

National Smart Specialization Strategy: Bio-economy Related Aspects

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- The National Strategy for Smart Specialization RIS3
- Prioritization Process: Entrepreneurial Discovery
- National Programmes and Infrastructures
- Towards a National Strategy for Bio-economy?

National Strategy for Smart Specialization: 8 main priority sectors



Entrepreneurial Discovery Process (3 successive cycles)



Bio-economy in RIS3



Programme: RESEARCH, CREATE, INNOVATE

Concentrate Effort and Resources in selected sectors of economic activity through 3 different action lines:





I: R&D projects of SMEs



II: Industry- Academia Joint Projects



III: Incorporation of research results in the production process

Energy – Environment- Agriculture Nexus



7.3.1 Developing energy technologies that allow the creation of value chains for the exploitation of locally available biomass. Systems to meet the energy needs of local communities.

7.3.2 Development and optimization of technologies for the **energy production from agricultural residues and recovered materials** from industries, bioliquids, biological resources, wastes / scrap. Emphasis on improving system reliability, automated operation and the environmental performance of such technologies.

7.3.3 Development & Optimization of biomass to **power or second**generation biofuel technologies. Emphasis on improving system reliability, automated operation and the environmental performance of such technologies.

Environment



4.2.3 Development of bio-stabilization units (bio-drying and composting) and optimization of anaerobic digestion units

4.2.4 Development of liquid biofuel production units

4.3.1 Exploitation of agricultural and forest residues (lignocellulosic biomass) for the production of biofuels and products of high added value through thermochemical, biological and microbial processes

4.3.2 Development and application of technologies for collection, management and utilization of agricultural residues and pruning (green residues)

4.3.3 Management of by-products from the olive sector

4.3.4 Development of innovative rural waste management technologies

4.4.7 Material recovery, reuse and energy recovery (alternative fuels)

4.6.1 Reuse of Wastewater. Development of mature clean water production technologies for use in agriculture

4.6.2 Utilization of liquid waste for the production of biofuels

4.7.3 Research on the rehabilitation of water bodies (rivers, lakes, wetlands) to promote institutionalized rehabilitation measures and biodiversity needs

4.9.1 Development of practices and methods for direct use in agriculture (for products production) that preserve biodiversity

Agro-food



3.3.3 Possibilities of using innovative pharmaceutical / aromatic plants and investigating their use for the food, cosmetics and animal production industries

> 3.1.4 Production of new innovative crops (including also the industrial crops)

3.5.5 Emphasizing and exploiting ingredients with potentially significant biological activity

 (a) Herbs and aromatic plants as a raw material for food supplements;
 (b) Other plants or algae as raw material for food and food supplements

Materials : Biomaterials – Bio-implants



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1.1.1 Mechanics and Tissue regeneration Scaffolds

1.1.2 Implantable micro- /nano- systems and set-ups

1.2.1 New diagnostic/curative biomaterials

1.2.2 Diagnostic/medicinal set-ups

Health: Exploiting Greek Biodiversity; Pharmaceutical products,

functional foods and cosmetics



5.4.1 Exploiting good agricultural cultivation practices to produce repeatable and top quality plants according to international standards

5.4.2 Know – how development (a) for the conversion of a herbal substance / preparation into a final pharmaceutical, nutritional or cosmetic product. (b) for the development of innovative end products (food supplements, functional foods, cosmetics

5.4.3 Clinical efficacy (necessary - required clinical studies) and product safety studies (Studies for in vitro and in vivo pharmacological actions of plant substances

Research and Innovation: Total Public Funding 410 m€

□ 1st Cut off date

Dead line for submissions: 17 June 2017 2.426 proposals submitted
Total Budget:
1,64 b€
Public Funding Requested:
1,39 b€

682 proposals selected for funding

Approved Public Funding 373 m € Open consultation identification of the thematic priorities for the 2nd cut-off date call

1st call Results: Energy-Environment-Agriculture Nexus



1st call Results: Bio-economy related topics in "Environment"

