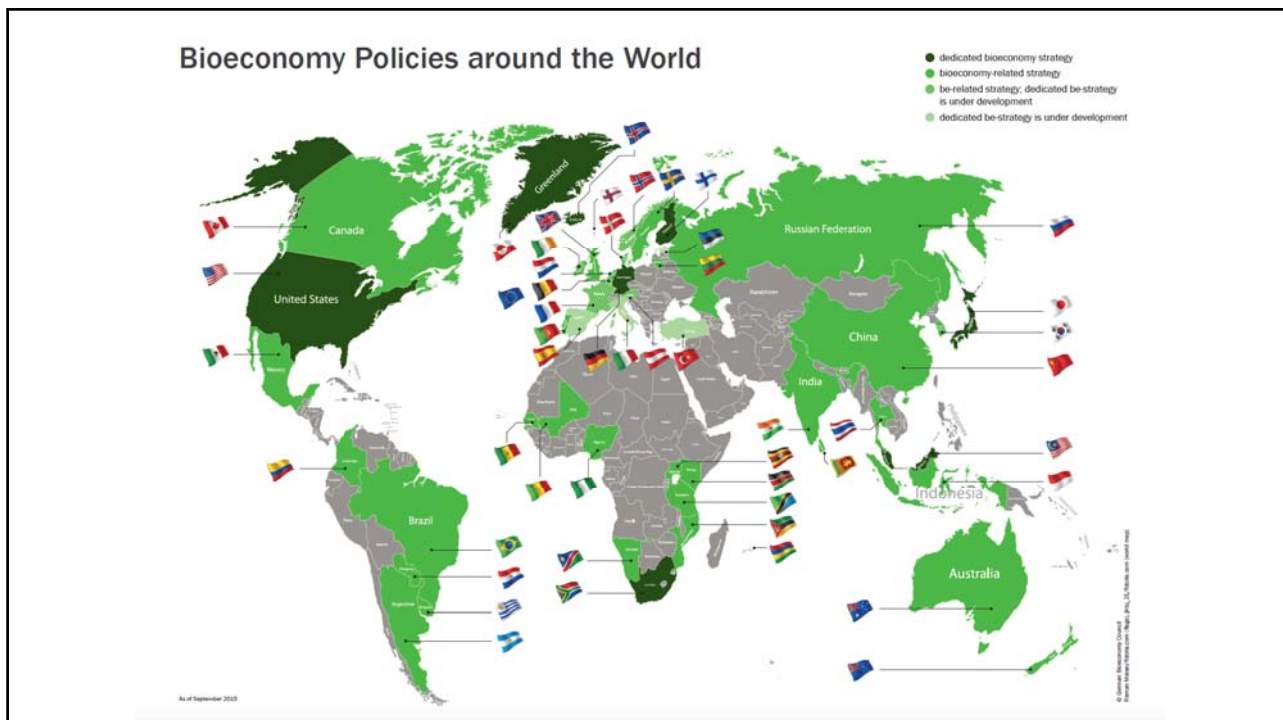


The Role and the Impact of the University Research over the Bio-Economy

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Banat's University of Agricultural Sciences and Veterinary Medicine
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Overview of BE policies and strategies in G7 and EU

Tab. 1: Overview on bioeconomy (BE) policy in the G7, including the EU

Member	Name of Strategy	Main Actors	Key Funding Areas
Canada	Growing Forward	Ministry of Agriculture	R&D on renewable resources and biobased materials, Bioenergy
EU	Innovating for Sustainable Growth	DG Science, Research, Innovation	Research & Innovation (Horizon 2020), Public-Private-Partnerships
France	bundle of BE-relevant policies	Ministry for Ecology, Ministry for Research	Bioenergy, green chemicals, clusters, circular economy
Germany	1. Research Strategy BE 2. Policy Strategy BE	1. Ministry for Research 2. Ministry for Agriculture	R&D on food security, sustainable agriculture, healthy nutrition, industrial processes, bioenergy
Great Britain	bundle of BE-relevant policies	Parliament, Depts: Energy & Climate, Environment, Transport, Business	Bioenergy, agri-science and technology
Italy	no specific BE policy	-	Participation in EU programmes
Japan	Biomass Utilization and Ind. Strategies	Cabinet, National Biomass Policy Council	Research & innovation, circular economy, regional development
United States	1. Bioeconomy Blueprint 2. Farm Bill	1. White House 2. USDA	1. Life Sciences (Biomedicine) 2. Agriculture (multiple areas)

