

BioEconomy Strategies in the 22 IEA Bioenergy Member Countries –

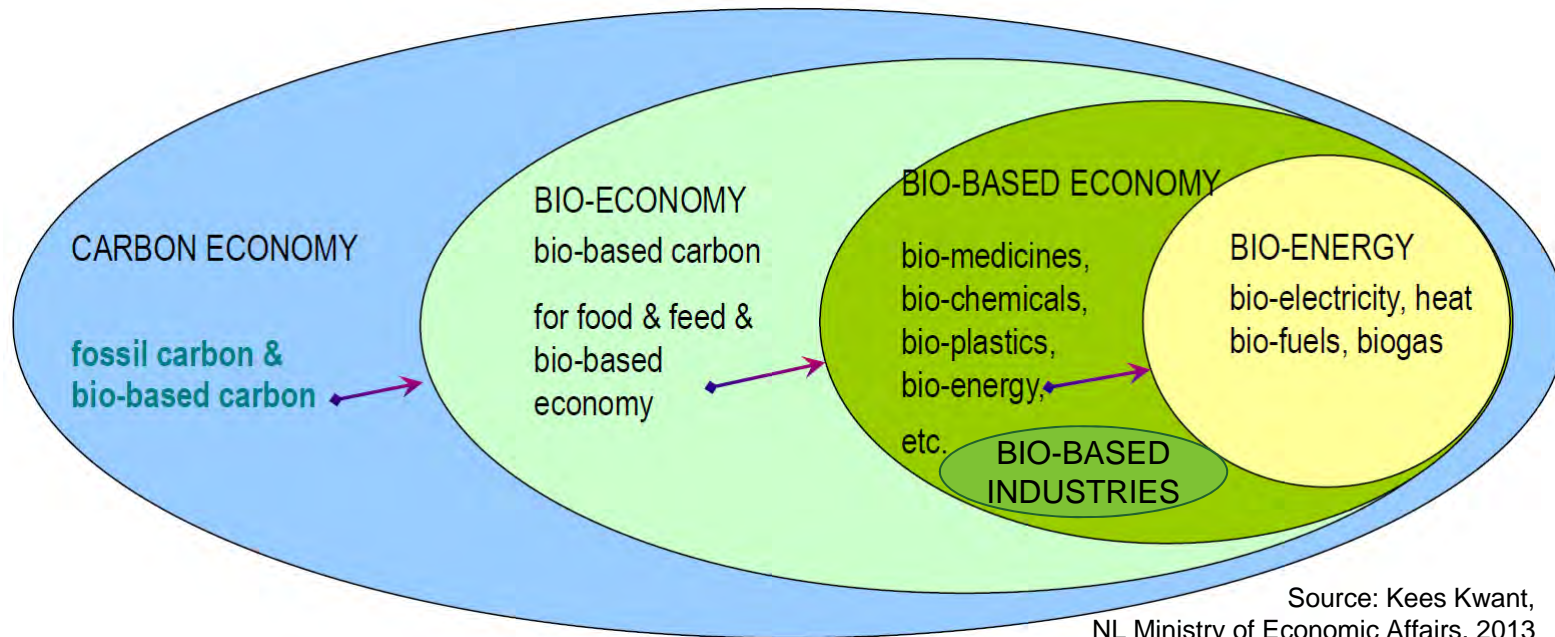


Current Status, Approaches and Opportunities for Bioenergy

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Definition

BioEconomy (BE) as an integrative policy concept for sustainable production and valorisation of biomass to food, feed, chemicals, materials, fuels, power and heat



Some countries (e.g. Germany, Sweden) and this presentation use the terms BioEconomy and BioBased Economy synonymously

In contrast to most of the other IEA Bioenergy Tasks, **Task 42**

- covers the **full sustainable biomass value chain** development, optimisation and implementation for the synergetic production of Food and Non-food (biomaterials + bioenergy)
- **Biorefining** is one of the main technological drivers for large-scale biomass implementation in the future **BioEconomy**

Survey commissioned by the IEA-Bioenergy ExCo / Task 42, to get

- An overview of current BioEconomy strategy development in the different national settings of carbon-economy and domestic biomass resource base

Performed by JOANNEUM RESEARCH, in cooperation with Italian Biomass Association (ITABIA), with support by the national representatives of the 22 member countries (September 2014)

List of countries assessed

Task 42

partnering countries (11)

- 
1. Australia - AU
 2. Austria - A
 3. Canada - CA
 4. Denmark - DK
 5. Germany - DE
 6. (Ireland - IE)
 7. Italy - IT
 8. Japan - JP
 9. Netherlands - NL
 10. New Zealand - NZ
 11. United States - US

(assessed by JOANNEUM RESEARCH)

Other IEA Bioenergy IA

partnering countries (11)

