Blue Growth Scenarios of Plan4Blue project

Vaasa 18.9.2018

Riitta Pöntynen

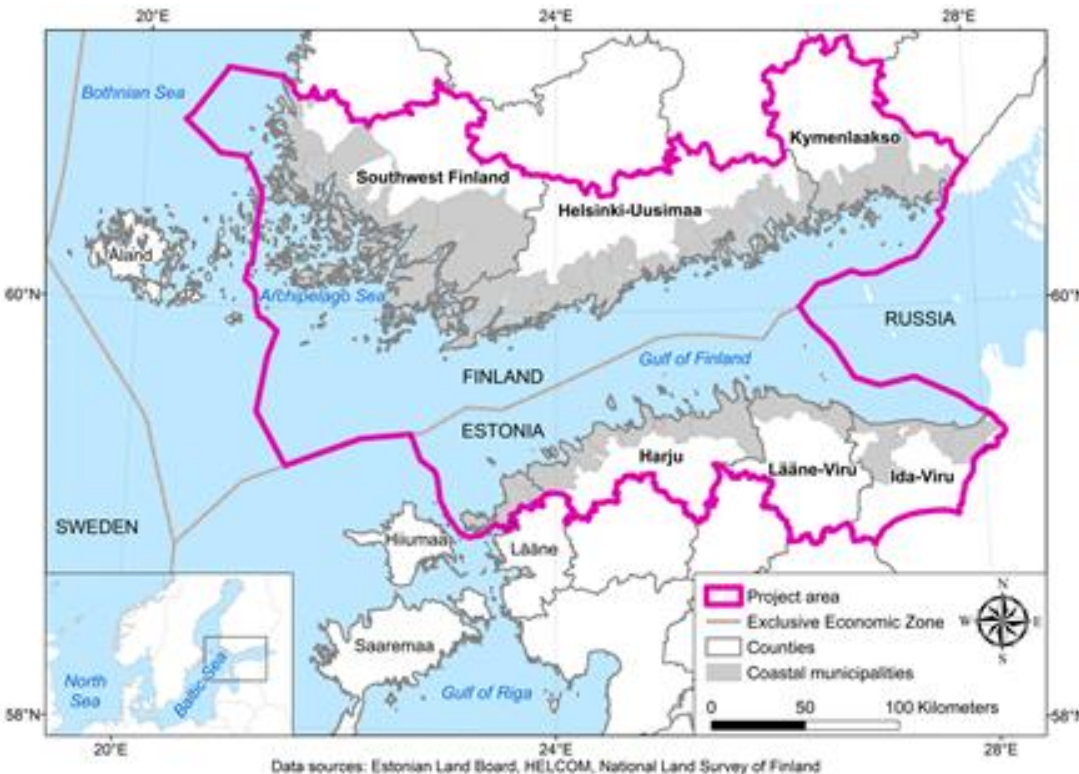University of Turku, Centre for Maritime Studies

Plan4Blue project area and partners

Data sources: Estonian Land Board, HELCOM, National Land Survey of Finland

Project time: 1.10.2016-30.9.2019

Coordinator: Finnish Environment Institute

University of Tartu (Estonian Marine Institute and School of Economics and Business Administration)

University of Turku (Centre for Maritime Studies, Turku School of Economics, Department of Geography and Geology)

Helsinki-Uusimaa Regional Council Regional Council of Southwest Finland

Baltic Environment Forum Estonia

WP 1 Potential for Sustainable Blue Economies

Economic analysis

Scenarios for Blue Growth

Identification of **current status and potential** of blue economic sectors, development **trends**, and sector **strategies**

Input-output modeling of maritime industries in Estonia and Finland, the **role of maritime industries** in the region

Analysis of current status and trends of **economic and social networks related to MSP** between the stakeholders from public and private sectors

