

The Biobased Industries Initiative

A public private partnership on bio-based industries

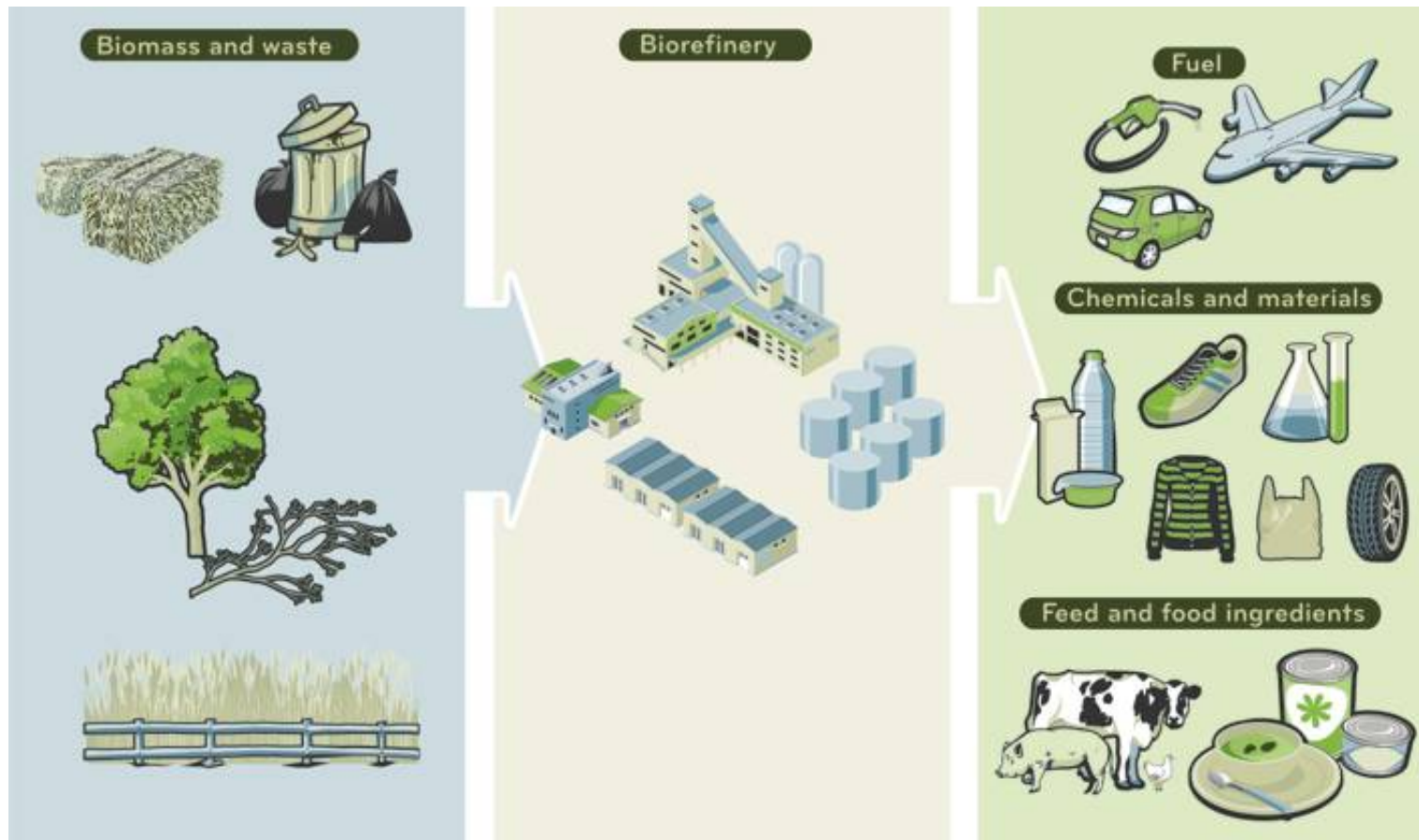


Dirk Carrez – Executive Director BIC
4th ICA Rectors and Deans Forum 2014
Ghent, 24 October 2014



