



Norwegian Ministry
of Justice and Public Security

Meld. St. 32 (2015–2016) Report to the Storting (white paper)

Svalbard



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approved in the Council of State the same day.
(White paper from the Solberg Government)*

1 Summary

1.1 A predictable Svalbard policy

In the past, comprehensive white papers on Svalbard have been presented approximately every 10 years. The white papers have each contributed to guiding the archipelago's development for a number of years, and the comprehensive review process has contributed to balanced development within the framework established by the Svalbard policy objectives.

The overriding objectives of 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
- Maintenance of Norwegian communities in the archipelago

With this white paper, the Government confirms that the overriding objectives of the Svalbard policy remain unchanged. Continuity and predictability will remain key aspects of the policy. Predictable administration of Svalbard in line with these objectives provides security for the population while enhancing stability and predictability in the region.

One of the key objectives of the Svalbard policy is the maintenance of Norwegian communities in the archipelago. This objective has been met in large part through the Longyearbyen community. Coal mining, traditionally of great importance to the community, has declined in significance in recent years, partly because many mining employees have been commuting between Svea and the mainland. Moreover, the challenging market for the coal business has led to a scale-back in operations. Provision will be made to suspend operations at Svea and Lunckefjellgruva for up to three years, starting in 2017, and there is considerable uncertainty as to whether operations will resume. Other forms of activity have grown, however, within such fields as research and higher education, tourism, space-related activity and others.

In this white paper the Government seeks to accommodate a variety of activities, both existing and new. Longyearbyen will in future remain a viable local community that is attractive to families. The community's character, breadth of activity and variation must support the objective of maintaining Norwegian communities in the archipelago. At the same time, Longyearbyen is suffering the effects of the avalanche that struck the community on 19 December 2015. The disaster mobilised the entire community, and a major effort was undertaken to save lives and care for everyone affected. The avalanche heightened the urgency of working to free up land in the central commu-

nity for residential use. A coordinated, climate-appropriate approach to land-use planning in Longyearbyen will have positive effects for the Longyearbyen community while facilitating desirable economic development.

The Government therefore wishes to use this white paper to facilitate further development of the Longyearbyen community. In the estimated accounts for the 2015 central government budget, the Storting approved a proposal by the Government to allocate NOK 50 million to encourage greater activity in Longyearbyen in both the short and the long terms. After the proposal was made to suspend operations at Svea and Lunckefjellgruva and introduce double shifts at Mine 7, the Government has also continued to provide for Longyearbyen's maintenance, development and restructuring in a way supportive of the overriding objectives of Norwegian Svalbard policy. This measure, combined with the other measures announced in this report, should contribute to the continued viability of the community.

The Government will in any case continually assess the need for measures to help ensure that the Longyearbyen community develops in accordance with the Svalbard policy, including the objective of maintaining Norwegian communities in the archipelago. The avalanche disaster has also shown that the necessity of ensuring that Svalbard's infrastructure can accommodate the present level of activity outweighs the introduction of new activities that might trigger large investment needs.

1.2 Contents of each chapter

Chapters 2–4 provide a general introduction to the chapters whose policy focus is defined by sector; they also describe historical, legal and administrative matters pertaining to Svalbard. The main policy thrust of these chapters is an affirmation that the overriding objectives of Svalbard policy remain unchanged. The Svalbard policy will continue to be characterised by continuity and predictability.

The background for this white paper is described in detail in *Chapter 2*, and the international legal framework is reviewed in *Chapter 3*. The key objectives of the Svalbard policy, the policy instruments available to the state to achieve these objectives and the administrative system are the subject of *Chapter 4*.

Chapter 5 describes principles applicable to legislation relating to Svalbard. The chapter states, among other things, that the legal frame-

work applied in Svalbard should be as similar as possible to that of the mainland, and it describes the status of the introduction of legislation not previously put into application. The chapter also deals with areas of law that are especially important to community development. It provides a discussion of additional legislative work within the field of business and company law and of the need to clarify parts of the Longyearbyen Community Council's framework of commitments in childhood and welfare policy.

A major topic in this white paper is the further development of the Longyearbyen community. This is covered in *Chapter 6*.

