



DEPLOYING CIRCULAR BIOECONOMIES AT REGIONAL LEVEL WITH A TERRITORIAL APPROACH

The ROBIN Toolbox: supporting regions in the development of governance models for a circular economy

Steinbeis 2i GmbH (S2i)
Dr. Nadja Schlichenmaier



PARTNERS



Funded by
the European Union



The ROBIN toolbox - WHY?

The Challenge

Europe's **Regional Authorities** have a **crucial role** to play as agents of just, inclusive and resilient economic development for their territories. However, most regions are still in the process of exploring their position with respect to bioeconomy, while the newest policy mandates related to circularity increase the complexity of this undertaking.

European Regions need to:

- i. **exploit the significant volume of knowledge available,**
- ii. **adapt their governance models in ways that allow them to meaningfully support the scaling up of the bio-based value chains of their ecosystem and**
- iii. **be able to network and source knowledge from peers**





The ROBIN toolbox - WHY?

The Goal

The ROBIN Toolbox is designed to support regions to develop bioeconomy governance models and strategies by:

Inspiring bioeconomy governance models and practices: The ROBIN Toolbox is a comprehensive resource to explore and extract insights into exemplary governance models and practices on how policy makers and innovation developers actively contribute to the successful implementation of regional bioeconomy initiatives.

Practical Tools for Circular Bioeconomy Governance: The ROBIN toolbox equips regions with practical, ready-to-use tools to develop their bioeconomy strategies by for example developing a policy monitoring system or drafting environmental protection plans. It streamlines the process, making it efficient and effective.

Tailored Support with ROBIN Support Actions: Each region is unique with specific challenges. The ROBIN Support Actions portfolio helps regions to pinpoint the support initiatives that align with their distinctive circumstances. It's a targeted approach to addressing their needs.

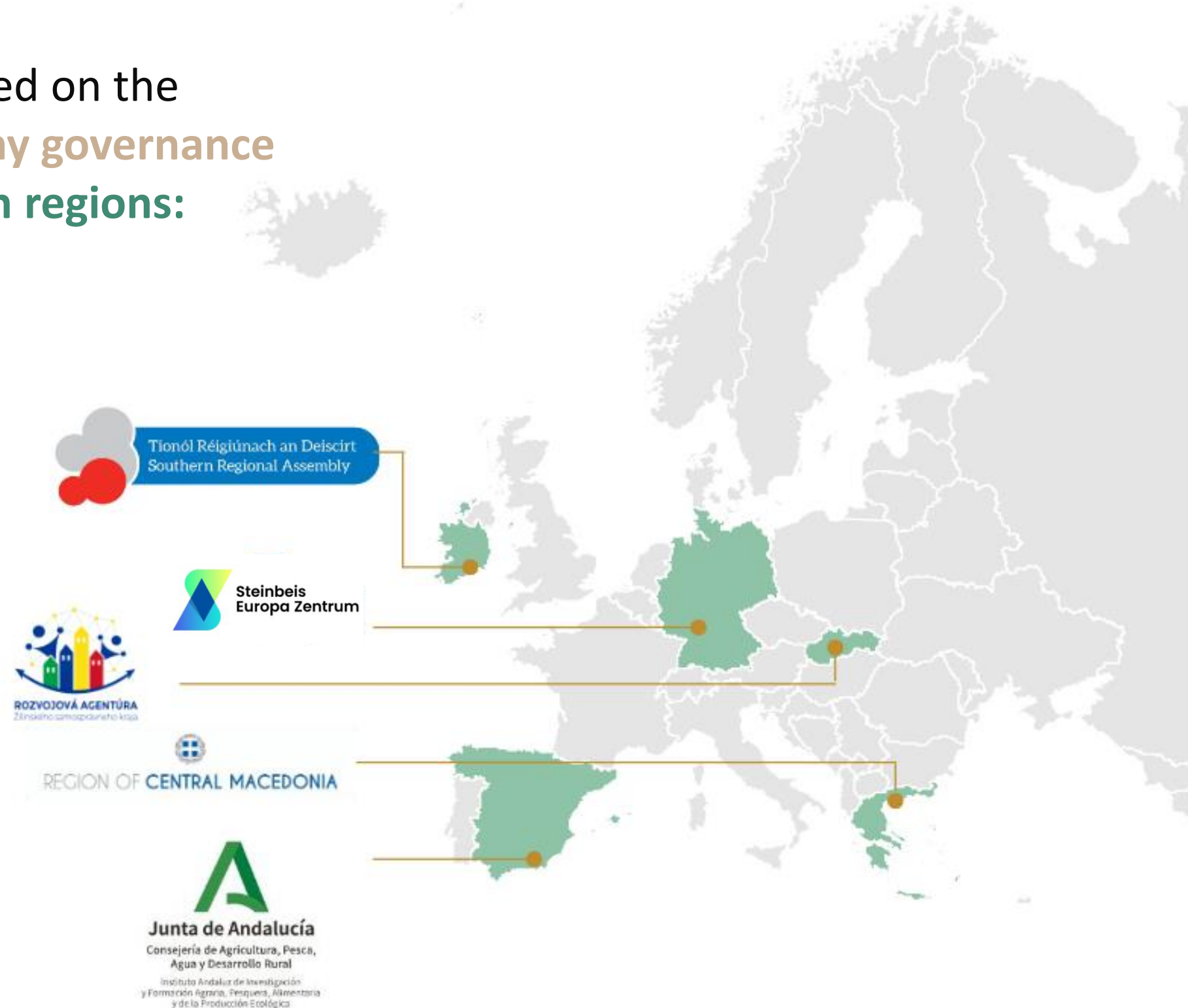




Where: Meet our Regions

The ROBIN toolbox was developed based on the experience with **innovative bioeconomy governance models** and structures in **five European regions**:

- Southern Region (Ireland)
- Central Macedonia (Greece)
- Andalusia (Spain)
- Baden-Württemberg (Germany)
- Zilina (Slovakia)





ROBIN Toolbox

Main Page



About

The **ROBIN Toolbox** is designed to support regions to develop bioeconomy governance models and strategies by:

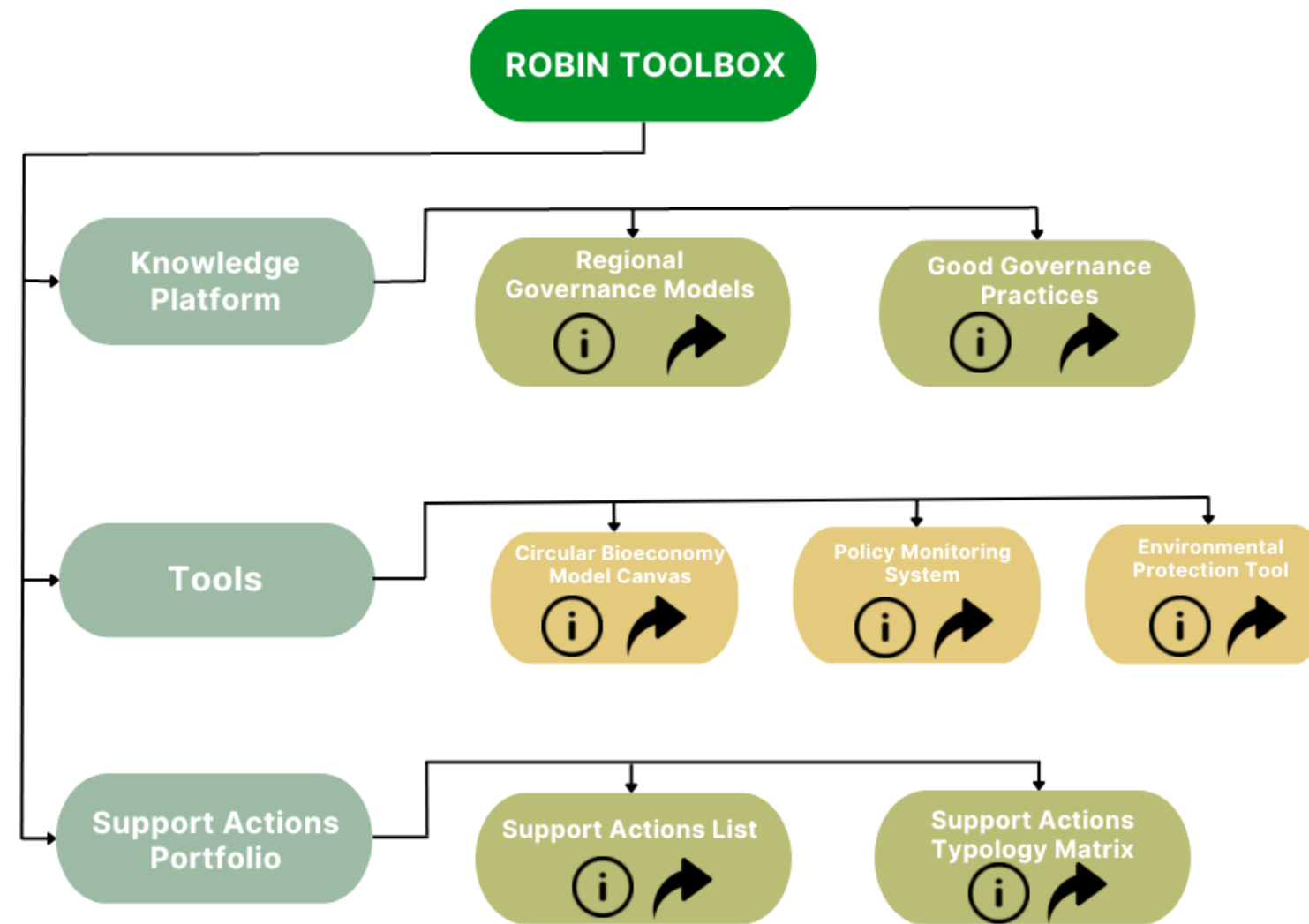
- **Inspiring bioeconomy governance models and practices:** The ROBIN Toolbox is a comprehensive resource to explore and extract insights into exemplary governance models and practices on how policy makers and innovation developers actively contribute to the successful implementation of regional bioeconomy initiatives.
- **Practical Tools for Circular Bioeconomy Governance:** The ROBIN toolbox equips regions with practical, ready-to-use tools to develop their bioeconomy strategies by for example developing a policy monitoring system or drafting environmental protection plans. It streamlines the process, making it efficient and effective.
- **Tailored Support with ROBIN Support Actions:** Each region is unique with specific challenges. The ROBIN Support Actions portfolio helps regions to pinpoint the support initiatives that align with their distinctive circumstances. It's a targeted approach to addressing their needs.

