# Finland's Strategy for Arctic Policy

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# Finland's Strategy for Arctic Policy

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#### **Finland's Strategy for Arctic Policy**

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#### Abstract

Finland's new Arctic policy strategy sets out Finland's key objectives in the Arctic region. All activities in the Arctic region must be based on ecological carrying capacity, climate protection, principles of sustainable development, and respect for the rights of indigenous peoples. The objectives arising from Finland's economic interests can also be examined from this perspective. The strategy extends to the year 2030.

The need to strengthen Arctic cooperation has been identified in the strategic section titled 'Globally influential Finland' of the Programme of Prime Minister Marin's Government. The previous Arctic strategy was adopted in 2013.

The international framework for Arctic policy and issues of Arctic security are presented in the introduction to the strategy. The priorities of the new strategy are as follows:

- 1. Climate change mitigation and adaptation
- 2. Inhabitants (promotion of wellbeing and the rights of the Saami as an indigenous people)
- 3. Arctic expertise (livelihoods and leading edge research)
- 4. Infrastructure and logistics

The priorities of the strategy present the situational picture of each priority area, the objectives for the Arctic region, and the concrete actions to achieve the objectives.

Finland's Arctic policy strategy has been prepared under the auspices of the Prime Minister's Office. All ministries have participated in the preparation of the document.

#### **Keywords**

climate change, infrastructure and logistics, Arctic policy, Arctic region, Arctic research, strategies, Saami people, Arctic Council, sustainable development, livelihoods

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#### Arktisen politiikan strategia

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**Toimittajat** Nina Brander, Emma Borg

Yhteisötekijä Arktisten vastuuvirkamiesten työryhmä

Arktisen politiikan strategian ohjausryhmä

**Kieli** englanti **Sivumäärä** 71

#### Tiivistelmä

Suomen uusi Arktisen politiikan strategia määrittelee Suomen keskeiset tavoitteet arktisella alueella. Kaiken toiminnan arktisella alueella tulee perustua luonnon kantokykyyn, ilmaston suojelemiseen ja kestävän kehityksen periaatteisiin sekä alkuperäiskansojen oikeuksien kunnioittamiseen. Näistä lähtökohdista voidaan tarkastella myös Suomen taloudellisiin intresseihin liittyviä tavoitteita. Strategia ulottuu vuoteen 2030 asti.

Pääministeri Sanna Marinin hallitusohjelman strategisessa kokonaisuudessa Suomi kokoaan suurempi maailmalla on tunnistettu tarve arktisen yhteistyön vahvistamiseksi. Edellinen Arktinen strategia on vuodelta 2013.

Strategian johdannossa esitellään arktisen politiikan kansainvälinen viitekehys ja arktisen turvallisuuden kysymyksiä. Uudessa strategiassa priorisoidaan painopistealueita:

- 1. Ilmastonmuutoksen hillintä ja siihen sopeutuminen
- 2. Asukkaat (hyvinvoinnin edistäminen ja alkuperäiskansa saamelaisten oikeudet)
- 3. Arktinen osaaminen (elinkeinot ja huippututkimus)
- 4. Infrastruktuuri ja logistiikka

Strategian painopistealueissa esitellään painopistealueen tilannekuva, tavoiteltu kehitys arktisella alueella ja konkreettiset toimet tavoitteiden saavuttamiseksi.

Arktisen politiikan strategiaa on valmisteltu valtioneuvoston kanslian johdolla. Valmistelutyössä ovat olleet mukana kaikki ministeriöt.

#### Asiasanat

arktinen alue, arktinen tutkimus, strategiat, saamelaiset, Arktinen neuvosto, kestävä kehitys, elinkeinot, ilmastonmuutos, infrastruktuuri ja logistiikka, arktinen politiikka

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#### Finlands strategi för den arktiska politiken

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#### Referat

Finlands nya strategi för den arktiska politiken fastställer Finlands viktigaste mål i den arktiska regionen. All aktivitet i den arktiska regionen ska utgå från naturens bärkraft, hänsyn till klimatet, principerna för hållbar utveckling och respekt för urfolkens rättigheter. Utifrån dessa utgångspunkter kan man även granska mål som gäller Finlands ekonomiska intressen. Strategin gäller fram till år 2030.

I den strategiska helheten Finland – större än sin storlek i världen – i regeringsprogrammet för statsminister Sanna Marins regering identifieras behovet att stärka det arktiska samarbetet. Finlands föregående arktiska strategi är från 2013.

I inledningen till strategin presenteras den internationella referensramen för den arktiska politiken och frågor som gäller säkerheten i Arktis. I den nya strategin ingår följande prioriteringar:

- 1. Bekämpning av och anpassning till klimatförändringen
- 2. Invånarna (främjande av välfärd samt urfolket samernas rättigheter)
- 3. Arktisk kompetens (näringar och spetsforskning)
- 4. Infrastruktur och logistik

I samband med varje prioritering i strategin behandlas lägesbilden för prioriteringen, den eftersträvade utvecklingen i den arktiska regionen och konkreta åtgärder för att uppnå målen.

Strategin för den arktiska politiken har beretts under ledning av statsrådets kansli. Alla ministerier har deltagit i beredningsarbetet.

#### Nyckelord

klimatförändring, infrastruktur och logistik, arktisk politik, arktisk region, arktisk forskning, strategier, samer, Arktiska rådet, hållbar utveckling, näringar

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#### Suoma árktalaš politihka strategiija

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Almmustahtti Stáhtaráðði

Doaimmaheaddji/t Nina Brander, Emma Borg

Searvvušdahkki Árktalaš ovddasvástádusvirgeolbmuid bargojoavku

Árktalaš politihka strategiija stivrenjoavku

**Giella** eŋgelasgiella **Siidomearri** 71

#### Čoahkkáigeassu

Suoma ođđa Árktalaš politihka strategiija meroštallá Suoma guovddáš ulbmiliid árktalaš guovllus. Buot árktalaš guovllu doaimma vuođđun galgá leat luonddu suvdinnákca, dálkkádaga suodjaleapmi ja suvdilis gárggiideami prinsihpat sihke eamiálbmogiid vuoigatvuođaid gudnejahttin. Dáin vuolggasajiin sáhttet geahčaduvvot maid Suoma ekonomalaš beroštumiid ulbmilat. Strategiija ollá jagi 2030 rádjái.

Oaiveministtar Sanna Marina ráðdehusprográmma strategalaš ollisvuoðas Suopma sturrodagas stuorit máilmmis lea identifiserejuvvon dárbu árktalaš ovttasbarggu váfisteami várás. Ovddit Árktalaš strategiija lea jagi 2013.

Strategiija láidehusas ovdanbuktojuvvojit árktalaš politihka refereansarápma ja dorvvolašvuođa gažaldagat. Ođđa strategiijas vuoruhuvvojit deaddočuokkesguovllut:

- 1. Dálkkádatrievdama goahcan ja dasa vuogáiduvvan
- 2. Orrut (buresbirgejumi ovddideapmi ja eamiálbmot sápmelaččaid vuoigatvuođat)
- 3. Árktalaš máhttu (ealáhusat ja alladutkamuš)
- 4. Infrastruktuvra ja logistihkka

Strategiija deaddočuokkesguovlluin ovdanbuktojuvvojit deaddočuokkesguovlluid dillegovva, oččoduvvon gárggiideapmi árktalaš guovllus ja konkrehtalaš doaimmat ulbmiliid oažžašuvvama várás.

Árktalaš politihka strategiija lea válmmastallojuvvon stáhtaráđi kansliija jođiheami mielde. Válmmastallanbarggus leat leamaš mielde buot ministeriijat.

#### Áššesánit

dálkkádatrievdan, infrastruktuvra ja logistihkka, árktalaš politihkka, árktalaš guovlu, árktalaš dutkamuš, strategiijat, sápmelaččat, Árktalaš ráđđi, suvdilis gárggiideapmi, ealáhusat

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#### Suomâ arktâsii politiik strategia

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Siärvusrähtee Arktâsij ovdâsvástádâsvirgeulmui pargojuávkku

Arktâsii politiik strategia stivrimjuávkku

**Kielå** eŋgâlâškielâ **Sijđomeeri** 71

#### Čuákánkiäsu

Suomâ uđđâ Arktâsii politiik strategia miäruštâl Suomâ kuávdáš mittomeerijd arktâsii kuávlust. Puoh toimâm arktâsii kuávlust kalga vuáđuduđ luándu kyeddimnavccáid, šoŋŋâduv suoijâlmân já kilelis ovdánem prinsiipáid sehe algâaalmugij vuoigâdvuođâi kunnijâtmân. Tai vuolgâsoojijn puáhtá tarkkuustâllâđ meiddei Suomâ ekonomâlâš intressáid lahtojeijee mittomeerijd. Strategia olá ive 2030 räi.

Uáiviminister Sanna Marin haldâttâsohjelm strategilii ubâlâšvuođâst Suomi kokoaan suurempi maailmalla lii tubdum arktâsii ohtsâšpargo nanosmittem tárbu. Oovdeb Arktâsâš strategia lii ivveest 2013.

Strategia laiđiittâsâst oovdânpuáhtojeh arktâsii politiik almugijkoskâsâš čujosrammâ já arktâsii torvolâšvuođâ koččâmušah. Uđđâ strategiast prioristeh tedâčyegiskuávluid:

- 1. Šoŋŋâdâhnubástus coggâm já toos vuáhádume
- 2. Ässeeh (pyereestvaijeem ovdedem já algâaalmug sämmilij vuoigâdvuođah)
- 3. Arktâsâš mättim (iäláttâsah já alemuu tääsi tutkâmuš)
- 4. Infrastruktuur já logistiik

Strategia tedáčyegiskuávluin oovdánpuáhtojeh tedáčyegiskuávlu tilekove, háputtállum ovdánem arktásii kuávlust já konkreetliih tooimah mittomeerij juksâm várás.

Arktâsii politiik strategia lii valmâštâllum statârääđi kanslia joođeetmist. Valmâštâllâmpargoost láá lamaš mield puoh ministeriöh.

#### Äššisäänih

šonnadahnubástus, infrastruktuur já logistiik, arktasaš politiik, arktasaš kuávlu, arktasaš tutkamuš, strategiah, sämmiliih, Arktasaš räädi, kilelis ovdánem, iäláttasah

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#### Lää'ddjânnam aarktlaž politiikk strategia

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Tååimteei Õutstõsraajji

Aarktlaž vasttõsve'rǧǧoummi tuâjj-joukk Aarktlaž politiikk strategia ohjjeemjoukk

**Kiőll** eŋgglőskiőll

Seiddmie'rr 71

#### Vuänõs

Lää'ddjânnam ođđ Aarktlaž politiikk strategia meä'rtââll Lää'ddjânnam tää'rkmõs täävtöözzid aarktlaž vuu'dest. Puk toi'mmjummuš aarktlaž vuu'dest âlgg vuâđđõõvvâd luâđ keâll'jeeivuõ'tte, äimmõzz suõjjlummša da keâll'jeei ouddnummuž vuâđđjurddjid di alggmeerai vuõiggâdvuõđi ciistâst âânnmõ'šše. Täin vue'lǧǧemsõõ'jin vuei'tet tä'rkstööllâd še Lää'ddjânnam ekonoomlaž intree'ssid kuõskki täävtõõzzid. Strategia vuäll ee'jj 2030 räjja.

Vä'lddminister Sanna Mariin halltõsprograamm strateeglaž obbvuõđâst "Lää'ddjânnam šorradvuõđâs peä'lnn šuurab maai'lmest" lij vuâmmšum tarbb aarktlaž õhttsažtuâj ravveem diõtt. Oou'dbuž Aarktlaž strategia lij ee'jjest 2013.

Strategia jåå'ðtemsaa'nin puu'tet ou'dde aarktlaž politiikk meeraikõskksaž raamid da aarktlaž staanvuõd kõõččmõõžžid. Ođđ strategiast priorisââ'stet teäddceäkldõsvuu'did:

- 1. Äimmõsmuttâz tuö'llstõõllmõš da tõõzz šiõttlõõvvmõš
- 2. Aazzi (pue'rrjie'llem ooudâsviikkmõš da alggmeer sä'mmlai vuõiggâdvuõđ)
- 3. Aarktlaž silttummuš (jie'llemvue'jj da vuõssklass'saž tu'tkkummuš)
- 4. Infrastruktuur da logistikk

Strategia teäddceäkldősvuu'din puu'tet ou'dde teäddceäkldősvuu'd vue'kk-koov, tää'vtőllum ouddnummuž aarktlaž vuu'dest da konkreettlaž tååimaid täävtőőzzi vuällam diőtt.