Bio-based industrial value chains

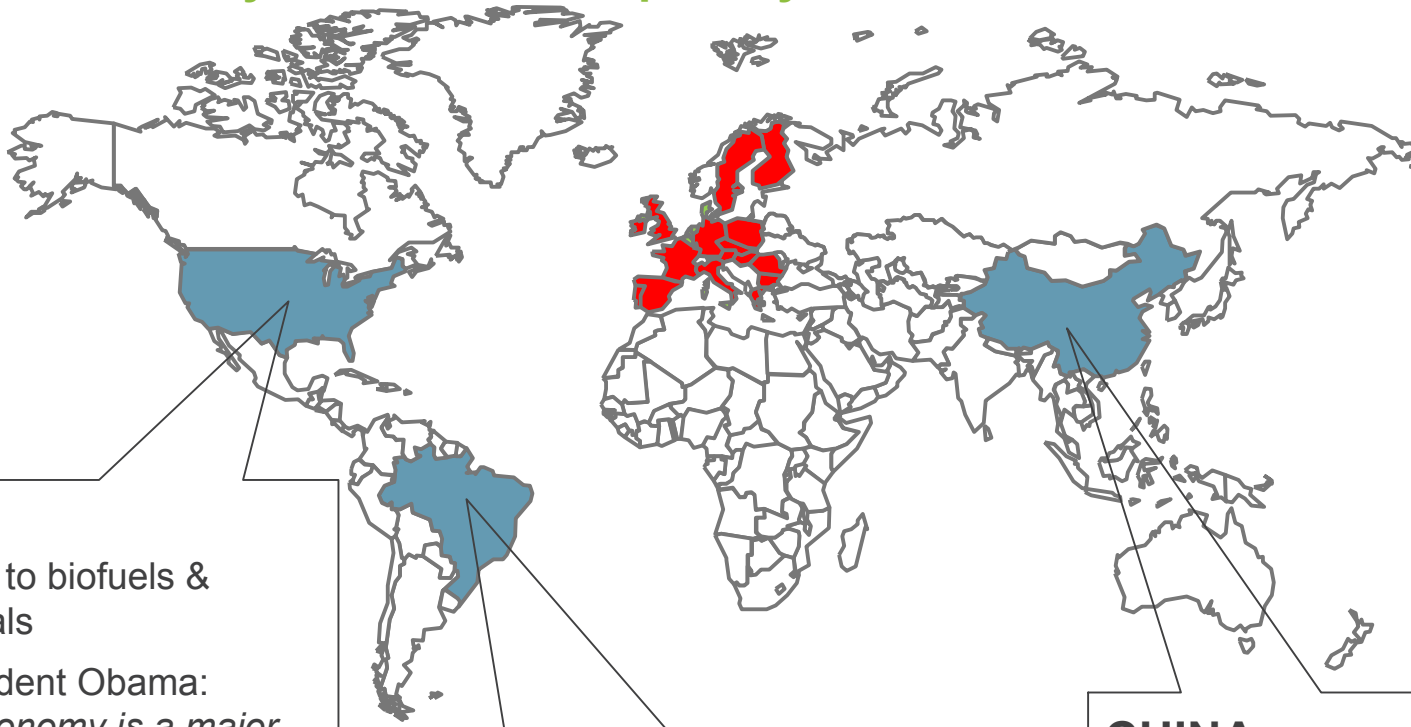
The concept



The global bioeconomy race

What Europe is up against

The bio-economy is a world wide priority



US

- ~\$50 billion to biofuels & bio-chemicals
- 2012, President Obama: *"The bio-economy is a major engine for American innovation and economic growth"*



BRAZIL

- Aims to be N°1 Global Bio-economy
- R\$ 3,3 billion for 2nd generation bioethanol, bio-chemicals and biomass gasification technologies



