



**Interreg
North Sea**



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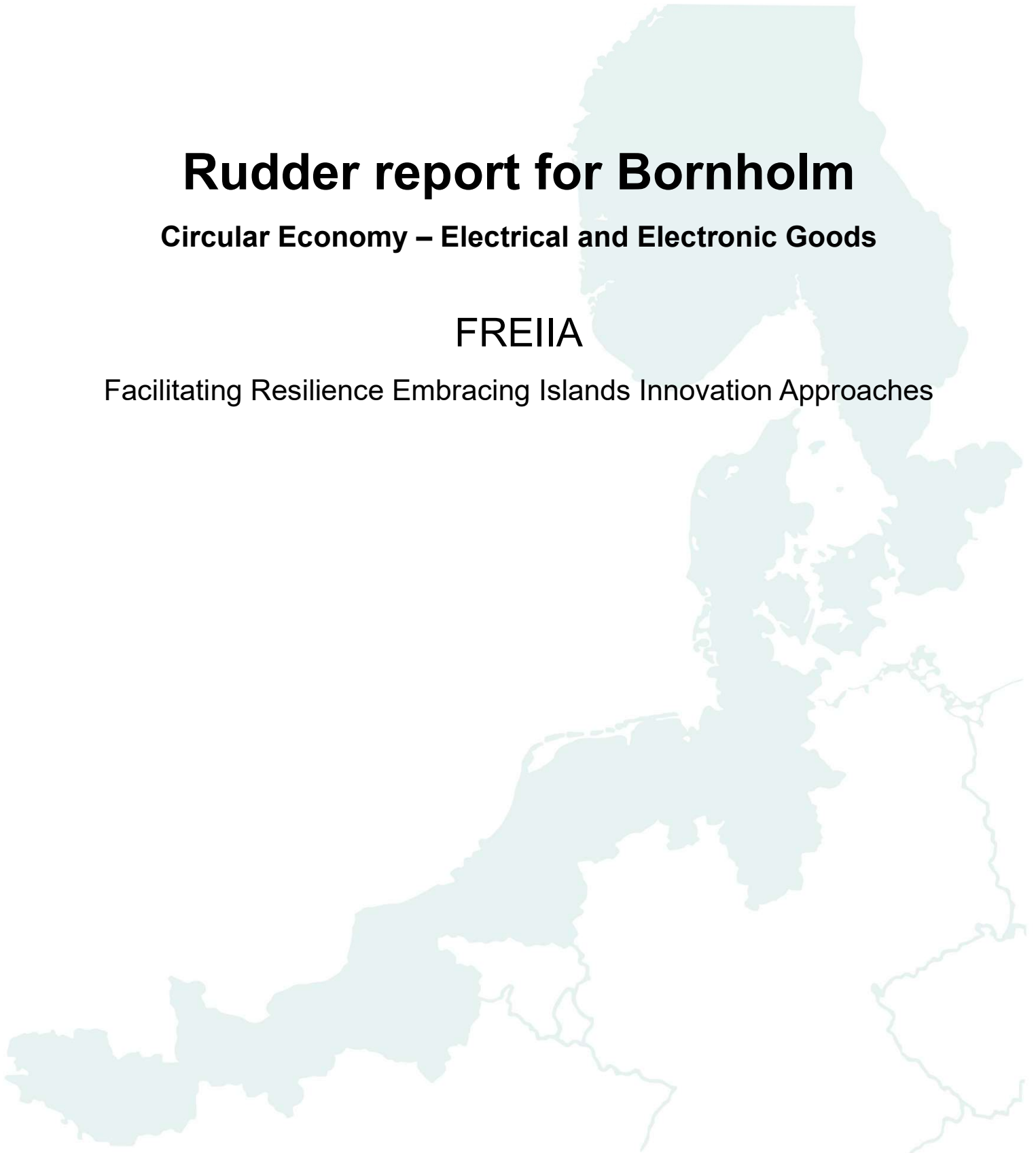
FREIIA

Rudder report for Bornholm

Circular Economy – Electrical and Electronic Goods

FREIIA

Facilitating Resilience Embracing Islands Innovation Approaches



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Introduction

This report is written in a collaboration between Aalborg University (AAU) and BOFA (Bornholm's waste treatment). In earlier stages of FREIIA, BOFA chose to focus on the following two subjects:

1. Circular economy for construction and demolition waste
2. Circular economy for electrical and electronic goods

This report has the focus on Circular economy for electrical and electronic goods.

