers associations will be invited.
B.5 Potential networking activities	BioBarr is in principle interested in being informed on activites and events organized by BIOWAYS. Participation into future activities organized by BIOWAYS will be evaluated step-by-step in relation to the type of activity and mainly confidentiality issues of the project results as outlined/identified by the companies of the project consortium which are directly interested in the business exploitation. Info material related to MAKER FAIRE has been sent to BioBarr Coordinaor, but they declined the invitation to partecipate as the timing is not proper, i.e. the project is at a too early-stage to present any interesting data/result to the public. Also for the researcher night, no demo packaging material can be provided to BIOWAYS partners.

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BioRES		
A.1 Project		
Title	BioRES - Sustainable Regional Supply Chains for Woody Bioenergy	
Programme	Horizon2020 LCE-14-2014 - Market uptake of existing and emerging sustainable bioenergy	
Beginning & Ending date	01.01.2015 – 30.06.2017	
Coordinator	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ)	
Webpage	http://bioresproject.eu/	
Type of action (RIA, IA, CSA, demonstration, other)	CSA	*Initial TRL:* *Final TRL:* (if applicable. Not for CSA)
Value Chain	VC2, VC5	
Budget / EU contribution	1 865 411,25	
Focus on	t) Development of bio-based product u) Community building (active involvement of end-consumers in the design and production of bio-based products) **v) promoting the market uptake of bio-based products strengthening of regional bioeconomies**	
Summary	Setting up new Biomass Logistic and Trade Centres (BLTCs) in Serbia, Croatia, Bulgaria in areas with high woody biomass potential; as up today there are no BLTCs operating in the 3 countries with focus on the domestic market. http://bioresproject.eu/wp-content/uploads/2015/08/2015-08-06-BioRES_project_standard_presentation.pdf https://www.youtube.com/watch?v=ucva4h05jro&feature=youtu.be	
Objectives	Market uptake of domestic woody bioenergy supply chains by introducing the innovative concept of Biomass Logistic and Trade Centres (BLTCs) as regional hubs increasing local supply and demand based on cooperation with European partners.	
Expected Impacts	1. A total of at least **6 - 8 new Biomass Logistic and Trade Centres** (BLTCs) distributed over at least 2 of the 3 countries 2. **Sales agreements with energy consumers** in rural areas for a total of at least **8,000 tons per year** (in average 1,000-1,500 tons per year per	

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	BLTC) of woody bioenergy products, backed by at least the same volume of delivery agreements with producers 3. A total of at least **12 trainers** (representatives of commercial associations of bioenergy producers or of regional energy agencies) and at least **400 potential actors along the supply chain are trained** and their capacities developed on how to implement and manage regional supply chains for quality woody bioenergy products from sustainable forestry
Leader	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ)
Consortium	– European Biomass Association (AEBIOM) – Landeskammer für Land-und Forstwirtschaft Steiermark (LK-STMK) – Central Agricultural Raw Materials Marketing and Energy Network (CARMEN) – Natural Resources Institute Finland (Luke) – The Energy Agency of Savinjska, Šaleška and Koroška Region (KSSENA – The North-West Croatia Regional Energy Agency (REGEA) – The National Biomass Association Serbio (SERBIO) – The Bulgarian Biomass Association (BGBIOM) – ISABEL Project
A.2 Interviewee	
Name	
Position	
Role in the project	
Contact info (tel, e-mail)	
Other participants	
B. Discussion	
B.1 Expected outputs and market uptake	
B.2 Legislation and policy framework	**The broader exploitation potential of their results in terms of affecting/contributing to policy making and/or uptake** As a mid-term impact of the BIORES project a progress in positive attitudes towards bioenergy, sustainable forestry management and adopting the BLTC approach for local regions increased. The local authorities expressed their support for the establishment of BLTCs and development of new BLTCs outside of project scope is in discussion in Croatia as well as in Bulgaria. As such the project has made a good

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	contribution towards changing the attitudes and political priorities towards bioenergy and can be considered a success. Even though it is a finished project the coordinator of the project is very much willing to participate in BIOWAYS activities and talk about the activities of BIORES project. We could invitem him to our events as an example of a successful project in bioenergy. Since BIORES project was about introducing the concept of BLTCs into Serbia, Croatia and Bulgaria, there is a potential for follow up projects and introducting the same successful concept to other countries with similar characteristics (e.g Estonia, Latvia, Lithuania with huge forest stock). BIORES project is also interested in having their results and materials promoted and shared on BIOWATCH platform.
B.3 The user's perspective	
B4. Impact, visibility and explotation potential of the project/outputs	**The activities taken to increase visibility of your project results as well as your target audience beyond project implementation** Even though Serbia, Croatia and Bulgaria are forest rich countries, using the forest for bioenergy is not very developed. Of the current sources of renewable energy in the region, biomass is the most significant, with the forestry sector being the main biomass supplier, but the firewood used for heating is mainly burnt in inefficient individual domestic stoves and fireplaces, which cause additional hazards, such as particulates in the air. To be able to develop the BLTCs a lot of awareness raising activities had to be carried out towards all stakeholders: consumers, local authorities, businesses and potential investors. A lot of activities were directed towards potential investors (information seminars, trainings, study tours, assistance in getting financing) to convince them to establish and run the local BLTCs. A promotional video about BLTC's was developed in different languages: https://www.youtube.com/watch?v=ucva4h05jro&feature=youtu.be **The short-to-medium term impact of the research work on key socio-economic and environmental challenges Europe and its citizens are facing** South-East European countries have huge dependency on oil and natural gas as energy sources and the development of woody biomass market for energy purposes is still in the early stages. At the same time the countries targeted in the project (Serbia, Croatia and Bulgaria) have huge wood resource in forests:

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	– in Serbia forests make up 29% of total land area; – in Croatia 47% of total land area – and in Bulgaria 37.4 % of total land area. In Austria, Germany and Finland producing bioenergy from biomass has been a part of economy for a long time and many good practises have been developed, that could easily be introduced to other countries. In Austria, Germany and Finland Biomass Logistic and Trade Centres of different types, with their own production, storage and logistic facilities, are competitively operating. They an important regional factor in the promotion of woody biomass as a locally available energy source. This helps diversify energy supply, create jobs, particularly in rural areas, and ensure that investments are local and that greenhouse gas emissions are reduced. As a result of the BIORES project: - 9 new Biomass Logistic and Trade Centres established in Serbia, Croatia, Bulgaria - Processes and tools for futher opening of new BLTCs were developed - A lot of awareness raising activitites undertaken to promote the concept of using bioenergy and establishing BLTCs - People trained on how to implement and manage regional supply chains for quality woody bioenergy products from sustainable forestry As a mid-term impact of the BIORES project a progress in positive attitudes towards bioenergy, sustainable forestry management and adopting the BLTC approach for local regions increased. The local authorities expressed their support for the establishment of BLTCs and development of new BLTCs outside of project scope is in discussion in Croatia as well as in Bulgaria. As such the project has made a good contribution towards changing the attitudes and political priorities towards bioenergy and can be considered a success.
B.5 Potential networking activities	

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BIORESCUE		
A.1 Project (for projects under BBI, check Project info in BBI website)		
Title and acronym	Enhanced bioconversion of agricultural residues through cascading use. BIORESCUE	
Programme	BBI JU	
Beginning & Ending date	01 September 2016 - 31 August 2019	
Coordinator	Fundación CENER-CIEMAT, Spain	
Webpage	https://biorescue.eu/	
Type of action (RIA, IA, CSA, demonstration, other)	Research & Innovation Action	
Value Chain	Across VCs	
Budget / EU contribution	BBI JU contribution: € 2,635,140.63	
Focus on (select one)	Development of bio-based product	
Summary	Europe's mushroom industry generates approximately five million tonnes of spent mushroom substrate (SMS). This is the extraneous substrate and mushroom mycelium that is left behind after harvesting the mushrooms. Storing and disposing of this SMS has become a significant economic and logistical problem. Disposing of it can cost up to €50 per tonne, creating a bill of up to €250 million for the mushroom industry each year. BIOrescue aims to demonstrate and develop the concept of an integrated bio-production process based on the cascading use of SMS supplemented with wheat straw (WS) and other underutilised lignocellulosic feedstocks. When applied within a conventional mushroom production farm, this will turn it into an efficient and sustainable bio-refinery. BIOrescue will turn the economic and logistical problem of waste SMS into biochemical materials that can be used as replacements to those derived from fossil resources.	
Objectives	The BIOrescue project aims to develop and demonstrate a new innovative biorefinery concept based on the cascading use of spent mushroom substrate (SMS) supplemented by wheat straw and other seasonal underutilised lignocellulosic feedstocks. i.e pruning residues, residual citrus peels and wastes. This new concept will avoid disposal and allow for the production of some biodegradable bio-based products and bioactive compounds that will help to replace the existing ones based on fossil resources.	

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Expected Impacts	• Use underutilised seasonal feedstock: in addition to using SMS and wheat straw, BIOrescue also evaluates the suitability of a range of other underutilised feedstocks for the process scheme. • Ensure year round operation by using SMS as a major component and wheat straw which is a resource that is already stored at mushrooms farms. • Consider cascading use of biomass when biomass is processed into a bio-based final product which is used at least once more, either for materials or energy. • Upgrade the SMS feedstock into higher value derived bioproducts • Achieve a 20% overall cost-reduction in the enzymatic hydrolysis step. • Reach a 20% improvement in resource efficiency by reducing hydrolysis times and the amounts of cellulose and enzyme. • Keep "Green Premium", which is understood as the extra price market actors are willing to pay for a green/bio-based product, at minimums by efficiencies inherent in operational activities and productions inputs that support the cost-effectiveness of the process. • Investigate on the role of some of SMS-derived bioproducts compared to their respective fossil alternatives. • Validate at pilot scale the production of bioproducts that are expected to have superior properties and characteristics compared to fossil based ones.
Leader	• Fundación CENER-CIEMAT, Spain
Consortium	• Universita degli studi di Napoli Federico II, Italy • Monaghan Mushrooms, Ireland • METGEN, Finland • CLEA Technologies BV, Netherlands • ZABALA Innovation Consulting, S.A., Spain • Greenovate! Europe, Belgium • Max Planck Institute for Polymer Research, Germany • CELIGNIS Limited, Ireland • Imperial College Centre for Environmental Policy (CEP), Faculty of Natural Sciences, United Kingdom • C-TECH Innovation Limited, United Kingdom
A.2 Interviewee	
Name	Inés del Campo Colmenar
Position	
Role in the project	

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Contact info (tel, e-mail)	idelcampo@cener.com
Other participants	
B. Discussion	
B.1 Expected outputs and market uptake	**Which are the application areas/market segments related to your project's bio-based product?** The project will develop sustainable bio-refinery processes from spent mushroom substrate enriched with wheat straw and other lignocellulosic biomass, to produce biochemicals as enzymes, fertilizers, biodegradable nanocapsules, biopesticides, etc How is the current situation of the market potential and penetration of product? There is a specific Work Package dedicated to study the exploitation of the products Which are the benefits and opportunities of these products? The environmental benefits of a sustainable use of waste are clear, but it is still early to know about the technical characteristics of the resulting products. The mushroom industry would improve its economic return, ideally by having biorefineries in their own facilities, and making use of their own bioproducts. The costs of landfilling this waste would be eliminated. Which are the barriers, risks and concerns of these products? They might be more expensive. Also, some sectors might be hesitant to adopt them (e.g. Pharmaceutical) Does your product outperform its fossil-based counterpart? If the answer is yes, do you expect the end-users to pay a premium for it? It is still too early to know. Is there a life-cycle analysis (LCA) comparing product and its fossil-based counterpart? It is foreseen to perform a LCA Do you expect including your product in public, 'green', pre-commercial innovation procurement? It is not foreseen.

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B.2 Legislation and policy framework	Have you planned interaction activities or communication and dissemination actions with policy-makers? Yes, a policy workshop is foreseen to the end of the project.
B.3 The user's perspective	Which are the consumers' needs, concerns and perceptions about the product and its application? How do users respond to this market area? Are they familiar with this category of products? What you think could help raise their awareness and acceptance about them? Customers and end users are more environmentally aware these days, and believe these products are good for the planet, but they still need more information and education on this matter. Have you identified any ethical issues regarding the development of the product? The developement of the product causes no ethical issues.
B4. Impact, visibility and explotation potential of the project/outputs	Which are the expected impacts of the product on key socio-economic and environmental challenges faced by Europe and its citizens (slow growth, unemployment, low competitiveness, climate change, resource scarcity, etc)? Which are their benefits in terms of sustainability? The development of a new industry for this kind of waste could have an impact on growth, employment and competitiveness. The reduction in the mushroom industry wastes will also have a positive impact in the environment. In your opinion, which is the short to medium term impact of your research work? The main impact will be on the mushroom industry, but we believe this achievements could be applied to a broad range of industries. Which are the activities taken/planned to increase visibility of your findings? Which are your main dissemination and communication means and activities? Website, articles, participation in workshops and congresses, video, leaflet, etc. Which is your target audience beyond project implementation?

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	The mushroom industry and other industries with similar wastes and by-products. Application of the results in other industries as agri, pharma, …
B.5 Potential networking activities	Would you like to be informed in BIOWAYS collaborative activities (workshops, thematic charrettes, barcamps, etc)? Would you like to take part in any of them? Yes Do you give your consent to use this interview as a source of information in our deliverables? Do you agree in including your project in our Bio-Watch platform and other dissemination tools as social media, website, etc? Yes How can BIOWAYS collaborate in the dissemination of your activities and outputs? Do you have any public promotional document (factsheet, leaflet, presentation, video, article, educational or trainning material, etc) you would like to be disseminated through BIOWAYS tools and platform? Through the BioWatch platform.

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BIOSEA		
A.1 Project		
Title and acronym	Innovative cost-effective technology for maximizing aquatic biomass-based molecules for food, feed and cosmetic applications - BIOSEA	
Programme	BBI-JTU	
Beginning & Ending date	From 2017-06-01 to 2020-05-31	
Coordinator	ASOCIACION DE INVESTIGACION DE LA INDUSTRIA TEXTIL	
Webpage	http://cordis.europa.eu/project/rcn/210287_en.html	
Type of action (RIA, IA, CSA, demonstration, other)	RIA	
Value Chain	Aquatic biomass	
Budget / EU contribution	Total cost: EUR 4 491 382,50 EU contribution: EUR 2 611 223,01	
Focus on (select one)	w) Development of bio-based product	
Summary	EU society needs new sustainable bio-based feedstocks to meet population growth and reduce dependence on fossil fuels for raw materials; almost 70 percent of the EU's protein needs are imported. Aquatic feedstock offers a potential solution, however its total production volume and market size are still relatively small. In addition, the algae feedstock market is still relies on immature technologies for production and technologies not specifically designed for the purpose. The BIOSEA project aims to validate and scale up an entire production process of ingredients from the lipid, protein, carbohydrates and minority compounds fractions of four algae, including upstream and downstream steps. The BIOSEA process will be effective and environmentally friendly and the compounds will be obtained at low cost, leading to the future industrialisation of the process.	
Objectives	• BIOSEA will pursue the following specific objectives: • Develop and validate innovative, cost-effective and environmental friendly processes or cultivating two microalgae and two macroalgae to produce and extract	

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	high value active principles at low cost for food, feed and cosmetic/personal care use. • Improve the cost effectiveness of the production of ingredients for comparable products by 55 percent over to current routes by using algae. • Improve the yield per mass unit of the desired compounds vs current routes through the BIOSEA process. • Develop and formulate new ingredients using the active principles obtained via the BIOSEA process to create improved, high added-value products that comply with EU legislation, including food ingredients such as proteins with a high nutritional content, feed ingredients for obtaining fish feed with inmunostimulative properties and swine feed with a high protein content in proteins and functional compounds. It will also develop cosmetic and personal care bio-compounds for counteracting skin ageing. • Develop and validate a microencapsulation process that enhances the stability of bioactive compounds for incorporating them in industrial formulations and to provide a smart controlled-release system for of the active ingredient. • Ensure the economic, technical and environmental sustainability of the BIOSEA process and products
Expected Impacts	• Establish a new process for extracting separate compounds of interest, or purifying them, at sufficiently high yields and low costs that allow the processes to be scaled up cost effectively. • Establish innovative mechanisms for obtaining the greatest profitability from aquatic biomass, achieving improved yield per mass unit biomass in the cultivation process, with a predicted 55 percent improvement in cost-effectiveness over existing procedures. • Improve yield per mass unit biomass-input, or improve cost effectiveness when compared to current approaches to producing comparable products. • Establish innovative mechanisms for maximising the profitability of aquatic biomass, achieving improved yield per mass unit biomass during the cultivation process
Leader	ASOCIACION DE INVESTIGACION DE LA INDUSTRIA TEXTIL Spain
Consortium	Centro Nacional de Tecnología y Seguridad Alimentaria (CNTA) - Laboratorio del Ebro Spain FUNDACION CENTRO TECNOLOGICO ACUICULTURA DE ANDALUCIA Spain VLAAMSE INSTELLING VOOR TECHNOLOGISCH ONDERZOEK N.V.

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	Belgium TABU COZUMLERI DANISMANLIK LIMITED SIRKETI Turkey IGV INSTITUT FUR GETREIDEVERARBEITUNG GMBH Germany BIOPOLIS SL Spain VAN LOON CHEMICAL INNOVATIONS BV Netherlands FEYECON DEVELOPMENT & IMPLEMENTATION BV Netherlands COMPLEMENTOS DE PIENSOS COMPUESTOS SA Spain DIBAQ DIPROTEG SA Spain SORIA NATURAL S.A. Spain HENKEL KGaA Germany
A.2 Interviewee	
Name	Simona Moldovan
Position	Researcher
Role in the project	Researcher
Contact info (tel, e-mail)	smoldovan@aitex.es
Other participants	
B. Discussion	
B.1 Expected outputs and market uptake	**Which are the application areas/market segments related to your project's bio-based product?** BIOSEA project is oriented towards three main market sectors: FOOD, FEED and COSMETICS, with the development of high-value added products obtained from micro and macro algae biomass. **How is the current situation of the market potential and penetration of product?** When referring to bio-based products originating form algal biomass it must be taken into consideration that at industrial level, we can only be talking about immature levels of technology applied to the already mentioned markets. On the other hand, the green/bio-products from other sources than algal biomass (as, for example:

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	plants), tendency is existent in food, feed and cosmetic industries and is gaining more and more importance, even though, plant cultivation shows environmental protection inconveniences. But, thanks to the BIOSEA project some of them are meant to be surpassed on the road to a more sustainable industry. **Which are the benefits and opportunities of these products?** In the context of the new environmental demands, generated by the increasing pollution level and resource scarcity, the new products aimed to be developed by the BIOSEA project are meant to contribute in reducing Europe´s feedstock imports, by diminishing the pressure applied on land resources and by opening new markets and business opportunities in compliance with the ecological needs. **Which are the barriers, risks and concerns of these products?** The use of substances or compounds obtained from algae for usage in food and feed applications as substitutive of traditional protein sources, as cereals or animal protein, can be an obstacle for its introduction for consumption. Social acceptation of algae for human consumption can be a market barrier in the European society. Regarding technical regulations and standards to be accomplished in all of the fields of application of the products obtained, they are different depending on the sector and the scope of the activities involved. In conclusion, the main barriers are represented by the society acceptance power and the market regulations. **Do you expect your product to be price-competitive in comparison with its fossil-based counterpart? Does your product outperform its fossil-based counterpart?** The new optimized processes planned to be developed in BIOSEA project will reduce the price of current compounds derived from algae, with a global improvement throughout the whole value chain due to the optimization processes applied (55%) Then BIOSEA products will be more competitive for massive markets, as food, feed and cosmetics/personal care, becoming a potential substitute for current traditional sources, as vegetable proteins from soy, rice or wheat used in food and feed applications. Moreover, as the extraction and quantification of the active compounds are represented by a cascading process, it will be fulfilled also other needs, present in the industrial world, as obtaining natural functional compounds for use in the cosmetic industry. With this regard, extracts of algae have significant nutritional toning, moisturizing, smoothing, cleansing, draining, and antioxidants. The efficacy and cosmetic function varies depending on the dosis and the extract used.

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	Is there a life-cycle analysis (LCA) comparing product and its fossil-based counterpart? It is foreseen to perform a LCA **Your opinion on potential hurdles on the new product or new functionality:** ○ **low public and private (industrial) demand (in terms of procurement and application)** ○ **resistance from established industrial sectors** ○ **unfavourable public perception of bio-based products and applications** The three mentioned are indeed potential hurdles in this case. **Do you expect including your product in public, 'green', pre-commercial innovation procurement?** It is not foreseen
B.2 Legislation and policy framework	**What would you consider to be the gaps and the barriers in the existing legislation affecting your product? Which is your opinion on the policy and regulatory requirements affecting the new product or new functionality (standards, safety aspects, labels and certification and REACH legislation). Describe the broader exploitation potential of your results in terms of affecting/contributing to policy making and/or uptake.** Legislation in the food, feed and cosmetic industry is characterized by a complex and restrictive character. This property could be the one representing a more difficult phase in terms of introduction of the newly developed products on the market. The research and technology development in BIOSEA will help on one hand, to expand the business opportunities of the algae market and on the other, the know-how and business opportunities of all the partners (large company, SMEs and research organisations) involved. The project offers to most of the companies involved new possibilities to improve their innovation capacities and expand their business models. BIOSEA products, obtained from new and optimized extraction processes, from selected algae crops, will be introduced into the market through final applications by the industrial end users. Traditional compounds, for food, feed and cosmetics/personal care will be substituted by new compounds of higher performance from local origin. First applications developed under the project will be a first step for further applications in the sectors involved, so the impact will not be restricted to the participating consortium as the obtained compounds will be of further application to different subsectors related. All steps of the value chain will benefit from the innovations obtained from BIOSEA and will be a key factor for a future increase of competitiveness of the industrial partners involved.