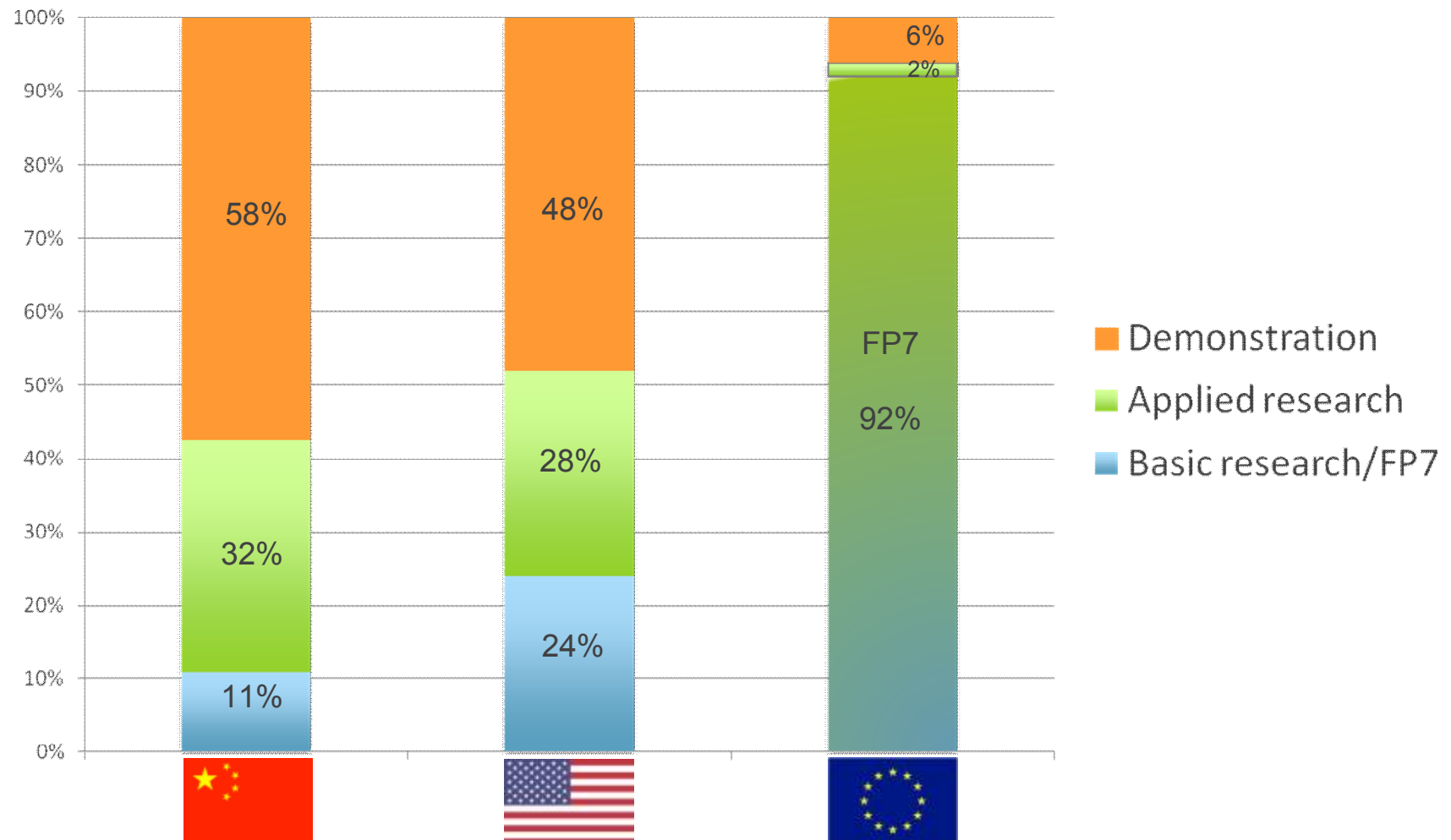
CHINA

- > \$300 billion in Science & Technology with biotech as a major priority over 2011-2015
- Substitute 20% of crude oil imports by 2020



Can Europe make the difference?

