SAHYOG Project Grant Agreement no: 289615

Deliverable report

D2.2: Inventory of Research Programmes and Projects

February 2013

Responsible Beneficiary: NL Agency

Project Co-ordination: ENEA

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Project co-funded by the European Commission within the 7th Framework Programme		
Dissemination level		
PU	Public	**x**
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential only for members of the consortium (including the Commission Services)	

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This report comprises the “Research Programmes and Projects Inventory”, for which the work is accomplished under task 2.2 of the project SAHYOG “Strengthening networking on biomAss researcH and biowaste conversion – biotechnologY for EurOpe India integration” co-funded under the European Union 7th Framework Programme.

Introduction

The objective of Inventories on Research Programmes and Projects is to create an overview of existing programmes and research projects within the EU and India. Such programmes and projects exist on a state level and on the Indian or European level.
The information was gathered through an intensive consultation of existing databases in Europe and India.
In Europe the information was obtained through the relevant ERA-NET networks on Bioenergy, Industrial Biotechnology, Plant Genomics etc, as well as the EC Cordis database and the relevant European projects like Star-Colibri, Bioref etc. that have generated overviews of projects in the area of sustainable biomass production and biotechnological conversion of waste.
In India TERI coordinated building up the information through an intensive consultation with the funding agencies DBT, CSIR, etc.
A classification of research programmes and projects was developed by both the European and Indian project members and applied to the obtained information
The work conducted under this task resulted in the realization of a well defined inventory of ongoing programmes and projects in India and the EC and the drivers and expected outputs from these programmes and projects.
The outcome of these results will be used in the subsequent meeting and exchanges proposed for subsequent WPS (e.g. to identify the Twinning of the projects in Task 3.1).
The inventory will be updated to monitor the innovation development and the uptake by industry for the whole duration of the project.

Section A: Research Program and Projects Inventory in Europe

1. Sources of Information

NL Agency has identified a set of sources of information where most European programmes/projects can be found. These Sources of information are presented in Annex 1. Different portals offer good entrance to the different projects and programmes:

- Cordis: All EU funded programmes with selection criteria for Biotechnology, etc.
- Netwatch: for ERANETs, and Becoteps for Technology platforms
- Star Colibri: for Biorefinery projects.
- Member States have individual country specific sites with information.

The database of Star Colibri www.star-colibri.net was presented at the Antwerp meeting. Together with Star Colibri members, the SAHYOG Consortium explored the possibility of using the Star Colibri database as the basis to further add the data from SAHYOG to this

database. Investigations were also made into whether the categorisation identified for the SAHYOG data could be used in the Star Colibri database. The results are shown below:

Star Colibri Database

Advantages	Disadvantages
- there are a lot of projects already registered, - publicly available; - good point to divide the portal into many categories: it makes it easier to search for desired information; - the layout of one project's description is very clear and easy to understand; - by adding or changing of information it is obvious who is the modifier	- reliability. Every registered member can change the information; - the portal is technically not serviceable: after selection of one project from a list of results, it is not possible to return to this list again. There is no button 'Back' on the page and the general button 'Back' removes all history. if a selection of a project by country reports 'no results' then by the next search by country the filters for research projects automatically keeps this answer. The result is then that it is necessary to carry out a whole new search. - some information in certain categories is missing. One must manually enter this (e.g. FP6 programme).

Excel Spreadsheet

Advantages	Disadvantages
- easy to use/work with it; everyone is familiar with a simple Excel Spreadsheet; - easy to add new information; - instant visibility of all projects.	- all projects have to be filled in again; - not publicly available; - everyone can change or add information and it will be not be possible to see who has modified the information.

It was concluded that the most efficient solution would be to transfer the existing data from the Star- Colibri and Cordis databases to an Excel database and to make this available via the SAHYOG website (of course provided that the Commission agrees).
Both Star-Colibri and CORDIS were requested to make their project data available in a digital spreadsheet so that the data could easily be entered into the database.
Their collaboration for permitting us to do this is very much appreciated.

2. Categorisation

As a result of decisions taken by the project members present in the meetings held in Brussels, Antwerp, Milan and New Delhi, a final categorisation of projects (Annex A).
The following choices can be made under different categories:
A: Biomass resource; what feedstock are used?
B: Pre-treatment: Is the project about plant improvement, agricultural improvement, harvesting?
C: Conversion Technology: technological conversion, including biocatalysis and fermentation
D: Product: the end products of the project, could also be several of them
E: Type of Research; from fundamental to pilots and socio-economic studies
F: Organisation carrying out the research: From research institute to Industry
G: Drivers for Research: From economic benefits to biodiversity conservation
H: Sector: the sector the project fits in: Biomass Production, Biorefineries, Training etc.

An excel sheet has been composed to collect all programme information with the columns that are described in the Guidelines shown in Annex A.

3. Results

All data from Star Colibri and CORDIS was evaluated and only those projects were selected that matched the criteria. Data used from CORDIS consists of ongoing projects until March 2012.

Data source	N	MayBe	OUT	Total
Biofuels	9			9
CORDIS (15.000)	164	120		284
Industrial Biotech	8		1	9
RTD/E FP6	1			1
RTD/E FP7	127	115	103	345
StarCo	324		1	325
End total	633	235	105	973

The projects that were selected first from all the databases were the one which had a budget larger than 0.5 M€ and which had some relation with biomass, biowaste, white biotechnology etc. A total of 15.000 projects were available in Cordis. Based on this first analysis a total of 973 projects were selected. These projects were than categorised in 1: IN, 2: Maybe or 3: OUT. The “Maybe” projects can be seen as having some relation with biomass, or e.g. in the red biotechnology, and could have a link with the SAHYOG objectives. A total of 633 projects were selected to be of interest for the biobased Economy.

3.1 Categorisation of projects by type of biomass and position in the chain.

All projects have been characterised by the type of biomass used and the position in the chain. Upstream takes into account the production of the biomass, and downstream the conversion of the biomass to valuable products. Projects characterised under chain follow the complete biomass from growth to conversion.
For the type of biomass a distinction was made between agricultural biomass, forestry, waste and residues and Aquatic biomass. Aquatic biomass comprises algae, seaweeds etc.

Type of Biomass	chain	down	up	Total
Agricultural	52	27	63	142
Aquatic	27	5	18	50
Forestry	15	29	13	57
Not specified	15	67	2	84
Other	22	27		49
Several of the above	78	86	9	173
Waste and residues	24	54		78
E Endtotaal	233	295	105	633

Table 1.

In Table 1 it can be seen that a minority of projects (105) relate to the upstream production of biomass alone. In this category agricultural biomass was the most common resource.
The majority of the projects take the complete chain into account or downstream the conversion of biomass. The largest number of projects cover several types of biomass, for multi resource applications. For projects that only cover the downstream conversion of biomass for the majority the resource is not specified, or several of the above.
Aquatic biomass is upcoming. It has been a growing field of interest over the last years. It can be concluded that all aspects from growth to conversion of biomass for the different types of biomass is covered in the EU Research.

3.2 Budgets in Europe for Research and Development

A total budget of 1.52 Billion € has been registered in this database for governmental support from the different national governments and the EU in the period 2005 – 2011.

