



EUROPEAN
COMMISSION

Community research

Theme 2

Food, **A**griculture and **F**isheries, and **B**iotechnology

K n o w l e d g e - B a s e d B i o - E c o n o m y (K B B E)

7th EU Framework Programme
for Research

European Commission
Research DG

Food,
Agriculture and **F**isheries,
and **B**iotechnology

Knowledge-Based Bio-Economy (KBBE)





EUROPEAN
COMMISSION

Community research

2007 - 2013



- THE **7TH Research Framework Programme** was adopted December, 2006 under the legislative co-decision procedure ([Article 251](#)) of the EC Treaty. It brings together, through the partnership of **Council, Parliament** and **Commission**, the interests of the European Union, its Member States and its citizens in a unique and tangible way to create the legislative basis for our common future.

Food,
Agriculture and **F**isheries,
and **B**iotechnology

Knowledge-Based Bio-Economy (KBBE)





The 7th EU Framework Programme Total Funding 53B c.a.

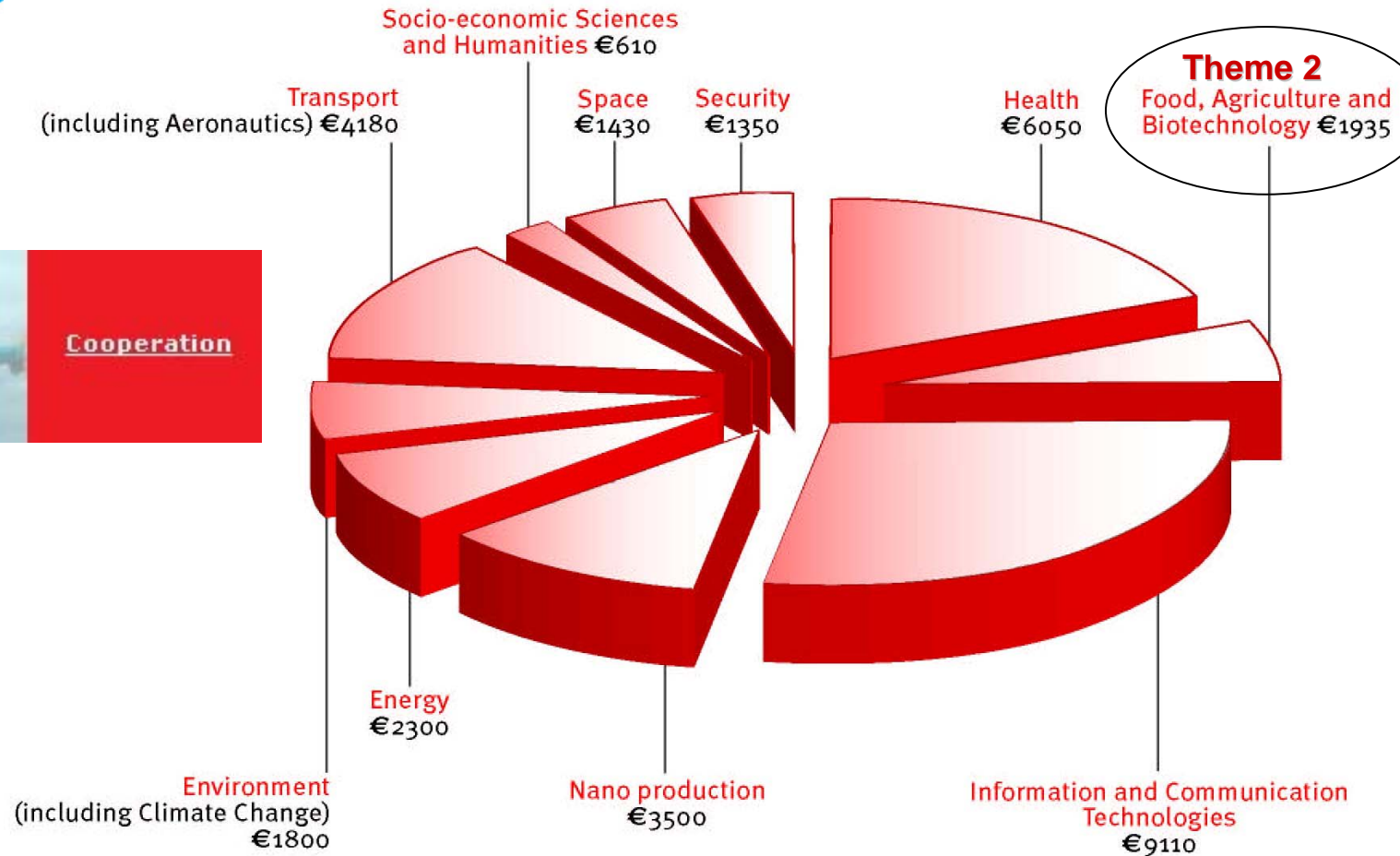


Specific Programmes

Cooperation – <i>Collaborative Research</i>	€ 32.365 m
Ideas – <i>Frontier Research</i>	€ 7.460 m
People – <i>Human Potential</i>	€ 4.728 m
Capacities – <i>Research Capacity</i>	€ 4.217 m
JRC, <i>non nuclear</i>	€ 1.751 b
JCR, <i>nuclear</i>	€ 0.517 b
EURATOM	€ 2.234 b



Cooperation programme – 10 thematic areas, (€ million)



Food,
Agriculture and **F**isheries,
and **B**io**t**echnology

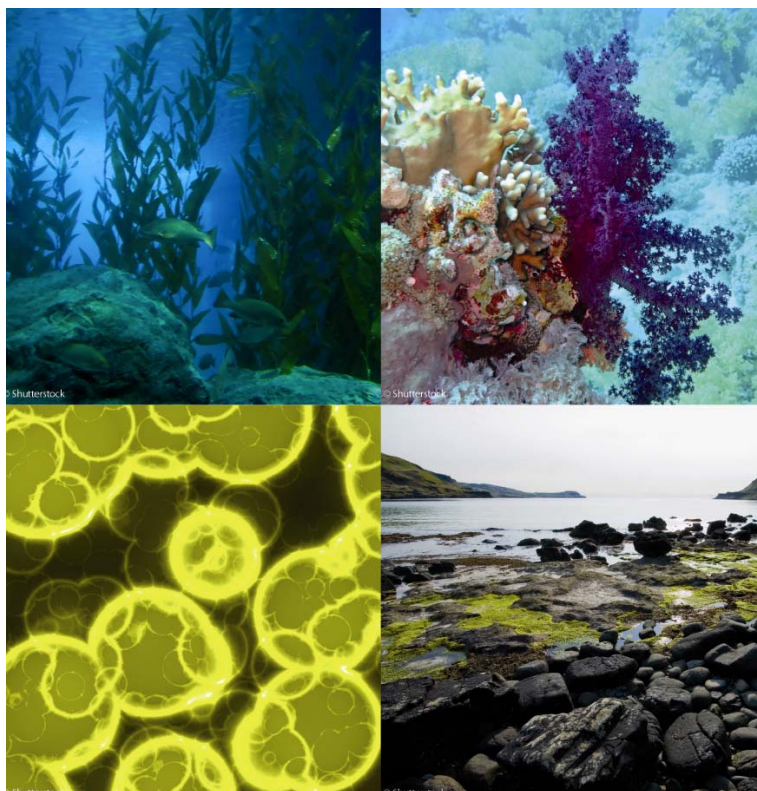
Knowledge-Based Bio-Economy (KBBE)



Theme 2

Food, Agriculture and Fisheries, and Biotechnology Knowledge-Based Bio-Economy (KBBE)