For more information on the Robin Project please visit:

[Robin Project Website](#)



The Robin Toolbox Roadmap





ROBIN Toolbox

User Guidelines & Glossary

User Guidelines

- Are you just starting to plan how your bioeconomy governance model will work?

Visit the ROBIN Knowledge Platform ([Governance Models](#), [Good Practices](#)) to provide valuable insights and best practices to start

- Are you currently putting your bioeconomy governance model into action?
- Are you currently keeping track of how well your bioeconomy governance model is working?
- Are you looking for inspiration and best practices in bioeconomy governance?
- Do you need practical tools and templates to streamline the development of your governance model?
- Are you interested in accessing case studies and reports on successful regional bioeconomy governance models?
- Do you require support in policy monitoring?
- Do you require support in environmental protection planning?
- Are you seeking customized resources that are applicable to your specific territorial context?

Glossary

- Bioeconomy**
Bioeconomy means using renewable biological resources from land and sea, like crops, forests, fish, animals, and micro-organisms to produce food, materials and energy.
(Source: Bioeconomy (europa.eu))

- Governance Model**

- Good practice**

- Good governance practices**

- Policy monitoring**

- Environmental protection plan**

- Support action**

- Action plan**

- Regional bioeconomy strategy**

- Regional vision/Value proposition**

- Support Actions Portfolio**

- Circular Bioeconomy Governance Model Canvas**





Knowledge Platform

Regional Governance Models

- Array of 20 circular bioeconomy governance models for regional development
- Includes various typological aspects (e.g. constraints, territorial factors, and sustainability goals)
- Search function, filters and maps

Governance Models

Resource that provides a collection of diverse circular bioeconomy governance models designed for regional implementation across the EU. It considers varying typology aspects such as governance mechanism and constrains, territorial aspects, sustainability objectives among others.

-
- Country ▾
- Territorial Aspect ▾
- Transformation Path ▾
- Enabling Governance Mechanism ▾
- Constraining Governance ▾
- Territorial Measure ▾
- Strategy ▾
- Focus ▾



Alliance Plant³

Germany / Mecklenburg -Pomerania. The Alliance Plant³ Aims At Making A Substantial Contribution To An Innovation-Based Structural Change In The North-Eastern Mecklenburg -Pomerania Region. It Is An Open...

[Read More](#)



Andalusian Circular Bioeconomy Strategy

Spain / Andalusia. Andalusian Circular Bioeconomy Strategy (ACBS) Contributes To The Sustainable Growth And Competitiveness Of The Region. The Focus Of The ACBS Is The Development Of Activities Among Three...

[Read More](#)

Filter Description:

- **Country:** Where the governance model is implemented/studied.
- **Territorial Aspect:** Specific geographical or spatial characteristics of a region where the governance model is applied.
- **Transformation Path:** The strategic direction or approach taken in the bioeconomy sector.
- **Enabling Governance Mechanism:** Proactive strategies/tools that bolster the development and implementation of the bioeconomy.
- **Constraining Governance:** Mechanisms that set limits, standards, or address potential challenges in the bioeconomy.
- **Territorial Measure:** Actions/policies tailored to the unique needs and characteristics of a particular territory.
- **Strategy:** High-level plan/approach designed to achieve specific goals.
- **Focus:** Highlights the primary area or sector of interest within the bioeconomy





Knowledge Platform

Good Governance Practices


- Repository of 10 successful strategies to foster social innovation and circular bioeconomy business models
- Inspiration on how to shape their bioeconomy strategies effectively
- Search function, filters and maps


Good Practices


Resource with successful good practices of regional government to encourage social innovation and business models to promote circular bioeconomy.

Countries ▼

Type Of Practice ▼







Baden-Württemberg Bioeconomy Congress

Germany / Baden-Württemberg. In The Congress Important Topics Regarding Bioeconomy Are Addressed By Information Sessions, Discussion Panels, Workshops, Excursions, And Seminars Including Real-Life Practices.

[Read More](#)

BIOVALE Innovation Camp

UK / Yorkshire And Humberland. The Innovation Biocamp Funded Through The Biobase4SME Programme Was A Week-Long Incubator Programme Operating Between 2017 And 2019 Aimed At Providing High-Potential Biobased Companies With...

[Read More](#)

Filter Description:

- **Countries:** Nation/states where good governance practices are implemented and/or studied.
- **Type of Practice:** Specific approach/method used in overseeing the bioeconomy within a particular region and/or context.