Expert panel – Delphi

Scenario workshops
- Helsinki & Tallinn

Interviews
- Business

University of Tartu, University of Turku
- participation of all project partners'
- planners' feedback during the process

| WP 2 Environment | WP 3 Spatial | WP 4 MSP solutions | WP Communications |

Alternative Scenarios

2018 → 2050

Delphi - expert panel and scenario workshops, interviews

- Futures research methods
- Changes and potential of blue businesses, their impact on the use of the sea area
- Map-based question and exercises
- Synergies and conflicts
- External drivers
- Future images and pathways

Economic analysis

- Data driven analysis
- Focus on the project area
- Current status, past development and future trends
- Productivity, efficiency
- Input-output analysis, role of maritime sector

Socio-economic networks related to MSP – questionnare and interviews

Strategies

Impact on selected blue businesses

- Data driven analysis
- Complementary interviews: future trends, drivers, opportunities and possibilities

Altogether ca. 110 participants in scenario process: public and private, all blue economy sectors

Blue economy sectors

- In the first phase, analysis on sector level, in the second phase focused on the subsectors; cases, impacts of the scenarios analysed

Energy

- wind energy
- renewable energy (e.g. wave, solar)

Maritime cluster

- maritime cargo transportation
- maritime - transport of passengers
- cleantech

Tourism, culture, and services for leisure activities

- nature tourism – recreation, outdoor activities
- off-shore water sports: diving, fishing, canoeing..
- cultural heritage, history
- boating, sailing

Blue bioeconomy and subsea

- aquaculture
- fish farming
- algae & mussel farming
- fishing

Four alternative scenarios for Blue Growth

- Four blue economy sectors: Energy, Maritime, Tourism, Blue bioeconomy & subsea.
- Reflecting sustainable use of maritime resources and ecosystem services by the blue businesses or lack of sustainability.

Alternative visions and pathways to future Futures research methods used	
Forecasting – creating the future images	Probable (what will happen) Possible (what could happen)
Backcasting - creating the pathways	Preferred (what should happen) – ref. how a future could be avoided

Sustainability above all!	Growth unlimited	Sustainability dilemma	Virtual reality
• The most desirable future regarding the sustainable uses of marine resources	• Worst case scenario	• Continuation of the current state - business as usual, quantitative changes	• Entirely digitalized future with sustainable and unsustainable developments

Identification of drivers with PESTEL

Political → Economic → Social → Technological → Environmental → Legal → Political

