# BIOECONOMY POLICY IN EU COUNTRIES AND WHAT WE CAN LEARN FROM THEM

**DR JON PAUL FAULKNER OUTLINES WHAT LESSONS IRELAND CAN TAKE FROM GERMANY, FRANCE, AND BELGIUM AS WE TRY TO TURN A REGIONAL STRATEGY FOR THE BIOECONOMY IN IRELAND INTO FARM-GATE OPPORTUNITY**

**Across Europe, the countries that have built the strongest bio-based industries did not get there by technology alone.** They also built governance: clear national direction, strong regional delivery, farmer participation, and routines for learning and course-correction.

For Irish farming, the bioeconomy is about turning biological resources such as grassland productivity, slurry, residues, forestry thinnings, and food by-products, into higher-value products and energy, while keeping rural areas competitive and cutting dependence on imported fossil inputs. The difficulty is that bioeconomy development sits across agriculture, enterprise, energy, waste, climate and spatial planning. If policy remains fragmented, projects struggle with planning risk, unclear sustainability rules, weak market signals and a lack of coordination between feedstock supply and processing demand.

Looking at three European front-runners – Germany, France and Belgium – one message stands out – bioeconomy progress depends on three linked capacities:

- Multi-level coordination (national direction that reaches regions and value chains);
- Participatory governance (farmers and communities shaping priorities, being consulted throughout the process and not just at the end);
- Reflexive science-policy interfaces (structures that keep evidence and real-world feedback connected to decisions).

The CoBioEcon project is a collaboration between University College Dublin (UCD) and the University of Galway, and funded by the Department of Agriculture, Food, and the Marine (DAFM), that is co-designing a regional strategy for the bioeconomy in Ireland.

WHAT IS THE BIOECONOMY?
**The bioeconomy means using renewable biological resources from land and sea such as crops, forests, animals, fisheries and microorganisms, to produce food, materials, chemicals and energy, ideally within circular systems that minimise waste.**

## GERMANY: COORDINATED DECENTRALISATION

Germany pairs a strong national strategy with deliberate regional delivery. A distinctive feature is the funding of regional 'bioeconomy innovation spaces', which are territorial labs where regions specialise (for example, lignocellulosic biomass and green chemistry, or marine biomass and algae applications). These spaces do two things well. First, they connect local biomass realities to applied R&D and demonstration, so innovation is shaped by feedstock logistics, skills and market routes. Second, they act as feedback loops where regional learning helps refine national direction, rather than strategy remaining a static document.

For Ireland, the lesson is not to copy German institutions, but to recognise the value of coordinated decentralisation. A clear national framework, should be paired with empowered regional platforms that can build project pipelines, broker partnerships and turn 'potential' into investable propositions.

## FRANCE: CO-FINANCED DELIVERY

France leans heavily on the regional scale. National strategy sets priorities, but regions develop 'territorial bioeconomy visions' and regional biomass schemes that map resource availability and identify where and how biomass should be mobilised. Importantly, these biomass plans align with wider regional spatial and development instruments, so bioeconomy is treated as part of territorial planning, not a niche innovation agenda.

France also uses State-region planning contracts to agree investment priorities and co-financing commitments across multi-year periods, creating clarity for infrastructure, skills and innovation support.

For Ireland, the transferable point is planning alignment. If bioeconomy is not embedded in regional and local development instruments,

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and if co-financing is uncertain, projects face avoidable delays, community opposition and investor hesitation.

## BELGIUM: MISSION-ORIENTED PROGRAMMES

Belgium's federal structure produces different regional approaches, but it offers a practical lesson: bioeconomy delivery improves when it is integrated with circular economy governance. In Flanders, mission-oriented innovation programmes link biobased innovation to climate-neutral goals, supported by coordinating platforms that connect ministries, industry, municipalities and research bodies. In Wallonia, competitiveness clusters organise public–private collaboration in areas like sustainable chemistry and circular innovation.

For Ireland, the transferable lesson is functional rather than constitutional: cluster governance, shared roadmaps, and performance indicators can keep multiple actors aligned, even where responsibilities are distributed.

## FROM CONSULTATION TO CO-DESIGN: WHY PARTICIPATION MATTERS

Bioeconomy projects require real trade-offs, land use, water quality, biodiversity, odour, traffic, and the balance between food, feed, and energy uses of biomass. Front-runner countries invest in participation because it reduces conflict and improves project design. France stands out for structured participatory methods that bring farmers, cooperatives, local authorities, businesses, and citizens into scenario-building and priority-setting. Belgium shows a different route: practice-based participation, where farmers help test and refine climate and circular practices and feed data back into advisory systems. Germany has broadened participation through national advisory bodies and through stakeholder-convening within regional innovation spaces. The common thread is treating farmers as partners in shaping the bioeconomy's direction, because the bioeconomy cannot be delivered to farming; it must be delivered with farming.

## LEARNING SYSTEMS: SCIENCE–POLICY INTERFACES

Markets move, technologies evolve, and environmental constraints tighten. Countries with mature bioeconomy governance build mechanisms that allow policy to learn and adapt. Germany has strategic advisory capacity and technology assessment routines. France uses interdisciplinary research capacity to support scenario-building and integrated assessment for territorial planning. Belgium embeds life cycle and systems assessment in programme criteria, with indicators and regular review. For Irish policy, the message is straightforward: without an institutionalised learning system, bioeconomy policy becomes reactive. With one, policy can remain adaptive and credible, particularly important where sustainability, land-use impacts, and community benefits are under scrutiny.

## WHAT THIS MEANS FOR IRELAND: FIVE PRACTICAL MOVES

Ireland has ambition in its bioeconomy strategies and action plans, but delivery remains constrained by fragmentation across departments, agencies, and spatial scales. Drawing from the European lessons, five moves would materially improve Irish delivery:

1. Establish a national coordination body with delivery authority, able to align agriculture, enterprise, environment, energy, and regional development, and to unblock cross-department barriers.
2. Create regional bioeconomy hubs, translating national aims into region-specific pipelines (feedstock mapping, projects, skills, finance).
3. Build farmer-led co-design into programmes from the outset, especially where land-use trade-offs are likely, moving beyond consultation to shared priority-setting.
4. Develop a dedicated science–policy interface for the bioeconomy to coordinate evidence, foresight, and sustainability assessment (carbon, biodiversity, water, and social impacts).
5. Align market-making tools with rural value capture, strategic public procurement for biobased materials, targeted incentives where appropriate, and funding that de-risks first-of-a-kind facilities (including anaerobic digestion and biomaterials pilots), so farmers capture value beyond supplying biomass.

Germany, France and Belgium show that leading biobased infrastructure is the visible outcome of governance capacity. Where coordination is strong, regions can specialise. Where participation is real, conflicts are managed and trust grows. Where learning systems exist, strategies stay credible and investment becomes easier. For Ireland, the opportunity is clear: build the governance that makes good projects possible, repeatably, fairly, and at scale, so the bioeconomy becomes a practical rural development pathway, not just a policy aspiration.

GET IN TOUCH

**If you are a farmer, co-op, SME, or local authority exploring biobased opportunities, such as anaerobic digestion, nutrient recovery, biomaterials, or new fibre crops, and want to inform regional strategy work, you can contact the team at www.cobioecon.com.**