Aarktlaž politiikk strategia lij valmštõllum riikksuåvtõõzz kanslia jåå'đte'men. Puk ministeria lie leämmaž mie'ldd valmštõõllâmtuâjast.

#### Ä'šš-sää'n

äimmõsmuuttâs, infrastruktuur da logistikk, aarktlaž politikk, aarktlaž vu'vdd, aarktlaž tu'tǩkummuš, strategia, sä'mmla, Aarktlaž suåvtõs, keâll'jeei ouddnummuš, jie'llemvue'jj

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### 1 Background

This Strategy for Arctic Policy defines Finland's key objectives in the Arctic region and identifies the most important priorities for achieving them.

Finland's previous Arctic Strategy was published in August 2013. The 2016 update of the Strategy sought to update the Government's objectives concerning both Arctic development and Finland's Arctic role. An Action plan for the update of the Arctic Strategy was completed in March 2017.

The strategic section titled Globally influential Finland of Prime Minister Marin's Government Programme identifies a need to strengthen Arctic cooperation. This was the starting point for the preparation of Finland's Arctic policy. The new Strategy for Arctic Policy takes into account Finland's objectives in the Arctic region and the required operational resources over the long term.

The Strategy outlines the objectives of Finland's Arctic policy for the next two government terms until 2030. The objectives are presented in the introduction to the Strategy.

The Strategy for Arctic Policy identifies four priority areas for Finland's Arctic activities:

- 1. Climate change, mitigation and adaptation
- 2. **Inhabitants,** promotion of wellbeing and the rights of the Sámi as an indigenous people
- 3. Expertise, livelihoods and leading edge research
- 4. Infrastructure and logistics

The sections on the Strategy's priorities briefly present a situational picture of each priority area, the desired development in the Arctic region, and key strategic measures in the priority areas.

In keeping with the Government Report on Finnish Foreign and Security Policy, the international operating environment and security issues in the Arctic region are addressed in the introductory part of the Strategy. This section emphasises the importance of international cooperation and addresses key structures of international Arctic cooperation.

Security issues in Northern Europe are increasingly interlinked and any shifts in the security situation in the Baltic Sea region, the Arctic neighbourhood of Finland and on the North Atlantic are closely connected. The growing security policy interest in the Arctic region makes it also a significant priority for Finland's foreign policy.

Through the Strategy for Arctic Policy and its priorities, Finland promotes the achievement of the goals set in the Agenda for Sustainable Development (2030 Agenda) in the Arctic region. The links between the Strategy's priorities and the sustainable development goals (SDGs) are addressed in connection with each priority.

The principle of the EU's Green Deal of doing no significant harm to environmental, social and cultural objectives, including impacts on indigenous peoples' right to practise their own culture, is a cross-cutting objective of the Strategy.

The preparation of the Strategy was directed by the Steering group for the Strategy for Arctic Policy, in which all ministries are represented. The strategy was prepared by a working group of public servants responsible for Arctic issues based on the steering group's directions. The Arctic Advisory Board, whose members represent a wide range of Finland's Arctic expertise, supported the preparation of Strategy through its work. Both the steering group and the Advisory Board are chaired by the State Secretary to the Prime Minister.

The strategy classifies entire Finland as an Arctic country. Finland's Arctic interests and Arctic expertise are relevant to the whole country and, on the other hand, the Arctic character of entire Finland supports and enhances Finland's international image as an Arctic country in international contexts. A number of definitions of the Arctic region are used internationally, depending on the context. The province of Lapland is of particular significance when we talk about Finland's Arctic region in a geographical context. In addition to Lapland, the regions of North Ostrobothnia, Kainuu and North Karelia participate in Arctic cooperation, and especially regional cooperation within the Barents Euro-Arctic Council.

Finland's Strategy for Arctic Policy 2021 outlines the objectives of Finland's Arctic policy and activities until 2030. Looking back over a similar period of ten years, significant changes have taken place in the international operating environment, especially regarding the great powers and the functioning of international cooperation. In addition, the COVID-19 pandemic of 2020 has had significant direct and indirect impacts on Arctic cooperation and the Arctic region.



Image 1. The UN Sustainable Development Agenda, Agenda2030. Agenda2030 includes 17 sustainable development objectives.<sup>1</sup>

As the Strategy was being drafted, the duration of the pandemic or its long-term effects were impossible to estimate in all respects. The need to prepare for new pandemics in the Arctic should also be addressed. This stresses the importance of health security and environmental collaboration in Arctic cooperation.

However, many basic factors related to the Arctic operating environment are permanent enough in their character to provide a foundation for the Strategy. Above all, these factors are related to climate change, the importance of sustainable development, Arctic biodiversity, the status of indigenous peoples in the Arctic, and the importance of international cooperation in the Arctic region. The objectives related to economic activity and Finland's economic interests can also be examined from these starting points.

Finland has consistently emphasised the need to strengthen the Arctic Council and the European Union's Arctic policy. The Strategy's key global frames of reference include the Paris Agreement and the Sustainable Development Goals adopted by the UN (2030 Agenda), the UN Convention on Biological Diversity, the UN Convention on the Law of the Sea (UNCLOS), the negotiations on the Biodiversity Beyond National Jurisdiction (BBNJ) instrument as well as the UN Declaration on the Rights of Indigenous Peoples and the UN Convention on the Rights of Persons with Disabilities. As cross-cutting themes of all Arctic cooperation, Finland emphasises requiring compliance with the principles of sustainable development, gender equality and non-discrimination.

<sup>1</sup> https://kestavakehitys.fi/en/agenda2030

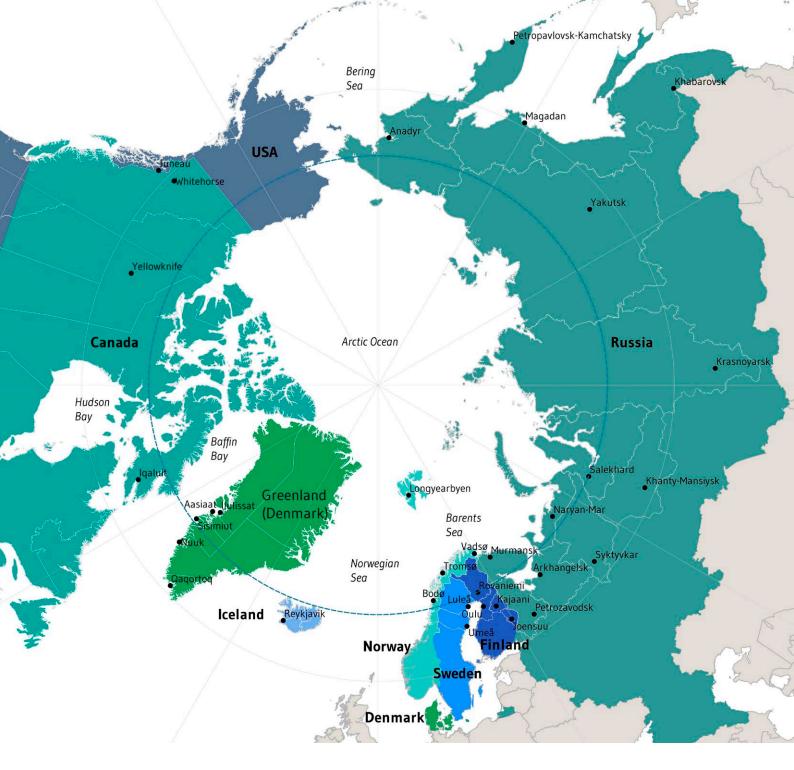


Image 2. Arctic administrative areas. Author: Arto Vitikka, Arctic Centre, University of Lapland.<sup>2</sup>

<sup>2</sup> Credit for the border data: Runfola D, Anderson A, Baier H, Crittenden M, Dowker E, Fuhrig S, et al. (2020) geoBoundaries: A global database of political administrative boundaries. PLoS ONE 15(4): e0231866. https://doi.org/10.1371/journal.pone.0231866

#### 2 Introduction

## 2.1 Outlines and objectives of Finland's Arctic policy until 2030

Finland is an Arctic country and one of the eight permanent members of the Arctic Council. Through close cooperation, sustainable development goals relevant to this region can be attained and, in combination with global measures, the accelerating climate change and its harmful impacts can be mitigated.

Finland's goal is a peaceful Arctic region marked by constructive cooperation. Increasing tensions and conflict potential must be avoided.

The Arctic region is warming up faster than other areas. The direction of climate change in the Arctic region can be turned through global emission reductions. While the actors contributing to the climate change are primarily located outside the Arctic region, there are also countries among the Arctic States with substantial emissions.

Good living conditions and possibilities for participation in cooperation and decision-making on the Arctic must be safeguarded for the people living in this region. In particular, cross-border cooperation and dialogue between people and NGOs should be facilitated and promoted. The indigenous peoples living in the Arctic should be able to preserve and develop the vitality of their cultures, languages and traditions and obtain the necessary capabilities for adapting to the challenges created by the changes affecting the region. In all Arctic cooperation, Finland promotes gender equality and non-discrimination.

Finland's Arctic expertise is a key part of our country's Arctic profile. Biodiversity and the carrying capacity of nature, protecting the climate and the environment, the principles of sustainable development, the welfare and participation of the local population as well as indigenous peoples' rights will be addressed in all economic activity in the Arctic region. While all business is not harmful for the environment, unsustainable business is. Circular economy and other new principles of economic activity as well as technological solutions may also create entirely new business opportunities.

Finland's position and attraction as an international top expert in the Arctic will be strengthened by investments in education and research. The knowledge and expertise produced by Arctic research will be utilised widely. Research evidence will underpin high-quality and timely decisions in different sectors and fields and promote the ability of the Arctic population to live a good life.

Infrastructure and logistics in the Arctic region will be developed to serve businesses and the needs of the region's population through sustainable and low-emission methods and modes of transport. Digitalisation will be promoted in the services of the region and in transport system development. The accessibility of telecommunications will be improved to meet the needs of the authorities, companies and citizens.

The overall image of Finland as an Arctic country is created as the sum of many actors. In addition to various levels of public administration and policy-making, universities, research institutes and business life, such stakeholders as NGOs and informal networks also play a role. At all levels, both institutional knowledge and individual-level expertise and activity have significance.

Ensuring the general visibility of Finland's Arctic activities and making sure that the multiple voices are heard will also be important in terms of the objectives of the Strategy for Arctic Policy. Additionally, it is essential that the stakeholders involved in Finland's Arctic activities have a good ability to network with each other and form partnerships with a low threshold. Arctic cooperation is also part of Nordic cooperation.

The objectives of Finland's Arctic policy and Arctic activities have cross-cutting significance for different sectors across Finland. A silo effect can be prevented by engaging in cooperation across sectoral boundaries and encouraging activities that collectively promote Finland as an Arctic country.

## 2.2 International operating environment and security policy situation

#### 2.2.1 Situational picture

International interest towards the Arctic region and Arctic cooperation has continued to increase since Finland's previous Arctic Strategy was published in 2013. To position their activities, all the Arctic countries and a number of non-Arctic ones interested in this region have published their new or updated Arctic strategies, or were in the process of preparing or updating such strategies at the time of writing of this Strategy.

To a great extent, this interest is due to the rapid and dramatic acceleration of climate change, in which the Arctic region is at the forefront of the changes. The Arctic region with its sensitive ecosystems is warming faster than the rest of the world, and in areas characteristically covered by snow and ice, the changes can be seen and felt in concrete terms. What is happening in the Arctic region and, on the other hand, events in the other polar region of Antarctica further accelerate the adverse impacts of climate change across the globe.

Climate change mitigation and adaptation are relevant to all actors in the Arctic region from individual residents to municipalities, the regional level, states and businesses. Concrete measures, including reducing greenhouse gases and black carbon emissions, play a key role in mitigating the effects of climate change. Low-emission technological solutions and transport arrangements aimed at reducing emissions are also essential.

In the Barents Sea and the Arctic Ocean as a whole, maritime transport has grown and continues to grow further as climate change alters the ice conditions. In addition to political factors, however, the risk-prone nature of the Northeast Passage and other northern sea lanes, including inadequate infrastructure along the shipping routes, have had a significant effect on this growth. As weather conditions become more variable, the prerequisites for the construction and maintenance of transport and communication infrastructure are changing. We must prepare for and adapt to these changes.