KBBE - OBJECTIVES



- Build a European Knowledge-Based Bio-Economy (KBBE)
- Respond to social, economic and environmental challenges
- Support other EU policies
- Respond quickly to emerging research needs
- Support the coordination of National Research Programmes - ERA-NETS



Theme 2 and Work Programmes

The Commission within the Work Program defines the priorities for the calls for proposals to be launched each year. The priorities are faithful to the FP7 Framework Programme and Specific Programme decisions and in line with the main European research policy priorities. FP7 “Theme 2” work-programs reflect the inputs received by:



Advisory Group
Programme Committee
Standing Committee for Agricultural Research (SCAR)
Advisory Committee for Fisheries and Aquaculture (ACFA)
European Technology Platforms
ERA-Nets
Other DGs
European Food Safety Authority
Outcome of the recent perspective/foresight conferences
Output from projects, especially IPs, NoE, ERANETs, COST
Experts

.....detailed consultations with main stakeholders...



Theme 2 and Work Programmes

Three phases of Work Programmes Preparation

1. CONSULTATION

Internal-compliance with Specific Programme

budget profile of FP7

outcome of previous calls

External- Advisory groups, SCAR, PC.....reflection paper

2. PREPARATION OF DRAFT WP

From Project Officers-Head of Unit-Director-DG-Cabinet to Interservice Consultation: Research DGs, Policy DGs, Budget DGs, Legal service, Secretary General

3. ADOPTION

Opinion of the PC, adoption by the EC, publication



Theme 2: the 3 KBBE Activities



KBBE - Activity 2.1

Sustainable production and management of biological resources from land, forest and aquatic environments



KBBE - Activity 2.2

“Fork to farm”: Food (including sea-food), health and well being



KBBE - Activity 2.3

Life sciences, biotechnology and biochemistry for sustainable non-food products and processes



FP7 KBBE - Activity 2.1

Sustainable production and management of biological resources from land, forest and aquatic environments



- Enabling research
- Increased sustainability of all production systems; Plant health and crop protection
- Optimized animal health, production and welfare across agriculture, fisheries and aquaculture
- Socio-economics research and support to policies

Food, Agriculture and Fisheries, and Biotechnology

EU agriculture, forestry and fishery facts and figures

- 17 million farmers
- 42% of total land area used for agriculture
- 13% of world cereal production
- Forest sector accounts for 8% of EU manufacturing and provides 3-4 million industrial jobs
- 5% of GDP derived from aquatic resources



FP7 KBBE - Activity 2.2

“Fork to farm”: Food (including sea-food), health and well being



Food, Agriculture and Fisheries, and Biotechnology

EU food facts and figures

- Leading manufacturing sector
- Employs 4.1 million
- EUR 800 billion annual turnover
- 283 000 food companies (99% SMEs)

The food and drink industry is one of Europe's most important and dynamic economic sectors. The European Commission aims to maintain its competitiveness while taking account of the requirements of the Community's policies and the European Union's international obligations.



- Consumer
- Nutrition
- Food processing
- Food quality and Safety
- Environmental impact and total food chain
- European Research Area
- Coordinated call with India



FP7 KBBE - Activity 2.3

Life sciences, biotechnology and biochemistry for sustainable non-food products and processes



Food, Agriculture and Fisheries, and Biotechnology

EU biotechnology facts and figures

- More than 2 200 companies
- 44% of employees involved in R&D activities
- Over EUR 21.5 billion in revenue
- EUR 7.6 billion in R&D

By 2030, the products of industrial biotechnology and bio-energy will have an estimated worth of EUR 300 billion of industrial production.

