Plan4Blue – Alternative Scenarios for Blue Growth

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PLAN4BLUE

Interreg Central Baltic

EUROPEAN UNION
European Regional Development Fund

ENVIRONMENTAL INVESTMENT CENTRE

UNIVERSITY OF TURKU
Centre for Maritime Studies

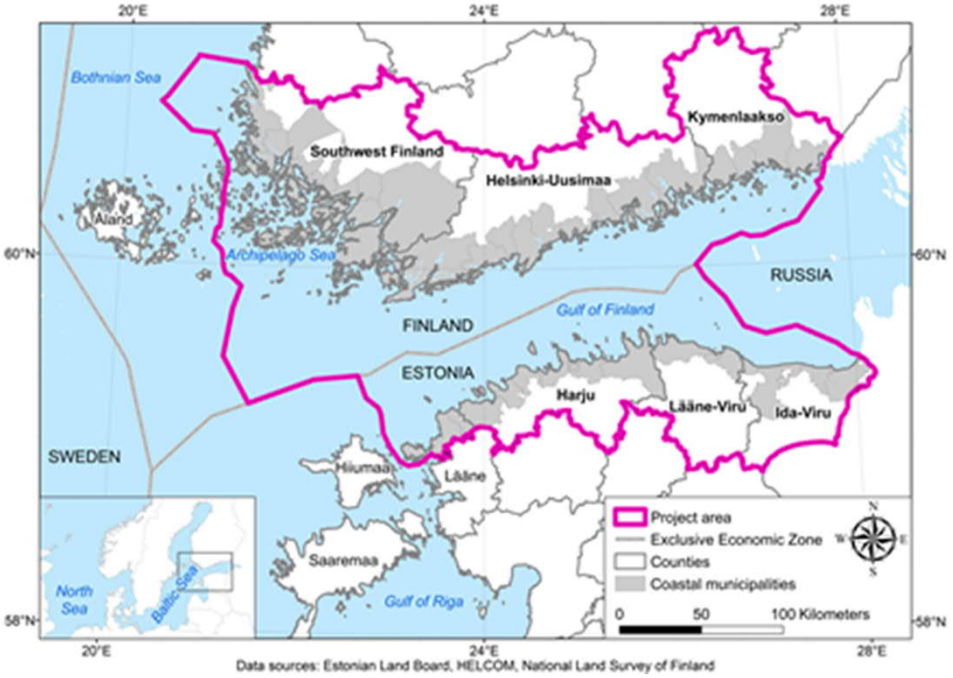
Blue economy session 1

Drivers and future scenarios for blue economies

- session aim: to discuss on main drivers and alternative scenarios
- discussion and reflection on the scenarios in blue economy sectors' development, influence on MSP planning on a longer timescale
- future prospects in the selected blue economy sectors

Scenarios for Blue Growth for Gulf of Finland and the Archipelago Sea

- Plan4Blue WP 1, Potential for Sustainable Blue Economies



MSP process ongoing in Finland

- https://www.merialuesuunnittelu.fi/en/
- future scenarios for the marine area of Finland

