

European Technology and Innovation Platform Bioenergy (ETIP Bioenergy)

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Terms of Reference

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Mission

EU Member States have agreed on a new policy framework for climate and energy, including EU-wide targets for the period between 2020 and 2030. The targets include reducing the Union's greenhouse gas (GHG) emissions by 40 % relative to emissions in 1990 and ensuring that at least 27 % of the EU's energy comes from renewable sources. They should help to make the EU's energy system more competitive, secure and sustainable, and help it meet its long-term (2050) GHG reductions target. The energy system in Europe is in a process of profound transformation: the growing share of renewable and decentralized generation, the progressive increase in energy efficiency along the whole energy value chain, the increasing need for flexibility in the energy system, the emergence of the consumer as an active player in the energy system and the appearance of new network users are the main changes affecting the way in which energy producers, operators, regulators and consumers interact in an increasingly complex market.

Already by 2020, at least 14% of the EU energy mix will be from cost-competitive, sustainable bioenergy. As a flexible, storable energy carrier with a high energy density available for the provision of heat, power and transport energy, bioenergy has an increasing role in balancing variable contributions of other renewable energies in an integrated European energy system. For specific transport sectors such as long haul heavy duty and aviation, biofuels are the only low carbon alternative for the next decades.

The EC Communication from 15 Sep 2015 "Towards an Integrated Strategic Energy Technology (SET) Plan: Accelerating the European Energy System Transformation" identifies the strategic priorities and actions needed to accelerate this EU energy system transformation in a cost-effective way. The new Integrated SET-Plan needs greater prioritisation, integration, coordination and ownership. It will identify gaps, duplication and synergies at EU and national level and will take advantage of opportunities to blend the digital and physical worlds in the energy domain. At the same time, it has to be open to the world by addressing international cooperation for global challenges.

The SET-Plan defines the new European R&I Strategy for the EU for the coming years. It will provide the overall framework for promoting strengthened cooperation in R&I between the EU, Member States and stakeholders (research and industry), in order to step up the efforts to bring new, efficient and cost-competitive low-carbon technologies faster to the market and deliver the energy transition in a cost-competitive way.

In particular, the Integrated SET-Plan:

- Identifies 10 actions for research and innovation, based on an assessment of the energy system needs and on their importance for the energy system transformation and the potential to create growth and jobs in the EU; and addresses for these actions the whole innovation chain, from basic research to market uptake, both in terms of financing as well as in terms of regulatory framework.

- Adapts the structures set up under the SET-Plan to ensure a more effective interaction with Member States and stakeholders.

- Proposes to measure progress as part of the annual reporting of the State of the Energy Union via overall Key Performance Indicators (KPI's), such as the level of investment in R&I, as well as specific KPI's to measure progress on the performance and cost-reduction for the priorities.

The European Technology and Innovation Platforms (ETIPs) bring together stakeholders from academia, industry, and civil society involved in the development of research and innovation strategies for energy technologies, and interacting with relevant public authorities of the Member States as well as the European Commission. The aim is to come to a coordinated, coherent, and efficient implementation of the objectives of the Energy Union including the 2030 Framework scenario and the 2050 Roadmap for a secure, affordable, competitive and efficient energy system.

The mission of the European Technology and Innovation Platform Bioenergy (ETIP Bioenergy) is to contribute to the development of cost-competitive, innovative world-class bioenergy and biofuels value chains, to the creation and strengthening of a healthy European bioenergy industry and to accelerate the sustainable deployment of bioenergy in the European Union through a process of guidance, prioritisation and promotion of research, technology development and demonstration.

The thematic focus lies on, but is not limited to, the seven bioenergy value chains defined under the European Industrial Bioenergy Initiative (EIBI):

Generic value chains (adapted)

Thermochemical pathways

1: Synthetic liquid fuels and/or hydrocarbons (e.g. gasoline, naphtha, kerosene, diesel fuel, methanol and DME) and blending components through gasification

2: Bio-methane through gasification.