One of the objectives of the Svalbard policy is maintaining Norwegian communities in the archipelago. This objective is pursued through the community of families in Longyearbyen. Longyearbyen is not a 'cradle to grave' community, and there are clear limits to the services that should be made available. Within these limits – which are reflected by the archipelago's low level of taxation and the fact that the Norwegian Immigration Act does not apply here – the Government wants Longyearbyen to remain a viable local community that is attractive to families and helps to achieve and sustain the overriding objectives of the Svalbard policy.

Tourism is important for employment in Longyearbyen, and the Government will facilitate more local jobs in this industry. Steps will be taken to make Longyearbyen and the areas surrounding inhabited locations (Management Area 10) more attractive for tourism. In addition, the allocation to Innovation Norway in 2015 will strengthen the foundations of a wide-ranging and diverse business community in the long term.

The allocation to preparations for a suspension of operations at Svea and Lunckefjellgruva improves the restructuring framework. The option is retained to continue operations at these sites if coal prices suggest profitability. Meanwhile, the allocation to the Longyearbyen Community Council in the estimated accounts for the 2015 central government budget will bolster infrastructure maintenance in Longyearbyen while creating jobs in the construction sector.

The Norwegian Coastal Administration (NCA) is currently working on a conceptual study that will form the basis for further work to develop new port infrastructure in Longyearbyen. Strong national interests are tied to ownership in this type of infrastructure. When the study is complete, the Government will address the way ahead in developing Longyearbyen's port infrastructure.

The Government is not inclined to facilitate the establishment of activities that require substantial infrastructure investment, but will support community development in Longyearbyen that entails developing the economy in line with Svalbard policy objectives. Relocation of public sector jobs to Longyearbyen will also be considered.

Environmental protection is discussed in *Chapter 7*. Preservation of Svalbard's natural environment is a long-term policy objective, and preserving the archipelago's distinctive natural wilderness is one of the overriding objectives of Norwegian Svalbard policy. Svalbard's natural and cultural heritage is important internationally, and Norway has a special responsibility to preserve it.

At a time when restructuring and new industries and activities are needed in Longyearbyen, tourism, research and higher education stand out as obvious activities for expansion. Environmental regulations and environmental objectives determine the frameworks of all activity in Svalbard. Within these frameworks, however, there is latitude for additional activity related to tourism, research and higher education. It is important that such opportunities be pursued in a way that provides sound, predictable framework conditions for the activity in question. In dialogue with the relevant actors in Svalbard, the environmental authorities will now take coordinated action to better facilitate tourism in the zone known as Management Area 10, which includes the Isfjorden area and areas surrounding the inhabited locations. With this in mind, an early phase of this work will be initiated as soon as possible, ensuring a comprehensive approach to both the construction of new commercial tourist cabins and the use of temporary facilities for the tourism industry in winter. The same applies to accommodating vessel disembarkation at selected locations in the Isfjorden area and better framework conditions for non-motorised tourism products such as ski and dogsled trips.

The Government is committed to comprehensive management frameworks in which different types of traffic and activity are seen in context, both within and outside of Svalbard's protected areas. This is a necessary approach if the travel industry and the research community are to enjoy predictable framework conditions without causing undue impact on the natural environment. To achieve such comprehensive management, the Government will continue work on management plans for the protected areas in Svalbard. These plans will facilitate activity in accordance with the purpose and provisions of the environmental pro-

tections. An important objective is also to adapt management procedures to the rapid changes in climatic and environmental conditions that Svalbard is facing. For the sake of users and the environment alike, it is important to act comprehensively in the management of the areas surrounding inhabited locations where activity and traffic are expected to increase the most. In Management Area 10, therefore, management plans will be drawn up that include both protected and unprotected areas.

Knowledge, research and higher education are the topic of *Chapter 8*. Svalbard is an important platform for Norwegian and international research, higher education and environmental monitoring. Research and instruction are of major importance to Norwegian activity and presence in Svalbard. The Government will develop an overall strategy for research and higher education in Svalbard.

The research community in Ny-Ålesund will be further developed as a platform for international scientific collaboration in which Norway has a clear role as host and will lead relevant areas of research. To help foster such development, changes will be made to the organisation and operation of Ny-Ålesund's research activities.

Chapter 9 of the white paper concerns economic activity. It is important that the business community's value creation occur within the overall objectives and frameworks of the Svalbard policy. Responsible and sustainable use of Svalbard's unique natural environment is an important condition for restructuring and investing in economic development.