- Novel sources of biomass and bioproducts
- Marine and fresh-water biotechnology (blue technology)
- Industrial biotechnology: novel high added value bioproducts and bioprocesses
- Biorefinery
- Environmental biotechnology
- Emerging trends in biotechnology



Work programme 2009

www.cordis.europa.eu/fp7/kbbe/home_en.htm

Seventh Research Framework Programme (FP7) Important Legal Notice

CORDIS

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Cooperation : Calls

Food, Agriculture and Fisheries, and Biotechnology

Calls for Proposals	
FP7-KBBE-2007-1 CLOSED	General Call 1
FP7-KBBE-2007-2A CLOSED	General call 2
Coordination of Research Activities related to this theme (Calls for Proposals)	
FP7-ERANET-2007-RTD CLOSED	ERA-NET / ERA-NET Plus Call 2007

[Other FP7 calls](#)

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Main call: FP7-KBBE-2009-3

Publication date:

3rd September 2008

Budget: € 188.850.000

Deadline: 15th January 2009

72 Topics

-coordinated call with India

Only 1 project will be retained per topic

Separated call for ERA-NETS



FP7-KBBE-2009-3

- KBBE-2009-1-1-01: Integration of tools to support a system-based understanding of complex biological processes CP
- KBBE-2009-1-1-02: Mining genomics information of small ruminants to generate understanding of the genetic basis of phenotypes important to sustainable production and health CP
- KBBE-2009-1-1-03: Optimisation of methods to maintain farm animal biodiversity – SICA CP
- KBBE-2009-1-2-01: Legumes: key multifunctional legume crops for an energy-efficient and environmentally friendly future European agriculture CP
- KBBE-2009-1-2-02: Multifunctional grasslands for sustainable and competitive ruminant production systems and the delivery of ecosystem services CP
- KBBE-2009-1-2-03: Irrigation water saving solutions for Mediterranean agriculture – SICA (Mediterranean Partner Countries) CP
- KBBE-2009-1-2-04: Improving performance and quality of crops in the context of organic and low-input systems by breeding and management CP
- KBBE-2009-1-2-05: Water stress tolerance and water use efficiency in food crops CP
- KBBE-2009-1-2-06: Developing new methods for valuing and marketing currently non-marketable forest functions, goods and services CP
- KBBE-2009-1-2-07: Meeting industrial requirements on wood raw-materials quality and quantity CP
- KBBE-2009-1-2-08: Assessing and reducing vulnerability of European forests to climate change and the consequences for industrial and societal needs - SICA (Russia) CP
- KBBE-2009-1-2-09: Impact and development of Conservation Agriculture techniques in developing countries – Mandatory ICPC (Africa) CSA-SA
- KBBE-2009-1-2-10: Improving fisheries assessment methods by integrating new sources of biological knowledge
- KBBE-2009-1-2-11: Improving mollusc spat production in hatcheries CP
- KBBE-2009-1-2-12: Sustainable inland extensive and semi-intensive aquaculture CP
- KBBE-2009-1-2-13: From capture based to self-sustained aquaculture CP
- KBBE-2009-1-2-14: Sustainable use of seas and oceans: importance of foraging fish in the ecosystem CP
- KBBE-2009-1-2-15: Sustainable use of seas and oceans: integration of aquaculture and fisheries in the coastal zone CP