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	The products obtained from BIOSEA will represent suitable replacements for many chemicals, therefore the positive impact will be important. Furthermore, considering that natural products are the fastest growing cosmetic industry, with sales increasing by 20% a year compared with 2% for total conventional cosmetics and the provision of a legislative framework that strongly support the natural cosmetics market by 2020 in the EU, it is clear that this is field of very high growth. Maximizing the potential impact among the relevant stakeholders including society, industry, regulatory bodies, end users from different sectors involved is a priority of BIOSEA project, as one of the main barriers for the resulting products will be the full acceptance and substitution of traditional components by other obtained from algae. With this purpose, all partners involved in BIOSEA are conscious about the importance of reaching all target groups, then, the different interests of the consortium partners have been considered in order to focus the dissemination activities in an effective way. The support of the EU will be recognized in all the publications resulting from the project. Exploitation and protection of the results obtained during BIOSEA project will be taken into account from the beginning of the project, with special interests and specific requirements that every sector involved has individually. **Have you planned interaction activities or communication and dissemination actions with policy-makers?** Yes, with regulatory and certification bodies
B.3 The user's perspective	**Which are the consumers' needs, concerns and perceptions about the product and its application? How do users respond to this market area? Are they familiar with this category of products? What you think could help raise their awareness and acceptance about them?** BIOSEA is fully aligned with Responsible Research Innovation (RRI) concept, as involves industry, academic and social aspects taken into account in the full project showing a strong transdisciplinarity. Public engagement is shown through the interest of different association and public entities supporting the project. Gender equality is ensured with the participation of both male and female in all activities of the project. Also, the proposal is coordinated by Marcela Ferrandiz (female). Open access of results is considered for scientific results and Ethic issues have been taken into account in activities where animals are involved. Finally, social conscientious about application of new bio-based products obtained will be taken into account in dissemination activities. Ethical issues are not raised in the BIOSEA project due to compliance with the ethical principles, even when involving activities where

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	animals are subjected to tests, case where all the regulations are respected (due to the expertise of the partners applying the tests). Even though, a non-EU country takes part of the project consortia, the ethical issues regarding technical activities or import/export of goods are under compliance (as the partner is involved in the realization of the LCA analysis of the project value chain activities and obtained products). The main dissemination activities are focused on final producer companies of the sectors involved and final users. The goal is to disseminate BIOSEA objective and results among the interested industry sectors, promoting the use of substances derived from algae in the different target industries (food, feed and cosmetics). Due to the different steps to be included in the development of the project, from the identification of suitable algae, the development of the extraction process, formulation of the components and finally the products in which they will be included, the composition of the project consortium, including technological centres, technological SMEs and final manufacturers from different sectors, becomes very important. **Have you planned interaction activities or communication and dissemination actions with consumer representatives?** Yes, actions are foreseen with Citizen/Consumer organisations and Individual consumers
B4. Impact, visibility and explotation potential of the project/outputs	**Which are the expected impacts of the product on key socio-economic and environmental challenges faced by Europe and its citizens (slow growth, unemployment, low competitiveness, climate change, resource scarcity, etc)? Which are their benefits in terms of sustainability?** As already mentioned before, the main starting point of the BIOSEA project is based on the emergent need of taking prevention measures for the increasing level of industrial pollution and the resource scarcity. As the project description already reveals, the BIOSEA aims to validate and scale up a complete production process of ingredients from 4 algae biomasses, including the upstream and downstream processes using a cascading biorefinery concept approach including all the processing steps of the value chain from the raw material production to the final product validated in industrial applications. BIOSEA process will be effective and environmental friendly and the compounds will be obtained at low cost and will be used in food, feed and cosmetic/personal care markets. In this way, the industrialization of the process could be addressed once the project ends. By planning a biorefinery approach it may be possible including in the discussion the concept of circular bio-economy, which can be applied to the BIOSEA conceptual approach, in terms of employing at the most efficient level the biomass obtained in its optimum state and

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	composition, in terms of taking advantage of the biomass from the raw material until the residual biomass/fractions reutilization for the obtention of a higher number of active compounds. Taking into account that the project is defined as a RIA (Research and Investigation Action), and even though it is planned to deliver a fully described technology of algal biomass exploitation, short to medium term application of the results is not foreseen, due to up-scaling steps necessary to be applied for a fully industrial-scale product commercialization. **Which are the activities taken/planned to increase visibility of your findings? Which are your main dissemination and communication means and activities?** Website, Dissemination material, Publications and conference speeches, Stakeholders workshops, Promotional videos **Which is your target audience beyond project implementation?** The packaging, food and automotive industry
B.5 Potential networking activities	**Would you like to be informed in BIOWAYS collaborative activities (workshops, thematic charrettes, barcamps, etc)? Would you like to take part in any of them?** Yes **Do you give your consent to use this interview as a source of information in our deliverables? Do you agree in including your project in our Bio-Watch platform and other dissemination tools as social media, website, etc?** Yes **How can BIOWAYS collaborate in the dissemination of your activities and outputs? Do you have any public promotional document (factsheet, leaflet, presentation, video, article, educational or trainning material, etc) you would like to be disseminated through BIOWAYS tools and platform?** We would appreciate the help of BIOWAYS in the dissemination of our activities and outputs. As the projects is at incipient stage of development, the dissemination materials and tools are under development, but as soon as we are running them we would like to collaborate in all the ways. **Is there any other project, initiative or representative case study you would like us to be aware of?**

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BUTANEXT		
A.1 Project		
Title and acronym	Next Generation Bio-butanol - BUTANEXT	
Programme	H2020	
Beginning & Ending date	From 2015-05-01 to 2018-04-30,	
Coordinator	Green Biologics Ltd	
Webpage	http://butanext.eu/	
Type of action (RIA, IA, CSA, demonstration, other)	RIA	
Value Chain		
Budget / EU contribution	Total cost: EUR 4 599 414 EU contribution: EUR 4 599 414	
Focus on (select one)	x) Development of bio-based product	
Summary	Biobutanol is an attractive commodity chemical and advanced biofuel with superior properties but the 1st gen process suffers from technical and economical constraints. ButaNexT project aims to overcome some of those technical barriers through a novel combination of innovations. Individual stages of the process supply chain will be developed, validated and optimized at lab-scale and then integrated and demonstrated at pilot scale. A holistic approach is proposed to produce cost-competitive biobutanol from 3 types of lignocellulosic biomass and waste in a sustainable way being flexible to accommodate regionally specific feedstocks.	
Objectives	Biofuels reduce greenhouse gas emissions and the dependence on transportation fuels derived from finite petroleum sources. The development of biofuels from sustainable feedstocks is improving Europe's fuel security and supports achieving the EU's objective of having 10% of transport fuel deriving from renewable sources by 2020. However, conventional, first generation biofuels (ethanol and biodiesel) exhibit a number of limitations relating to their sustainability, high production costs, performance properties and incompatibility with existing infrastructures. More advanced biofuels (such as biobutanol), based on sustainable feedstocks and	

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	highly efficient production processes, have the potential to overcome these limitations. Biobutanol is an exciting alternative to first generation biofuels due to its chemical characteristics, making it more fuel efficient and suitable for use in gasoline engines without the need for modification. However, due to the inefficiencies and costs associated with the current production process, biobutanol is yet to gain market establishment. The ButaNexT project will develop highly efficient production processes and convert sustainable feedstocks for the next generation of biobutanol. This will contribute to overcoming the current challenges and limitations exhibited by the first generation of biofuels. The ButaNexT consortium is a multi-disciplinary team comprised of SMEs, a large company and research centres from Belgium, the Netherlands, Spain and the United Kingdom. The team aspires to optimise each stage of the biobutanol production value chain: biomass pre-treatment, fermentation, downstream processing and blending. It is expected that ButaNexT will realise significant reductions in both production costs (up to 50%, to attain price-parity with first generation biofuels) and carbon emissions (up to 85%) compared with fossil fuels (gasoline). Moreover, the project will work on maximising the biobutanol conversion yields from selected lignocellulosic feedstocks such as wheat straw, miscanthus and the organic fraction of Municipal Solid Waste.
Expected Impacts	Project exploitable outputs include: (1) Novel low CAPEX two-step pretreatment process that releases hemicellulose and cellulose from recalcitrant feedstocks for further enzymatic and/or fermentation processing, (2) New tailored enzyme cocktail yielding highly fermentable sugars at low enzyme dosages and lower cost. (3) Superior clostridial strains with enhanced production characteristics i.e. butanol and inhibitor tolerance. (4) High productivity fermentation process including a novel in-situ product recovery step. Technology advances allow sustainable feedstock diversification, improve conversion yields and efficiency, reduce energy requirements, and water usage. We expect significant reductions in cost (target $800/T which equates to 50% of current 1st gen solvent production in China) as well as enhanced energy balances and reduced GHG emissions vs 1st gen biofuel production (target a 85% reduction). The project output (a technically and economically-validated process) will provide the EU with a tremendous opportunity to

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	build an advanced biofuel business from sustainable feedstocks. This is strategically important to contribute to the European 10% target for renewable transportation fuels for 2020. The proposed project fits into the topic ”Developing next generation technologies for biofuels and sustainable alternative fuels” (LCE-11-2014).
Leader	Green Biologics Ltd
Consortium	TECNICAS REUNIDAS SA Spain FUNDACION CENER-CIEMAT Spain Dyadic Nederland BV Netherlands C-TECH INNOVATION LIMITED United Kingdom UNIVERSIDAD DE CASTILLA - LA MANCHA Spain VLAAMSE INSTELLING VOOR TECHNOLOGISCH ONDERZOEK N.V. Belgium E4TECH (UK) LTD United Kingdom ZABALA INNOVATION CONSULTING, S.A. Spain METGEN OY Finland
A.2 Interviewee	
Name	Tim Davies
Position	
Role in the project	Coordinator
Contact info (tel, e-mail)	tim.davies@rubusscientific.com
Other participants	
B. Discussion	
B.1 Expected outputs and market uptake	**Which are the application areas/market segments related to your project’s bio-based product?** The project develops highly efficient production processes to convert sustainable feedstocks (wheat straw, miscanthus and organic fibre from Municipal Solid Waste) in biobutanol. This processes aim to overcome the inefficiencies of the curent batch processes, and replace them with sustainable feedstocks.

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	How is the current situation of the market potential and penetration of product? The market potential for these processes and product is high. Nevertheless there are challenges to be addressed. On the one hand, it will be necessary to achieve cost efficiency. On the other hand, there are certain sustainability issues related with the availability of feedstocks, the required use of land for the crops, specially when it brings about deforestation. **Which are the benefits and opportunities of these products?** The main benefit is related to the sustainability. A Life Cicle Assessment (LCA) will be performed, and we believe the results will prove this right. **Which are the barriers, risks and concerns of these products?** The production cost is the main barrier at this moment. Falso, fuel industry is a very large and well stablished sector. Biofuels are still produced in small cuantities. There are therefore logistic difficulties for including biofuels in the large fuel value chain. It would be easier to introducie it in specific vehicles fleet, such as city bus services. Additionally, the public perception of biofuels is not always positive. Consumers tend to see them as low performance fuels and environmentally damaging. **Do you expect your product to be price-competitive in comparison with its fossil-based counterpart?** It has to be price competitive, once the process is optimiced. Projects as Butanext aim to this goal. **Does your product outperform its fossil-based counterpart? If the answer is yes, do you expect the end-users to pay a premium for it?** This is one of our objectives. We are assessing several blends with gasoline and diesel. Results at this moment are positive. Also, this potentially is a cleaner fuel. Nevertheless, we don't expect consumers to pay a premium, our goal is price competitiveness.
B.2 Legislation and policy framework	**What would you consider to be the gaps and the barriers in the existing legislation affecting your product? Which is your opinion on the policy and regulatory requirements affecting the new product or new functionality (standards, safety aspects, labels and certification and REACH legislation). Describe the broader exploitation potential of your results in terms of affecting/contributing to policy making and/or uptake.** A relevant gap is that butanol is still not approved as fuel in the EU. Our project is addressing this issue through discussions with regulatory agencies and bodies. On the other hand, we believe that legislation should promote the uptake of these products among industry and consumers, for instance through tax benefits or other incentives for production and consumption.

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	Have you planned interaction activities or communication and dissemination actions with policy-makers? Yes, these kind of actions are foreseen.
B.3 The user's perspective	**Which are the consumers' needs, concerns and perceptions about the product and its application? How do users respond to this market area? Are they familiar with this category of products? What you think could help raise their awareness and acceptance about them?** As explained before, consumers doesn't always have a positive oppinion about biofuels **Have you identified any ethical issues regarding the development of the product?** Only the aforementioned issues related to use of land for non-food crops and risk of deforestation.
B4. Impact, visibility and explotation potential of the project/outputs	**Which are the expected impacts of the product on key socio-economic and environmental challenges faced by Europe and its citizens (slow growth, unemployment, low competitiveness, climate change, resource scarcity, etc)? Which are their benefits in terms of sustainability?** The substitution of fossil fuels has an impact in climate change and resource efficiency challenges. It has to be reminded that the EU imports most of the fuel form outside Europe. Additionally, there is an opportunity for economical growth, employment and competitiveness, specially in rural areas living off of agriculture. **Which are the activities taken/planned to increase visibility of your findings? Which are your main dissemination and communication means and activities?** Two workshops have already taken place, and other one is scheduled in two weeks. Also, several academic papers, a webiste, video and congresses. **Which is your target audience beyond project implementation?** Oil industry and policy makers
B.5 Potential networking activities	**Would you like to be informed in BIOWAYS collaborative activities (workshops, thematic charrettes, barcamps, etc)? Would you like to take part in any of them?** Yes **Do you give your consent to use this interview as a source of information in our deliverables? Do you agree in including your project in our Bio-Watch platform and other dissemination tools as social media, website, etc?** Yes **How can BIOWAYS collaborate in the dissemination of your activities and outputs? Do you have any public promotional**

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	document (factsheet, leaflet, presentation, video, article, educational or trainning material, etc) you would like to be disseminated through BIOWAYS tools and platform? We are interested in disseminating our activities through any BIOWAYS mean and tool **Is there any other project, initiative or representative case study you would like us to be aware of?**

DAFIA		
A.1 Project		
Title and acronym	Biomacromolecules from municipal solid bio-waste fractions and fish waste for high added value applications. DAFIA	
Programme	H2020	
Beginning & Ending date	From 2017-01-01 to 2020-12-31	
Coordinator	AIMPLAS	
Webpage	http://www.dafia-project.eu/	
Type of action (RIA, IA, CSA, demonstration, other)	RIA	
Value Chain		
Budget / EU contribution	Total cost: EUR 6 430 196,25 EU contribution: EUR 6 430 196,25	
Focus on (select one)	y) Development of bio-based product	
Summary	Municipal solids waste (MSW) are collected by municipalities and represents more than 500 kg/capita (EU-27 average), 300 million tonnes overall every year in the EU-32. Currently, approximately 50% of this volume is landfilled. More than 1.3 million tonnes of Marine rest raw material (MRRM) are generated in Europe each year. Some countries, such as Norway and Denmark, have traditionally for animal feed. It will therefore be a challenge for the industry to develop methods to turn fish viscera and skin, currently	

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	considered as undesirable raw materials for hydrolysis and human consumption, into profitable products. DAFIA will exploit MSW and MRRM as feedstocks for high value products. The parallel exploitation of the two feedstocks may create synergies. This expertise will be utilised in process development from MSW, while at the same time, new added-value products may be identified from both feed stocks. The main objective of the DAFIA project is to explore the conversion routes of municipal solid waste (MSW), and marine rest raw-materials (MRRM) from the fish processing industries, to obtain high added value products, i.e. flame retardants, edible/barrier coatings and chemical building blocks (dicarboxylic acids and diamine) to produce polyamides and polyesters for a wide range industrial applications. Different value-chains and products will be selected and explored based on the potential commercial value and the technical feasibility including new microbial strains and processes for conversion of major feedstock fractions, enzymatic and chemical modifications of components isolated from the feedstock or produced in microbial processes. Up to four cost-effective molecule groups suitable for the final selected applications will be targeted (nucleic acids, dicarboxylic acids, diamines and gelatine), & two value-chains (MSW & MRRM) will be evaluated at pilot scale to reach TRL5.
Objectives	•
Expected Impacts	•
Leader	ASOCIACION DE INVESTIGACION DE MATERIALES PLASTICOS Y CONEXAS - AIMPLAS Spain
Consortium	POLITECNICO DI TORINO Italy SINTEF FISKERI OG HAVBRUK AS Norway SINTEF OCEAN AS Norway STIFTELSEN SINTEF Norway DANMARKS TEKNISKE UNIVERSITET Denmark CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE CNRS France NUTRIMAR AS Norway

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	INNOVACIO I RECERCA INDUSTRIAL I SOSTENIBLE SL Spain BIOTREND - INOVACAO E ENGENHARIA EM BIOTECNOLOGIA SA Portugal DAREN LABORATORIES & SCIENTIFIC CONSULTANTS LTD Israel MINE PLASTIK ENDUSTRIYEL URUNLER VE SERT MADEN KIMYA LIMITED SIRKETI Turkey BIO BASE EUROPE PILOT PLANT VZW Belgium BIOPOLIS SL Spain ARKEMA FRANCE France The National Non-Food Crops Centre United Kingdom
A.2 Interviewee	
Name	Belén Monje
Position	Researcher
Role in the project	Researcher
Contact info (tel, e-mail)	bmonje@aimplas.es / +34 967366040
Other participants	Ma Carmen Cobos - Project manager
B. Discussion	
B.1 Expected outputs and market uptake	**Which are the application areas/market segments related to your project's bio-based product?** Active packaging for food (fish) with antimicrobial properties, edible coating to increase the shelf life of food products (fish), flame retardants for automotive industry (also applicable in construction sector) **How is the current situation of the market potential and penetration of product?** For example, one of the products developed is polyamide 5.6, that is similar to polyamide 6.6, which has thousands of applications. The amine used for this polyamide will be cadaverine made from fish by-products. At this moment, cadaverine is a very expensive mollecule, produced synthetically by a few non-european companies. The acid used will be adipidic acid from natural resources, that could also be obtained at a lower cost than the conventional acid. The potential of these products is therefore very interesting. **Which are the benefits and opportunities of these products?** Potentially, lower fabrication costs and better properties Which are the barriers, risks and concerns of these products?

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	... **Do you expect your product to be price-competitive in comparison with its fossil-based counterpart?** The polyamide developed from natural resources could be price competitive in comparison, but at this early stage of the project it is still not possible to confirm it. **Does your product outperform its fossil-based counterpart? If the answer is yes, do you expect the end-users to pay a premium for it?** It is still too early to know the final production costs. The aim is, in any case, to obtain high added value products from waste and by-products, that can offer economic and environmental advantages. **Is there a life-cycle analysis (LCA) comparing product and its fossil-based counterpart?** It is foreseen to perform a LCA Your opinion on potential hurdles on the new product or new functionality: ○ low public and private (industrial) demand (in terms of procurement and application) ○ resistance from established industrial sectors ○ unfavourable public perception of bio-based products and applications ... **Do you expect including your product in public, 'green', pre-commercial innovation procurement?** It is not foreseen, specially the applications in the food sector. The application as flame retardants in the construction sector could perhaps be included.
B.2 Legislation and policy framework	**What would you consider to be the gaps and the barriers in the existing legislation affecting your product? Which is your opinion on the policy and regulatory requirements affecting the new product or new functionality (standards, safety aspects, labels and certification and REACH legislation).** Safety regulations tend to be reactive, and adapt to new safety hazards and alerts when they appear: bromide and chlorine compounds have been forbiden as flame retardants for this reason. The alternative product developed in the project is a polyphosphate from lignocellulosic source, and it is supposed not to cause health hazard, but an eventual alert could change the legislation. Also, different legislations affecting the same product, for example REACH and food contact legislation, can sometime be incoherent. In other cases, there is just no specific legislation, for example, there are no additional requirements for food packaging made from waste, the regulation is the same as for regular food packaging. **Describe the broader exploitation potential of your results in terms of affecting/contributing to policy making and/or uptake.**

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	By providing new uses to fishery wastes and by-products, the project contributes to the uptake of a new regulation forbidding the practice of dumping them in the sea. **Have you planned interaction activities or communication and dissemination actions with policy-makers?** Yes, these kind of actions are foreseen.
B.3 The user's perspective	**Which are the consumers' needs, concerns and perceptions about the product and its application? How do users respond to this market area? Are they familiar with this category of products? What you think could help raise their awareness and acceptance about them?** Customers and end users perceive bioproducts in general in a positive way, but they are not particularly familiar with biopackaging or bio flame retardants. Mass media, advertisings, etc, could help people know and understand better these kind of products. Some EU states are ahead in this public dissemination actions, for example Germany. Also, an adequate and clear labelling of the products is needed to properly inform the citizens. **Have you planned interaction activities or communication and dissemination actions with consumer representatives?** Yes, these kind of actions are foreseen. **Have you identified any ethical issues regarding the development of the product?** The developement of the product causes no ethical issues, but again, the labelling of these or any other products should be informative enough.
B4. Impact, visibility and explotation potential of the project/outputs	**Which are the expected impacts of the product on key socio-economic and environmental challenges faced by Europe and its citizens (slow growth, unemployment, low competitiveness, climate change, resource scarcity, etc)? Which are their benefits in terms of sustainability?** For example, the development of a new industry for the amine cadaverine, a product that is not produced in Europe at the moment, is in line with the socio-economic challenges of growth, employment and competitiveness. The use of waste or by-products and the reduction in the use of solvents will also have a positive impact in the environment. In your opinion, which is the short to medium term impact of your research work? **Which are the activities taken/planned to increase visibility of your findings? Which are your main dissemination and communication means and activities?** Participation in workshops, seminars and congresses **Which is your target audience beyond project implementation?**

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	The packaging, food and automotive industry
B.5 Potential networking activities	**Would you like to be informed in BIOWAYS collaborative activities (workshops, thematic charrettes, barcamps, etc)? Would you like to take part in any of them?** Yes **Do you give your consent to use this interview as a source of information in our deliverables? Do you agree in including your project in our Bio-Watch platform and other dissemination tools as social media, website, etc?** Yes **How can BIOWAYS collaborate in the dissemination of your activities and outputs? Do you have any public promotional document (factsheet, leaflet, presentation, video, article, educational or trainning material, etc) you would like to be disseminated through BIOWAYS tools and platform?** The project extends from 2016 to 2020, so the main effort in dissemination activities is yet to come, and part of it will be developed after the end of BIOWAYS project. DAFIA will provide BIOWAYS with the promotional documents or activites as needed and let BIOWAYS establish the tools to continue this colaboration after its end. **Is there any other project, initiative or representative case study you would like us to be aware of?** Other projects in the bioeconomy field where AIMPLAS takes part are: REFUCOAT, BANUS, BIOREFINE2

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EBTP-SABS		
A.1 Project		
Title and acronym	EBTP-SABS (ETIP Bioenergy –SABS)	
Programme	FP7 – ENERGY	
Beginning & Ending date	01/09/13 – 31/08/16	
Coordinator	Fachagentur Nachwachsende Rohstoffe e.V.	
Webpage	http://www.etipbioenergy.eu/	
Type of action (RIA, IA, CSA, demonstration, other)	CSA	*Initial TRL:* *Final TRL:* (If applicable. Not for CSAs)
Value Chain		
Budget / EU contribution	EUR 579 155/ EUR 496 350	
Focus on (select one)	z) Development of bio-based product aa) Community building (active involvement of end-consumers in the design and production of bio-based products) bb) promoting the market uptake of bio-based products strengthening of regional bioeconomies	
Summary	The European Biofuels Technology Platform (EBTP) aims to contribute to the development of cost-competitive world-class biofuels value chains and the creation of a healthy biofuels industry, and to accelerate the sustainable deployment of biofuels in the European Union, through a process of guidance, prioritisation and promotion of research, technology development and demonstration.	
Objectives	To provide support to all activities of EBTP which are of interest to the biofuels community as a whole and the general public. This included information about technological, market, political, regulatory and financial developments and deployment activities such as the set-up, commissioning and operation of pilot and demonstration facilities and surrounding research. A main focus was to support the European Industrial Bioenergy Initiative (EIBI) and facilitate the implementation and update of the EBTP Strategic Research Agenda.	
Expected Impacts	• bringing together a diversity of stakeholders from EU Member States and other countries; • supporting this broad platform of stakeholders in contributing actively to a scientific, technical and	

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	• commercial consensus on prioritisation and promotion of: • the most promising advanced biofuels value chains for deployment (EIBI) and • a roadmap of medium- and long-term research milestones (SRA) • promoting the formation of partnerships across EIBI value chains to facilitate rapid deployment at • European, national and regional levels. • Enhancing the role of the EBTP in the Central, East and South-East European scenario, and fostering • the integration of stakeholders from those areas into the European biofuel community.
Leader	Fachagentur Nachwachsende Rohstoffe e.V.
Consortium	CPL Scientific Publishing Services Ltd, BIOENERGY 2020+ GMBH and INCE INIZIATIVA CENTRO EUROPEA - SEGRETARIATO ESECUTIVO
A.2 Interviewee	
Name	DR. Friederike Lempe and Mr. Martin Behrens
Position	
Role in the project	Project coordinator
Contact info (tel, e-mail)	f.lempe@fnr.de +49 3843/6930-249
Other participants	Robert Miskuf
B. Discussion	
B.1 Expected outputs and market uptake	EBTP-SABS motivated the discussion and interaction between various groups of stakeholders and the working groups of EBTP on 'hot topics' relating to the accelerated deployment of the most promising value chains for advanced biofuels. As the consortium did not do research itself, the main science and technology results are the report on the deployment of biofuels, the update of the Strategic Research and Innovation Agenda and an array of factsheets which have been published to inform about the biofuels developments. The update of the SRIA showed that the fundamentals for biofuels have not changed within the last 5 years. The winning options will be the pathways (combination of feedstock, conversion and end products) best addressing combined strategic and sustainability targets: environmental performances (greenhouse gas reduction, biodiversity, water, local emissions), security and diversification of energy supply, economic competitiveness and public awareness.
B.2 Legislation and policy framework	There were no legislation effects on the project on EU level but Germany had all the necessary legislation and operational needs if needed. It was difficult to gather national feedback and to motivate

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	the stakeholder to actively contribute to the work of the Platform during this time as everyone was awaiting the EU decision.
B.3 The user's perspective	The EBTP is a contact point regarding information about research, technological, market, political, regulatory and financial developments and deployment activities such as the set-up, commissioning and operation of pilot and demonstration facilities. The EBTP website is the main communication channel for the platform and continues to rank highly on search engine queries related to biofuels. It provides up-to-date and accurate information on advanced biofuels in general and on related EBTP activities. The website exists since 2006 and within the project period a lot of effort was put into streamlining this information and updating and enlarging the databases. The website contains a demonstration projects database, a report and research database, an event and training courses database, a biofuels debate database (via Twitter) and a stakeholder database.
B4. Impact, visibility and explotation potential of the project/outputs	The EBTP-SABS actively supported the EBTP through increased networking activities. These aimed at identifying and creating synergies with other ongoing biofuels related R&D activities and involves TPs, ERA-Nets and national as well as EU policy makers. The 6th and 7th EBTP Stakeholder Plenary Meetings took place in October 2014/June 2016 and were successfully organised by the project consortium. The second project period involved various Working Group members and EBTP Stakeholders to give their feedback and input updating the Strategic Research and Innovation Agenda. Results of the SRIA have been presented during the 7th Stakeholder Plenary Meeting which took place on 21st June 2016 in Brussels and which gave an opportunity for exchange between European biofuels expert and directly brought together the expertise and experience of advanced biofuels producers, research facilities, policy makers, feedstock and conversion technology providers, road, marine and aviation end-users, engineering contractors, investors and sustainability organisations. In particular, the SPMs encouraged productive dialogue between different stakeholders. This reinforced existing links between research and industry, or led to the synthesis of new project ideas or partnerships. The debating of different views, for example on sustainability and competing technologies, was encouraged and viewed as a positive step towards reaching a broad consensus on key issues, and helped identify areas where further research is required.

