



The SAHYOG project: Strengthening Networking on Biomass Research and Bio-waste Conversion – Biotechnology for Europe India Integration

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The main aim of the project SAHYOG is to bring together leading organisations in the field of **biomass production and bio-waste conversion research** carried out within EU research programmes and related programmes by Indian national institutions.

Inventories of biomass and bio-waste potentials and research projects/programs elaborated and analysed within SAHYOG are the basis for the joint **Strategic Research Agenda (SRA)** finally leading to a **Roadmap for policymakers and researchers**. SAHYOG ensures wide-range networking of relevant industries and scientific communities and establishes linkages between on-going research and innovation projects from EU and India.

Please see www.sahyog-europa-india.eu for more information.

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Project News

In this second newsletter issue, we would like to take the opportunity to inform our readers about recent and future activities and events realised in the framework of the SAHYOG project focussing on EU-India research cooperation in the fields of biomass production and bio-waste conversion.

SAHYOG Interim Meeting in New Delhi, India, 5-6 November 2012

The first interim meeting of the SAHYOG project was organised by the Indian coordinator TERI in New Delhi on 5-6 November 2012. The meeting was launched with welcome addresses by Prof. R. K. Pachauri (Director General, TERI), Prof. Lidia Szpyrkowicz, (Italian Embassy in New Delhi), Dr. Shailja Gupta (Department of Biotechnology, Govt. of India) and Dr. Banwari Lal (Director-EIBD, TERI). All invited guests highlighted the importance of research cooperation between India and Europe to pave the way towards a future global bio-based economy.

The main aim of this meeting was to discuss the progress made and way forward on the **inventories on important research themes**, as well as on **research programmes and projects** in the area of biomass and bio-waste in Europe and India. Results on biomass resources and project/programme inventories will be available in the coming weeks.



SAHYOG interim meeting in New Delhi
Prof. R. K. Pachauri, Nobel Laureate
and President IPCC along with
Prof. Lidia Szpyrkowicz, Dr. Banwari Lal,
Dr. Neeta Sharma, gracing the event

In 2013, the project will implement the second phase of activities, which mainly focus on the **Strategic Research Agenda (SRA)**. Therefore Next steps were discussed towards the elaboration of a Strategic Research Agenda (SRA) to facilitate **concerted planning of future EU-India research initiatives** in the area of biomass and bio-waste.

Furthermore, timelines for up-coming SAHYOG activities in the following two years were also discussed:

- **Twinning of projects** from India and Europe in order to ensure exchange of information, data, materials and methods (see below).
- **Short-term exchanges** of junior and senior researchers based on transparent calls for proposals for young talents and senior experts from India and Europe.
- Organisation of **summer schools in Europe and India** involving renowned international lecturers on relevant scientific topics
- Organisation of a SAHYOG **stakeholder workshop** in June 2013 to ensure widespread communication of project activities and results.

More information on SAHYOG activities will be available soon at: www.sahyog-europa-india.eu



SAHYOG partners at the interim meeting in New Delhi, discussing the Issues, Opportunities & Way Forward for the implementation of the SAHYOG project



Participants of the SAHYOG interim meeting in New Delhi

SAHYOG Stakeholder Workshop in New Delhi, India, 7 November 2012

The second SAHYOG stakeholder workshop was organised in conjunction with the 1st interim meeting by the Indian coordinator TERI in New Delhi on 7 November 2012 with the main objective to discuss the current situation in the field of biomass and bio-waste in India and to present existing successful India-EU cooperation activities. Several biomass related experts, relevant industry and governmental stakeholders were invited to participate in the meeting that took the opportunities to further expand the horizon of knowledge sharing and also the purpose of networking.

The workshop was launched with introductory statements by Dr. Philippe Taxis Du Poet (Minister Counsellor of the EU Delegation to India), Dr. Banwari Lal (Director-EIBD, TERI), Dr. Rajendra Prashad (FP7 National Contact Point in India), as well as the SAHYOG coordinators Dr. Priyangshu Sarma (TERI) and Dr. Neeta Sharma (ENEA).



Dr. Priyangshu Sarma, Indian coordinator SAHYOG, welcoming the guests at the SAHYOG Stakeholder Workshop in New Delhi

The workshop programme included technical sessions on “Biomass availability for biotechnological processes” “Biotechnological interventions for biomass/bio-waste utilisation”, “On-going initiatives on biomass and bio-waste in India”, and an industry roundtable on “Bioeconomy: an industrial perspective.

All presentations held at the SAHYOG stakeholder workshop are available at:
<http://www.sahyog-europa-india.eu/news-a-events/events?layout=edit&id=56>.

