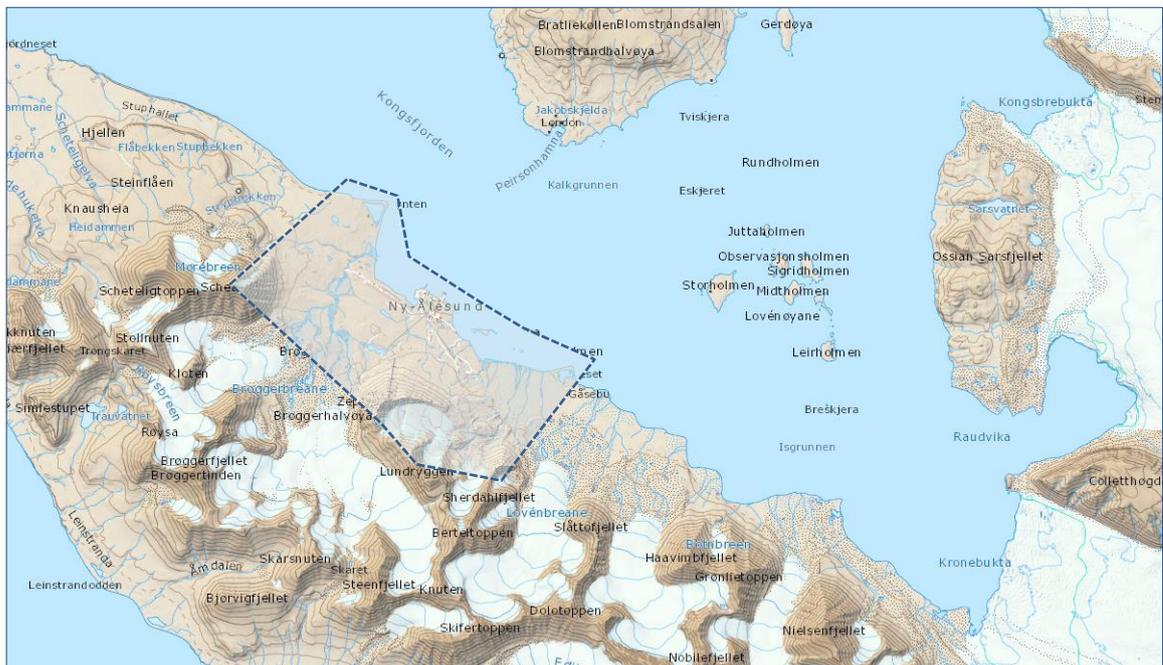


LAND USE PLAN Ny-Ålesund 2022 - 2032



79°N



PLANNING PROGRAMME

FINAL dated 28 October 2021

Contents

1	Introduction	2
2	Background	3
2.1	Ny-Ålesund planning area	3
2.2	Instance responsible for plan – Kings Bay AS	3
2.3	Requirements for planning work and planning process	4
2.4	Current land use plan status	5
3	Overarching frameworks and guidelines	6
3.1	United Nations Sustainability Goals	6
3.2	Legislation and regulations	6
3.3	National expectations and guidelines	6
4	Key topics in the planning work.....	8
4.1	Development strategy and design basis.....	8
4.2	Updating and integration of planning documents	8
4.3	Climate change, environmental effect and sustainability	8
4.4	Cultural heritage management and active use of protected buildings	9
4.5	World class research station	10
4.6	Risks and vulnerability – community safety	11
5	Assessment programme.....	12
5.1	Assessment duty.....	12
5.2	Method description and weighting.....	12
5.3	Environmental law principles.....	12
5.4	Assessment topics and known knowledge basis	13
6	Organisation and public participation	15
6.1	Roles and responsibilities	15
6.2	Organisation of the planning work.....	15
6.3	Start-up phase	16
6.4	Notification of start and consultation on planning programme	16
6.5	Public participation and information	18
7	Tentative schedule.....	18

LIST OF FIGURES:

Figure 1.	Ny-Ålesund planning area	3
Figure 2.	The Kongsfjord Property 38/1 – historical map	3
Figure 3.	Current land use plan for Ny-Ålesund (2009)	5
Figure 4.	Sub-plan for Ny-Ålesund geodetic observatory (2015)	5
Figure 5.	Sub-plan for Andøya Space Center (2018).....	5
Figure 6.	RVA method	11
Figure 7.	Knowledge basis and assessment needs	15
Figure 8.	Roles and responsibilities	15
Figure 9.	Organisation of the planning work and consultative bodies.....	16
Figure 10.	Consultation announcement in Svalbardposten, 27 May 2021	17
Figure 11.	Tentative schedule	18

1 Introduction

Planning programme for circulating a land use plan for Ny-Ålesund has been prepared by Kings Bay AS in accordance with Section 50 of the Svalbard Environmental Protection Act (SEPA). The planning programme describes the framework and content of the planning and assessment work, the planning process and arrangements for public participation.

The current land use plan was adopted in 2009. The purpose for circulating the land use plan is to prepare an appropriate and updated legal management tool for development, use and protection of areas and buildings in the Ny-Ålesund planning area in accordance with updated framework conditions and overarching guidelines. The time horizon for the plan is 10 years.

The planning programme for Ny-Ålesund Land Use Plan 2022-2032 has been put out for public review during the period of 28 May – 9 July 2021. Upon request, the consultation deadline was postponed to 20 September 2021.

All suggestions and statements from the notification/consultation round will be used as a basis for the planning and assessment work in the future. Statements with guidance and suggestions for the planning programme with respect to assessment topics and knowledge basis are incorporated in the final planning programme.

As the instance responsible for the plan, Kings Bay AS has determined the planning programme 21. October 2021. See Section 50 of the Svalbard Environmental Protection Act: *The final planning programme shall be publicised by the instance responsible for planning so that the framework and premises for the plan can be publicly debated.*

Ny-Ålesund
21. October 2021

Hanne Karin Tollan
Adviser, Kings Bay AS

2 Background

2.1 Ny-Ålesund planning area

The delimitation of the Ny-Ålesund planning area is determined in Norwegian Regulation FOR-2002-06-28-650, see Figure 1. The planning area is 25 km². Prins Heinrichøya, Dietrichholmen and Mietheholmen are included in the planning area.