Sources of Information	Budgets
Biofuels projects	€ 30.950.548,00
CORDIS (15.000)	€ 481.512.815,00
Industrial Biotech	€ 61.817.926,00
RTD/E FP6	€ 2.651.593,00
RTD/E FP7	€ 351.571.654,00
StarColibri	€ 600.548.359,00
Total	€ 1.529.052.895,00

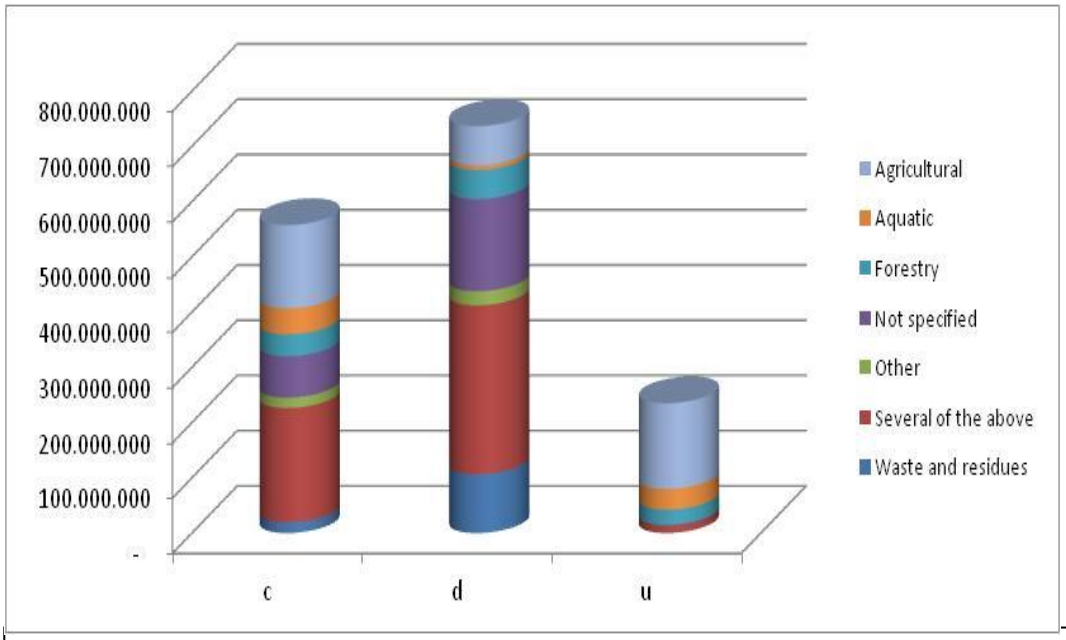
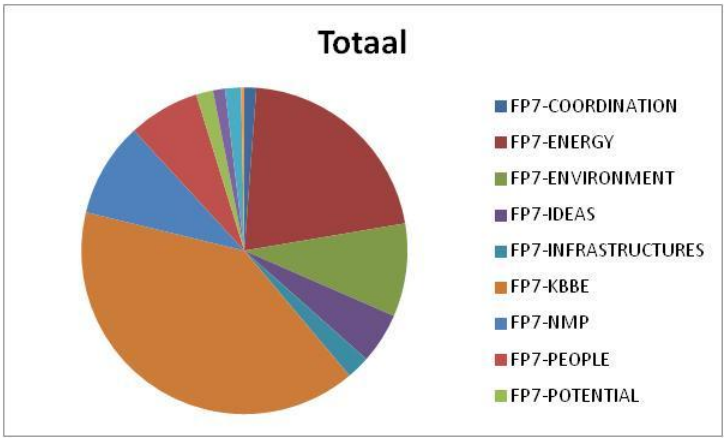


Figure 1: R&D support for Chain, Downstream and Upstream projects

The FP7 budget from the EC is more or less complete, but for the different Member States only the budget from the big projects in the Star Colibri database have been taken into account. The budget from the EC alone accounts for 982 Million Euro, and 928 Million Euro from FP7, so almost 1 Billion to the registered funding.

FP7 programs		Total Support
FP7-COORDINATION	€	10.903.541
FP7-ENERGY	€	196.193.966
FP7-ENVIRONMENT	€	85.473.311
FP7-IDEAS	€	46.562.445
FP7-INFRASTRUCTURES	€	21.397.263
FP7-KBBE	€	370.488.014
FP7-NMP	€	86.945.651
FP7-PEOPLE	€	65.639.660
FP7-POTENTIAL	€	15.500.186
FP7-REGIONAL	€	11.124.783
FP7-SME	€	14.651.145
FP7-TRANSPORT	€	2.970.000
Total	**€**	**927.849.965**



The FP7 comes for 2/3 from the FP7-Energy and FP7-KBBE programme. For 1/3 it comes from other programmes, like Coordination, Environment, NMP, People etc.

The support for the different projects can also be presented against the year these projects are proposed to be finished, see figure 2.
It can be seen that the majority of the funding is in 2013 and 2014, and that the main focus is on processing in the chain or the downstream.
When the projects are characterised by the biomass resource as presented in figure 3 it can be seen that the European R&D has moved from forestry to more aquatic biomass over the years. Agricultural R&D remains large, but the majority of the projects deal with different kinds of biomass.