As an Arctic country, Finland wishes to emphasise the perspective of Arctic inhabitants: they need possibilities for participating in decision-making as well as maintaining and improving their welfare. Safeguarding this possibility is a key prerequisite for economic wellbeing and sustainable growth. In Finland's Arctic policy, the Arctic region is not a remote hinterland. It is important to address the equal rights and opportunities of the population in the entire Arctic region as well as safeguard their living conditions and participation. Opportunities for maintaining and developing their cultures and traditions in the changing conditions and sufficient support for adapting to the changes should be secured for the indigenous peoples of the region.

It is in the common interest of all Arctic countries that the Arctic region remains stable and peaceful. Finland will contribute to achieving this goal. Since the previous Arctic strategy was drafted, changes have taken place in the security policy situation of the region. These changes will need to be acknowledged and identified and Finland must exert influence in a manner which contributes to stability. Growing military activity and presence as well as increased tensions partly result from the challenges and opportunities created by climate change, which include exploiting the region's natural resources. At the same time, turmoil in international policy and military tensions in the rest of the world are also reflected on the Arctic region, where the political interests of great powers may result in confrontations.

The more international attention the region receives and the greater the growth in such fields as Arctic maritime traffic or telecommunications are estimated to be in the future, the more interest the region will also attract from the perspectives of security and defence. As the geographically largest Arctic country, Russia has stressed the importance of the region in its activities more than ever. The developments in Russia's Arctic region are important also for the Arctic region as a whole.

Of the non-Arctic countries China, in particular, has shown increasing economic and strategic interest in the region and especially in its natural resources, infrastructure and transport routes. China's global goals and efforts to play a greater role in the Arctic may create conflicts of interest, particularly between great powers, and heighten tensions in the region.

Changes in the security policy situation have contributed to increasing the strategic importance of the Arctic region and exacerbated tensions in the region. Heightened tension in the international situation in one region may quickly lead to increased military activity in other regions. The development of the Arctic infrastructure may also have an impact on the security situation in this region. This is why the region's development needs to be examined as part of a broader security policy context.

The security policy related developments in the Arctic region impact Finland's national security. From Finland's perspective, the security of the Arctic region is closely linked to the security situation in the Baltic Sea area and the rest of Europe, which has been marked by increasing tensions in the 2010s. Russia has affected the security situation in our neighbouring regions and Europe negatively by illegally annexing Crimea and by prolonging the conflict it initiated in eastern Ukraine. Russia is systematically strengthening its military presence in the Arctic region in order to safeguard its economic interests and to ensure control over the Northern Sea Route. In the meantime, the importance of military bases and nuclear weapons located in the Kola Peninsula, as well as the Northern Fleet's freedom to operate and access to the oceans, have been emphasised in Russia's security thinking.

As a result the United States, Canada and the European NATO countries have increased their military presence and improved their readiness for military response in Northern Europe. Similarly, the Arctic region has emerged more prominently in international discourses on security and defence policy and in the operational planning and exercises of armed forces.



**Image 3.** 3. Jaeger Brigade's platoon marching to Kaarestunturi fell in winter 2019. Photo by: Anna Kupsala, Finnish Defence Forces

Finland engages in continuous dialogues on foreign policy, security policy and defence cooperation on the Arctic security situation, both bilaterally and multilaterally. Finland continues to draw attention to the possibility of convening an Arctic Summit, which could on one hand enable lifting the environmental issues on the Arctic Council's agenda at the highest level and on the other hand create a possible forum for addressing security policy matters, which are outside of the Arctic Council's mandate. The Finnish Defence Forces participates in Arctic research cooperation and conducts military exercises in the north, both nationally and together with its international partners. Finland's strength lies in capable Defence Forces, developed to operate in Arctic conditions, and possessing Arctic expertise of a high international level.



Image 4. A hovercraft is an important tool for rescue departments during a frost heave. Photo by: Kaisa Sirén

## 2.2.2 Objectives of Finland's activities: A stable and secure operating environment

From the perspective of all actors, reinforcing commitment to peace, stability and constructive cooperation in the Arctic region is vital. Due attention must be paid to the cooperation and dialogue structures which are proactive and preventive and which promote dialogue between states in a manner which builds confidence and reduces risks, also in the event of any disasters. Climate change, sustainable development and the welfare of the region's population must remain among the key priorities of Arctic cooperation. In addition to the Arctic Council, it is also important to utilise in this work such regional cooperation structures as the Northern Dimension policy with its partnerships and other cooperation structures as well as the Barents Euro-Arctic Council and the Nordic Council.

A stable and secure operating environment is a prerequisite for achieving the proposed objectives of Arctic cooperation and promoting the welfare of the region's population. This is why internal security and a safe living and operating environment must also be taken into account in the discussions and efforts to develop the region.

Sparsely populated areas account for 68% of Finland's surface area. Local cooperation between the authorities, NGOs and residents is particularly important in these areas. It is important that the necessary services offered by the authorities are also available to the population in the sparsely populated Arctic region and that the residents feel safe. The visibility of the Police, the Border Guard and rescue services, in particular, and their good capabilities for operating in sparsely populated areas create strong internal security which, in turn, is also a prerequisite for achieving the objectives of Arctic cooperation and the special Arctic interests related to Finland's economy, including tourism, encouraging business activity and building transport infrastructure. Even better use should be made of local activity and communality in sparsely populated areas as well as close cooperation between security sector stakeholders to guarantee safety and security.

The scale of the Arctic region and its challenging conditions require cooperation between all safety and security authorities within Finland and, as far as possible, also cross-border activities. Barents Rescue Exercises are an example of international cooperation in the area of civil preparedness and rescue services in the north. The new challenges encroaching on the region, including accelerating climate change and the ensuing natural phenomena and new health threats, also place greater demands on cooperation between authorities responsible for internal security. However, preparedness for responding to and addressing different types of crises (all-hazards approach) and risk environments is important.

The authorities in the north, including the Police, Customs, Border Guard and rescue services alike, already engage in close and direct cooperation, especially between the Nordic countries. In the future, increasing attention must be paid to the potential challenges and needs arising from development in the Arctic region in the multilateral, regional and bilateral structures of inter-authority cooperation. The Finnish Border Guard is actively involved in the Arctic Coast Guard Forum (ACGF), which covers the activities of maritime authorities throughout the Arctic region.

The COVID-19 pandemic and possible further pandemics, the risk of which is increased by such phenomena as the thawing of permafrost, emphasise the need to pay more attention to health threats and health security as well as the special challenges faced by sparsely populated Arctic areas. They should be provided with appropriate telecommunications and transport connections to ensure that medical assistance, for instance, can be brought quickly to those who need it. The Arctic Council will play a key role also in combating health threats. The added value created by the Council is partly based on the fact that it provides a forum for conducting negotiations and making decisions together with indigenous peoples and connecting the Arctic regions of the Nordic countries, Russia and North America. In addition, high-quality scientific activities of the Arctic Council's Working Groups will increase in importance.

#### 2.2.3 Finland and the structures of international Arctic cooperation

Finland is one of the eight permanent members of the Arctic Council. The Arctic Council will thus continue to play a key part in Finland's Arctic policy. Finland works to strengthen the Council's operating preconditions and promote their development to meet the challenges posed by the increased international interest. The Arctic Economic Council also plays a key role in communication between economic operators in the region and in their effective relations with the authorities.

The Arctic Council and its eight Arctic Member States are at the core of the Arctic cooperation. Multinational conventions and international law play a key role in defining states' operating possibilities. Finland primarily aims to strengthen the existing arrangements and does not see a need for a wider convention covering the Arctic region as a whole. Within the framework of the UN, Finland is actively involved in negotiations on issues related to the conservation and sustainable use of the high seas at global level. Finland is prepared to actively seek solutions for the effective regional implementation of the convention in the Arctic region, and does not exclude in principle agreements in special fields if consensus on them can be reached between the Arctic countries.

Finland also contributes to promoting constructive dialogue and cooperation with non-Arctic countries interested in the region, many of which already are observers in the Arctic Council. As international interest builds and the number of observers increases, the Arctic Council must be able to find innovative means of engaging observers in dynamic cooperation.

Finland also promotes Arctic cooperation in the context of Nordic cooperation, in bilateral relations with Russia and with the United States and Canada. Such regional cooperation structures as the Northern Dimension policy and its partnerships, the Barents Euro-Arctic Council and its regional level, the Nordic Council of Ministers and the Nordic Council are also used actively in this cooperation. Parliamentary cooperation related to the Arctic takes place through the Standing Committee of Parliamentarians of the Arctic Region. In addition, municipalities, regional state administrative agencies and regional councils engage in cooperation.

There are numerous different thematic networks and forums related to the Arctic region, and Finnish actors are encouraged to actively participate in them.

Finland also finds important Russia's participation in international environmental cooperation in the Arctic region, in which reducing black carbon and other harmful emissions and improving nuclear safety as well as other objectives of bilateral cooperation between Finland and Russia significant for the Arctic region are emphasised. Finland

supports cooperation related to nuclear safety and radioactive waste management, among other things within the framework of the Northern Dimension Environmental Partnership. Cooperation with the International Atomic Energy Agency (IAEA) is equally important.

The European Union is an important and constructive Arctic actor and has potential for assuming a more active role in this respect. It has access to financial resources, an ability to set high global standards and wide-ranging expertise. Finland will advocate getting Arctic cooperation higher up on the EU agenda. The EU should pursue more coherent Arctic policy, and its institutions should allocate sufficient resources, including personnel resources, to the coordination and implementation of the Union's Arctic policy.

Finland's goal is to maintain its leadership role as an Arctic EU Member State together with Sweden and Denmark. Finland emphasises the need to strengthen the EU 's Arctic policy and has advocated an update of the EU' s Arctic policy based on the Joint Communication on an integrated EU policy for the Arctic of 2016. A new communication on the EU's Arctic policy will be published in 2021. Finland will actively influence the preparation of the new communication, its processing in the Council of the European Union, and the implementation of the updated policy.

The EU is a de facto observer in the Arctic Council, which enables the EU to participate in the activities of the Arctic Council's working groups. Finland is in favour of accepting the EU as an observer in the Arctic Council. Finland considers EU institutions' more active participation in and sharper focus on the efforts of these working groups important. The Northern Dimension partnerships and the Barents Euro-Arctic Council also offer one additional means of increasing the EU 's activity in the Arctic.

EU funding plays an important role in strengthening the EU's Arctic role and promoting Arctic cooperation. Finland will contribute to ensuring that Arctic cooperation and the special conditions of the Arctic region will be appropriately taken into account in the planning and implementation of various EU funding programmes. Nationally, Finland will pay particular attention to monitoring and influencing EU funding opportunities related to Arctic policy.

#### 2.2.4 Finland is a key actor in both the Arctic and the Antarctic

In addition to the Arctic, Finland is also active in the Antarctic. Finland has had a research station on Antarctica since the 1980s and conducts high-quality and internationally networked research on this continent.

While the Arctic and the Antarctic are in many respects different, they also have a great many factors in common. Climate change and its impacts are manifested most clearly in the polar regions. The natural resources and geopolitical location of both polar regions are of growing international interest. The impacts of human activities, such as tourism, on the ecosystems of both polar regions are of concern. In both regions, solutions are needed to such questions as the regulation of marine areas and the conservation or sustainable use of resources.

Finland is one of the 29 Consultative Parties to the Antarctic Treaty and has also assumed an active role in the Convention on the Conservation of Antarctic Marine Living Resources. Only four other states in addition to Finland participate in making decisions on both polar regions: Sweden, Norway, Russia and the United States. This position has opened up a strong role for Finland as a global polar actor and an opportunity to influence the questions and challenges of both polar regions. It also offers extensive business opportunities for our expertise in cold conditions and attracts international interest in Finnish research specialising in cold regions.

#### **Arctic Council**

The Arctic Council is an intergovernmental forum promoting cooperation, coordination and interaction among the Arctic States, Arctic indigenous peoples and other Arctic inhabitants. The focus of the cooperation in particular is on sustainable development and environmental protection in the Arctic. The Arctic Council was established in 1996 with the Ottawa Declaration, which stemmed from the Rovaniemi Process on Arctic environmental issues initiated by Finland in 1991.