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B.5 Potential networking activities	Open to networking activities but consent withdrawn.

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FORBIO		
A.1. Project		
Title	FORBIO - Fostering Sustainable Feedstock Production for Advanced Biofuels on underutilised land in Europe	
Programme	Horizon2020 H2020-LCE-2015-3	
Beginning & Ending date	01/01/2016 to 31/12/2018	
Coordinator	WIRTSCHAFT UND INFRASTRUKTUR GMBH & CO PLANUNGS KG	
Webpage	http://www.forbio-project.eu/	
Type of action (RIA, IA, CSA, demonstration, other)	CSA	*Initial TRL:* *Final TRL:* (if applicable. Not for CSA)
Value Chain	VC1	
Budget / EU contribution	€ 1,941,581	
Focus on	cc) Development of bio-based product dd) Community building (active involvement of end-consumers in the design and production of bio-based products) **ee) promoting the market uptake of bio-based products strengthening of regional bioeconomies**	
Summary	FORBIO project will demonstrate the **viability of using land** in EU Member States **for sustainable bioenergy feedstock production that does not affect the supply of food and feed**, in addition to not interfering with land currently used for recreational and/or conservation purposes. For this the FORBIO project will develop **a methodology to assess the sustainable bioenergy production potential** on available "underutilized lands" in Europe (contaminated, abandoned, marginal, fallow land etc.) at local, site-specific level. Based on this methodology, the project will produce multiple feasibility studies in selected case study locations in Italy, Germany and Ukraine. The FORBIO project will also **apply a series of innovative approaches in order to develop roadmaps for the removal of economic and non-economic barriers to sustainable bioenergy deployment** and in order to promote and facilitate the formation of partnerships between farmers, bioenergy producers and local institutions. In addition, the project will carry out **awareness raising and capacity building activities** in order to share lessons learnt and good practices	

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	to the outreach countries Ireland, UK, Belgium, Poland, Hungary and Romania.
Objectives	• **Identification** of social, economic, environmental and governance-related **opportunities and challenges for advanced bioenergy deployment** through a series of multi-stakeholder consultations • **Evaluation of the agronomic and techno-economic potential** of the selected advanced bioenergy value chains in the case study sites of the target countries • **Assessment of the environmental, social and economic sustainability** of the selected advanced bioenergy value chains in the target countries • **Analysis of the economic and non-economic barriers** to the market uptake of the selected sustainable bioenergy technologies; and development of strategies to remove the aforementioned barriers, including identification of roles and responsibilities of relevant stakeholders • **Encourage European farmers to produce non-food bioenergy carriers** and capacity building of economic actors and other relevant stakeholders for setting up sustainable bioenergy supply chains
Expected Impacts	The **expected impacts for the target countries** Italy, Germany and Ukraine are, that the agronomic and techno-economic feasibility studies, sustainability assessments and identification and removal of barriers to the market uptake of the bioenergy are carried out and knowledge transfer and capacity building activities are executed so that the regions are ready to take further steps in starting to use the underutilized lands for the production of biomass for bioenergy. The **expected impacts for the outreach countries** Ireland, UK, Belgium, Poland, Hungary and Romania are that they have access to the developed methodology and assessements and have the knowledge and capacities to start promoting the uptake of underutilized lands for the production of biomass for bioenergy in their countries. The **added value of FORBIO** is the following: • Data collection via agronomic and techno-economic feasibility studies in Italy, • Germany and Ukraine (Agronomic reports available by December 2016) Sustainability assessments • Knowledge transfer, capacity building actions (trainings, study tours, webinars) • Roadmaps for the removal of the main economic and non-economic barriers • Sharing best practices which allow the most sustainable and energy efficient use bio-resources • Mainstreaming new opportunities on the local level

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Leader	WIRTSCHAFT UND INFRASTRUKTUR GMBH & CO PLANUNGS KG (WIP)
Consortium	– Food and Agriculture Organization of the United Nations – Geonardo Environmental Technologies Ltd. – Consiglio per la Ricerca in Agricoltura e l'Analisi dell'Economia Agraria – Biochemtex Spa – Blacksmith Initiative - UK – Scientific Engineering Centre "Biomass" Ltd. – Center for Promotion of Clean and Efficient Energy – Forschungsinstitut für Bergbaufolgelandschaften e.V. – Polish Biomass Association – European Landowners' Organization – University of Limerick
The short-to-medium term impact	**The short-to-medium term impact of the research work on key socio-economic and environmental challenges Europe and its citizens are facing** The key socio-economic and environmental challenge that FORBIO addresses is finding a **good use for underutilised land (contaminated, abandoned, marginal, fallow land etc.) in Europe** and developing strategies and methods for **using this land for sustainable bioenergy feedstock production**. An important aspect is that the project FORBIO is concentrating on underutilised land that is not used for supply of food and feed or used for recreational and/or conservation purposes. As a **short-tem impact** the project is aiming towards encouraging the farmers and owners of contaminated lands in the selected sites in Italy, Germany and Ukraine to start actions concerning the production of non-food bioenergy. As a **medium-term im**pact the project is aiming towards having the outreach countries adopt and use the knowledge gained during the project for starting actions concerning the production of non-food bioenergy in their underutilized lands. As a **longer sustainability measure** the FORBIO project is developing a reference tool: GBEP Sustainability Indicators for Bioenergy, which is a tailored set of sustainability indicators for bioenergy based on the specific conditions of each of the case study sites. http://www.forbio-project.eu/assets/content/publication/FAO_part1_2.mp4 http://www.forbio-project.eu/assets/content/publication/FAO_part3.mp4
The activities taken / planned to increase visibility of their findings	**The activities taken to increase visibility of your project results as well as your target audience beyond project implementation** The project has an entire workpackage devoted to **knowledge transfer and capacity development**.

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	The aim is to **encourage the farmers and owners of contaminated lands in the selected sites in Italy, Germany and Ukraine to start actions concerning the production of non-food bioenergy**. For this the results of the project case study assessments will be introduced to all local stakeholders via different events (stakeholder consultation, capacity building events, study tours, etc). The **second line of awareness raising work** is with the aim of **replicating the knowledge gained** on the sites of Italy, Germany and Ukraine **to the outreach countries Ireland, UK, Belgium, Poland, Hungary and Romania**. The activities include awareness raising as well as capacity building activities for relevant stakeholders in those countries to enable them to set up sustainable bioenergy supply chains in their contaminated regions as well.
Exploitation potential	**The broader exploitation potential of their results in terms of affecting/contributing to policy making and/or uptake** FORBIO project is organised along target countries Germany, Italy and Ukraine and outreach countries Ireland, UK, Belgium, Poland, Hungary and Romania. For the **target countries** the project will compose agronomic and techno-economic feasibility studies, sustainability assessments, analysis of ecnomic and non-economic barriers and capacity building events for local stakeholders encouraging them to start biomass production for bioenergy. The target countries have different reasons behind being underutilised: • In Italy, the region of Sulcis, Portoscuso has contaminated land from industrial activities ca 22,000 ha • In Ukraine, the region South of Kiev has underutilised marginal agricultural land ca 10,000 ha • In Germany, the Metropolis region of Berlin & Brandenburg has lignite mining & sewage irrigation fields ca 25,000 ha The **outreach countries** Ireland, UK, Belgium, Poland, Hungary and Romania are the knowledge transfer countries and will get access to the case studies and will look for opportunities on how implement the same activities in suitable areas in their countries. The project will develop and provide the transfer and outreach countries with information and methodology and organise different knowledge transfer and capacity development activities for stakeholders. As a result of the project the aim is that the transfer countries selected regions have all the tools and knowledge needed for starting to use the underutilized land for biomass production for bioenergy. Since the economic feasibility might be a bit problematic (the underused lands are not as productive and profitable as land without the contamination problems), getting the local governments to commit to the idea of starting to use the underutilised land is of vital

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	importance, as their financial contribution could be needed to start utilizing the land. FORBIO is cooperating on sister projects SEEMLA and MAGIC on the topic of using underutilized land for the production of bioenergy. FORBIO is interested in cooperating with BIOWAYS on events targeting researchers, policy makers, national and local goverments, institutions dealing with bioenergy and biomass production. Children and schools are not their target group. Also interested in the BIOWATCH platform.

greenGain		
A.1 Project		
Title and acronym	greenGain	
Programme	HORIZON 2020	
Beginning & Ending date	January 2015- December 2017	
Coordinator	FNR (Germany)	
Webpage	http://www.greengain.eu	
Type of action (RIA, IA, CSA, demonstration, other)	Demonstration	*Initial TRL:* *Final TRL:* (If applicable. Not for CSAs)
Value Chain	Waste valorization	
Budget / EU contribution	€1.829.391	
Focus on (select one)	ff) Development of bio-based product gg) Community building (active involvement of end-consumers in the design and production of bio-based products) hh) promoting the market uptake of bio-based products strengthening of regional bioeconomies	
Summary	greenGain looks for solutions to increase the energy utilization of biomass coming from landscape conservation and maintenance work carried out in the public interest. Within the greenGain project, the consortium will:	

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	• analyze the potential and occurrence of biomass from landscape conservation and maintenance work; • examine the whole utilization pathways of the feedstock, including harvesting, transport, processing and energy conversion to bioenergy; • assess the economic, environmental, social and legal aspects of its use; • identify possible limitations and barriers to the energy use of this feedstock and provide resultant recommendations to a wide range of stakeholders in the EU; • cooperate with seven regions in four European countries: Spain (Matarraña and Bajo Aragón), Italy (Trasimeno area), Germany (Friesland and Rotenburg (Wümme)) and the Czech Republic (Kněžice and the Týn nad Vltavou region). • foster the exchange of information, good practices and expertise, and connect experts; • help implement actions and measures to establish new value chains; • maintain the project website and the greenGain.eu INFORMATION PLATFORM.
Objectives	-Trigger the exploitation and to coordinate as well as to support the market uptake of currently underused resources from biomass from landscape conservation and maintenance work carried out in public interest for energy purposes -mobilize biomass, not competing with food and feed production -cover planning, harvesting, transport, pre-treatment, measuring and energy conversion of non-food biomass resources & financial frameworks -support local governance processes, develop tools for an active & supportive citizenship and realising a good practices know-how platform
Expected Impacts	-
Leader	FNR
Consortium	FNR- The Agency for Renewable Resources, COALS- Chamber of Agriculture Lower Saxony, SYNCOM- Research and Development Consulting GmbH, CIRCE-Research Centre for Energy Resources and Consumption, OMEZYMA- Local Action Group Bajo Aragon-Matarrana, CZ Biom- Czech Biomass Association, SOGESCA srl, CM ACT-Comunita Montana- Associazione dei Comuni “Trasimeno-medio Tevere”
A.2 Interviewee	
Name	Christiane Volkmann (FNR), Jan Dolezal (CZ Biom)

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Position	
Role in the project	
Contact info (tel, e-mail)	C.Volkmann@fnr.de, dolezal@biom.cz
Other participants	Eleni Karachaliou, Evangelia Tsagaraki (Q-PLAN)
B. Discussion	
B.1 Expected outputs and market uptake	The project is focused on producing bioenergy for heat and electricity utilizing biomass from landscape conservation and maintenance work (e.g. cutting grass in parks, making woodchips from branches from alongside roads or municipal parks etc.). The main outcomes are: strategy paper including a comprehensive status quo on legislation and regulations etc., handbook and guidelines for stakeholders and policy makers, a business model that will help optimise the value chain of landscape conservation and maintenance biomass, logistic platforms that could be raised from the results and the pilots which are still ongoing. Pilots are running in four countries (Germany, Spain and Italy focused on woody biomass to make woodchips and in Czech Republic on grass) for about a year, covering the whole process from processing, cutting, storage, conversion to bioenergy (value chain approach) and the final results are almost ready. Research is made if it is possible to create a market for landscape and maintenance biomass. The main barriers found are: the different landscapes of policy and regulatory framework supporting bioenergy between European countries, the fact that relevant stakeholders often do not speak English, seasonality in quantity and quality variations of the feedstock (landscape and maintenance work biomass) that makes difficult its further process (more emissions), absence of regulatory framework regarding the management of landscape biomass, the responsibilities regarding the management of landscape and maintenance biomass is not clear.
B.2 Legislation and policy framework	A whole workpackage is dedicated to this issue. See above about the strategy paper that is going to be delivered soon.
B.3 The user's perspective	The main target groups are consumers of landscape biomass feedstock (operators of bioenergy production plants), decision makers, authorities etc. The impact to the general public is indirect. The project is trying to make the message also easy for the general public to reach (the project site is translated in pilot languages). General public's priority regarding landscape biomass is not to manage it but to get rid of it. There is a need to identify and

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	motivate the relevant stakeholders to manage sustainably this kind of biomass.
B4. Impact, visibility and explotation potential of the project/outputs	There were four national workshops organized in the pilot countries. Another round of telefone conferences working groups with stakeholders is also planned to gain feedback about the project recommendations.
B.5 Potential networking activities	The final conference of the project is planned for November 2017. The interviewees asked to disseminate through BIOWAYS networks. All deliverables of greenGain (https://greengain.eu/documents/) can be uploaded to Bio-Watch platform.The interviewees are interested in taking part in BIOWAYS events, as long as they take place before the end of greenGain project (December 2017).

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ISABEL		
A.1 Project		
Title and acronym	ISABEL	
Programme	HORIZON 2020	
Beginning & Ending date	January 2016- December 2018	
Coordinator	Q-PLAN INTERNATIONAL	
Webpage	http://www.isabel-project.eu	
Type of action (RIA, IA, CSA, demonstration, other)	CSA	*Initial TRL:* *Final TRL:* (If applicable. Not for CSAs)
Value Chain	Waste valorization	
Budget / EU contribution	€ 1.897.437,50	
Focus on (select one)	ii) Development of bio-based product jj) Community building (active involvement of end-consumers in the design and production of bio-based products) kk) promoting the market uptake of bio-based products strengthening of regional bioeconomies	
Summary	ISABEL is all about promoting, supporting and developing community biogas in Europe. The project is set on providing all the framework conditions for biogas communities to shape, develop and thrive. It works on all angles to pave the way for the transition from traditional supply chains to community ownership and take full advantage of the ample societal benefits of regional community-driven biogas systems, fuelled and inspired by Social Innovation principles.	
Objectives	Educate - Re-position biogas energy by re-branding it as a "public good". To achieve this ISABEL's partners will analyse the needs and perceptions of local stakeholders and communicate the unknown societal and environmental dimensions of Anaerobic Digestion. Engage - Enable the development of regional Biogas Communities. ISABEL will lobby and unite existing initiative and socially-oriented local organisations and associations while embarking on an awareness and engagement campaign to grow the Communities. Empower - Utilize the created momentum through Social Innovation and Public Participation. ISABEL will deploy a bouquet of diversied activities consisting of digital tools, expert knowledge,	

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	and participatory processes providing to the Communities all the necessary support to govern the local Biogas production and consumption system. Evaluate - Assess the local interventions and drafting lessons and guidelines. Upon doing so ISABEL will ensure that established practices will be used to improve policies and create a favourable environment that will sustain the regional Biogas Communities. Expand – Maximise impact through transfer and replication. To this end we will communicate the gathered experience, success stories and best practices through ISABEL networks across Europe and provide support for its replication in other areas.
Expected Impacts	- Expert advice and information on all aspects of AD Biogas and community energy - A digital collaborative platform and specialised tools for planning and development - Hands-on collaboration and innovation workshops and events (36 events in total) - Targeted awareness campaign and online presence (reaching >3000 stakeholders) - Access to policy-makers and authorities - A platform to share knowledge and resources with similar initiatives across Europe
Leader	Q-PLAN International
Consortium	Q- Plan International (GREECE), Agency for Renewable Resources (Germany), INSEAD (France), University of Surrey (UK), Global Biotechnology Transfer Foundation LTD (UK), Euroenergy Biogas West SA (GR), White Research (Belgium), Lake Constance Foundation (Germany)
A.2 Interviewee	
Name	Ioannis Kostopoulos
Position	
Role in the project	Dissemination Manager
Contact info (tel, e-mail)	ikostopoulos@white-research.eu
Other participants	Iakovos Delioglanis, Eleni Karachaliou, Evangelia Tsagaraki (Q-PLAN)
B. Discussion	
B.1 Expected outputs and market uptake	ISABEL launches local interventions with the aim to create new and support existing communities of biogas supporters in co-developing and testing different cooperative models. The project focuses in three European regions in Greece, Germany and UK and the activities designed and offered in each one vary depending on

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	the maturity level of biogas uptake. For example, in Greece the project focuses in informing in general about biogas (production, uses, advantages, legislation, licensing etc.) and in creating new communities. On the contrary, in Germany where biogas production is an already well-established practice with more than 800 production sites operating, ISABEL focusses on supporting existing energy communities to expand their activities into district heating. In UK, ISABEL focuses in informative and community building actions about the use of biogas for private heating, as in the country biogas is currently mainly produced for industrial use.
B.2 Legislation and policy framework	The project gives information and support about the existing legislative and licensing framework in each of its focus regions.
B.3 The user's perspective	The main target groups are: potential biogas producers, public authorities, biomass producers and the general public. The results of the project that will be maintained after its end, apart from the energy communities themselves, are various specialized tools for supporting the design and operation of a biogas production plant (interactive online digital map of exclusion areas for the installation of biogas plants in Nothern Greece and a preliminary bussiness planning and dimensioning tool for biogas production plants) and the ISABEL Recommendations, best practices and replication guide (not available yet).
B4. Impact, visibility and explotation potential of the project/outputs	Three international workshops are foreseen to be organised near the end of the project in UK, Germany and Greece.
B.5 Potential networking activities	Three international workshops are foreseen to be organised near the end of the project in UK, Germany and Greece.

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ACRONYM	
Title/ Initiative Name	JRC Biomass Assessment Study
Programme	JRC
Beginning & Ending date	2015-2017
Coordinator/ Chair	Andrea Camía of the EC's Sustainable Resources Bioeconomy Unit
Webpage	http://forest.jrc.ec.europa.eu/publications/person/9/detail/
Type of action (RIA, IA, CSA, demonstration, other)	Assessment study
Value Chain	ALL
Budget / EU contribution	Unknown
Focus on	c) promoting the market uptake of bio-based products strengthening of regional bioeconomies
Summary	The Joint Research Council's (JRC) Biomass Assessment Study is an important, ongoing and open-ended project designed to provide detailed assessment of biomass in Europe in order to deliver evidence-based policy advice now and into the future
Objectives	The objective of the study is to assess biomass availability and potentials in EU and related uncertainties and gaps in biomass supply, uses and flows. Assessment, It also assesses related gaps in the environmental impacts of biomass supply chains
Expected Impacts	• Created knowledge-base on biomass relevant issues to EU policy. • Developed instruments to assess the supply, demand and flows of biomass. • Assessment of the direct and indirect sustainability impacts linked to the production and use of biomass, and competition between sectors for biomass resources, as well as synergies
Leader	Andrea Camía

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Consortium	N/A

MOBILE FLIP		
A.1 Project		
Title and acronym	**MOBILE FLIP - Mobile and Flexible Industrial Processing of Biomass**	
Programme	H2020	
Beginning & Ending date	**From** 2015-01-01 **to** 2018-12-31	
Coordinator	TEKNOLOGIAN TUTKIMUSKESKUS VTT	
Webpage	http://www.mobileflip.eu/	
Type of action (RIA, IA, CSA, demonstration, other)	IA – Innovation Action	*Initial TRL:* *Final TRL:* (If applicable. Not for CSAs)
Value Chain	1	
Budget / EU contribution	EUR 9 698 843,45	
Focus on (select one)	II) Development of bio-based product	
Summary	MOBILE FLIP aims at developing and demonstrating mobile processes for the treatment of underexploited agro- and forest based biomass resources into products and intermediates. The processes will be evaluated in terms of raw material flexibility, as the biomass resources are typically scattered and seasonal. Process concepts have been designed around the key technologies pelletizing, torrefaction, slow pyrolysis, hydrothermal pretreatment and carbonisation. The products vary depending on the process concept, being typically fuels as such or for co-combustion (pellets, torrefied pellets, biocoals), biochars for soil remediation, biodegradable pesticides for agricultural or forestry use or chemicals for wood panel industry and sugars and hydrolysable cellulose as intermediate for the sugar platform. Some of the products are marketable as such, while some others are intermediates to be further valorised by integrated large industries. In the latter case, the mobile unit pre-extracts the valuable components or densifies the biomass to reduce transportation costs. Over-the-fence integration to large industries will be one means to ensure the availability of utilities, such as	

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	steam and electricity, whereas in some mobile process concepts the utilities can be produced at site for internal or external uses.
Objectives	
Expected Impacts	
Leader	Tarja Tamminen (TEKNOLOGIAN TUTKIMUSKESKUS VTT)
Consortium	COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES (France) INSTITUT TECHNOLOGIQUE FCBA (FORETCELLULOSE BOIS-CONSTRUCTION AMEUBLEMENT) (France) MAA JA ELINTARVIKETALOUDEN TUTKIMUSKESKUS (Finland) LUONNONVARAKESKUS (Finland) SVERIGES LANTBRUKSUNIVERSITET (Sweden) SP SVERIGES TEKNISKA FORSKNINGSINSTITUT AB (Sweden) BIOGOLD OU (Estonia) CHIMAR HELLAS AE (Greece) RAUSSIN ENERGIA OY (Finland) SWEDEN POWER CHIPPERS AKTIEBOLAG (Sweden) AREVA ENERGIES RENOUVELABLES (France) RAGT ENERGIE SAS (France) E.T.I.A. - EVALUATION TECHNOLOGIQUE INGENIEURIE ET APPLICATIONS SA (France)
A.2 Interviewee	
Name	Tarja Tamminen
Position	VTT Researcher
Role in the project	Coordinator
Contact info (tel, e-mail)	tarja.tamminen@vtt.fi
Other participants	
B. Discussion	
B.1 Expected outputs and market uptake	✓ Which are the application areas/market segments related to your project's bio-based products/outputs (PBBPO)? ✓ How is the current situation of the market potential and penetration of PBBPO? ✓ Which are the benefits and opportunities of these PBBPO? ✓ Which are the barriers, risks and concerns of these PBBPO?

