

# CASA SCAR National Meeting Greece

## Session 2: Building national strategies: insights from Ireland

Dr Maeve Henchion, TEAGASC, Ireland

Athens Greece, 24 May 2018



**CASA**  
Common Agricultural  
and wider bioeconomy  
reSearch Agenda



**EUROPEAN UNION**

Project co-funded by  
**H2020 Programme** under  
Grant Agreement n° 727486

# Agenda

- Developing a vision....
  - The context
  - The process
  - Implementation



# Context

- Development of EU bioeconomy strategy
- Role of member states
  - Give a steer internally and externally re perceived significance and importance of the bioeconomy at national level
  - Identify priority areas
- Challenge to identify priorities given
  - Dealing with radical innovation – transition, transformation
  - Potential for conflicts of interest
  - Potential conflicts between sectors
  - Complex policy environment
  - Unintended consequences

What should we prioritise?

Who should influence the decision?

# Alternative visions of the bioeconomy

	Bio-technology vision	Bio-Resource Vision	Bio-Ecology Vision
<b>Aims &amp; objectives</b>	Economic growth & job creation	Economic growth & sustainability	Sustainability; biodiversity, conservation of ecosystems, avoiding soil degradation
<b>Value creation</b>	Application of biotechnology, commercialisation of research & technology	Conversion and upgrading of bio-resources (process oriented)	Development of integrated production systems, and high-quality products with territorial identity
<b>Drivers &amp; mediators of innovation</b>	R&D, patents, TTOs, Research councils and funders (Science push, linear model)	Interdisciplinary, optimisation of land use, include degraded land in the production of biofuels, use and availability of bio-resources, waste management, engineering, science & market (interactive & networked production mode)	Identification of favourable organic agro-ecological practices, ethics, risk, transdisciplinary sustainability, ecological interactions, re-use & recycling of waste, land use (circular & self-sustained production mode)
<b>Spatial focus</b>	Global clusters/central regions	Rural/peripheral regions	Rural/peripheral regions

Source: Bugge et al, 2016



# Many related policies

- Sectoral

- Agriculture & food
- Marine
- Bioenergy
- Forestry.....



- Cross-sectoral

- Sustainability/green
- Waste management
- Research and innovation...