Besides Finland, Members of the Arctic Council are Iceland, Canada, Norway, Sweden, Denmark, Russia and the United States, and the so-called Permanent Participant organisations representing Arctic indigenous peoples. These are the Aleut International Association (AIA), the Arctic Athabaskan Council (AAC), the Gwich'in Council International (GCI), the Inuit Circumpolar Council (ICC), the Saami Council and the Russian Association of Indigenous Peoples of the North (RAIPON). The Arctic Council also has 38 observers that include states and organisations.

The work of the Arctic Council is carried out by six permanent Working Groups<sup>3</sup>. The Working Groups implement jointly approved programmes and projects. In addition, the Arctic Council may, if necessary, establish fixed-term expert groups in certain subject and committees to carry out specific tasks.

The highest level decision-making body of the Arctic Council is the Ministerial Meeting of foreign ministers, which is convened every two years. In-between the Ministerial meetings, the Council's activities are coordinated by the Senior Arctic Officials. The decisions of the Arctic Council are taken by consensus.

The two-year chairmanship among the Arctic Council rotates between Members. Finland held the Chairmanship most recently in 2017–2019. The Arctic Council has a permanent secretariat in Tromsø, Norway.

<sup>3</sup> The Arctic Contaminants Action Program (ACAP), the Arctic Monitoring and Assessment Programme (AMAP), the Conservation of Arctic Flora and Fauna Working Group (CAFF), the Emergency Prevention, Preparedness and Response Working Group (EPPR), the Protection of the Arctic Marine Environment Working Group (PAME), the Sustainable Development Working Group (SDWG).

## 3 Priority 1: Climate change, mitigation and adaptation

## 3.1 Situational picture at the time of drafting of the Strategy for Arctic Policy 2021

Over the past 50 years, climate change has accelerated three times faster in the Arctic than in other parts of the world. The change in the Arctic region also has a global impact on such factors as rising sea levels and weather phenomena far away from the Arctic region. The direction of climate change in the Arctic region can be turned through global reductions in emissions of carbon dioxide, other greenhouse gases and black carbon. Reducing the emissions of black carbon (soot) will help mitigate climate change across the globe and especially in the Arctic region. Reduced emissions will also bring health benefits.

While the Arctic region is changing permanently, global emissions reductions and attaining the goals of the Paris Agreement would slow down the progress of these changes by the mid-21st century. If the warming can be limited to 1.5° C, this will make a significant difference to the Arctic area compared to an increase in average temperature of 2° C. If, on the other hand, the Paris goals for reducing emissions cannot be reached, the rapid change in the Arctic will continue, climate change adaptation will become more difficult, and global risks will increase. In Finland's view, the opening up of new fossil reserves in Arctic conditions is incompatible with attaining the targets of the Paris Agreement and associated with economic uncertainties and risks.

Finland's climate actions and targets are decided and steered at the national level. The targets of the Paris Agreement and the goal of carbon neutrality by 2035 set in the Government Programme require immediate action in terms of both mitigation and adaptation.

A government proposal for a new Climate Change Act is due to be completed in summer 2021. The Climate Change Act will also include a target for strengthening the sinks that remove greenhouse gases from the atmosphere. An update of the National Climate Change Adaptation Plan 2022 has been begun with work aiming to strengthen the knowledge base. The preparation of a new National Climate and Energy Strategy and Medium-term Climate Change Policy Plan (KAISU) was initiated in 2020.

At the national level, the interface between science and policy is bolstered by the Climate Change Panel, the Nature Panel and the Expert Panel for Sustainable Development. Establishing a Sámi Climate Council would promote taking traditional Sámi knowledge into account in decision-making related to climate policy. To ensure just climate policy in Finland, a new Climate Policy Round Table has also been convened. The work on a Roadmap for Fossil-free Transport was completed in autumn 2020, and sector-specific roadmaps for low carbon emissions were published in summer 2020. The amount of EU climate funding will increase under such instruments as the Structural Funds and the Just Transition Fund.

The Arctic Council's Working Groups produce information on the warming of the Arctic region, state of biodiversity, and the impacts of climate change on snow, water, ice and permafrost, acidification of the seas, ecosystems as well as land and marine species. Action plans have been prepared to support adaptation, and a framework programme was drawn up to strengthen resilience. This information has an extensive impact on decision-making both at the level of the Arctic region and globally. In 2017, the Arctic Council adopted a collective, aspirational goal to reduce black carbon emissions by between 25% and 33% by 2025. The Arctic Council also works together to prevent environmental pollution, forest and grass fires and marine litter as well as to improve waste management.

The Barents Euro-Arctic Council has drawn up an Action Plan on Climate Change, which will be updated in 2021. The implementation of the Action Plan will be launched during the Finnish Chairmanship of the Council in 2021–2023.

The impacts of climate change and other human-induced changes affecting the environment and habitats on nature and weather conditions are already visible. They may have far-reaching consequences for societies' living conditions and the preconditions for pursuing livelihoods. They drive biodiversity loss as native species disappear and enable invasive alien species to expand their habitats and spread further north. In the Arctic region, climate change is the greatest threat to biodiversity. While around 30% of the surface area in Lapland consists of protected areas, many of the area's ecosystems are threatened due to the combined effects of climate change and land use.



**Image 5.** A willow grouse has already prepared for winter by moulting into a white plumage to blend into the snowy landscape, even though there is no snow yet. As a result of climate change, snow cover arrives later in autumn and melts earlier in spring. Photo by: Pertti Turunen



Image 6. A ruff palsa. As a result of climate change, ruffs have become an endangered species in Finland. Ruffs have traditionally courted on the palsas of the Utsjoki palsa mires, which also have melted due to global warming. These birds still try to court on top of the last palsa in the area. Photo by: Jouni Männistö

Nature not only has intrinsic value but also plays a key part in climate change mitigation and adaptation, the vitality of the Arctic region and food security. Nature also helps improve human health and mental well-being. Only minor amounts of environmental toxins can be found in the air, water and organisms of Finnish Lapland. However, substances transported across long distances, the risks of which are exacerbated by climate change, are a particular concern for the Arctic region. Growth in economic activity is also increasing local environmental loading. Land use affects the achievement of the SDGs, the preservation of biodiversity, and climate change mitigation and adaptation.

The warming of the Arctic region will shorten the snow and ice season, in particular, and make winter conditions more unpredictable. This is already affecting the preconditions for reindeer husbandry and tourism. Winters will become more varied and less predictable.

Climate change has increased rainfall amounts, the consequences of which include exacerbating flood risks. In relative terms, the change is greater in winter than in summer, and slightly stronger in the north than in the south. On the other hand, dry summers are becoming more common, also exacerbating the forest fire risks in the Arctic region. The likelihood of large and long-lasting fires, in particular, is expected to increase. Extensive forest fires cause human suffering and economic losses. They also destroy habitats and contribute to the acceleration of climate change by releasing carbon bound in the vegetation and increasing black carbon emissions. Taking the increased risk of forest fires into account will be important when developing rescue services in the Arctic region.

Another phenomenon that intensifies climate change is the widespread thawing of permafrost, which can lead to major greenhouse gas emissions from the soil. Up to one half of the Earth's carbon stocks are found in the Arctic soil. New observation systems can help improve the accuracy of forecasts and management of problems.

## 3.2 Goal state during the implementation period of the Strategy for Arctic Policy 2021

As a producer of pioneering solutions, Finland will strengthen stability, welfare and security in the Arctic region. Climate change mitigation, investments in climate-wise infrastructure, strengthening situational awareness concerning the Arctic, circular economy and bioeconomy, higher added value products, halting biodiversity loss, and nature-based solutions will bring new opportunities for employment and livelihoods.



**Image 7.** Spring flood in 2020. A photo of downtown Rovaniemi where the Kemijoki river floods the streets. Photo by: Kaisa Sirén.

Even if we succeed in reducing emissions, warming in the Arctic will continue in the near future. This is why adaptation measures need to be implemented now.

Nature-based solutions are an important part of climate change mitigation and adaptation as well as the vitality of the Arctic region, livelihoods based on the environment and food security. Land and natural resources are used sustainably. The joint impacts of climate change and economic activity are taken into account in land use. These impacts affect the environment and local inhabitants, natural sources of livelihood and the livelihoods of indigenous peoples.

Preventing the environmental and social harms of increasing human activity is a prerequisite for a sustainable future in the Arctic region. Citizens' participation will be strengthened, and knowledge and awareness of the impacts of climate change will be increased.

Supporting a just transition in the Arctic region and the inhabitants' living conditions in changing circumstances will be crucial. A just transition means that emissions reduction and adaptation measures are carried out in a way that is fair from the social and regional perspective and that involves all sectors of society.

The Sámi culture and the traditional knowledge of the Sámi will be taken into account in line with the Constitution. The Arctic population, particularly indigenous peoples, are the first to experience climate change and its effects on their lives and cultures. Traditional Sámi knowledge will be included in the knowledge base of development and climate change work in the Arctic.

International agreements, cooperation of the Arctic Council and the Barents Euro-Arctic Council as well as EU policy programmes will support the development of solutions to halting climate change, safeguarding biodiversity and addressing other environmental issues in the Arctic. Finland supports the implementation of the Paris Agreement as part of the EU's goal of being the first climate neutral continent by 2050 and through the Government's target of Finland being carbon neutral by 2035.

The instrument on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction (BBNJ), which is to be negotiated under the UN Convention on the Law of the Sea, will mean increased UN regulation also in the Arctic Ocean. Finland's goal is to ensure that the Arctic Council will be a key agent implementing the future instrument and that the instrument can help improve the protection of the Arctic Ocean.

Finland will continue to monitor the implementation of the Agreement to prevent unregulated high seas fisheries in the Central Arctic Ocean.

The main EU programmes are the Green Deal and the investment programme associated with it as well as the Just Transition Mechanism, the COVID-19 pandemic recovery package, the new EU Arctic strategy and research programmes. Finland's goals also include making sure that the EU will participate in the work of the Arctic Council and, in particular, the efforts of its Working Groups and the implementation of its projects.

#### 3.3 Strategic measures

- Bolstering Finland's pioneering role in climate change mitigation and phasing out fossil fuels by developing decentralised renewable energy production, climate-wise infrastructure and construction, the circular economy, bioeconomy and resource efficiency, and by expanding the network of carbon-neutral municipalities, taking into account the conditions and impacts of Arctic and sparsely populated areas.
- Promoting a socially just transition to carbon neutrality and tapping the support forms available for it, in particular the Just Transition Fund and the Sustainable Growth Programme for Finland.
- Supporting international and Arctic cooperation and EU action to mitigate climate change, including reducing black carbon emissions, strengthening adaptation and protecting the environment.
- Improving capabilities for adaptation and strengthening climate risk
  management by building up the knowledge base related to changes,
  risks, costs and benefits in the Arctic region as well as drawing on
  this knowledge in such contexts as maintaining and developing the
  infrastructure in northern areas. Strengthening preparedness for
  increasing flood risks.
- Promoting Arctic food security in a changing climate by safeguarding the
  preconditions for local industries, in particular reindeer husbandry and
  other traditional livelihoods. The proposal on preparing a climate change
  adaptation plan for the Sámi will be examined as part of the Climate
  Change Act and the update process of the National Climate Change
  Adaptation Plan.
- Supporting measures to halt biodiversity loss and the deployment of nature-based solutions by enhancing the protection of Arctic species and habitats threatened by climate change and by strengthening the rehabilitation and restoration of degraded ecosystems.
- Continuing the use of and developing cooperation mechanisms for the management and use of natural resources and protected areas together with the Sámi following the guidelines based on the Akwé:Kon operating model of the UN Convention on Biological Diversity.
- Promoting international cooperation to establish a comprehensive network of marine protected areas in the Arctic Ocean and to combat marine litter. Marine resources management in the Arctic will be developed with an ecosystem-based approach, drawing on experiences gained in Baltic Sea cooperation.
- Efficiently controlling invasive alien species which have established themselves in the Arctic region, preventing the spread of new invasive

alien species to the Arctic region, and building up the knowledge base of invasive alien species. Improving access to information by implementing an international invasive alien species portal that covers the Arctic regions, while also strengthening expertise and capacity related to operating methods.