To help bring about an economic boost in Svalbard, the estimated accounts for 2015 facilitated a strengthening of development in the business community. The funds provided will help reinforce economic development efforts undertaken by the Longyearbyen Community Council, the Svalbard Business Council and the range of national instruments supporting business and industry. Innovation Norway's long experience with regional restructuring and promoting economic development will be called upon to boost economic development efforts in Svalbard. A forward-looking strategy for business and innovation will also be devised. Based on recent experience and on Svalbard's position as a unique and exciting destination, the opportunities for developing new jobs in tourism are thought to be particularly promising. The Government will provide framework conditions for sustainable growth in the tourism industry.

Svalbard's geographical location is also ideal for space activity, including atmospheric research and satellite data reception. The Government is concerned that Norwegian actors in the space sector should take full advantage of Svalbard's location and capacities, which provide competitive advantages in space-related science, innovation and economic development.

Chapter 10 deals with civil protection, rescue and emergency preparedness. The chapter describes how civil protection and emergency response efforts are organised in Svalbard, including the roles and responsibilities involved. It also provides a discussion of available resources and specific challenges that require attention.

It is important to the Government that people feel secure where they live and in the community at large. The Directorate for Civil Protection and Emergency Planning, assisted by the Norwegian Police University College and the Joint Rescue Coordination Centre, will carry out an assessment in the aftermath of the avalanche that struck Longyearbyen on 19 December 2015. Any findings will be followed up by the Government in an appropriate manner. In 2016, the Norwegian Water Resources and Energy Directorate (NVE) will prioritise surveys of flood and avalanche dangers in Svalbard. NVE has also completed a pilot avalanche-warning project, which will be evaluated in 2016 and followed up in consultation with the Longyearbyen Community Council.

Emergency preparedness should correspond to the activities occurring in the archipelago, and the question of scale will be assessed continually. Responding to large or simultaneous events will in any case require assistance from the mainland. To improve safety at sea, efforts will be undertaken to ensure effective implementation of the Polar Code. Work will also continue on the charting of important maritime areas around Svalbard, and land-based AIS stations will be established in Svalbard to ensure more effective traffic monitoring. Other navigation infrastructure in Svalbard will also be modernised.

1.3 Full overview of measures

The Government will:

- Seek to maintain Longyearbyen as a viable local community that attracts families and helps fulfil and support the overriding objectives of the Svalbard policy.

- Further develop the Longyearbyen community, where the need for various types of development is under continual assessment.
- Facilitate continued development of existing activities such as tourism, research and higher education, as well as broad and varied economic activity.
- Facilitate employment and restructuring in Longyearbyen, using funds provided in the estimated accounts for 2015.
- Strengthen economic development efforts under the auspices of the Longyearbyen Community Council and relevant national policy instruments in cooperation with existing business interests in Longyearbyen, using funds provided in the estimated accounts for 2015.
- Facilitate further development of existing and new industries within the overriding objectives of the Svalbard policy.
- Facilitate conditions for the development of a more diversified business community. Preferably, the new jobs should be stable, year-round and commercially profitable.
- Facilitate development of a new, forward-looking business and innovation strategy for Svalbard.
- Continuously assess the need for restructuring and economic development measures that support the Svalbard policy objectives.
- Facilitate the possibility of maintaining some activity in Svea during a restructuring period for Longyearbyen, while the mining operations in Svea and Lunckefjell are suspended.
- Assess the situation for continued operations by Store Norske Spitsbergen Kulkompani AS (SNSK) in light of developments in the price and market outlook for coal.
- Administer ownership in SNSK so that it contributes to Longyearbyen's community in a way that supports the overriding objectives of the Svalbard policy.
- Assess future development and activity in Svea in light of the state's role as landowner and infrastructure owner.
- Continue efforts to facilitate development of sound infrastructure in Svalbard, including energy and water supply.
- Strengthen the Longyearbyen community by increasing funding for housing and land development in Longyearbyen by NOK 10 million.
- Decide on further work to develop port infrastructure in Longyearbyen once the Norwegian Coastal Administration's conceptual study is completed.