Knowledge Platform

Inspiring bioeconomy governance models and practices:

The Knowledge Platform:

- is a comprehensive overview of exemplary governance models and practices on the regional level.
- can serve as inspiration for developing regional circular bioeconomy strategies.
- can give insight into how Policy makers and innovation developers are actively contributing to the successful implementation of regional bioeconomy initiatives.
- can create awareness about and visibility for regional bioeconomy initiatives





ROBIN Toolbox

Main Page



About

The **ROBIN Toolbox** is designed to support regions to develop bioeconomy governance models and strategies by:

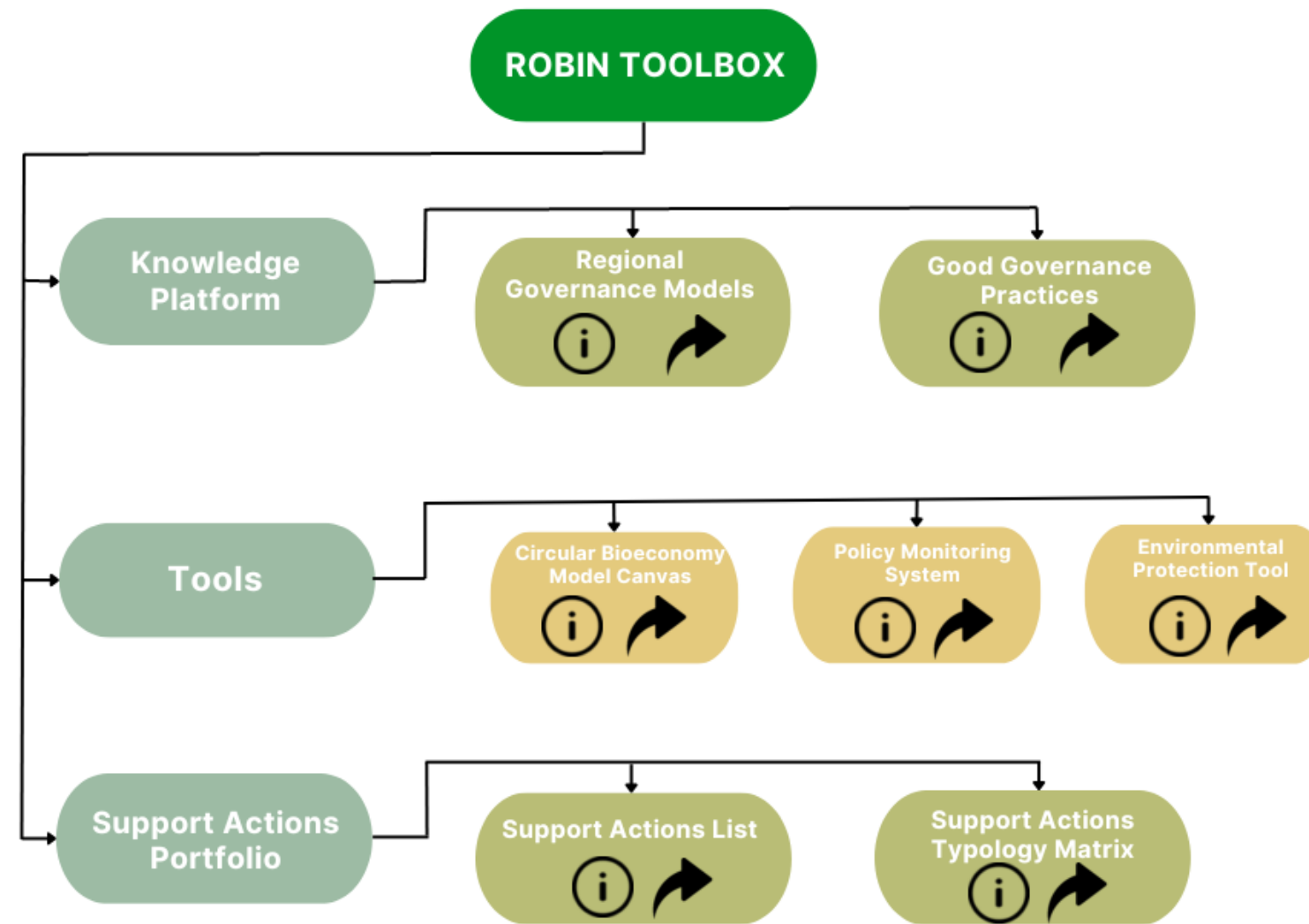
- **Inspiring bioeconomy governance models and practices:** The ROBIN Toolbox is a comprehensive resource to explore and extract insights into exemplary governance models and practices on how policy makers and innovation developers actively contribute to the successful implementation of regional bioeconomy initiatives.
- **Practical Tools for Circular Bioeconomy Governance:** The ROBIN toolbox equips regions with practical, ready-to-use tools to develop their bioeconomy strategies by for example developing a policy monitoring system or drafting environmental protection plans. It streamlines the process, making it efficient and effective.
- **Tailored Support with ROBIN Support Actions:** Each region is unique with specific challenges. The ROBIN Support Actions portfolio helps regions to pinpoint the support initiatives that align with their distinctive circumstances. It's a targeted approach to addressing their needs.

