

FUTURES TABLE FOR MARITIME AREAS

Possibilities for the development of the main uncertainty factors

Development of maritime logistics	Security situation	Tourism and recreational use	International trade	Energy sector	Attitudes and environmental actions	State of the marine area	Weather conditions in the Baltic Sea area	Fisheries and aquaculture	Urbanisation
Uncertain and concentrated maritime logistics (strategic significance of routes plays an increasingly important role)	Peaceful Baltic Sea (focus of security policy lies elsewhere)	New tourists discover the Baltic Sea archipelago (nature tourism increases in popularity)	EU-internal cooperation is strengthened (EU holds together amid global protectionism)	Energy union united through infrastructure projects (harmonised energy markets optimised at the European level, cables)	Greening through regulations (strong role of the EU and states in protection activities)	State of the Baltic Sea grows weaker (eutrophication and oxygen depletion worsen)	Moderate change in weather conditions (climate change does not have a major impact on the weather)	The sea as a breadbasket (environmentally friendly mass production of fish, harmonised EU food markets)	Largest coastal cities retain their vitality (ageing population moves to nearest cities)
Scope of maritime logistics broadens on businesses' terms (businesses' own logistics networks, small-scale transport)	Increased tensions in the Baltic Sea region (cooperation becomes more difficult, hybrid influencing poses a challenge)	Tourism in the Baltic Sea becomes more difficult (recreational use of the marine area decreases)	International trade (global markets in the Baltic Sea region)	End of fossil fuels, increased electrification (wind, water, solar power, P2G)	Profitable green operations (new operating activities on nature's terms)	State remains weak (blue-green algal blooms and nutrient load)	Significant changes (effects of climate change visible in the Baltic Sea region)	High added value products to suit businesses' needs (blue bioeconomy innovations and small-scale farming in rural areas)	Strong concentration in urban centres, harbour cities see a decline (major cities expand, migration)
Environmental impacts of maritime logistics decrease (circular economy and local production)	Busy Baltic Sea (new security policy situation, migration due to climate change)	Tourism is concentrated to the major cities around the Baltic (cruises become more popular, people are interested in their culture)	Local activities (producing and consuming locally, new technological solutions)	Moderate energy transition (inability to give up fossil fuels completely)	Ineffective climate policy (increase in climate radicalism)	State of the marine area improves (nutrient load successfully reduced, sea recovers)	Radical change (heavy rain, floods, major variation between seasons)	Increase in popularity of private fishing and local food (decrease in demand for farmed fish, removal fishing)	Archipelago increases in popularity (people want to be close to pristine nature)

SCENARIO 1: DESCRIPTION

Development guided by the interests of large corporations



SOCIETY AND POLICIES: Global trade flows improve and the trend of bloc formation dies down. Major international corporations invest in Finland, including in logistics and underwater data centres. Strong demand for resources leads to the expansion of extractive industry in the Baltic region (e.g. battery technology, pharmaceutical industry). Significant innovations are achieved by studying the sea bed and utilising nutrients. Development is guided by the interests of corporations and cities rather than the powers of the state, and finding a common political will is challenging.

ENERGY: The EU's power wanes and rifts begin to emerge. Environmental policy is ineffective, and we have not been able to give up fossil fuels as hoped. The use of peat increases the nutrient load on the sea, and offshore wind energy is not being used to its full potential. Climate radicalism is on the rise.

MARITIME TRANSPORT: Developments in telecommunications and automated technology quickly affect logistics, and a smart transport system is implemented sooner than anticipated. Flows of people and goods move seamlessly in cities and growth corridors, but transport in sparsely populated areas becomes slower and more expensive. The amount of maritime logistics activity increases, and new logistics solutions are developed on businesses' terms (incl. businesses' own logistics networks, small-scale transport). The northern sea route has only a minor impact on Finland, but activity on the Arctic Sea is increasing consistently.

CITIES AND POPULATIONS: The population in the Baltic Sea region is concentrated to major cities (St. Petersburg, Stockholm, Helsinki, Tallinn), while the importance of other coastal cities decreases. The Helsinki-Tallinn tunnel is built with Chinese investments. The lack of unified immigration policy at the EU level leads to an uncontrolled

refugee crisis. Migration due to climate change increases the flow of passengers by sea and requires states to engage in new kinds of cooperation and border operations.

STATE OF THE ENVIRONMENT AND MARINE AREAS: The Baltic Sea has deteriorated and is now a 'problem patient'. The sea's eutrophication and oxygen depletion problems have worsened. Due to heavy rains, an increased amount of nutrients generated by agriculture flows into the Baltic Sea, which leads to a heavier nutrient load. Extreme weather phenomena caused by climate change, such as heavy rains and flooding in coastal areas, have become more common. The sea level rises and affects coastal areas, particularly during storms. The amount of ice cover in winter has also decreased significantly.

FISHERIES AND AQUACULTURE: Many fish species are at risk due to changes in habitats. Key plant species, such as bladder wrack, disappear, rendering the ecosystem unstable. Fishing fleets become centralised and fish is processed especially into high added value products to meet the needs of companies. The high demand for food and various innovations in the blue bioeconomy have increased the demand for Baltic fish, and small-scale farming in urban structures is becoming more common.

TOURISM AND RECREATIONAL USE: Tourists are interested in the major cities around the Baltic Sea and in the cultural heritage of the area. Quick accessibility of Baltic cities is seen as an asset, and Asian tourists, for instance, are interested in the region's cultural history. Cruise tourism on the Baltic increases significantly. The poor state of the sea and privatisation of certain areas (e.g. data centres) lead to a decrease in nature tourism and cultural tourism in the archipelago.