- Supporting sustainable land use solutions and the sustainability of natural resources use as the climate changes by developing the assessments of the environmental and other impacts of climate change, among other things in keeping with the recommendations of the Arctic Environmental Impact Assessment report.
- Strengthening the preparedness of industries based on natural resources (forestry, agriculture, fisheries, game management and reindeer husbandry) for disaster risks and developing risk monitoring, including monitoring and early warning systems for forest fires, diseases and pests.
- Building up the knowledge base of the impacts of climate change and other environmental changes as well as emissions reduction methods and carbon sinks, especially by using national information services.
- Establishing a Sámi Climate Council to promote the recognition of traditional Sámi knowledge and its inclusion in information production that supports decision-making.
- Promoting cooperation related to transboundary water courses with Sweden, Norway and Russia in a manner that improves the quality of the aquatic environment, enables the sustainable use of water systems also in changing climate conditions, and safeguards biodiversity.

The priority implements the following goals and targets of the Agenda for Sustainable Development (Agenda 2030):









## 4 Priority 2.1: Inhabitants, promotion of wellbeing

## 4.1 Situational picture at the time of drafting of the Strategy for Arctic Policy 2021

The entire Arctic region has about 4 million inhabitants, of whom around 10% belong to indigenous peoples. In Finland's internal context, the Arctic region refers particularly to Lapland, which accounts for 30% of Finland's surface area and in which three per cent of the country's population live (around 180,000 people). The population of this region has been declining for a long time. Municipalities in the northern part of Lapland constitute the Sámi Homeland. While less than one per cent of the entire population of Lapland speak Sámi as their mother tongue, Sámi is not the mother tongue of all Sámi people.

Demographic change will have a very significant impact on the future of services and livelihoods in the northern region. The distortion of gender distribution, for example as women move away, is also part of this problem.

A diverse economic structure and good permanent employment opportunities are a basic prerequisite for the wellbeing of the inhabitants in the Arctic. The COVID-19 pandemic of 2020 has unexpectedly led to a major increase in unemployment, especially in service sectors dependent on tourism, which in turn causes significant economic and social problems at individual and community level. On the other hand, as the COVID-19 pandemic changes attitudes towards telework and the living environment, the direction of the migration may be reversed. In the special circumstances of the north, addressing occupational health and safety issues, both for local workers and seasonal labour coming from elsewhere, is important.



Image 8. Due to a long school trip, a pupil from Salla attends a distance school. Photo by: Kaisa Sirén.

Equal access to both basic and secondary level education in remote regions plays a key role in creating sustainable development and building the resilience of Arctic communities. Equal access to high-quality basic education opens the doors to secondary and higher education as well as to working life. It reduces the risk of social exclusion and its negative consequences. Adequate accessibility of secondary education is additionally important taking into consideration the plans to expand compulsory education and prevention of social exclusion.

Enabling distance learning at all levels of education is important for the vitality of the Arctic region. This applies to all residents of the region. From the perspective of organising teaching in the Sámi language, it is especially relevant to the Sámi living in the Sámi Homeland and elsewhere.

A particular need to develop remote and other digital services has been identified in the Arctic region. The importance of digital health care, social and other well-being services is emphasised due to the long distances and the unavailability of health care personnel. Well-functioning technical infrastructure is a precondition for effective digital services. An effort will be made to organise well-functioning digital services, including Sámi-language services.

### Finland's National Mental Health Strategy and Programme for Suicide Prevention 2020–2030

The National Mental Health Strategy and Programme for Suicide Prevention 2020–2030 sees mental health as capital, protects mental health rights and services, links them to existing structures, prevents suicides and increases professionals' competence. The national mental health strategy takes into account different minority groups, language and cultural groups.

As part of the Lapland region project of the Future Health and Social Services Centres programme, low-threshold mental health and substance abuse services are being developed. The services understand the origins of indigenous people and recognise the special needs relating to Sámi language, culture and way of life.

Mental health problems and suicides are a major public health problem, especially among the indigenous peoples in the Arctic. Rapid social changes in the Arctic region may have created major challenges for both individuals and communities, who have had to adapt to a new reality time after time.

In the Arctic region, people's mental well-being is also affected by other significant stress factors. Climate change hampers the pursuit of traditional livelihoods, such as reindeer husbandry. Economic activity in the Arctic has grown, for its part reducing the opportunities for traditional economic and cultural activities. Indigenous peoples also continue to experience discrimination and lack of access to social services provided in their language. Additional challenges arise from collisions between the traditional and modern culture, especially among young people.

The Arctic region is unique in its cultural diversity. Cultural cooperation promotes mutual understanding and respect and strengthens the identities of all inhabitants in the region.

#### Health and social services in Sámi

The starting point of the Ministry of Social Affairs and Health is the development of health and social services in Sámi as part of the service system, and, therefore, it is import to ensure that large reforms in the administrative branch – the health and social services reform as well as the future health and social services centre project – support this goal to the greatest possible extent. The Ministry of Social Affairs and Health also annually grants state funding for the development of the health and social services in Sámi (EUR 562,000 in 2021). The funding is divided within the Sámi region in accordance with the agreement concluded between the municipalities in the region and the Sámi Parliament. It supports home services in Sámi in particular and specifically strengthens the support provided for older Sámi adults. The funding supplements the municipalities' general responsibility for arranging health and social services for their citizens.

The importance of health security is emphasised in the Arctic region. Health security refers to the prevention of health threats and, in particular, preparedness for infectious diseases and environmental threats. Public health measures, strong health systems and accessible health services are essential. Preparedness for health security threats requires extensive cooperation between different sectors, both at the level of entire society and locally.

Most new pathogens are of animal origin. Climate change affects the prevalence of pathogens as well as the animals that carry them and the environments in which they can be contracted in the region. The constant expansion of human activity may increase contacts with infected animals. The thawing of permafrost may also exacerbate the disease risk.

The One Health approach emphasises the shared health of humans, animals and the environment, their interactions, and the importance of cross-administrative cooperation in preventing and combating health threats. Among other things, the holistic perspective puts in the limelight the involvement of local communities in health and wellbeing issues that concern them, taking traditional knowledge into account and promoting good mental health. The Arctic Council has worked for a long time to promote this approach, and Finland is actively involved in these efforts. The COVID-19 pandemic has also highlighted the need for this perspective.

## 4.2 Goal state during the implementation period of the Strategy for Arctic Policy 2021

Finland's starting point is promoting the wellbeing and participation of Arctic inhabitants through activities defined within the frame of reference of welfare economics, addressing the balance between the three dimensions of sustainable development: social and cultural, economic, and environmental sustainability.

Health, social and other well-being services will be accessible and equally available in Finland's Arctic region regardless of gender, age, place of residence, mother tongue, disability or other personal factors.

Usable and appropriate digital social and health services will be available for both citizens and professionals. Self-care, self-treatment and preventive services will be advanced. Citizens will have access to their personal health and well-being information through digital services and mobile health services. The possibilities of digitalisation will also be taken into account in distance learning and education.

In service development, special attention will be paid to services sensitive to the client's language and culture that promote mental well-being and prevent suicides.

The importance of art and culture for the vitality of the region will be recognised and integrated into the regional, social and economic development of the Arctic. Young people and future decision-makers are vital for the Arctic. The regions will also compete for the creative workforce of the younger generation. Special attention will be paid to the engagement and participation of young people and networking in the Arctic across state borders.

Cultural diversity in the region, including indigenous peoples' cultures, will be strengthened through open interaction between those with different cultural backgrounds. Particular attention will be paid to cross-border partnerships between culture and the creative sectors, as well as between business and research. Cross-border cooperation at the level of municipalities and interaction between citizens in the northern region will be supported.



**Image 9.** Reindeer herding is passed down from generation to generation, and children are involved in the herding from an early age. Photo by: Kaisa Sirén

### **Economy of wellbeing**

Economy of wellbeing emphasise the connection and balance between the three dimensions of sustainable development: social, economic, and environmental sustainability. Economy of wellbeing promotes social stability.

Preconditions for an ecologically and socially sustainable economy are created by investing in people's wellbeing. A sustainable economy makes it possible to increase the wellbeing of people and the environment.

Economy of wellbeing utilises indicators that depict economic, ecological and social wellbeing as a support and alongside traditional economic indicators. In economy of wellbeing, the wellbeing and health impacts of decisions are assessed extensively.

The inhabitants will have equal opportunities to participate in the region's decision-making, and possibilities for a good life for all will be strengthened in the Arctic areas. Taking the residents of the region into consideration in the work of the Arctic Council will be supported. The wellbeing and vitality of Arctic communities will be promoted, addressing gender equality and non-discrimination in all activities. Promoting and using sex-disaggregated data and research will be in key role. NGOs will bring up important viewpoints helping to ensure that those in the most vulnerable position and minorities are not overlooked.

In the field of occupational health and safety, adaptation to the transformation of work and deployment of the positive effects of digitalisation will be promoted. Support will be offered, taking into account the special features of the Arctic region, its population and indigenous peoples.

Finland will be a forerunner in promoting health security, both nationally and internationally.

### 4.3 Strategic measures

- Exerting influence to strengthen the participation of Arctic residents and regional actors in international Arctic cooperation and the preparation of Finland's Arctic policy.
- Applying the economy of wellbeing approach to promoting the wellbeing of Arctic inhabitants.
- Strengthening basic services and public health measures as well as crosssectoral cooperation in the Arctic region by supporting cross-border cooperation between municipalities in the northern region in offering services to safeguard service accessibility.
- Actively supporting the development of digital service models and telemedicine solutions; improving professionals' competence in the use of digitalisation and telemedicine; and ensuring the availability of the support citizens need in using these digital services.
- Improving the regional equality of basic and secondary education through digital and other means while enabling diverse educational paths also in sparsely populated areas.
- Promoting actions set out in Finland's National Mental Health Strategy 2020–2030: Developing culturally sensitive suicide prevention programmes and measures to promote mental well-being, in which different cultural and language groups are taken into account.
   Strengthening professionals' cross-administrative capabilities and improving the availability of low-threshold help and services. Paying special attention to improving Sámi-language digital services.
- Taking into consideration the importance of art and culture for the vitality of the Arctic region and integrating it into the regional, social and economic development measures in the region.
- Addressing gender equality in all Arctic cooperation: mainstreaming gender equality perspectives and promoting gender equality through special measures if necessary; strengthening the gender equality competence of Arctic actors and promoting the use of sex-disaggregated data in the various themes of Arctic cooperation.
- Supporting new employment opportunities and entrepreneurship, especially through digitalisation.
- Developing tools for managing the transformation of working life in the Arctic and strengthening workplaces' ability to take care of occupational health and safety.

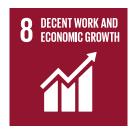
- Continuously developing the cross-sectoral monitoring of, preparedness for and response to health security threats both nationally and internationally.
- Strengthening Finnish expertise and international cooperation related to the One Health approach.

The priority will implement the following goals and targets of the Agenda for Sustainable Development (Agenda2030):









## 5 Priority 2.2: Inhabitants, the rights of the Sámi as an indigenous people

## 5.1 The Sámi in Finland: Situational picture at the time of drafting of the Strategy for Arctic Policy 2021

The Sámi are the only indigenous people in the European Union. As an indigenous people, they have the right to maintain and develop their own language and culture. The traditional living area of the Sámi, Sápmi, extends to the states of Finland, Sweden, Norway and Russia. In total, there are between 75,000 and 100,000 Sámi people. It has been estimated that indigenous peoples account for about 10% of the total Arctic population, which is divided into more than 40 different peoples.

In Finland, the Sámi Homeland is located in Northern Lapland in the municipalities of Enontekiö, Utsjoki and Inari, including the northern part of Sodankylä municipality. The Sámi are a minority population group in the county of Lapland. Of the around 10,000 Sámi in Finland, more than 60 per cent live outside their Homeland. There are nine Sámi languages, of which Inari Sámi, Skolt Sámi and North Sámi are spoken in Finland. Since 1996, the Sámi in Finland have had a right to linguistic and cultural self-government in their Homeland as laid down in the Constitution. For this purpose, they elect a Sámi Parliament.

The traditional Sámi livelihoods of reindeer herding, fishing, hunting and Sámi crafts ('duodji') are highly dependent on nature. These traditional livelihoods are a central part of the Sámi culture and lifestyle as well as important environments for using the Sámi languages. The Sámi culture has a strong connection with the land and waters of traditional living areas. Indigenous peoples also possess traditional knowledge passed on from one generation to the other.

As the Sámi are a people living in four countries, cross-border cooperation and the elimination of border obstacles, particularly on Finland's borders with Sweden and Norway, are essential issues. The availability of services provided in the Sámi language and compatible with the Sámi culture has been inadequate. The underlying issues include the availability of personnel. Cross-border cooperation is an important means of strengthening and developing services.