For more information on the Robin Project please visit:

[Robin Project Website](#)



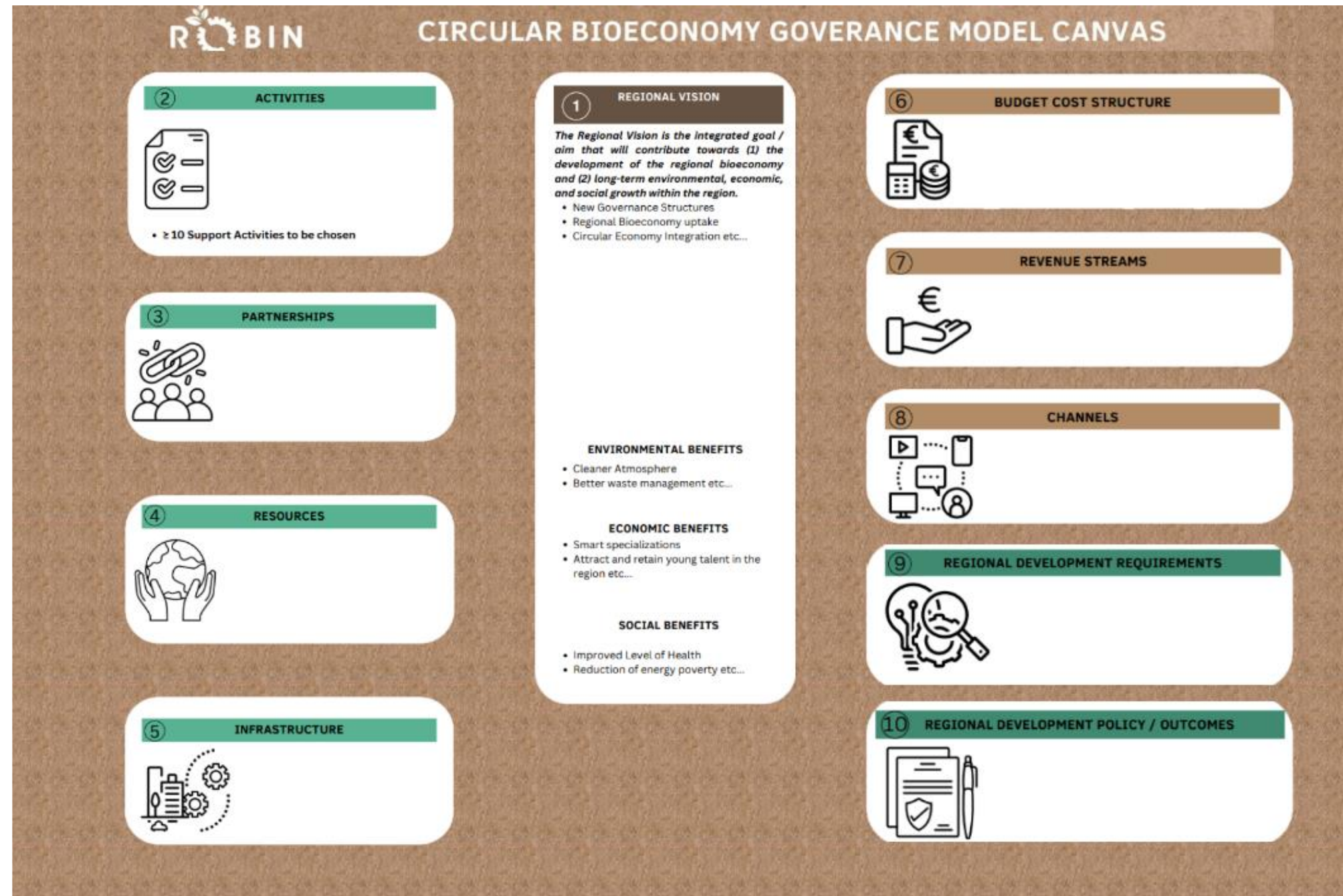
The Robin Toolbox Roadmap





Circular Bioeconomy Governance Model Canvas

Co-creation tool for developing and updating regional circular bioeconomy governance models. It comprises elements such as the governance model's value proposition, beneficiaries, activities, partnerships, infrastructure and resources, cost structure and sustainability related costs and benefits.





