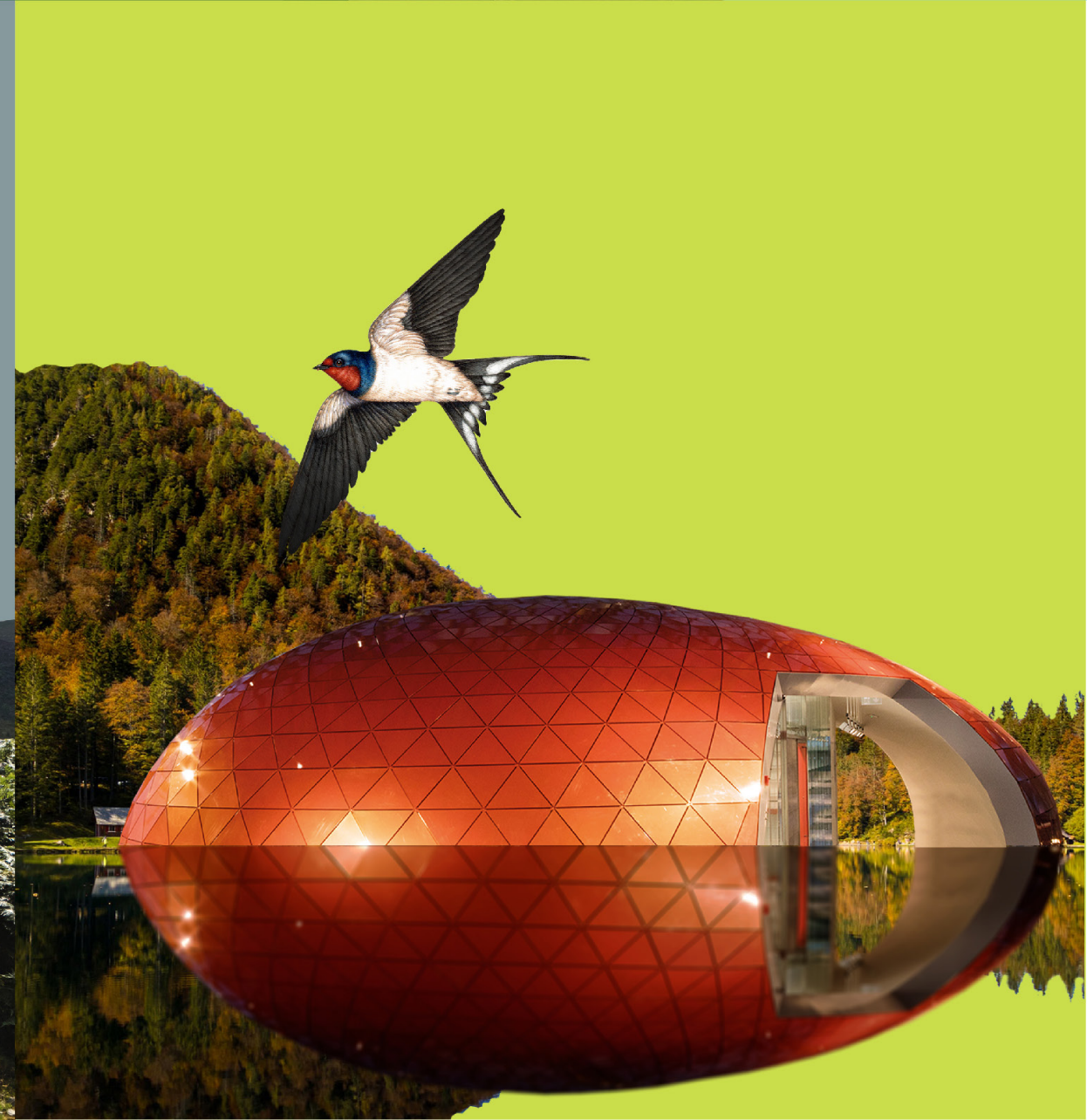




BIOEAST FORESIGHT EXERCISE

Sustainable Bioeconomies towards **2050**



MINISTRY
OF AGRICULTURE



BIOEAST Foresight Conference

Ladeja Godina Košir, MSc

Director of Circular Change and Co-Chair of the ECESP

Ljubljana, 27th September



BIOEAST Foresight Expert group

Ladeja Godina Košir, Chair of the Foresight Experts Group

József Popp, Corresponding member of the Hungarian Academy of Sciences

Małgorzata Zimniewska, Institute of Natural Fibres & Medicinal Plants National Research Institute, Poland