The Sámi languages spoken in Finland are endangered. The North Sámi language area also extends to Sweden and Norway, with a total of approximately 20,000 to 25,000 speakers. Inari Sámi and Skolt Sámi, each of which only have around 300 speakers, are only spoken in Finland.

Versatile measures are needed to strengthen the vitality of these languages. Language nests (language immersion in early childhood education and care) have played an important role in the recovery of small Sámi languages, as has the teaching of Sámi languages at universities. Language teaching at schools also plays a key role. In the Sámi Homeland, Sámi-speaking children mainly have a right to Sámi-language teaching. A particular challenge for teaching is the fact that most Sámi children today live outside the Sámi Homeland.

The schools outside the Homeland provide instruction of the Sámi languages, however not in all municipalities. The offer and standard of the teaching in and of the Sámi language will be maintained in pre-primary education, basic education and general upper secondary education. The activities of the Sámi Education Institute secure possibilities for students in the Sámi region to complete vocational education and training in their mother tongue.

International cooperation within the Arctic Council provides an essential framework for Arctic cooperation with indigenous peoples. Organisations representing indigenous peoples, such as the Sámi Council, are permanent members of the Arctic Council and participate in decision-making at the same table with government representatives. This is a unique feature by international comparison. Indigenous peoples' participation in Barents cooperation has been arranged through a working group.

In accordance with the principle of free, prior and informed consent (FPIC), the state must, before taking any action that may affect an indigenous people, negotiate in good faith and cooperate with this people. The aim is at reaching a consensus. An impact assessment is also essential. The state must take full account of any activities simultaneously pursued by different authorities in order to determine their impact on the possibilities of pursuing cultural activities.

Indigenous peoples have experienced and may still be subjected to racism and discrimination, including by states and authorities. In cooperation with the Sámi Parliament and the Skolt Village Meeting, the Finnish Government is preparing the establishment of a Truth and Reconciliation Commission for the Sámi. A Truth and Reconciliation Commission has already been set up in Norway to deal with violations of the Sámi people's rights. Sweden is preparing the appointment of a similar body. The work and outcomes of these Commissions will be an opportunity for the entire region to process historical events and learn from them.



**Image 10.** A language nest for Sámi has both Finnish- and Sámi-speaking children under school age. Photo by: Kaisa Sirén.

Regional, social and economic development in the Arctic region can be supported by paying particular attention to protecting the traditional knowledge and cultural expressions of indigenous peoples (intellectual capital, IP – Intellectual Property). Finland has focused on issues related to protecting the intellectual property of the Sámi, both in the international and national context, together with the Sámi Parliament.

## 5.2 Goal state during the implementation period of the Strategy for Arctic Policy 2021

Finland wishes to further improve indigenous peoples' opportunities to participate in Arctic cooperation, including Barents cooperation. The participation of the Sámi in Finland's Arctic cooperation and Arctic policy is an important part of the whole.

Border obstacles will be dismantled and border cooperation strengthened, among other things to improve Sámi-language services.

The truth and reconciliation process will help to address historical events and to engender reconciliation and trust between the indigenous Sámi people and the Finnish government. Psychosocial support must be available throughout the process and also after its conclusion. These processes conducted in three neighbouring countries will also have cross-border implications.

Teaching of and in the Sámi languages will develop and support Sámi people's opportunities to learn, maintain and develop their languages and culture.

Indigenous peoples' cultural expressions will be valued and, if necessary, protected as intellectual property. Indigenous artists can create unique cultural products and services and offer them using various digital tools.

National measures concerning issues related to protecting Sámi intellectual property as well as research will be continued together with the Sámi Parliament.

### 5.3 Strategic measures

- Promoting indigenous peoples' possibilities for participating in international Arctic cooperation further.
- Strengthening the Sámi people's participation in the implementation of Finland's Arctic policy. Developing methods for assessing the impacts of the Arctic policy and different measures on the Sámi people's possibilities of maintaining and developing their languages and culture.
- Continuing the efforts to remove border obstacles and strengthen cross-border cooperation, especially in connection with securing and developing Sámi-language services, including educational cooperation in the Sámi Homeland.
- Continuing the truth and reconciliation process of the Sámi in Finland by providing the Sámi Truth and Reconciliation Commission with good operating conditions and by addressing the proposals for measures it will make as a conclusion of its work, recognising their significance.
   Strengthening dialogue between the truth and reconciliation processes in Finland, Sweden and Norway and striving to work together also when handling the future proposals for measures.
- Strengthening teaching of and in the Sámi languages as well as language nest activities.
- Strengthening indigenous peoples' international partnerships with the aim of protecting traditional cultural expressions and traditional knowledge.

The priority will implement the following goals and targets of the Agenda for Sustainable Development (Agenda2030):







### 6 Priority 3.1: Expertise, livelihoods

## 6.1 Situational picture at the time of drafting of the Strategy for Arctic Policy 2021

Arctic expertise is available extensively around Finland. Such sectors as the maritime industry, tourism, circular economy and bioeconomy, forestry, health technology, construction, sustainable mining, environmental and energy efficiency and the fish industry, without forgetting the traditional livelihoods of the Sámi people, have links to Arctic expertise and business. It is essential to identify new needs and actively offer working solutions which meet them.

The interests of Finnish businesses are related to the opportunities offered by Finland as a whole, Northern Finland and the entire Arctic region, especially in Finland's neighbouring areas but also more extensively. This is why the region's development should be examined as part of a broader context of economic development and research, development and innovation. Circular economy and other sustainable forms of economic activity can create entirely new business opportunities.

The paradox of climate change is that as the Arctic region grows warmer, it becomes more accessible, which in turn also increases the economic interest of non-Arctic countries and companies. In the Arctic region, nature is particularly vulnerable. By emphasising and promoting sustainable economic activities, Finland can demonstrate that economic welfare, business development and environmental protection can be mutually supportive. Mitigating the environmental and social harms of increasing human activity is a prerequisite for a sustainable future in the Arctic.

Finnish businesses can offer solutions that support sustainable development in the Arctic region. Long experience and expertise related to operating in cold conditions and understanding of the Arctic conditions make Finnish businesses a natural partner in developing the Arctic economy. Through new operating methods and technological expertise, sustainability can be achieved in all activities.



**Image 11.** The icebreaker Kontio sails in the Bay of Bothnia keeping routes open throughout winter. On the background, windmills located in front of Kemi. Photo by: Kaisa Sirén.

In addition to grasping obvious, short-term export opportunities, the long-term economic development of the Arctic region must also be supported and influenced. An operating method in which sustainable development is stressed will strengthen the emergence of an innovation-friendly market in the Arctic region. This market will attract new companies, operators and investments to the region.

The objective of economic diversification and the requirement of sustainable business emphasise the need to increase the added value of services and products generated by companies. At the same time, networks also accumulate expertise that can be marketed as high added value services around the world. Understanding value chains, recognising the potential of new technologies and taking the traditional livelihoods of indigenous peoples into account are part of this work.

Job creation and strengthening the Arctic economy benefit from the availability of a diversely skilled workforce. Finland has expertise compatible with the Arctic context and solutions that work in Arctic conditions. Determined efforts should be made to draw attention to this expertise, and a better match between supply and demand should be supported. Labour immigration and opportunities for new location independent work should also be promoted to support the vitality of the northern regions.

By promoting digitalisation, the needs of the circular economy and renewing business life can be supported extensively, and new business and entrepreneurship can be enabled. The opportunities offered by digitalisation should also be taken into account across a broad front in all services in the sparsely populated area. Finland emphasises the importance of satellite services and the significance of European space infrastructure for the Arctic region, especially in the areas of telecommunication, monitoring of climate change and the environment, and Arctic transport.

As economic interest in the region grows, there will also be more competition. An increasing number of countries and companies will be seeking to exploit the economic potential of the Arctic region. The opening up of new shipping routes and investments associated with their utilisation will drive a demand for new technologies.

Finnish companies have a long tradition in solutions for the Arctic maritime industry. In addition to designing and building ships and component production, this industry includes various structures designed for the Arctic conditions. For example, the need for expertise in the planning and construction of Arctic wind farms and ports is growing. Finnish actors have expertise that puts them in a pioneering position in the development of autonomous maritime transport.

In the short term, the COVID-19 pandemic of 2020 has resulted in a collapse of international tourism. In addition to pandemics, international political, economic or environmental crises may continue to cause significant disruptions to tourism. Individual tourism services compliant with the principles of sustainable development can withstand changes better than services directed towards mass tourism. An ability to flexibly modify services if the circumstances so require will also be essential.

## 6.2 Goal state during the implementation period of the Strategy for Arctic Policy 2021

An effort will be made to ensure compliance with the principles of sustainable development in all economic activity, also in the Arctic region. This is increasingly reflected in investors' actions and consumer decisions, creating opportunities for new high-tech products and experts. A systemic approach and anticipation will be needed to promote Arctic business. The carrying capacity of nature, climate protection and respect for the rights of indigenous peoples should also be taken into account when developing the economy of the Arctic region.

A precondition for recognising opportunities that conform with sustainable development is understanding the impacts of climate change on industries and the entire Arctic economy. When the mechanisms of change across value and supplier chains are understood, the need to change the markets and economic structure can be assessed, and a more determine course can be set towards a more sustainable structure. Climate change mitigation and sustainable development requirements will bring to the fore new sectors, practices and technologies, including circular economy and bioeconomy.

Together with and in addition to regulation, sustainable development and operating methods in the Arctic will also be promoted at the practical level by developing, demonstrating and offering new products and services. This will create a demand for new high added value products and services, reinforce the Arctic innovation-friendly market, and diversify the economic structure of the Arctic region.

Identifying the impacts of different activities on the Sámi culture and the rights of the Sámi people better will also be necessary in order to prevent conflicts and to mitigate the harmful effects. In the Sámi Homeland, particular attention should be paid to identifying potential conflicts of interest related to land use.

Economic networks, clusters and business and innovation ecosystems play a key role in increasing the added value of different sectors and companies. They combine and create new expertise that enables the development of better products and services. In addition to the higher added value products and services, diverse expertise can be marketed. A precondition for linking to international ecosystems and networks is maintaining and strengthening the level of personal competence. Increasing the added value is also emphasised when responding to the challenges brought about by climate change which affect indigenous people's traditional livelihoods.

From the perspective of creating new added value, it is important to know the value networks of the industries and the development potential opening up in them. It is also necessary to be familiar with the larger settings or trends which are relevant to the industry or in which new interfaces and activities may be identified. This way, those areas of development can be pinpointed in which there is demand for new solutions and to which Finnish expertise can be applied through joint offer.

The demand for fish products is growing internationally. This development is supported by consumer trends that favour healthy fish products with a low environmental load. The Nordic Roadmap for the Blue Bioeconomy prepared under Finnish leadership notes that cooperation will be stepped up especially in order to promote fish farming, which is the fastest growing form of primary production globally, and to develop the added value

products obtained from fish and its side streams as well as from seaweed. These areas as well as the added value of fish catches have significant growth potential in the Arctic region.

The growth of tourism in the Arctic is based on the special features of the region, especially its nature but also its culture. When developing sustainable and responsible tourism, not only environmental aspects but also social, cultural and economic perspectives must be addressed extensively. Instead of increasing the number of tourists, efforts should be made to increase the tourists' length-of-stay and the amount of money they spend with the help of high-quality and well-packaged products and services that are ecologically sustainable.

An increase in the added value generated by tourism will be achieved by investing in high-quality tourism services and products that comprehensively address sustainability and safety. By extending the tourist season in the Arctic region to cover most of the year, it will be possible to even out the number of tourists, promote year-round employment and reduce pressure on nature. The promotion of cross-border transport and tourism cooperation between neighbouring countries will contribute to a positive trend in tourist mobility, length-of-stay and the amounts of money spent in the Arctic.

In addition to reducing emissions generated by tourism and especially mobility, the social and cultural welfare of local inhabitants must be taken into account in business activities. For example, food production, water consumption and waste minimisation are linked to a low-carbon and resource-efficient global economy. Cooperation with the Sámi people and other local inhabitants in the Arctic region is essential in order to develop sustainable and responsible tourism.