Circular Bioeconomy Governance Model Canvas

Practical Tools for Circular Bioeconomy Governance:

The Circular Bioeconomy Governance Model Canvas:

- Is a co-creation tool aimed at co-designing a regional circular bioeconomy vision with input from local stakeholders in a workshop setting
- It can help
 - Identify of support actions to achieve the regional vision
 - Identification of existing resources and infrastructure (e.g., biomass and biorefineries) which can contribute to regional circular bioeconomy development
 - Identification of the central stakeholders and partnerships required to implement/scale regional bioeconomy
 - Planning the costs and potential revenues to the region from implementing these circular bioeconomy actions
 - Establishing communication and engagement activities with the wider regional networks
 - Understanding what is required from the region to support successful circular bioeconomy implementation (e.g., education, skills, policy, awareness)
 - Understand what may be some of the policy and practice outcomes for the region






Policy Monitoring System

- Tool to evaluate the performance of governance models with respect to Environmental, Socioeconomic and Governance (ESG) as well as territorial RRI aspects.
- Collection of 16 indicators that provide a solid foundation for capturing key aspects of the bioeconomy’s performance and impact.
- Information about selected indicators and insights and interpretations of the data


The Policy Monitoring Tool (PMT)

All
Environmental
Ethics
Governance
Public Engagement




Employment By Age In Bioeconomy Sectors

[Read More](#)




Employment By Educational Level In Bioeconomy Sectors

[Read More](#)




Environmental Footprints In Exporting Countries (To EU)

[Read More](#)




Financial Support To Bio-Based Sectors (Climate Action)

[Read More](#)




Growing Interest Of Society (Especially The Young Generation) In Topics Close To Bioeconomy.

[Read More](#)




Holding Of Conferences And Training Activities

[Read More](#)



Income By Gender By Sector

[Read More](#)




Income Distribution Along Bioeconomy Value Chains

[Read More](#)

Employment by age in bioeconomy sectors

This indicator offers insights into the age distribution of the workforce within bioeconomy sectors. It assesses the composition of employees in various age groups, helping to identify trends and potential generational differences in bioeconomy employment. The data can inform strategies accordingly, ameliorating its workforce development and planning.



- Qualitative Analysis**
- Quantitative Analysis**
- Outcomes & Improvement**
- Evaluation Metric***

The bioeconomy relies on the expertise and experience of older workers who have accumulated valuable knowledge in areas such as agriculture, forestry, and biotechnology. However, attracting and retaining younger workers in the bioeconomy is challenging due to limited awareness and understanding of the career opportunities available in this field.

The diverse industries within the bioeconomy, such as renewable energy, sustainable agriculture, and bioproduct manufacturing, may not be widely recognized or considered appealing career paths for younger individuals. This lack of awareness contributes to the difficulty in attracting younger talent to the sector.

Furthermore, ageism and discriminatory practices during the hiring process pose additional obstacles for younger individuals seeking employment in the bioeconomy. Older workers may be favored based on assumptions of their experience and reliability, while younger candidates may face biases related to perceived lack of experience or maturity.



Policy Monitoring System

GUIDE FOR POLICYMAKERS
Using the Bioeconomy Policy Monitoring Tool (PMT)

STEP-BY-STEP PROCESS:

- 1 IDENTIFY CONCERN**
 - Policymaker (or regional authorities) identifies a concern during the development of the bioeconomy policy regarding ethical challenges.
- 2 VISIT PMT AND EXPLORE THE CATEGORIES OF THE AVAILABLE INDICATORS**
 - The policymaker can explore 5 categories of indicators within the scope of Ethics, Public Engagement, Socioeconomic, Governance and Environmental challenges.
- 3 SELECT AND INTEGRATE INDICATORS IN YOUR POLICY STRATEGY**
 - Choose and integrate appropriate indicators to effectively monitor progress and assess outcomes of your policy/strategy.
- 4 EXPLORE THE INDICATORS**
 - Get informed on the current trends and state-of-play of the chosen indicators in the bioeconomy field.
- 5 APPLY THE PMT'S SUGGESTIONS INTO YOUR POLICY**
 - Explore outcomes and actionable suggestions for incorporation of the selected indicators into your policy.
- 6 EVALUATE IMPACT**
 - Use specific metrics, to measure and monitor your indicator in order to evaluate the impact of your policy/strategy.

The Bioeconomy Policy Monitoring Tool (PMT) is a tool designed to help policymakers. It offers guidance on planning and implementing bioeconomy policies and a tracker for monitoring the progress made.

Practical Tools for Circular Bioeconomy Governance:

The Policy Monitoring System:

- Can be used to evaluate the performance of regional governance models.
- Allows regional authorities to take corrective action and optimize their governance model toward a more effective and responsible bioeconomy strategy





Environmental Protection Planning Tool

Tool to facilitate the identification of potentially non-eco-friendly practices currently followed by regional authorities. It can be used by policymakers, their advisors, public servants of all levels, and other practitioners to quickly assess their region's environmental performance and discuss potential actions to adopt more eco-friendly practices.

The tool contains 32 indicators across the 8 most critical environmental management sectors:

Solid Waste



Liquid Waste



Air Emissions



Water resources



Energy resources



Natural Ecosystems



Green Entrepreneurship



Sustainable Processing



Indicators are rated according to applicability for the region and barriers to improvement.