European technology is being deployed in China and US



Source: <http://cordis.europa.eu/erawatch>, OECD "Research & Development Statistics"



Why a Public-Private Partnership?





To 'de-risk' an emerging industry

- **A clear framework** that brings clarity for activities & investments
- **Long term stability and predictability**
- **A joint approach, across sectors, across nations.**
- **Joint financial commitment and a jointly defined programme,** that will unite parties that would otherwise find these activities to be too risky for an individual sector/company to carry out on its own
- **Leverage further investments**
- **Industry driven** and therefore result and market-oriented



Our Vision

Lead the transition towards a post-petroleum society

- Develop an economy that:
 - sources domestic renewable raw materials
 - produces food, feed, chemicals, materials and fuels locally
 - creates jobs in a broad range of sectors in Europe, triggering rural growth across regions
 - places sustainability, smart & efficient use of resources at the heart of industrial, business & social activities.



What are the objectives?

We are still here...



Our task



Europe's ability to produce & commercialise high value products lies in its ability to reach demonstration scale of advanced biorefineries to mature technologies

This is where we want to go...

Build and strengthen value chains across industry sectors



This is where we want to be...

Value chains across industry sectors across Europe





THE BIO-BASED INDUSTRIES CONSORTIUM

**Mobilise pan-European stakeholders
(industry, RTOs, universities, regions...)
to shape and deploy the European bio-based economy**





Our members

More than 170 in one year, and still growing

■ 70 Full members

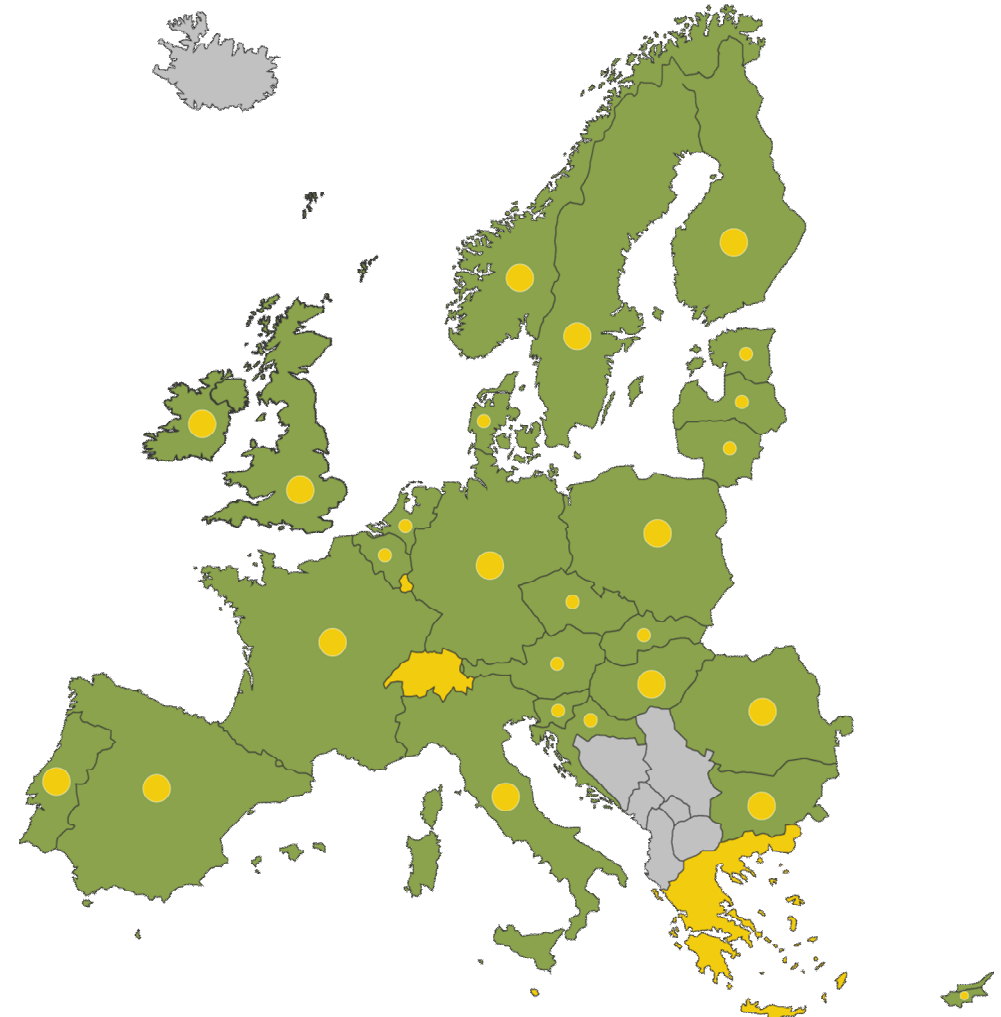
- 41 Large industries
- 17 SMEs
- 12 Clusters