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	✓ Do you expect your PBBPO to be price-competitive in comparison with its fossil-based counterpart? ✓ Does your PBBPO outperform its fossil-based counterpart? If the answer is yes, do you expect the end-users to pay a premium for it? ✓ Is there a life-cycle analysis (LCA) comparing PBBPO and its fossil-based counterpart? ✓ Your opinion on potential hurdles on the new PBBPO or new functionality: o low public and private (industrial) demand (in terms of procurement and application) o resistance from established industrial sectors o unfavourable public perception of bio-based products and applications ✓ Do you expect including your PBBPO in public, 'green', pre-commercial innovation procurement? Of course we have applications in mind, the idea is it's not necessary to develop final products, rather developing intermediates that can be valorised in the large industries. So for example biochar is one important product/intermediate that has different applications. We have a WP and experts looking at market potential and economic feasibility. We have 5 different processes that are being developing in our project, the abovementioned biochar is a product that can be produced by different types of biomasses with different technologies. If you focus just on one technologic/production line, you improve the release of dioxide from soil and parallelly the growing of plants. I'm not sure whether this is a barrier, however, the economic feasibility appears to be the biggest problem. Technically it can be done, products reacted as we expected but it's hard to make it economically feasible. We are looking into the production of sugars to be used for bio-technical route. For this example there are few end-products where the bio based alternative really would be beneficial. Most products you can't produce either way. Talking about performance, I would say in case of biochar and certain end-products derived from biochar, it is better. In some cases we think stakeholders would pay a premium price for adopting our technology, but in most cases not. We can't rely on that.

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B.2 Legislation and policy framework	✓ What would you consider to be the gaps and the barriers in the existing legislation affecting your PBBPO? Which is your opinion on the policy and regulatory requirements affecting the new PBBPO or new functionality (standards, safety aspects, labels and certification and REACH legislation) ✓ Describe the broader exploitation potential of your results in terms of affecting/contributing to policy making and/or uptake ✓ Have you planned interaction activities or communication and dissemination actions with policy-makers? We have faced problems, for example, we found a product that acts as plant protection agent but cannot be commercialised because it didn't reach approval yet. We are trying to disseminate to the right stakeholders that something should be done to help market that product. The point is these bio-based products are complicated because they are composed by a varied range of elements, so legally it is difficult to collocate and accept them. We are planning to have an open workshop next summer where we will present our results. We are planning how to organise this and are willing to invovle policy makers. It will be mainly scientific but we could include policy makers as well. Somebody (policy makers) should really think on how to help scientists to commercialise their discoveries. Because it takes a lot of time and fundings to go through all these steps. It's like a chicken and egg problem, because industries are not interested until the technology is applicable to the market.
B.3 The user's perspective	✓ Which are the consumers' needs, concerns and perceptions about the PBBPO and its application? How do users respond to this market area? Are they familiar with this category of products? What you think could help raise their awareness and acceptance about them? ✓ Have you planned interaction activities or communication and dissemination actions with consumer representatives? ✓ Have you identified any ethical issues regarding the development of the PBBPO? I don't see this as a problem because it is a general trend to go green. Even though the quality of BBPs would be worse, people would still buy them. We are not producing anything that would go directly to consumers so we didn't plan any activity with consumers' representatives.

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	No ethical issues were encountered throughout the project.
B4. Impact, visibility and explotation potential of the project/outputs	✓ Which are the expected impacts of the PBBPO on key socio-economic and environmental challenges faced by Europe and its citizens (*list*)? Which are their benefits in terms of sustainability? ✓ In your opinion, which is the short to medium term impact of your research work? ✓ Which are the activities taken/planned to increase visibility of your findings? Which are your main dissemination and communication means and activities? (*list*) ✓ Which is your target audience beyond project implementation? (*list*) Our impacts go to different players to the value chain, starting from farmers and forest owners, because at the moment they have different kinds of feedstock that are valueless because too scattered or may have negative value because the farmers need to do something to them jsut to get rid of them. Since we are developing this small-scale processes one idea is in the farmers/cooperatives etc, could jointly invest in this kind of equipment and start to produce i.e. biochar. That would be a straightforward impact. To increase the visibility, we planned the workshop for next year, then open events called “Dissemination technical meetings” which means we have a certain topic and deepen that topic with stakeholders. I.e. next year we will go to Finland to deepen the topic of Finnish forest-based bioeconomy. Our target audience ranges from scientific to technical to industrial. We tried to reach to all kinds of audience but it’s not easy. On the other hand we had activities in local newspapers, for example in Finland we have one SME invlolved which is developing equipment for the production of biochar and are quite famous in the local reach. In this context we had even a radio interview by national Finnish radio.
B.5 Potential networking activities	✓ Would you like to be informed in BIOWAYS collaborative activities (*list*)? Would you like to take part in any of them?

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	✓ Do you give your consent to use this interview as a source of information in our deliverables? Do you agree in including your project in our Bio-Watch platform and other dissemination tools as social media, website, etc? ✓ How can BIOWAYS collaborate in the dissemination of your activities and outputs? Do you have any public promotional document (factsheet, leaflet, presentation, video, article, educational or trainning material, etc) you would like to be disseminated through BIOWAYS tools and platform? ✓ Is there any other project, initiative or representative case study you would like us to be aware of? All collaborative initiavies were/are being treated internally and/or we are waiting for their dissemination material to be provided.

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SIM4NEXUS		
A.1 Project		
Title	*Sustainable Integrated Management FOR the NEXUS of water-land-food-energy-climate for a resource-efficient Europe*	
Programme	*H2020-WATER-2015-two-stage*	
Beginning & Ending date	*1/06/2016 - 31/05/2020*	
Coordinator	*STICHTING WAGENINGEN RESEARCH*	
Webpage	*http://www.sim4nexus.eu/*	
Type of action (RIA, IA, CSA, demonstration, other)	*RIA - Research and Innovation action*	*Initial TRL:* *Final TRL:* *(if applicable. Not for CSA)*
Value Chain		
Budget / EU contribution	*EUR 7 895 657,50*	
Focus on	*a) Development of bio-based product* *b) Community building (active involvement of end-consumers in the design and production of bio-based products)* *c) promoting the market uptake of bio-based products strengthening of regional bio economies* *d) Joint workshop games for impact, SSH*	
Summary	*Water, land, food, energy, and climate are interconnected, comprising a coherent system (the 'Nexus'), dominated by complexity and feedback. Putting pressure on one part of the Nexus can create pressures on the others. Management of the Nexus is critical to securing the efficient use of our scarce resources. Through the five nexus themes, SIM4NEXUS aims to predict society-wide impacts of resource use and relevant policies on sectors such as agriculture, water, biodiversity and ecosystem services through a model-based analysis.*	
Objectives	*SIM4NEXUS aims to address knowledge and technology gaps and thereby facilitate the design of policies within the Nexus.*	
Expected Impacts	*SIM4NEXUS will develop a Serious Game. The Serious Game will assist the users (as players) in better understanding and visualising policies*	

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	at various geo-/spatial scales and from a holistic point of view, towards a better scientific understanding of the Nexus. *The Serious Game will be validated (applied, tested, verified and used) via ten Case Studies ranging from regional to national level. Two further Strategic Serious Games at European and Global levels will also be developed for demonstration, education and further exploitation purposes, accompanied by a robust business plan and IPR framework, for taking advantage of the post-project situation and business potential.* *The Serious Game is based on Aqua Republica (an existing serious game focusing on water developed by DHI, http://aquarepublica.com/).*
Leader	*Floor Brouwer*
Consortium	*SIM4NEXUS brings together a multidisciplinary team of 25 partners from 15 countries (http://www.sim4nexus.eu/page.php?wert=Partners)* *BOCCONI UNIVERSITY (UB)* *UNIVERSITA DEGLI STUDI DI SASSARI* *LEI WAGENINGEN UR (WUR-LEI)* *UNIVERSITY OF THESSALY (UTH)* *UNIVERSITY OF EXETER (UNEXE)* *IHE Delft* *TECHNICAL UNIVERSITY OF MADRID (UPM)* *POTSDAM INSTITUTE FOR CLIMATE IMPACT RESEARCH (PIK)* *UNITED NATIONS UNIVERSITY (UNU)* *RADBOUD UNIVERSITY (RU)* *ROYAL INSTITUTE OF TECHNOLOGY (KTH)* *UPPSALA UNIVERSITY (UU)* *EURECAT (EURECAT)* *ENKI (ENKI)* *PBL NETHERLANDS ENVIRONMENTAL ASSESSMENT AGENCY (PBL)* *DHI (DHI)* *SOUTH WEST WATER (SWW)* *ACTEON (ACT)*

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	EPSILON MALTA (EPSILON) *CAMBRIDGE ECONOMETRICS (CE)* *STRANE INNOVATION (SI)* *FRESH THOUGHTS (FT)* *BALTIC ENVIRONMENTAL FORUM (BEF)* *PEOPLE AND WATER (P&W)* *THE EUROPEAN TECHNOLOGY PLATFORM FOR WATER (WSSTP)*
A.2 Interviewee	
Name	*Floor Brouwer*
Position	*Research scholar at Wageningen Economic Research - Wageningen University and Research.* **6.6.2.1. Senior Researcher on agriculture and environment, acquiring international research.** **6.6.2.2. Head of unit, LEI Landbouw Economisch Instituut - Wageningen UR.** *Expert in: Green Economics, Environmental Economics, Water Science, Agricultural policy, Agriculture, Climate change, Environmental economics, Agri-environment schemes, Sustainable agriculture, Resource management*
Role in the Project	*Coordinator*
Contact info (tel, e-mail)	*+31703358127 SIM4NEXUS@wur.nl*
Other participants	*Robert, Pedal from Bioways Project*
Interview with Floor Brouwer:	*<< The project Sim4Nexus explores 12 case studies (http://www.sim4nexus.eu/page.php?wert=Casestudies) in all Europe, they also have a continental case, several of them are focused in bio based economy.* *The water damage is ofter overlooked. We face with the water societal challenge fight.* *Sim4Nexus is a 4 y project. They have other 2 projects. Magic Nexus (http://magic-nexus.eu/).* *They are developing a game in Denmark (Danish partner DHI, https://worldwide.dhigroup.com/dk). Not on bio based products.*

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	They are writing a document about Coherence in policies, in the domain of bio based economy, we found some inconsistences. We are finalising a policy brief on climate change mitigation that'll be available in one or two weeks. *They are looking for researchers in future agricultural modelling.* *They are studying new ways on how use policing, prizing and promote low carbon economy.* *They are looking for possible ways to introduce approaches to food security, low-carbon energy, sustainable water management and climate change mitigation.* *They are making some progress to introduce new climate chance mitigation polities.* *They seek for collaboration with relevant partners and opportunities for bussiness in serious games.* *They are planning a clustering project in November, for European projects in Brussels.* *They plan the next Tbt in Greece in march 14/16 to discuss in a workshop about any scientific topic that is interesting (Greek Partner UNIVERSITY OF THESSALY, http://www.uth.gr/en/).>>* *ACTION PLAN:* - *Send survey's results* - *Info about Maker Faire* - *Discuss possible side events in the context of Sim4nexus March 2018* - *Games based approaches to increase impact of science* - *Extract 12 case studies (http://www.sim4nexus.eu/page.php?wert=Casestudies)* - *Ask for Policy Brief in 1 or 2 weeks* - *Synergies Suprema, Bioways and Biovoices starting January 2018*

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SOILCARE		
A.1 Project		
Title	*Soil Care for profitable and sustainable crop production in Europe*	
Programme	*H2020-SFS-2015-2*	
Beginning & Ending date	*01/03/2016 - 28/02/2021*	
Coordinator	*STICHTING WAGENINGEN RESEARCH*	
Webpage	*http://www.soilcare-project.eu/*	
Type of action (RIA, IA, CSA, demonstration, other)	*RIA*	*Initial TRL:* *Final TRL:* *(if applicable. Not for CSA)*
Value Chain		
Budget / EU contribution	*EUR 6 999 993*	
Focus on	*a) Identify publishable outputs of your project to be promoted through the BIOWAYS channels (case studies on practical solutions, Fact Sheets, presentations, promotional videos, etc)* *b) Assess the potential collaboration with your SOILCARE project (workshops, events, dissemination activities, educational/training activities, networking programme)* *c) Development of bio-based product* • *Promising markets/BBP form crop* • *Researchers for Maker faire* *d) Community building initiatives (active involvement of end-consumers in the design and production of bio-based products)* *e) promoting the market uptake of bio-based products strengthening of regional bioeconomies*	
Summary	*European crop production is to remain competitive while reducing environmental impacts, requiring development and uptake of effective soil-improving cropping systems. The overall aim of SOILCARE is to identify and evaluate promising soil improving cropping systems and agronomic techniques increasing profitability and sustainability across scales in Europe. A trans-disciplinary approach will be used to evaluate benefits and drawbacks of a new generation of soil improving cropping systems, incorporating all relevant bio-physical, socio-economic and political aspects.*	

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Objectives	*In the project plan, a number of project objectives have been formulated (CS = Cropping System)* • *To review which CS can be considered soil-improving, to identify current benefits and drawbacks, and to assess current and potential impact on soil quality and environment,* • *To select and trial soil-improving CS in 16 Study Sites across Europe, representing various pedo-climatic zones and socio-economic conditions following a multi-actor approach,* • *To develop and apply an integrated and comprehensive methodology to assess benefits, drawbacks and limitations, profitability and sustainability of soil-improving CS in the Study Sites, taking into account pedo-climatic, socio-economic and legislative conditions,* • *To study barriers for adoption and to analyse how farmers can be encouraged through appropriate incentives to adopt suitable soil-improving CS,* • *To develop and apply a method to upscale Study Site results to European level, taking into account different pedo-climatic and socio-economic conditions in different parts of Europe, to come up with Europe-wide information on which soil-improving CS would be most beneficial where in Europe,* • *To develop an interactive tool for selection of soil-improving CS throughout Europe,* • *To analyse the effect of agricultural and environmental policies on adoption of CS, and to support these policies in order to improve adoption,* • *To disseminate key-information about soil-improving CS including agronomic techniques to all stakeholders.*
Leader	*Rudi Hessel* *rudi.hessel@wur.nl*
Consortium	*UNIVERSITY OF NEWCASTLE UPON TYNE* *United Kingdom* *KATHOLIEKE UNIVERSITEIT LEUVEN* *Belgium* *UNIVERSITY OF GLOUCESTERSHIRE LBG* *United Kingdom* *UNIVERSITAET HOHENHEIM* *Germany* *RESEARCH INSTITUTE FOR KNOWLEDGE SYSTEMS BV*

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	Netherlands *THE RESEARCH COMMITTEE OF THE TECHNICAL UNIVERSITY OF CRETE* *Greece* *JRC -JOINT RESEARCH CENTRE- EUROPEAN COMMISSION* *Belgium* *UNIVERSITAT BERN* *Switzerland* *MILIEU LIMITED* *United Kingdom* *NIBIO - NORSK INSTITUTT FOR BIOOKONOMI* *Norway* *BODEMKUNDIGE DIENST VAN BELGIE* *Belgium* *AARHUS UNIVERSITET* *Denmark* *GAME AND WILDLIFE CONSERVATION TRUST* *United Kingdom* *TEAGASC - AGRICULTURE AND FOOD DEVELOPMENT AUTHORITY* *Ireland* *SOIL CARES RESEARCH BV* *Netherlands* *INSTITUTO POLITECNICO DE COIMBRA* *Portugal* *INSTITUTUL NATIONAL DE CERCETARE-DEZVOLTARE PENTRU PEDOLOGIE, AGROCHIMIE SI PROTECTIA MEDIULUI* *Romania* *UNIVERSITA DEGLI STUDI DI PADOVA* *Italy* *INSTYTUT AGROFIZYKI POLSKIEJ AKADEMII NAUK* *Poland* *WAGENINGEN UNIVERSITY* *Netherlands*

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	PANNON EGYETEM *Hungary* *SVERIGES LANTBRUKSUNIVERSITET* *Sweden* *AGRO INTELLIGENCE APS* *Denmark* *VYZKUMNY USTAV ROSTLINNE VYROBY* *Czech Republic* *UNIVERSIDAD DE ALMERIA* *Spain* *FEDERATION REGIONALE DES AGROBIOLOGISTES DE BRETAGNE* *France* *SCIENCEVIEW MEDIA BV* *Netherlands*
A.2 Interviewee	
Name	*Jane Mills*
Position	*7. SENIOR RESEARCH FELLOW* *BSc (Hons) (Rural Environment Studies), MSc (Land Resource Management)* *8. UNIVERSITY OF GLOUCESTERSHIRE , CHELTENHAM · COUNTRYSIDE AND COMMUNITY RESEARCH INSTITUTE (CCRI)* *8.1.* QUALITATIVE SOCIAL RESEARCH, URBAN/RURAL SOCIOLOGY, SOCIAL POLICY *Jane has been working at CCRI since 1998. Her main research interests focus on the social and economic aspects of agri-environmental policy, agricultural change and environmental management. She is particularly interested in understanding farmer behaviour and in researching collaborative institutional arrangements and knowledge exchange processes which*

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	effectively reconcile agricultural production and environmental quality objectives. *Jane is currently leading 2 Work Packages for European FP7 and H2020 projects:* *Preventing and Remediating Degradation of Soils in Europe through Landcare (RECARE)* *Soil Care for profitable and sustainable crop production in Europe (SOILCARE)* *She is also involved with 'Valorising European Research for Innovation in Agriculture and Forestry' (VALERIE)*
Role in the project	*Leading Work pakage*
Contact info (tel, e-mail)	*Tel +44 (0) 1242 714137* *Email: jmills@glos.ac.uk*
Other participants	
Interview with Jane Mills:	*What are the market application your project is working with?* *Improve soil quality agriculture, identifying the right crops that can be used, the right combination of crops, new technologies.* *They have a Danish Machine for cultivation.* *The are looking for where Soil improving crops system should be used in Europe.* *Soil studies frequently appear in high-impact journals, with soil carbon and biodiversity as the main issues.* *They can incorporate bio products.* *Policy Framework.* *One of the task in the projects how a different knowledge can transform the behaviour of the farmer and how this can be supported.*

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	They are working with the farmer, goal is to identify how farmers currently obtain information about soil use and cropping systems and who are the key audiences. *How to manage the crops waste, how to improve the local economy?* *Improve the quality of the soil is part of the project. Find new technologies.* *They must search for more diverse cropping systems, perennial crops, N2-fixing crops.* *What are the degrees and barriers of collaboration with the farmer ?* *They find hard to engage with the farmers, to co create. But it seems to be improving in the lasts years, we work with the stakeholders to find who are the right people to involve.* *Dissemination: what are the most effective action you take?* *Use of social medial, in particular Twitter. Thematic communities. Sharing knowledge. Local action is very important, trying to do some videos.* *Identifying right systems to test.* *Video and multimedia are the rights tools to use, but more difficult to create.* *They talked about Soil experiments in a European magazine for Science teachers (Science in School).* ***Did you use some no formal disseminations activities?*** *NO, BUT SHE IS INTERESTED IN FVA/BIOWAYS WORK*

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OPEN-BIO		
A.1 Project		
Title	*8.2.* OPENING BIO-BASED MARKETS VIA STANDARDS, LABELLING AND PROCUREMENT	
Programme	*KBBE/FP7EN/312060 & 613677*	
Beginning & Ending date	*1/11/2013 – 31/10/2016 - FINISHED*	
Coordinator	*STICHTING NEDERLANDS NORMALISATIE - INSTITUUT*	
Webpage	*http://www.biobasedeconomy.eu/*	
Type of action (RIA, IA, CSA, demonstration, other)	*CP-IP - Large-scale integrating project*	*Initial TRL:* *Final TRL:* *(if applicable. Not for CSA)*
Value Chain		
Budget / EU contribution	*EUR 5 996 597*	
Focus on	*a) Development of bio-based product* *b) Community building (active involvement of end-consumers in the design and production of bio-based products)* *c) promoting the market uptake of bio-based products strengthening of regional bioeconomies*	
Summary	*Application of standards, certification schemes and labels has positive long-term effects on the overall development of the European bio-based product market. Good product information that presents correct claims to industry and public procurers is vital for the usage of these new products. Ensuring the sustainable sourcing of raw materials and the effective bio-content are important additional steps for public confidence.* *Open-Bio investigates how markets can be opened for bio-based products through standardization, labelling and procurement. Therefore, one focus is on the sustainability of the bio-based resources and potential testing methods for this criterion. The end-of-life research will be expanded to different biodegradation scenarios, composting and recyclability. Functionality testing will focus on the gaps identified by KBBPPS and on the special properties of bio-based products.*	
Objectives	*The Open-Bio project aims at increasing the uptake speed of standards, labels and harmonized product information lists for bio-based products. It covers research and demonstration on direct and indirect biomass content methods, biodegradability and ecotoxicity*	

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	tests. Practical solutions for stakeholders, lab and field tests on for instance sampling or capability of being recycled or digested in a gasifier will be studied. Goal is to copy results one-to-one into European standards and product information lists. These form the basis for a database on bio-based products. A label will be developed in order to clearly distinguish bio-based products on the basis of the functionality laid down in standards. Both the information lists and the labels will be tested on their social acceptance via a set of target groups
Expected Impacts	*New research on isotopes, marine bio-degradation and intended end-of-life options such as digestibility and recyclability, distinguishes this project from an on-going FP7 project called KBBPPS. All partners thereof participate in Open-Bio. By participating in the Standardization Committee, CEN/TC 411, on ""Bio-based products"" (its Secretariat being one of the partners) and by doing pre- and co-normative research for them, Open-Bio allows the European stakeholders to progress."*
Leader	*lara.dammer@nova-institut.de*
Consortium	*STICHTING ENERGIEONDERZOEK CENTRUM NEDERLAND* *Netherlands* *UNIVERSITY OF YORK* *United Kingdom* *NOVA-INSTITUT FUR POLITISCHE UND OKOLOGISCHE INNOVATION GMBH* *Germany* *ORGANIC WASTE SYSTEMS NV* *Belgium* *STICHTING WAGENINGEN RESEARCH* *Netherlands* *AGRICULTURAL UNIVERSITY OF ATHENS* *Greece* *B.T.G. BIOMASS TECHNOLOGY GROUP BV* *Netherlands* *Fachagentur Nachwachsende Rohstoffe e.V.* *Germany* *CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE CNRS*