Drivers and future scenarios for blue economies

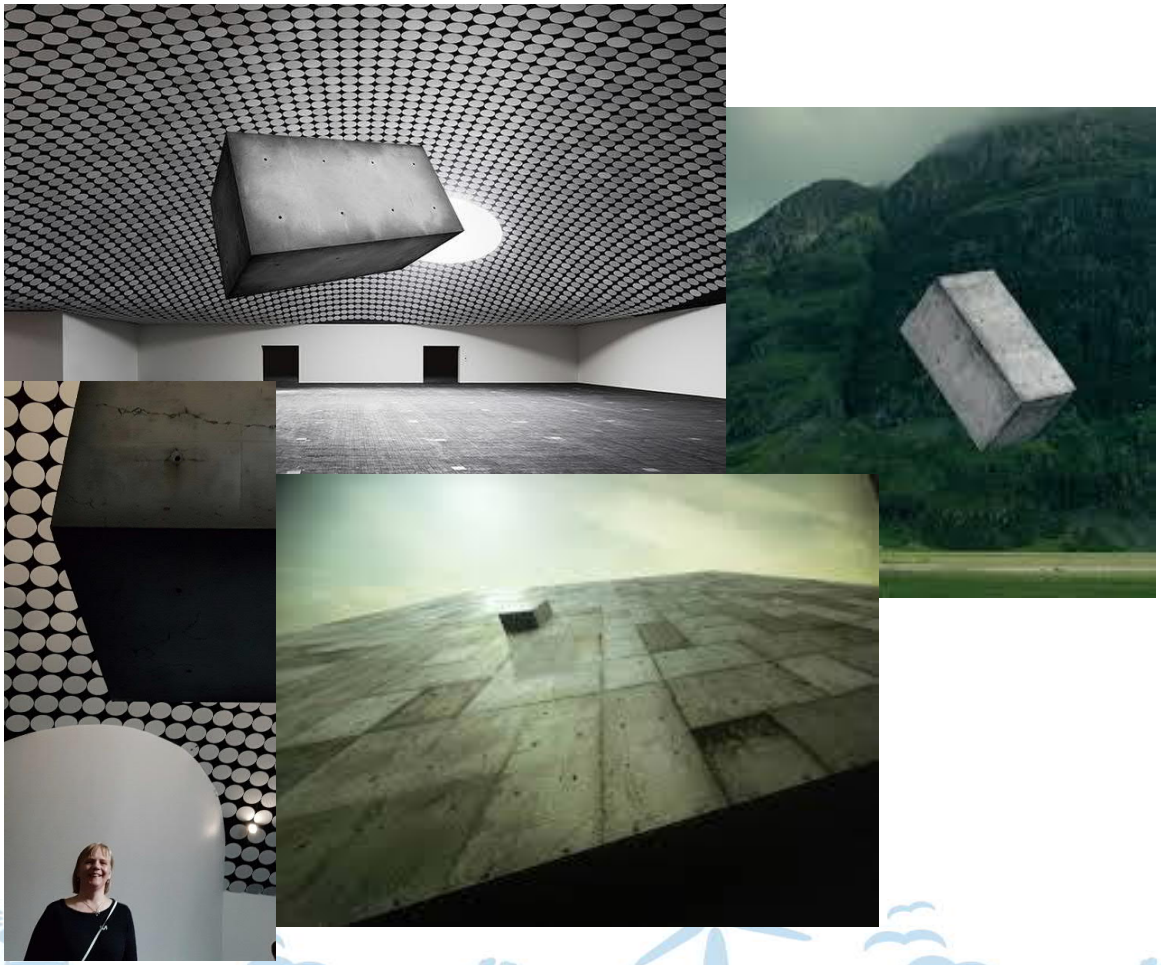
Results of Plan4Blue
”Blue Growth - Main drivers and alternative scenarios for blue economy sectors for the Gulf of Finland and the Archipelago Sea”, Riitta Pöntynen, University of Turku, Finland

”The role of quantitative research in the process of creating the alternative scenarios”, Tiiu Paas, University of Tartu, Estonia

Future prospects for blue economies

- Maritime cluster (maritime transport): Annaleena Mäkilä, Managing Director, the Finnish Port Association.
- ”Biomass based Blue Economy – sector view”, Urmas Pau, CEO, Est-Agar AS, Estonia
- Maritime tourism & small harbours: Merle Ülejõe, NGO Estonian Small Harbour Development Center

"By challenging the current state and imagining the future, we may create innovations and change the world"



- Drifter, a utopian vision of a concrete monolith floating silently towards an unknown destination.
- The literary classic "Utopia" (1516) by Thomas More is a key inspiration for this work.
- "Utopia", a society with gender equality, no private ownership, and where anything that can be imagined can be built with the help of a malleable miracle material.
- Through the act of imagination More seemed to have anticipated concrete 200 years before it was invented.

https://amosrex.fi/en/exhibitions/studio-drift-elemental/

Alternative Scenarios for Blue Growth

WP 1, Potential for Sustainable Blue Economies

2018 → 2050

- Main drivers (PESTEL analysis)
- Synergies and conflicts
- Estimated changes by 2050 and impacts on sea use

- Alternative Scenarios
- Futures tables
- Futures images
- Pathways

Delphi and workshops, interviews

Economic analysis

- Current status; development and future trends
- Productivity, efficiency
- Input-output analysis

Socio-economic networks related to MSP (incl. Interviews)

- Impact on blue businesses: trends, drivers, hinders for growth

Desk research, interviews, Delphi

In total, over 100 experts participated in the process


ALTERNATIVE SCENARIOS FOR BLUE ECONOMIES 1/4
MARINE ENERGY SECTOR
ALTERNATIVE SCENARIOS FOR BLUE ECONOMIES 2/4
MARITIME CLUSTER
ALTERNATIVE SCENARIOS FOR BLUE ECONOMIES 3/4
BLUE BIOECONOMY & SUBSEA RESOURCES
ALTERNATIVE SCENARIOS FOR BLUE ECONOMIES 4/4
MARITIME TOURISM