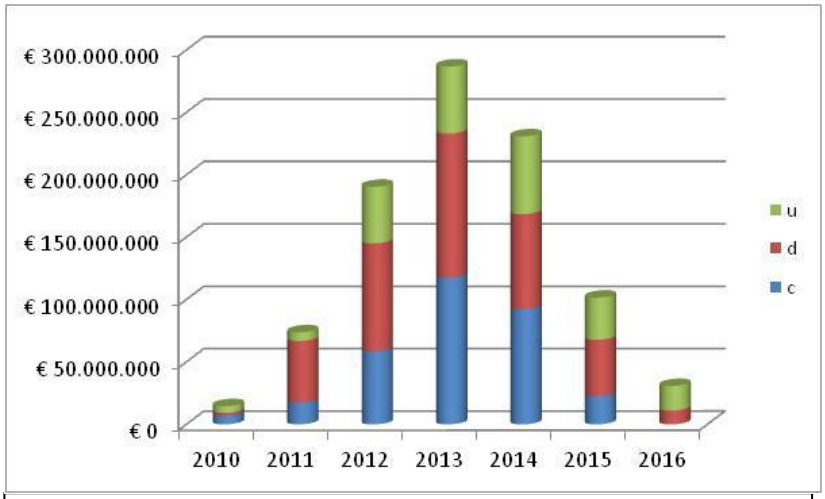


Figure 2: R&D FP7 funding at final year of projects

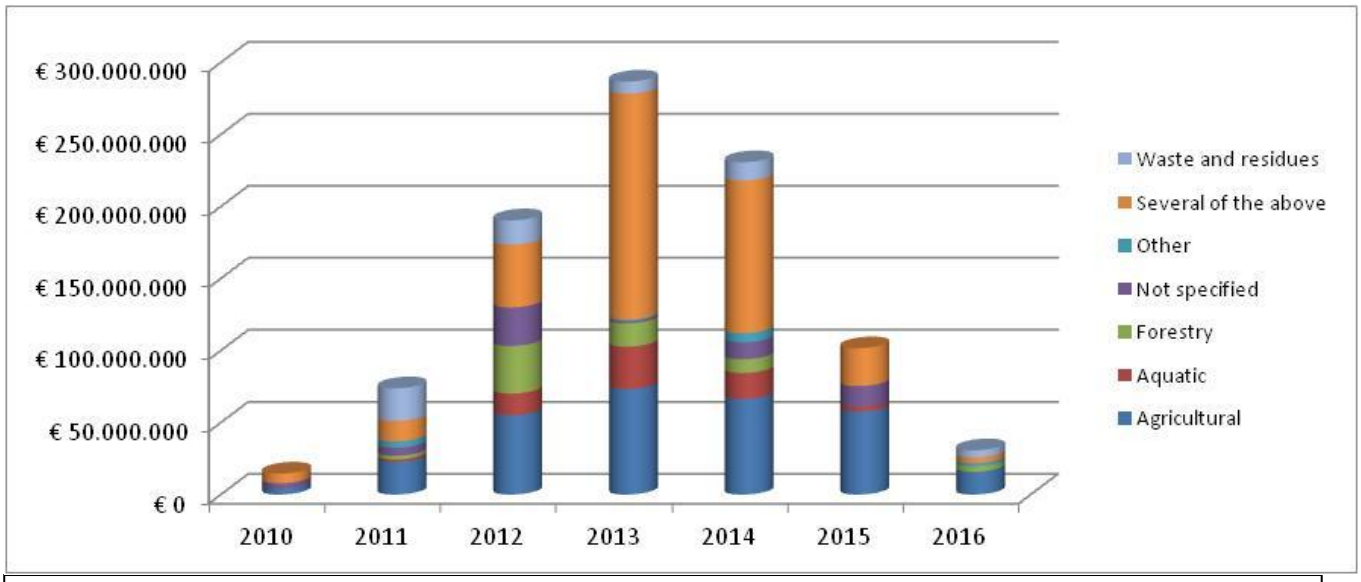


Figure 3: R&D FP7 funding at final year of projects for different biomass resources

Another way to look at the spending of the budget is to characterise the projects by their products and the research themes. This is presented in Figure 4 and it can be seen again that most of the research is carried out in the area of chemicals and more than the one above.
Liquid biofuels are also an important product and biorefineries the most common research theme. Sustainability and biodiversity, as well as regulations/politics are research themes that often concern several products.

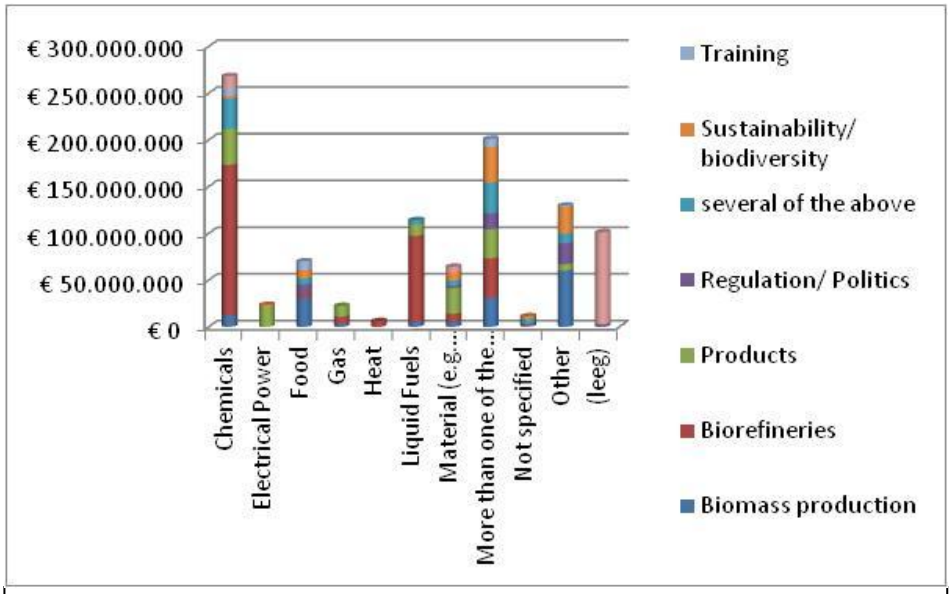


Figure 4: Budgets for different products and research themes

3.3 Categorisation by Technology and Product

It appeared to be quite difficult to link the projects to a specific technology. The majority of the projects are linked to fermentation, but about half of the projects do not concern a specific technology or concern more than one specific technology.

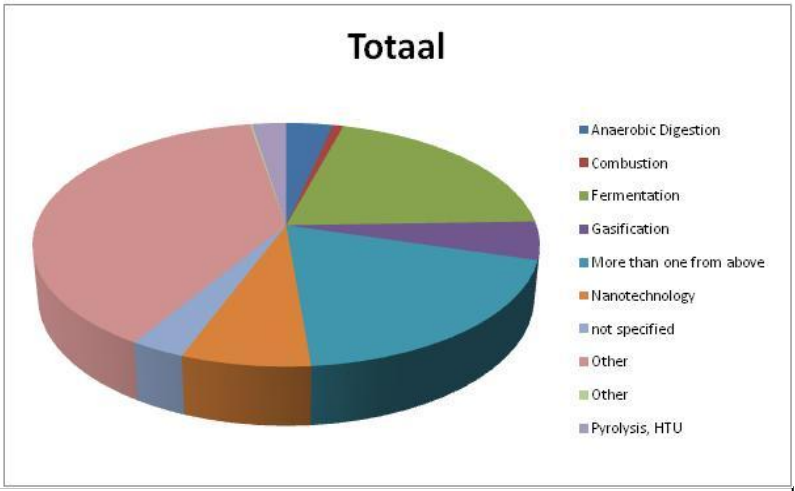


Figure 5: Number of projects for different technologies

The products that eventually should be produced as a result of the work undertaken in the projects are presented in figure 6 and offer a clear distinction. About half of the projects deal with chemicals and liquid fuels and about 1/3 include more than one of the above. It is clear that the biobased economy is well covered by the existing research projects.

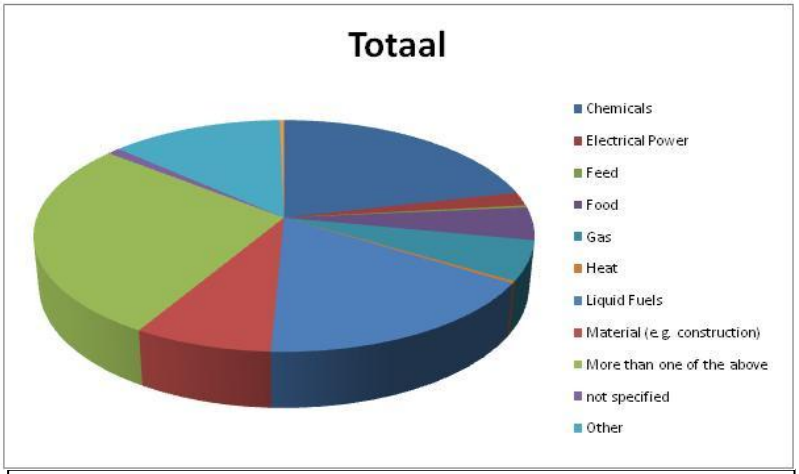


Figure 6: Number of projects for different products

In figure 7 all projects are characterised by their research themes. About 15% of the projects concern biomass production, and about half of them can be considered as projects to develop biorefineries and 1/5 have a focus on a specific product. A quarter of all the projects address regulations, politics, networking, sustainability and training.