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	France *TECHNISCHE UNIVERSITAET BERLIN* *Germany* *HYDRA Institut für Meereswissenschaften AG* *Germany* *NOVAMONT SPA* *Italy* *STICHTING LETTINGA ASSOCIATES* *Netherlands* *LEAF BV* *Netherlands*
A.2 Interviewee	
Name	*Lara Dammer*
Position	*Head of Department Economy & Policy bei nova-Institut GmbH* *Lara is an expert for all things related to policy and strategy for a bio-based and CO2-based economy. Her main topics of work are the level playing field for a bioeconomy; renewable energy and agricultural policies; standardisation of bio-based products; labelling, communication and dissemination; cascading use; public procurement and data collection frameworks.* *She is an active member of working groups of CEN/TC 411 on bio-based products as well as the Commission's Expert Group on Bio-based Products. As of 2016, she will also be an expert consulting on the Horizon 2020 framework on 'Societal Challenge 2'.*
Role in the project	
Contact info (tel, e-mail)	*Phone +49-(0)2233-48-14 55* *Email: lara.dammer@nova-institut.de*
Other participants	*Guido Mueller* *8.3.* MANAGER FOR DISSEMINATION & MARKETING COMMUNICATION FOR NOVA-INSTITUTE *17 years of experience in industrial marketing to strengthen the nova dissemination and marketing team.*

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	With his first project at nova Guido became project leader of the EU project CHASSY (www.CHASSY.eu) where nova-Institute is responsible for B2B dissemination. Additional European projects will follow soon.
Interview	*Doesn't fix with the project OPEN-BIO, but could fix with other CSA they are working for. (http://nova-institut.de/bio/)* *Feedstock, Bio plastic, CO2* *Interested in event for the general public.* *Sent information material about Maker Faire and incoming events.* Nova daily bio-based news here: http://news.bio-based.eu *Action Plan:* *Keep them inform on the on-going activities.*

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RRI-Practice		
A.1 Project		
Title	*Responsible Research and Innovation in Practice*	
Programme	*H2020-ISSI-2015-1*	
Beginning & Ending date	*01/09/2016 – 31/08/2019*	
Coordinator	*HOGSKOLEN I OSLO OG AKERSHUS*	
Webpage	*rri-practice.eu*	
Type of action (RIA, IA, CSA, demonstration, other)	*CSA*	*Initial TRL:* *Final TRL:* *(if applicable. Not for CSA)*
Value Chain		
Budget / EU contribution	*EUR 3 635 413,75*	
Focus on	*a) Development of bio-based product* *b) Community building (active involvement of end-consumers in the design and production of bio-based products)* *c) promoting the market uptake of bio-based products strengthening of regional bioeconomies*	
Summary	*H2020-EU.5.c. - Integrate society in science and innovation issues, policies and activities in order to integrate citizens' interests and values and to increase the quality, relevance, social acceptability and sustainability of research and innovation outcomes in various fields of activity from social innovation to areas such as biotechnology and nanotechnology*	
Objectives	*The RRI-Practice project will bring together a unique group of international experts in RRI to understand the barriers and drivers to the successful implementation of RRI both in European and global contexts; to promote reflection on organisational structures and cultures of research conducting and research funding organisations; and to identify and support best practices to facilitate the uptake of RRI in organisations and research programmes. The project will review RRI related work in 22 research conducting and research funding organisations and will develop RRI Outlooks outlining RRI objectives, targets and indicators for each organisation. It will involve comparative analysis of the five EC keys of RRI*	

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	locating these within broader, evolving discourses on RRI. Within each identified RRI dimension the project will analyse how the topic has developed in particular social and institutional contexts, how the RRI concept and configuration meshes, overlaps and challenges existing organisational practices and cultures, leading to an analysis of the barriers and drivers associated with operationalising and implementing RRI. 12 national case studies will allow for in depth studies of, and dialogue with, the included organisations, and will form the basis for systematic analysis and comparison of drivers, barriers and best practices on each dimension of RRI. The project design also allows analysis of such drivers, barriers and best practices related to national and organisational characteristics, safeguarding the need to take into account diversity and pluralism in regional RRI programs. These analyses will ultimately end up in recommendations to the EC about effective, efficient and targeted strategies for increasing RRI uptake in different kinds of organisations and national cultures, in Europe and in selected major S&T intensive economies worldwide. The project will also develop user-friendly guidance aimed directly at research and funding organisations themselves.
Expected Impacts	
Leader	*Ellen-Marie Forsberg* *Ellenmarie.Forsberg@hioa.no/ellen.forsberg@gmail.com Telephone: + 47 97 06 19 71*
Consortium	*KARLSRUHER INSTITUT FUER TECHNOLOGIE* *Germany* *THE UNIVERSITY OF EXETER* *United Kingdom* *COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES* *France* *UNIVERSITA DEGLI STUDI DI PADOVA* *Italy* *APPLIED RESEARCH AND COMMUNICATIONS FUND* *Bulgaria* *STICHTING KATHOLIEKE UNIVERSITEIT*

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	Netherlands *WAGENINGEN UNIVERSITY* *Netherlands* *CHINESE ACADEMY OF SCIENCE AND TECHNOLOGY FOR DEVELOPMENT*CASTED* *China* *RESEARCH AND INFORMATION SYSTEM FOR DEVELOPING COUNTRIES* *India* *Arizona Board of Regents* *United States* *FUNDACAO DE DESENVOLVIMENTO DA UNICAMP-FUNCAMP* *Brazil* *THE UNIVERSITY OF QUEENSLAND* *Australia*
A.2 Interviewee	
Name	*Ellen-Marie Forsberg*
Position	*Research Professor/Research Manager - Oslo and Akershus University College Of Applied Sciences* *Dr. Ellen-Marie Forsberg is a senior researcher with a doctorate in practical ethics/philosophy focusing on methods for doing ethical evaluations of new technologies.* *She leads the HiOA Research Group on Responsible Innovation: http://www.hioa.no/Research-and-Development/Our-research/Research-groups/The-Oslo-Research-Group-on-Responsible-Innovation Forsberg is the project leader of PatentEthics and the Assisted Living projects, both funded by the Research Council of Norway. She will also coordinate the upcoming H2020 SWAFS project RRI-Practice. Forsberg coordinated the FP7 Science in Society project EST-Frame from 2012-2014, on integrated assessment of emerging science and technologies (www.estframe.net).*

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	Academic disciplinesEthics PhilosophySubject areasTechnology, Innovation and Culture Innovation Biotechnology Nanotechnology Standardisation Field- and reserach ethicsGovernance Animal ethics Patent law Research and innovation policy Technology assessment
Role in the Project	*Coordinator*
Contacts	*ellenmarie.forsberg@hioa.no*
Other Participants	
Interview	*Interests including technology assessment/governance, bioethics, research ethics, animal ethics, etc.* *They are working with organizations, company, not really on specific topics* *What are the most successful activities that you are performing?* *Web sites, working with main and national stakeholders, workshops.* *Workshops, Focus Groups, discussions with other actors in the field.* *Useful for DANDELION*

InnProBio	
Title	*Forum for Bio-Based Innovation in Public Procurement*
Programme	*H2020-ISIB-2014-1*
Beginning & Ending date	*1/03/2015 - 28/02/2018*
Coordinator	*Fachagentur Nachwachsende Rohstoffe e.V.*
Webpage	*http://innprobio.innovation-procurement.org*

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Type of action (RIA, IA, CSA, demonstration, other)	*CSA*	*Initial TRL:* *Final TRL:* *(if applicable. Not for CSA)*
Value Chain		
Budget / EU contribution		
Focus on	*a) Development of bio-based product* *b) Community building (active involvement of end-consumers in the design and production of bio-based products)* *c) promoting the market uptake of bio-based products strengthening of regional bioeconomies*	
Summary	*InnProBio, the Forum for Bio-Based Innovation in Public Procurement, aims to develop a community of public procurement practitioners interested in innovative bio-based products and services.* *By harnessing the potential of public procurement to foster innovation, InnProBio aims to work with the public sector to develop tools for purchasers, facilitate the creation of buyers groups, and increase awareness and incentives in order to lower the barriers to purchasing. Thus leading to the opening of new markets of bio-based products in Europe.*	
Objectives	*InnProBio, the Forum for Bio-Based Innovation in Public Procurement, aims to develop a community of public procurement practitioners interested in innovative bio-based products and services.*	
Expected Impacts	*InnProBio aims to work with the public sector to develop tools for purchasers, facilitate the creation of buyers groups, and increase awareness and incentives in order to lower the barriers to purchasing. Thus leading to the opening of new markets of bio-based products in Europe.*	
Leader	*Moritz Westkämper* *InnProBio Project Co-ordination* *The Agency for Renewable Resources (FNR)* *Email: innprobio@fnr.de* *Telephone: +49(0)3843/6930-211*	

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Consortium	*The Agency for Renewable Resources (FNR)* *BTG Biomass Technology Group BV* *The Stichting Nederlands Normalisatie – Instituut (NEN)* *ICLEI – Local Governments for Sustainability –* *The University of Hull (UHULL)* *The University of Łódź* *The nova-Institute* *The Dutch Public Procurement Expertise Centre (PIANOo)*

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A.2 Interviewee	
Name	*Mona-Maria Narra*
Position	*Project Coordinator at Fachagentur Nachwachsende Rohstoffe e.V*
Role in the project	*Coordinator*
Contact info (tel, e-mail)	*m.narra(bei)fnr.de* *+49 3843/6930-123*
Other participants	
Interview with Mona	*Bio-based products.* ***What do you think will be the most promising categories of products?*** *We have a whole report on the products and application areas which work best for bio-based products (alas in public procurement only and not for the general public). Here is the link to that report http://innprobio.innovation-procurement.org/fileadmin/user_upload/Tools_and_resources/16-05-31_InnProBio_D3.2_public.pdf* *The short version is that these categories are the most promising for bio-based products:* *1. FOOD, CATERING AND EVENTS* *2. TEXTILES PRODUCTS AND CLOTHES* *3. ICT AND OFFICE SUPPLIES* *4. VEHICLES AND MOBILITY* *5. CLEANING, HYGIENE AND SANITARY; NURSERY* *6. CONSTRUCTION AND INFRASTRUCTURE* *7. FURNITURE AND INDOOR INTERIORS* *8. GARDENING AND LANDSCAPING* ***What do you think are the most important barries?*** *People have no idea about the bio economy* *Bio based product are usually to much expensive* *Confusion about concept of organig/bio based/compostable* ***What are the activities you are doing?*** *Training and discussion with the producers of bio product "what do the need to increase?"* *Getting in contact, work with the stakeholders. How they work? Etc.* *Online tool, e – book fo pushing this kind of products* ***MATERIAL SENT VIA E-MAIL:*** *Regarding the game which you mentioned, in which the people should find the correct definition for words concerning the bioeconomy, we have also produced a glossary which might be helpful for you:* *https://www.biobasedconsultancy.com/en/about-biobased/glossary1*

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	Maybe the whole Decision Support Tool: https://www.biobasedconsultancy.com/could be interesting to you, it is not everything about procurement, but a lot of information is in general about bio-based products. Please feel free to use all information (with credits of course) in your project as well. *Action Plan:* *- Send main points about IFIB* *- exchange relevant information* *- About Maker Faire she will discuss with the other partners* *-Send some info about Bio Voices*

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TECH4EFFECT		
A.1 Project		
Title	*Techniques and Technologies for Effective Wood Procurement*	
Programme	*BBI-JU, H2020*	
Beginning & Ending date	*From 2016-10-01 to 2020-09-30*	
Coordinator	*NIBIO - NORSK INSTITUTT FOR BIOOKONOMI* *Norway*	
Webpage	*http://tech4effect.testinstanz.at/;* *http://cordis.europa.eu/project/rcn/205404_en.html*	
Type of action (RIA, IA, CSA, demonstration, other)	*CP-FP - cooperation*	*Initial TRL:* *Final TRL:* *(if applicable. Not for CSA)*
Value Chain	*VC2*	
Budget / EU contribution	*EUR 4 999 902,50*	
Focus on	*a) Development of bio-based product* *b) Community building (active involvement of end-consumers in the design and production of bio-based products)* *c) promoting the market uptake of bio-based products strengthening of regional bioeconomies*	
Summary	*The project focuses on increasing access to wood resources through more efficient silviculture and a better understanding of the business models governing the procurement of forest operations services.*	
Objectives	*The project further considers increasing efficiency in forest harvesting and collection, and the reduction of soil impact from forest operations, and puts forward ways of making this a measurable and integrated part of operational efficiency. TECH4EFFECT offers the potential to revolutionize forest operations with a state-of-the-art knowledge-based efficiency development system, providing easily accessible decision support exploiting the large amount of data available in modern industrial forest management.*	
Expected Impacts	*The ambition of TECH4EFFECT is to implement such as management tool, enhanced through 4 years of intensive R&D in close cooperation with the end-users of the Efficiency Portal in 5 participating countries. It is the project's hope that implementation will result in such obvious benefits amongst the industrial partners that its application will become widespread within the European forest sector.*	
Leader	*Norwegian Institute of Bioeconomy Research (NIBIO), http://www.nibio.no/en*	

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Consortium	*CONSIGLIO NAZIONALE DELLE RICERCHE* *Italy* *EUROPEAN FOREST INSTITUTE* *Finland* *UNIVERSITAET FUER BODENKULTUR WIEN* *Austria* *LUONNONVARAKESKUS* *Finland* *KOBENHAVNS UNIVERSITET* *Denmark* *RTDS - VEREIN ZUR FORDERUNG DER KOMMUNIKATION UND VERMITTLUNG VON FORSCHUNG, TECHNOLOGIE UND INNOVATION (RTDS VEREIN, ENGL. RTDS ASSOCIATION)* *Austria* *ALBERT-LUDWIGS-UNIVERSITAET FREIBURG* *Germany* *NORSKOG* *Norway* *KURATORIUM FUR WALDARBEIT UND FORSTTECHNIK (KWF) GMBH* *Germany* *OESTERREICHISCHE BUNDESFORSTE AG* *Austria* *IBENSOFT APS* *Denmark* *SKOVDYRKERFORENINGEN OST AMBA* *Denmark* *PONSSE OYJ* *Finland* *CO NA I BO* *Italy* *SZKOLA GLOWNA GOSPODARSTWA WIEJSKIEGO* *Poland* *LATSCHBACHER GMBH* *Austria* *KONRAD FORSTTECHNIK GMBH* *Austria* *STATSKOG SF* *Norway*
A.2 Interviewee	

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Name	*Daniela Fichtenbauer*
Position	*Consultant at RTDS Group* *RTDS Group University of Vienna*
Role in the project	
Contact info (tel, e-mail)	
INTERVIEW	*The goal of the project is to improve the process to better exploit the forests.* *Reducing fuel consumption. They analyze data.* *What can be improved in the process?* *Self assessment tool for forest manager and owners.* *They do not have plan, bugdet for being in touch with the general public.* ***Dissemination practices that work:*** *Explaining the project in 2 minutes through animation video.* ***Relation with the stakeholders:*** *We have in the consortium the biggest players at national level. We should not approach the small forest owners. We contact the smalls ones just when we have real outcomes to show them.* ***Espected impacts?*** *Getting more with less impact, maximalising the resources and minimalizing the operations (cost and sustainability).* *Publications through the research organizations and universities.* *Action Plan:* *Consent form* *D2.2 send surveys results: Public perception and bio based products, deliverable 6.* *Re contact for the BioWh@cht platform*

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BioLinX		
A.1 Project		
Title	Connecting European Bio based Project	
Programme	H2020-ISIB-2014-1	
Beginning & Ending date	1/03/2015 – 28/02/2018	
Coordinator	REWIN PROJECTEN BV;	
Webpage	www.biolinx-project.eu	
Type of action (RIA, IA, CSA, demonstration, other)	CSA	Initial TRL: Final TRL: (if applicable. Not for CSA)
Focus on	a) Development of bio-based product b) Community building (active involvement of end-consumers in the design and production of bio-based products) c) promoting the market uptake of bio-based products strengthening of regional bioeconomies d) Info about SC Sviluppo chimica S.p.A (for Maker Faire)	
Summary	BioLinX supports participants in FP7 and H2020 projects to commercialize their innovative ideas, and to connect them to knowledge, regional networks, new partners and funding opportunities. Our unique Innovation Support Programma helps you in finding the missing link in your value chain in order to: • increase the Technology Readiness Level of your innovation • decrease the time to market	
Expected Impacts		
Leader	d.vanderpas@rewin.nl Dennis van der Pas	
Consortium	REWIN, TNO, SP, DECHEMA, PNO, INNEN, SC, EUnlimited	

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A.2 Interviewee	
Name	*Dennis Van Der Pas*
Position	*Project Manager at NV REWIN West-Brabant* *NV Rewin Tilburg University* ***Specialties**: Process Coaching in Mergers & Acquisitions* *Incubators & campus* *Renewable energy*
Role in the project	*Coordinator*
Contact info (tel, e-mail)	*d.vanderpas@rewin.nl. +31 (0)6 51 35 99 94*
INTERVIEW	*A lot of money have been invested in FP7 and H2020 but few projects are generating business. The project is supporting them to reach the market.* *Interested in projects regarding technology* *Analysis of relevant initiatives/projects* *Identify projects and help them to bring technology to the market through brokerage events* *Focus on Policy Makers* *Pushing innovation, international Bioeconomy* *They have a reference group they can introduce to BIOWAYS* *Facilitate the contact with AssioBiotec* *They will suggest some projects or companies to be hosted in Maker Faire by BIOWAYS* *Action Plan:* *Send Consent form* *Send Call for BIOWAYS* *Send Results of Analysis, Material about survey about bio based products* *Send info about BIOw@tch and Reference group*
The short-to-medium term impact	*The short-to- medium term impact of the research work on key socio-* *economic and environmental challenges Europe and its citizens are facing*
The activities taken/planned to increase visibility of their findings	*The activities taken to increase visibility of your project results as well as* *your target audience beyond project implementation*

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D2.3 List of relevant initiatives supporting the supporting the development and uptake of bio-based products at European and regional level

Exploitation potential	*The broader exploitation potential of their results in terms of affecting/contributing to policy making and/or uptake*

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ISAAC		
Title	*8.4.* INCREASING SOCIAL AWARNESS AND ACCEPTANCE OF BIOGAS AND BIOMETHANE	
Programme	H2020	
Beginning & Ending date	**From** 2016-01-01 **to** 2018-06-30	
Coordinator	AZZERO CO2 SRL	
Webpage	*http://www.isaac-project.it*	
Type of action (RIA, IA, CSA, demonstration, other)	CSA - Coordination and support action	*Initial TRL:* *Final TRL:* *(if applicable. Not for CSA)*
Value Chain		
Budget / EU contribution	EUR 1 480 535	
Focus on	*a) Development of bio-based product* *b) Community building (active involvement of end-consumers in the design and production of bio-based products)* *c) promoting the market uptake of bio-based products strengthening of regional bioeconomies*	
Summary	ISAAC is a project financed by Horizon 2020 Programme, whose main aim is to remove non-technical barriers, such as lack of public acceptance and coordination for the biogas facilities diffusion, normative and legislative inadequacies, in order to support biogas/biomethane market penetration in Italy and make plants implementation easier within the national context.	
Objectives		
Expected Impacts	Actions will be focused on spreading balanced information on the biogas production process and related environmental and economic benefits among the stakeholders potentially involved in the construction of plants. A participatory process model will be developed and implemented in two pilot territories to build a common decision-making process and prevent social conflicts. The analysis of biogas production potential from residual biomass will constitute the starting point for communication and information activities. Awareness campaigns will be conducted in seven Italian regions to promote discussion, information sharing and co-planning among stakeholders. Specific actions will be focused on reducing fragmentation among individual biomass producers (farmers, breeders, etc.) in order to reach the minimum facility	

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	dimension needed and maximise economic advantages. A crowdfunding initiative will be proposed to create new opportunities and a sense of ownership and involvement. Proposals for improvements of the current Italian regulations on biomethane and digestate use will be prepared and discussed with the authorities in charge.
Leader	
Consortium	LEGAMBIENTE ASSOCIAZIONE ONLUS Italy CONSIGLIO NAZIONALE DELLE RICERCHE Italy CHIMICA VERDE BIONET Italy CIB-CONSORZIO ITALIANO BIOGAS E GASSIFICAZIONE Italy
A.2 Interviewee	
Name	*Ilaria Bientinesi*
Position	Divisione Ricerca e Sviluppo
Role in the project	*Partner*
Contact info (tel, e-mail)	*ilaria.bientinesi@azzeroco2.it*
Other participants	
Interview	*Interested to the Europen Researcher's night and Maker Faire* *Will be present at ECOMONDO 7-10 November* *They will put BIOWAYS in touch with:* *Sofia Mannelli, Chimica Verde Bionet* *Marco Segreto, mobile vain presenting the biogas process* *Action Plan:* *Send the outcomes of the survey about bioeconomy* *Send info about b2match* *Send info about next events* *Send BIOWAYS Call*

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ProBIO		
Title	*8.5.* PROFESSIONAL SUPPORT TO THE UPTAKE OF BIOECONOMY RD RESULTS TOWARDS MARKET, FURTHER RESEARCH AND POLICY FOR A MORE COMPETITIVE EUROPEAN BIOECONOMY	
Programme	H2020	
Beginning & Ending date	**From** 2015-03-01 **to** 2017-08-31, closed project	
Coordinator	AZIENDA SPECIALE INNOVHUB - STAZIONI SPERIMENTALI PER L'INDUSTRIA	
Webpage	*http://www.probio-project.eu/project.html*	
Type of action (RIA, IA, CSA, demonstration, other)	CSA - Coordination and support action	*Initial TRL:* *Final TRL:* *(if applicable. Not for CSA)*
Value Chain		
Budget / EU contribution	EUR 1 588 158,75	
Focus on	*a) Development of bio-based product* *b) Community building (active involvement of end-consumers in the design and production of bio-based products)* *c) promoting the market uptake of bio-based products strengthening of regional bioeconomies*	
Summary	*ProBIO is a support action for KBBE projects which identifies KBBE research results to facilitate their uptake into the relevant sector.* *We provide projects in the bioeconomy area with an opportunity to reach the market more effectively, through a number of actions:* *•coaching projects showing more mature results to market uptake into start-up creation and licensing deals with industrial partners;* *•facilitating links with industrial and financial investors;* *•providing guidance on how to exploit KBBE research into further research projects;* *•fostering networking and knowledge exchange between European bioeconomy initiatives and the most important sector players so to raise awareness towards policy makers and engaging the general public.*	
Objectives	*ProBIO is starting from the screening of bioeconomy projects results and classifies them according to their nature, progress and market proximity. Whilst some of them will be mature enough for*	

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	market uptake, others may require further development to reach a higher TRL, or may have knowledge of relevance to policy makers. *ProBIO experts take the different nature and maturity level of research results into account and support projects with dedicated professional coaching and tools which will accelerate market entry, facilitate the flow of knowledge into new R&D projects and feed policy-relevant results into the political process.* *Moreover, ProBIO foresees a range of events and communication activities supporting knowledge exchange and linkage of different actors along the bioeconomy value chains and making use of synergies through networking.*
Expected Impacts	*The multi-disciplinary team of the ProBIO consortium is built around highly specialised green innovation consultancies and a European expert group with an outstanding track record in promoting the uptake of results from public research. Additional thematic expertise is ensured by two technical centres and a media agency specialised in European innovation.*
Leader	
Consortium	SP SVERIGES TEKNISKA FORSKNINGSINSTITUT AB Sweden Greenovate! Europe Belgium INVESTORNET-GATE2GROWTH APS Denmark TECHNOFI SA France ZABALA INNOVATION CONSULTING, S.A. Spain I.CON. INNOVATION GMBH Germany ICONS SRL Italy
A.2 Interviewee	

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Name	*Ilaria Bonetti*
Position	*Innovhub*
Role in the project	*Project Manager*
Contact info (tel, e-mail)	*ilaria.bonetti@mi.camcom.it*
Other participants	
Interview	*Close project* *Collaboration possibilities* *They can give us the policy briefs once they ll be ready* *They will spread the BIOWAYS Call*

P4SB		
A.1 Project		
Title and acronym	**P4SB – From Plastic waste to Plastic value using Pseudomonas putida Synthetic Biology**	
Programme	H2020	
Beginning & Ending date	**From** 01-04-2015 **to** 31-03-2019	
Coordinator	RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN	
Webpage	http://www.p4sb.eu/	
Type of action (RIA, IA, CSA, demonstration, other)	RIA	*Initial TRL:3* *Final TRL:5* (If applicable. Not for CSAs)
Value Chain	NA	
Budget / EU contribution	EUR 7 056 968,50	
Focus on (select one)	mm) Development of bio-based product nn) Community building (active involvement of end-consumers in the design and production of bio-based products) oo) promoting the market uptake of bio-based products strengthening of regional bioeconomies	
Summary	P4SB is about the utilization of the conceptual and material tools of contemporary Synthetic Biology to bring about the sustainable	

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	and environmentally friendly bioconversion of oil-based plastic waste into fully biodegradable counterparts by means of deeply engineered, whole-cell bacterial catalysts. These tools will be used to design tailor-made enzymes for the bio-depolymerization of PET (polyethylene terephthalate) and PU (polyurethane), but also for the custom design of a Pseudomonas putida Cell Factory capable of metabolizing the resulting monomers. Pseudomonas putida will undergo deep metabolic surgery to channel these diverse substrates efficiently into the production of polyhydroxyalkanoates (PHA) and derivatives. In addition, synthetic downstream processing modules based on the programmed non-lytic secretion of PHA will facilitate the release and recovery of the bioplastic from the bacterial biomass. These industry driven objectives will help to address the market need for novel routes to valorise the gigantic plastic waste streams in the European Union and beyond, with direct opportunities for SME partners of P4SB spanning the entire value chain from plastic waste via Synthetic Biology to biodegradable plastic. As a result we anticipate a completely biobased process reducing the environmental impact of plastic waste by establishing it as a novel bulk second generation carbon source for industrial biotechnology, while at the same time opening new opportunities for the European plastic recycling industry and helping to achieve the ambitious recycling targets set by the European Union for 2020.
Objectives	
Expected Impacts	
Leader	
Consortium	
A.2 Interviewee	
Name	Lars Mathias Blank
Position	AWTHA University
Role in the project	Coordinator
Contact info (tel, e-mail)	Lars.Blank@rwth-aachen.de
Other participants	
B. Discussion	
B.1 Expected outputs and market uptake	✓ Which are the application areas/market segments related to your project's bio-based products/outputs (PBBPO)? ✓ How is the current situation of the market potential and penetration of PBBPO? ✓ Which are the benefits and opportunities of these PBBPO? ✓ Which are the barriers, risks and concerns of these PBBPO?