ALTERNATIVE SCENARIOS FOR BLUE ECONOMIES IN THE GULF OF FINLAND AND THE ARCHIPELAGO SEA

SUSTAINABILITY ABOVE ALL

ALTERNATIVE SCENARIOS FOR BLUE ECONOMIES IN THE GULF OF FINLAND AND THE ARCHIPELAGO SEA

UNLIMITED GROWTH

Animation on the scenarios

ALTERNATIVE SCENARIOS FOR BLUE ECONOMIES IN THE GULF OF FINLAND AND THE ARCHIPELAGO SEA

SUSTAINABILITY DILEMMA

ALTERNATIVE SCENARIOS FOR BLUE ECONOMIES IN THE GULF OF FINLAND AND THE ARCHIPELAGO SEA

VIRTUAL REALITY

Changes in marine energy

- 81% of respondents of Delphi expected increase for energy sector as a whole
- Most growth is expected for solar power and wind energy

Source: Results of Delphi questionnaire 1-2, 2017

MARINE ENERGY SECTOR

TOP DRIVERS FOR ENERGY SECTOR

- Cleantech innovations for energy
- Main energy options supported by energy and environmental policies
- Attitudes
- Environmental regulations and legal practices
- Conditions and trends of global economy and globalization

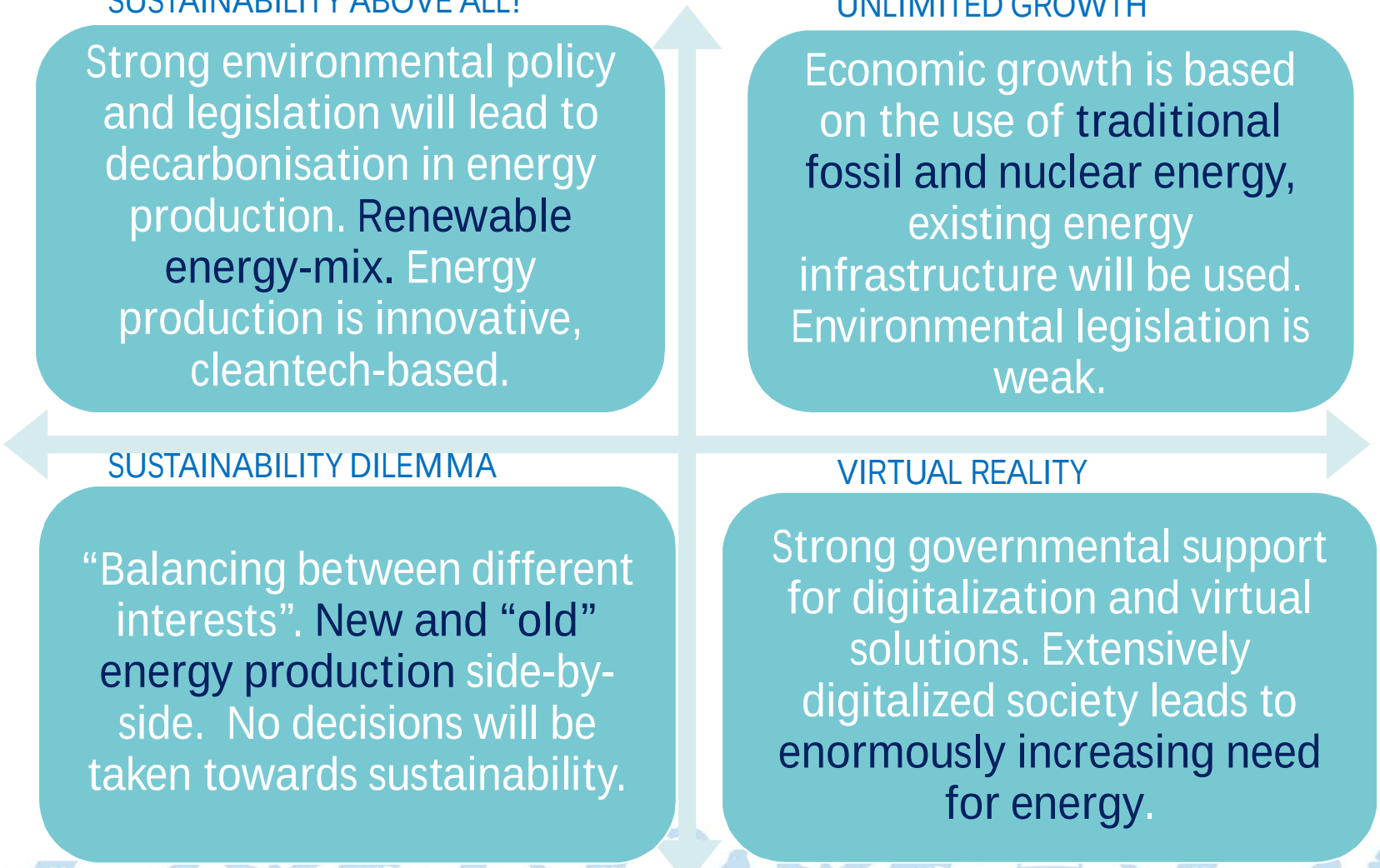
BLACK SWANS

- Major collapses; major crisis
- Terrorism
- Nuclear disaster
- Crisis that does not result in total collapse may lead to “environmental awakening”
- Major oil accidents

WEAK SIGNALS

- Enlargement of areas with nature conservation restrictions