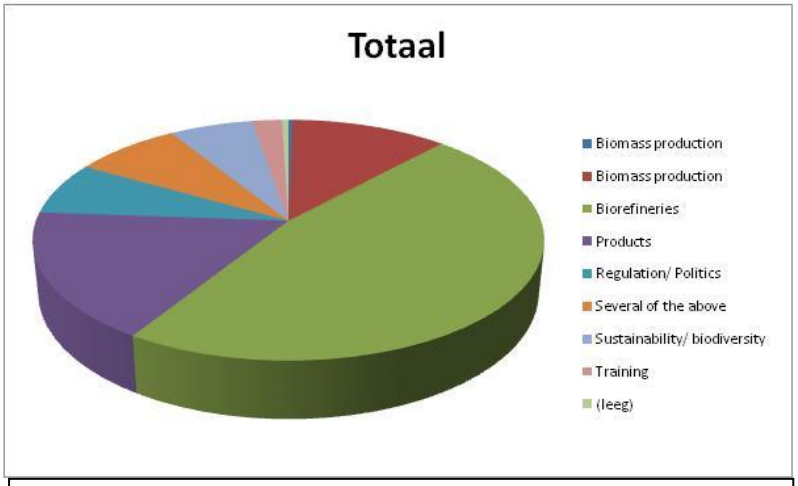


Figure 7: Number of projects for research themes

3.4 Drivers for Biobased R&D in Europe

There is often a mix of drivers to start the research in the biobased economy. For that reason and the industrial involvement in the projects the economic benefits of biobased resources and products is often the most common driver. However there are also a number of projects that clearly state that their main goal is to improve conservation of biodiversity, climate change or resource security.

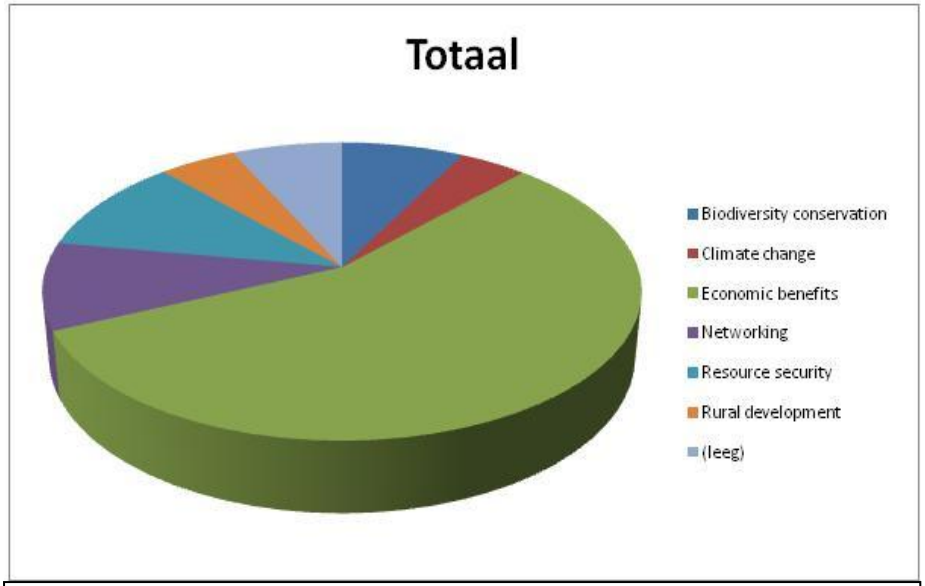


Figure 7: Drivers for Biobased R&D in Europe

There are also a number of projects that clearly focus on Networking (e.g. ERANET's) or Training or Rural development. In that case this has been taken as the driver for these projects, though in the long term, it should also result in a sustainable biobased society.

Most of the research is applied research with a strong focus on biorefineries.
Nevertheless about a quarter of the research was characterised as fundamental research in the biorefinery and product themes. These are the projects focusing on genomics, nanotechnology etc.

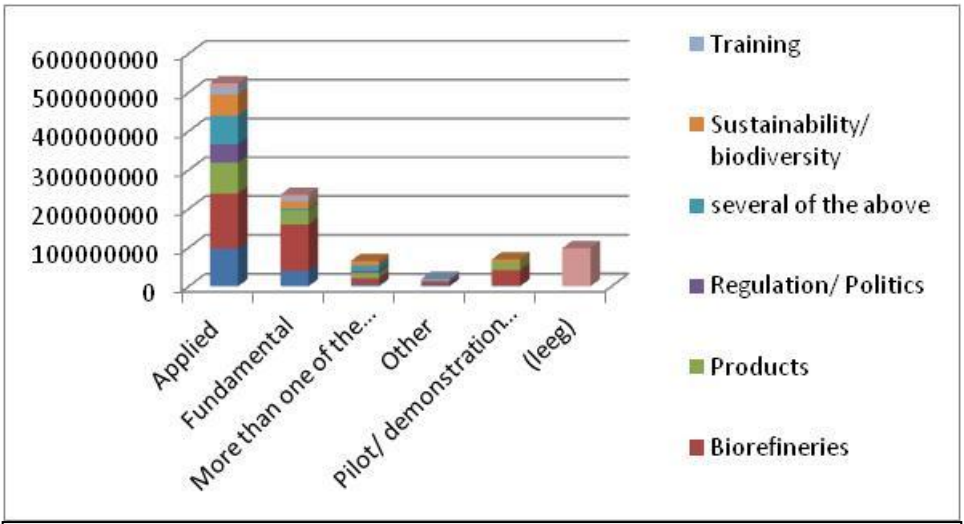


Figure 8: FP7 budget for projects for different themes and type of R&D

3.5 Finding the right Project for Collaboration

There are several ways to find the projects that could be of interest for collaboration.

First of all it is important to consider whether the cooperation is needed on a certain theme, or a certain type of biomass, or a certain product. All these different angles can be used to select Projects for collaboration.
In Figure 9 and 10 the budgets for these projects are presented in a graph. In Figure 10 the aquatic projects are presented with a total funding of 64 M€. and this data is divided in the different products and research themes. However they can also be presented in a table.

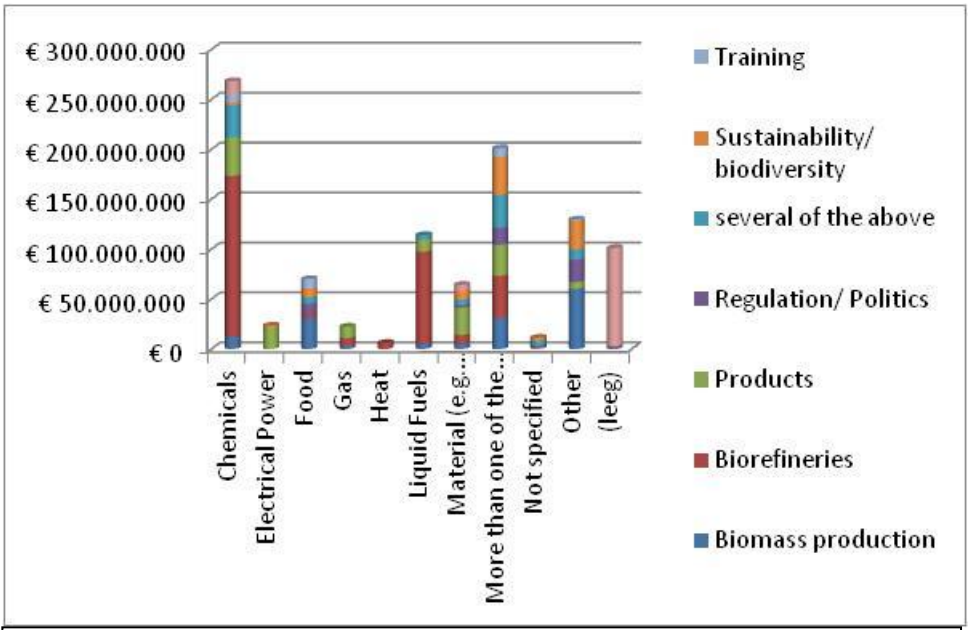


Figure 9: FP7 budget for projects for different products and R&D themes

By selecting these projects in a table in Excel it is possible to click on a cell and all projects underneath this categorisation will be made available in a new sheet. For example, if there is an interest in the total of 111 projects with agricultural biomass with a total funding of 290 M€ one could click on the projects on Total for Material, or Total for Sustainability and Biodiversity, as presented below in Table.

