ITALIAN NATIONAL AGENCY FOR NEW TECHNOLOGIES, ENERGY AND SUSTAINABLE ECONOMIC DEVELOPMENT

SAHYOG

SEVENTH FRAMEWORK PROGRAMME

CONCLUSIONS

Final Project Meeting
Brussels, 18-19 Nov. 2014

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SAHYOG Activities

Networking/Communication/Training

Bring together the EU-India leading research, industry and other organisations related to the sector

Comprehensive inventories: Biomass/Biowastes and Projects/Programs

Plan a common EU-India **Strategic Research Agenda** (SRA)

Roadmap: future joint cooperation opportunities

Deliverables - as indicated in Annex I to the Grant Agreement

N°	Deliverable	WP	Lead Beneficiary Name	Deliverable Title	Month	Deliverable Date	Actual delivery date	Dissemination level	STATUS
1	D 1.1	1	ENEA	Kick off Meeting Report	2	31/01/2012	24/01/2012	CO	OK
2	D 5.5	5	WIP	Set up of project website	3	29/02/2012	09/01/2012	PU	OK
3	D 5.7	5	WIP	Project presentation leaflet	3	29/02/2012	09/01/2012	PU	OK
4	D 5.6	5	WIP	Publication of an electronic newsletter every 6 months (5issue)	6	31/05/2012	04/07/2012	PU	OK
5	D 5.8	5	WIP	Draft dissemination & exploitation plan	6	31/05/2012	04/07/2012	PU	OK
6	D 3.1	3	VITO	EU – India biomass Inventory Workshop	11	31/10/2012	11/02/2012	PU	OK
7	D 2.1	2	ENEA/TERI	A full inventory of biomass	12	30/11/2012	11/02/2012	PU	OK
8	D 2.2	2	Agency NL	An inventory of research projects	12	30/11/2012	11/02/2012	PU	OK
9	D 2.3	2	Agency NL	A strategy towards new trends	12	30/11/2012	08/07/2013	PU	OK
10	D 3.2	3	DLO	Mapping of EU – Indian RTD projects and prioritization for project twinning	12	30/11/2012	27/05/2013	PU	OK
11	D 3.3	3	DLO	Rep on identification of candidate Indian & EU RTD projects for twinning	12	30/11/2012	22/07/2013	CO	OK
12	D 3.4	3	DLR	Guidelines for the implementation of the short-term exchange scheme	12	30/11/2012	11/02/2013	CO	OK
13	D 5.3	5	NTUA	Program of Summer School in Greece	12	30/11/2012	11/02/2013	PU	OK
14	D 1.2	1	ENEA	1st Interim Meeting report	13	31/12/2012	11/02/2013	PU	OK

Deliverables submitted during the 2nd Reporting Period

N°	Deliverable	WP	Lead Beneficiary Name	Deliverable Title	Month	Del. Date	Actual del. date	Dissem. level	STATUS
15	D 3.5	3	WIP	Report on Twinning workshop in EU	24	30/11/13	24.03.2014	PU	
16	D 5.1	5	TERI	Program of final SAHYOG conference	24	30/11/13	29.04.2014	PU	
17	D 5.4	5	TU	Program of Summer School in India	24	30/11/13	25.03.2014	PU	
18	D 1.3	1	ENEA	2nd Interim Meeting report	25	31/12/13	24.03.2014	PU	
19	D 4.1	4	VITO	State of the art technology	26	31/01/14	04.8.2014	PU	
20	D 4.2	4	Agency NL	Strategic Research Agenda supporting the Roadmap	30	31/05/14	06.08.2014	PU	
21	D 4.3	4	VITO	Upstream and Downstream Roadmap	30	31/05/14	14.11.2014	PU	
22	D 3.6	3	DLR	Assessment Report on the Implementation	31	30/06/14	1.7.2014	CO	
23	D 1.4	1	ENEA	Final meeting Report	36	30/11/14		CO	
24	D 5.2	5	WIP	Organization and documentation of final SAHYOG Conference	36	30/11/14	29.04.2014	PU	
25	D 5.9	5	WIP	Final dissemination and exploitation plan	36	30/11/14		PU	