■ 121 Associated members

- 40 Universities
- 64 RTOs
- 8 European trade organisations
- 6 Associations
- 3 European Technology Platforms (ETPs)

Sectors covered to date

- Agriculture
- Agro-food
- Forestry / Pulp and Paper
- Technology providers
- Chemicals
- Energy





storaenso



Lebensökologische Pflanzen



COMPETITIVENESS CLUSTER
BIOMASS & AGRICULTURE



Metsä



SCA
Care of Life



CLIB
2021
CLUSTER
INDUSTRIELLE
BIOTECHNOLOGIE



asking more from chemistry™



Nordzucker



inKemia
IUCT group



UPM



BASF
The Chemical Company



Cargill



SÖDRA



REPSOL



BLC3



BIOBASED
INNOVATIONS



SÜDZUCKER



CLARIANT



kemira



DONG
energy



biochemtex



Fertiberia



Novozymes
Rethink Tomorrow



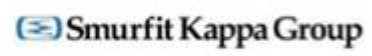
ROYAL
COSUN



ROQUETTE



Novamont



Smurfit Kappa Group



ard
SICLAÉ
CRISTAL UNION



FIBIC
FIBER BIOMASS CLUSTER



mondi



Norske Skog



DSM



Borregaard



BILLERUDKORSNÄS



the dutch
biorefinery
cluster



sappi



Unilever



CLEA Technologies



Bio Base Europe
Pilot Plant



De Smet
Engineers & Contractors



Direvo
Engineering Biomass



BPF
BIOPROCESS
PILOT FACILITY



IBB
Network Small



HOLMEN



FERTINAGRO



ABENGOA



Bio Rights



CEPSA



cpi



eni
versalis



bionet



ence
ENERGIA & CELULOSA



BE-Basic



oleon
A NATURAL CHEMISTRY



The Coca-Cola Company



BioEconomy Cluster



KLM
Royal Dutch Airlines



Center of Excellence
PoliMaT
Polymer Materials and Technologies



ALGAENERGY



ISOIN
INDUSTRIAL BIOTECHNOLOGY



METGEN
The Art of Biocatalysts



avantium



HYGEAR



BIO PRO
Baden-Württemberg GmbH



conot



Corbion



plaxica



TOTAL



ISPT
Institute for Sustainable
Process Technology

ainia
centro tecnológico

ifp *Energies nouvelles*

IK4 OTEKNIKER
Research Alliance

Universidade de Vigo

Ciemat
Centro de Investigación Energética, Medioambiental y Tecnológica

TU Graz
Graz University of Technology

aitiip
centro tecnológico

INIA
Instituto Nacional de Investigación y Tecnología Agraria y Alimentaria

TNO innovation for life

Universidad Zaragoza

UNIVERSITÄT HOHENHEIM

UNIVERSITY of OULU
OULUN TUOPISTO

Fundación AulaDel
PARQUE CIENTÍFICO TECNOLÓGICO

INNVENTIA

university of groningen

tecnalia Inspiring Business

vito
vision on technology

BioPlat
business technology platform of agriculture

DECHEMA
Gesellschaft für Chemische Technik und Maschinenbau e.V.