- Ensure sound, predictable framework conditions that provide a basis for growth in the tourism industry, by facilitating development of tourism products.
- In close consultation with tourism operators, take coordinated action to better facilitate tourism in Management Area 10, which includes the Isfjorden area and areas surrounding the inhabited locations.
- Ensure a comprehensive and environmentally responsible approach to the construction of commercial tourist cabins and the use of temporary facilities for tourism in winter.
- Improve knowledge about the Isfjorden area's vulnerability to human traffic, and on that basis consider measures to facilitate vessel disembarkation at selected locations.
- Improve the framework for non-motorised tourism products such as ski and dogsled trips.
- Facilitate conditions for the seafood industry in connection with local food and tourism.
- Facilitate opportunities for the Northern Norway Art Museum to consider establishing an artist residence/guest studio for visiting artists.
- Further develop Visit Svalbard as a developer of tourism in Svalbard, and Visit Svalbard's coordinating role in the tourism industry.
- Consider facilitating closer contact between the Governor of Svalbard and the local tourism community by redirecting resources for this purpose.
- Consider relocating public sector jobs to Svalbard to help achieve the objective of maintaining Norwegian communities in the archipelago.
- Facilitate space activity as part of the future economic base in Svalbard.
- Assess the need and possibility of a satellite-based communications system in the High North.
- Revise the regulations governing the establishment and operation of satellite ground stations in Svalbard.
- Continue work on management plans that facilitate further development of activities such as tourism, research and higher education. Ensure that management plans are drawn up for areas surrounding the inhabited locations (Management Area 10), including both protected and unprotected areas. Ensure that use of the protected areas is facilitated and managed in such a way as to permit the best possible visitor experience while at the same time increasing respect and understanding for the protections and safeguarding the natural and cultural heritage assets.
- Facilitate in finding solutions for areas that are becoming more vulnerable to human traffic as a result of a warmer climate and retreating sea ice. The environmental management authorities have circulated for public consultation a proposal to expand the area where visitors can operate snowmobiles when participating in organised tours or when accompanied by permanent residents. Secure natural assets and cultural heritage sites located near inhabited locations and important for tourism, recreation and the local population. To this end, work will be initiated to assess the need for greater protection of areas in lower Adventdalen, where bird life is especially abundant.
- Maintain and develop the University Centre in Svalbard (UNIS) as a unique institution for university-level studies and research on Svalbard, with a range of academic programmes and research activities that capitalise on the natural advantages of the location. Facilitate further cooperation between UNIS and mainland universities to make the most of UNIS's potential, to satisfy the requirement that 50 per cent of students come from Norwegian institutions, and to improve predictability for both UNIS and the universities.
- Continue the focus on polar research and the special emphasis on Svalbard research, in order to help strengthen the volume and quality of Norwegian research in Svalbard.
- Consider possible measures to encourage Norwegian scientists to take advantage of the research opportunities available in Ny-Ålesund.
- Facilitate increased international cooperation through bilateral and multilateral arrangements. Horizon 2020 also advertises funding for Arctic research. The general policy instruments available through the Research Council of Norway, including those that encourage Norwegian participation in Horizon 2020, will contribute to this.
- Conduct a review of research on Svalbard and consider how policy instruments can be directed with even greater effect towards both increasing Norwegian Svalbard research and encouraging the international research community to cite such research.
- Develop an overall strategy for research and higher education in Svalbard. The Research Council of Norway will have responsibility for preparing a strategy proposal on the basis of a

wide-ranging process. Central government authorities, the Governor of Svalbard, the business community and all research and higher education organisations in Svalbard will be involved. The Research Council will also have primary responsibility for evaluating the strategy's implementation.