George Sakellaris, Academy of Sciences in Czech Republic

Rando Värnik, Chair Holder of Rural Economics in the Estonian University of Life Sciences

JOURNEY OF THE DAY

1. INTRODUCTION OF THE PROCESS

2. FORESIGHT SCENARIOS

3. RECOMMENDATIONS

1. INTRODUCTION OF THE PROCESS



Overall objective of the project is to support BIOEAST Member States in developing their bioeconomies (limited to agriculture, forestry and fresh water, and related waste management) through a macro-regional approach in the period 2030-2050.



Project Scope and Objective

-  **1.** Identify special challenges the macro-region
-  **2.** Provide guidance to national policy makers
-  **3.** Contribute to the BIOEAST Strategic Research and Innovation Agenda
-  **4.** Position the development of the regional bioeconomies within the wider EU (Green Deal) and global context (Paris Agreement, SDGs)

Four Key Topics To Be Explored

Sustainable natural resources, particularly soils and water

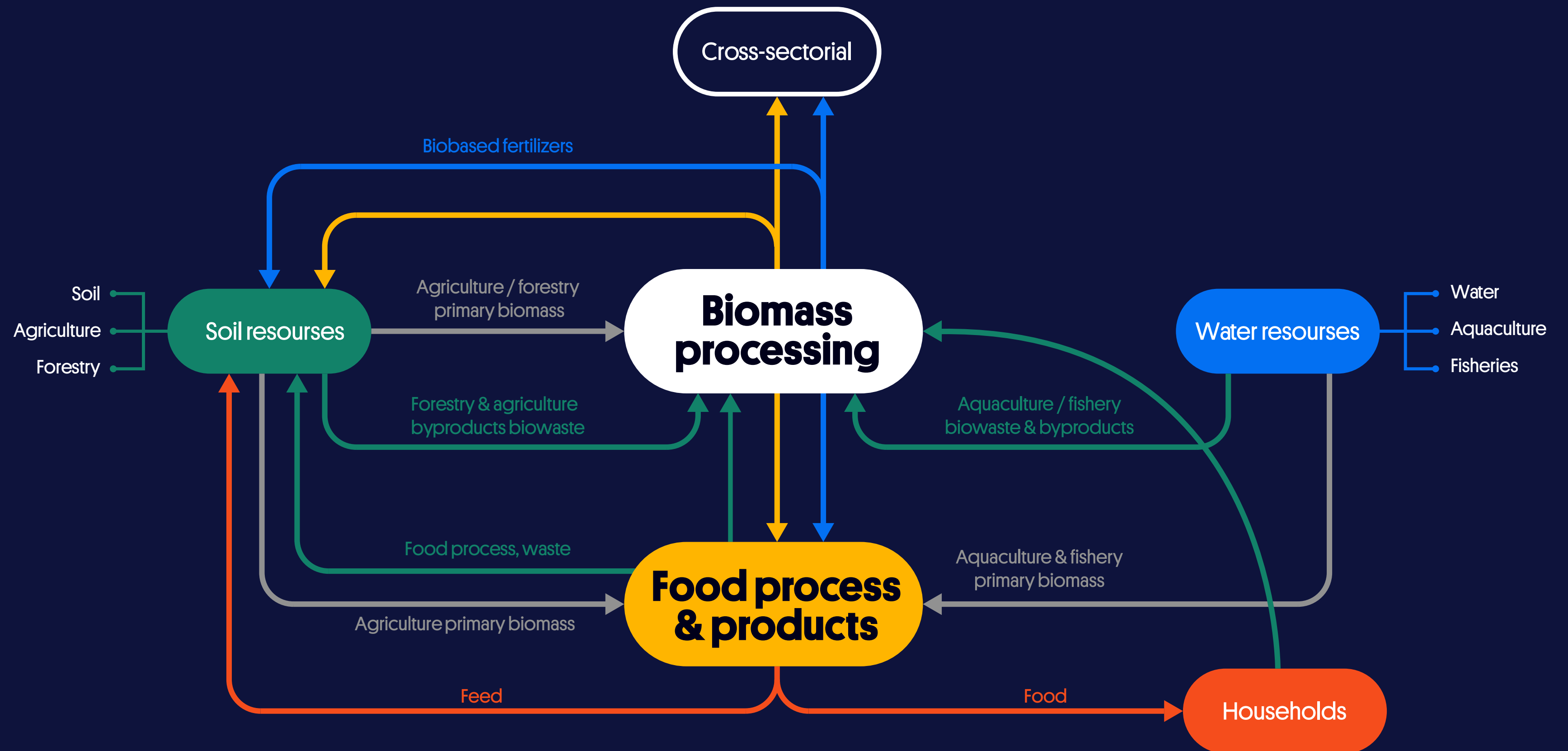
Sharing economy in the context of sustainable food system