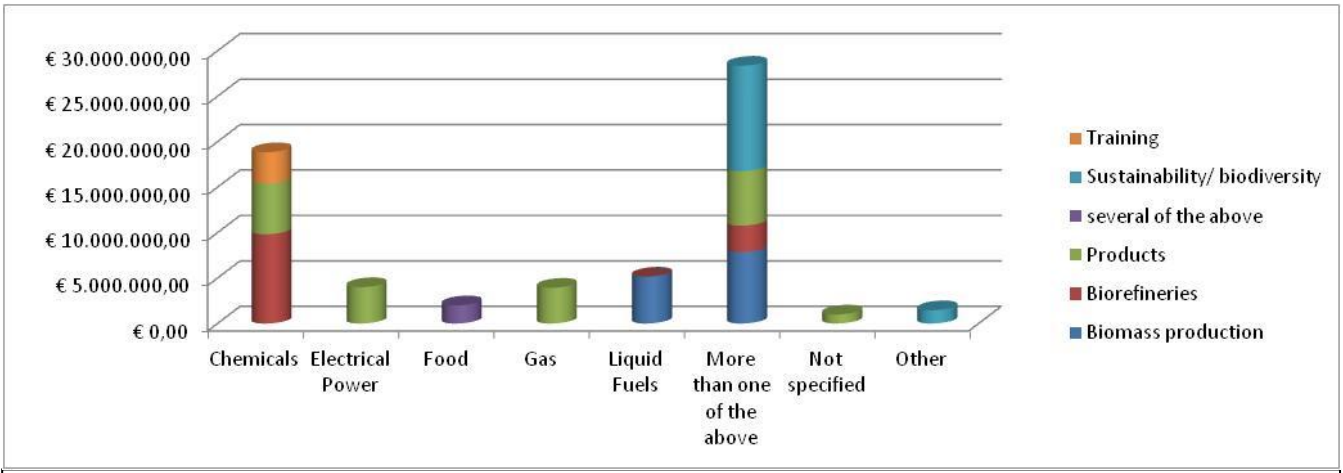


Figure 10: FP7 budget aquatic biomass for projects for different products and themes

Categorisation D: Products	Biomass production	Biomass production	Biorefineries	Products	Regulation/ Politics	several of the above	Sustainability/ biodiversity	Training	Total
Chemicals		3	10	1		1			15
Electrical Power				1					1
Food	2	10	2		6	2	2	1	25
Gas		1							1
Liquid Fuels			7			3			10
Material (e.g. construction)			2	4			1		7
More than one of the above		7	2	1	3	3	3	2	21
Not specified							1		1
Other		16			3	2	6	2	29
empty					1				1
Total	2	37	23	7	13	11	13	5	111

Table 4: Categorisation of 111 projects with only Agricultural biomass as a feedstock.

The results for the query for the product material from agricultural biomass is presented below. Even with this very focused selection projects still vary, and the final choice will depend on the exact needs. This can only be realised by carefully examining the content of each project in reflection to your own needs.

Project Acronym	Full Name	Project Reference
BIOAGROTEX	Development of new agrotextiles from renewable resources and with a tailored biodegradability	213501
WALLTRAC	The Plant Cell Wall Training Consortium	263916
SABIP	Silks as biomimetic ideals for polymers: SABIP	233409
NANOCELLUCOMP	The development of very high performance bioderived composite materials of cellulose nanofibres and polysaccharides.	263017
EU-PEARLS	EU-based Production and Exploitation of Alternative Rubber and Latex Sources	212827
ECOBIOCAP	Ecoefficient Biodegradable Composite Advanced Packaging	265669
REFERTIL	Improvement of comprehensive bio-waste transformation and nutrient recovery treatment processes for production of combined natural products	289785

Table 5 : Results for query for projects with Agricultural biomass and Materials as a product.

Project Acronym	Full Name	Project Reference
SALSA	Knowledge-based Sustainable vAlue-added food chains: innovative tooLs for monitoring ethical, environmental and Socio-economical impActs and implementing Eu-Latin America shared strategies	265927
AMIGA	Assessing and Monitoring the Impacts of Genetically modified plants on Agro-ecosystems	289706
REFERTIL	Improvement of comprehensive bio-waste transformation and nutrient recovery treatment processes for production of combined natural products	289785
ADVOCATE	Advancing Sustainable In Situ Remediation for Contaminated Land and Groundwater	265063
WATERBIOTECH	Biotechnology for Africa's sustainable water supply	265972
AGREE	Agriculture and Energy Efficiency	289139
BIOBIO	Indicators for biodiversity in organic and low-input farming systems	227161
BIOCONSUS	Research potential in conservation and sustainable management of biodiversity	245737
BIODIVERSA2	Cooperation and shared strategies for biodiversity research programmes in Europe	266546
EUROCHAR	Biochar for Carbon sequestration and large-scale removal of greenhouse gases (GHG) from the atmosphere	265179
HIGHNOON	HighNoon: adaptation to changing water resources availability in northern India with Himalayan glacier retreat and changing monsoon pattern	227087
SOILSERVICE	Conflicting demands of land use, soil biodiversity and the sustainable delivery of ecosystem goods and services in Europe	211779
SMARTSOIL	Sustainable farm Management Aimed at Reducing Threats to SOILs under climate change	289694

Table 6: Result of the 13 projects in the query for Total Sustainability/Biodiversity.

By www.google.com with a search for the Project Acronym and the Project Reference number the more detailed information will become available.

Section B: Research Program and Projects Inventory in India

One of the major challenges for documenting an inventory for projects funded under the theme of SAHYOG from Indian side was the lack of existing databases as was available in EU. Projects for biotechnological interventions for biomass and bio-waste valorization are funded by various government departments under different ministries but a central database was missing. Thus the exercise of documenting the project inventory had to be initiated from scratch.

4. Sources of Information

TERI had initially identified a set of sources of information where most Indian projects and programmes can be found. Ministry of Science and Technology, Government of India maintains a project inventory though its National Science & Technology Management Information System (NSTMIS) website. This is the only central database available in the country but only very basic information is updated in this website. Thus the work of documenting the project inventory was divided to all the Indian partners and information was documents either by personally visiting the major funding agencies and research institutes falling under the geographical area distributed among the Indian partners.
The criteria for considering the projects:

- Minimum funding: 1 million INR (~ Euro16600 as per current conversion rate)
- Time period: The projects for year 2007 onwards (completed and on-going)

Based on this selection criteria, a total of 280 projects were taken up in this inventory.
Indian project inventory was based in the information available in the National Science & Technology Management Information System (NSTMIS) website. Apart from this source, the information was collected though correspondence and visits to nodal persons of different central and state ministries, state science and technology websites, state and central forest and agricultural department research institutes and other semi government and industrial funding sources. Details of the same are provided in the inventory sheet.

Limitation of Indian Project Inventory

The Indian project inventory had to rely basically on the NSTMIS website that updates the completed projects and the databases for on-going projects are not available at public domain. Thus access to the details of the project as expected to complete the inventory was limited and projects that are sanctioned in the recent years are limited and not reflected adequately.