- Facilitate formal establishment of the Svalbard Integrated Arctic Earth Observing System (SIOS) in 2016. As the host of SIOS, Norway will help cover a significant share of the expenses. The participating institutions are also expected to contribute through membership fees and other resources.
- Further develop the Svalbard Science Forum (SSF) and the Research Council of Norway's office in Longyearbyen. Objectives, tasks and roles will be updated in a new revision of the mandate. The Research Council's stimulus funding and support programmes related to SSF will be designed in line with the priorities in the strategy.
- Strengthen coordination in Ny-Ålesund through the development of a research strategy for Ny-Ålesund by spring 2017. The research strategy for Ny-Ålesund should be seen in the context of the overall strategy for research and higher education in Svalbard and should support Norway's role as host and its research policy in Svalbard. The Research Council of Norway will have responsibility for drawing up a strategy in cooperation with the relevant actors, research bodies and ministries.
- Give the Norwegian Polar Institute responsibility for operational implementation and monitoring of the research strategy in Ny-Ålesund. In order to appropriately follow up the strategy activities in Ny-Ålesund, regular dialogue will be established between the Research Council, the Norwegian Polar Institute, Kings Bay and the ministries involved.
- Transfer responsibility for managing the state's ownership of Kings Bay AS from the Ministry of Trade, Industry and Fisheries to the Ministry of Climate and Environment with effect from 1 January 2017. The purpose is to coordinate implementation of the research strategy with operation and development of Ny-Ålesund. Responsibility for managing the state's ownership of Bjørnøen AS, which is administratively subordinate to Kings Bay AS, will also be transferred simultaneously from the Ministry of Trade, Industry and Fisheries to the Ministry of Climate and Environment.
- Continuously assess emergency preparedness in Svalbard in light of the activities carried out in the archipelago and changes in risk level.
- Respond appropriately to any findings by the Directorate for Civil Protection and Emergency Planning in its assessment following the avalanche on 19 December 2015.
- Survey flood and avalanche risks in Longyearbyen in 2016, through the Norwegian Water Resources and Energy Directorate.
- Work nationally and internationally to ensure effective implementation of the regulations on sailing in polar regions (the Polar Code).
- Continually assess measures to reduce the risk of undesirable maritime transport incidents in Svalbard.
- Continue the work of charting important maritime areas around Svalbard.
- Work towards establishing good communication systems for the northern marine areas.
- Further develop and modernise Svalbard's existing navigation infrastructure to optimise risk reduction and lower operating and maintenance costs.
- Develop land-based AIS base stations in the busiest areas of Svalbard to strengthen maritime traffic monitoring.

2 Background

2.1 Introduction

In the past, comprehensive white papers on Svalbard have been presented approximately every 10 years. The white papers have each contributed to guiding the archipelago's development for a number of years, and the comprehensive review process has contributed to balanced development within the framework established by the Svalbard policy objectives.

The overriding objectives of the Svalbard policy have been unchanged for many years, and remain so. One objective is the maintenance of Norwegian communities in the archipelago, an objective satisfied in large part through the community of Longyearbyen. Coal mining, traditionally of great importance to this community, has declined in significance in recent years. In the meantime, activities in research and higher education, tourism, space and other business areas have emerged.

The work of restructuring Longyearbyen has proceeded for a long time. In the early 1990s, Longyearbyen was described as a 'one-industry town'. Ten years later it was arguably no longer valid to regard Longyearbyen as fully dependent on one industry. During consideration of Report No. 22 (2008–2009) to the Storting *Svalbard* (see also Recommendation No. 336 S (2008–2009)), one of the intentions signalled was to focus on Longyearbyen's existing activities as well as a variety of new ones within the Svalbard policy framework. Since then, work has also proceeded locally on plans for continued development.

The recent challenging market situation for coal heightens the need for further community development in line with the objectives of the Svalbard policy. Over time, a broader and more diversified business community has evolved in Svalbard. This has expanded opportunities to foster sustainable businesses and profitable jobs in several industries. Among the Government's priorities will be to facilitate new jobs in tourism. Appropriate and sustainable use of Svalbard's unique natural surroundings in keeping with environmental objectives and regulations is an important

overall condition for restructuring and, not least, for developing nature-based tourism. As the Government had proposed, the Storting allocated NOK 50 million in the estimated accounts for the 2015 central government budget for restructuring measures to develop Longyearbyen and pave the way for new businesses and new jobs. This white paper points out additional actions to be taken to facilitate further development of the Longyearbyen community within the framework of applicable objectives and regulations. The Government has objectives and visions for Svalbard's development and, with this white paper, intends to point the way forward. Research and higher education constitute one of the main priorities in Svalbard. This activity is part of the national policy on knowledge and learning. Research and higher education in Svalbard are also an important part of the Svalbard policy, contributing to the fulfilment of overriding Svalbard policy objectives such as maintaining Norwegian communities in the archipelago. During the Storting's consideration of the previous white paper on Svalbard it was determined that Svalbard should be developed further as a platform for international research, higher education and environmental monitoring. Many of the objectives set during the Storting's consideration of that white paper have now been attained. A number of challenges have arisen, however, with regard to facilitating research activities in the archipelago. By means of this white paper the Government intends to pave the way for continued progress on the successes achieved while rising to meet the challenges with targeted measures.