SCENARIO 2: DESCRIPTION

Profitable development on nature's terms



SOCIETY AND POLICIES: Concern about the state of the environment increases and people's choices are a strong driver for companies to offer more sustainable solutions. New business and earning models are sought on green terms, and Finland has the opportunity to be a frontrunner in green industries (cleantech, biotechnology, etc.). Consumers have a high level of environmental awareness, favour local production and compensate their consumption (e.g. cruise compensations). The security situation on and around the Baltic is stable and the focus of major world powers lies elsewhere.

ENERGY: Thanks to technological advances and a favourable investment environment for wind power, offshore energy production is also profitable. Other forms of renewable energy production are also cropping up, and emissions-free forms of energy are becoming more affordable. Energy production becomes more fragmented and storage technology more developed. Transport is going electric and moving towards the use of renewable energy sources. The development of electric transport also extends to the water, and the guest harbours in the archipelago have charging stations for electric boats.

MARITIME TRANSPORT: The adverse environmental effects of maritime logistics decrease as a result of increased environmental awareness, local production and circular economy solutions. Technological advances and the circular economy improve access to resources (such as through industrial-scale 3D printing). Circular economy also increases the maritime transport of waste.

CITIES AND POPULATIONS: New living trends (multi-local living, small houses, year-round cabins) and changes in working life (distance

work, etc.) also increase the popularity of the archipelago as a place to live. Archipelago infrastructure, transport links and services are being further developed. Tourism business has increased (through platform economy services for housing and private boating, for example).

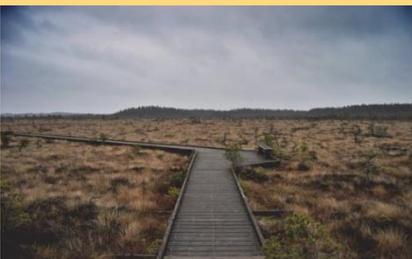
STATE OF THE ENVIRONMENT AND MARINE AREAS: The eutrophication and oxygen depletion of the sea are now under control and developing in a favourable direction. Nutrient load from agriculture and other activities in rural areas is decreasing, and the state of the sea area is improving. Internal load from the sea is not increasing. Blue-green algae is no longer a problem that has to be dealt with every summer. Climate change has not had a significant negative impact on the weather conditions in the Baltic Sea region.

FISHERIES AND AQUACULTURE: Consumers favour ethically caught fish, which leads to a decrease in aquaculture. Game fishing becomes more popular and fish stocks are protected more closely. The vitality of the archipelago offers good opportunities for fishing businesses, but private fishing is also increasing within the limits of the environment.

TOURISM AND RECREATIONAL USE: A peaceful, clean environment and service packages offered by archipelago residents using digital platforms attract new tourists to the Baltic Sea (cultural tourism and nature tourism). Increased environmental awareness has also motivated Finns to travel locally, which has increased the popularity of the archipelago as a recreation area.

SCENARIO 3: DESCRIPTION

Tensions in the Baltic Sea area



SOCIETY AND POLICIES: The power struggle between global superpowers has escalated into a trade war, and geopolitical tensions are growing. Frictions have arisen between western countries and Russia in particular. The likelihood of a military threat is minor, but defence forces still have strong interests when it comes to maritime areas. The threat of hybrid influencing and cyber warfare is a reality. Finland's situation is rendered more stable, however, thanks to close cooperation and increased integration between the EU countries.

ENERGY: Achieving an agreement on combatting climate change at the global level has not been possible, but the EU is trying to set an example by implementing significantly more stringent environmental policy and forming an energy union. The harmonised energy market emphasises security of supply and shared, ambitious emissions targets. Energy is mainly based on renewable energy sources, but hard coal is still being used to produce energy in order to even out the imbalance in energy production between the different countries.

MARITIME TRANSPORT: Amid an increasingly tense political situation, the Baltic Sea area has become a strategic playing field, and the strategic significance of logistics routes is being further emphasised. Maritime routes may also be used as geopolitical tools. The development of autonomous maritime transport is slowed down by the prevailing cyber threats and a lack of trust between international operators.

CITIES AND POPULATIONS: EU-internal mobility is increasing and Europe is becoming more urbanised. In Finland, too, the population has become more concentrated in cities, and there are a few vital population centres on the coast. As the archipelago infrastructure

becomes weaker, the ageing population in particular is moving to coastal cities.

STATE OF THE ENVIRONMENT AND MARINE AREAS: The state of the sea has worsened somewhat. The EU and states play a strong role in environmental actions, and regulatory measures are being taken to stop the eutrophication of the sea. Microplastics are banned in the EU, but the lack of a global agreement means the problem has not been solved. Cooperation with Russia is difficult, which has a negative impact on the state of the marine environment. Signs of climate change are visible in the weather conditions, but the Baltic Sea is still a favourable environment for many industries.

FISHERIES AND AQUACULTURE: The EU's agricultural policy is focusing on the most productive areas, and support is allocated to aquaculture in the Baltic Sea. As environmental policy becomes more stringent, higher taxes are placed on meat, and pescetarian and vegetarian diets become significantly more common. Meat is a luxury product, whereas farmed fish is an everyday food. Aquaculture is also boosted by efforts to achieve self-sufficiency in protein production. Larger-scale aquaculture areas are located away from the Gulf of Finland, as the area is needed for defence purposes.

TOURISM AND RECREATIONAL USE: Tourism has become difficult and very few tourists visit the Baltic Sea. This is partly due to political tensions, but personal travel emissions budgets also mean less tourism. Local recreation has become a trend, while tourism is a luxury only the very wealthy can afford.