3: High efficiency heat & power generation through thermochemical conversion

4: Intermediate bioenergy carriers through techniques such as pyrolysis, hydrothermal liquefaction and torrefaction

Biochemical pathways

5: Ethanol and higher alcohols from lignocellulosic feedstock through chemical and biological processes

6: Hydrocarbons (e.g. diesel and jet fuel) through biological and/or chemical synthesis from biomass

7: Bioenergy carriers produced by cell cultures or microorganisms (algae, bacteria) from CO₂ and light.

To this purpose the following activities will be pursued:

- Contributing to the Strategic Energy Technology Plan (SET-Plan) activities and strategy;
- In particular provide strategic recommendations to and input for the SET Plan Steering Group on the 10 priorities;
- Prioritisation within the 10 key actions both on objectives and implementation actions on EU, national or regional level
- Mobilise actors towards implementation activities;
- Contribute to future updates of the SET Plan Integrated Roadmap; main Role: strategic advice to the EC and the Steering Group based on consensus
- Report on the implementation of R&I activities at European, national/regional and industrial levels to support the work of SETIS;
- Develop knowledge-sharing mechanisms that help bringing R&I results to deployment. .
- Helping define priorities, strategies, R&I investment decisions and programmes; e.g. by

elaborating and updating Strategic Research and Innovation Agendas (SRIA) including crosscutting issues.

- Identifying on-going bioenergy RD&D activities relevant to the SRIA and stimulating appropriate synergies between actors and projects.
- Collaborating between stakeholders in addressing energy system integration challenges; coordinating with other bodies and initiatives engaged in bioenergy RD&D, including other EU Technology and Innovation Platforms, Member State initiatives and international (ex-EU) cooperation.
- Identifying technical and non-technical barriers to the delivery of innovation to the energy market; such as mechanisms to mobilise investments, demonstration activities, regulations, education and training actions and communication.
- Assisting the European Commission and Member States in defining the research programmes, financial instruments, and addressing the mentioned barriers;
- Communicate on the platform activities, with due consideration to public perception and understanding of advanced bioenergy and biofuels.

Background and foundation

Major investments in research and innovation, including demonstration and flagship plants, are needed to develop and deploy the technologies needed for the transformation towards a decarbonised energy system. To address such a significant investment challenge, it is fundamental that public and private stakeholders involved in the relevant sectors join their forces, agree on common objectives and align strategies for achieving them.

The ETIP Bioenergy combines the efforts of the European Biofuels Technology Platform (EBTP), which started in 2006, and the European Industrial Initiative Bioenergy (EIBI), which commenced in 2010.

Following the Vision report of the Biofuels Research Advisory Council (BIOFRAC)– “Biofuels in the European Union: a vision for 2030 and beyond” - which was presented at the platform's launching conference on 8 June 2006, EBTP has prepared Strategic Research Agendas and Strategic Deployment Documents in 2008 and 2010 with another one forthcoming in 2016. These reports addressed the main issues of relevance to favour technological breakthrough in production of sustainable biofuels and increase their deployment in the EU, with an emphasis on research, development and demonstration to overcome technical and nontechnical barriers as well as other support measures, regulation and legislation issues.

EIBI, including significant contributions by EBTP, developed two Bioenergy Implementation Plans covering the years 2011-2013 and 2013-2017, respectively. The Implementation Plans describe the activities, measures and investments which are required to scale up advanced bioenergy technologies and bring them to the market.

The Integrated SET-Plan Communication from 2015 defines the new European R&I Strategy for the EU for the coming years. It will provide the overall framework for promoting strengthened cooperation in R&I between the EU, Member States and stakeholders (research and industry), in order to step up the efforts to bring new, efficient and cost-competitive low-carbon technologies faster to the market and deliver the energy transition in a cost-competitive way. ETIP Bioenergy will contribute to this for advanced bioenergy outputs.

ETIP Bioenergy is rooted in the renewable energy sector, but has strong links to the bioeconomy and the transport sector as well. Synergies will be sought wherever possible. ETIP Bioenergy is closely linked to the Directorate-General for Research and Innovation (DG RTD) of the European Commission. ETIP Bioenergy builds on the renewed recognition of EBTP by DG RTD from 12 July 2013, for ensuring that EU research has a high impact in leading markets and technology areas with the overall objective of closing the gap with global innovation leaders and boosting jobs and growth in the EU.