Bio-economy related topics: 8,82 % of the total budget approved

Approved vs requested Public Expentiture in € Development of practices and methods for agriculture (products) that preserve biodiversity Research on the rehabilitation of water bodies (rivers, lakes, wetlands) Utilization of liquid waste for the production of biofuels Reuse of Wastewater. Development of mature clean water production technologies for use in agriculture Material recovery, reuse and energy recovery (alternative fuels) Development of innovative rural waste management technologies Management of by-products from the olive sector Technologies for collection, management and utilization of agricultural residues and pruning Exploitation of agricultural and forest residues for production of biofuels and high added-value products **Development of liquid biofuel production units** Requested Public Expenditure Development of bio-stabilization/optimization of Approved Public Expenditure anaerobic digestion units

2000000

4000000

6000000

8000000

10000000

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1st call Results: Bio-economy related topic in "Agro-food"

Total Submissions: 455 proposals, bio-economy related topics: 38 Total Approvals: 116 projects selected, bio-economy related topics: 8 Total budget requested: 278 m€, bio-economy related topics: 23,88 m€ Total budget approved: 65 m€, bio-economy related topics: 6,03 m€



Topic 3.1.4

Topic 3.3.3

Topic 3.5.5.

1st call Results: Bio-economy topics in "Health"



Approved vs requested Public Expentiture in €



5.4.3 Clinical efficacy and product safety studies

5.4.2 Know – how development for the conversion of a herbal substance into a final pharmaceutical, nutritional or cosmetic product/ for the development of innovative end products

5.4.1 Exploiting good agricultural cultivation practices

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Requested Public ExpenditureApproved Public Expenditure

Specific Actions in Selected Areas



Aquaculture

Available Public budget: 5,25 m€ 49 proposals submitted Requested Funding: 12,4 m€

Under Evaluation

Domestication of the Sea

Identification and isolation of bioactive compounds from marine organisms (mollusks, algae etc.) for use in pharma, cosmetics or food industries

Cultivation of local phytoplankton and algae species. High added value products from algae.

Specific Action for Aquaculture: Call Results

3.14.1: Identification and isolation of bio-active compounds from marine organisms (mollusks, algae etc.) for use in pharma, cosmetics or food industries

3.14.2: Cultivation of local phytoplankton and algae species. High added value products from algae







Proposals submitted

■ Requested Budget (m€)



Multi-annual budgeting Plan for RIs

CMBR: Centre for the study and sustainable exploitation of Marine Biological Resources (HCMR) (development of B/T apps for the production of bio-active compounds from marine micro-organisms)

PLANTUP: Upgrading the Plant Capital (UoA) (NPs of pharmaceutical, nutraceutical, cosmoceutical, agrochemical interest from plants, development of high added-value products)

INVALOR: Research Infrastructure for Waste Valorization and Sustainable Management of Resources (UoPatras) (production of high added value, ecofriendly materials, 2nd generation bio-fuels and energy from biomass, waste, by-products).

Food Innovation RI: RI on Food Bioprocessing Development and Innovation Exploitation (UoPatras) (high- added value bio-processing, new biorefineries in food industry, novel high added value products and chemicals form waste and byproducts)





Towards a National Bio-economy Strategy?

BIOECONOMY



High interest on behalf of the business sector

- Development and optimization of technologies for the **energy production from agricultural residues and recovered materials** from industries, bioliquids, biological resources, wastes / scrap.
- Development & Optimization of biomass to **power or second**generation biofuel technologies.

Development of **bio-stabilization units** (bio-drying and composting) and optimization of anaerobic digestion units.

- Development and application of technologies for collection, management and utilization of **agricultural residues** and pruning
- Material recovery, reuse and energy recovery (alternative fuels).
- Utilization of liquid waste for the production of biofuels.
- Production of new **innovative crops** (including industrial crops).
- Exploiting ingredients with potentially significant biological
 activity: (a) Herbs and aromatic plants as a raw material for food
 supplements; (b) Other plants or algae as raw material for food
 and food supplements.

New diagnostic/curative biomaterials.

Diagnostic/medicinal set-ups.

Know – how development (a) for the conversion of a herbal substance / preparation into a final pharmaceutical, nutritional or cosmetic product.(b) for the development of innovative end products (food supplements, functional foods, cosmetics



Experimental development projects in industry (Action line III)

Towards a National Bio-economy Strategy?





Thank you for Your Attention!

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