Renewable carbon use and decarbonisation pathways






Governance in the context of circular and sustainable pathways

2. FORESIGHT SCENARIOS

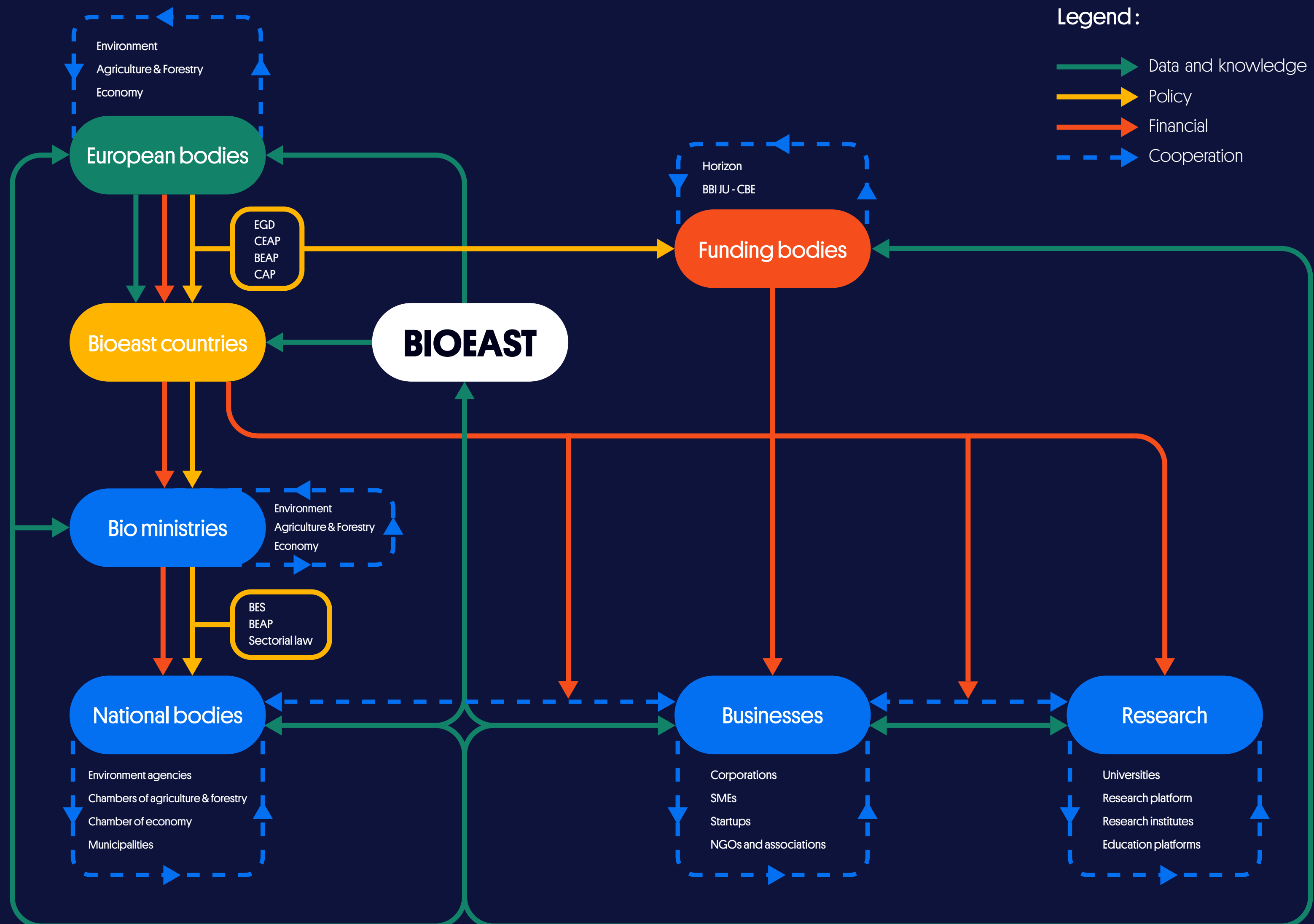
CBE Model



Legend:

-  Primary biomass flow
-  Secondary biomass flows [from biowaste or byproducts]