The report is built upon the *Tipping report for Bornholm – Circular Economy for electrical and electronic goods* and the *Opportunity Assessment for Bornholm - Circular Economy and the Tipping Strategies*. In the Tipping report it was chosen to work further with **job creation through local circular initiatives** creation in the rudder process.

The subject of “job creation through local circular initiatives” takes inspiration from the existing project REUSE-LAB. REUSE-LAB's aim is to create circularity within whitegoods on Bornholm, and at the same time engage young students to work with reparation of whitegoods and prepare them for future jobs. It is a collaboration between BOFA, AAU, FGU and SA-Service. The whitegoods that normally would have become waste, will now be integrated into a loop, where the whitegoods are repaired and sold to new consumers.

This report is aiming to find a way for Bornholm to work further with the idea of job creation through local circular initiatives. It builds upon the idea of including and analysing the relevant actors' roles related to the eight rudder roles from the *Whitepaper: Opening the Blackbox of Governance*. Through a rudder workshop with relevant actors, a roadmap for working further with job creation through local circular initiatives on Bornholm has been suggested.

Background

The Interreg North Sea project FREIIA was developed in response to urgent and interrelated societal challenges such as climate change, biodiversity loss, and growing social inequality. Addressing these complex issues requires more than market-driven solutions or incremental policy adjustments; it demands new forms of societal innovation in which governments play an active, adaptive, and enabling role. FREIIA is built on the recognition that governments are indispensable actors in shaping and accelerating such transformations, particularly when innovation must emerge from the bottom up and serve broad public missions.

In recent decades, however, governments have often struggled to fulfil this role effectively. Their contribution to innovation processes has frequently become fragmented, overly risk-averse, or confined to regulatory functions, sometimes even acting as a bottleneck rather than a catalyst. FREIIA was created to help reverse this trend by equipping governments with concrete instruments, governance capacities, and learning mechanisms that enable them to actively steer and accelerate societal innovation. This ambition aligns closely with the vision articulated by Mariana Mazzucato, who argues that governments should function not only as regulators, but also as risk bearers, investors, and mission-driven innovators in pursuit of collective goals such as the Sustainable Development Goals and the European Green Deal.

At the heart of FREIIA lies a governance model that operationalizes these ideas through the metaphor of the **wheelhouse and the rudder**. The wheelhouse represents the Weberian bureaucracy: the formal structures, rules, procedures, and hierarchies that provide stability, predictability, and continuity in public governance. These elements are essential for safeguarding long-term visions, legal certainty, and institutional reliability. At the same time, the rudder symbolizes the Schumpeterian dynamics of innovation: agility, experimentation, learning, and adaptability in response to changing societal conditions. Without a well-functioning rudder, governments risk becoming rigid and unable to respond effectively to emerging challenges and opportunities.

Crucially, FREIIA does not treat stability and innovation as opposing forces. Instead, it emphasizes their complementarity. Much like in music, where drums and bass provide a stable rhythmic foundation that allows other instruments to improvise, the Weberian bureaucratic base enables policy actors to innovate within a secure and coherent framework. When these foundational structures are in place, governments can support experimentation, connect local initiatives to broader programmes, mobilize funding, and scale successful innovations without losing direction or coherence.

This integrated approach is further elaborated in the FREIIA **T-Model**, in which the vertical axis is reshaped into a RUDDER consisting of eight governance roles. Together, these roles translate the abstract concept of dynamic capabilities into practical governmental action. FREIIA thus supports not only external societal innovation, but also continuous institutional learning and self-renewal within government itself. By strengthening strategic capacity, coordination, and reflexivity, the model enables governments to act more resiliently and proactively in the face of complex transitions.

The current rudder roles related to job creation through local circular initiatives

A pre-rudder meeting was held on the 25th of November 2024. It was prepared and facilitated by two AAU interns, with participants from AAU and BOFA. At this meeting the current rudder roles were identified, which can be seen on the table below.