- 
12. Belgium - BE
 13. Brasil - BR
 14. Croatia - HR
 15. Finland - FI
 16. France - FR
 17. (Korea - KR)
 18. Norway - NO
 19. South Africa - ZA
 20. Sweden - SE
 21. Switzerland - CH
 22. UK - GB

(assessed by ITABIA)

Questions

- Which countries have **governmental national Bio(based-) Economy strategies** (+ which countries have industrial, regional strategies)?
- What is the **scope of the strategies** (BioEconomy / Biobased Economy / Biobased Industries)?
- Which **economic** sectors are described as **priority areas** in a future BioEconomy?
- Have been **measurable targets** defined?
- What is the **current focus of implementation** (R&D / transition to markets / policy development)?
- What is the **position of Bioenergy** in a future Bioeconomy (equally important to other sectors / priority / less important)?

➤ **6 Countries with official governmental national BioEconomy strategies** (typical elements: objectives, focus of action, activities/measures, targets)

1. **Germany (Task 42)**

- National policy strategy bioeconomy (2014)
- National research strategy bioeconomy 2030 (2010)

2. **The Netherlands (Task 42)**

- Monitoring Biobased Economy in Nederland (2013)
- Framework memorandum on the Biobased Economy (2012)
- De Overheidsvisie op de bio-based economy in de energietransitie (2007)

3. **Canada (Task 42)**

- Innovation Roadmap on Bio-based Feedstocks, Fuels and Industrial Products (2004)

4. **Finland**

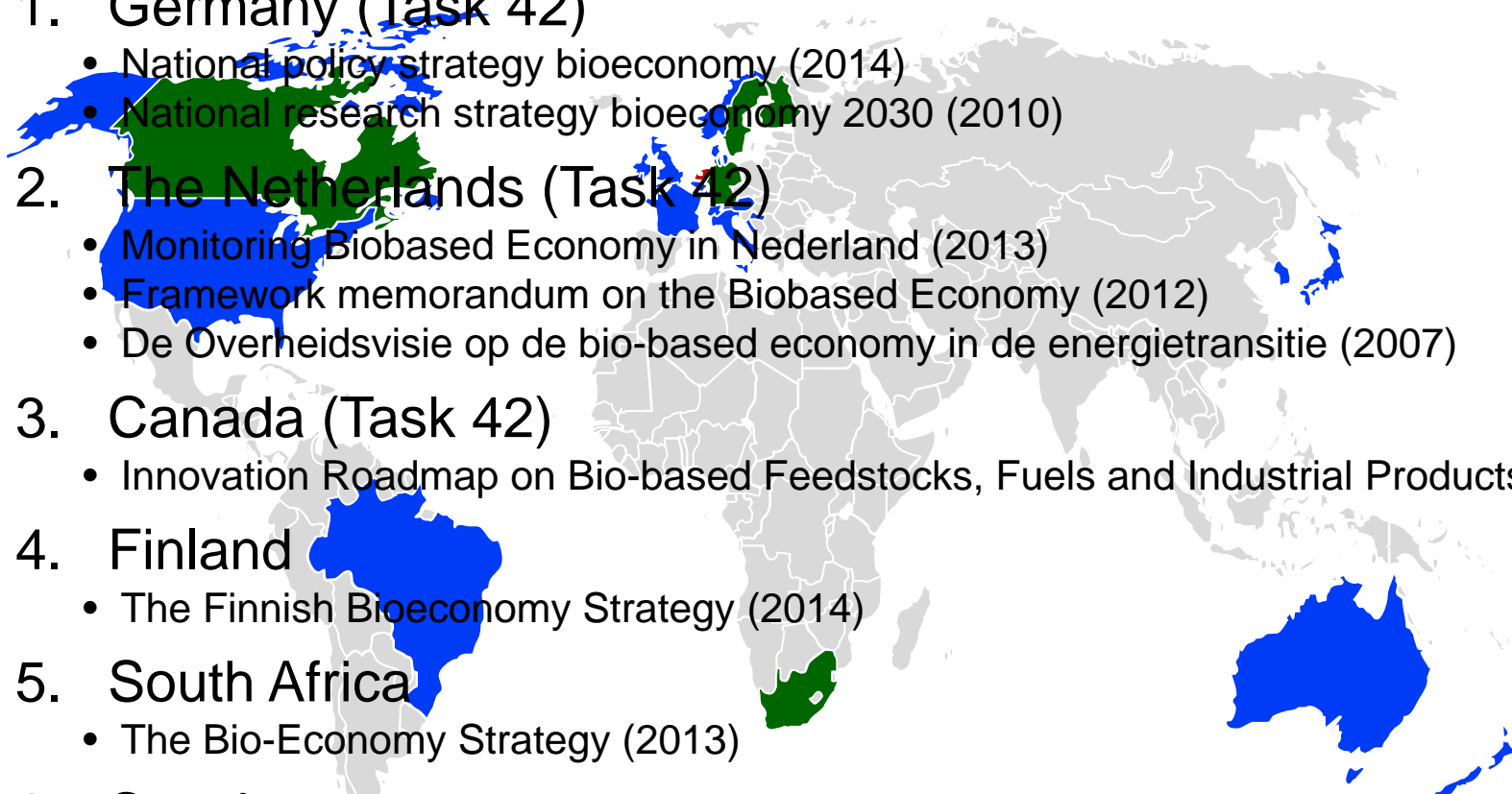
- The Finnish Bioeconomy Strategy (2014)