Platform Stakeholders and Members

The ETIP Bioenergy may include representatives of all relevant stakeholder groups. Such organisations are allowed to assign members to the various platform bodies.

Members are authoritative individuals that are able to contribute to the objectives of the Platform through work and advice based on relevant expertise and experience.

The platform is a wide open forum, therefore stakeholders are welcome from all parties involved with the development of sustainable bioenergy: agricultural & forest products producers and common interest groups, industry and industry associations, research and technology organisations, academia, governmental bodies, civil societies, the general public, etc. The European Energy Research Alliance (EERA) and the Biomass Panel of the ETIP Renewable Heating and Cooling (RHC) are invited to nominate one Steering Committee member each.

Member States play an important role in providing public funding for research and innovation and in creating favourable framework conditions for bioenergy, and close liaison will be sought.

Organisation and operation

The ETIP Bioenergy is composed of a Steering Committee, Working Groups, an Advisory Board, a Coordination Group, a Stakeholder Plenary, and a Secretariat; it is currently supported by an EU FP7 funded project EBTP-SABS (Support to Advanced Biofuels Stakeholders).

I. Steering Committee

The **Steering Committee (SC)** is the decision making body and executive arm of the ETIP Bioenergy and as such directs all activities of the ETIP Bioenergy, being accountable for:

- Defining the roles and responsibilities within the Platform and outlining operations.
- Compliance with the Platform's Mission and related activities.
- Approval and launching of activities: objectives, timing, scope.
- Follow-up activities and approval of deliverables.
- Setting high-level policy: coordination with external bodies and initiatives, communication and general organization.
- Final elaboration of key deliverables (Strategic Research and Innovation Agenda) with active support from Secretariat and EBTP-SABS, based on the contributions from the Working Groups, thus ensuring harmonization of content and integrity of the messages.

The ETIP Bioenergy Steering Committee may have 20-25 members. It is expected to have a balanced composition with regard to members' nationalities and stakeholder groups (to include representatives of all main industries involved as well as research establishments, academic research bodies, the civil society and other organisations with relevant expertise or interest on advanced biofuels and bioenergy).

Members of the SC are listed in annex 1.

Members are appointed for a 3-year term and may be reappointed. Members serve in a personal capacity and substitutions at meetings should be on an exceptional basis, with prior informed consent of the Chairperson. Active presence at meetings is expected; low level of attendance (less than 1 personal attendance at a Steering Committee Meeting / year) might lead to exclusion from the Steering Committee. Members should both bring their individual expertise and, when appropriate, represent the collective view of their stakeholder group, not specifically their own company or institute. If necessary, and with the agreement of a majority (two thirds) of the existing members of the Steering Committee, new stakeholders may be added in order to achieve a balanced composition to best suit its functions.

A Chairperson and a maximum of three Vice-Chairpersons shall be elected by the Members of the SC on the basis of personal capacities and reflecting sound representation of stakeholders.

These officers shall serve for a 2-year period and may be reappointed.

The membership of the SC and position of Chairperson and Vice-Chairpersons are voluntary and are not subject to remuneration.

Individuals, representing organisations of relevance to the ETIP Bioenergy, may be invited to attend SC meetings as Observers. Nominations for Observers are approved by the Chairperson, in agreement with the Vice-chairpersons. Observers may attend all Steering Committee meetings. Observers may intervene during these meetings but have no voting rights.

SC decisions will be taken by consensus wherever possible. Each Member of the Steering Committee has one vote and decision will be taken on the basis of a majority (two thirds) of votes should consensus not be achieved.