FP7-KBBE-2009-3

- KBBE-2009-1-3-01: Porcine reproductive and respiratory syndrome (PRRS): new generation, efficacious and safe vaccine, new control strategies – SICA (China and other ICPC from South East Asia) CP
- KBBE-2009-1-3-02: Diseases caused by Orbiviruses: African horse sickness, bluetongue and epizootic haemorrhagic disease: development of new generation vaccines and accompanying tests CP
- KBBE-2009-1-3-03: Bee health: identification of emerging honey bee pest and diseases and re-emergence of pathogens and explaining the intimate mechanisms and the reasons for increased honey bee mortality CP
- KBBE-2009-1-3-04: Tick borne diseases. Improvement of current vaccine and development of new vaccines for theileriosis and babesiosis through exploitation of genomic data – SICA (China and Central Asia) CP
- KBBE-2009-1-3-05: Improving Campylobacter control measures in primary production of poultry CP
- KBBE-2009-1-4-01: Development of detection methods for quarantine plant pests and pathogens for use by Plant Health Inspection Services CP
- KBBE-2009-1-4-02: Spatial analysis of rural development measures for effective targeting of rural development policies
- KBBE-2009-1-4-03: A common data exchange system for agricultural systems CSA-SA
- KBBE-2009-1-4-04: Comparative analysis of factor markets for agriculture across the Member States CP
- KBBE-2009-1-4-05: Policy and institutional aspects of sustainable agriculture, forestry and rural development in the Mediterranean partner countries – SICA (Mediterranean Partner Countries) CP
- KBBE-2009-1-4-06: Agricultural Innovation Systems & Traditional knowledge – Mandatory ICPC (African ACP and South-Africa) CSA-SA
- KBBE-2009-1-4-07: Globalisation and trade impact on developing countries – Mandatory ICPC (African ACP plus South Africa) CSA-SA
- KBBE-2009-1-4-10: Consolidate alliances with Asia in the field of aquaculture - Mandatory ICPC (China and other ICPC from Asia) CSA-CA
- KBBE-2009-1-4-11: Consolidate alliances with the Mediterranean in the field of aquaculture - Mandatory ICPC (Mediterranean Partner Countries) CSA-CA
- KBBE-2009-1-4-12: Supporting governance in aquaculture research and innovation CSA-SA



FP7-KBBE-2009-3

- KBBE-2009-2-1-01: Determinants of food habit formation/breaking CP
- KBBE-2009-2-1-02: Benefit/risk perception and communication in the food chain CP
- KBBE-2009-2-1-03: Behavioural models for prevention of obesity, with a particular focus on children CP
- KBBE-2009-2-2-01: Stress, addiction and eating behaviour CP
- KBBE-2009-2-2-02: Role and mechanisms of action of plant bioactive compounds CP
- KBBE-2009-2-2-03: Development of biomarkers for health-promoting functions CP
- KBBE-2009-2-2-04: Strategies for sustainable eating habits CSA-SA
- KBBE-2009-2-3-01: New solutions for improving refrigeration technologies along the food chain CP
- KBBE-2009-2-3-02: Sharing food technology research and development by means of international collaboration – SICA CP
- KBBE-2009-2-3-03: Sustainable food and feed processing CP
- KBBE-2009-2-4-01: Analytical tools for characterisation of nano-particles in the food matrix CP
- KBBE-2009-2-4-02: Risk-benefit assessment of food supplements - SICA CP
- KBBE-2009-2-4-03: Combined exposure to pesticides CP
- KBBE-2009-2-4-04: Prospects for novel foods CSA-SA
- KBBE-2009-2-5-01: International food trade: Anticipating the impact of climate change on the safety of European and global food markets - SICA CP
- KBBE-2009-2-5-02: Barriers to network learning in SMEs CP
- KBBE-2009-2-5-03: Transparency along the food value chain CSA-SA
- KBBE-2009-2-6-01: Enhanced co-operation in food and health with a view to strengthening the European Research Area CSA-SA
- KBBE-2009-2-7-01: Development of functional foods and ingredients CP
- KBBE-2009-2-7-02: Valorisation of by-products in food processing CP