-  Biofuels / bioenergy
-  Biobased materials and biochemicals
-  Food and feed

Institutional Model



Bubble Diagram



SCENARIO NARRATIVES

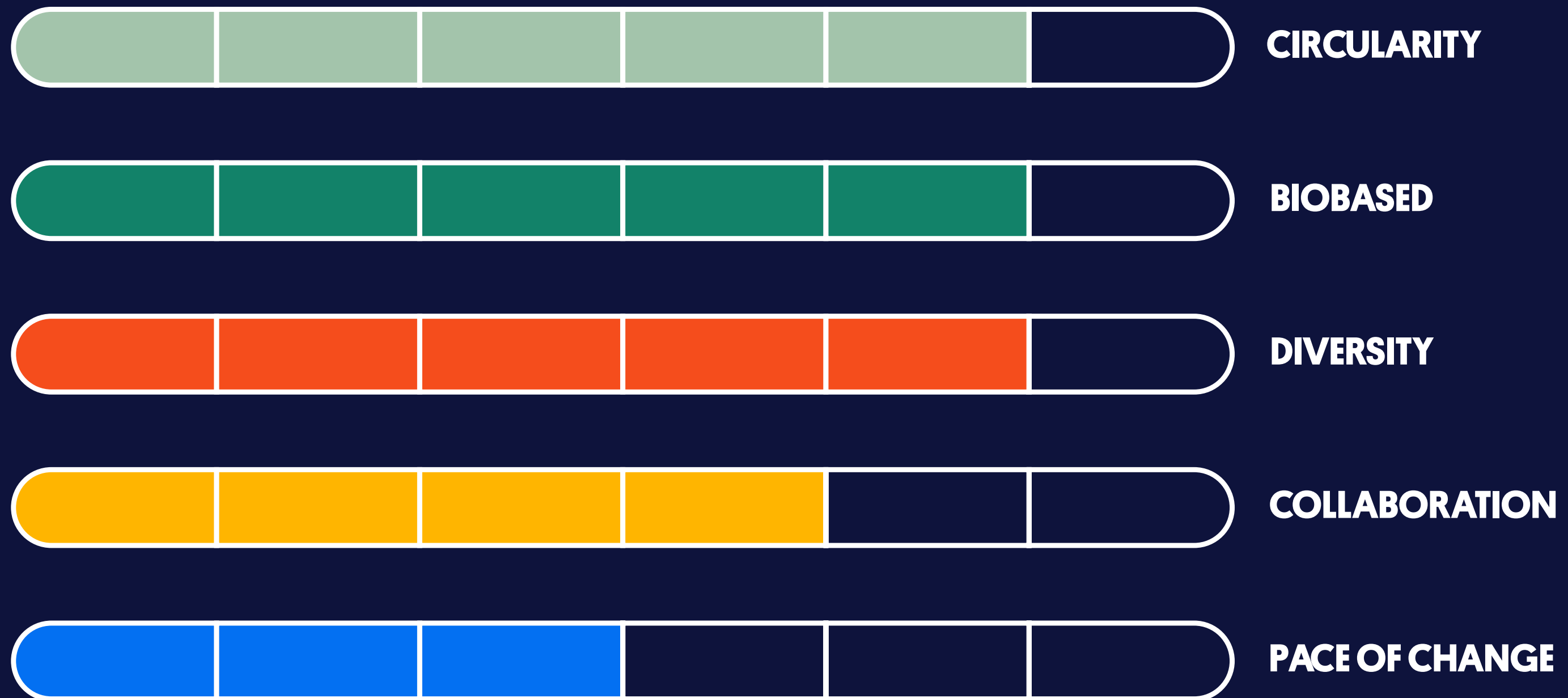
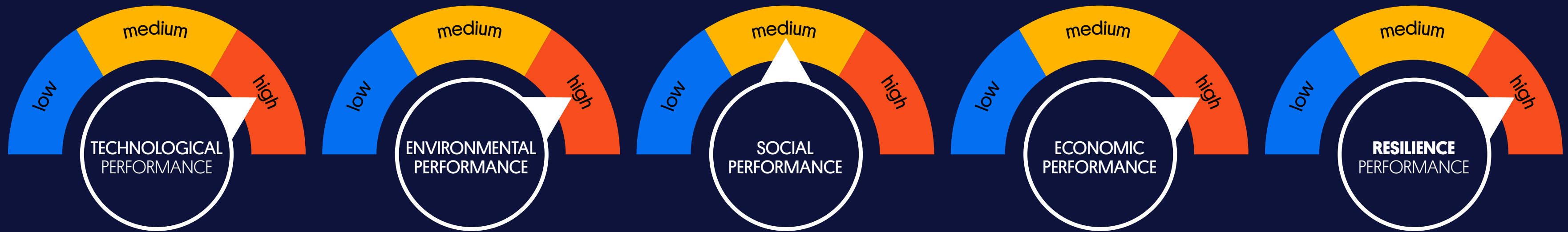
SCENARIO 1