5. **South Africa**

- The Bio-Economy Strategy (2013)

6. **Sweden**

- Swedish Research and Innovation Strategy for a Bio-based Economy (2012)



Results (2)

➤ **6 Countries with governmental attention to BioEconomy**
(no national BioEconomy strategy yet, but national blueprints, green economy strategy, ...)

1. **Austria (Task 42)**

- „Research, Technology and Innovation Strategy for Biobased Industries in Austria“ (2014)

2. **United States (Task 42)**

- National Blueprint Bioeconomy (2012)

3. **Denmark (Task 42)**

- Growth plan for water, bio and environmental solutions (2014)

4. **Norway**

- Research Programme on Sustainable Innovation in Food and Bio-based Industries "BIONÆR" (2012 -2022) (2012)

5. **France**

- Les usages non alimentaires de la biomasse (2012)

6. **Switzerland**

- Green Economy: Report and Action Plan (2013)



Task 42 Biorefining

- Priority economic sectors in the future BioEconomy
 - generally today's main (fossil+bio) carbon-dependent economic sectors of the countries are also in the focus of their future BioEconomy
 - R&D sector focus in most countries on **sustainable biomass supply, chemical industry and bioenergy production**

T42 countries	Agriculture + forestry	Food	Energy	Pulp + paper	Wood-processing	Chemical industry	Medical industry
Australia	√	x	√	√	x	x	√
Austria	√	√	x	x	√	√	√
Canada	√	x	√	√	√	√	√
Denmark	√	√	√	x	x	√	x
Germany	√	√	√	√	√	√	√
Ireland	no reply						
Italy	√	x	√	x	x	√	x
Japan	x	x	√	x	x	√	√
Netherlands	√	x	√	x	x	√	√
New Zealand	√	√	√	√	√	x	x
United States	√	x	√	x	x	√	√

Task 42 Biorefining

➤ Current focus of implementation

- **All countries** have **R&D** measures / programs with different scopes for the development of BioEconomy, Biobased Industries, Biotechnology, sustainable biomass production...
- **Half of the countries** (T42) have a focus on **R&D for biofineries**
- 60% have measures for **transition2market** + 25% develop **policies** (promotion of markets for biobased products, coherent policy framework, industrial implementation, dialogue with society, monitoring)