The value chains and processes associated with mining consist of using new technologies and digitalisation, including in the promotion of electrification and remote control of mines and the deployment of circular economy practices in such areas as the management of side streams and sustainable supply of minerals required by new energy technologies. Particular attention should be paid to the marginal conditions of mining, both from the viewpoint of the environment and local communities. The best knowledge and expertise should be brought into play in these activities.

Finland's aim is to emphasise the importance of the EU space programme and other European space infrastructure for the Arctic, especially in terms of telecommunication, climate change and environmental monitoring as well as Arctic transport. Finland wishes not only to draw attention to existing capabilities, especially in remote sensing and satellite navigation, but also to pinpoint shortcomings in space solutions important for the Arctic region and their coverage, such as in satellite communication.



**Image 12.** A snow hotel represents innovative tourism development. Snow hotels constructed every year are a great attraction to foreign tourists offer a unique experience. Photo by: Kaisa Sirén.

Improving forecast systems to cover not only the near future but also seasonal forecasting in Arctic conditions will increase Finland's capabilities for preparing for the challenges arising from changes in the weather and climate. The use of new Arctic observation systems and development of expertise will enable more accurate forecasting of conditions and strengthen Finland's situational awareness concerning the Arctic. Relying on observation data, companies can also develop solutions for Arctic situational awareness and new business based on them. For example, they can be promoted by making public procurements, which companies can use as references.

### Finnish expertise as part of the solution of challenges in the Arctic region

Finland and Finnish companies have extensive Arctic expertise on a broad front, the utilisation of which supports sustainable development, strengthens employment, increases energy efficiency, reduces harmful emissions and combats climate change in all Arctic and Antarctic countries. Business, solutions and technology relating to cold climates are often of high international level and also competitive in a wider geographical area than purely in the Arctic or the Antarctic regions.

Tackling climate change requires the increase in energy efficiency and the promotion of low- or zero-emission energy forms and energy technologies. One new possibility is offshore wind energy. Many Finnish companies have the competence and opportunities to utilise Arctic expertise both in the Baltic region and in a wider market for offshore wind energy construction.

In the Arctic region, datacommunications and long distances both on land and at sea are important and challenging. Finland has solutions for the development of both strategic leased lines (e.g. submarine cables) and wireless networks (e.g., 5G, satellite services). The Finnish business community has a lot to offer in such digital services that have a special role in the Arctic and Antarctic regions. These are, among other things, weather and circumstance analytics, data services, educational services as well as services promoting health and safety, which in future will also have features utilising artificial intelligence.

Finland is a world leader in Arctic ship technology and ship operations. This expertise covers, among other things, ship design, ship construction, materials and construction technology, ice-breaking and ice management technology, motor and control technology, ship electrification and automation, navigation and shipping company operations. This entity also include various structures designed for Arctic conditions. There is a growing need, for example, for expertise in the design and implementation of Arctic wind farms and harbours. Finnish education and research as well as testing areas and cooperation create forerunners in the development of autonomic sea transport and low-carbon fuels.

Finland also has a high level of expertise in process technologies (forest, chemistry, metal), which stem from Arctic conditions and their management. Arctic expertise is also found in work machines, which are also sometimes used in very harsh weather conditions. Such work machines include harbour and ship equipment and machines, forest machines as well as mine machines and equipment. An especially interesting long-term possibility relates to the production and application of carbon-free steel, which is a good indication of the industry's own active and significant input in the prevention of climate change.

Logistics is one large area of Arctic expertise that combines the management of circumstances, the analytics and forecasting of weather conditions, the technologies and use of equipment and terminals on land (roads and rail transport), in the air and at sea as well as the overall design and management of logistics.

Sustainable forest and biotechnology, which are important fields for Finland and the economy, also have an Arctic dimension. They combine both sustainable forestry and forest management, the logistics and high environmental efficiency of industrial plants and regional employment. As the demand for Finnish forest industry products changes, the forest industry is strongly investing in new high-value products (textile fibres, lignin and hemicellulose products, new ecological packaging materials and new generation bio fuels). The development of new wood-based products and biorefineries strengthen for their parts the forest industry's role in the reaction to climate change. As a pleasant and ecological material, wood provides new possibilities for building. New products also serve in achieving the sustainable development goals of the Arctic region. The forest industry's roadmap illustrates the industry's role in Finland's ambitious goal of achieving carbon neutrality by 2035.

The main role of minerals in achieving the climate goals has made particularly critical raw materials part of the strategic emergency supply. Internationally defined mechanisms of responsible behaviour implemented by mine operators as well as the aim of using energy and raw material efficient technologies create demand towards which Finnish mine and mineral ecosystem operators can offer new technologies, solutions and expertise.

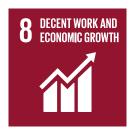
Globally known Finnish technology companies open up possibilities for the growth and internationalisation of ecosystem SMEs. When operating in the Arctic region in particular, impacts on the surrounding nature must be minimised by modern follow-up systems and the utilisation of efficient technology. The utilisation of the side streams of mines and minerals has become a natural part of industrial activities. More and more efficient recovery and utilisation of secondary raw materials are important ecosystem development targets both in companies and in research.

All around the world, the development of the battery technology is rapidly expanding, for which reason Finland has prepared a battery strategy under the leadership of the Ministry of Economic Affairs and Employment. According to the battery strategy, strategic earth metals, minerals and their utilisation have a key role to play. This battery strategy also lays the foundation for the development of related sustainable mining activities.

### 6.3 Strategic measures

- Supporting sustainable growth of the Arctic economy and the preconditions for creating high-value jobs.
- Matching Arctic demand with domestic supply and focusing research and development on finding new solutions.
- Ensuring the availability of skilled labour (incl. education and training as well as labour immigration).
- Forming a common situational awareness of Arctic expertise and taking into account synergies with other measures that promote industrial and innovation policy in all sectors.
- Developing sustainable and year-round tourism in the Arctic region.
- Communicating about Finland's special sustainability expertise (including sustainable tourism, forestry, digital solutions, cleantech and bioeconomy).
- Examining the possibilities of tourism cooperation with Finland's neighbouring regions in the north.
- Supporting the Arctic Economic Council's work aiming to strengthen cooperation between economic operators in the region.

The priority will implement the following goals and targets of the Agenda for Sustainable Development (Agenda2030):







## 7 Priority 3.2: Expertise, leading edge research

## 7.1 Situational picture at the time of drafting of the Strategy for Arctic Policy 2021

Finland has a great deal of high-quality expertise and actors related to Arctic research across the country. Research is conducted at higher education institutions and research institutes as well as in the private sector and also in the third sector. Many fields of science are represented, and a multi-disciplinary approach is typical. The foundation for high-quality research is laid by an education system of a high standard that takes into account Finland's position as an Arctic country.

Finnish research actors participate largely in international networks that focus or touch on Arctic issues and the Arctic aspect. Of primary importance is research evidence synthesised under direction of the Arctic Council as well as such education and research networks as the International Arctic Science Committee (IASC), the Arctic University (UArctic), the Arctic Five network of the northernmost universities in Finland, Sweden and Norway, and EU-funded programmes. The Arctic Centre, which is the international centre for Arctic research and communication in Finland, also serves as an umbrella organisation for these networks.

Finland has research infrastructure that is unique by international standards for observing climate and environmental change in the Arctic region as well as for space research and ice research, which lays a foundation for extensive research activities and monitoring.



**Image 13.** Finland has plenty of operators and high-quality expertise in Arctic research throughout the whole country. Research is carried out, for example, in universities and often in a multidisciplinary manner. Photo: Kaisa Sirén

Publicly funded Arctic research in Finland is supported by various administrative branches in connection with the Arctic activities and programmes of higher education institutions and research institutes. Finland's Arctic research policy is formulated jointly by various ministries. In international research funding, EU programmes play the most important role, such as Horizon Europe and Copernicus. International funding is also provided by Nordic stakeholders, including Nordforsk.

A Government report on the overall picture of Arctic funding in Finland (2019:1) identified the significant fragmentation of Arctic funding as a problem. This also applies to research, in which the significantly high number of projects also results in a silo effect and discontinuity. Despite the large volume of research, an overall picture of Finland's Arctic research is not readily available.

Research has an important role in supporting decision-making and the Arctic policy. In business related to the Arctic region and expertise in cold conditions, research evidence supports potential for success, and research related to the security and reliability of society is essential. Arctic research competence is important in terms of developing

Finland's defence capabilities. In addition, decision-making related to the change in the Arctic region needs to be supported by high-quality research evidence. From Finland's perspective, the scale and open availability of research data are important. The need for research is emphasised especially by the rapid change of the Arctic environment and the need to maintain sustainable development while international interest in the Arctic region and its exploitation is growing.

## 7.2 Goal state during the implementation period of the Strategy for Arctic Policy 2021

The knowledge and expertise produced by Arctic research will be utilised widely. Research evidence lays the foundation for high-quality and timely decisions as well as business innovations in different sectors and industries. By investing in education, training and research, Finland's position and pull as a country with world-renowned international Arctic expertise can be reinforced. Extensive, multidisciplinary and international networks help to make the most of Arctic research.

Developing and strengthening the basic infrastructure of Arctic research is addressed in research investments. This will strengthen researchers' ability to be successful in competition for international research funding and draw attention to the big picture of Finland's Arctic research. In order for Finland to influence international funding, including the objectives and themes of EU research programmes, effective exchanges of information and cooperation across administrative branches are needed at the national level. Companies will also make better use of the funding programmes.

Research evidence can help promote the good life and vitality of Arctic inhabitants. An up-to-date picture of individuals' well-being and communities as well as people's interaction with their environment and environmental change will help to direct decisions towards socially sustainable development. As far as possible, traditional and local knowledge will be drawn on in the planning and conduct of research.

Details have been added to the big picture of Finland's research related to the Arctic region and the Arctic aspect. Improved coordination and exchanges of information will enable different actors to have real-time understanding of programme-based research activities and the project portfolio. Ideally, there will be a national programme that promotes coordination and visibility in communications.

Economic activity in the Arctic and related to the Arctic aspect will be made possible in interaction with sustainable development. Maintaining Arctic research and expertise and developing and marketing them are the key to creating and seizing business opportunities. The fact that Finland's Arctic expertise extends across a broad front of functions and industries will be taken into account. For example, expertise in cold conditions is an asset in many products and services.

The greatest challenge in the Arctic region lies in the changing climate and environment of the north. Research will be actively applied to assessing the change in the Arctic region comprehensively, and it will provide research evidence to support decision-making.

Arctic policy is also undergoing a change and subject to many types of interactions. Multidisciplinary research and making research evidence visible will help to understand its conjunctures and provide background for active agency.

Arctic research in support of security and national defence will be developed through international cooperation on a multilateral and bilateral basis. EU programmes will be tapped to strengthen research funding. In addition, the Arctic situational awareness can be developed in cooperation with partner countries, including satellite images with a wider coverage in polar regions.<sup>4</sup>

### 7.3 Strategic measures

- Higher education institutions and research institutes will conduct high-quality research and produce studies related to the Arctic region and conditions and communicate about their research competence extensively.
- Research funding related to Arctic conditions as a whole will be monitored and developed in cooperation between different administrative branches.
- As set out in their strategies, higher education institutions and research institutes will focus on developing and leveraging their Arctic research.
   Both national and international funding opportunities will be tapped, including the Academy of Finland, Business Finland, the Strategic Research Council, the Government's TEA funding, the Horizon Europe programme, the EU's Structural Funds and other funding instruments as well as Nordic providers of research funding.

<sup>4</sup> Link to Finnish Arctic research institutes: https://www.arcticfinland.fi/FI/Tutkimus

- Participating actively in the work of the Arctic Council and its working groups. Participating proactively in research on and evaluation of the change in the Arctic. Finnish researchers are active in international research networks and exploit the opportunities offered by the EU and the European Space Agency, including the Copernicus programme. Companies are offered information on and support for participation in international funding and cooperation.
- Promoting actions that bolster Arctic research and expertise in the drafting of EU activities, including the Horizon work programmes.
- Strengthening the interface between research and business activities.
   Research cooperation supports companies' opportunities to develop their products and to meet the new needs of Arctic actors. Research cooperation also strengthens companies' networks and ecosystems.
- In national foresight work, the change in the economic structure of the northernmost part of Finland, the need for labour, and demographic development are taken into account. The objectives of educational offer are set relying on a diverse knowledge base.