cea

LEITAT Technological Center

Åbo Akademi University

TECHNISCHE UNIVERSITÄT KAISERSLAUTERN

INNOVHUB STAZIONE SPERIMENTALI PER L'INDUSTRIA
Innovazione e ricerca

epnoe
European Polymer Cluster Network Of Excellence

LCPO

CENER

MateriaNova
MATERIALS R&D CENTRE

Universitat de Girona

ITENE
Instituto Tecnológico de Energías Renovables

aicia

CoEBBE
Cooperation of Excellence

INERIS
Institut Français pour le Développement Industriel

STEINBEIS-EUROPA-ZENTRUM

certech
Centre de Recerca Tecnològica

METLA

POLITÉCNICA

cetenma
Centre Tecnològic de l'Energia i del Medi Ambient

Universitat de Lleida

ITERG
Expertise Centre Gas

BDC Biorenewables Development Centre
Flora - Process - Products

CNTA

PTS
FIBRE based solutions

dbA
centre de desenvolupaments biotecnològics i agroalimentaris

TU Delft
Delft University of Technology

tudor
PUBLIC RESEARCH CENTRE NEW YORK

nova

National Institute for Public Health and the Environment
Ministry of Health, Welfare and Sport

ECN

CSIC
Consejo Superior de Investigaciones Científicas

RE-CORD

UNIVERSITAT DE VALÈNCIA

circe
Centre de Recerca i Innovació Tecnològica

Wood K plus

FOREST SCIENCES CENTRE OF CATALUNYA

universidad de León

UNIVERSITEIT GENT

ctp
centre technique du papier

SINTEF

acib
Association of Chemical Industry Biotechnology

VTT

UAB
Universitat Autònoma de Barcelona

UNIVERSITAT POLITÈCNICA DE VALÈNCIA

BIO4ENERGY

SP
Societat Espanyola de Papereria

Fraunhofer IGB

UNIVERSIDAD PABLO OLAVIDE SEVILLA

IRTA
INSTITUT DE RECERCA I TÈCNICA AGRÀRIA

INSTITUTE OF AGRICULTURE LEIBNIZ FÜR ANBAU

AALBORG UNIVERSITY

INRA
SCIENCE & IMPACT

arcMED

ALMA MATER STEUBENHUIS UNIVERSITEIT BANGORA

swerea|IVF

UNIVERSIDAD DE VALLADOLID

WAGENINGEN UR
For quality of life

INRA
SCIENCE & IMPACT



THE BIO-BASED INDUSTRIES INITIATIVE

Investing in new and sustainable ways
to organise our economy

What is the Bio-based Industries Initiative

- A Public-Private Partnership between the **Bio-based Industries Consortium** and the **EU**
- A **joint** commitment of €3.7 billion over 2014-2020
 - €975 million (EU)
 - €2.7 billion (Bio-based Industries Consortium)
- Annual Work Programmes



Focus

Feedstock

- Fostering a sustainable biomass supply and building new value chains

Biorefineries

- Optimising efficient processing through R&D and upscaling in large-scale demo/flagship biorefineries

Markets, products and policies

- Developing markets for bio-based products and optimising policy frameworks

Strategic Innovation & Research Agenda

- **Value Chain 1: From lignocellulosic feedstock to advanced biofuels, bio-based chemicals & biomaterials**
realising the feedstock and technology base for the next generation of fuels, chemicals and materials
- **Value Chain 2: Next generation forest-based value chains**
utilisation of the full potential of forestry biomass by improved mobilisation and realisation of new added value products and markets
- **Value Chain 3: Next generation agro-based value chains**
realising the highest sustainability and added value by improved agricultural production, and new added value products and markets
- **Value Chain 4: New value chains from (organic) waste**
from waste problems to economic opportunities by realising sustainable technologies to convert waste into valuable products
- **Value Chain 5: Integrated energy, pulp and chemicals biorefineries**
realising sustainable bio-energy production, by backwards integration with biorefinery operations isolating higher added value components



Different types of projects

The SIRA includes a balanced combination of projects:

• **R&D PROJECTS** focused on filling the gaps in technological innovations: dedicated projects on the development of specific technologies and concepts needed to realise the value chains, and proving the principles in pilot installations

• **DEMONSTRATION PROJECTS**

- To integrate and deploy technologies and R&D results into actual value chains
- To bring technology close to commercial scale through upscaling in demonstration activities

• **FLAGSHIP PROJECTS**

- To optimise technology for biomass conversion and ensure price-competitiveness: both by building new operations and upgrading existing and abandoned industrial sites to be converted into biorefinery operations
- Each value chain area will lead to at least one flagship project.

• **SUPPORTING PROJECTS** mainly include Research activities, focused on solving cross-cutting issues arising from the Value Chain demonstration projects.



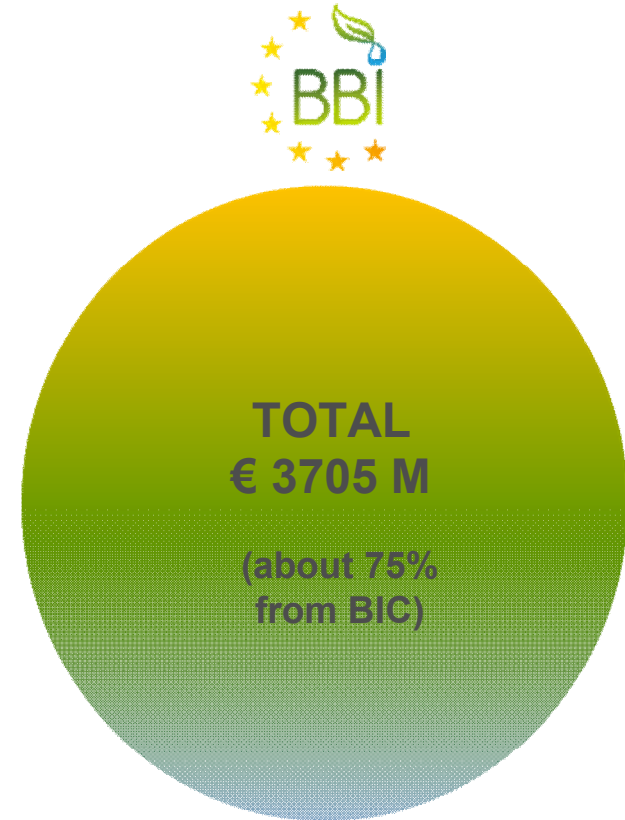
Budget



+



=



Call for Proposals
(in cash and in kind)

**Additional
Activities**



PPP principles

- **OPENNESS**: Applications for financial support will be made following open competitive calls for proposals
- External and independent evaluation of the projects on the basis of **EXCELLENCE**
- Strong participation of **ACADEMIA, RESEARCH ORGANISATIONS AND SMEs**
 - EU Funding in R&D projects only to academia, RTOs and SMEs
 - Additional industry funding will go to academia, RTOs and SMEs through their participation in industry-driven demonstration activities
- **MEMBER STATES** will play a key role in the deployment of projects

Developing the draft annual work programme



*Per value chain,
taskforces are composed
by BIC partners from
different sectors*

1. BIC Programming WG
prepares SIRA



2. BIC Programming WG
and task forces prepare
annual (draft) work
programme



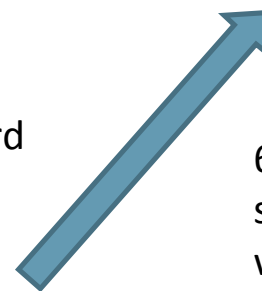
3. **BBI**: first discussion
with scientific committee
and Member State
committee



4. Approval by BBI Board



5. **BBI** publishes the
(open) calls



5. **BBI** organises
evaluation by
independent experts
(based on **excellence**)



6. **BBI** negotiates and
signs contract with
winning consortia
(consortium agreement
and grant agreement)



*Scientific Expert Committee
Member State Representatives Group*



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