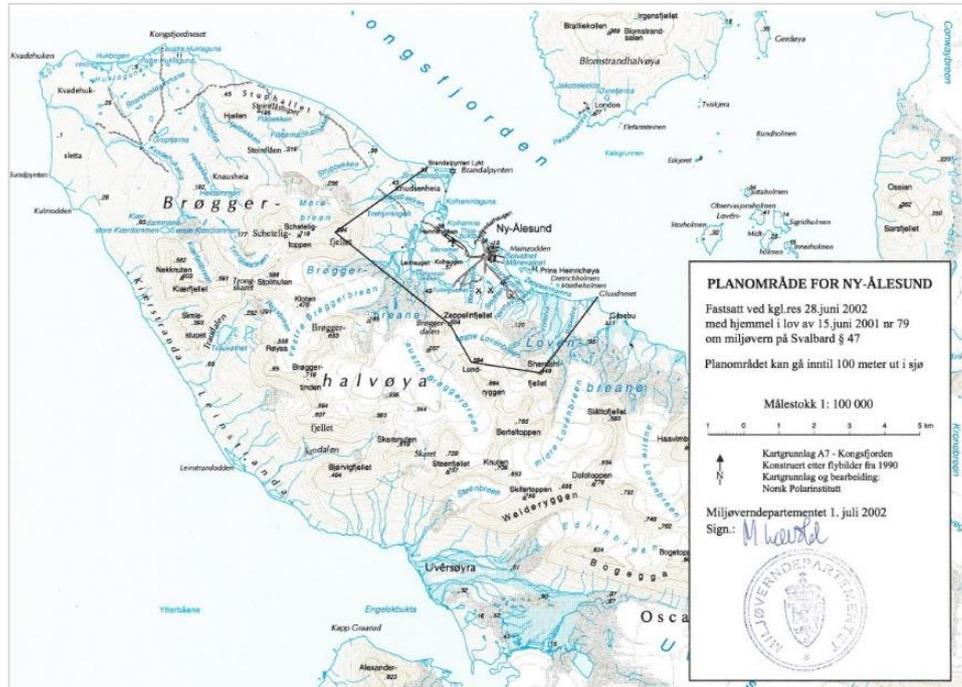


Figure 1. Ny-Ålesund planning area

2.2 Instance responsible for plan – Kings Bay AS

Kings Bay owns the Kongsfjord Property (treaty property 38/1) and is responsible for the Ny-Ålesund planning area under Section 48 of the Svalbard Environmental Protection Act. The property, comprising 295 km², includes Brøggerhalvøya and a coastal strip on the east and north sides of Kongsfjorden, see Figure 2.

Kings Bay AS is 100 per cent owned by the Norwegian Ministry of Climate and Environment. It is a company where the state seeks the most efficient possible attainment of public policy goals. The states's ownership contributes to maintaining Norwegian communities in the archipelago in accordance with overarching Svalbard policy.

Kings Bay facilitates day-to-day operations and support for the Ny-Ålesund Research Station and attends to all societal functions: power supply, aquatic environment/water/sewer, fire protection, port, airport, air transport, overnight accommodation, food and beverage service and the operation of the company's research facilities and laboratories.

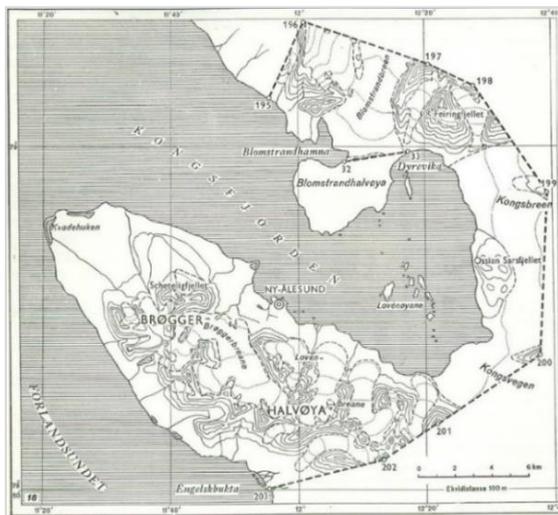


Figure 2. The Kongsfjord Property 38/1 – historical map

The company purpose is to work towards the development and management of the Ny-Ålesund Research Station with a sustainable use of resources and ecosystem services in accordance with the environmental law principles of the Svalbard Environmental Protection Act and its own articles of association.

As the owner, Kings Bay has a special responsibility for management, protection, maintenance and the active use of 29 protected buildings and a large number of archaeological/historical monuments and sites from the mining and polar history in Ny-Ålesund.

2.3 Requirements for planning work and planning process

Chapter VI of the Svalbard Environmental Protection Act (SEPA) authorises requirements for land use planning in Svalbard.

[Norwegian Ministry of Climate and Environment Planning Guide](#) – “Land use planning and impact assessments in Svalbard” (1 April 2019) specifies and elaborates on legal requirements for planning work and planning process.

Land use plans are intended to provide a basis for decisions on the use and protection of resources, buildings and areas for a planning period of 10 years. To the extent it is suitable for the local conditions in Svalbard, the plan must attend to the same considerations as the Planning and Building Act on the mainland. The Government has stated in general that they expect the preparation of plans to be based on a solid, up-to-date knowledge base, and to attend to national and regional interests in the planning work. Activities in the settlements and planning areas must occur within an environmentally appropriate framework. Land use plans are to be prepared based on the overarching goals for the Svalbard policy and in accordance with local requirements in individual local communities.

The following requirements apply to planning work and planning processes, see Sections 47 – 52 of SEPA.

- As the entity responsible for planning, Kings Bay AS must ensure ongoing planning for use and protection of the areas in the planning area.
- The entity responsible for planning must ensure that the planning work is adapted to the conditions in the planning area, and with a time frame adjusted to the development and measures that realistically can be expected to be carried out in the course of 10 years.
- Bodies with tasks that involve the utilisation of resources, protection measures, building developments, or social and cultural development are entitled to participate in the planning work, and shall, at the request of the entity responsible for planning, shall participate in the advisory committee for planning matters.
- The commencement of the planning work shall be announced, and a proposed planning programme shall be sent for consultation to affected instances. The final planning programme shall be announced by the entity responsible for planning in an appropriate manner, so that the frameworks and assumptions for the planning work can be the subject of public debate.
- The effect of the land use plan and its impact on nature, cultural heritage, aesthetics, local communities and community safety shall be assessed and described. This also applies to any impact outside the planning area.
- The proposed land use plan, including a description and risk and vulnerability assessment, supplementary provisions, advisory guidelines and planning map with land use purposes shall be made available for public inspection.
- The Governor of Svalbard is the decision-making authority.

2.4 Current land use plan status

2.4.1 Land use plan for Ny-Ålesund

The initial land use plan for Ny-Ålesund was adopted by the Governor in 1998.

The start of circulation work for the current plan was notified in 2005. Two consultation periods were conducted in 2008, and the plan was presented for adoption without objection.

The Governor of Svalbard approved the current land use plan on 16 January 2009, see Section 52 of SEPA.

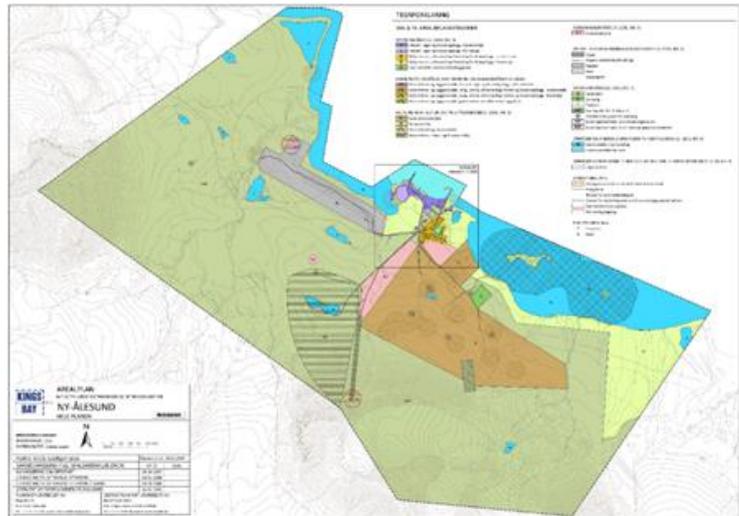


Figure 3. Current land use plan for Ny-Ålesund (2009)

2.4.2 Sub-plan for Ny-Ålesund geodetic observatory

The purpose of the sub-plan is to lay down legal frameworks for the geodetic observatory including related technical infrastructure and road installation with a bridge over the Bayelva river.