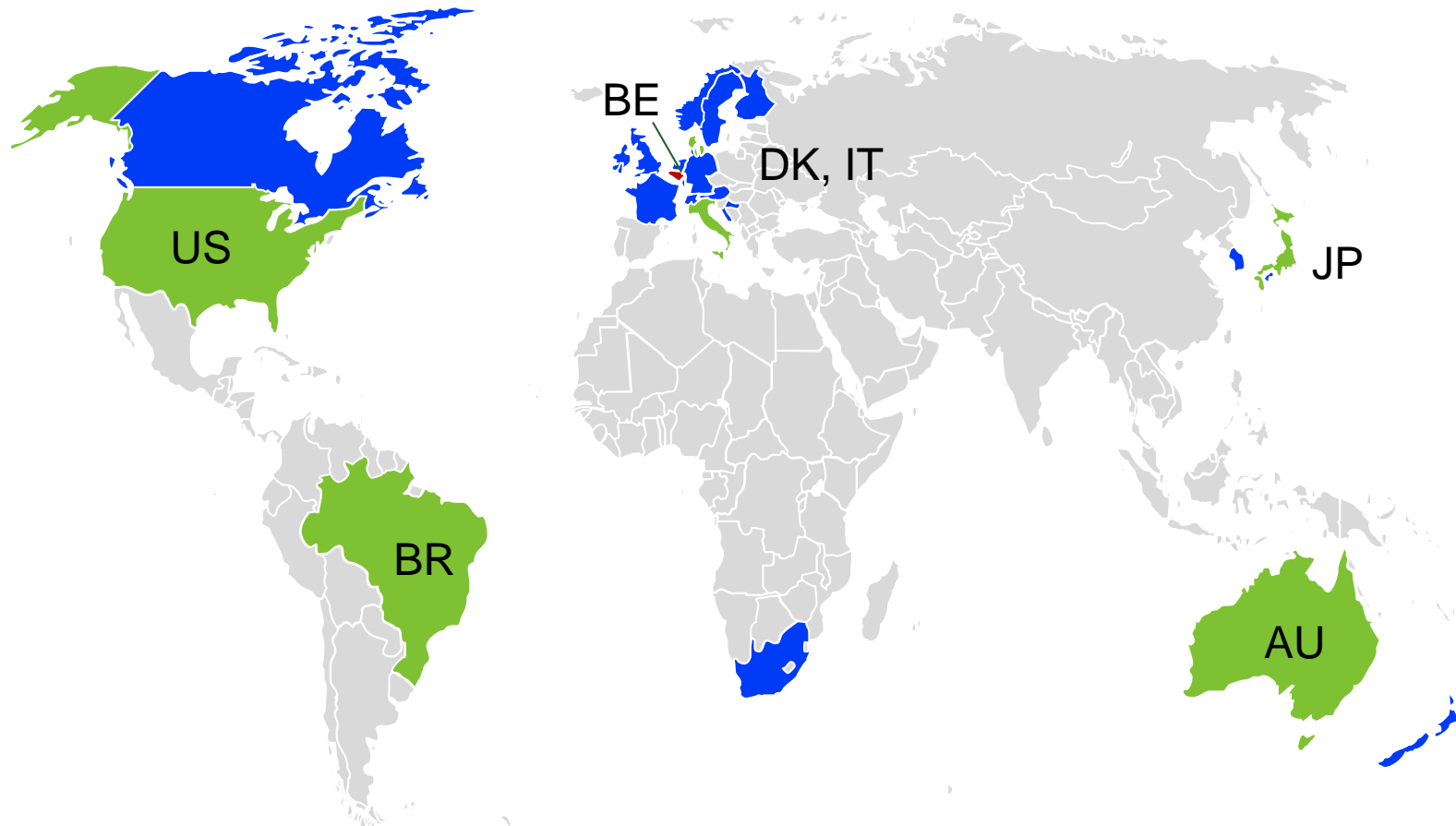
Task 42 countries	R&D	Transition to market	Policies
Australia	√	x	x
Austria	√	x	x
Canada	√	√	x
Denmark	√	√	x
Germany	√	√	√
Ireland	no reply		
Italy	√	√	√
Japan	√	x	x
Netherlands	√	√	√
New Zealand	√	x	x
United States	√	√	x

Results (5)

➤ Position of bioenergy in a future Bioeconomy

Increased competition for biomass might lead to a shift of priorities from bioenergy to higher-value-chains (especially when domestic biomass is scarce)

(priority / equally important to other sectors / less important)



BMVIT and BMLFUW involved in developing a national BioEconomy strategy



+



BIOÖKONOMIE
Positionspapier

GESELLSCHAFTLICHE HERAUSFORDERUNGEN UND ZIELE DER BIOÖKONOMIE

Bioökonomie ist die wissensbasierte Erzeugung und Nutzung biologischer Ressourcen, um Produkte, Verfahren und Dienstleistungen in allen wirtschaftlichen Sektoren im Rahmen eines zukunftsfähigen Wirtschaftssystems bereitzustellen. Damit sollen die gesellschaftlichen Herausforderungen – die sogenannten „Grand Challenges“ – des 21. Jahrhunderts wie die nachhaltige Versorgung der wachsenden Weltbevölkerung mit qualitativem und sicheren Lebensmitteln, die Reduktion der Treibhausgasemissionen und die Verknüpfung von Ressourcen bewältigt und eine nachhaltige Entwicklung ermöglicht werden.

FORSCHUNG UND INNOVATION SIND INTEGRALER BESTANDTEIL FÜR DIE BEWÄLTIGUNG DIESER „GRAND CHALLENGES“!

Zu den wichtigsten Sektoren der Bioökonomie zählen die Sektoren der Primärproduktion (Landwirtschaft, Forstwirtschaft und Fischerei), die Lebensmittel- und Futtermittelwirtschaft, die holzverarbeitenden Betriebe, die Zellstoff- und Papierindustrie, sowie Teile der chemischen und biotechnologischen Industrie und der erneuerbaren Energiewirtschaft. Gemeinsam erwirtschaften diese Sektoren in Europa einen jährlichen Umsatz von etwa zwei Billionen Euro und beschäftigen ungefähr 22 Millionen Menschen.



BIOÖKONOMIE
Hintergrundpapier

Next step?

Austrian BioEconomy Strategy expected for 20xx?

Task 42 Biorefining



“Bioenergy will be the initiator of the transition to and the lubricating oil of the future circular BioEconomy”

Rene van Reé, Task 42

More info

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