PESTEL

Drivers for Blue economy

↓

Drivers for Blue economy business sectors

↓

Futures tables, futures images
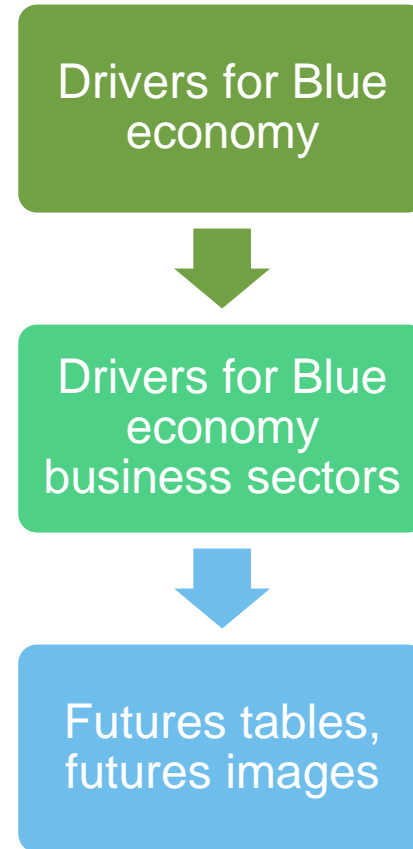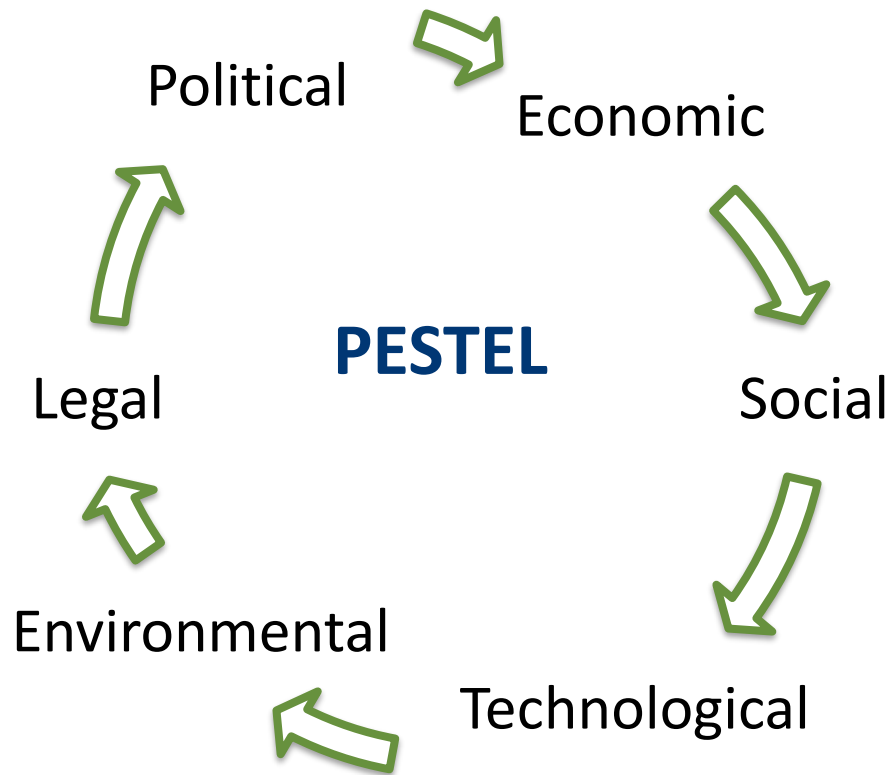
PESTE(L) explores **external factors ,** which have impact on blue economy and blue growth

Futures of tourism sector in different scenarios

Sustainabilility above all!

Safe and secure BSR has enabled development of *sustainable and responsible tourism*. *Restrictions* for tourists have been established to enter certain conservation areas. Well working, unified ICT systems, *digitalisation* allows easy use of travel related data for planning, reservations, and information on the destination.

Growth unlimited

Strong growth has led to increasing *mass tourism and environmental damages.* All the different planned *transport options* have been realized. *Attitudes* towards environment and sustainability are negative or careless, also towards local residents. Unsustainable ways of travelling prevail. *Clear water is important and rare.*

Sustainability dilemma

Global tourism has increased. Tourists have *different likes;* various means of travelling and different destinations visited. Concern about impact of tourism on the environment, but *lack of environmental leadership and preparedness for the rise of tourists flow.* Different "smart" technologies are available but they are not user-friendly. Thus their advantages have not realised.

Virtual reality

Due to virtual reality, *people do not travel much*, but prefer to experience destinations at home with *augmented reality*. New types of tourism have been developed, with *facilities offering blue care and health services from the sea, and 5D digital simulations on ocean swimming and sunbathing.*

Black swans

- military situation, the purity of nature, disaster

Main drivers for tourism sector

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

Weak signals

- Sharing economy is growing: renting, using services increases among the now young generation.
- Popular movies, series attract tourists to unexpected locations!