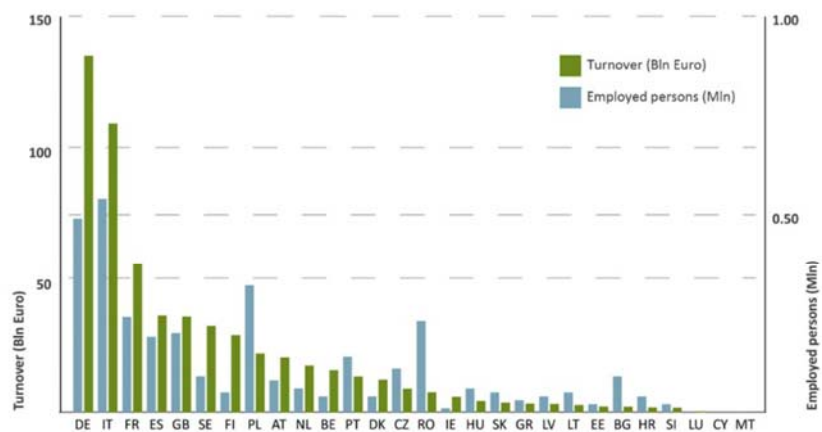
Country*	Perspective	Document Name
Austria	Research & Innovation	"Research, Technology and Innovation Strategy for Biobased Industries in Austria" (2014) "Policy Paper on Bioeconomy" (2013)
Belgium	Regional Bioeconomy Development	"Bioeconomy in Flanders" (2014) and Action Plan
Denmark	Green Economy	"Growth Plan for Water, Bio and Environmental Solutions" (2013) "Growth Plan for Food" (2013)
Finland	Holistic Bioeconomy Development	"The Finnish Bioeconomy Strategy" (2014)
Ireland	Blue Economy Green Economy Research & Innovation	"Harnessing Our Ocean Wealth" (2012) "Delivering our Green Potential" (2012) "Towards 2030" (2008)
Lithuania	High-Tech	"National Industrial Biotechnology Development Programme" (2007-2013)
Netherlands	Green Economy Biobased Economy	"Groene Groei: voor een sterke, duurzame economie" (2013) "Groene Groei - Van Biomassa naar Business" (2012) "Framework memorandum on the Biobased Economy" (2012) Green Deal Program (2011)
Norway	Research & Innovation High-Tech	"Research Programme on Sustainable Innovation in Food and Bio-based Industries" (2012-2020) "National Strategy for Biotechnology" (2011) "Marine Bioprospecting - a Source of New and Sustainable Wealth Growth" (2009)
Portugal	Blue Economy	"Estratégia Nacional para o Mar" (2013-2020)
Sweden	Research & Innovation	"Swedish Research and Innovation Strategy for a Bio-based Economy" (2012)
West Nordic Countries (Iceland, Greenland, Faroe)	Holistic Bioeconomy Development	"Future Opportunities for Bioeconomy in the West Nordic Countries" (2014)

* The G7 countries and the EU are covered by the report "Bioeconomy Policy (Part I): Synopsis and Analysis of Strategies in the G7".