# Many other policies at various scales also

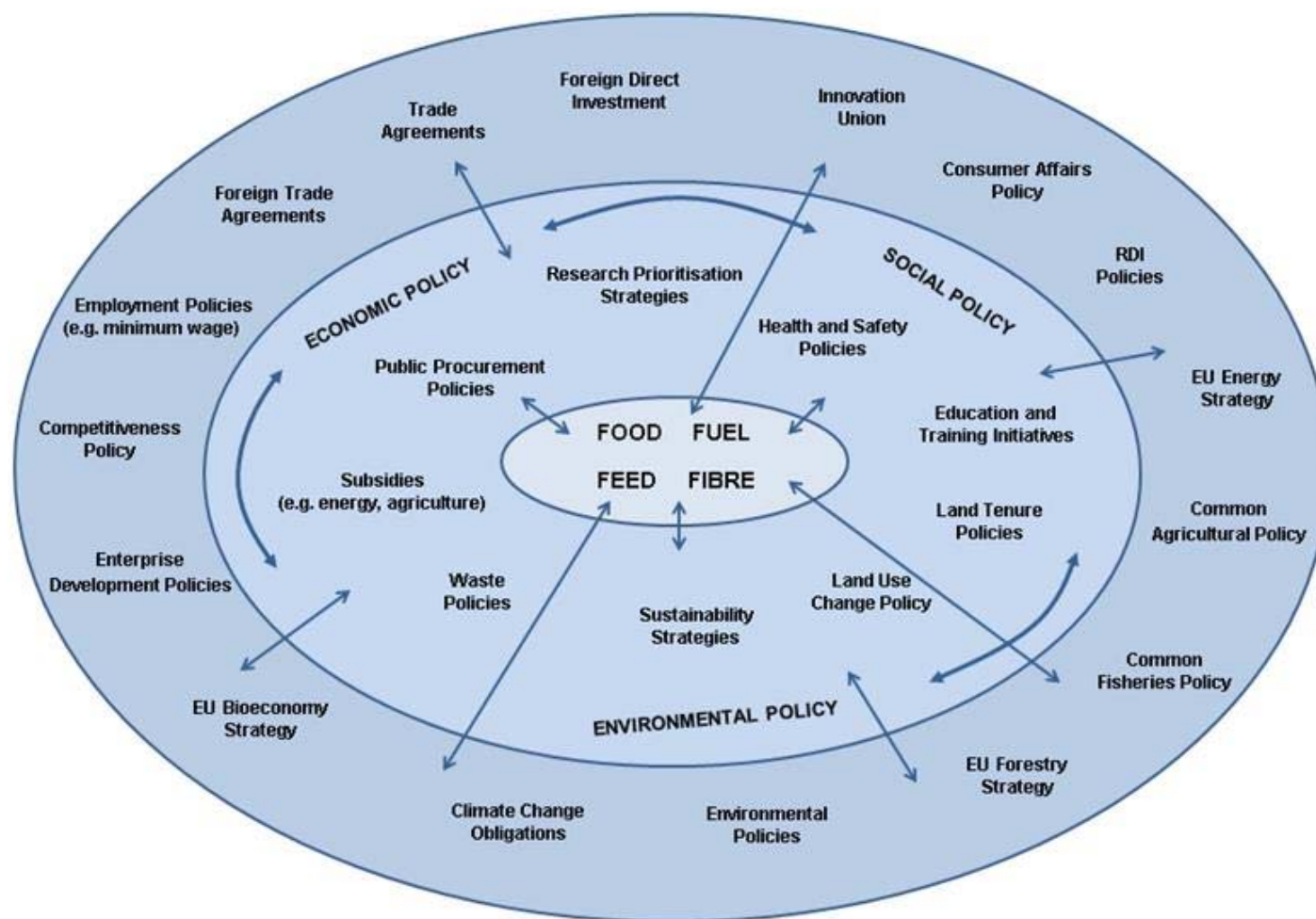


Figure 1 Irish bioeconomy policy illustration (taken from Devaney and Henchion, 2016)

# What should we prioritise?

- Delphi Study within BioÉire to identify priority value chains for short-medium term



BioÉire

A Bioeconomy for Ireland

- Top value chains identified included:

- the use of 2<sup>nd</sup> generation feedstock for the production of biochemicals;
- dairy processing side streams for sports nutrition products;
- horticultural by-product for biocompostable packaging;
- marine discard for functional food and feed applications;
- agricultural and food waste for bioenergy production;
- seaweed use for food and healthcare applications and
- forestry residues for decentralised heat generation.



TCBB RESOURCE



Supporting Transition to a Low-Carbon Economy



Devaney and Henchion, 2018



CASA, Support to SCAR

# National Action Plan for Jobs 2016

## 11.5 Bio-economy

The bio-economy comprises those parts of the economy that use renewable biological resources from land and sea – such as crops, forests, fish, animals and micro-organisms – to produce food, materials and energy. The Government wishes to assess the potential and conditions necessary for the strategic development of Ireland's bio-economy to contribute to longer term sustainable development and to build upon Ireland's already strong agricultural, industrial and technological sectors. Maximising the potential of Ireland's bio-economy also requires the identification and preparation for a range of advanced technological solutions as well as enhancing coordination across Ireland's research and development sector. This will also form a key part of the Government's examination of the feasibility and conditions necessary for the development of a national bio-economy strategy. It will initially be led by the Department of the Taoiseach, working in close conjunction with relevant Government Departments and State Agencies.

### 2016 Actions

#### Bio-economy

304

Initiate an examination of the scope, feasibility and conditions necessary for the development of a national bio-economy strategy; and produce an interim report on the matter by end year.

(D/Taoiseach with other relevant Departments and agencies)



# Action plan for rural development, 2017

	Action	Responsibility
116	Establish a baseline assessment of the current bioeconomy activity and opportunities across the various sectors in Ireland	<b>Dept of the Taoiseach</b> & other relevant sectoral depts
117	Hold a consultative seminar on the bioeconomy, with key stakeholders including the development agencies & the private sector	<b>Dept of the Taoiseach</b> & other relevant sectoral depts.
118	Publish a high level policy statement on the bioeconomy in Ireland	<b>Dept of the Taoiseach</b> & other relevant sectoral depts.