The following contributions to the SAHYOG stakeholder workshop are highlighted:

- Dr. Nirmala Kaushik, Technology Information, Forecasting and Assessment Council (TIFAC), Department of Science and Technology, Government of India presented **recent results of a study on available biomass resources in India**.
- Dr. Sangita Kasture, Department of Biotechnology, Government of India, reported on **current initiatives and programmes on research and development for a bio-based economy in India**.
- Recent results of the following **India-EU cooperation projects** were presented: **SWEETFUEL (Sweet sorghum: an alternative energy crop)** by Dr. Srinivas Rao (ICRISAT); **BIOCORE (Bio-Commodity refining)**, by Dr. Reena Singh (TERI), and **VALORGAS (Valorisation of food waste to biogas)** by Ms. Remika Kapoor / Prof. V K Vijay (IIT).
- The industry panel discussion was conducted to wrap-up the workshop with a panel of distinguished speakers discussing the issues, opportunities and way forward for the development of the biomass industry in Europe and India. It was inaugurated by Mr. K. Krishan, Chairman, Confederation of Indian Industry, Taskforce on Bioenergy and Chairman NPPL Renewable Energy Limited with an informative keynote address on the current pressing **challenges with respect to existing (energy, water, waste) infrastructures in India and the future important role of bioenergy within the emerging bioeconomy in India**.
- The workshop ended with a concluding remark by Dr. Neeta Sharma, ENEA, and a vote of thanks by Dr. Priyangshu Sarma, TERI, SAHYOG coordinators from Europe and India.



Participants of the SAHYOG Stakeholder Workshop in New Delhi

SAHYOG Twinning Activities

Through facilitating and coordinating twinning activities, SAHYOG **brings together project coordinators and other lead partners from past and on-going projects and initiatives as well as international networks** in order to consolidate R&D results, exploit synergies and thus build up a critical mass for future EU-India research collaboration.

The following activities are possible under SAHYOG twinning

- Research cooperation, exchange of researchers
- Organisation of joint workshops/meetings
- Development of common trainings
- Common literature reviews
- Exchange of tools, analytical methods and databases
- Exchange of data, information, knowledge and material

In addition, within SAHYOG a **2-day twinning workshop** will be organized to facilitate and deepen contacts between interested stakeholders

The **priority strategic research themes for twinning activities** of initiatives from India and Europe to be performed under SAHYOG are:

- 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
- Feedstock production and genetic improvement of plants
- Sustainability and life cycle assessment

In case you are interested in SAHYOG twinning activities on one or more of the abovementioned research themes, please get in contact with Dr. Robert Bakker, Wageningen UR, The Netherlands (robert.bakker@wur.nl), and Dr. Rainer Janssen and Dominik Rutz, WIP – Renewable Energies, Germany (rainer.janssen@wip-munich.de, dominik.rutz@wip-munich.de).

For more information on SAHYOG twinning, please visit: <http://www.sahyog-europa-india.eu/project-twinning>

SAHYOG Stakeholder Workshop at the 21st EU BC&E, 3-7 June 2013, Copenhagen

In the framework of the SAHYOG project a stakeholder workshop on 'EU – India Cooperation on Biomass and Bio-waste Research and Development' will be organised as an official side event of the up-coming 21st European Biomass Conference and Exhibition (EU BC&E) taking place on 3-7 June 2013 in Copenhagen, Denmark.

In this workshop activities and findings of the SAHYOG project will be discussed with international stakeholders. Furthermore, project participants from India will present an overview of current research and development initiatives in the field of biomass and bio-waste in India.

For more information on the 21st EU BC&E, please visit: www.conference-biomass.com

SAHYOG at the Brussels Sustainable Development Summit (BSDS), 17-18 December 2012

Several representatives of the SAHYOG project will participate in the up-coming Brussels Sustainable Development Summit (BSDS) 'Bringing the Rio+20 Agenda to Life' on 17-18 December 2012. BSDS is organized by the Flemish Research and Technology Organization (VITO) and The Indian Energy and Resources Institute (TERI) to define concrete ways to extend sustainable actions and partnerships in the context of a multi-faceted, systemic crisis and a renewed global agenda for sustainable development. Themes discussed at the BSDS include Smart cities, the bio-based economy, stakeholders' collaboration, economics of sustainable development, business opportunities in a green economy, and political framework for sustainable development.

For more information on the BSDS, please visit: <http://bsds.vito.be>

Furthermore, the SAHYOG project has received a notable number of invitations to participate in external conferences and other leading relevant project meetings to share best practices.

More information on SAHYOG activities will be available soon at: www.sahyog-europa-india.eu

SAHYOG Communication and Dissemination

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