A Fully Circular Bioeconomy



SCENARIO 1 - PARAMETERS

A Fully Circular Bioeconomy



Persona 1: Anna, 34, researcher



- Enthusiastic about opportunities
- Internationally recognized
- Teamworker, fostering collaboration
- Living a balanced life
- In love with nature
- Ambassador of “Zero waste” concept
- By sharing her experiences she has built a strong community of followers

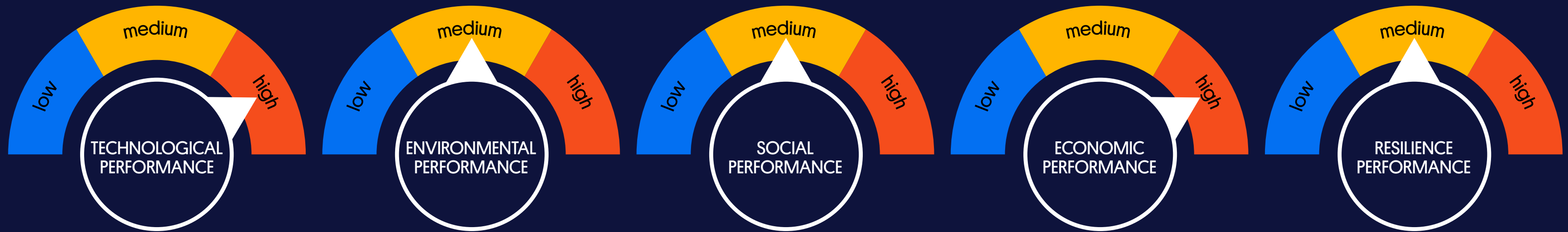
SCENARIO 2

Business as usual - Linear Bioeconomy



SCENARIO 2 - PARAMETERS

Business as usual - Linear bioeconomy



Persona 2: Pavel, 55, CEO



- Understands bio and circular economy as an opportunity to become more competitive
- Invests in “green business”, but not being satisfied with the return on investment
- Hedonist
- Enjoys international cuisine - has a license for sommelier
- Combines his business and charity activities