The priority plays an essential role for knowledge-based decision-making regarding several of the objectives and targets of the Agenda for Sustainable Development (2030 Agenda). Among other things, the priority implements the following goals and targets:







### 8 Priority 4: Infrastructure and logistics

## 8.1 Situational picture at the time of drafting of the Strategy for Arctic Policy 2021

In the efforts to develop Arctic infrastructure, Finland also promotes the general objectives of safeguarding stability, economic opportunities, employment and the particularly sensitive nature of the Arctic region as well as EU policy that addresses these objectives. Climate change mitigation is a central objective. Northern livelihoods and indigenous peoples' rights will be safeguarded, and thorough impact assessments will be produced of all key Arctic projects. All this will also be reflected in choices made in the field of logistics. Linking the Finnish transport network to the core network corridors of the Trans-European Transport Network (TEN-T) will also be promoted in the north. The purpose of the TEN-T transport network is to promote a safe and sustainable transport system that supports the vitality of the economy.

Concurrently with the drafting of the Arctic Strategy, the first national transport system plan was being prepared, which was approved in spring 2021. This will ensure that the policy outlines in the present Strategy document's priority area of infrastructure and logistics will be consistent with the national transport system plan.

In transport system development, strengthening the operating preconditions of businesses, international accessibility, and transport connections to neighbouring countries are strongly emphasised in Northern Finland.

Cooperation with the Arctic Council states and actors in the Barents region is important in efforts to improve transport connections. In addition to international land transport connections, maritime and air transport connections are also essential for the region's development. Among other things, ports are important because of the extensive and developing heavy industry, and air traffic and airports are emphasised for such reasons as securing preconditions for the vital tourism industry, also in the aftermath of the COVID-19 pandemic.



**Image 14.** A versatile range of businesses and long distances are typical for Northern Finland. Photo by: Kaisa Sirén

Effective communication links are essential from the viewpoint of Arctic inhabitants, economic activities and business life. They also improve the region's security and safety. The construction and maintenance of communication networks in the Arctic region are extremely challenging, both technically and economically. To achieve the best results, several different technologies, including satellites, radio connections and subsea cables as well as their combinations need to be used.

Northern Finland is characterised by a diverse range of industries and long distances, which emphasises the importance of effective travel and transport chains. It will be essential to maintain the infrastructure and network in good condition and meet the needs of businesses. Maintaining the current transport infrastructure and eliminating bottlenecks that cause difficulties for businesses will be important.

There are major seasonal fluctuations in the number of transport system users in Northern Finland. Long distances and sparsely populated areas are also typical of the north, and the Arctic region in general. They create challenges to increasing sustainable mobility, which for their part underline the importance of payment and information systems and

well-functioning hubs. Developing transport services offers opportunities, especially in the tourism industry. Possibilities for smooth travel across borders throughout the entire polar cap area are also important for tourists.

## 8.2 Goal state during the implementation period of the Strategy for Arctic Policy 2021

The objective of the national transport system plan is that the transport system will guarantee access to all parts of the country and respond to the needs of industries, commuting and housing.

In order to achieve this objective, the service level of the transport network will be developed to meet the needs of businesses and commuting, and the smooth running of international transport will be secured. Ensuring that different regions can be reached within a reasonable time by means of some mode of transport or their combination will be important. Improved preconditions for competing will be provided for market-driven public transport services, and the provision of basic services will be ensured as cost-effectively as possible in areas where commercial services are not viable.

In addition, the aim is to maintain connections to regional centres and other major centres important for businesses and commuting. The functionality of transport hubs and travel chains will be improved. Possibilities for mobility will be secured for different population groups in order to guarantee social sustainability. In freight transport the efficiency as well as and emissions reductions will be promoted by such means as digitalisation and enabling a transition to the most sustainable modes of transport.

The aim of all these objectives is to mitigate climate change. The national transport system plan seeks to guarantee access to all parts of the country, to meet the needs of businesses, commuting and housing, and to improve the socio-economic efficiency of the transport system.

The objectives of the Strategy for Arctic Policy include developing logistics to serve businesses and commuting with sustainable modes of transport. The accessibility of telecommunications, including broadband connections, will be improved to meet the needs of companies and citizens.

Sustainable mobility and particularly the operating conditions of transport powered by alternative fuels will be strengthened, for example by expanding the charging infrastructure of vehicles using alternative fuels.

To reduce transport emissions and to share best practices, international cooperation will be continued, among other things drawing on the work of the International Maritime Organization (IMO) and the Arctic Council.

Under IMO regulation, the use and carriage for use of heavy fuel oil (HFO) in the Arctic waters will be banned from July 2024. Finland played an active role in the IMO to bring about this ban. However, work on replacing heavy fuel oil with alternative fuels must continue before the ban enters into force.

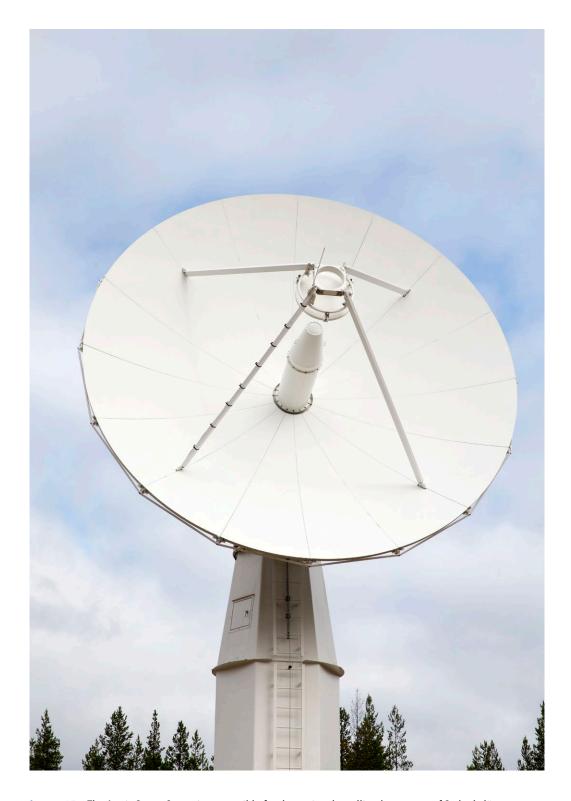
Finland has actively promoted the effective implementation of the International Code for Ships Operating in Polar Waters (the Polar Code), which improves the safety and sustainability of Arctic shipping. This work should be continued. It supports not only Finland's work in the IMO but also the role of our maritime cluster as Arctic experts.

Digitalisation will be strengthened in transport system development. The use of alternative fuels will be promoted in all modes of transport and, among other things, the possibilities of using electric aircraft will be examined.

New transport services and practices will be developed to meet the needs of growing tourism. This is also relevant to cross-border connections in the northern parts of Finland, Norway and Sweden. The electrification project of the rail section Laurila-Tornio-Haaparanta would support the international connections of Finnish rail transport, cost-effectiveness of rail transport and the competitiveness of industry. This connection would link the international transport corridors of Northern Finland and Northern Sweden to the Trans-European Transport Network, the Barents region and the Arctic Ocean via the port of Narvik and further to the Far East.

To provide services for travellers, the potential of open data will be promoted, well-functioning payment and information systems will be developed, and the effectiveness of transport hubs will be improved. For example, open digital data can lead to the implementation of new applications on commercial terms.

The work of the Finnish Meteorological Institute's Arctic Space Centre in Sodankylä is an example of the significant role meteorology plays in Finland's Arctic expertise. The infrastructure of the Arctic Space Centre, which is used for satellite data reception and processing and in connection with service production, is of national and international significance.



**Image 15.** The Arctic Space Centre is responsible for the national satellite data centre of Sodankylä. Photo by: Kaisa Sirén

### 8.3 Strategic measures

- Developing the European core transport networks (TEN-Ts) and extending them to the north. The expansion of the North Sea–Baltic and the Scandinavian–Mediterranean Core Network Corridors under the EU's Regulation establishing the Connecting Europe Facility (2021) will make it possible to connect the northern regions and enable rail transport from the Arctic region to the rest of Europe and to international markets.
- Preparing for the impacts of climate change on transport infrastructure and its maintenance by relying on the latest research evidence in infrastructure development and efficient use of transport networks.
- By developing new services, enabling effective travel and transport chains to support sustainable mobility and transport.
- Developing distribution infrastructure with adequate coverage for alternative fuels (including electricity, gas, hydrogen, renewable fuels and electric fuels). Ensuring the coherence and regional coverage of the distribution infrastructure and promoting the availability of alternative fuels. Engaging in international cooperation to develop a reliable distribution network covering the entire northern area.

### Air traffic

- By taking care of Helsinki-Vantaa Airport's preconditions for developing, also enabling operations at other airports which use new technological solutions. Developing travel chains to airports across Finland.
- Paying attention to the importance of air traffic for securing the accessibility of a large and sparsely populated country and for exploiting the potential of more remote regions.
- Striving to ensure that the maintenance and development of airports can be continued on a network principle and that travel chains to airports can be developed. Assessing the development prospects of air traffic at Finavia airports and the impacts on the service level of air traffic in different regions.

### Maritime transport

- efficiently influencing the development of international environmental regulation on shipping within the International Maritime Organisation (IMO), for example by continuing the effective implementation of the International Code for Ships Operating in Polar Waters (the Polar Code).
- Planning the renewal of the Finnish icebreaker fleet and stepping up cooperation related to winter navigation with the neighbouring countries.
- Taking care of the Finnish special expertise in winter navigation and
  offering services that enable safe mobility in the Arctic region and the
  protection of the Arctic environment's special features. Developing further
  exchanges of information between ships and ports, allowing a vessel to
  slow down at sea and thus achieve significant reductions in greenhouse
  gas emissions. Improving the energy efficiency of the logistics system will
  require advanced communication technology, digital services and the
  opening up of information systems.
- Exploiting the expertise of the Finnish maritime cluster related to winter navigation in challenging conditions, for example in using the Northeast Passage for freight transport. Requiring reciprocity when expertise accumulated by the Finnish maritime cluster and both the public and the private sector is utilised in cooperation with partners developing their Arctic shipping capabilities. Ensuring that the cooperation supports export opportunities for Finnish expertise and technology and innovations.
- Strengthening the development of shipping infrastructure and map data in the Arctic region by means of hydrographic surveys.

#### **Communication networks**

- Ensuring the availability of reliable and high-performance telecommunications networks and digital services in the Arctic region.
   Making sure that the good transport connections needed by businesses are matched with data connections that enable location-independent work
- Using a combination of different technological solutions in the Arctic region to achieve the best outcome for different uses, for example by means of satellite technology. Promoting the development and market

- entry of global satellite systems in order to provide users with at least basic communication services.
- Continuing to improve national and international connections and, for example, enhancing the development of data economy and attracting telecommunications and software investments to Finland, including data centres.
- Encouraging companies to work together with the public sector
  to find effective financing models for facilitating the necessary
  telecommunications investments in areas where this is not commercially
  viable. Ensuring the functioning of communication services in Finland,
  ultimately by means of statutory universal service obligations if there is no
  other way of providing effective connections.
- Accounting for the greenhouse gas emissions and material consumption of the information and communication technology sector and deploying methods for managing the environmental impacts of this sector.
- Continuing the work of the Arctic Council aiming to improve the availability of connectivity and broadband services in the Arctic region.

The priority will implement the following goals and targets of the Agenda for Sustainable Development (2030 Agenda):







# 9 Steering impact of the strategy and monitoring of its objectives and measures

The Strategy takes into account its steering impact and the required resources as well as the mechanisms for monitoring its measures. Continuous monitoring will be necessary in order to attain the Strategy's objectives.

The working group of public servants responsible for Arctic issues will ensure that the perspectives of their administrative branches will be taken into account in the implementation of the Strategy's objectives and measures.

The status of sustainable development in Finland will be monitored by means of national sustainable development indicators. The working group of public servants responsible for Arctic issues will agree on indicators to be monitored that are suitable for the Strategy for Arctic Policy once the Strategy has been adopted.

The working group will produce a concise annual analysis of the Strategy's objectives and the implementation of its measures in each priority area. This analysis will be presented to the steering group of the Strategy for Arctic Policy and the Arctic Advisory Board. The implementation of the Strategy's objectives and measures will additionally be discussed by the Government's decision-making bodies as necessary.

The costs of the measures and their timing will be examined. Decisions on funding will be made in connection with the preparation of the General Government Fiscal Plan and the Budget. The central government funding required for the measures will be implemented within the framework of the central government spending limits, if necessary by reallocating appropriations.

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