2.2 Main policy objectives for Svalbard

The previous white paper on Svalbard was considered by the Storting in 2009. The Government's submission of the present white paper after a shorter time interval than usual is related in particular to the need to provide direction for the further development of the community in Longyearbyen.

The white paper sets out the Government's objectives and ambitions, which are anchored in Storting processes. Practical implementation is carried out through specific measures and through the day-to-day administration of Svalbard.

Svalbard policy extends across various policy areas, all framed by common objectives. The overriding objectives of this 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
- Maintenance of Norwegian communities in the archipelago

There is broad political support for these objectives, which were formulated in the 1980s and have remained firmly in place since then. Opportunities and challenges must be assessed within the framework of the objectives. Comprehensive reviews in the form of white papers on Svalbard are traditionally seen as the best way of achieving stable, long-term management.

The situation in the High North and Svalbard is characterised by stability and cooperation. All the same, one recognises that the region faces changes associated with climate, demand for natural resources and the use of marine areas. The policy in Svalbard is characterised by a long-term perspective, continuity and predictability, and its objectives are intended to help ensure that High North development occurs in a peaceful manner. The overriding policy objectives for Svalbard are firmly grounded in national interests and attitudes. These objectives are also consistent with international law, and therefore help satisfy international expectations placed on Norway.

Through history, various activities have laid the groundwork for our presence in Svalbard and Longyearbyen in particular. Coal-mining operations at Store Norske Spitsbergen Kulkompani AS (SNSK) have long accounted for many of the jobs in Longyearbyen. In recent years, the mining company's importance to the community has gradually declined, with operations focused mainly in the Svea area and many employees now commuting between Sveagruva and the mainland. A reduction in the company's activity has no bearing on Norway's sovereignty over the archipelago or on the country's exercise of authority. The Government is nevertheless determined to maintain a strong presence in the archipelago, and will there-

fore facilitate additional development in the Longyearbyen community. New jobs in tourism and other business and industrial activities will be important to achieving this.

Like previous white papers on Svalbard, this one will describe objectives, challenges and possible measures for Svalbard, meaning the area within the Svalbard Treaty's scope of application, which is the territory and the territorial sea extending 12 nautical miles from the baselines. This is also the jurisdictional area of the Governor of Svalbard and the Svalbard budget.

2.3 Svalbard in general

Svalbard is the northernmost part of Norway and is the name of an archipelago comprising Spitsbergen, Prins Karls Forland, Nordaustlandet, Kong Karls Land, Barentsøya, Edgeøya, Hopen, Bjørnøya and all the islets and skerries within the coordinates 10° and 35° E longitude and 74° and 81° N latitude. With a land area of 6 1,022 km², Svalbard constitutes about 16 per cent of the Kingdom of Norway's total land area. Spitsbergen is the largest island in Norway, at about the size of Nordland and Troms counties combined.

Approximately 60 per cent of the archipelago is covered by glaciers and less than 10 per cent contains vegetation. The largest fjord is Isfjorden and the highest peak is Newtontoppen (1,713 m above sea level). Svalbard is surrounded by shallow seas. A continuous continental shelf extends north from Mainland-Norway and beyond Svalbard. Svalbard has a High Arctic climate. Because of the Gulf Stream, Svalbard has a relatively mild climate compared to other regions at the same latitude. For the same reason, the archipelago's bird and animal life is extremely abundant compared to other High Arctic areas.

Svalbard was discovered by the Dutchman Willem Barents in 1596. Norwegian sovereignty over Svalbard was recognised through the Svalbard Treaty, which was signed on 9 February 1920 in Paris. Since the entry into force of Norway's Svalbard Act, on 4 August 1925, Svalbard has been part of the Kingdom of Norway. Hunting and fishing, research, and various forms of mining distinguish much of Svalbard's history. Many traces of these activities are now protected as a part of Svalbard's unique cultural heritage. Traditionally, Svalbard's local communities have been based on coal mining. There is also a long tradition of tourism in Svalbard. Modern-day tourism arose in earnest in the 1990s.