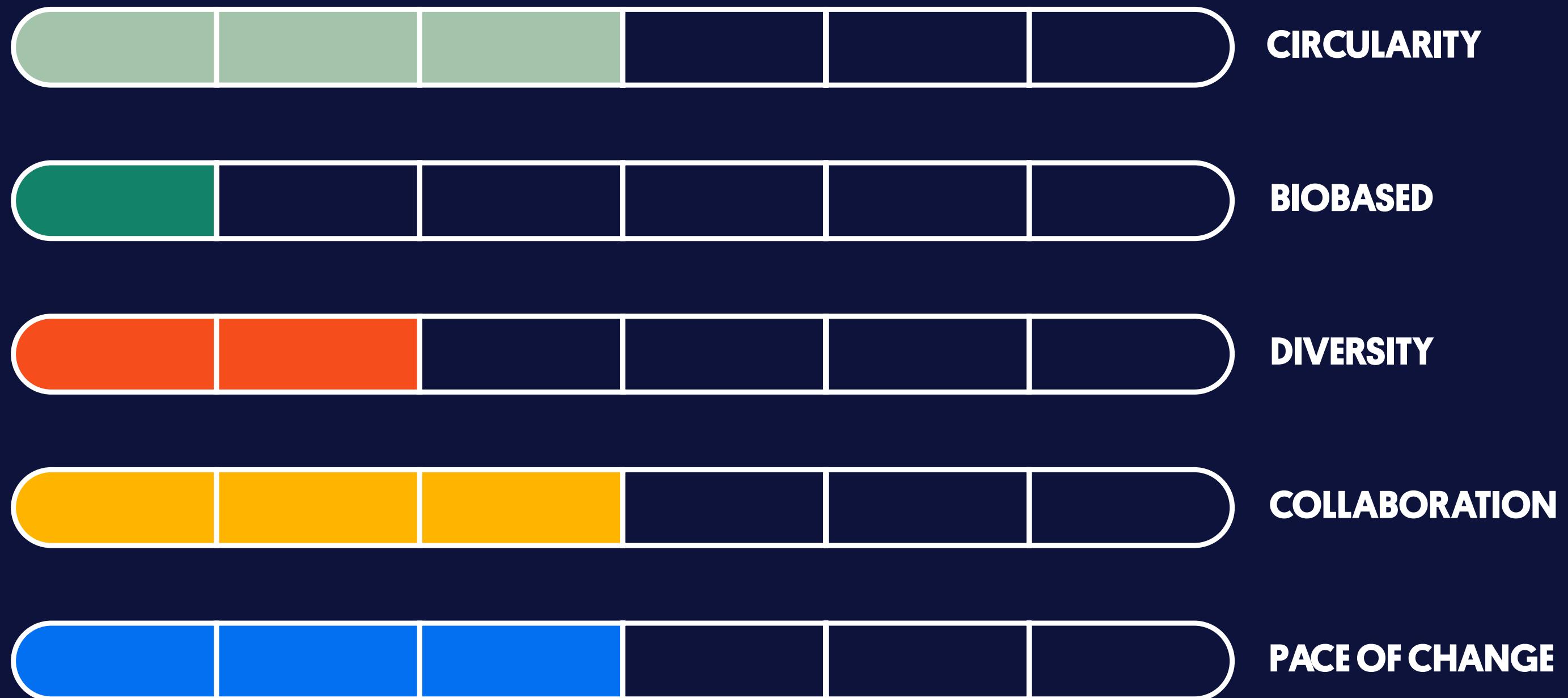
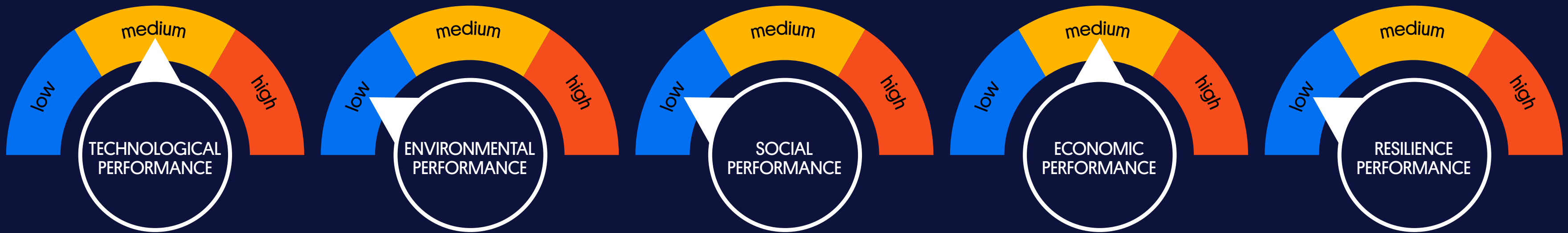
SCENARIO 3