Further the detailed project overview could not be retrieved adequately thus categorization of the projects was done based on the general understanding of the project title.
Information on projects from ministries other than science and technology is limited though we are aware that there are projects sanctioned by other ministries.

5. Categorasation

5.1 Categorization based on thematic areas

The inventory sheet indicates that the projects can have broadly classified seven broad thematic areas of Second generation biofuels, Chemicals energy sustainability, Anaerobic digestion, Genetic manipulation, Algae, Ethanol from lignocellulosic, Thermochemical processes. The majority of the project (56) were found to be running under Second generation Biofuel followed by projects working under others category (49) and Chemicals energy sustainability (41).

Thematic Area	No. of Projects
Secondary generation biofuels	56
Others	49
Chemicals energy sustainability	41
Anaerobic digestion	35
Genetic manipulation	35
Ethanol from ligninocellulosecs	28
Algae	27
Thermochemical processes	9
Total	**280**

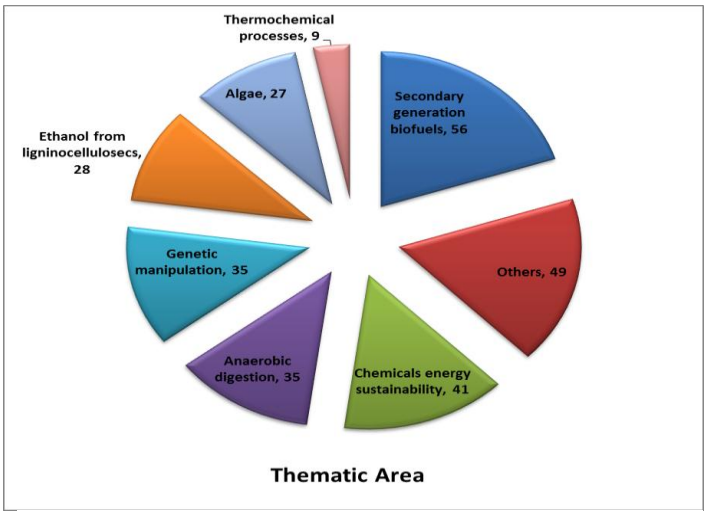


Figure 11 Projects based on thematic areas

It could be also inferred that the total amount of funding for the 280 projects in the inventory turns out to be 22130,336,271 INR and that is equivalent to 350 million Euros. When classified into the selected thematic areas, it was observed that a major amount of funds have been accounted for anaerobic digestion. The second generation biofuels and funding on lignocellulosic ethanol is also significant. Due to the limitation of information in the inventory, a major amount is shown to be contributed for projects that didn't fall into the any of the seven selected categories. However if the information on the same in gathered this amount can be classified into the selected seven categories and thus provide a better interpretation.

Thematic Area	Total Budget in INR
Anaerobic digestion	11654172366
Others	8616273359
Secondary generation biofuels	1109458427
Ethanol from ligninocellulosecs	230028260
Genetic manipulation	193429804
Algae	166063078.5
Chemicals energy sustainability	131492056
Thermochemical processes	29418920
Total Budget	**22130336271**

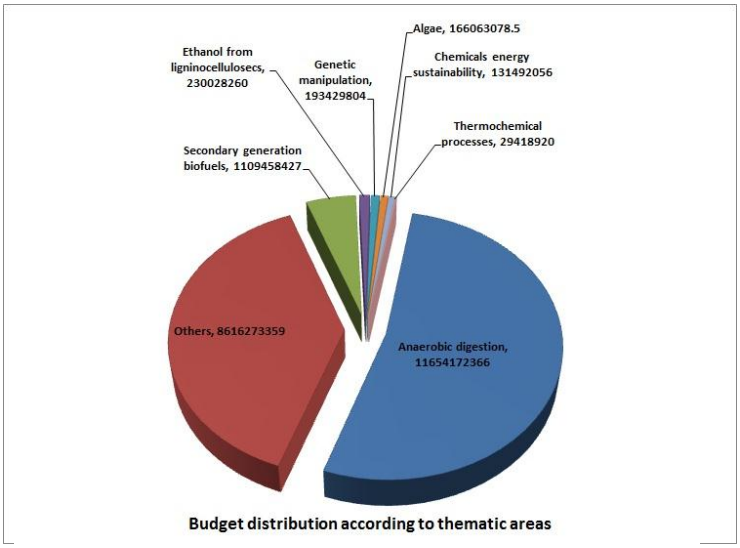


Figure 12 Budget distribution based on thematic areas

5.2 Categorization based on generic processes

The projects sanctioned in India related to the current themes can be put into categories based on three processes of Upstream, Downstream or Whole chain. There are majority of projects sponsored for downstream processes (128) as compared to upstream processes (115) and only 37 projects on whole chain processes was observed.

Processes	No of projects
Downstream (D)	128
Upstream (U)	115
Whole chain (C)	37
Grand Total	**280**

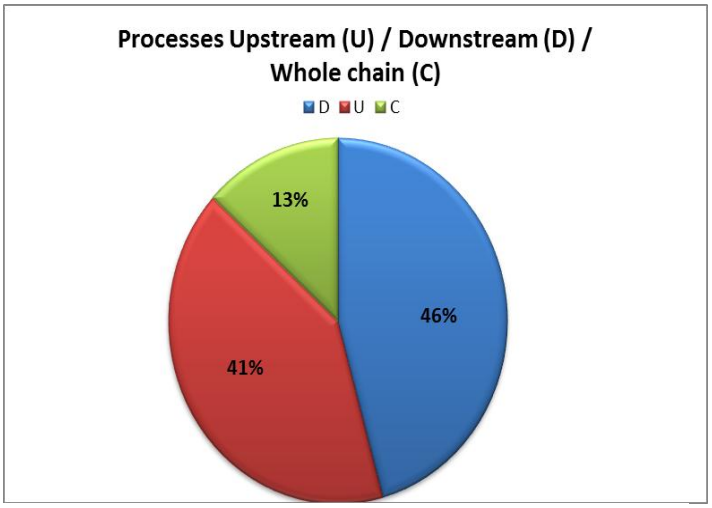


Figure 13 Projects based on processes

Though the number of projects is higher for downstream processes, the budget of the projects sanctioned under the category of upstream is on the higher site. The inventory indicates that almost 86 % of the total funds are sanctioned for 41 % of the upstream processes. Though the total number of projects sanctioned for downstream processing is around 46 %, only 8% of the total budget is contributed to these processes. This indicates that major focus in terms of funding is for developing processes and thus can be implied that most of the research on the selected themes are on bench stage or in development stages.