As part of the planning work, a special impact assessment was conducted under SEPA Section 59 in order to illuminate the effects of the project on the environment.

The Governor of Svalbard approved the current sub-plan on 29 September 2015, see Section 52 of SEPA.

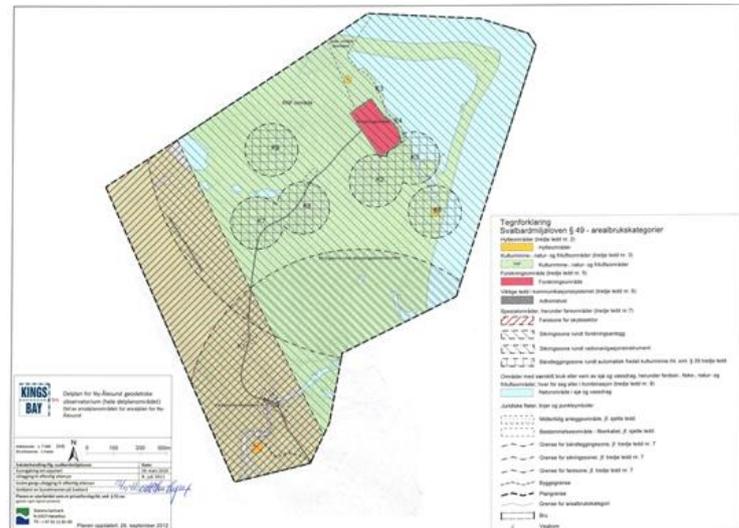


Figure 4. Sub-plan for Ny-Ålesund geodetic observatory (2015)

2.4.3 Sub-plan for Andøya Space Center

The main purpose of the planning work is to arrange for a launch ramp with related infrastructure in connection with existing installations for the Andøya Space Center.

The Governor of Svalbard approved the current sub-plan on 23 April 2018, see Section 52 of SEPA.

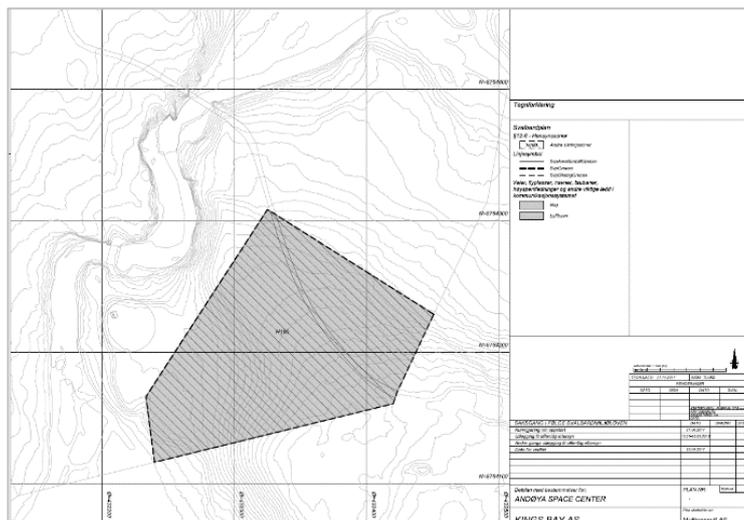


Figure 5. Sub-plan for Andøya Space Center (2018)

3 Overarching frameworks and guidelines

3.1 United Nations Sustainability Goals

The UN's Sustainability Goals comprise a global working plan, which include bringing a halt to climate changes by 2030. The Sustainability Goals are intended to function as a common global direction for countries, industry and civil society.

3.2 Legislation and regulations

- Svalbard Act, LOV-1925-07-17-11
- Svalbard Environmental Protection Act (SEPA), LOV-2001-06-15-79
- Norwegian Regulations on Impact Assessments and Delimitation of Planning Areas, FOR-2002-06-28-650
- Norwegian Regulations relating to Pollution and Waste in Svalbard, FOR-2020-07-03-1517
- Norwegian Regulations on security at ports and harbours, FOR-2013-05-29-538
- Rules for drafting land use plans under the Svalbard Environmental Protection Act, specified on 1 December 2012, rev. 1 January 2016

3.3 National expectations and guidelines

3.3.1 Climate Adaptation, Report to the Storting 33, 2012–2013

- Land use and community planning in Svalbard must take climate changes into account. Climate-related occurrences may contribute to additional burdens on already vulnerable and critical Arctic infrastructure and thereby create a need for upgrading and adaptation.
- Climate adaptations in the land use management in Svalbard require enhanced expertise and knowledge. The Governor has an important responsibility to guide the individuals responsible for planning in Svalbard.

3.3.2 Svalbard White Paper, Report to the Storting 32, 2015-16

- The Government's overriding objectives for the Svalbard policy are consistent and firm enforcement of sovereignty, proper observance to the Svalbard Treaty and control to ensure compliance with the Treaty, maintenance of peace and stability in the area, preservation of the area's distinctive natural wilderness and maintenance of Norwegian communities in the archipelago.
- Chapter 7 on environmental protection and cultural heritage: Svalbard should stand out as one of the world's best-managed wilderness areas, where flora, fauna and cultural monuments are preserved, virtually untouched by human activity. Within the frameworks set by treaty and sovereignty considerations, environmental considerations will weigh most heavily in the event of conflict between the environmental objectives and other interests.
- Chapter 8 on research: Assigned task: strategy for research and higher education in Svalbard and research strategy in Ny-Ålesund, see Sections 3.4 and 3.5.

3.3.3 Strategy for research and higher education in Svalbard, 2018

- Prepared by the Government. Draws up overriding objectives and ambitions and clarifies the frameworks for a future-oriented and sustainable development of research and higher education in Svalbard.
- Ny-Ålesund is to be developed in a more coherent manner as a Norwegian platform for international collaboration on world class research in the natural sciences.
- Operation and development of services and infrastructure in Ny-Ålesund will be coordinated with technical research requirements and priorities, and the Norwegian Polar Institute will have the overarching local responsibility for coordinating and ensuring such collaboration.

3.3.4 Research strategy for Ny-Ålesund, The Research Council of Norway 2019

- The strategy for development of Ny-Ålesund was prepared by The Research Council of Norway at the request of the Government (see Section 3.3.2 and 3.3.3). The vision is for Ny-Ålesund to be the foremost research station for Arctic research in the natural sciences, where cultural heritage research is also emphasised.