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	✓ Do you expect your PBBPO to be price-competitive in comparison with its fossil-based counterpart? ✓ Does your PBBPO outperform its fossil-based counterpart? If the answer is yes, do you expect the end-users to pay a premium for it? ✓ Is there a life-cycle analysis (LCA) comparing PBBPO and its fossil-based counterpart? ✓ Your opinion on potential hurdles on the new PBBPO or new functionality: o low public and private (industrial) demand (in terms of procurement and application) o resistance from established industrial sectors o unfavourable public perception of bio-based products and applications ✓ Do you expect including your PBBPO in public, 'green', pre-commercial innovation procurement? Since we are dealing with bio-plastics recycling and conversions the application areas are very wide. What we've learned is you can't have just a bio-resin and a bio-plastic and hope you can sell something on the market. You need technologies to make products. For example, one of our partners develops this foodsafe glue (ie for the stickers on apples) that actually works, because they have the technology. The resource we are relying on is solid and established but, on a sort of extent, is that established that we have to come up with some cost-efficiency/or penalities (if you burn plastics) for CO2. Our competitor is electricity price (how much can you earn by burning plastics), so as you see our competitors are the established elements in the market. Is bio-plastic market fully developed? No it is not, the plastic market is conservative. If they need a new feature those companies won't change if there is no incentive. Or if they are helped by green regulations. As regards the "green factor" in terms of business, we attended very different reactions, from "the green label does not affect at all" to Coca Cola example of running full speed for the green bottle. If we just place a green sticker, a green label, it is not enough. Our aim is to equalize or, ideally, outperform the fossil counterpart. Our project is at TRL 3 but with most of our WP we want to take it to 5 (let's say between 4 and 6). We see there is market potential. We decided to go to recycling companies when we have a showcase, at least at TRL 5, ideally 7. The point is to show these companies some tangible technology they can license in and with this 2 years project they can really implement. We learned that these established companies look for new technologies, but they are so pressured by daily work they have so

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	few time. They need ready-to-use technology or technology easy to implement. So on the product side there are opportunities because we can modify the product, but on the other side if we have the technology in line, we are absolutely convinced there are market opportunities. The point is always the market timing doesn't allow a proper development of technology. Can our "bio-based technology" outperform the fossil counterpart? For sure this is the aim. If you just replace a product adding a green sticker/label you are depending on the market. So you have an issue. It depends even on a little bit of luck if your customers are willing to pay an extra. It would be better if we outperform.
B.2 Legislation and policy framework	✓ What would you consider to be the gaps and the barriers in the existing legislation affecting your PBBPO? Which is your opinion on the policy and regulatory requirements affecting the new PBBPO or new functionality (standards, safety aspects, labels and certification and REACH legislation) ✓ Describe the broader exploitation potential of your results in terms of affecting/contributing to policy making and/or uptake ✓ Have you planned interaction activities or communication and dissemination actions with policy-makers? I think we are fairly safe since the technology law is at good level in the EU. EU countries as far as I know have been well instructed. So, in general, we have never faced obstacles from the legislative point of view. Regarding policy makers, we have a partner from Ireland (Dublin) very active at EU level in the field of circular economy. They are consultants by the EU commission so are quite aware of the political and legislative EU framework and can feedback us. Why didn't we do this at large scale? Because "we are not ready": we think we should have one real tangible showcase, rather than colorful events, and by the end of the year we should present it. Local presentations had good feedback so far.
B.3 The user's perspective	✓ Which are the consumers' needs, concerns and perceptions about the PBBPO and its application? How do users respond to this market area? Are they familiar with this category of products? What you think could help raise their awareness and acceptance about them? ✓ Have you planned interaction activities or communication and dissemination actions with consumer representatives?

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	✓ Have you identified any ethical issues regarding the development of the PBBPO? We are developing technology so the users' perspective is a bit different. However, we talked about us to the general public on the tv, on the radio and other means. In general it is very positively perceived since it's connected to topics like recycling, greening the economy and so on. So the users' attitude tu us was always very open minded and positive. The bioplastic field in general is positively perceived. On product side I can tell what I saw on faires and so on: companies which had bioplastics to showcase was well received. If you talk then to these companies you discover it's not an easy field for price competitors etc.
B4. Impact, visibility and explotation potential of the project/outputs	✓ Which are the expected impacts of the PBBPO on key socio-economic and environmental challenges faced by Europe and its citizens (*list*)? Which are their benefits in terms of sustainability? ✓ In your opinion, which is the short to medium term impact of your research work? ✓ Which are the activities taken/planned to increase visibility of your findings? Which are your main dissemination and communication means and activities? (*list*) ✓ Which is your target audience beyond project implementation? (*list*) Ideally we will showcase alternative technologies for material recycling so we will have an important impact. In mid terms we have different scenarios, one of our partners says if we develop our research we might start to earn money already on 2019. In longer terms would be that if we can synthetise other molecules, we would be in a gigantic market. A partner forecasts 10 millions of income by 2025 and incredibly 100 millions in 2028. Because in the PU market there is no recycling idea so we are like pioneers and therefore our partners see a huge potential. As regards the socio-economic-environmental challenges, I think it is a too wide argument. Once we received the funding we sat up the website very fast and started collecting information not only from the project rather news on plastic, plastivìc recycling, plastic in the environment, numbers on the plastic market and so on. This activity is still going on up to now. On the other hand we have limited activities on other social media. We ran 2 scientific conferences.

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	Regarding our target audience, we are trying to involve the true public and attract media attention.
B.5 Potential networking activities	✓ Would you like to be informed in BIOWAYS collaborative activities (*list*)? Would you like to take part in any of them? ✓ Do you give your consent to use this interview as a source of information in our deliverables? Do you agree in including your project in our Bio-Watch platform and other dissemination tools as social media, website, etc? ✓ How can BIOWAYS collaborate in the dissemination of your activities and outputs? Do you have any public promotional document (factsheet, leaflet, presentation, video, article, educational or trainning material, etc) you would like to be disseminated through BIOWAYS tools and platform? ✓ Is there any other project, initiative or representative case study you would like us to be aware of? All collaborative initiavies were/are being treated internally and/or we are waiting for their dissemination material to be provided.

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PERCAL		
A.1 Project		
Title and acronym	Chemical building blocks from versatile MSW biorefinery - PERCAL	
Programme	BBI-JTI	
Beginning & Ending date	From 2017-07-01 to 2020-06-30	
Coordinator	INDUSTRIAS MECANICAS ALCUDIA SA	
Webpage	http://www.percal-project.eu	
Type of action (RIA, IA, CSA, demonstration, other)	RIA	
Value Chain	VC4 – organic waste	
Budget / EU contribution	Total cost: EUR 3 394 181,26 EU contribution: EUR 2 518 517,64	
Focus on (select one)	pp) Development of bio-based product	
Summary	PERCAL will use Municipal Solid Waste (MSW) as a feedstock for developing intermediate chemical products, producing high yield with high purity, making it attractive for industry. These will be complementary to the bioethanol (existing PERSEO Bioethanol® technology), thus creating a cascade of valorisation from the MSW components. PERCAL aims to produce three main compounds. Lactic acid, which can be used to make eco-friendly ethyl lactate. This can be used in cleaning products, in ink and for hot-melt adhesives for cardboard; succinic acid, as an intermediate building blocks for the production of polyols for the polyurethane industry as well as biosurfactants from the remaining fraction of the MSW fermentation. The project should lead to four main innovations; new enzymatic cocktails to maximize hydrolysis of fermentable organic matter with low inhibitors production; high yield, specific and robust strains for each selected acid; extraction of fermentation by-products acting as inhibitors to succinic acid production via novel membrane electrolysis and optimised simultaneous	

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	saccharification and fermentation for lactic acid production followed by a downstream separation process. These should minimise issues of heterogeneous MSW composition
Objectives	• To improve enzymes cocktails to maximize organic hydrolysis for a range of MSW compositions. • To study the production and purification of Lactic acid from MSW using sequential and simultaneous saccharification and fermentation. • To study the production and in-line purification of Succinic Acid from MSW using membrane electrolysis technology. • To valorise the fermentation by-products, increasing the recovery from the organic content of MSW by 25 percent. • To produce ethyl lactate solvents for use in cleaning products and inks by simultaneous esterification and product separation process. • To produce lactic acid based hot melt adhesives for application in cardboard and labels. • To produce polyester and polyether polyols for application in polyurethanes. • To study integration of in-line control technologies to the PERSEO pilot plant to increase process control parameters, versatility and to maximise homogeneity of the fermentable feedstock.
Expected Impacts	• PERCAL intends to improve the yield of intermediate extraction/recovery from the organic content of MSW by 20 percent with respect to state-of-the-art or exceed 80 percent yield of intermediates • It will also validate removal of inhibitors to a level where it allows cost-effective downstream processing, comparable to that obtained from lignocellulosic biomass. The difference in yield between them should not exceed 10 percent. • In addition, PERCAL will make a number of environmental and socially important impacts. It will reduce the environmental impact of production by using environmentally friendly technologies. It will also contribute significantly to jobs in green chemistry in coming years.
Leader	INDUSTRIAS MECANICAS ALCUDIA SA Spain
Consortium	ASOCIACION DE INVESTIGACION DE MATERIALES PLASTICOS Y CONEXAS - AIMPLAS Spain LEIBNIZ-INSTITUT FUER AGRARTECHNIK UND BIOOEKONOMIE EV Germany

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	AGRICULTURAL UNIVERSITY OF ATHENS Greece UNIVERSITEIT GENT Belgium FUNDACION CENER-CIEMAT Spain TBW RESEARCH GESMBH Austria VISUM LIMITED Ireland SO.F.TER. SPA Italy HAYAT KIMYA SANAYI ANONIM SIRKETI Turkey COVESTRO DEUTSCHLAND AG Germany EXERGY LTD United Kingdom
A.2 Interviewee	
Name	Caterina Coll
Position	Researcher
Role in the project	Researcher
Contact info (tel, e-mail)	caterina@imecal.com
Other participants	
B. Discussion	
B.1 Expected outputs and market uptake	**Which are the application areas/market segments related to your project's bio-based product?** The project aims to the use of solid urban waste (municipal waste) to produce higher added value, such as succinic acid, lactic acid and biosurfactants **How is the current situation of the market potential and penetration of product?** The marked is limited by the origing of the prime materials (urban waste), for instance, products could not be used in agri/solvents/cleaning sectors but not in food/pharma. **Which are the benefits and opportunities of these products?** Increasement in MSW management sustainability **Which are the barriers, risks and concerns of these products?** Certain bioproducts cannot proceed from urban waste (food and pharma). Also, it has to be proven the economic viability of the

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	production. Another concer is about the adoption of this model by industries and municipalities. **Do you expect your product to be price-competitive in comparison with its fossil-based counterpart?** It is expected that it will be **Does your product outperform its fossil-based counterpart? If the answer is yes, do you expect the end-users to pay a premium for it?** Yes, but end-users wouldn't pay a premium. **Is there a life-cycle analysis (LCA) comparing product and its fossil-based counterpart?** It is foreseen to perform a LCA **Your opinion on potential hurdles on the new product or new functionality:** ○ **low public and private (industrial) demand (in terms of procurement and application)** ○ **resistance from established industrial sectors** ○ **unfavourable public perception of bio-based products and applications** Public perception tends to be positive. **Do you expect including your product in public, 'green', pre-commercial innovation procurement?** It is not foreseen
B.2 Legislation and policy framework	**What would you consider to be the gaps and the barriers in the existing legislation affecting your product? Which is your opinion on the policy and regulatory requirements affecting the new product or new functionality (standards, safety aspects, labels and certification and REACH legislation).** The condition of waste end is not well defined. Also, the final application of the bioproducts is not completely regulated. **Describe the broader exploitation potential of your results in terms of affecting/contributing to policy making and/or uptake.** A geographically more sustainable model must be pursued: local needs should be tackled with local resources, including local waste. **Have you planned interaction activities or communication and dissemination actions with policy-makers?** Yes, these kind of actions are foreseen.
B.3 The user's perspective	**Which are the consumers' needs, concerns and perceptions about the product and its application? How do users respond to this market area? Are they familiar with this category of products? What you think could help raise their awareness and acceptance about them?**

PARTNERS
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	Customers and end users are favorable to bio-products, but they wouldn't be willing to pay more for them. **Have you identified any ethical issues regarding the development of the product?** The developement of the product causes no ethical issues.
B4. Impact, visibility and explotation potential of the project/outputs	**Which are the expected impacts of the product on key socio-economic and environmental challenges faced by Europe and its citizens (slow growth, unemployment, low competitiveness, climate change, resource scarcity, etc)? Which are their benefits in terms of sustainability?** The main impacts will be in climate change and resource scarcity challenges. Aligned with the Waste framework Directive. **Which are the activities taken/planned to increase visibility of your findings? Which are your main dissemination and communication means and activities?** Social networks, newsletters, workshops, seminars and congresses, website, etc **Which is your target audience beyond project implementation?** Industrial stakeholders and policy makers
B.5 Potential networking activities	**Would you like to be informed in BIOWAYS collaborative activities (workshops, thematic charrettes, barcamps, etc)? Would you like to take part in any of them?** Yes **Do you give your consent to use this interview as a source of information in our deliverables? Do you agree in including your project in our Bio-Watch platform and other dissemination tools as social media, website, etc?** Yes **How can BIOWAYS collaborate in the dissemination of your activities and outputs? Do you have any public promotional document (factsheet, leaflet, presentation, video, article, educational or trainning material, etc) you would like to be disseminated through BIOWAYS tools and platform?** Help with dissemination of newsletters, linking social networks profiles and through BioWatch **Is there any other project, initiative or representative case study you would like us to be aware of?** Eranet Waste2Bio

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PHBOTTLE		
A.1 Project		
Title and acronym	New sustainable, functionalized and competitive PHB material based in fruit by-products getting advanced solutions for packaging and non-packaging applications - PHBOTTLE	
Programme	FP7-NMP	
Beginning & Ending date	From 2012-05-01 to 2016-04-30	
Coordinator		
Webpage	http://www.phbottle.eu/	
Type of action (RIA, IA, CSA, demonstration, other)	Small/medium-scale focused research project for specific cooperation actions dedicated to international cooperation partner countries(SICA)	
Value Chain		
Budget / EU contribution	Total cost: EUR 4 152 769,15 EU contribution: EUR 2 873 649	
Focus on (select one)	qq) Development of bio-based product	
Summary	The EU fruit juice and nectars market stood at a healthy 11.3 billion litres in 2009. A 60% of total volume consumed is packaged with carton, a 25% with PET and the remainder is packaged with glass (13%) and other packaging formats (2%).Environmental sustainability concerns are rising on the public agenda, becoming even more relevant to the consumers.The EU juice and nectars industry is aware of its important role and responsibility, making use of best practice which involves full LCA to reduce both carbon and water footprint. Juices and nectars producers have sought to provide the most environmentally friendly packaging available.Meanwhile, packaging innovations is getting ahead of developments in recycling.It is illogical that VAT as high as 20% to 25% can be applied to packaged fruit juice.There is a need to join efforts between packaging companies, recycling operators and governments to maximise the latest technology. The use of conventional polymeric materials petrochemical – based in packaging, represents an important environmental impact and waste generation due to their non-biodegradability.	

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	Some alternative materials obtained from renewable resources can be found in the market. These materials fulfil the environmental concerns but they show some limitations in terms of performance like processing by injection and thermal resistance joined to high associated costs. This situation makes necessary research to improve their added value. The aim of PHBOTTLE project is to develop a new BOTTLE (body, cap & sleeve) from biodegradable material, concretely PHB, which will be obtained by fermentation of wastewater from juice processing industries (renewable biogenic resource); optimising eco and energy efficiency in the material production and processing. The new bottle will be used for juice packaging with a competitive price, although other applications will be also studied (non-food packaging such as cosmetics and non-packaging applications)
Leader	AINIA Spain
Consortium	ASOCIACION DE INVESTIGACION DE MATERIALES PLASTICOS Y CONEXAS - AIMPLAS Spain NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK TNO Netherlands INSTITUTO NACIONAL DE TECNOLOGIA INDUSTRIAL Argentina LOGOPLASTE INNOVATION LAB LDA Portugal CITRICOS Y REFRESCANTES SA Spain VANGUARDIA SD DE RL DE CV Honduras MEGA EMPACK SA DE CV Mexico LOGOPLASTE DO BRASIL LTDA Brazil OMNIFORM SA Belgium SIVEL Limited Bulgaria AIJN EUROPEAN FRUIT JUICE ASSOCIATION Belgium
A.2 Interviewee	

PARTNERS
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Name	Carlos Enguix
Position	Head of Packaging Department
Role in the project	Management
Contact info (tel, e-mail)	cenguix@ainia.es
Other participants	
B. Discussion	
B.1 Expected outputs and market uptake	**Which are the application areas/market segments related to your project's bio-based product?** The application area are packaging (bottles) for food industry (juices) and also products for other sectors such as automotive. **How is the current situation of the market potential and penetration of product?** Circular economy projects tend to share the same problem: processes are much less industrialized as traditional processes. This makes them more expensive industrially but also environmentally, thay have bigger environmental impact. Bioproduction processes are still at pilot scale, and cannot be compared to traditional processes that are optimized. They are still slow, yield small quantities, and to be cost-effective should be located close to the waste source. This has been already achieved successfully in some cases, e.g. sugar cane or sugar beet exploitations with their own biorefineries which produce PHB from by-products of sugar production. **Which are the benefits and opportunities of these products?** These products could be biodegradable and compostable. Other benefit is the waste reduction. They could also be a big source of prime materials to develope higher added value products. **Which are the barriers, risks and concerns of these products?** Legislation about food contact materials state that all products and also processes have to be included in a positive list. Products and processes have to follow a register process, that could eventually not be accepted by EFSA. The optimization of processes and the cost efficiency have still to be reached. Also, these products offer different properties than their counterparts e.g. worse mechanical properties **Do you expect your product to be price-competitive in comparison with its fossil-based counterpart?** This is still not possible. Even more developed processes, as in sugar cane and beet, costs are still significantly higher. **Does your product outperform its fossil-based counterpart? If the answer is yes, do you expect the end-users to pay a premium for it?** Also, these products offer different properties than their counterparts e.g. worse mechanical properties. This can be useful in some application, for example, when high permeability is required, these products can offer it.

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	Is there a life-cycle analysis (LCA) comparing product and its fossil-based counterpart? It is foreseen to perform a LCA **Your opinion on potential hurdles on the new product or new functionality:** ○ **low public and private (industrial) demand (in terms of procurement and application)** ○ **resistance from established industrial sectors** ○ **unfavourable public perception of bio-based products and applications** The industry demands products that have a good environmental image, but only if they are competitive. Consumers will also buy them only if they are price competitive. **Do you expect including your product in public, 'green', pre-commercial innovation procurement?** It is not foreseen
B.2 Legislation and policy framework	**What would you consider to be the gaps and the barriers in the existing legislation affecting your product? Which is your opinion on the policy and regulatory requirements affecting the new product or new functionality (standards, safety aspects, labels and certification and REACH legislation).** Bioplastics are legally considered plastics. Consumers don't know how to dispose them and dump them in the packaging containers, where they will interfere the recycling process as an impurity. If they are dumped in landfill they will biodegrade generating emissions. The infrastructure and logistics for recycling these materials has to be optimized, at least in Spain. As explained before, legislation about food contact materials state that all products and also processes have to be included in a positive list. Products and processes have to follow a register process, that could eventually not be accepted by EFSA. **Have you planned interaction activities or communication and dissemination actions with policy-makers?** Yes, these kind of actions are foreseen.
B.3 The user's perspective	**Which are the consumers' needs, concerns and perceptions about the product and its application? How do users respond to this market area? Are they familiar with this category of products? What you think could help raise their awareness and acceptance about them?** Customers have a positive image of bioproducts, but they need more information and safety guarantees. Campaingns to increase public awarenes about the benefits of these products and how to dispose them are always positive.