FP7-KBBE-2009-3

- KBBE-2009-3-1-01: Optimisation of secondary metabolite production in plants: localisation, transport, storage and stability CP
- KBBE-2009-3-1-02: *Jatropha curcas* – breeding strategy – towards a sustainable crop for biomaterials and biofuels –SICA (India, Africa and Latin America) CP
- KBBE-2009-3-1-03: Abiotic stress tolerance: biotechnological applications from the lab to the field CSA-SA
- KBBE-2009-3-1-04: Prospecting for novel plant-produced compounds CP
- KBBE-2009-3-2-01: Novel marine bioactive compounds for European industries CP
- KBBE-2009-3-2-02: Sustainable use of seas and oceans - Biomass from micro- and macro-algae for industrial applications CP
- KBBE-2009-3-3-01: Novel industrial microorganisms with optimised metabolic pathways CP
- KBBE-2009-3-3-02: Integrated multi-enzyme, multistep biocatalytic engineering CP
- KBBE-2009-3-4-03: Biomass and bioproducts: sustainability certification and socioeconomic implications – Mandatory ICPC (either Latin America, Africa and/or Asia) CSA-CA
- KBBE-2009-3-4-04: Biomass pre-treatment for optimised biomass deconstruction and analytical characterisation –SICA (Brazil) CP
- KBBE-2009-3-5-01: Molecular approaches to bioremediation of polyaromatic hydrocarbon compounds CP
- KBBE-2009-3-5-02: Innovative biotechnology approaches as eco-efficient alternative to industrial processes CP
- KBBE-2009-3-6-01: Nanobiotechnology: smart nanobiotechnology devices to study biomolecule dynamics in real time CP
- KBBE-2009-3-6-02: Nanobiotechnology: functionalised membranes CP
- KBBE-2009-3-6-03: Nanobiotechnology: bio-interfaces for environmental applications CP
- KBBE-2009-3-6-04: Nanobiotechnology: analysis of the ethical, safety, regulatory and socioeconomic aspects of nanobiotechnology CSA-SA
- KBBE-2009-3-6-05: Synthetic biology for biotechnological applications CP



Joint call on Biorefinery

- KBBE-2009-3-4-01 Sustainable Biorefineries CP
- KBBE-2009-3-4-02 Enhancing exchange of information, synergies and cross-fertilisation between projects in the field of Biorefineries CSA-CA
- NMP-2009-4.0.1-1 Sustainable Biorefineries CP
- NMP-2009-4.0.1-2 Enhancing exchange of information, synergies and cross-fertilisation between projects in the field of Biorefineries CSA-CA
- ENERGY.2009.3.3.1 Sustainable Biorefineries CP
- ENERGY.2009.3.3.2 Enhancing exchange of information, synergies and cross-fertilisation between projects in the field of Biorefineries CSA-CA
- ENV.2009.3.3.2.2 Sustainable Biorefineries CP
- ENV.2009.3.3.2.3 Enhancing exchange of information, synergies and cross-fertilisation between projects in the field of Biorefineries

Food, Agriculture and Fisheries,
and Biotechnology

Knowledge-Based Bio-Economy (KBBE)



Work programme 2010

1. CONSULTATION

reflection paper

PC meeting January, March 2009

2. PREPARATION OF DRAFT WP April 2009

From Project Officers-Head of Unit-Director-DG-Cabinet to
Interservice Consultation: Research DGs, Policy DGs, Budget DGs,
Legal service, Secretary General

3. ADOPTION July 2009

Opinion of the PC, adoption by the EC, publication



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Knowledge-Based Bio-Economy (KBBE)

www.cordis.europa.eu/fp7/kbbe/home_en.htm

EC Web sites...

EU research: www.europa.eu.int/comm/research

Sixth Framework Programme:

www.cordis.lu/fp6/home.html

www.cordis.lu/fp6/food.html

Seventh Framework Programme:

www.cordis.europa.eu/fp7/home.html

Information requests, Europe Direct

www.ec.europa.eu/research/index.pg=enquiries

DG Research Site:

www.europa.eu.int/comm/research/index_en.html

RTD info magazine:

www.europa.eu.int/comm/research/rtdinfo/

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Knowledge-Based Bio-Economy (KBBE)





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Thank you for your attention

Zeljka Dukic, BIO NCP

Ministry of Science and Technological Development

Nemanjina 22-26

Belgrade

Republic of Serbia

Phone: +381 11 3616 529

zeljka.dukic@nauka.gov.rs

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