Rudder roles	Delegated Roles	Action Examples
I Leadership Short term	BOFA / FGU	1. BOFA has an ambitious vision of abolishing landfilling and incineration on Bornholm by 2032. 2. BOFA incorporates the SDGs in their ISO 14001 System and FGU is an SDG school 3. BOFA has a project team, used to working with different CE related topics and FGU has several circular workspaces 4. BOFA works on several EU projects where knowledge and research engagement are part of the process.
II.Connector Short term	BOFA / Business Centre Bornholm	1. BOFA has collaborations with AAU and CBS, through different projects and several local craftsmen and has actively sought co-creation processes with civil society. Business Centre Bornholm has connections to business creation stakeholders and businesses on Bornholm 2. BOFAs Zero Waste Innovation platform may act as a gathering point for cross-sectoral, integral and interdisciplinary collaboration. Business Centre Bornholm stimulates a similar collaboration through the creation of collaborations.
III Facilitator/ Creator Short term	AAU / Campus Bornholm / FGU	1. AAU project members and students can facilitate and organise meetings and initiatives within the partnership. 2. AAU have students and project members who are used to working problem-solution oriented in long term projects and to utilise methods and theories in a systematic way. 3. AAU project members and students may hold a workshop and promote the creation of networks to invite for interaction and partnerships. 4. Campus Bornholm and FGU both have the environment for education, innovation and CE.
IV Provider Medium term	AAU / Municipality / BOFA	1. AAU provides students for internships and project work 2. The Municipality have the small-scale funding opportunities 3. BOFA have experience with getting funding to projects both local, nationally and internationally 4. BOFA is used to provide products and materials for reuse, as well as by promoting partnerships.
V Ambassador Medium term	BOFA / local politician	1. BOFA has experience in communication waste and circular economy. An example is through their ambitious Zero Waste Bornholm vision. 2. BOFA are lobbying activities in EU and the National Government e.g. with FREIIA 3. BOFA has been part of lighthouse projects and marketing them. 4. Local politicians also promote CE for the citizen and goals and policies for this.

Rudder roles	Delegated Roles	Action Examples
VI Leverage/ Capitalize Medium term	Campus Bornholm / Centre for Regional and Tourism Research	1. Develop educational material for EPX 2. Position circular projects into local and national educational and environmental goals – e.g. EPX and Zero Waste vision
VII Network Orbiting Long term	BOFA	1. BOFA are used to building bridges for knowledge sharing both locally, nationally and internationally e.g. with FREIIA. 2. BOFA are in several networks and connect the networks to scale with each other
VIII Procurement Trendsetter Long term	Procurement office in the municipality / BOFA	1. Securing procurement strategies of reuse and repaired products 2. BOFA are used to engage innovators in early stages and secure them in the further process

The Fixer

The fixer is not directly one of the eight roles, but it is necessary to have a fixer for the project to have a fixer in the local government, to ensure the project support from the local government. At the moment it is assessed that there is no actor in the role of the fixer.

The future rudder roles and action plan for job creation through local circular initiatives

The rudder workshop for job creation through local circular initiatives was held on the 3rd of December 2024 at Rønnes Gamle Elværk. At the workshop there was 12 participants from AAU, BOFA, Campus Bornholm and FGU. The workshop was facilitated by the two AAU interns. The workshop resulted in a project description / vision and an action plan with the rudder roles clarified for each action. More information about the workshop can be seen in the semester project by the AAU interns (*Promoting Circular Innovation on Islands*)

The project description / vision

During the workshop, participants' visions for job creation through local circular initiatives were noted and processed in discussions for how future projects should be designed. The idea with the most votes was selected, which is the concept of **a strengthened recycling (shop) network and good partnerships**. This has been compiled into a project description.

The network must fulfil the following functions:

- Include actors such as BOFA, Campus Bornholm, FGU Bornholm, Repair Cafe Rønne, Business Centre Bornholm, school, small and medium-sized businesses and civic associations.
- Create a strong network, inspired by the Green Dialogue Forum.
- Create collaborations between recycling stations, repairers and shops / actors who can sell the products.
- There must be some form of storage for the products both before and after they are repaired.
- Students must be a focus area and be included both in terms of learning, repair and sales.
- The network must help educate the citizens of Bornholm and change the mentality of seeing the value of reuse over new.