Business as Usual - Fossil and Linear



SCENARIO 3 - PARAMETERS

Business as Usual - Fossil and Linear



Persona 3: Markus, 63, Leader of Trade Union



- *Hard worker and very loyal*
- *Proud of his achievements*
- *Very conservative & traditional mindset*
- *Standing up for the rights of workers*
- *Worried about negative impacts of digitalization and new concepts*
- *Still remembering the times of communism in Eastern Europe*
- *Not supporting novelties*

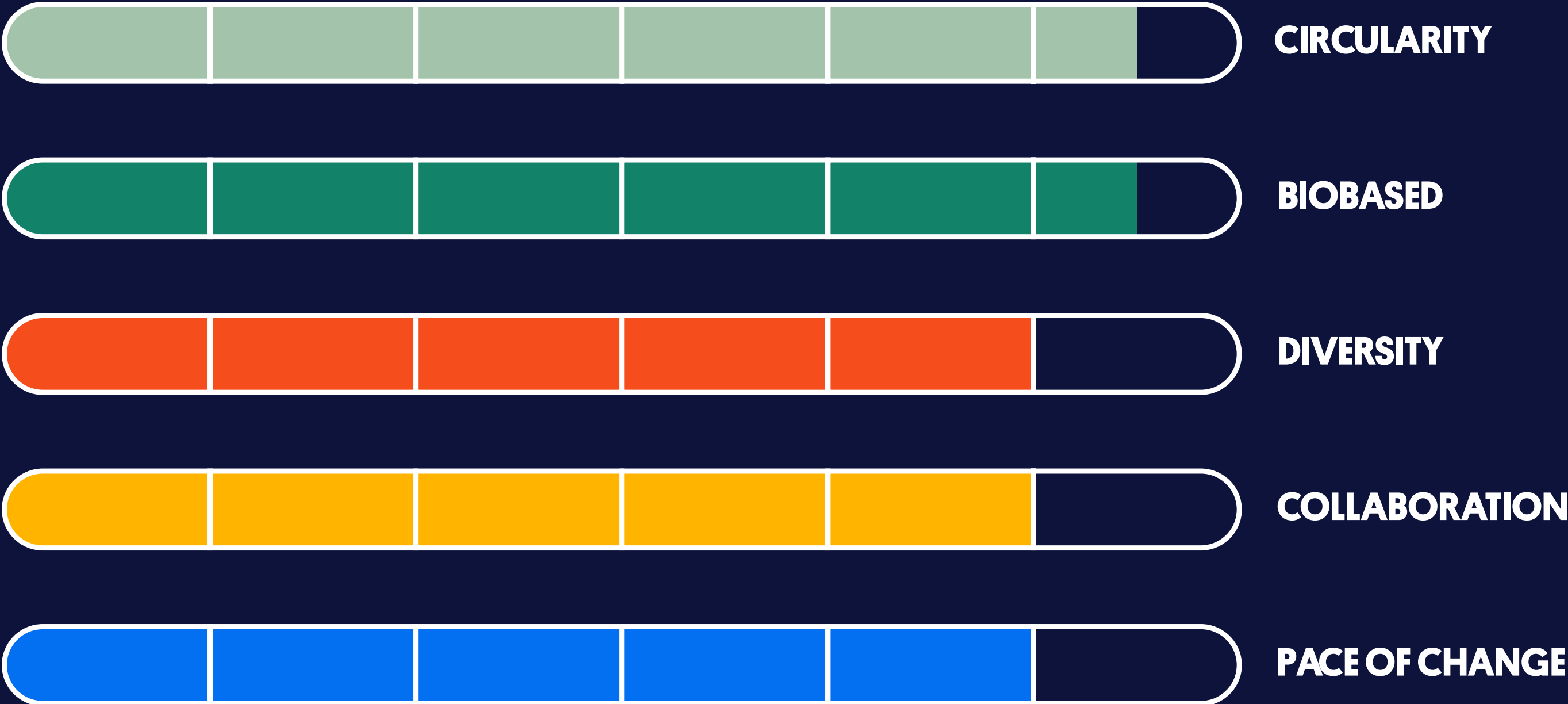
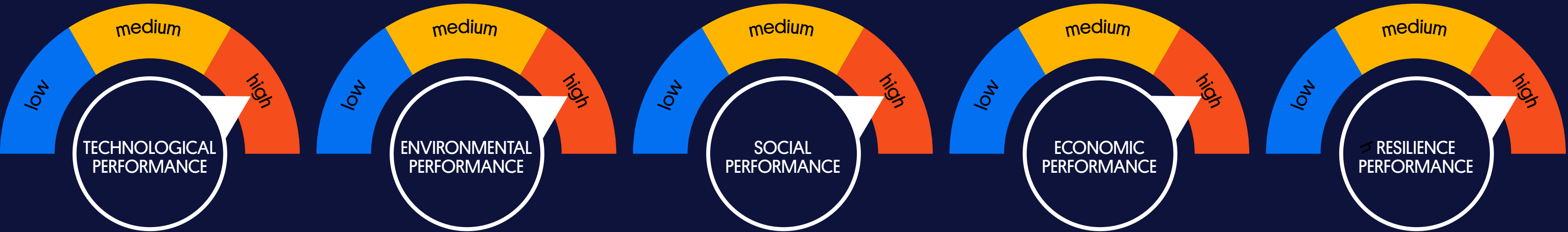
SCENARIO 4