Figure 2.1 Svalbard.

Map: Norwegian Polar Institute

Most of Svalbard consists of vast and pristine wilderness areas. In all, 65 per cent of the land area and 87 per cent of the territorial sea are protected. Only seven locations are inhabited or are sites of permanent activity or industry. These locations vary greatly in character and size. Svalbard is one of the most sparsely populated areas in the world.

There are no roads between the inhabited locations in Svalbard. Sveagruva and Ny-Ålesund have an airstrip with flight connections to and from Longyearbyen. A helicopter is stationed in Barentsburg. In winter, snowmobile travel between inhabited locations is common, as is boat travel in summer.

Box 2.1 Statistics Norway's work to strengthen official statistics regarding Svalbard

Statistics Norway has worked to develop and strengthen statistics about life and social development in Svalbard for 25 years, but the effort has been formalised and incorporated into the agency's overall work programme with special focus since 2007, when the Statistics Act was made applicable to Svalbard.

The base of statistical data on Svalbard is growing steadily, and a number of recurrent statistical products have been created for Svalbard in isolation, or for Svalbard as a separate region in regionally compiled statistics. Statistics Norway has focused in particular on the use of registry sources that include Svalbard, so as to produce statistics comparable to those of the mainland and satisfy international standards and quality requirements. Statistics generated specifically for Svalbard include population statistics, business and industry statistics, and statistics regarding the public sector in Svalbard.

From 2016, the Longyearbyen Community Council is represented with figures of its own in the Municipality-State-Reporting system (KOSTRA), which provides statistics on resource use, priorities and goal attainment. In addition, a biennial publication called *This is Svalbard* describes life and society in Svalbard in a broad and accessible way, using statistics as its basis. In Statistics Norway's classification system, moreover, Svalbard is given separate treatment. All the relevant Svalbard statistics that the agency puts out are accessible at: <http://www.ssb.no/svalbard>.

The users of the Svalbard statistical data are to a large extent either central government administrators or local authorities in Svalbard. Others include media representatives, researchers and students. User needs are identified in large part through a consultative committee on Svalbard statistics.

Longyearbyen

As the administrative centre and hub for most activity in the archipelago, Longyearbyen is the largest inhabited location in Svalbard. As of 1 April 2016, 2,130 people were registered as residents of Longyearbyen. In the mining and construction sectors, however, many employees commute to and from the mainland. Many of these commuters actually spend their time in Svalbard in Svea, not in Longyearbyen. The true number of Longyearbyen residents is therefore lower than the population registry suggests.

Longyearbyen was founded in 1906 by the American John M. Longyear. Its origins are tied to coal extraction from resources nearby. In 1916, Store Norske Spitsbergen Kulkompani AS (SNSK) bought the property and facilities from the Arctic Coal Company, whose main shareholder was Longyear. Until the end of the 1980s, Longyearbyen was known as a 'company town', dependent in practice on SNSK for everything it needed to function as a community.

Not only has the population increased since the 1980s, but it has changed in structure, evolving gradually from a male-dominated mining community into a family community.

Pursuant to Report No. 9 (1999–2000) to the Storting *Svalbard*, the Longyearbyen Community

Council was established on 1 January 2002. The council's responsibilities and tasks can be compared in broad terms to those of a municipality on the mainland, and its jurisdiction is limited to the Longyearbyen planning area. Section 31 of the Svalbard Act specifies that the Longyearbyen Community Council may only engage in activities of general interest related to Longyearbyen and not addressed by the state. In addition, the statement of purpose in Section 29 of the Svalbard Act indicates that the Longyearbyen Community Council must conduct its activities 'within the framework of Norwegian Svalbard policy'.

From its early reliance on a single industry – coal mining – Longyearbyen's economic base has now diversified to include a variety of activities in tourism and education and research. The clear and generally held view of Longyearbyen today is that of a well-developed, well-functioning and forward-looking community.

Ny-Ålesund

With its location on Kongsfjorden, about 100 km north of Longyearbyen, Ny-Ålesund is the northernmost inhabited location in Svalbard. As of 1 September 2015 it had 43 year-round residents. Of these, 25 are employed at Kings Bay AS and five are employed by the Norwegian Polar Institute.

The rest consist of researchers from various foreign institutions. The size of the population grows considerably in the summer, when scientists arrive from the mainland and abroad.