- The research will make use of the location's distinctive characteristics, with consideration for the environment.
- Develop the research infrastructure so that it becomes more thematically-based and better adapted for collaboration.
- The Norwegian Polar Institute is the host in Ny-Ålesund, and is responsible for strategy implementation and follow-up.
- Kings Bay AS will maintain and develop technical infrastructure and societal functions and facilitate the development of research infrastructure in cooperation with the Norwegian Polar Institute/Ny-Ålesund Programme.

3.3.5 New objectives in cultural environment policy, Report to the Storting 16, 2019-2020

- Management of the cultural environment in Svalbard is one of three performance measures for the Polar Areas:
The 100 most important archaeological/historical monuments and sites and the cultural environments in Svalbard shall be protected through predictable and long-term management.

3.3.6 Ownership White Paper, Report to the Storting 8, 2019-2020

- The Government's goal as owner of Kings Bay AS is to ensure the most effective operation, maintenance and development of Kings Bay's property, buildings and infrastructure so that Ny-Ålesund is utilised in the best possible way as a Norwegian platform for world-class international collaboration on research in the natural sciences.
- The research strategy for Ny-Ålesund sets frameworks for the research at the location and thus the company's activities as well.

3.3.7 Svalbard Budget, Proposition 1 to the Storting, 2020-2021

- One of the main goals in the Svalbard policy is to maintain Norwegian communities in Svalbard. The research strategy for Ny-Ålesund provides clear guidance for research work as a fundamental activity in the settlement.
- Environmental protection work in Svalbard will focus on protecting natural values and cultural heritage in a situation with rapid changes in climate and increased traffic and tourism. Management must ensure that traffic and other local activities occur within frameworks that prevent the cumulative environmental burden from becoming too great. Biodiversity must be preserved virtually unaffected by local activity.
- The cultural heritage in Ny-Ålesund will be protected through predictable and long-term management.

3.3.8 Kings Bay AS articles of association

- The purpose of Kings Bay AS is to operate, maintain and develop the company's properties in Svalbard, buildings and other infrastructure in Ny-Ålesund, with a special responsibility to protect the archaeological/historical monuments and sites at the location.
- The company will provide services and facilitate the use of the infrastructure at the location for research and scientific activity in Ny-Ålesund, as a Norwegian platform for world class international collaboration on research.
- Development and management of buildings and infrastructure will support the research strategy for Ny-Ålesund and arrange for thematic centres related to prioritised areas with equipment for common use.

3.3.9 The government's ownership goals for Kings Bay in 2021

- Effective operation, maintenance and development of Kings Bay's property and buildings
- Effective, climate-friendly and reliable infrastructure
- Good safeguarding of protected archaeological/historical monuments and sites
- Arrange for thematic centres related to prioritised areas with equipment for common use
- Preferred Arctic research station with satisfied customers
- Supplier of good logistics services

4 Key topics in the planning work

4.1 Development strategy and design basis

The development strategy for Ny-Ålesund during the 2022-2032 planning period will be adapted to overarching frameworks and guidelines (see Chapter 3), with particular weight on the Research Strategy for Ny-Ålesund, the articles of association for Kings Bay AS and the company's owner goals. Development and management will ensure maintenance of settlement and public services, attend to environmental considerations and cultural heritage protection and support the research activity in Ny-Ålesund. Predictable management and securing of listed buildings, cultural monuments and the overall cultural environment within the planning area shall be a premise for the planning work. The research strategy emphasises the facilitation of research activity in thematic centres, with the joint use of facilities and equipment.

Ny-Ålesund currently has capacity for up to 200 people per night, of which 45 are year-round residents. Housing standards and living conditions are extremely variable. Most of the seasonal/short-term accommodations offered are in poor condition, and few year-round residences meet contemporary standards.

Ny-Ålesund lacks redundant solutions for critical and vulnerable infrastructure, and there is an accumulated lag in necessary investment and maintenance of existing buildings and infrastructure for public services. This is the case with regard to community safety, resource efficiency in operations, and acceptable working conditions.

Active use of existing buildings will be prioritised ahead of constructing new buildings. New areal impacts will be avoided as much as possible. This is to enable the further development of Ny-Ålesund in accordance with the research strategy and the management responsibility for the natural and cultural environments.

The current design basis of up to 200 people per night has been continued for the planning period. The land use planning work aims to identify the potential for upgrading and efficiently adapting the existing buildings for need-based purposes and functions, contemporary standards and with the lowest possible climate footprint.

Another objective is for the land use plan for the coming period to provide legal frameworks that are robust, and as predictable as possible, for sustainable, safe and efficient operations and development of the Ny-Ålesund Research Station during the 2022-2032 planning period.

4.2 Updating and integration of planning documents

The land use plan for Ny-Ålesund was adopted in 2009. It is necessary to update and adapt the planning documents to current framework conditions and guidelines and correct for actual land use/situation and status as at 2021. Measures completed and buildings and installations established after 2009 will be mapped and their purposes clarified.

Adopted sub-plans including regulations and guidelines will be incorporated/implemented in the revised land use plan. This will provide more user-friendly and uniform management of land use and exercise of authority.

The land use map must be converted to the SOSI standard and depictions in accordance with applicable drawing rules (Norwegian Ministry of Climate and Environment, 1 January 2016).

4.3 Climate change, environmental effect and sustainability

The environmental law principles in the Svalbard Environmental Protection Act are guidelines, and intended to minimise negative effects on cultural heritage, nature and the environment, see Chapter 5.3. The overall effect and burden of the land use plan on the natural environment and cultural heritage both locally and outside the planning area must be assessed in the planning work, see Sections 8 and 49 of SEPA. This means that wishes and needs for activities, land use and measures must be balanced against preservation of the planning area's natural - and cultural values and the general vulnerability of the Kongsfjord area.

The land use planning work must be based on an updated environmental impact assessment in order to uncover the cumulative burden imposed on nature and the cultural environment in Ny-Ålesund and the Kongsfjord area by research activity, use of ecosystem services and public services. This is used as documentation of the impact on nature and the environment from continuing existing activity and land use and a basis for assessing the effect and impact for planned development and land use in the coming 2022-2032 planning period.

Climate changes lead to an increased risk of avalanches and landslides, more extreme weather and coastal erosion. Constantly deeper thawing of the uppermost soil layer over the permafrost in the summer creates problems for building foundations, archaeological/historic monuments and sites and other physical/technical infrastructure. The challenge for long-term land management and public services is that climate changes impact and alter conditions for satisfactory public safety and the natural and cultural values that are to be preserved. This results in an additional burden on already vulnerable buildings and infrastructure, which in turn means a need for remedial measures and/or upgrading, setting aside areas for reserve solutions and authorisation for adapting to sustainable alternatives.

The current energy solution in Ny-Ålesund is based on diesel. Climate changes and a vulnerable environment underscore the need to prioritise the facilitation of energy conversion and zero-emissions solutions in order to achieve the goal of sustainability.

Another objective of the land use planning work is to secure the requisite area and predictable authorisation for appropriate development measures that contribute to a positive greenhouse gas budget, reduced environmental effect and long-term protection of vulnerable infrastructure and buildings.

