



SAHYOG

Conference and Brokerage Event on Bio-economy

New Delhi, 3 - 4 February 2014





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SAHYOG

Overview, Objectives and Achievements

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ENEA Italian National Agency for New Technologies, Energy and Sustainable Economic Development



ENEA's activities are targeted to "Research, Innovation Technology and Advanced services in the fields of energy and sustainable economic development". www.enea.it

FACT SHEET SAHYOG



“Strengthening Networking on Biomass Research and Biowaste conversion Biotechnology for Europe India Integration”.

Type of funding scheme: Coordination Action

Topic Code: FP7-KBBE. 2011.4-05: **EU - India Partnering Initiative** on biomass production and biowaste conversion through biotechnological approaches -Mandatory India- Call: FP7-KBBE-2011-5

Project duration: 3 years (December 2011–November 2014)



SAHYOG Funding



SAHYOG is co-funded by the European Commission in the 7th Framework Programme (Project No. FP7-289615)

&

by the Department of Biotechnology (DBT) of the Indian Ministry of Science and Technology.



SAHYOG CONSORTIUM - 13 partners

EU PARTNERS

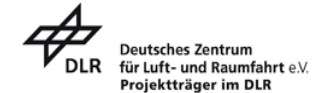
1. Italian National Agency for New Technologies, Energy and sustainable Economic Development **(ENEA)**, Italy



2. Ministry of Economic Affairs **(NL Agency)**, The Netherlands



3. Deutsches Zentrum fuer Luft - Und Raumfahrt Ev **(DLR)**, Germany



4. Wageningen University & Research Centre Food & Biobased Research **(DLO/WUR)**, The Netherlands



5. Vlaamse Instelling voor Technologisch Onderzoek **(VITO)**, Belgium



6. Wirtschaft Und Infrastruktur GMBH & Co Planungs KG **(WIP)**, Germany



7. National Technical University of Athens **(NTUA)**, Greece



INDIAN PARTNERS

8. The Energy and Resources Institute **(TERI)**, New Delhi



9. Council for Scientific & Industrial Research **(CSIR/IICT)**, Hyderabad



10. GB Pant University of Agriculture & Technology **(GBPUAT)**, Pantnagar



11. Tezpur University **(TU)**, Assam



12. Appropriate Rural Technology Institute **(ARTI)**, Pune



13. Jawaharlal Nehru University **(JNU)**, New Delhi



Sub-contractor EPSO - European Plant Science Organisation



OBJECTIVES



The main aim of India Partnering Initiative is to map out what the European Union and its Member States could do together with India to find solutions to challenges/needs – to help accelerate economic and sustainable development in both regions.

- To promote program-level cooperation in both regions, in line with the scope and priorities of the SFIC (Strategic Forum for International S & T cooperation).
- To integrate the dispersed findings from Europe and India for the identification of common areas and knowledge gaps in the biomass production and conversion in the both Regions.

PROJECT WORKPLAN



**A major coordination approach-
split into 5 work packages.**

PROJECT OVERVIEW



- ❑ **Bringing together the leading organisations** in the field of biomass production and bio-waste conversion research, carried out on one side by the European research programmes (EU Framework Programmes and EU Member State's national programmes) as well as by related research programmes coordinated by Indian national institutions.
- ❑ **Prepare and analyse an inventory of the biomass and bio-waste potentials and existing research projects** - basis for the **joint Strategic Research Agenda**.
- ❑ Broad **networking** of respective scientific communities, **twinning** of large sets of research projects, **short term exchange** visits of researchers
- ❑ Prepare a **roadmap** through consultation with stakeholders at the governmental, research and industrial level, to present a concerted planning of future research initiatives in this area - the way for integrated biomass management towards 2050.



Current Status of the Project Activities



SAHYOG Inventory on the Biomass Potential in Europe and India

➤ An overview of all the available biomass potential from different categories of biomass and biowaste resources in EU 27 Member States and in India, is presented.

Biomass Resources

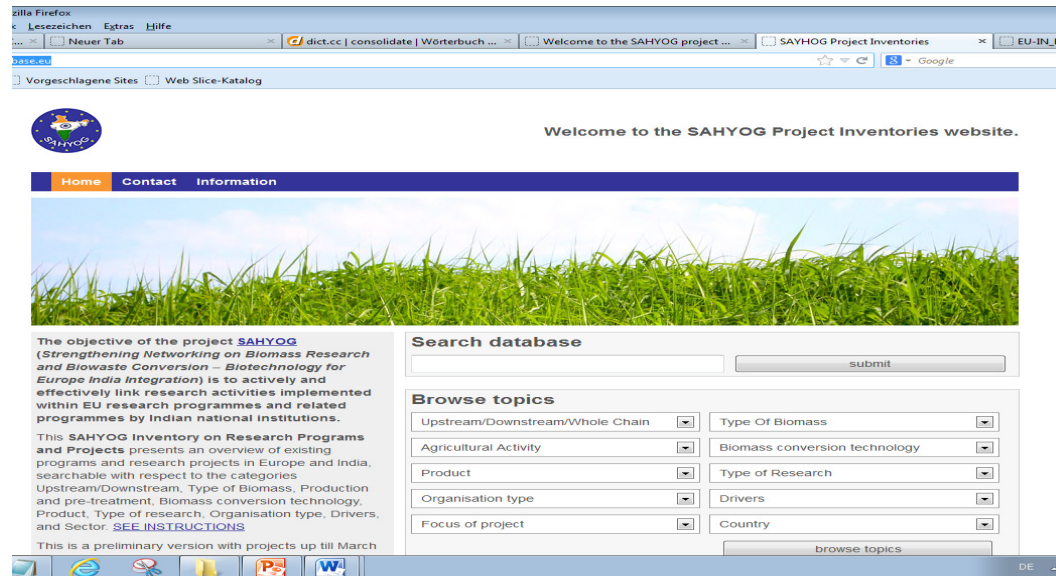
- ✓ **Forests**
- ✓ **Agriculture & Fisheries**
- ✓ **Wastes**