Environmental Protection Planning Tool

ENVIRONMENTAL PROTECTION PLAN											
Environmental Management Sectors	Environmental Indicators	Description	Applicability	Barriers					Environmental Performance	Sectoral Assessment	Comments
				Technical	Financial	Skills & Knowledge	Policy & Regulations	Local awareness			
	Waste sorting	Does your region implement different bins into the collection of various waste (organic, plastic, glass, paper)?							0	0.00	
	Waste management	Do you have a specific protocol for the waste management: collection-transportation-disposal-treatment?							0		
	Biodegradable facilities	Do they exist in your region? How advanced are these treatment methods? I.e. Composting, fertilizer, biogas, etc.							0		
	Hazardous waste	Do you apply a specific treatment for the hazardous waste (pharmaceuticals, drugs, industrial waste, chemicals treatment, ...)?							0		
	Waste water treatment plant	Do you have a Waste Water Treatment Plant? Where is the liquid waste disposed?							0	0.00	
	Outlet monitoring	Do you monitor the outlet to be aligned with the standards?							0		
	Recirculation facility	Do you apply any recirculation facility to reduce the concentration efficiently?							0		
	Outlet disposal ecosystem	Consider here the risk to destroy the blue bioeconomy ecosystem. Do you have any protection measure on that so far?							0		
	GHGs monitoring	Do you have a specific plan for the main activities of your region? I.e. industrial, transportation, building, energy							0	0.00	
	Air exposure limits	Do you measure especially at city level the concentration - exposure level?							0		
	Atmospheric well being	Do the citizens have a well being based on the exposure levels and international standards?							0		
	Sectorial decarbonisation	Do you have a specific plan for the decarbonisation of various sectors, i.e. buildings stock, industries, transport, ...?							0		
	Drinking water facilities	Is in your region the water quality control taking place? I.e. examining physical, chemical and biological characteristics.							0	0.00	
	Water management	Do you apply any recirculation facilities, reduction of water consumption, reuse systems, etc?							0		
	Urban precipitation runoff	Do you collection and/or manage sustainably the rain/snow, etc?							0		
	Blue bioeconomy	Do you investigate and/or exploit the natural aquatic resources for bioeconomy values (biofuels, food additives, ...)?							0		
Energy resources	Biomass potential & local	Are you aware of the biomass potential in your region?							0		





Environmental Protection Planning Tool

Practical Tools for Circular Bioeconomy Governance:

The Environmental Protection Planning Tool:

- Can help assess the regional footprint with respect to the environmental indicators (waste, emissions, sources, management, etc.)
- Can support the development of appropriate action plans and trainings to ensure a lower environmental footprint and adoption of more environmentally friendly practices
- Can serve to inspire the implementation of long-term sustainability practices in regional circular bioeconomy governance models





ROBIN Toolbox

Main Page



About

The **ROBIN Toolbox** is designed to support regions to develop bioeconomy governance models and strategies by:

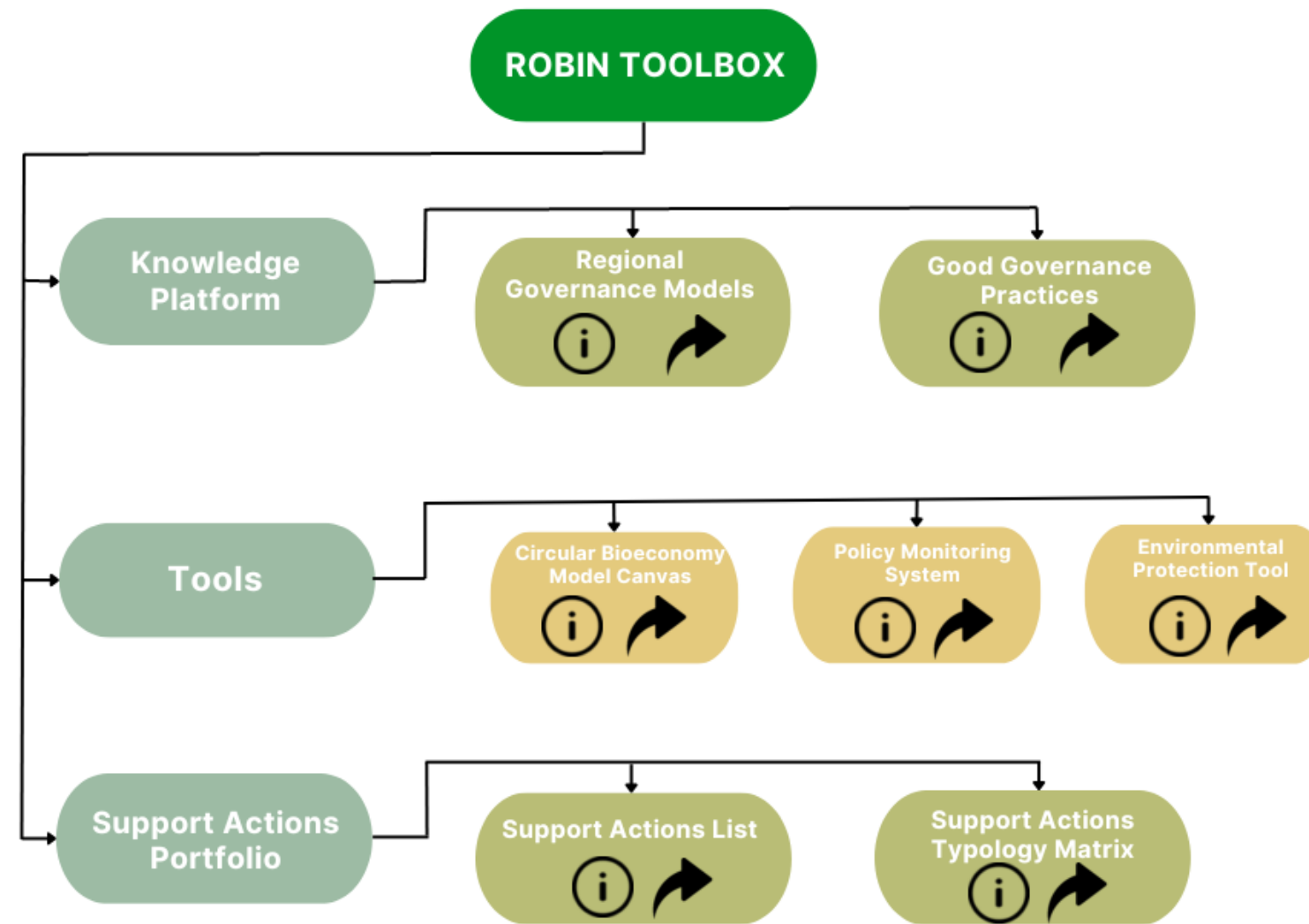
- **Inspiring bioeconomy governance models and practices:** The ROBIN Toolbox is a comprehensive resource to explore and extract insights into exemplary governance models and practices on how policy makers and innovation developers actively contribute to the successful implementation of regional bioeconomy initiatives.
- **Practical Tools for Circular Bioeconomy Governance:** The ROBIN toolbox equips regions with practical, ready-to-use tools to develop their bioeconomy strategies by for example developing a policy monitoring system or drafting environmental protection plans. It streamlines the process, making it efficient and effective.
- **Tailored Support with ROBIN Support Actions:** Each region is unique with specific challenges. The ROBIN Support Actions portfolio helps regions to pinpoint the support initiatives that align with their distinctive circumstances. It's a targeted approach to addressing their needs.