Inter-departmental Group (**Nov 2016**) Scoping exercise (**Nov 2016 – Jan 2017**)

BioÉire research on value chains

Joint Dept. of Taoiseach-Teagasc workshop with key stakeholders (**Feb 2017**)

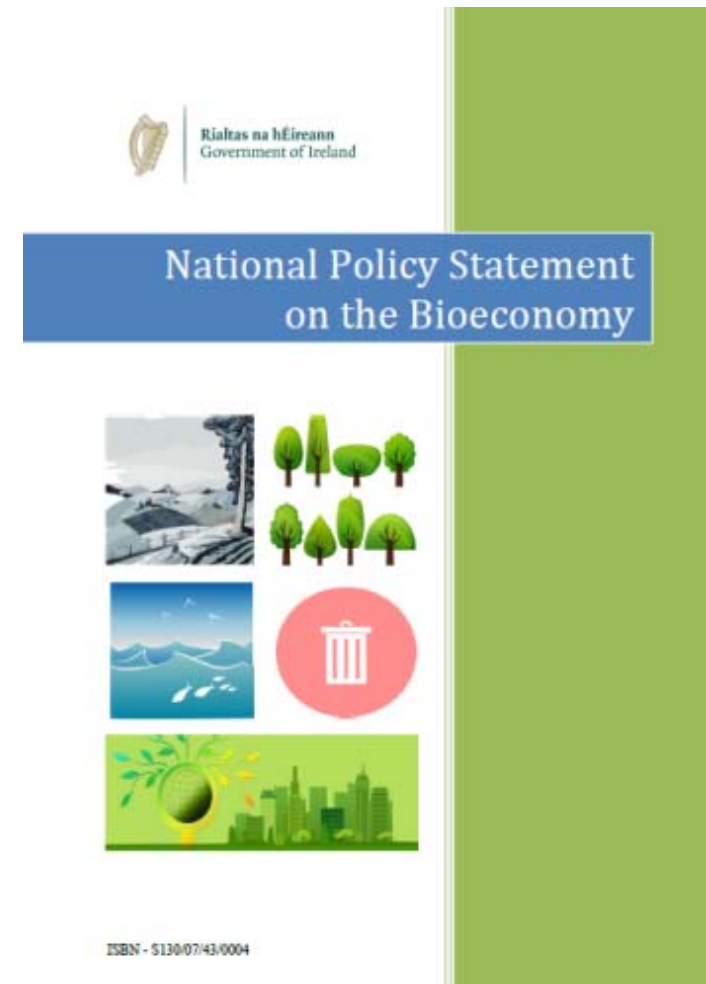
Discussion Document and invitation for submissions (**July 2017**)

Submissions analysed & fed into prep. of the Statement. (**Sept –Nov 2017**)

National Policy Statement (**Dec 2017**) Formal publication (**March 2018**)

# Purpose of the National Policy Statement

- Important signal to national and international stakeholders regarding Ireland's vision
- Capitalise on the potential of the bioeconomy.
- Advance through greater policy coherence across sectors.
- Identify fundamental challenges to the commercial success and social development of the Bioeconomy.
- Establish an implementation framework and ensure the engagement of key stakeholders.



# Alternative Bioeconomy Visions

	Bio-technology vision	Bio-Resource Vision	Bio-Ecology Vision
<b>Aims &amp; objectives</b>	Economic growth & job creation	Economic growth & sustainability	Sustainability; biodiversity, conservation of ecosystems, avoiding soil degradation
<b>Value creation</b>	Application of biotechnology, commercialisation of research & technology	Conversion and upgrading of bio-resources (process oriented)	Development of integrated production systems, and high-quality products with territorial identity
<b>Drivers &amp; mediators of innovation</b>	R&D, patents, TTOs, Research councils and funders (Science push, linear model)	Interdisciplinary, optimisation of land use, include degraded land in the production of biofuels, use and availability of bio-resources, waste management, engineering, science & market (interactive & networked production mode)	Identification of favourable organic agro-ecological practices, ethics, risk, transdisciplinary sustainability, ecological interactions, re-use & recycling of waste, land use (circular & self-sustained production mode)
<b>Spatial focus</b>	Global clusters/central regions	Rural/peripheral regions	Rural/peripheral regions