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B4. Impact, visibility and explotation potential of the project/outputs	**Which are the expected impacts of the product on key socio-economic and environmental challenges faced by Europe and its citizens (slow growth, unemployment, low competitiveness, climate change, resource scarcity, etc)? Which are their benefits in terms of sustainability?** The development of processes for this kind of waste could have an impact on growth, employment and competitiveness. The use of this waste will also have a positive impact in resource scarcity and climate change. **Which is your target audience beyond project implementation?** Mainly, the packaging, food and automotive industry
B.5 Potential networking activities	**Would you like to be informed in BIOWAYS collaborative activities (workshops, thematic charrettes, barcamps, etc)? Would you like to take part in any of them?** Yes **Do you give your consent to use this interview as a source of information in our deliverables? Do you agree in including your project in our Bio-Watch platform and other dissemination tools as social media, website, etc?** Yes **How can BIOWAYS collaborate in the dissemination of your activities and outputs? Do you have any public promotional document (factsheet, leaflet, presentation, video, article, educational or trainning material, etc) you would like to be disseminated through BIOWAYS tools and platform?** The project is already finished, but we as coordinators will assess the oportunity to further disseminate results via BioWatch

ACRONYM	
Title/ Initiative Name	REHAP
Programme	H2020- Sustainable, resource-efficient and low-carbon technologies in energy-intensive process industries
Beginning & Ending date	2016-ongoing
Coordinator	Aitor Barrio
Webpage	http://www.rehap.eu/
Type of action (RIA, IA, CSA, demonstration, other)	IA

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Value Chain	ALL
Budget / EU contribution	€6,743,545
Focus on	d) Development of bio-based product Rehap aims to strengthen the European bio-economy industry by creating novel materials from agricultural and forestry waste, and considering how they can be used commercially in the green building sector.
Summary	Interview with Giorgio Urbano from REHAP. The detailed life cycle assessment of the social, economic and environmental benefits of the planned REHAP products. This work will examine every step of the processes involved in taking the raw bio-material to a green product to be used by the construction industry. Giorgio Urbano of Italian firm RINA Consulting is leading this work and here explains progress being made at the start of the project.
Objectives	• Develop methods to convert natural wastes into sustainable polyurethanes. These can be used to develop insulation foams and adhesives, as well as fire retardant products. • Develop new high-performance bio-resins to produce eco-friendly wooden panels. • Produce eco-friendly sustainable cement with improved properties. • Design and assemble an environmentally sustainable and fire resistant construction solution. • Demonstrate the development of eco-friendly products and their sustainability and business potential compared to existing solutions.
Expected Impacts	• Decreased use of fossil resources and energy in the process industry • Creation of new jobs in the bio-based products sector • Improved innovation capacity and the integration of new knowledge at EU level • Improved industrial competitiveness
Leader	Giorgio Urbano (RINA Consulting)
Consortium	Yes

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*DISCUSSION** **Bioways coordinating beneficiary IPL participates in REHAP project. Interviews with various partners were conducted as part of the REHAP project.* *The summary of these interviews is placed on this website under the news section: http://www.rehap.eu/latest-news/ (e.g. Q&A with Tarja Tamminen; REHAP meeting round up; Interview with Professor Axel Tuma and Dr. Andrea Thorenz).*	<u>Q&A with Tarja Tamminen: Rehap in Brazil</u> VTT Technical Research Centre of Finland Ltd is hopping across the pond - and a little bit further - to Brazil, to attend and have the pleasure of presenting at one of the oldest and most established events in the field of biomass utilisation and bioeconomy in the world. On its maiden trip to South America, the 19th International Symposium on Wood, Fiber and Pulping Chemistry (ISWFPC) is taking place from 30th August to 1st September, and will be covering topics such as: chemistry, fibers, pulping, fossil energy, energy, renewable energies and biorefinery. To a gathering of renowned international experts and relevant researchers and process engineers, Rehap project partners VTT will be presenting at ISWFPC on the influence of softwood bark origin on tannin recovery by hot-water extraction. The presentation, led by principle scientist at VTT Tarja Tamminen, is based on master's student Miikka Ruuskanen's thesis written as part of the Rehap project, The influence of the origin and treatment history of spruce and pine bark on the extraction of tannin, and is set to be an interesting topic for discussion. We spoke to Tarja about what to expect at ISWFPC. Have you attended this event before? Yes, I think I have been to most of them and I also personally know more than half of the presenters at the event, so I am really looking forward to going there and seeing what the presentations are about this year. Up until 10 years ago the event was more focused on pulping as that is what biorefinery was when the event began, and so now it has broadened into different kinds of uses of biomass, but with the main focus centred on wood chemistry. This means looking at ways to exploit the use of wood in a chemical sense – not construction

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	– through chemical modifications to make other wood or wood components and wood fractions. What will you be presenting on? Continuing on from what I just said about the conferences' main focus being on wood, in Rehap we are working with bark. Currently, making pulp and paper is where the value of the biomass product comes from but when you make pulp and paper you need to separate the bark from the wood. This creates a bark side-stream, which is where Rehap comes in. It would be beneficial for the industry to find higher value for the bark side-stream and so at VTT we have been developing methods to extract tannins out of wood bark to improve the valorisation of the value chain from bark side-streams. This is where we hope our presentation will offer interesting results for anybody working with wood or its value chain. Which presentations would you recommend to those interested in the work of Rehap? To name a few: "Valorisation of lignocellulosic biomass residues via hydrothermal treatment and carbonisation" – this is on softwood bark which is one of the raw materials in the project and the presentation will include characterisation methods and data "On the reactivity of lignin-carbohydrate complexes (LCCs) under pulping and biorefining conditions" – LCCs are also present in Rehap raw materials and fractions "Measurement of leaf lignin of a Japanese oak tree (Quercus crispula) by a combination of methoxy determination with alkaline nitrobenzene oxidation and its application" – a poster on the challenges for determining lignin in the presence of tannin. VTT has also developed a method based on methoxyl content for the bark samples.
	<u>Rehap meeting round-up</u>

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	The VTT Technical Research Centre of Finland hosted the second Rehap consortium meeting, where partners came together to discuss the overall progress of the project, looking closely at results and developments from specific studies such as the life-cycle analysis (LCA), and lay strategies for future activities and actions. Partners from D'Appolonia (DAPP) commenced by presenting information on key performance parameters for the sustainability, energy and techno-economical evaluation project, identifying the key partners for each production chain, the data required, and pending plans for partners to deliver price information and possible by/ co-products for benchmark analysis. Mr. Axel Tuma from the University of Augsburg, Germany, presented partners with data gathered from the first deliverable on agroforestry and displayed interesting results on where biomass resoRehap_workshop_3urces are available in Europe. Click here: Raw material potential for biopolymers in Europe. Partners Cartif, explained their study on quality standards and protocols of agricultural materials – in particular wheat, maize and barley - in order to determine critical strictures and prevent issues such as the over reaping of materials, and to set regulations that ensure the final product meets set standards and purpose. A biomass database has been created to keep track of the results from biomasses treated within the project. Further discussions followed on the optimisation of biomass waste streams, with several partners presenting materials they will be testing for the development of final products. For example, a smaller sample is needed of wheat straw lignin cake for further characterisation and content testing, and increased testing of spruce bark is needed for improved tannin yield. In light of these technical Rehap copydevelopments, Mr. Hendrik Waegeman explained the upscaling capacities and equipment's available at BBEPP for future processing.

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	Finally, Insight Publishers Ltd. presented updates on the project communication and dissemination and the work done so far in raising the profile of Rehap and the development of the Rehap website. The meeting ended with partners presenting a number of actions to be completed over the next six months, to be reviewed in October 2017.
	<u>Interview with Professor Axel Tuma and Dr. Andrea Thorenz</u> Professor Axel Tuma, Dr. Andrea Thorenz Chair of Production & Supply Chain Management, Institute of Materials Resource Management, University of Augsburg Professor Tuma and Andrea Thorenz are currently working with the REHAP project, which is aiming to strengthen the European bio-economy by creating novel materials from agricultural and forestry waste, and assessing how they can be used commercially in the green building sector. Still in the early stages of the project, the main task being they are undertaking at present involves a literature and data base review about the 'arisings' and focal substances like lignin, tannin or cellulose of the first aggregate, which will be used for the project. Arisings are the amount of base material available to be used at the start of the value chain in the development of bio-products. Has this study revealed any interesting findings to date? AXEL: Well, our study is basically looking at how much "stuff" we have in Europe and, if we scale up what we have found so far and if we are really successful in the project, we think we can drive a bio-economy with agroforestry waste. The study has focused on how much base biomaterial we have in Europe and where is it located. For example, we have found out that we have a lot of wheat straw in the Paris area. So, the interesting question now is how much of it can we use? First of all, we have the bio-mass, but of course everything that is needed in the food chain should remain for food; we don't want to touch this. The next thing is to look to

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	the farmers; they use, for example, straw as a soil conditioner. We don't want to change this, so we need to work out the sustainable removal rate. For example, only 40 per cent of the wheat straw should be removed from the field. Then we have other competitive users like horse bedding, straw for cattle and so on. Essentially, we want to keep things sustainable and traditional in terms of all this, and calculate what we are able to remove while doing so. In this way, we don't touch the food issue and are sustainable when it comes to farming methods. How have you done this study? ANDREA: First of all, we investigated all the existing databases. Fortunately, the data that exists about the subsidies the farmers get from the European Union is very well reported and clearly shows where the bio-mass from this goes. We have also taken some research using industry reports and we have now put all this data together. What we have produced is a report about where materials come from and what are most useful for us. The most promising species in the agricultural sector is wheat, which we expected, with large arisings of 46million tonnes of bio-economic potential, which we can use without bothering the farmers. This is followed by maize stover, barley straw and rapeseed. In terms of the areas where these materials are currently grown, it is quite interesting. The area of Paris is really important concerning wheat straw, with nearly 7 million tonnes in the area alone. South West France is also highly productive with wheat, so, France is very important in terms of wheat. The Czech Republic and Bulgaria follow. France, again, Italy and Romania are important areas for maize stover and the area of Paris and Spain are interesting concerning barley and rapeseed. Were any of these results unexpected? ANDREA: Yes. It is the first time that we have used this type of research and I was surprised with the fact that it is so centred on France. I think that we have a lot of materials. If we put it all together, it is more than 100 million tonnes per

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	year and that is a very good base on which to build a bio-economy. Did you also work on forecasting how much material will be available in the future? AXEL: Yes. And again, wheat is the most promising. We used different methods, based on expert estimations from the European Union. If you look at the example of rapeseed, in the last 15 years, we have grown production from around 10 mega tonnes to 25 mega tonnes. This 2.5 growth factor is due to the fact that rapeseed goes to the bio-energy sector and this is incentivised. So, you see that when there is an incentive driven by the EU, it does work. On the other hand, when we look at the expert's estimations going forward, we see that they are going down in terms of rapeseed production. An explanation for this is a lowering of the incentives to grow rape for energy and so a switch away from energy crops in general. The interesting thing here for me is the clear impact the policy makers have on growth yields. This, of course, is positive news for projects like REHAP, because if we are successful and can convince policy makers of the benefits of our bio-products, what they then do can have an impact on what biomass is grown and where. So we can help drive policy. Would it be fair to say that if we continue growing rapeseed at this rate, that it is using land that could be used for other crops? AXEL: Yes, that is true, which is why it also is important to carry out social and life cycle assessment. We have to balance this and look at all the processes involved in making a bio-product and assess the impact it all has, environmental and even social impacts. I think that is the very clever approach this project is taking. So, the study is now proving from your initial results that there is a good basis for expanding the bio-economy based on what is available and what can be used sustainably.

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	What is next once this particular work is done and how can this then be usefully applied? ANDREA: After this study, we will deal with the issue of quality - the question of whether or not the quality is sufficient in the places we find the materials. This work is done in the same work package, and will impact on the data we have produced and enhance it. We will then complete the database and make it available for all. This will show us where the most interesting bio-mass, like wheat, maize, barley and bark is now and will be for the next 10 years for specific regions of Europe. It will also, to a large extent, identify the quality of this material as far as we can. AXEL: Another point about this study that was also interesting relates to the issue of sustainable supply chain and resource management. Coming from a background of supply chain management, I am normally developing strategic supply chains, which means where is the procurement site, where are the production facilities, where are storage areas and distribution centres? So here we will design an optimal network for a European bio-economy. What is the cost, ecoefficiency and the optimal procurement strategy in these areas? From there, we can predict how many procurement points, how many storage points, what facilities and what capacity is needed and where, hopefully close to the customers. We will do this on a cost data basis, but also using the life cycle data and the social life data. With all this in place, the data you have and then the planning for the infrastructure, how big do you think that the bio economy can get? AXEL: The people are so inspiring and to be honest, I cannot really estimate. In my opinion, it is difficult to develop all these bio chemical processes but I am optimistic with the skills of the people. So, significant growth potential is there? AXEL: Yes. I think so. We are really believers in closed-loop supply chains, which mean that we do not only look at the supply chain, but also issues like re-use, re-manufacturing and

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	effective recycling. This is a common approach with industrial products, like computers, cell-phones and so on. So, this is the first time that we have entered this bio-arena and looked closely at a green cycle or the starting point of a green cycle. What do you mean by green cycles? ANDREA: A green cycle means that all the products we construct, from the first material, will come back in a recycling cycle. We really believe that if we want, or if future generations want, life on this planet, we have to imitate nature, which really does go in green cycles and has done for hundreds of millions of years. Take a tree, which can stand for hundreds of years. When it falls, microorganism take its residues, make fresh soil and give life to new trees. In the same spirit we must produce bio-based products, which will be reintegrated in nature and come back in many new ways and cycles. This is the starting point for a green cycle and a circular economy. It is our belief that if we work in this field we will come closer to nature and in that way we can develop a real circular economy, as nature has done for hundreds of millions of years.

ACRONYM	
Title/ Initiative Name	RES URBIS
Programme	
Beginning & Ending date	From 2017-01-01 to 2019-12-31, ongoing project
Coordinator	Mauro Majone UNIVERSITA DEGLI STUDI DI ROMA LA SAPIENZA Italy

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	Piazzale Aldo Moro 5 00185 ROMA Italy
Webpage	http://cordis.europa.eu/project/rcn/206585_en.html
Type of action (RIA, IA, CSA, demonstration, other)	RIA
Value Chain	Waste valorisation
Budget / EU contribution	EUR 2 996 688,75
Focus on	e) Development of bio-based product f) Promoting the market uptake of bio-based products strengthening of regional bioeconomies
Summary	Novel ways of promoting biobased products.
Objectives	RES URBIS aims at making it possible to convert several types of urban bio-waste into valuable bio-based products, in an integrated single biowaste biorefinery and by using one main technology chain. This goal will be pursued through: - collection and analysis of data on urban bio-waste production and present management systems in four territorial clusters that have been selected in different countries and have different characteristics. - well-targeted experimental activity to solve a number of open technical issues (both process- and product-related), by using the appropriate combination of innovative and catalogue-proven technologies. - market analysis whitin several economic scenarios and business models for full exploitation of bio-based products (including a path forward to fill regulatory gaps). Urban bio-waste include the organic fraction of municipal solid waste (from households, restaurants, caterers and retail premises), excess sludge from urban wastewater treatment, garden and parks waste, selected waste from food-processing (if better recycling options in the food chain are not available), other selected waste streams, i.e. baby nappies. Bio-based products include polyhydroxyalkanoate (PHA) and related PHA-based bioplastics as well as ancillary productions: biosolvents (to be used in PHA extraction) and fibers (to be used for PHA

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	biocomposites). Territorial and economic analyses will be done either considering the ex-novo implementation of the biowaste biorefinery or its integration into existing wastewater treatment or anaerobic digestion plants, with reference to clusters and for different production size.
Expected Impacts	Creation of the economic analysis will be based on a portfolio of PHA-based bioplastics, which will be produced at pilot scale and tested for applications: - Biodegradable commodity film - Packaging interlayer film - Speciality durables (such as electronics) - Premium slow C-release material for ground water remediation
Leader	Mauro Majone
Consortium	Yes

SecureChain		
A.1 Project		
Title and acronym	SecureChain	
Programme	HORIZON 2020	
Beginning & Ending date	1/4/2015-31/3/2018	
Coordinator	BTG Biomass Technology Group	
Webpage	http://www.securechain.eu	
Type of action (RIA, IA, CSA, demonstration, other)	CSA	*Initial TRL:* *Final TRL:* (If applicable. Not for CSAs)
Value Chain	Forestry biomass potential	
Budget / EU contribution	EU contribution: 1,81 million Euros	
Focus on (select one)	rr) Development of bio-based product ss) Community building (active involvement of end-consumers in the design and production of bio-based products)	

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	tt) promoting the market uptake of bio-based products strengthening of regional bioeconomies
Summary	The project targets six representative model regions, covering a broad range of market situations and technical-socio-economic barriers in the European bioenergy sector. Local market actors in the bioenergy sector obtain hands-on support during the implementation of the SSCM to overcome urgent barriers and foster market uptake in the regions. The support that SupplyChain provides to SMEs participating in its six pilots covers: innovation vouchers, technical support, Life Cycle Assessments (LCA), financial mentoring and sustainability certification.
Objectives	To promote a sustainable supply chain management practice for bioenergy that meets highest environmental quality and financial viability standards and targets local biomass suppliers, energy producers and financial sector players.
Expected Impacts	• Mobilise additional amounts and secure existing supplies of solid biomass • Maximise the share of sustainable bioenergy in the final energy consumption • Reduce the transaction costs for further market uptake of most efficient systems.
Leader	
Consortium	
A.2 Interviewee	
Name	John Vos
Position	
Role in the project	Project Coordinator
Contact info (tel, e-mail)	vos@btgworld.com
Other participants	Eleni Karachaliou, Evangelia Tsagaraki (Q-PLAN)
B. Discussion	
B.1 Expected outputs and market uptake	The market potential and penetration of bioenergy SMEs (the target group of SupplyChain project) depends on the following factors: a) the amount of subsidy they can get for equipment and installation costs, b) the availability of biomass at a reasonable price (there is much competition in the last years in obtaining the necessary amounts of woody biomass at affordable prices), c) the price to which the SMEs can sell the energy produced. The project provides LCA, business planning and consultancy about raising funds to participating SMEs.

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B.2 Legislation and policy framework	For the target group of SecureChain, legislation does not seem to be the issue in business success.
B.3 The user's perspective	The basic target group of the project is SMEs in the domain of bioenergy in the six pilot regions of the project.
B4. Impact, visibility and explotation potential of the project/outputs	The main disemmination tools of the project were: a) the innovation vouchers, targeting to companies in the bioenergy sector interested in participating in project activities, b) learning labs (three per partner), targeting to various stakeholders (authorities, associations, bioenergy companies, biomass producers etc) as well as to the general public indirectly. C) benchmarking visits to study good practices about bioenergy and biomass supply chains. The visits were dedicated to the companies that had the project innovation vouchers and during the visits, contacts with local stakeholders were made. The project was very well accepted by all abovementioned target groups.
B.5 Potential networking activities	The final conference of the project will be held in Brussels in February/ March 2018 (exact dates and venue not available yet), there is interest for potential synergies with BIOWAYS. There are some press releases and newsletter issues that could be uploaded to the Biowatch Platform.

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ACRONYM	
Title	SmartLi
Programme	Horizon 2020 Bio-based Industries Joint Technology Initiative (BBI-JTI)
Beginning & Ending date	July 2015 to June 2018
Coordinator	CLIC Innovation Ltd.
Webpage	http://clicinnovation.fi/activity/smartli/
Type of action (RIA, IA, CSA, demonstration, other)	RIA
Value Chain	VC2 – Forest-based
Budget / EU contribution	EUR 1 481 257,50
Focus on	g) Development of bio-based product
Summary	Improving processing methods for the industrial side-stream lignin to be used in different biobased materials, resins and composites. Lignin could provide a valuable renewable resource for the chemical industry and SmartLi looks into smart technologies for the conversion of industrial lignings into sustainable materials.
Objectives	• Developing methods for the purification of industrial lignins • Demonstrating the technologies and processes to use lignin as raw materials to produce biomaterials • Developing conversion technologies for resins and composites • Add value to underexploited biomass side-stream lignin • Lower the need for oil-based raw materials in the production of materials and chemicals by using bioproducts from lignin • Enhance sustainable processing e.g. reducing GHG emissions, by performing a life cycle analysis
Expected Impacts	• Improve the value of industrial lignins

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	• Positive impact both to the traditional pulp and paper industry and also to manufacturers of all kinds of biobased products • The development of applications for technical lignins which are not currently of little value and which allow for the replacement of fossil based products in four categories: thermoplastic composites, PF resins, PU foams, and epoxy resins • An expected reduction of 20% in GHG emissions
Leader	Christine Hagström-Näsi – Senior Advisor
Consortium	CLIC Innovation, Finland Aep Polymers Srl, Italy De Vlaamse Instelling Voor Technologisch Onderzoek N.V, Belgium Teknologian Tutkimuskeskus VTT OY, Finland Foresa Industrias Quimicas Del Noroeste Sa, Spain Prefere Resins Finland Oy, Finland Andritz Oy, Finland

SteamBio		
A.1 Project		
Title and acronym	SteamBio - Flexible Superheated Steam Torrefaction and Grinding of Indigenous Biomass from Remote Rural Sources to Produce Stable Densified Feedstocks for Chemical and Energy Applications	
Programme	Horizon 2020	
Beginning & Ending date	From 2015-02-01 to 2018-01-31	
Coordinator	FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.	
Webpage	http://www.steambio.eu/	
Type of action (RIA, IA, CSA, demonstration, other)	IA	*Initial TRL:* *Final TRL:* (If applicable. Not for CSAs)
Value Chain	SO1	

PARTNERS
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Funded by the Horizon 2020 Framework Programme of the European Union under Grant Agreement n° 720762

Budget / EU contribution	EUR 6 979 982,05 / EUR 5 829 783,42
Focus on (select one)	uu) Development of bio-based product
Summary	"The objective of SteamBio is to demonstrate a mobile processing concept that will enable efficient pre-treatment of agro-forestry residues for use as flexible feedstocks in chemical and process industries. These ligno-cellulosic materials originated from rural locations will be upgraded and densified into uniform sizes at source, allowing cost-effective transportation to existing industrial sites. The core enabling technology is superheated steam processing (SHS). SHS has been implemented in diverse drying applications at industrial scales, due to its superior heat transfer properties. At pilot scales, SHS has been proven to torrefy biomass at temperatures up to 300°C with minimal ligno-cellulose breakdown. Unlike conventional torrefaction techniques, which use flue gases as heating medium, it does not contaminate the torrefied biomass and volatile fractions, allowing economic recovery of chemicals. Moreover, it is also readily scalable for continuous operation. In SteamBio, a transportable demonstrator unit will be operated at five different rural locations where it will be used to torrefy tonnage quantities of six different agro-forestry residues at a throughput of 500 kg/h. The demonstrator unit will be operated at these rural locations throughout the last twelve months of the project to allow for seasonal fluctuations in the composition of the materials being valorised. The torrefied biomass fractions (solid and liberated volatiles) will then be validated as green building blocks in commercially relevant chemical production and in bioenergy use. Life cycle experts will validate that SteamBio will have positive environmental impacts. A robust business strategy will be developed to enable the results to cross the "valley of death" post-project and to ensure widespread market replication. Project delivery will be achieved by an interdisciplinary team from research and from the entire industrial and commercial supply chain from fields through to factories."
Objectives	
Expected Impacts	
Leader	Jenny Ullrich
Consortium	HECKMANN METALL- UND MASCHINENBAU GMBH NETWORK NEW EUROPE LIMITED COMERCIAL E INDUSTRIAL ARIES SA SVERIGES LANTBRUKSUNIVERSITET FUNDACION CIRCE CENTRO DE INVESTIGACION DE RECURSOS Y CONSUMOS ENERGETICOS KREW ENVIROMENTAL LTD AVA GREEN CHEMISTRY DEVELOPMENT GMBH

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	UNIVERSITY OF STRATHCLYDE NORMAG LABOR- UND PROZESSTECHNIK GMBH URBION CONSULTORES SL MANROCHEM LIMITED
A.2 Interviewee	
Name	Huw Perry
Position	
Role in the project	Communication manager
Contact info (tel, e-mail)	huw.parry@networkneweurope.com
Other participants	
B. Discussion	
B.1 Expected outputs and market uptake	✓ Which are the application areas/market segments related to your project's bio-based products/outputs (PBBPO)? ✓ How is the current situation of the market potential and penetration of PBBPO? ✓ Which are the benefits and opportunities of these PBBPO? ✓ Which are the barriers, risks and concerns of these PBBPO? ✓ Do you expect your PBBPO to be price-competitive in comparison with its fossil-based counterpart? ✓ Does your PBBPO outperform its fossil-based counterpart? If the answer is yes, do you expect the end-users to pay a premium for it? ✓ Is there a life-cycle analysis (LCA) comparing PBBPO and its fossil-based counterpart? ✓ Your opinion on potential hurdles on the new PBBPO or new functionality: o low public and private (industrial) demand (in terms of procurement and application) o resistance from established industrial sectors o unfavourable public perception of bio-based products and applications ✓ Do you expect including your PBBPO in public, 'green', pre-commercial innovation procurement? We are identifying a process that is beyond schedule, and hopefully within next couple of months we will have a demonstration unit in Spain. The outputs from the process will be a solid like a biochar material, which can be used for energetic purposes but also as a green energy source. It has also potential material applications. So we are exploring potential collaborations with others in this context.