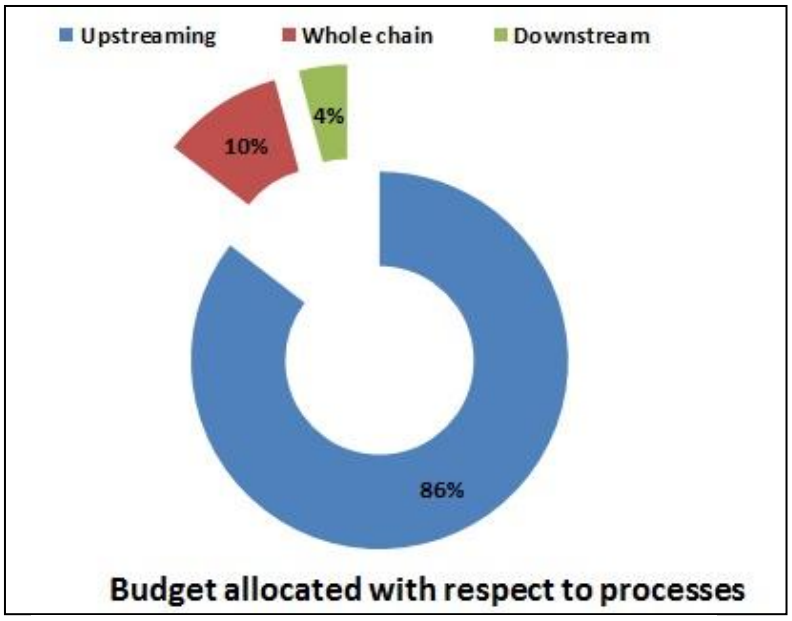


Figure 14 Funding based on theme processes

Processes	Budget Allocated in INR
Upstream	18908324800
Whole chain	2304560014
Downstream	917451457
Total Budget	**22130336271**

5.3 Categorisation by type of biomass

A total of 280 projects constitute the current inventory. Though there was some ambiguity in understanding the project objectives, the projects can be classified in terms of biomass resource. The majority of the projects identified from Indian side fall in the category of using agricultural biomass (109), which was then followed by the waste and residue (62) biomass source. There were a significant number of projects that could not be classified to any single category.

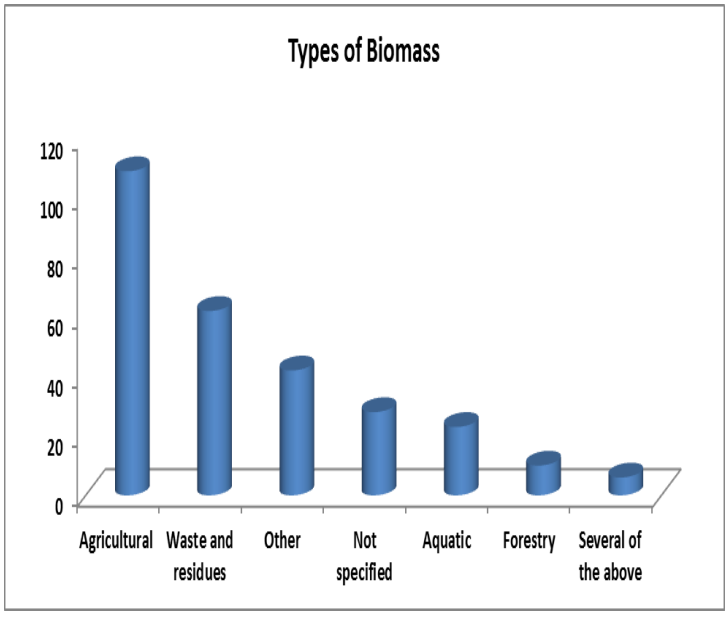


Figure 15 Projects based on types of biomass

Types of Biomass	No. of Projects
Agricultural	109
Waste and residues	62
Other	42
Not specified	28
Aquatic	23
Forestry	10
Several of the above	6
Grand Total	**280**

The inventory also indicates that the almost half of the total amount sanctioned for the total projects by various funding agencies are utilized in projects that utilize waste and residues.

Biomass Sources	Total Budget in INR
Waste and residues	11707004127
Agricultural	8328151254
Not specified	957977016
Forestry	636057865
Other	285107274
Aquatic	163431245
Several of the above	52607490
Total Budget	**22130336271**

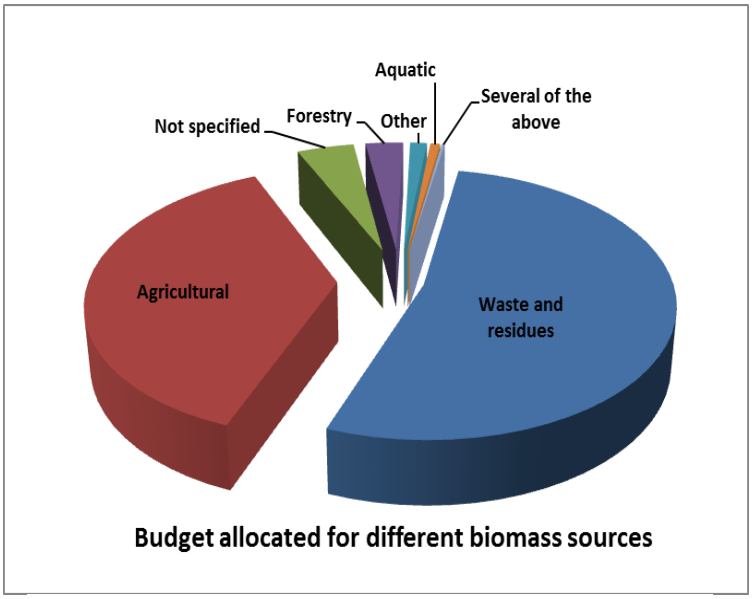


Figure 16 Fund allocation in various sources

5.4 Categorisation based on final outcome or product

It was quite difficult to categorize the projects based on its final product or outcome of the project as this information was not clear either due to lack of full project overview or due to the fact that that achieved objectives/milestones were also not clearly mentioned on the project or source information. Therefore the most identified final product after others (135) category were identified project have end product as the liquid fuel (97).

Final Products	No. of Projects
Other	135
Liquid Fuels	97
Gas	23
More than one of the above	9
Chemicals	9
Electrical Power	2
Feed	2
Heat	2
Material (e.g. construction)	1
Grand Total	**280**

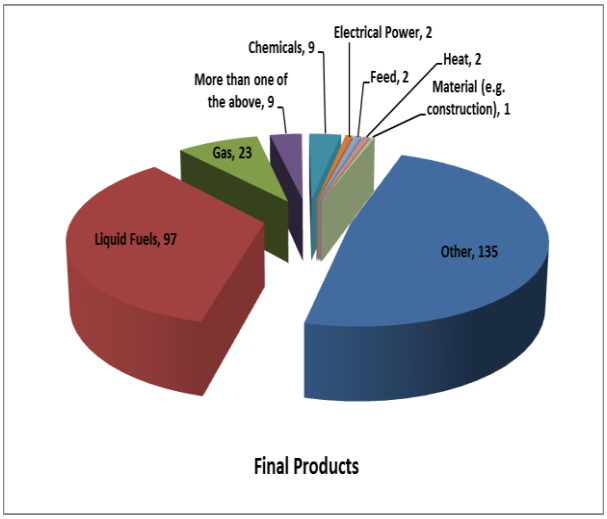


Figure 17 Projects based on final products

5.5 Categorization based on the research focus

Upon investigating the budget allocated for these 280 projects, a majority of the projects are funded for development of process and products. The second category falls under the projects that fall into the category of demonstration projects. It is also observed that significantly low percentage of the total budget was sanctioned for basic and fundamental research.