Source: Bugge et al, 2016

# Reflections on the process

- Framing of the bioeconomy by the National Action Plan for Jobs and the National Action Plan for Rural Development
- Leadership by the Dept of the Taoiseach (Prime Minister's office) and establishment of an inter-departmental group
- Identification of priority value chains through DAFM funded research and broad stakeholder input
- High level consultative seminar with stakeholders to co-design a vision for the future
- Public submissions



# Global Bioeconomy Summit 2018



# Taking the bioeconomy forward? – The Implementation group

- The economic and environmental case for the bioeconomy is clear.
- The next step - how can the commercial viability of the bioeconomy can be extended and intensified?
- The Irish Government has decided to establish a high-level **Implementation Group** - jointly chaired by the Departments of Agriculture, Food and Marine and Communications, Climate Action and Environment.
- The group will bring forward recommendations to develop the bioeconomy further.

# Key actions for the future success of the bioeconomy in Ireland

1) Ensure Policy Coherence

2) Establish a Network of Stakeholders



4) Review Legislative Definition of Waste.



3) Translate Research to real Applications

5) Risk Assessment & Mgt. Protocols.



CASA, Support to SCAR

## Key actions for the future success of the bioeconomy in Ireland

6) Progress the leading value chain propositions identified in the Bio-Eire project.



**BioÉire**

A Bioeconomy for Ireland



7) Consider how greater primary producer, public and consumer awareness of the bioeconomy and its products can be raised.



CASA, Support to SCAR



# Insights from CASA

- *Evaluating the bioeconomy and related policies and actions*
  - Innovation systems perspective
    - Infrastructural Failures
    - Capabilities Failures
    - Network Failures
    - Institutional Failures
  - Transformation system perspective
    - Policy Coordination Failures
    - Directionality Failures
    - Demand Articulation Failures
    - Reflexivity Failures



Coenen et al., 2015

Weber and Rohrer (2012)

Devaney and Henchion (2017)

# Conclusion

- Ireland's bioeconomy vision is a bio-resource vision.
  - The bioeconomy is consistent with Ireland's and the EU's low carbon transition objective.
  - Moving beyond target compliance and carbon mitigation
  - The bioeconomy has the potential to grow rural and regional businesses and jobs, and enhance competitiveness.
- The policy statement will be translated into action through sectoral strategies (IDG)
- Significant investments already made in R&I
- Need to also address demand side aspects
- Need for reflexivity and consideration of systems perspectives

# THANK YOU

## For your attention

### Acknowledgements:

- Financial contribution from DAFM Stimulus Fund for project ref 14/SF/857
- BioÉire team
- Teagasc Bioeconomy Working Group



# Resources

- **Devaney, L., and Henchion, M.** (2018) Consensus, caveats and conditions: international learnings for bioeconomy development, *Journal of Cleaner Production*, 174, 1400-1411, Available online 10 November 2017, <https://www.sciencedirect.com/science/article/pii/S0959652617327051?via%3Dihub>
- **Henchion, M. et al** (2017), Teagasc submission made in response to the discussion document for the preparation of a national policy statement on bioeconomy, submitted to the Department of the Taoiseach, available at <https://www.teagasc.ie/media/website/publications/2017/Teagasc-Submission.pdf>
- **Devaney, L. and Henchion, M.** (2017). Bioeconomy Research & Innovation Policy Landscape in Europe: A Review. CASA Deliverable 3.3, November 2017 [online] Available at: [https://scar-europe.org/images/CASA/Documents/CASA-Report\\_D3-3\\_Bioeconomy\\_RI\\_Landscape.pdf](https://scar-europe.org/images/CASA/Documents/CASA-Report_D3-3_Bioeconomy_RI_Landscape.pdf) (accessed: 16/4/18).