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	We participated to an Interreg North-West Europe course on business startups and we've set up steam SteamBio network for business purposes to exploit project's results at commercial level. Through this we are looking for regional partners to take it to the market. We provide the technology, if the economics are confirmed on the demonstration phase, the partner company not within the Consortium, but investing and collaborating with us, are probably the first customers: they buy the machine, operate it and multiply. What we are looking for is local partnership so we believe developing rural economy we can sell the equipment in Euorpe (we already have a business opportunity in Lithuania). Let's say we are trying to operate a "franchise type model". The barriers/issues that need to be proven and demonstrated to potential customers are in economics words, not the up-scale not at pilot scale but on the demonstration scale. At demonstration scale we want to prove the economics work: that the value materials coming out are greater than the value of the materials coming in. And that the costs of operation are manageable within that spectrum. Our major benefit is we generate a product mix that can be adapted according to market dynamics. Can we outperform the fossil counterpart? In terms of economic basis, it is complicated, because fossil-derived chemicals are heavily subsidised (always have been). So there is a complex economic mix. What we can say is: by taking the production of the chemicals closer to the feedstock, we reduce transport logistics costs and also have them as indigenous resources materials rather than importing them. So we would improve supply chain security and reduce transport costs. Within the consortium we have a partner taking LCA studies. So that we make sure it's fully a circular based approach. If you look at the whole economics we're looking at really getting of a waste disposal problem to be an income generating solution. The volumes we produce will not be capable to compete with the huge petrol-chemical industry. This is the main hurdle for the initial stage. But there are market gaps we can fill, like the one in platform chemicals, like furfurals. There is a demand there, that demand can't meet the offer and quantities available are limited. So we could be quite transformative in enabling new opportunities
B.2 Legislation and policy framework	✓ What would you consider to be the gaps and the barriers in the existing legislation affecting your PBBPO? Which is your opinion on the policy and regulatory requirements affecting the new PBBPO or new functionality (standards, safety aspects, labels and certification and REACH legislation) ✓ Describe the broader exploitation potential of your results in terms of affecting/contributing to policy making and/or uptake

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	✓ Have you planned interaction activities or communication and dissemination actions with policy-makers? We had quite an issue with health and safety regulations and accreditation, but luckily we have a fantastic chemical-engineering company taking care of this aspect. On demonstration level, there is a good environment for compliance. On personal level, we are quite upset that Britain committed suicide with brexit. We presented SteamBIo at the EUBCE in Stokholm, we will present it in Glasgow at the IBIOIC. We met with the IBIOIC's organisers to discuss what we are doing early this year. So we had several opportunities for disseminating the project, even with policy makers.
B.3 The user's perspective	✓ Which are the consumers' needs, concerns and perceptions about the PBBPO and its application? How do users respond to this market area? Are they familiar with this category of products? What you think could help raise their awareness and acceptance about them? ✓ Have you planned interaction activities or communication and dissemination actions with consumer representatives? ✓ Have you identified any ethical issues regarding the development of the PBBPO? We have a number of stakeholders in what we are doing. Forest/farmers community, rural community which have been under economic stress for some years; we, have even the end-users/customers in both the biochemical sector and the bioenergy market. People are interested, we see potential because we see – since 4-5 years - propositive trends among people. They are quite aware, just not that precisely informed, probably due to a lack of clarity when talking about bioeconomy. To raise awareness...according our experience, presenting in Stokholm was an awesome experience and very useful. Talking through variou networking opportunities was very useful as well. Meeting people – talking with people – sharing ideas with people, these are the most effective means, beside media communicaiton. No ethical issues in the work we are doing.

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B4. Impact, visibility and explotation potential of the project/outputs	✓ Which are the expected impacts of the PBBPO on key socio-economic and environmental challenges faced by Europe and its citizens (*list*)? Which are their benefits in terms of sustainability? ✓ In your opinion, which is the short to medium term impact of your research work? ✓ Which are the activities taken/planned to increase visibility of your findings? Which are your main dissemination and communication means and activities? (*list*) ✓ Which is your target audience beyond project implementation? (*list*) In the short term, we hope our demonstration shows economic viability, if not, we hope the demonstration in Spain will open to our first commercial opportunity. We are very into dissemination and are constantly increasing the visibility of our actions. Demonstration units are curcial even for this instance. Because people can touch, feel, smell something. It changes your perception, you can have as many videos as you want but until you touch it you cannot make an idea of it. Our target audience beyond project implementation are investors. Because if you want to start to establish your work in the market, you can't do it just with EU fundings
B.5 Potential networking activities	✓ Would you like to be informed in BIOWAYS collaborative activities (*list*)? Would you like to take part in any of them? ✓ Do you give your consent to use this interview as a source of information in our deliverables? Do you agree in including your project in our Bio-Watch platform and other dissemination tools as social media, website, etc? ✓ How can BIOWAYS collaborate in the dissemination of your activities and outputs? Do you have any public promotional document (factsheet, leaflet, presentation, video, article, educational or trainning material, etc) you would like to be disseminated through BIOWAYS tools and platform? ✓ Is there any other project, initiative or representative case study you would like us to be aware of? All collaborative initiavies were/are being treated internally and/or we are waiting for their dissemination material to be provided.

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ACRONYM	
Title/ Initiative Name	Swedish Bioenergy Association
Programme	N/A
Beginning & Ending date	Ongoing
Coordinator/ Chair	Karin Medin
Webpage	www.svebio.se/en/
Type of action (RIA, IA, CSA, demonstration, other)	Svebio is a commercial environmental organization for companies and individuals. We are strongly rooted in our values. We believe in renewable energy, entrepreneurship and a free market economy.
Value Chain	Bioenergy
Budget / EU contribution	N/A
Focus on	h) Promoting the development of bioenergy in a sustainable society in Sweden and abroad i) Community building (active involvement of end-consumers in the design and production of bioenergy) j) promoting the market uptake of bioenergy
Summary	Swedish bioenergy success is at the heart of Europe's leading bioeconomy. The country has already achieved energy use targets set in 2009 to be completed by EU by 2020. Much of this success was also driven by strong political will to decrease the dependence on fossil fuels.
Objectives	• Svebio promotes and develops the use of bioenergy in an economically and environmentally optimal way, nationally and internationally. Svebio takes advantage of members' interests, as well as provide necessary service. • Svebio is the meeting place for companies, researchers, opinion- and decision makers.
Expected Impacts	• Their vision is to be the leading representative and an international model for the development of bioenergy in a sustainable society.
Leader	N/A
Consortium	N/A

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URBIOFIN		
A.1 Project		
Title and acronym	Demonstration of an integrated innovative biorefinery for the transformation of Municipal Solid Waste (MSW) into new BioBased products (URBIOFIN)	
Programme	BBI - JTI	
Beginning & Ending date	From 2017-06-01 to 2021-05-31	
Coordinator	INDUSTRIAS MECANICAS ALCUDIA SA	
Webpage	http://cordis.europa.eu/project/rcn/210297_en.html	
Type of action (RIA, IA, CSA, demonstration, other)	Innovation Action - Demonstration	
Value Chain	VC4 – organic waste	
Budget / EU contribution	Total cost: EUR 15 061 282,51 EU contribution: EUR 10 946 366,03	
Focus on (select one)	vv) Development of bio-based product	
Summary	Each person in Europe generates an average of 500 Kg of municipal solid waste (MSW) per year. Around 50 percent of this is organic waste, made up of carbohydrates, proteins and lipids, all of which represent useful raw materials for creating valuable products. In addition, converting these will reduce the polluting effects and contribute to the shift to a genuine circular economy. Digesting and composting have contributed to the reduction of the biodegradable fraction of MSW sent to landfill; however, the low economic value of compost and biogas means that citizens need to pay higher taxes for separate sourcing systems, slowing the potential uptake. However, new bio-based products can help to improve sustainability of such approaches. The URBIOFIN project will demonstrate the techno-economic and environmental viability of converting the organic fraction of MSW	

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	on a semi-industrial scale. It will create chemical building blocks, biopolymers or additives using the biorefinery concept applied to MSW - i.e. urban biorefinery. Ultimately, URBIOFIN will offer a new feasible and more sustainable scenario alternative to the current treatment of the OFMSW.
Objectives	• To evaluate the heterogeneity and compositional variability of the organic fraction of MSW in order to design the biorefinery and select representative feedstock. • To define the industrial requirements for final bio-product properties. • To reduce the operational costs of bioethanol production from the organic fraction of MSW by 20 percent. • To demonstrate, at semi-industrial scale, the viability of continuous conversion of bioethanol produced from the organic fraction of MSW into bio-ethylene. • To demonstrate, at semi-industrial scale, continuous volatile fatty acids (VFAs) production from partial anaerobic digestion of the organic fraction of MSW. • To validate, at semi-industrial scale, at least 50-60 percent of operational yields for Medium-chain volatile fatty acid (MCFA) and polyhydroxyalcanoates (PHA) production. • To validate, at semi-industrial scale, PHA extraction process. • To validate, at semi-industrial scale, biogas upgrading using microalgae. • To produce new bio-based material from biogas. • To produce final marketable products from the bio-based chemicals, polymers and additives obtained in URBIOFIN biorefinery and validate their performance.
Expected Impacts	• To demonstrate that the current valorisation of the organic fraction of MSW can be improved, by converting it into chemical building blocks, biopolymers or additives. It will also generate biomethane and solid bio-fertilisers to valorise the entire organic fraction. • To achieve a competitive price for the products produced by the URBIOFIN process • Prepare the market for future introductions and commercialisations by ensuring products comply with requirements of EU legislation for safety, quality and purity.
Leader	INDUSTRIAS MECANICAS ALCUDIA SA Spain
Consortium	AINIA Spain URBASER S.A. Spain

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	BIOMASA PENINSULAR S.A Spain UNIVERSIDAD DE VALLADOLID Spain EXERGY LTD United Kingdom NOVOZYMES A/S Denmark G.I. DYNAMICS BV Netherlands STICHTING WAGENINGEN RESEARCH Netherlands CENTRO DE INVESTIGACIONES ENERGETICAS, MEDIOAMBIENTALES Y TECNOLOGICAS-CIEMAT Spain VISUM LIMITED Ireland NATUREPLAST SAS France INSTITUTO REGIONAL DE INVESTIGACION Y DESARROLLO AGROALIMENTARIO Y FORESTAL DE CASTILLA-LA MANCHA Spain BCM BIOECONOMY CLUSTER MANAGEMENT GMBH Germany STEFANY EMBALLAGES ET SERVICES France THE INTERNATIONAL NATURAL AND ORGANIC COSMETICS ASSOCIATION AISBL Belgium
A.2 Interviewee	
Name	Caterina Coll
Position	Researcher
Role in the project	Coordinator
Contact info (tel, e-mail)	caterina@imecal.com
Other participants	
B. Discussion	
B.1 Expected outputs and market uptake	**Which are the application areas/market segments related to your project's bio-based product?**

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	The project aims to the use of solid urban waste (municipal waste) to produce higher added value products through urban biorefinery, such as bioethanol, bioethilen, PHA, fertilizers, biomethane. **Which are the benefits and opportunities of these products?** The change in the management of urban waste models, that could lead to a reduction of management costs. This new model is more sustainable, offers less environmental impact, a reduction in landfilling, composting and greenhouse gas emissions, aligned with the waste framework directive. **Which are the barriers, risks and concerns of these products?** Price and feedstock origin **Do you expect your product to be price-competitive in comparison with its fossil-based counterpart?** Yes **Does your product outperform its fossil-based counterpart? If the answer is yes, do you expect the end-users to pay a premium for it?** Yes, but end-users wouldn't pay a premium. **Is there a life-cycle analysis (LCA) comparing product and its fossil-based counterpart?** It is foreseen to perform a LCA **Your opinion on potential hurdles on the new product or new functionality:** ○ **low public and private (industrial) demand (in terms of procurement and application)** ○ **resistance from established industrial sectors** ○ **unfavourable public perception of bio-based products and applications** Municipalities are not prone to change their models, this can be a hurdle. Public perception tends to be positive. **Do you expect including your product in public, 'green', pre-commercial innovation procurement?** It would be very interesting to do it.
B.2 Legislation and policy framework	**What would you consider to be the gaps and the barriers in the existing legislation affecting your product? Which is your opinion on the policy and regulatory requirements affecting the new product or new functionality (standards, safety aspects, labels and certification and REACH legislation).** The condition of waste end is not well defined. Also, the final application of the bioproducts is not completely regulated. **Describe the broader exploitation potential of your results in terms of affecting/contributing to policy making and/or uptake.** A geographically more sustainable model must be pursued: local needs should be tackled with local resources, including local waste. **Have you planned interaction activities or communication and dissemination actions with policy-makers?** Yes, these kind of actions are foreseen.

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B.3 The user's perspective	**Which are the consumers' needs, concerns and perceptions about the product and its application? How do users respond to this market area? Are they familiar with this category of products? What you think could help raise their awareness and acceptance about them?** Customers and end users are favorable to bio-products, but they wouldn't be willing to pay more for them. **Have you identified any ethical issues regarding the development of the product?** The developement of the product causes no ethical issues.
B4. Impact, visibility and explotation potential of the project/outputs	**Which are the expected impacts of the product on key socio-economic and environmental challenges faced by Europe and its citizens (slow growth, unemployment, low competitiveness, climate change, resource scarcity, etc)? Which are their benefits in terms of sustainability?** The main impacts will be in MSW management model, in climate change and resource scarcity challenges. **Which are the activities taken/planned to increase visibility of your findings? Which are your main dissemination and communication means and activities?** Social networks, newsletters, workshops, seminars and congresses, website, etc **Which is your target audience beyond project implementation?** Municipalities, MSW managers and policy makers
B.5 Potential networking activities	**Would you like to be informed in BIOWAYS collaborative activities (workshops, thematic charrettes, barcamps, etc)? Would you like to take part in any of them?** Yes **Do you give your consent to use this interview as a source of information in our deliverables? Do you agree in including your project in our Bio-Watch platform and other dissemination tools as social media, website, etc?** Yes **How can BIOWAYS collaborate in the dissemination of your activities and outputs? Do you have any public promotional document (factsheet, leaflet, presentation, video, article, educational or trainning material, etc) you would like to be disseminated through BIOWAYS tools and platform?** Help with dissemination of newsletters, linking social networks profiles and through BioWatch **Is there any other project, initiative or representative case study you would like us to be aware of?** Eranet Waste2Bio

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D2.3 List of relevant initiatives supporting the supporting the development and uptake of bio-based products at European and regional level

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PROJECT DATA SHEET		
A.1 Project		
Title and acronym	LIFE WHEYPACK. Reduction of CO2 emissions by the PHB use obtained from whey: Demonstration in dairy products packaging.	
Programme	LIFE+	
Beginning & Ending date	01/06/14 – 31/07/17	
Coordinator	Miguel Alborch	
Webpage	www.wheypack.eu	
Type of action (RIA, IA, CSA, demonstration, other)	Demonstration	
Value Chain		
Budget / EU contribution	1.188.777 € / 584.888 €	
Focus on (select one)	ww)	
Summary	WHEYPACK project aims to demonstrate environmental and socio-economic benefits of a biodegradable food packaging material with a lower environmental impact through the reduction of greenhouse gas (GHG) emissions in comparison with current petrol-based food packaging materials. The biodegradable food packaging material selected is Polyhydroxybutyrate (PHB) that will be obtained from a by-product (whey) that comes from the cheese industries; PHB will be produced using a process of microbial fermentation.	
Objectives	• Demonstration of the environmental, technical and economical feasibility of performing PHB based packaging manufacturing processes from whey, considering all the chain steps involved in this industry so closing a loop: 1) PHB bioproduction from whey, 2)polymer compounding, 3)PHB-based package manufacturing and 4) use by the cheese maker at a small scale. So the key stages of the chain are considered in the project. • Demonstration that total greenhouse gas emissions (carbon footprint as CO2 equiv.) of the production process is lower than current manufacturing process of petrol-based food packages (polypropylene, PP). • Definition of the PHB bioproduction and recovery processes from whey at pilot plant scale. Study of the scale up conditions from pilot plant to industrial scale.	

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	• Formulation, compounding and adjustment of the PHB polymer in order to improve its processability properties for injection moulding process. • Development of 100% biodegradable PHB-based packages (trays) and demonstration of their application to dairy products: cheese packaging.
Expected Impacts	• Reduction of 35% of the total carbon footprint of the PHB-based packaging manufacturing processes (using whey), taking as a reference the PP-based packaging manufacturing ones. • 75% reduction of the BOD (biological oxygen demand) and 40% of the COD (chemical oxygen demand) of "industrialized" whey by-product (after its use for PHB production) when compared with original whey by-product without treatment. • Eco-efficient viability of PHB bio-production processes from whey with productivity more than 20g of PHB/litre. • Reduction of the production costs of PHB polymer up to 50% due to the use of by-products from dairy industries (revalorisation of whey surplus) instead of purpose-grown crops as raw materials. • Obtaining a 100 % biodegradable packages (200 units) based on PHB polymer obtained by injection moulding processes (trays) with demonstrated application on dairy products (cheese).
Leader	Ainia Technological Centre
Consortium	AIMPLAS Central Quesera Montesinos Embalnor
A.2 Interviewee	
Name	Miguel Alborch
Position	Researcher
Role in the project	Project coordinator
Contact info (tel, e-mail)	malborch@ainia.es / +34 961366090
Other participants	
B. Discussion	
B.1 Expected outputs and market uptake	**Which are the application areas/market segments related to your project's bio-based product?** The developed package will have a demonstrated application for dairy products (cheese). But the results of this project will have a market replication in other food sectors or kind of plastic products manufactured by injection process, such us caps, cups, kitchen utilities and other consumer goods.

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	How is the current situation of the market potential and penetration of product? While the market is still dominated for over 99% by petrol-based plastic, there is an emerging and growing market for bio-based plastic produced from renewable resources. **Which are the benefits and opportunities of these products?** Use of bioplastics is associated with ecological benefits: potential to reduce the use of fossil fuels, decrease CO2 emissions and decrease plastic waste. **Which are the barriers, risks and concerns of these products?** One of the most important barrier to the general use of biopolymers is the price comparing with polymer derived from petrol. **Do you expect your product to be price-competitive in comparison with its fossil-based counterpart? Does your product outperform its fossil-based counterpart? If the answer is yes, do you expect the end-users to pay a premium for it?** Our product is more expensive than fossil-based ones. But, when PHB will reach full scale production, its cost, even being higher than petroleum based polymers in production terms, will be compensated by its environmental benefits (from LCA view point). **Is there a life-cycle analysis (LCA) comparing product and its fossil-based counterpart?** It is foreseen to perform a LCA **Your opinion on potential hurdles on the new product or new functionality:** ○ **low public and private (industrial) demand (in terms of procurement and application)** ○ **resistance from established industrial sectors** **Do you expect including your product in public, 'green', pre-commercial innovation procurement?** It is not foreseen
B.2 Legislation and policy framework	**What would you consider to be the gaps and the barriers in the existing legislation affecting your product? Which is your opinion on the policy and regulatory requirements affecting the new product or new functionality (standards, safety aspects, labels and certification and REACH legislation).** Due to the fact that WHEYPACK is a demonstrative project, it is not necessary at this stage, to obtain any additional permit or authorization. But, in case of reaching the market it would comply with COMMISSION REGULATION (EU) No 10/2011 of 14 January 2011 on plastic materials and articles intended to come into contact with food. **Describe the broader exploitation potential of your results in terms of affecting/contributing to policy making and/or uptake.**

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	WHEYPACK project will improve the promotion of biodegradable plastics and bio-based plastics, as a way of reducing the increasing environmental impacts associated with plastic waste. **Have you planned interaction activities or communication and dissemination actions with policy-makers?** It is not foreseen.
B.3 The user's perspective	**Which are the consumers' needs, concerns and perceptions about the product and its application? How do users respond to this market area? Are they familiar with this category of products? What you think could help raise their awareness and acceptance about them?** Consumer interest in biodegradable materials has grown as a consequence of increasing social awareness of the power to reduce environmental impacts by selecting more environmentally-friendly products. Customers and end users perceive bioproducts in general in a positive way, but they are not particularly familiar with biopackaging. Mass media, advertisings, etc, could help people know and understand better these kind of products. Also, an adequate and clear labelling of the products is needed to properly inform the consumers. **Have you planned interaction activities or communication and dissemination actions with consumer representatives?** Yes, these kind of actions are foreseen. **Have you identified any ethical issues regarding the development of the product?** The developement of the product causes no ethical issues.
B4. Impact, visibility and explotation potential of the project/outputs	**Which are the expected impacts of the product on key socio-economic and environmental challenges faced by Europe and its citizens (slow growth, unemployment, low competitiveness, climate change, resource scarcity, etc)? Which are their benefits in terms of sustainability?** WHEYPACK project is directly related with two of the most important manufacturing sectors in the EU from the point of view of turnover and employment: food and food packaging sectors. In that sense, the development of the project will have positive socio-economic effects all around the European Union. The project is aligned with the socio-economic challenges of growth, employment and competitiveness. The use of by-products surplus to obtain bioplastics and the reduction in CO2 emissions will also have a positive impact in the environment. This project by the demonstration of a sustainable bio production technology and encouraging the EU industry in this area will promote opportunities for the innovation, specifically in two European strategic sectors:

PARTNERS
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Funded by the Horizon 2020 Framework Programme of the European Union under Grant Agreement n° 720762

	- Dairy industry, because it can diminish the economic and environmental costs derived from whey surplus, by means of valorisation and, - Food packaging manufacturing sector, because the inclusion of environmental criteria (LCA) to reduce carbon footprint. **In your opinion, which is the short to medium term impact of your research work?** **Which are the activities taken/planned to increase visibility of your findings? Which are your main dissemination and communication means and activities?** Participation in workshops, seminars and congresses. Radio and TV interviews, press. **Which is your target audience beyond project implementation?** The food packaging industry, consumers.
B.5 Potential networking activities	**Would you like to be informed in BIOWAYS collaborative activities (workshops, thematic charrettes, barcamps, etc)? Would you like to take part in any of them?** Yes **Do you give your consent to use this interview as a source of information in our deliverables? Do you agree in including your project in our Bio-Watch platform and other dissemination tools as social media, website, etc?** Yes **How can BIOWAYS collaborate in the dissemination of your activities and outputs? Do you have any public promotional document (factsheet, leaflet, presentation, video, article, educational or trainning material, etc) you would like to be disseminated through BIOWAYS tools and platform?** Yes, our promotional materials could be disseminated through BIOWAYS. **Is there any other project, initiative or representative case study you would like us to be aware of?**

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