For more information on the Robin Project please visit:

[Robin Project Website](#)



The Robin Toolbox Roadmap






Support Actions Portfolio

- Repository of 49 examples of support actions for creating action plans that enhance regional capacity
- Inputs from WP1 (D1.1 & D1.2) and WP2 (D2.1. & D2.2) results with a strong focus on social aspects
- Filtering function by the type of measure
 - Regional Analysis Measures
 - Social Measures
 - Technical Measures


Support Actions List

Tool with a collection of material and examples for action plans to support regional capacity building, in areas such as raising stakeholder awareness and engagement.


Spain
Andalusia



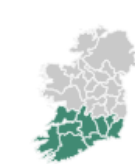
Greece
Central Macedonia




Germany
Baden-Württemberg



Ireland
Southern Region



Slovakia
Žilina



Filter Description:

- **Type of Measure:** Expresses the specific approach or method employed in the support action based on its nature.

Search Here... Search

Type Of Measure ^

- Regional Analysis Measures
- Social Measures
- Technical Measures

- [Analysis Of Biomass Resources And Potential](#)
- [Analysis Of Regional Financing Opportunities \(Private Initiatives\)](#)
- [Analysis Of Regional Funding Mechanisms And Instruments \(Public Level\)](#)
- [Analysis Of Relevant Regional Strategies And Legislation](#)
- [Analysis Of The Barriers For The Deployment Of The Bioeconomy At End-User Level](#)





Support Actions Portfolio

Tailored Support with ROBIN Support Actions:

The Support Action Portfolio:

Is a comprehensive collection of support actions that can be implemented by the regions to support the implementation of their bioeconomy governance strategies

- Regions can choose and apply support actions based on their distinctive circumstances and requirements e.g.
 - Awareness raising
 - Matchmaking opportunities
 - Identification of funding opportunities
 - Technical challenges
- Serves as a repository for addressing the issues identified and action plans developed using the ROBIN toolbox





DEPLOYING CIRCULAR BIOECONOMIES AT
REGIONAL LEVEL WITH A TERRITORIAL APPROACH

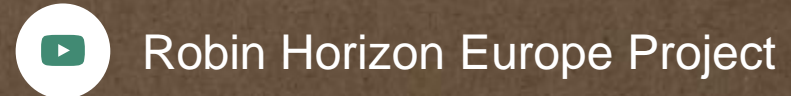
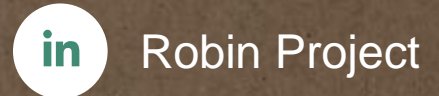
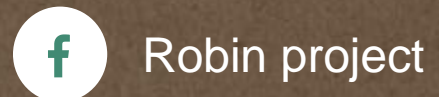
Dr. Nadja Schlichenmaier

Steinbeis 2i GmbH

Steinhäuserstr. 12, 76135 Karlsruhe

nadja.schlichenmaier@steinbeis-europa.de

CONTACT US: info@robin-project.eu



www.robin-project.eu

PARTNERS



Funded by
the European Union