4.4 Cultural heritage management and active use of protected buildings

Kings Bay owns and has a special responsibility for managing 29 buildings erected between 1916 and 1945, which are automatically protected under Section 39 of the Svalbard Environmental Protection Act. These are half of the buildings in Ny-Ålesund and Svalbard's largest collection of automatically protected buildings. In addition, the company is responsible as the owner of a large number of protected technical monuments and sites from the mining and polar history of Ny-Ålesund.

Section 38 of the Svalbard Environmental Protection Act lays down the overriding principle for managing archaeological/historic monuments and sites: *Structures and sites and movable historical objects in Svalbard shall be protected and safeguarded as a part of Svalbard's cultural heritage and identity, and as an element of a coherent system of environmental management.*

The 2013-2023 cultural heritage protection plan for Svalbard prioritises Ny-Ålesund among the 50 most important cultural environments for inspection and maintenance. The responsibility as owner is further underscored in Report to the Storting 16, 2019-2020, where predictable and long-term management of the archaeological/historic monuments and sites in Ny-Ålesund is a prioritised national objective (see Chapter 3.3.5).

The cultural heritage protection plan for Svalbard concludes that protected buildings in Ny-Ålesund will be in use as a part of the location's buildings far into the future, that this requires adaptation and systematic maintenance and that proper use is also considered good protection. For buildings that are both used daily and cultural heritage resources, consideration for the use value can mean that more might be done to restore or renovate parts of the building than the pure cultural heritage interests would indicate. Often, the best protection (especially for buildings and installations) is active use, so long as this does not mean that the cultural heritage is depleted but instead honours the cultural heritage.

Active and efficient use in terms of energy and space area of existing buildings will be prioritised ahead of constructing new buildings that are generally difficult to fit in without impairing the overall cultural environment in Ny-Ålesund.

The existing management plan for protected buildings in Ny-Ålesund (2008) is outdated and partly based on assumptions that are changing. It is a key responsibility of the owner to facilitate sufficient resources for

updating of the management plan with respect to protecting the buildings, based on the 2021 condition assessment and updated knowledge related to climate effects.

It is necessary to clarify the potential for upgrading existing buildings to an acceptable standard and long-term active use in accordance with the research strategy for Ny-Ålesund, Kings Bay's responsibility as owner and the Government's ownership goals. This applies to buildings for public services, arranging for research activity in thematic centres and housing for year-round and seasonal/short-term residents.

Completion of the revision and updating of the management plan for protected buildings in Ny-Ålesund will require close collaboration with the protection authority, appropriate resource persons and experts and ongoing research projects in the cultural heritage field in the Arctic. The goal is a uniform, predictable basis for control and management, with acceptable solutions from a protection perspective for contemporary use and proper protection.

The updating of cultural heritage areas (see 2012 survey), delimitation of cultural heritage protection zones (see Section 39 of the Svalbard Environmental Protection Act) and a review of protection requirements for objects and/or buildings and research facilities newer than 1945 will be part of the land use plan work.

4.5 World class research station

Since the 1960s, research has provided a basis for maintaining societal functions and settlement in Ny-Ålesund. The objectives and management basis for the further development of research activity in Ny-Ålesund are stated in the Research Strategy for Ny-Ålesund (2019), see Chapter 3.3.4.

The Norwegian Polar Institute is responsible for implementing the research strategy and coordinating the research activity in Ny-Ålesund. Kings Bay AS will maintain and develop technical infrastructure and society functions, and provide logistics and services to ensure that Ny-Ålesund is utilised in the best possible way, as a Norwegian platform for international collaboration on research.

The Ny-Ålesund Science Managers Committee ([NySMAC](#)) was established in 1994 to contribute to the coordination of research in Ny-Ålesund. NySMAC promotes coordination and collaboration between those who conduct research and environmental monitoring in Ny-Ålesund and the Kongsfjord area and has assisted in the development of the four [flagship programmes](#) for the Ny-Ålesund Research Station.

The overarching vision of the research strategy for Ny-Ålesund is for the research station to become a world leader in Arctic research in the natural sciences and cultural heritage. There is an objective for the Ny-Ålesund Research Station to further develop in a coherent manner as a Norwegian platform for international collaboration, partly through research activity in thematic centres and with joint use of facilities and equipment. Performance objectives for the strategy involve facilitating the coordinated use of existing buildings and research areas, and are therefore essential for programming the work on land use planning.

For Kings Bay, as the entity responsible for planning, the vision of a "world class research station" is difficult to translate into actual programming of the land use plan circulation, management responsibility for the environment and cultural heritage and secure public services in general. The Norwegian Polar Institute and NySMAC have key roles in the circulation work and will actively assist in assessing needs and the research stakeholders' prioritisation of measures and land use for the 2022-2032 period. NySMAC and the Norwegian Polar Institute are preparing a *Plan for Prioritised Infrastructure in Ny-Ålesund*. This plan will be an essential basis for the circulation work. Establishing a new research building as a replacement for Kullkaia/"Old Pier" is an already prioritised suggestion by NySMAC/the Kongsfjord Flag Ship in the Ny-Ålesund Programme.

The share of Ny-Ålesund's existing research facilities / laboratories that Kings Bay owns and operates has a variable standard and function. There is an objective for the circulation work to secure the requisite dedicated area and authorisation for replacement of "Vaskerilab" (condemnable building - serious construction damage), Gruvebadet (condemnable building - unstable ground/poor building site) and a replacement for Kullkaia/"Old Pier" (condemned installation with traffic prohibition).

Input (2017) from AWIPEV (Alfred Wegener Institute/The French Polar Institute) on a new common building will be considered on the basis of performance goals provided by the research strategy for Ny-Ålesund and completed planning assessments during the circulation work.

The purpose of the Svalbard Environmental Protection Act is to maintain a virtually untouched environment. Revision of the Environmental Impact Assessment from 2006 is planned to be initiated under the auspices of the Norwegian Polar Institute during the course of the spring/summer of 2021. Updated knowledge of environmental impact as a result of current use and activities in Ny-Ålesund is necessary as a basis for the circulation work and Kings Bay's management responsibility for the natural environment and cultural heritage. This knowledge basis also has major importance for the research that assumes a virtually untouched reference situation for its work. The scope and level of assessment will depend on which activities the instance responsible for the plan wishes to arrange for and where.

The work on land use planning aims to secure the requisite area and predictable authorisation for research infrastructure and facilities in accordance with the research groups' needs assessment, the research strategy for Ny-Ålesund and the completed assessment of effects and impacts. Delimitation of existing instrument areas and the need for new research areas, including infrastructure (road access, power supply and Internet) are included in the planning and assessment work.

4.6 Risks and vulnerability – community safety

A requirement for a risk and vulnerability assessment (RVA) is not stipulated in the Svalbard Environmental Protection Act. The planning guide for Svalbard (Norwegian Ministry of Climate and Environment, 1 April 2019) refers to SEPA Sections 48 and 49, and the responsibility of the entity responsible for planning to take community safety within its planning area into account. The planning guide for Svalbard recommends an RVA for a land use plan prepared in accordance with [guidance](#) from the Norwegian Directorate for Civil Protection and Emergency Planning (DSB).