MARINE ENERGY SECTOR



Changes in maritime cluster

- Growth is expected for the entire maritime cluster by 97% of respondents
- Cleantech, marine transportation

Source: Results of Delphi questionnaire 1-2, 2017

TOP DRIVERS FOR MARITIME CLUSTER

- Conditions and trends of global economy, globalization
- Environmental regulations and legal practices
- Fuels used in shipping (environmental policy)
- Cleantech / emissions from maritime cluster (energy efficiency)
- ICT, digitalisation

BLACK SWANS

- Crises and sanctions
- Trade wars and embargos
- Weakening of security situation
- Improved battery technology
- De- globalization, protectionism, self-sufficiency

MARITIME CLUSTER

SUSTAINABILITY ABOVE ALL!

Zero emission policies in shipping. Modern shipbuilding and innovations. Advanced intelligent maritime systems, autonomous vessels, automatized and optimized cargo transport.

UNLIMITED GROWTH

Increasing global consumption and heavy maritime traffic. Minimum environmental requirements are fulfilled in shipping.

SUSTAINABILITY DILEMMA

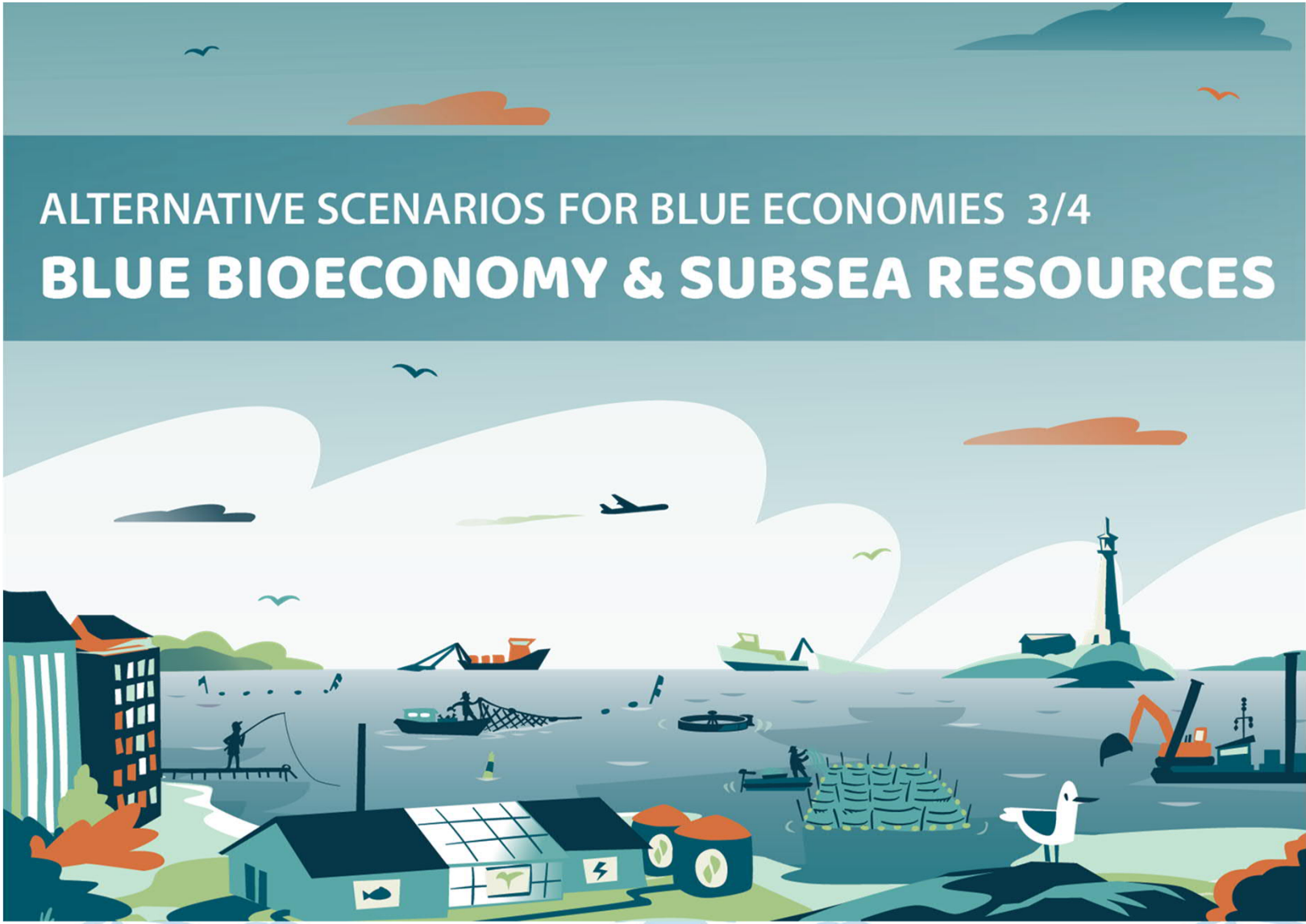
Mix of renewable and fossil fuels used in shipping. No strategy with a vision of sustainable economy in the long-term.