Meetings of the Steering Committee will be held periodically, at least three times a year. The Steering Committee will submit the Strategic Research and Innovation Agenda and its positions, opinions, recommendations and reports to the European Commission and all stakeholders in due course. Copies of these records will be made available to other bodies upon request. They will be made available to the scientific community and to the public in general through the Technology Platform website: www.etip-bioenergy.eu

The elected Chair and Vice-Chairs of the Steering Committee will guide the work of the Secretariat in the overall planning and co-ordination of the activities of the Platform, and in taking ad-hoc decisions. The Steering Committee will be consulted when there is sufficient time available. Ad-hoc decisions will be discussed at the following Steering Committee meeting.

II. Working Groups and Task Forces

On the advice and request of the Steering Committee **Working Groups (WG's)** can be established in order to develop the Strategic Research and Innovation Agenda and to support subsequent deployment and implementation of the Agenda and other activities of relevance to the ETIP Bioenergy's mission. The SC shall propose a Chairperson and one or two Vice-Chairpersons for each WG. These officers will assist the SC in selection of Members for the WGs and be responsible for proposing and implementing the activities of the WGs according to objectives validated with the SC. WG Chairs are invited to SC meetings as observers.

The SC has agreed that the selection of members of the WGs is based on the following criteria:

- Technical competence of individuals based on their professional profile.
- Individual commitment to the work involved.
- Expected technical support from company or institution, company profile and formal commitment to allocate adequate resources to the task.
- Recognized records of individual or company previous contributions to the development of advanced bioenergy, e.g. contributions to EBTP, EIBI, R&I programmes and publications.
- A diversity of country representation from EU-28 since bioenergy issues reflect significant regional and sectoral differences will be attempted without compromising technical competence and commitment to work.
- An adequate balance of industry vs. research/public centres will be established in order to preserve the Platform as an industry-led body.

The current working group structure is presented in annex 2.

In addition Task Forces of limited duration can be formed on request of Members of the Steering Committee.

III. Advisory Board

The role of the Advisory Board (AB) will be to give advice and feedback to the activities of the ETIP Bioenergy. The Advisory Board consists of the technical experts appointed by Member States involved in Bioenergy as identified in the SET Plan priorities (one per Member State) and European

Commission Officials from DG RTD who is the founding organisation of the ETIP and in charge of the CSA project.

The AB will meet at least once a year in an extended meeting together with the ETIP Bioenergy Steering Committee. Additional meetings will be convened whenever necessary on decision of the Coordination Group. The AB is chaired by DG RTD of the European Commission

IV. The Coordination Group

The Coordination Group (CG) will be formed by the chair of the Steering Committee and one representative from the Secretariat of the platform, two representatives of the AB from Member States and two representatives of the European Commission/DG RTD. The non SC members of the CG will have observer status at SC meetings. The CG is chaired by the platform and is in charge of coordinating the work between the SC and the AB. Its role is to support and provide impetus to the ETIP Bioenergy, so that the actions included in the SET-Plan Integrated Roadmap are implemented timely and completely. It will be in charge of:

- Organising the meetings of the AB
- Preparing draft agendas for the AB
- Monitoring the implementation of the decisions agreed by the AB
- Coordination between SC and AB.

The MS representatives of the Coordination Group will be nominated by the AB.

V. Secretariat and EBTP-SABS Consortium

The Secretariat is a service-oriented body facilitating the various processes of the technology platform and providing its general internal management, administration, information and communication functions. For the time being, the secretarial functions are carried out by the German Agency for Renewable Resources (FNR); FNR provides this service as in-kind contribution financed from national funds.

Furthermore, the EBTP-SABS consortium, consisting of FNR, CPL, Bioenergy2020 and CEI, supports the external activities of EBTP and ETIP Bioenergy and helps to build an identity for the platform. EBTP-SABS is EC funded as an FP7 Coordination and Support action under contract no 609607 from 1 Sep 2013 until 31 Aug 2016. It aims to update the EBTP SRA and SDD, to help inform about Horizon2020 priorities on advanced biofuels within the European bioeconomy. The project team will also establish and expand information about stakeholders, demonstration and flagship facilities, research on advanced biofuels across all Member States and other countries of interest, as well as events, reports, feedstock availability and stakeholders. EBTP-SABS works independently from ETIP Bioenergy, but relies on contributions from ETIP Bioenergy SC and WG members.