The purpose of RVAs is to prevent existing and planned land use, measures and public services from causing an increased risk of undesired events with a risk to life and health, stability and property values.

Kings Bay is responsible for attending to national objectives for settlement, transport services, responsible public services and satisfactory community safety. Ny-Ålesund lacks redundant solutions for critical and vulnerable infrastructure, and there is an accumulated lag in necessary investment and maintenance of existing buildings and public services. Geographic location, climatic conditions, isolation and limited resources contribute to making the community more vulnerable to events that can put critical infrastructure out of operation.

Figure 6 at right shows the five steps in the work on an RVA. Step three is the assessment of risks and vulnerability, where the likelihood and the impact of the identified undesired events are assessed. An adequate knowledge basis is necessary for completing a proper RVA.

There is an objective for the work on land use planning to secure the requisite assessment and knowledge basis for completing an RVA including identification of mitigating measures for satisfactory community safety.

The land use plan will ensure compliance with legal requirements for mitigating measures in planning maps and supplementary provisions for acceptable risk/vulnerability level related to natural occurrences and failures in critical societal functions/infrastructure in Ny-Ålesund.



Figure 6. RVA method

5 Assessment programme

5.1 Assessment duty

Impact assessments are integrated in the planning process for the planning areas in Svalbard. The planning documents are required to provide a description of the effects of the plan and interactions between these. Impacts will be described with respect to plans, objectives and guidelines for the environment, natural resources and society in affected areas. Evaluation of the impacts will be viewed in context of desired societal development and long-term land use strategy.

The purpose of the assessment work is to gain an overview of significant impacts that a development in line with the proposed land use plan may entail, so that these are known while preparing the plan, and as a basis for the Governor's decision on the plan. Results from the assessments and the description of any mitigating measures will be the basis for the content of the proposed land use plan.

The planning programme assumes that the circulation work is covered by the general assessment requirement, see Section 49:

The plan shall include an account of how environmental considerations (including those relating to the natural environment and cultural heritage, as well as aesthetic considerations) and the interests of the local community (including safety and the needs of children) have been incorporated. If the plan may have an impact on the environment outside the land use planning area, this must also be described.

The reason is that the planning work includes a revision of the current plan for an existing residential area, and the land use plan will provide legal frameworks for possible long-term community development in which built-in authorisation for large development projects is not anticipated.

The requirement for a special impact assessment in accordance with Section 59 may apply to later plans for carrying out specific measures in the planning area, if these are deemed to have substantial and long-term effects on the environment and society.

5.2 Method description and weighting

The proposed method is based on a three-step procedure: obtaining knowledge/recording, technical analysis of the plan and assessment of effect/impact. Impacts will be assessed as the relationship between the scope of the measures and assessed value for individual assessment topics and for the cumulative environmental effect. This means that small-scale measures and/or changes in land use may result in impacts if an affected value is recorded with a high value. Similarly, effects on recorded less important values will also result in impacts if the measure or change in land use has a large extent.

The method for collecting and processing information and recording is provided by *Guide M-1324 Impact assessments – recognised methodology and databases for entering data (2019)* and *Guide M-1941 Impact assessments for climate and environment (2021)*.

The purpose of the assessment work is to gain an overview of significant impacts that a development in line with the proposed land use plan may entail, so that these are known while preparing the plan, and as a basis for the Governor's decision on the plan. Results from the assessments and the description of any mitigating measures will be the basis for formulating the proposed land use plan.

5.3 Environmental law principles

The purpose of the Svalbard Environmental Protection Act is to preserve a virtually untouched environment in Svalbard with respect to continuous areas of wilderness, landscape, flora, fauna and cultural heritage. Section 1.

Sections 6-10 of the Svalbard Environmental Protection Act establish legal principles for the exercise of authority to ensure that the consideration for nature and cultural heritage is safeguarded. Land use and activities are to be assessed on the basis of the cumulative burden to which the natural environment and cultural heritage are exposed.

The precautionary principle means avoiding possible significant harm to the environment in cases where sufficient knowledge is not available. The principle also means that if there is a risk of serious or irreversible harm, the lack of knowledge must not be used as justification for postponing or failing to take measures. The precautionary principle is included in a number of treaties to which Norway has acceded. The principle is also legally prescribed in Section 7 of the Svalbard Environmental Protection Act of 2001.

5.4 Assessment topics and known knowledge basis

The land use plan is legally binding for land use and activities in the long term. It requires, therefore, that the effect/impact and tolerance limit for development and land use are sufficiently assessed, and that the land use plan, including supplementary provisions, authorises mitigating measures to the extent this is necessary. Below is given an overview of the known knowledge basis for assessment of the effect and impact of existing and future land use. This as a necessary basis for the Governor's decision on the plan.

Climate-related occurrences and increased natural hazards mean additional burdens on already vulnerable buildings and critical infrastructure in Ny-Ålesund. This supports the need for updated knowledge and management plans adapted to new conditions and challenges.

The following topics is to be emphasized in assessment work
<ul style="list-style-type: none"> • Natural environment and landscape • Cultural heritage/cultural environment • Shut-down mines and mine openings • Ground conditions and natural hazards - permafrost melting • Societal- and service functions – settlement/local community • Technical infrastructure, surface water management • Energy and transport • Community safety and emergency preparedness – Risk and Vulnerability Assessment (RVA) <p>Climate adaptation and consideration of climate change is assumed as an integral part of the planning and assessment work, with special emphasis on natural hazards and consequences as a result of reduced permafrost.</p>

Topic	Known knowledge basis	Assessment needs see chap. 5.1-5.4
Landscape	Sub-plan impact assessment for Brandal: Landscape, vegetation and fauna, NINA Report 675, 2011	Landscape effects will be studied for new measures that may affect the landscape experience
Natural environment Combined environmental effect	<ul style="list-style-type: none"> - Ny-Ålesund EIA 2006 (NP) - Sub-plan impact assessment for Brandal, 2011-12/NINA Report 675, 2011 - Norwegian Polar Institute - access to maps, incl. Ny-Ålesund GIS as part of Svalbardkartet - Norwegian Biodiversity Information Centre - Species maps - Svalbard environmental status - Svalbard environmental monitoring - Various research data and measurement series - Action plan for invasive species in Svalbard (Governor of Svalbard, 2017) - Miljøovervåking Ny-Ålesund (KB/NILU) 	<p>Compilation of updated data, registrations and knowledge as a basis for assessing the impact on biodiversity and the environment, cf. The Norwegian Environment Agency's guide M-1941</p> <p>For any proposal for changed land use / purpose, new registration of habitat type / biodiversity shall be carried out.</p> <p>Norwegian Polar Institute/Ny-Ålesund Research Station has revision/updating of EIA (2006) as a prioritised focus area.</p>