The on-line searchable database of SAHYOG Biomass Inventory

<http://www.sahyog-biomass-database.eu>

SAHYOG Inventory on Research Programs and Projects in EU & India

Presents an overview of existing programs and research projects in Europe and India, with proper guidelines for its use and searchable with respect to the categories (Upstream / Downstream; Type of biomass, Production and pretreatment; Biomass Conversion technologies; Products; Type of research; Type of organization; Drivers & Sectors)



<http://www.sahyog-projects-database.eu/>

Indispensible tool for all work to be performed to prepare the Roadmap for the SRA that will be used as main cooperation tool to fill in the gaps for biotechnology interventions

Broad Networking and Exchange

Aim: to improve the societal, political, scientific and industrial vision toward the new sustainable strategy

- **Twinning** of large sets of research projects
 - **Short term exchange** visits of researchers
 - **Stakeholders/Experts Workshops**
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- **First Stakeholders meeting** on “EU-India Cooperation on Biomass Production and Biowaste Conversion”, in May 2012 in Bruges (BE)
 - **Second Stakeholders Meeting** on “Biotechnological interventions in Biomass and Bio-waste availability for sustainable bio-economy”, Nov. 2012, New Delhi
 - **Third Stakeholders Workshop** on “EU – India Cooperation on Biomass and Bio-waste Research and Development” in June, 2013, Copenhagen, Denmark
 - **Mini-Symposium on Sustainable Biomass Valorization & Twinning activity**, 28-29 Oct. 2013 in Utrecht.

Training Programs

Focus on the priority strategic research theme areas

- **Feedstock production and genetic improvement of plants**
- **Bioethanol production from lignocellulosic biomass**
- **Thermochemical conversion technologies (pyrolysis, gasification)**
- **Anaerobic digestion technologies (biogas, biomethane, hydrogen)**
- **Algae production and conversion systems**
- **Biomass to chemicals – the biorefinery approach**
- **Sustainability and life cycle assessment**

Training Programs

Summer School organized at the BTU, NTUA, Athens

Duration: 5 days (June 2013)

Scientific Topics: 9

Sessions: 17 two hours each

Participants: 26 from 5 countries (France, India, Italy, Greece, The Netherlands)

Lecturers: 29 from 11 countries and 19 Institutions (Austria, Canada, Denmark, Germany, Greece, India, Italy, Sweden, Holland, USA)

Individual Biomass Projects: 26

Cultural Excursion: 1



European
Commission

Short term exchange visits of researchers

- Focussed on the priority strategic research theme areas
- EU-India STE Final program: 19-27 Oct. 2013



Strategic Research Agenda

General Vision

- Towards the *Bio-based economy* (drivers, needs & challenges in Europe and in India)

1) Feedstock

2) Biorefineries

3) Markets, Products and Policies

Summary: key facts and recommendations

Vision

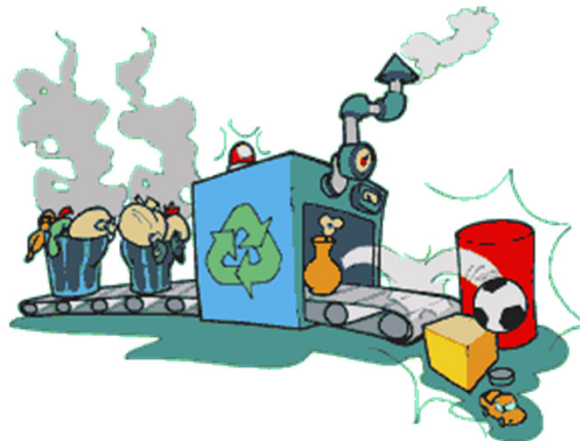
Current Status

Strategy and recommendations
(short, mid and long term)

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- Needs & Challenges in Europe and in India
 - Targets for India and for EU in a bio-based economy
 - Mutual strengthening of both road maps

Concluding Remarks

- ❖ The concept that addresses a number of big challenges
- ❖ An exciting opportunity and collaboration with India -a tangible sign of multi-lateral cooperation
- ❖ The new product oriented value chain for biomass, in the framework of a bio-based economy, will focus on bio-based products, that will create demand for sustainable agricultural production, waste treatment/processing etc., to use biomass in a most sustainable way to become the expression “Waste doesn’t exist”, a reality.



Wish you all a Successful & Fruitful Event!

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For more information visit our web-site
<http://www.sahyog-europa-india.eu/>