Main pathways

Sustainability above all! "Tourists participate in activities for sustainable tourism: rebuilding ecosystems, reducing nutrients".	Attitudes of the travelers themselves towards sustainability will change. Ranking-price system based on the impact and pressure to the environment will be introduced in 2030; tourists pay for externalities that their actions cost. Areas of mass tourism and restricted areas will be determined and specific sectors for travellers will be established. Sustainability is developed by co-operation of sectors. Sustainable energy for travelling.
Growth unlimited "All the resources are used maximally, and maximum is taken also from the nature"	All the different planned transport options will be realized; Helsinki-Tallinn tunnel will be built, artificial islands etc. At the beginning, tourism will increase. There will cruises, a lot of different cruise ships and routes, and for example fishing tourism. Further, amount of tourism will start to decline because of the bad state of the environment.
Sustainability dilemma "Weak environmental leadership"	Weak environmental leadership, lack of knowledge and information and too cheap travelling. Weak digital skills and preparedness in companies. Poor preparedness and restricted possibilities of the companies to react fast to constantly changing global user needs. Tourism industry develops, but without cooperation between different instances. No common goal.
Virtual reality "Swim around as a fish"	3D models of sites, augmented reality. Internet of Things (IoT) - objects will be more extensively connected. Avatars. Expended memory and emotions. 2050; plenty of cultural heritage sites in 5D? Virtual 3D models. Virtual tour of the Baltic Sea. Change in family models – robots, cyborgs. Slaves? Children are sick.

Plan4Blue Scenarios for Blue Growth presented

Animation

Reports

Extended summaries

Policy briefs

Infographs per sector
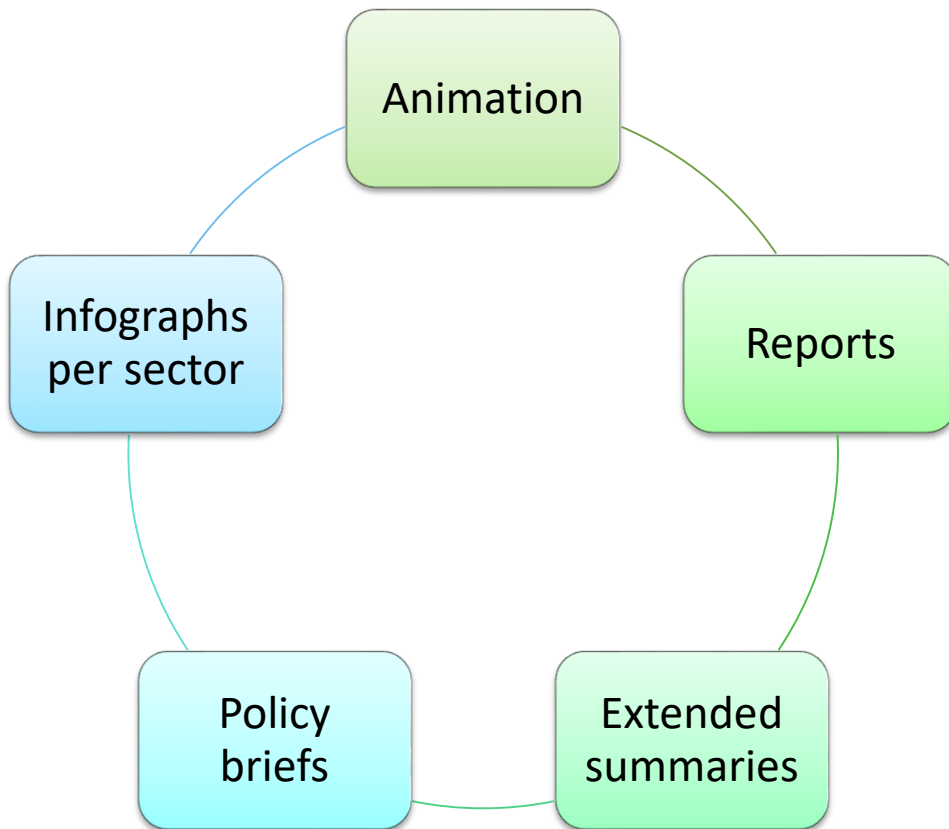
- Scenario report: views, opinions, arguments of Delphi panelists and workshops participants
- Blue economic potential, sector strategies and development trends
- Role of maritime industries - input-output modeling of maritime industries in Estonia and Finland
- Report on economic and social networks

http://www.syke.fi/projects/plan4blue

www.utu.fi/cms

Riitta Pöntynen
+ 358 40 351 0476
riitta.pontynen@utu.fi