VIRTUAL REALITY

Extensive digitalization, local production and optimization of logistics reduce drastically maritime transport. Autonomous shipping will be enabled by regulations.

Changes in blue bioeconomy and subsea

- Increase according to 92 % of respondents
- Aquaculture: expected to grow according to 73 % of the panel
- Fish farming: growth according to 85 % of the panel
- Commercial fishing: expected to stay on the current level



Source: Results of Delphi questionnaire 1-2, 2017

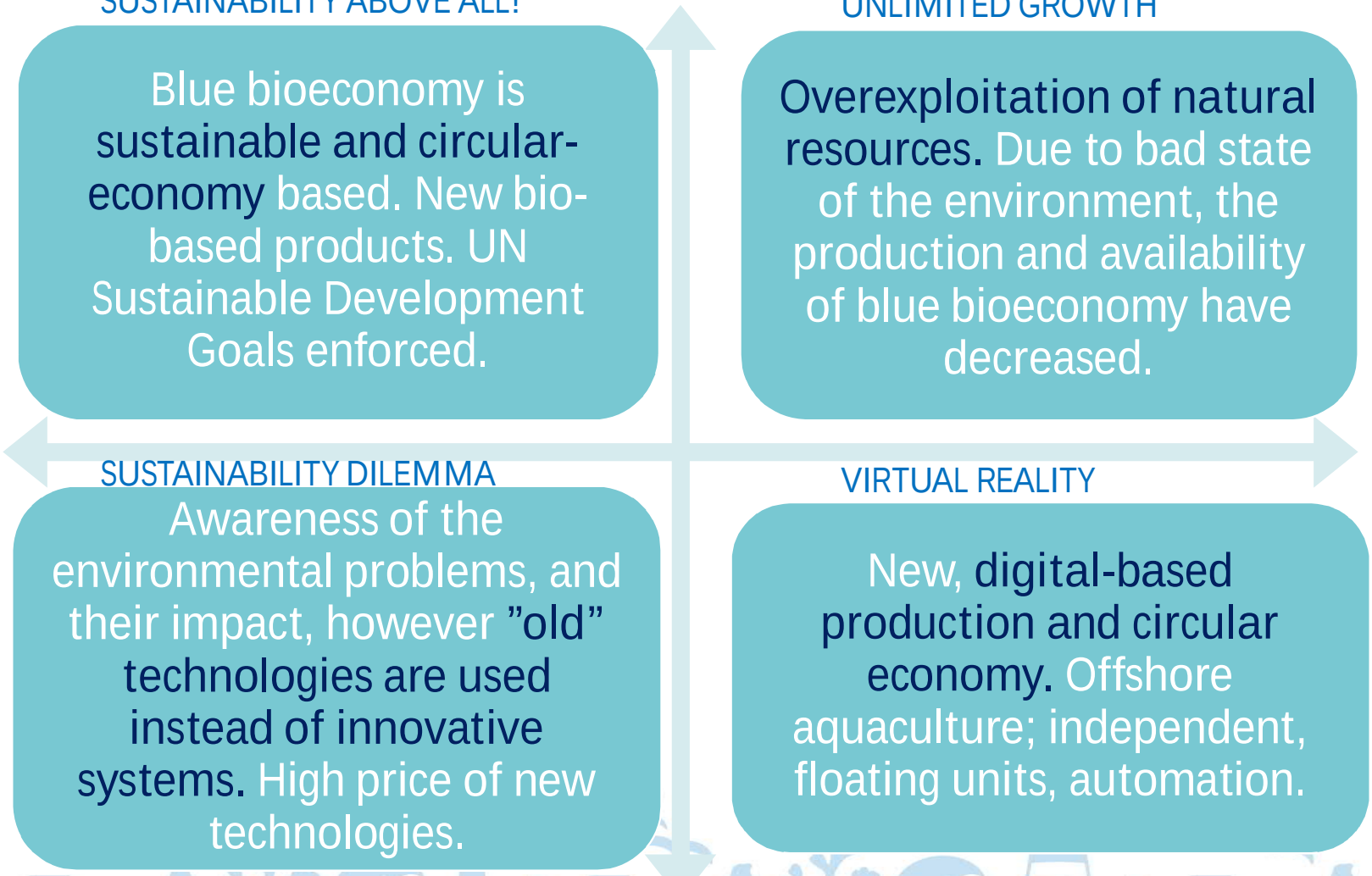
TOP DRIVERS FOR BLUE BIOECONOMY & SUBSEA RESOURCES

