

BioEconomy Strategies in the Member Countries of the IEA Bioenergy Implementing Agreement

– current status, approaches and opportunities

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Objectives

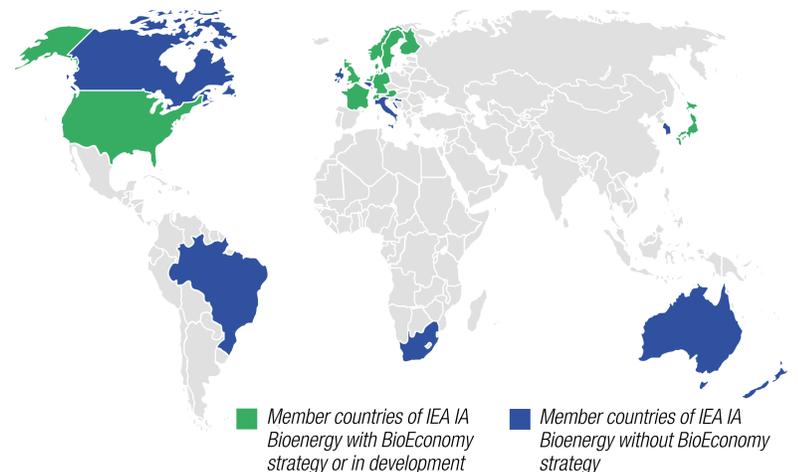
This contribution presents results of a survey on bioeconomy strategies in the 22 member countries of the IEA Bioenergy Implementing Agreement IA, aiming at getting a broad overview of the progress and the priorities of such strategies inside and outside Europe. Strategy documents were analyzed in a framework of questions to compare patterns as

- Scope (governmental, regional, industry sectors)
- Position of bioenergy (including biofuels) in a future BioEconomy
- Main economic sectors in a future BioEconomy
- Current focus of implementation (R&D, transition to markets, policy development)
- Vision and (measurable) targets

- **Germany (Task 42-member)**
National policy strategy bioeconomy (2014)
National research strategy bioeconomy 2030 (2010)
- **The Netherlands (Task 42-member)**
Framework memorandum on the Bio-based Economy (2012)
De Overheidsvisie op de bio-based economy in de energietransitie (2007)

- **Finland**
The Finnish Bioeconomy Strategy (2014)
- **South Africa**
The Bio-Economy Strategy (2013)
- **Sweden**
Swedish Research and Innovation Strategy for a Bio-based Economy (2012)
- **Austria (Task 42-member)**
Research, Technology and Innovation Strategy for Biobased Industries (2014)

Status of BioEconomy strategies (2014)



- **Denmark (Task 42-member)**
Growth plan for water, bio and environmental solutions (2014)
- **Japan (Task 42-member)**
Biomass Industrialization Strategy (2012)
- **United States (Task 42-member)**
National Blueprint Bioeconomy (2012)
- **Norway**
Research Programme on Sustainable Innovation in Food and Bio-based Industries 2012 -2022 (2012)
- **France**
Les usages non alimentaires de la biomasse (2012)
- **Switzerland**
Green Economy: Report and Action Plan (2013)
- **United Kingdom**
Waste or resource? Stimulating a bioeconomy (2014)

Results

Country	Assessed strategies				Scope of Strategies			Position of bioenergy in a bioeconomy			Economic sectors in the focus of strategies						Vision and targets		Current focus of implementation			
	Governmental BioEconomy strategies	Industry strategies	Regional strategies	Policy advice by research, consulting	Bio-economy	Biobased economy	Biobased industries	Priority	Equal to other sectors	Less importance	Agriculture + forestry	Food	Energy	Pulp + paper	Wood-processing	Chemical industry	Medical industry	Vision and general target	Measurable targets	R&D	Transition to market	Policies
Australia	x	v	v	v	x	v	v	v	x	x	v	x	v	v	x	x	v	x	x	v	x	x
Austria	(v)	x	x	v	x	x	v	x	v	x	v	v	v	v	v	v	v	v	x	x	v	x
Belgium	x	v	v	x	x	v	x	x	x	v	v	v	v	v	v	v	x	x	x	v	x	x
Brazil	x	v	x	x	v	x	v	v	x	x	v	v	v	v	v	v	x	x	v	v	v	v
Canada	x	v	v	v	x	v	v	v	x	v	x	x	v	v	v	v	x	x	v	v	x	x
Croatia	x	x	x	x	x	x	x	v	x	v	x	v	x	x	x	x	x	x	x	x	x	x
Denmark	x	v	x	v	x	v	x	v	x	x	v	v	v	x	x	x	x	x	v	v	x	x
Finland	v	x	x	x	v	v	v	v	x	v	x	v	v	v	v	v	v	v	v	v	x	x
France	(v)	x	x	x	v	v	x	x	v	x	v	v	v	v	v	v	x	x	x	v	v	x
Germany	v	v	v	v	v	v	v	v	x	v	x	v	v	v	v	v	v	x	x	v	v	v
Italy	x	v	x	x	x	v	v	v	v	x	x	x	x	x	x	x	x	x	x	v	v	v
Japan	x	x	x	v	x	x	v	v	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Netherlands	v	x	x	x	x	v	x	x	x	v	x	x	x	x	x	x	x	x	x	v	v	x
New Zealand	x	v	x	x	v	x	x	v	x	v	x	v	v	v	v	x	x	x	x	v	x	x
Norway	(v)	x	x	x	v	x	v	x	v	x	v	v	v	v	v	x	v	x	x	v	v	v
South Africa	v	x	x	x	x	x	v	x	v	x	v	v	v	x	x	x	v	x	v	v	x	x
Sweden	v	v	v	x	v	v	x	x	v	x	v	v	v	v	v	x	v	x	v	v	x	x
Switzerland	(v)	x	x	x	v	x	x	x	v	x	v	v	v	v	x	x	v	(v)	v	v	x	x
UK	(v)	v	x	v	x	v	v	x	v	x	v	v	v	x	v	v	x	x	x	v	v	v
United States	(v)	x	x	x	v	x	x	v	x	x	v	x	x	x	x	v	v	v	v	v	x	x
Ireland, Korea	no response received by country representatives																					
	v	applicable																				
	x	not applicable																				
	(v)	no governmental bioeconomy strategy, but high governmental attention (e.g. national blueprint, green economy strategy...)																				

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IEA Bioenergy
Task 42 Biorefining

- Bioeconomy is an important part of national transition strategies in 60% of the countries (AT, FI, FR, DE, JP, NL, NO, ZA, SE, CH, UK, US)
- the energy sector is almost always important in national transition strategies, and in most (65%) cases bioenergy has an equal position to other sectors in the BioEconomy, and is a priority in AU, BR, DK, IT, JP, US
- bio(based) development is almost always a top-down (policy driven) approach
- most countries have a BioEconomy vision and general targets instead of measurable policy targets (measurable targets in CA, FI, NL, US)

- for market deployment all countries focus on R&D, 70% on transition aspects and 25% on additional policy development
- in all countries the agriculture, forestry and the energy sector are priority areas for the transition to a BioEconomy, and in 80% of the countries also the chemical sector is identified as a priority area
- in half of the countries biorefining is identified as key technology for successful BioEconomy deployment

Conclusions