Conclusions

Biomass and Biowaste Potential/SAHYOG Inventories

Existing information on biomass and biowaste sources (from databases and other sources) was merged into a new free accessible SAHYOG database through following steps:

1. **Analysis of the information sources**
2. **Determination of the database tructure/Templates**
3. **Filling of the data in the database**

In Europe

- Incomplete data in existing databases, Lack of uniformity in units even in the same database, Biomass used in conversion processes- missing in most of the databases etc.

➢ The lack of data in most of the cases (at the main or sub-category level) affirms that, although we consulted all available databases in the field, a lot of useful information about biomass potential and utilization is actually still missing for most of the Member States in Europe, **despite of the renewable energy policies at EU and national levels.**

In India

- only few estimates exist,
- a lot of discrepancies in the available data.

Proper data on the available biomass potential and more adequate estimation of future potential is necessary to program future research and forecast markets.

Biomass Potential in India

Huge Biomass Potential / Biodiversity in India

- Large amounts of biowaste at fields and agri-processing units
- Cow dung and poultry litter are available in large quantities (India has around 500 M poultry birds and 200M Bovine animals)

Energy production from animal wastes , in a decentralised manner, is highly relevant for India.

Giving right value to the farmers might make the biomass resources really available for the industries - enhancing rural livelihoods, leading to inclusive growth

Agriculture is the key area of development.

Govt. should implement agriculture reforms to have more budget - ultimately will have a cascading approach.

Using the waste as much as possible as a resource, diverting as much as possible from the landfills and creating jobs.

Industries need a stable, well characterized supply of feedstock to optimize operations

- Biomass feedstocks raises the real logistical challenge regarding the quality and handling characteristics.
- Timely delivery of biomass feedstocks of a specified quality to a processing technology and optimal logistics for sustainable biomass feedstocks delivery chains needs attention.
- Need for an overall database which can be used to extrapolate the potential residues, especially by type and properties

A three year program has achieved significant milestones including an inventory/online database of biomass & Biobased research and EU-India Strategic Research Agenda & Roadmap

Development of biobased economy will need:

- Accurate assessment of biomass resources and collaborative technology development.
- Avaialability of good data, analysis of the current state of feedstocks- **A vision for future feedstock availability**.
- Development of new methods for remote sensing/airborne laser scanning for accurate **biomass mapping**.
- Increasing yield and efficiency through **better use of land, water and fertilizers** etc.
- **Sustainable agricultural residues removal**
- Better access to competitevely priced feedstocks in sufficient quantities and quality and favourable political frameworks
- Regulations to keep records on amounts and type of feedstocks actually recycled
- Improved coordination and collaboration on biobased research programs at regional, national and EU level to coordinate the research activities with other parts of the world

➢ **Smart holistic and sustainable solutions for efficient management of resources (forest, agriculture, land and water) in harmony with nature (biodiversity)**

EU - India Cooperation on Biomass/Biowaste research

- SAHYOG **stimulated the dialogue between European and Indian Stakeholders** (from science, academia, industry, NGOS, SMEs and policy makers) and provided networking opportunities for people on the two sides to learn about the current perspectives and perceive opportunities of future collaboration.

- The project **described the various aspects of bio-based research, knowledge gaps and cooperation opportunities** between EU-27 and India and identified the pathways to promote new technologies that will help further in the development of a bioeconomy in the two regions.

- Based on the priorities for future EU-India cooperation which have been set through the SAHYOG SRA exercise, **a better integration of EU-india cooperation in Horizon 2020 program development, needs to be further strenghtned.**

An exciting opportunity and collaboration with India –
A tangible sign of multi-lateral cooperation on the new product oriented value chain in the framework of a bio-based economy

Thanks!

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Find out more:
http://www.sahyog-europa-india.eu/