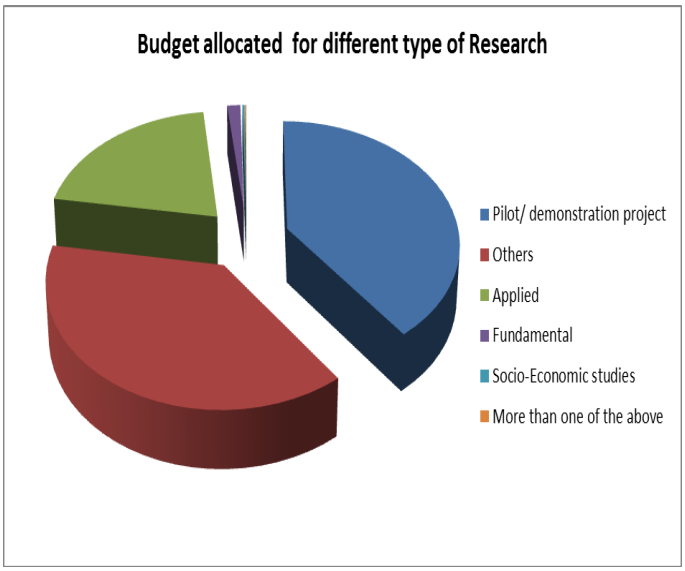


Figure 18 Budget allocated for research themes

Type of Research	Budget allocated (in INR)	Euros (in million)
Pilot/ demonstration project	8805039650	135.46215
Others	8347727547	128.42658
Applied	4581116616	70.478717
Fundamental	309464326	4.7609896
Socio-Economic studies	53840212	0.828311
More than one of the above	33147920	0.509968
		0
Total Budget	**22130336271**	**340.46671**

This section of the inventory deals with the type of research which was carried out by the Organisation or researchers, i.e. fundamental, applied, pilot/ demonstrated or socio-economics studies etc. The majority of the project taken up indicates that most of them are working on applied research (167) as compared to research projects working on the fundamental concepts (45)

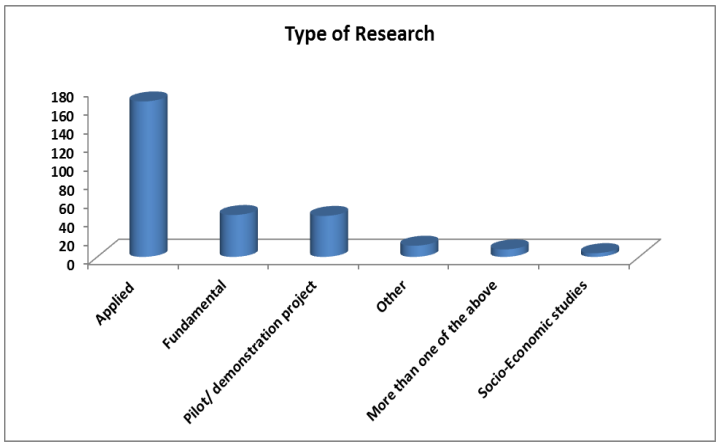


Figure 19 Projects based on research areas/themes

Type of Research	No. of Projects
Applied	167
Fundamental	45
Pilot/ demonstration project	44
Other	12
More than one of the above	8
Socio-Economic studies	4
Grand Total	**280**

6. Projects for Collaboration

Based on the selection criteria mention above, a total of 90 project identified for collaboration from India. Apart from the criteria mentioned above, the basis of selection of these projects mainly depends on the project objective and their role on Biomass enhancement and Biowaste utilization and conversion using biotechnological interventions.

These projects also fall into the category of higher reliability. On the reliability scale of 1-5, there were a total of 106 projects were falling in reliability criteria “4” followed by 58 projects which were identified falling in reliability criteria “3”.

The selected projects were also falling into the “IN‘ category. Based on the selection criteria, a total of 108 projects were considered in “IN” criteria, which show that these projects are mostly related to the topic of Biomass/Biowaste research.

Conclusions

- A total of about 700 projects in the EU and 280 in India have been identified in an inventory of biobased projects in the EU and India, based on existing databases in the EU and a thorough survey in India.
- The total funding of these projects is more than 1.5 billion Euro in the EU and 35 million Euro in India during the period 2007 – 2012.
- A categorisation method was developed to find areas of research and the underlying projects could be identified.
- These overviews should be made available to researchers and programme managers to allow for the identification of twinning opportunities.

Annex 1

Guidelines for filling in the SAHYOG database

Please see below the set of Common Guidelines for filling in data in the SAHYOG database.

The common language is British English
The font is “Arial”.
The font size is 10.

- Column A – Numbering.

-Column B – Data Source – Source of information, where information is from. (e.g.: Cordis, StarColibri, etc.).

- Column C – Project Acronym –short name of a project (e.g.: INEMAD).

- Column D – Full Name - full name of a project (e.g.: Improved Nutrient and Energy Management through Anaerobic Digestion).

- Column E – Project Reference (e.g.: 289712).

- Column F – Budget/ Governmental Support (e.g.: 2 961 624).

- Column G – Budget/ Total Project Budget (e.g.: 3 934 688).
The common currency is Euros. All figures should be translated to Euro currency. There should be no commas, or decimal points when writing numbers. Please insert a space between hundreds, thousands and millions in order to make it clear. The project budget should be more than € 500 000 (otherwise it will not be included)

- Column H – Funding Programme/ Agency – are funding opportunities to support research and innovation/ any kind of public institution which funds research project (e.g.:FP7-KBBE).

- Column I – Duration/ Start date of a project (e.g 2012-04-01).

- Column J – Duration/ End date of a project should be after 1st January 2008 (e.g.: 2016-03-31).

Start and End dates begin with a year, than a month and finally a day (yyyy-mm-dd).

- Column K – Start year

- Column L – End year

- Column M – Link Project Website – preferably the official web page of a project, but if an official web page does not exist, the field can be used to add any web page to this project (e.g.: www.dlvinnovision.be/dlvinnovision/en/fp7-inufarmix-english).

- Column N– Coordinators – the name of the organisation who is responsible for carrying out a project (e.g.: Ghent University).

- Column O – Organisation Country – The name of the organisation country should be written by country code (ISO-code) in capital letters (e.g.NL).

- Column P – Project Overview – The overview of a project is supposed to introduce the reader to the research project. It is recommended to use about 200 words.

- Column Q – Selection – Focus on biomass production and bio-waste conversion through biotechnological approaches. (e.g.: 1 – IN; 2 – maybe; 3 – OUT)

- Column R – All Countries Represented – by country code, ISO-code.
  It was suggested to delete this column. Where the project is running is more important

- Column S– Contact First Name

- Column T – Contact Last Name

- Column U – Contact Email

- Column V – U/D – Upstream/ Downstream

- Column W – Categorisation/A – Renewable Feedstocks
  (Agricultural, Forestry, Aquatic, Agricultural residues, Industrial waste, Municipal waste, Others/Multi feedstocks/Not specified)

- Column X– Categorisation/B – Production and pre-treatment
  Plant improvement,
  Agricultural (Water/nutrients),
  Harvesting,
  Pre-treatment,
  Other/Not specified

- Column Y – Categorisation/C – Biomass Conversion technologies
  Gasification,
  Combustion
  Pyrolysis, HTU
  Anaerobic Digestion
  Fermentation
  Biocatalysis
  Nano technology
  Other
  More than one of the above

- Column Z – Categorisation/D – Products
Food
Feed
Chemicals
Material (e.g.; construction)
Electrical Power
Heat
Liquid Fuels
Gas
Other
More than one of the above

- Column AA– Categorisation/E – Type of research
Applied,
Fundamental,
Pilot / demonstration
Socio- economic
Other
More than one of the above

- Column AB – Categorisation/F – Organisation Type
Industry
R&D institution
Government
NGO
Other
Consortium of 2 or more of the above

- Column AC – Categorisation/G – Drivers
Climate change
Biodiversity conservation
Resource security
Rural development
Networking
Economic benefits

- Column AD – Categorisation/H – Sector
Sustainability
Biomass production
Biorefineries
Products
Training
Regulation / Politics
Several of the above

- Column AE – Important for collaboration

- Column AF – Reliability – 1, 2, 3, 4, 5
NB. 1 = less and 5= highly reliable