Topic	Known knowledge basis	Assessment needs see chap. 5.1-5.4
Cultural heritage/cultural environment	<ul style="list-style-type: none"> - Cultural heritage management plan for Ny-Ålesund, 2008 (Governor/KB) - Cultural heritage plan for Svalbard 2013-2023 (Governor of Svalbard) - Catalogue of prioritised archaeological/historical monuments and sites in Svalbard 2013 (Governor of Svalbard) - Askeladden, Environmental Status - Adapt Northern Heritage - SINTEF: PCCH-Arctic - Norwegian Institute for Cultural Heritage Research (NIKU)/Norwegian Institute of Bioeconomy Research (NIBIO): ArcticAlpineDecay - Rapport arkeologisk registrering NyÅ, 2012 	<p>Cultural monuments within the planning area and how these are taken care of in the plan proposal shall be accounted for. Consequences and effects on the value of cultural monuments shall be investigated for new measures that may affect cultural monuments.</p> <p>The updating of cultural heritage areas (see 2012 survey), delimitation of cultural heritage protection zones (see Section 39 of the Svalbard Environmental Protection Act) and a review of protection requirements for objects and/or buildings and research facilities newer than 1945 shall be investigated and clarified.</p>
Climate change/ Climate adaptation	<ul style="list-style-type: none"> - Climate in Svalbard 2100 (NCCS, 2019) - Klimaprofil Longyearbyen, 2016 - Hazard zone mapping of avalanches/landslides in Ny-Ålesund, Skred AS 2021 - Adapt Northern Heritage, SINTEF: PCCH-Arctic, NIKU/NIBIO: ArcticAlpineDecay - Long series of local measurements and research projects, including effects on biodiversity and cultural heritage 	<p>Investigate and consider deeper thawing of permafrost / unstable building site, cf. climate profile / change.</p> <p>Investigate and take into account increasing amounts of surface water, cf. climate profile / change</p>
Ground conditions and natural hazards – avalanche, landslide, erosion, including RVA	<ul style="list-style-type: none"> - Long series of local measurements and research projects, including effects on biodiversity and cultural heritage 	<p>Completed mapping and assessment of landslides / landslides as a necessary basis for danger zones / consideration zones in the area plan</p>
Pollution	<p>Mapping of contaminated ground in Ny-Ålesund, 2019-20 (NGI)</p>	<p>Compilation of completed mapping will be the basis for delimiting zones requiring special consideration for contaminated ground and designing of plan provisions in consultation with pollution control authority</p>
Research infrastructure NyÅ RS Research activity	<ul style="list-style-type: none"> - Ny-Ålesund Research Station - Research in Svalbard (RiS) - A plan for research infrastructure is being prepared under the auspices of the Norwegian Polar Institute and NySMAC 	<p>Needs assessment and GAP analysis seen in connection with research strategy (2019) - prepare a thematic plan for research as a basis for purpose clarification in plan maps and level of detail in regulations</p>
Societal functions – settlement/local community	<p>Kings Bay AS: Current land use plans, business plans, management documents, existing assessments/practices, statistics and local experience/expertise</p>	<p>Investigate and consider deeper thawing of permafrost / unstable building site, cf. climate profile / change.</p>
Traffic and outdoor recreation/public health		<p>Investigate and take into account increasing amounts of surface water, cf. climate profile / change</p>
Technical infrastructure – Aquatic environment/ water/sewer, energy		<p>Map traffic routes summer / winter</p> <p>Map relocation capacity and area requirements</p>
Transport – airport/port and logistics, warehouse		<p>General needs assessment and GAP analysis</p>

Community safety and emergency preparedness - RVA	Risk and Vulnerability Assessment (RVA) for Svalbard, 2016 (Governor of Svalbard) Risk and Vulnerability Assessment (RVA) for Hamnerabben, 2005 (Det Norske Veritas)	Updated cumulative knowledge as a basis for risk and vulnerability assessment – community safety and emergency preparedness
--	---	---

Figure 7. Knowledge basis and assessment needs

6 Organisation and public participation

6.1 Roles and responsibilities

Kings Bay AS (KB)	Entity responsible for planning for the Ny-Ålesund planning area Landowner for 38/1
Governor of Svalbard /Sysselmannen på Svalbard (SMS)	Guidance responsibility, environmental protection authority, land use plan objection and adoption authority
Norwegian Polar Institute (NP)	Key collaboration party/adviser – coordination/public participation. Input on status and challenges/needs assessment. Host responsibility for Ny-Ålesund Research Station (NyÅ RS). Responsible for implementing Ny-Ålesund research strategy (2019). Is a member of NySMAC, and hosts the NySMAC Secretariat
Ny-Ålesund Science Managers Committee (NySMAC)	Key collaboration party/adviser – coordination/public participation. Input on status and challenges/needs assessment/gap analysis.
Norwegian Mapping and Cadastre Authority	Key collaboration party/adviser – coordination/public participation. Input on status and challenges/needs assessment. Member of NySMAC

Figure 8. Roles and responsibilities

6.2 Organisation of the planning work

Plan owner/instance responsible for plan, see Section 48 of SEPA	<ul style="list-style-type: none"> - Director - KB - Steering committee: KB management group
Project group / execution	<ul style="list-style-type: none"> - KB through appropriate persons with responsibility/expertise - NP - Any hired expertise or assistance from competent authority for subject-matter assessments
Public participation Advisory committee, see Section 50 of SEPA	<ul style="list-style-type: none"> - KB Board of Directors - NP - KB - public services, aquatic environment/water/sewer, energy, property, port, airport, cultural heritage management - NySMAC - Norwegian Mapping and Cadastre Authority - Andøya Space Center - Velferden Ny-Ålesund
Consultation authorities	<ul style="list-style-type: none"> - Governor of Svalbard - Norwegian Ministry of Climate and Environment (MCE) - Norwegian Ministry of Justice and Public Security (MJPS) - Norwegian Ministry of Trade, Industry and Fisheries (MTIF) - Ministry of Education and Research (MER) - The Research Council of Norway - Norwegian Polar Institute - Norwegian Mapping and Cadastre Authority - Norwegian Water Resources and Energy Directorate - Norwegian Directorate for Civil Protection and Emergency Planning - Norwegian Directorate for Mining including the Svalbard Mining Inspector - Norwegian Directorate for Cultural Heritage

	<ul style="list-style-type: none"> - Norwegian Environment Agency - Norwegian Coastal Administration - Civil Aviation Authority – Norway - NCA - Norwegian Communications Authority - Andøya Space Center - Lufttransport AS - Velferden Ny-Ålesund - Norwegian Geotechnical Institute (NGI) - Norwegian Institute for Air Research (NILU) - Norwegian Institute for Cultural Heritage Research (NIKU) - High North Research Centre for Climate and the Environment (The Fram Centre) - Norwegian Research Center (NORCE) - Svalbard Science Forum (SSF) - University Centre in Svalbard (UNIS) - The Arctic University of Norway (UiT) - Norwegian University of Science and Technology (NTNU) - Norwegian University of Life Sciences (NMBU) - University of Bergen (UiB) - University of Oslo (UiO) - University of Stockholm (SU) - GFZ Potsdam - Chinese Arctic and Antarctic Administration (CAA) - Polar Research Institute of China (PRIC) - Alfred Wegener Institute (AWI) - Institut Polaire Francais, Paul Emile Victor (IPEV) - National Centre for Polar and Ocean Research (NCPOR) - Consiglio Nazionale delle Ricerche (CNR) - National Institute of Polar Research (NIPR) - Korea Polar Research Institute (KOPRI) - University of Groningen (UG) - Natural Environment Research Council (NERC)
--	--

Figure 9. Organisation of the planning work and consultative bodies

6.3 Start-up phase

Start-up meetings have been conducted with the Governor of Svalbard and the Norwegian Polar Institute (5 March 2021) and the Norwegian Mapping and Cadastre Authority (25 March 2021) to review and set the planning process, organisation and role assignment in the planning work and for input on the planning programme for the Ny-Ålesund land use plan for the 2022-2032 period.