The action plan

The action plan is constructed based on the functions and actions that the participants have discussed during the workshop. It is desired that a project organization should be formed first and foremost and then review the action plan, change, add and decide who and when to perform the actions. Yet AAU and BOFA has decided on who could take the role of the actions and which rudder role it relates to.

Short term actions

What?	How?	When?	Who?	Effect
Create a project organisation	Start with the participants in the workshop. These participants can be the members of the project organization. Consider others to include in the project organization		BOFA, FGU, Campus Bornholm This organisation will form the leadership , with 'soul in the game', that assemble skilled people. They also facilitate the collaborative spaces going forward.	With a project organization in place, it can work on the action plan and create action within the recycling network. In addition, the project organization can assign roles.
Revisit the project in detail to reach consensus	The project organization can take the project description developed during the workshop and agree on the final project description and vision for job creation through local circular initiatives.		BOFA and the project organisation The concept must be collaboratively developed to ensure alignment with sustainability goals and an agreement in the organisation. BOFA have been identified as potential drivers to steer the project in this direction and thereby be part of the leadership , ensuring inclusivity.	Once consensus has been reached on the project, it will be possible to use this project description going forward and act on it. This can also be used to apply for funding.
Gain support from the municipality by ensuring alignment with municipal goals	Get buy-in from the municipality by creating a plan for how the project aligns with current municipal goals.		BOFA BOFA has connections to the local politicians at the island. Thereby they can ensure connection and alignment with the municipality. Besides they can be the ambassador for the project, to gain support from the municipality. Also the Leverage/Capitalize is important to insure that the project is integrated into existing programs and policies.	When the municipality agrees, it will be possible to take more actions. In this way, the municipality can also help create more action in the project.
Investigate funding opportunities.	At the workshop, a number of good ideas were mentioned for where to apply for funds. These		BOFA and Campus Bornholm (with support from AAU)	With funds it is possible to pay for the next steps of the action plan for

What?	How?	When?	Who?	Effect
	should be reconsidered and applied for if relevant.		The provider must be good at getting funds in. At the workshop it was mentioned that there is a lot of funding opportunities both locally, nationally and internationally.	a longer period of time. This can accelerate the project.
Mapping of the stakeholders	Map the stakeholders from the workshop and create an overview of the value chain.		BOFA and support from e.g. AAU students Mapping the stakeholders needs people with a great network and collecting knowledge and materials from the stakeholders.	Mapping makes it easier to create more networking and action and eventually develop a business model for the project.
Find a location to store your products	Do some research on where the different product types can be placed both before and after repair.		Campus Bornholm Finding a location for storage of the products needs a facilitator , to set up the space for conversations about locations and even maybe to locate the location on their own property.	With a found location for the products both before and after repair, the project can really get started. These products can then be used in training for both repair and sales.
Select product types	It must be investigated which products are most relevant to continue working with. Good examples already exist with FGU with white goods, textiles, jewelry etc.		BOFA and support from e.g. AAU students Selecting the most relevant product types, requires a mapping of products. That could again be done by the networker to collect knowledge and analyse it.	Once the product groups have been selected, it is easier to start the project in earnest and involve the stakeholders relevant to the specific product groups.

Long term actions

What?	How?	When?	Who?	Effect
Seek inspiration from similar projects both nationally and internationally	Select where there could be good examples and possibly seek funding for this. This could be finding “best cases” in other regions.		BOFA and AAU Here it is again the Ambassador , who needs to lobby and informs about the project and inspires similar ones. At the same time there is also a need for the provider to get funding.	By mapping best cases from other places, collaborations can be created that give things even more momentum. This can also lead to political lobbying.

What?	How?	When?	Who?	Effect
Create a business model	Include the key players and discuss what a business model could look like for these products.		Procurement office and project organisation When creating a business model, it is important to understand the procurement strategies and policies. Besides the project organisation must have the role as the connector, so the relevant stakeholder is included.	A business model will ensure that these projects that come to life through the recycling network will remain after funds are no longer available.
Create training material on best practices	Channel knowledge of best practice cases to be used in secondary and primary schools.		Campus Bornholm, FGU and BOFA When creating training materials, it is the leader that must start this process. Besides the Leverage/ Capitalize should be included as they have been a part of the evaluation process and ensuring the materials into existing materials and programs.	With best practice educational material, children and young people can already be inspired and gain knowledge from a young age.

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