- Policies concerning the use of natural resources
- Clean tech innovations for blue businesses
- Environmental regulations and legal practices – industrial policy; affect e.g. environmental permits.
- State of the environment
- Attitudes

WEAK SIGNALS

- Fish spawning areas are destroyed or disappearing also in the sea
- Fish farming and aquaculture on land in circular systems

BLUE BIOECONOMY & SUBSEA RESOURCES



Changes in tourism

- Increase estimated for tourism sector by 100% of the respondents
- Services for maritime adventure tourism
- Guest harbours and other services for leisure boating

Source: Results of Delphi questionnaire 1-2, 2017

TOP DRIVERS FOR MARITIME TOURISM

- State of the environment
- Safety and security in BSR region
- Attitudes of travelers / tourists
- Conditions and trends of global economy
- Leisure interests

BLACK SWANS

- Military situation
- Disasters

WEAK SIGNALS

- Sharing economy is growing
- Popular movies, series attract tourists to unexpected locations!

MARITIME TOURISM

SUSTAINABILITY ABOVE ALL!

Sustainable and responsible tourism, restrictions for tourists to enter certain conservation areas. The attitudes of the travelers towards sustainability will change.

UNLIMITED GROWTH

Strong growth has led to increasing mass tourism and environmental damages. Attitudes towards environment and sustainability, as well as locals are careless.

SUSTAINABILITY DILEMMA

Concern about impact of tourism on the environment, but lack of environmental leadership and preparedness for the rise of tourists flows. Tourists have different likes.

VIRTUAL REALITY

People travel less, and prefer to experience destinations at home with augmented reality. New types of tourism have been developed.

Alternative scenarios for blue economies in the Gulf of Finland and Archipelago Sea

Page In Finnish / In Estonian / In Swedish

Do we want to change the ways the sea areas are used now and in the future? The Plan4Blue project presents four scenarios for how our choices will affect people and the marine nature in the Gulf of Finland and the Archipelago Sea. The short animation presents four alternative future scenarios: "Unlimited growth", "Virtual reality", "Sustainability above all!" and "Sustainability dilemma".

More detailed information on how the alternative scenarios would affect different sectors can be found in the infographs and scenario report (pdf 2 MB).

Infographics of scenarios of different sectors

Marine energy sector (pdf 300 KB) Maritime cluster (pdf 300 KB)

Blue bioeconomy and subsea resources (pdf 300 KB) Maritime tourism (pdf 300 KB)

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https://www.syke.fi/projects/plan4blue/scenarios

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