Turnover and employment in the EU bio-based economy

Turnover and employment in the EU bio-based economy (EU-28, 2013)

Source: Eurostat, 2013



*excluding Agriculture, Fishery, Food, Food, Beverages and Tobacco Products



Quoting: Bio-based Industry Consortium Annual Report 2015

The Bio-Economy in Romania

The Bio-Economy in Romania		
	% GDP	% active population
Agriculture, forestry and fishery	5,62	29,10
Industries processing bio-resources	7,91	3,23
Food industry	5,38	2,10
Cellulose and paper	1,67	0,82
Energy from bio-resources	0,72	0,28
"Green" chemistry	0,14	0,03
Bio-medical bio-economy	0,12	0,02
Bio-pharmaceuticals	0,05	0,01

Source: Bio-economia – oportunități și perspective pentru România, [Dr. Florin Oancea](#), 29 Septembrie 2014, http://www.marketwatch.ro/articol/13425/Bio-economia_oportunitati_si_perspective_pentru_Romania/ quoting processed Romanian NIS statistical data (2012)

Importance of developing BE Research for Romania

Highlighted in the National Strategy for Energy – Chapter Bio-Renewable Energy

- The Romanian potential in production of bio-ethanol 2nd generation (from residues, side products and secondary agricultural production) is of 200.000 TPE/year, taking into account as non-food agricultural resources only 17,5% from the secondary production of maize, wheat and sugar beet

Source: Bio-economia – oportunități și perspective pentru România, [Dr. Florin Oancea](#), 29 Septembrie 2014, http://www.marketwatch.ro/articol/13425/Bio-economia_oportunitati_si_perspective_pentru_Romania/ quoting processed Romanian NIS statistical data (2012)

Importance of developing BE Research for Romania

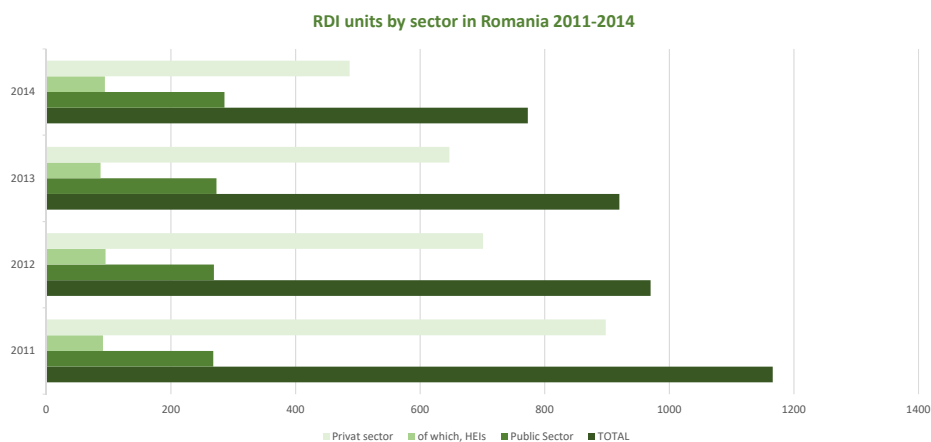
Highlighted in the National Strategy for Energy – Chapter Bio-Renewable Energy

The impact of 2nd generation bio-ethanol production is also significant in terms of:

- Rural employment / labor places – min. 3.200/year;
- Physical bio-ethanol production – 200.000 TPE;
- Turnover: 1,1 billion de Euro;
- Potential of reducing the glasshouse-effect: equivalent of 1,6 billion tones of CO₂