A New Circular Bioeconomy



SCENARIO 4 - PARAMETERS

A New Circular Bioeconomy



Persona 4: Zofia, 28, Owner of a local shop



- *Runs her own business and enjoying being an active player in her local community.*
- *Purpose driven person, with a lot of friends*
- *Willing to support ideas on how to make a thriving society*
- *Values nature*
- *Optimistic about the future and committed to contribute to the positive change*
- *Not supporting novelties*

Here is a short overview of key areas explored in the context of **4 scenarios**:

SWOT Analysis

	STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
SCENARIO 1	Political willingness Innovation Aspects	Level of awareness Social Attitudes	Lateral growth Inclusiveness	Lack of motivation Heterogeneity
SCENARIO 2	Social economy Known values chains	Lack of flexibility Low innovation	Slight adaptation Possible sustainability	Market change Competition
SCENARIO 3	Short-term investment Revenue increase	Limited perspectives Low competitiveness	Long-term investment Innovation	Market differentiation Regulatory barriers
SCENARIO 4	Sustainability Flexible economy	Lack of alternative funding	Alternative business EU allignment	Stakeholders reaction Economic impasse

SCENARIO 1

- New business models
- Closing the loops
- Circular & sustainable based on economic decision making
- Circular RDI
- Old economic metrics

SCENARIO 2

- Adjusted business models
- Not closing the loops
- Non sustainable based on economic decision making
- Linear RDI
- Old economic metrics
- Traditional value chains

GENERAL PRINCIPLES

SCENARIO 3

- Traditional business models
- Not closing the loops
- Non sustainable based on economic decision making
- Fossil based prevailing
- Lack of RDI
- Old economic metrics
- Globalized value chains

SCENARIO 4

- New business models
- Closing the loops
- Social and environmental priorities
- Social innovation and strong collaboration
- New economic metrics
- Short value chains

3. RECOMMENDATIONS

Connecting circular and bioeconomy in a sustainable way

BIOEAST countries should find/agree on a clear understanding/definition of a sustainable circular bioeconomy, to be implemented in the context of the European Green Deal and similar initiatives.

System approach

BIOEAST countries should aim to set the transition to a sustainable circular bioeconomy as an overarching objective and strengthen inter-institutional collaboration.

Multi-level governance systems and long-term support mechanisms (enabling conditions) for development and growth

BIOEAST countries should aim to assign a higher political importance to a sustainable circular bioeconomy, and should view it as a necessary tool for a sustainable transition.

Knowledge, innovation and capacity building at multiple levels

BIOEAST countries should focus on understanding and better utilizing their sustainable circular bioeconomy potential and possible development paths by generating more reliable data and improving the knowledge base in all segments of the ecological, economic and social system.

Broad social dialogue (inclusiveness) and education

BIOEAST countries should focus on fostering stronger public dialogue, capacity building and cooperation around the sustainable circular bioeconomy, with a clearly defined and understood concept that gains public acceptance and support.

THANK YOU