The planning process and the arrangement for planning work were presented in a NySMAC meeting (23 March 2021), where the importance of input and public participation from the research institutions was emphasised.

6.4 Notification of start and consultation on planning programme

The start of the planning work was notified on 28 May and the planning programme for Ny-Ålesund Land Use Plan 2022-2032 has been put out for public review during the period of 28 May – 9 July 2021. Upon request, the consultation deadline was postponed to 15 August and 20 September 2021. Notification of the start and consultation on the planning programme was published in the newspaper Svalbardposten and on the websites for Kings Bay AS and Ny-Ålesund Research Station.

A draft planning programme for consultation in English and Norwegian was sent by e-mail to 65 consultative bodies as listed in the planning program. The planning programme was sent to the Board of Directors of Kings Bay AS for information purposes on 28 May 2021.

6.4.1 Consultative statements received

Eleven statements were received regarding the draft planning programme sent for consultation:

1. The Governor of Svalbard, 19 July 2021
2. The Norwegian Water Resources and Energy Directorate (NVE), 11 July 2021
3. The Norwegian Directorate for Mining, 30 June 2021
4. The Norwegian Coastal Administration, 4 June 2021
5. The Norwegian Polar Institute (NPI), 15 August 2021
6. The Norwegian Communications Authority (NCA), 12 July 2021
7. The University of Tromsø, UiT, 23 June 2021
8. The Norwegian Mapping and Cadastre Authority, 8 July 2021
9. a) SINTEF, 25 June 2021 and b) 20 September 2021
10. Store Norske Spitsbergen Kulkompani (SNSK), 30 July 2021

All suggestions and statements from the notification/consultation round will be used as a basis for the planning and assessment work in the future.

Statements with guidance and suggestions for the planning programme with respect to assessment topics and knowledge basis are incorporated in the final planning programme.

The Governor of Svalbard in his consultative statement (19 July 2021) considers the assessment topics for the planning programme satisfactory, stating that the topics must be investigated at a level that can form a basis for assessing the impacts of activities and measures for which the plan lays the groundwork. The level of investigation will depend on which activities the instance responsible for the plan wishes to arrange for and where.

Figure 10. Consultation announcement in Svalbardposten, 27 May 2021



As a result of suggestions and requests during the public consultation, the following changes are anticipated to be incorporated in the final planning programme:

- [Klimaprofil Longyearbyen](#) ("Longyearbyen Climate Profile") (2016) incorporated as part of the knowledge basis
- Concern for permafrost melting specified as part of the assessment topic regarding construction sites/natural hazards and climate change
- Surface water management specified as part of the assessment topic regarding technical infrastructure and climate change
- Shut-down mines and mine openings incorporated as a separate assessment topic – protection, environmental monitoring and knowledge management for the geology/resource and history.
- Forskrift om sikring av havneanlegg ("Norwegian Regulations on security at ports and harbours") (FOR-2013-05-29-538) incorporated as a requirement for the planning work and specified as a basis for risk and vulnerability assessment (RVA) and public safety
- Anchoring conditions in the maritime area round Ny-Ålesund incorporated as a separate assessment topic

The Norwegian Coastal Administration (dated 4 June 2021) recommends that the planning programme include an assessment topic in the area of maritime infrastructure to ensure effective, safe and environmentally-friendly maritime transport. Kings Bay AS regards consideration for maritime transport as sufficiently taken care of in the planning programme and thus has not incorporated maritime infrastructure as a separate assessment topic.

6.5 Public participation and information

The planning work and planning process are being conducted in accordance with requirements for public participation, consultation and information in the Svalbard Environmental Protection Act (see Chapter 2.3). Arranging for active participation and collaboration with affected parties is a prerequisite throughout the entire planning process. Collaboration and consultation with the governor of Svalbard, the Norwegian Polar Institute, NySMAC and the Norwegian Mapping and Cadastre Authority will be particularly emphasised.

During the planning process, meetings will be held to the extent necessary with affected parties and the advisory committee, appropriate authorities and other consultative bodies.

Ny-Ålesund is a local community where approximately 45 individuals live year-round and a varying number live seasonally or for shorter periods. Geographic location, isolation and climatic conditions underscore the importance of good living and working conditions and meaningful leisure time. Inhabitant participation and input from Velferden will be particularly emphasised for topics that affect living conditions, living standards, leisure time, outdoor recreation and service offerings.

The start-up of the circulation work was announced simultaneously with consultation on the planning programme. The determined planning programme, the consultation proposal prepared for the land use plan for the 2022-2032 period and a final decision on adopting the plan will be announced publicly. Consultative bodies (see Figure 9) will be notified in writing of all announcements during the planning process.

The announcements are made on the websites of [Kings Bay](#) and the [Ny-Ålesund Research Station](#) and through advertisements in [Svalbardposten](#).

7 Tentative schedule

Progress and the planning process are dependent on defined assessment need and sufficient knowledge basis. The Governor of Svalbard is the decision-making authority and, in accordance with legal requirements, presupposes that the decision basis for the area plan decision is satisfactory. The need for supplementary knowledge / registration and level of assessment of impact and consequences will therefore have to be clarified with the Governor before Kings Bay determines the planning programme after the consultation.

Access to resources and progress in assessments (see chap. 5.1-5.4) will influence the planning work progress.

Tentative schedule (Figure 11) is adapted to input and requirements for assessment and updated knowledge basis when notifying the start of planning and consultation on the planning program.

Aktivitet	2021								2022							
	mai	juni	juli	aug	sept	okt	nov	des	jan	feb	mars	april	mai	juni	juli	aug
Public notice starting of planning process and consultation of planning program, sml § 50	■															
Consideration of statements and comments					■											
Announce publicly the final planning program, sml § 50						■										
Update knowledge as a basis for assessment of environmental impact		■														
Final priority list research infrastructure from Ny-Ålesund flagship programs and NySMAC							■									
Participation and collaboration meetings with relevant actors and authorities; NP, SMS, Kartverket, NySMAC, etc		■														
Planning proposal - supplementary provisions and guidelines, description of the plan including an account of how environmental considerations and the interests of the local community have been incorporated, sml § 49		■														
Public hearing Land-use plan Ny-Å 2022 -2032, sml § 50												■				
Consultation process - consideration of statements and comments														■		
Final processing and adoption of Land-use plan Ny-Å 2022-2032 – by the Governor of Svalbard															■	
Appeal period/deadline, cf. Public Administration Act chap. VI															■	
Public announcement of approved land-use plan Ny-Å 2022-2032, sml § 52																■

Figure 11.
Tentative schedule