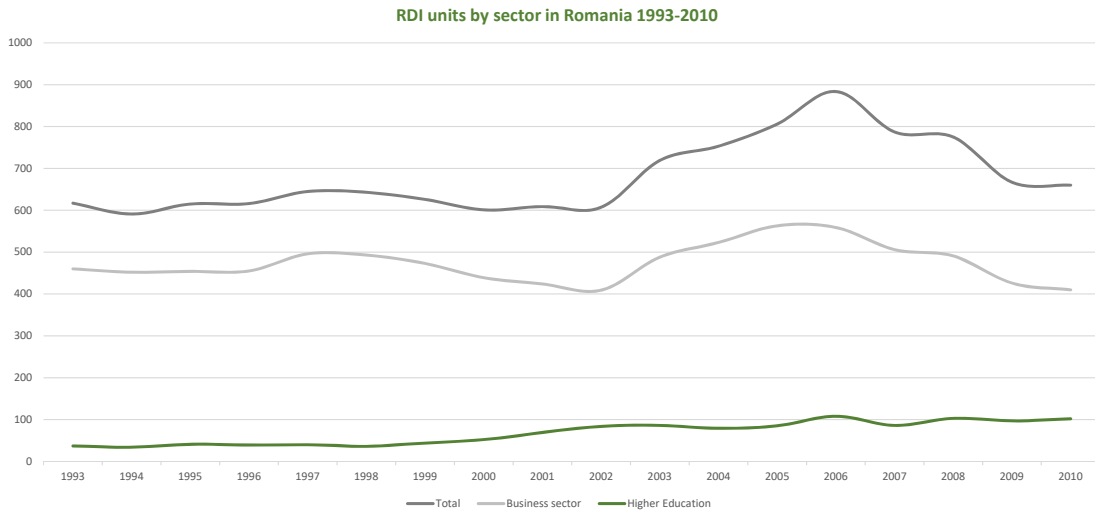
Source: Bio-economia – oportunități și perspective pentru România, [Dr. Florin Oancea](#), 29 Septembrie 2014, http://www.marketwatch.ro/articol/13425/Bio-economia_oportunitati_si_perspective_pentru_Romania/ quoting processed Romanian NIS statistical data (2012)

RDI Institutions in Romania (selected sectors)

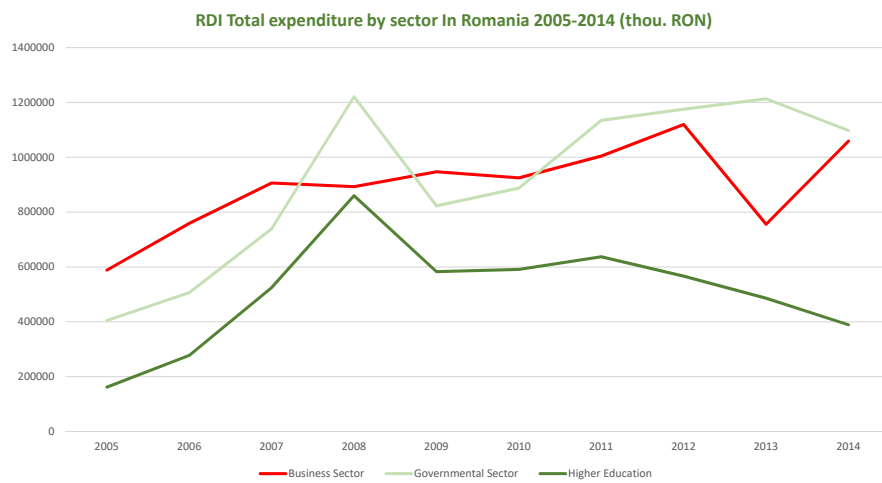


Source: based on data from NIS Romania TEMPO Online data series

RDI Institutions in Romania (selected sectors)



RDI Expenditure in Romania (selected sectors)



HEIs research pro/cons in the BE context

Pro

- Experienced in joint international research;
- Connected (contacts, exchanges, networks);
- Well staffed

Cons

- Reduced financial capacities;
- Legal limitations;
- Weak business/society links

HEIs research advantages in the BE context

Advantages

- Regional/international scale vs national character of BE strategies/policies
- Ahead in implementing research at regional trans-national level
- Flexible and fast in adjusting strategic priorities at institutional level
- High interest in actively joining clusters/networks/consortia in BE
- Experienced in acting as tester for new technologies, processes, approaches and developments