Both Secretariat and EBTP-SABS maintain a strictly neutral position as regards policy setting and orientation of final documents and deliverables of the Platform. EBTP-SABS will indicate which communications are made on behalf of the project consortium and which are made on behalf of ETIP Bioenergy. Communications made on behalf of ETIP Bioenergy require the consent of the SC or SC chair and vice chairs in urgent cases.

VI. Stakeholder Plenary

The Plenary is the community of Stakeholders that participate in the Platform through various communication channels (in particular the website and a once-a-year Plenary Meeting) in order to:

- Facilitate information dissemination to stakeholders concerning the platform activities.
- Facilitate interaction between stakeholders to stimulate future cooperation in collaborative R&I projects.
- Receive inputs from stakeholders for platform strategy-setting and key deliverables via consultation processes as established by the Steering Committee.

Inclusiveness, Transparency and Communication

1. The ETIP Bioenergy is open to all interested stakeholders that support, in a non-dogmatic manner and on the basis of consensus, the aim of strengthening research, development and innovation efforts in Europe in the advanced biofuels and bioenergy sector.

2. Summaries of meeting reports and working documents will be made available to stakeholders on the website of the ETIP Bioenergy www.ETIP-Bioenergy.eu

Dissemination of information presented and generated in the activities of ETIP Bioenergy

To fulfil their mission, the Steering Committee, Working Groups and Secretariat discuss and develop a range of documents and relevant information. Once approved at SC level, the information is intended to be widely disseminated either in printed form or through the ETIP Bioenergy website and newsletters. To prevent the circulation of draft documents and potentially sensitive information which could be misused draft documents should be considered as confidential unless specifically stated otherwise.

Any SC or WG member who wishes to circulate such information outside the ETIP Bioenergy, must have the authorisation (by e-mail) from the Secretariat, who will confer with the SC Chair and the author of the information where necessary.

Official SC-Members	Company	Country
Bajdor, Krzysztof	Institute of Industrial Organic Chemistry, Warsaw	Poland
Cobror, Sandro	Gruppo M&G	Italy
Dupont-Inglis, Joanna	EuropaBio/ SusChem	EU
Fuglsang, Claus Crone	Novozymes	Denmark
Gameson, Thomas	ABENGOA Bioenergy	Spain
Garofalo, Raffaello	European Biodiesel Board	EU
Helseth, Jonas	Bellona	Norway
Henriksen, Niels	DONG Energy	Denmark
Jeuland, Nicolas	SAFRAN Group	France
Kåberger, Tomas	Chalmers University of Technology	Sweden
Karlsson, Markku	Finnish Forestry Industries Federation	Finland
Landälv, Ingvar	Lulea University	Sweden
Lehmus, Petri	Neste	Finland
Nyström, Ingrid	Fossil Free Fuel Centre	Sweden
Porot, Pierre	IFPEN	France
Røj, Anders	Volvo Technology Corporation	Sweden
Ruiz Santa Quiteria, Valentin	REPSOL S.A.	Spain
Sandquist, Judit	SINTEF	Norway
Sievers, Eric	Pannonia Ethanol	Hungary
Usadel, Björn	FZ Jülich/RWTH Aachen	Germany
van Ree, Réne	Wageningen UR (University & Research Centre (DLO))	Netherlands

WG1: Biomass availability

Chair: Calliope Panoutsou (Imperial College Centre for Energy Policy & Technology)

Vice-Chair: Markku Karlsson (Finnish Forestry Industries Federation)

WG2: Conversion process

Chair: Kai Sipilä, (VTT)

Vice-Chairs: Ingvar Landälv (Lulea University), Pierre Porot (IFPEN)

WG3: End use and product distribution

Chair: Nils-Olof Nylund (VTT)

Vice-Chair: Nicolas Jeuland, SAFRAN S.A.

WG 4: Policy and sustainability

Chairs: Marc Londo (ECN), Béatrice Perrier (PSA Peugeot Citroën)