Ny-Ålesund traces its origin to coal mining by Kings Bay Kull Co. AS, founded in 1916. The company's headquarters were in Ålesund, from which the name Ny-Ålesund is derived. The company was at first privately owned, but in 1933 the state took over all the company's shares, and thus ownership of the real property and other assets. Mining was discontinued in 1962 after a major accident. Since 1965 the site has been a research community with infrastructure operated in large part by the state-owned company Kings Bay AS.

Ny-Ålesund is a research community. Medical care is among the dedicated services it lacks so, if the need arises, the hospital in Longyearbyen is used. Considering the community's size and location, the infrastructure is good, and includes a quay and an airstrip.

Another aspect of life in Ny-Ålesund is 'radio silence', among whose beneficiaries are researchers and their use of passive receiving equipment. The place also has the world's northernmost post office and its own store. The surrounding area features a large number of cultural heritage sites related to mining operations and to the period when the location served as a base for several expeditions to the North Pole.

Sveagruva

Sveagruva (hereafter referred to as Svea), which is situated at the inner reach of Van Mijenfjorden, was established in 1917 by the Swedish company AB Spetsbergens Svenska Kolfält. In 1934, the property and mining works were purchased by SNSK. Since then, at irregular intervals and with varying results, SNSK has had operations in Svea. During some periods, only a security team has been present at the site.

In 2000, operations at Svea Vest were discontinued, and since 2002 there have been regular operations in the Svea Nord mine, the largest in Svalbard. Production at Svea Nord was to be discontinued in the spring of 2016. According to plan, operations at Lunckefjell were to continue, but because of low coal prices operations at Lunckefjell and the rest of the mining works at Svea were placed in suspension for up to three years from 2017.

Svea is exclusively industrial, with employees commuting to and from Longyearbyen, mostly by air. Transport of all goods occurs by boat or, in winter, by tracked vehicle from Longyearbyen.

The University Centre in Svalbard (UNIS) has for many years used Svea for research and education in the field of Arctic technology, with SINTEF as a partner.

In the summer of 2015, the state purchased the real property and buildings in Svea from SNSK.

Barentsburg

Barentsburg is situated on the fjord known as Grønfjorden. The Trust Arktikugol mining company owns most of the land in the planning area and operates a coal mine at the site. Coal production is currently about 100,000 tonnes per year. As of March 2016, 450 residents were registered in Barentsburg. The community is organised on the model of a company town.

Barentsburg changed ownership several times in the early 1900s, but has since 1932 been owned by Trust Arktikugol. The name Barentsburg stems from the period of Dutch ownership and refers to the discoverer of Svalbard, Willem Barents.

In recent years, tourism and research have emerged as new activities in addition to mining. The Russian Academy of Sciences has long had a research centre on this site, and new research infrastructure has been established. Many of the buildings, including the community's cultural centre, hotel, hospital and several residential buildings, have also been rehabilitated and modernised recently.

The Russian consulate in Svalbard is located in Barentsburg.

Pyramiden

The former mining town of Pyramiden is located in Billefjorden. The place is named for the pyramid-shaped mountain close by. It was originally established by a Swedish company, but was later taken over by Trust Arktikugol, which is also the site's landowner. Pyramiden was abandoned as a mining community in 1998. For a number of years it stood more or less abandoned.

At one time Pyramiden had the same amenities and services as those found in Barentsburg. In recent years Trust Arktikugol has cleaned up the place and upgraded it with a view to, among other things, using it for tourism. The hotel is currently staffed and kept open at certain times of the year.

Hornsund

Hornsund is a fjord in Sør-Spitsbergen National Park, and in the 1950s a Polish research station was constructed at Isbjørnhamna on the north side of the fjord. In connection with the International Geophysical Year in 1957–1958, the station was upgraded and expanded. There has been year-round activity at the station since 1978, under the auspices of the Institute of Geophysics at the Polish Academy of Sciences. The number of researchers on site varies, but averages about 17 people throughout the year, and there is a permanent year-round staff of 11.

Bjørnøya and Hopen

The islands of Bjørnøya and Hopen each have their own meteorological station with permanent, year-round personnel. Both Bjørnøya and Hopen and their adjacent territorial sea are protected as nature reserves.

Geographically, Bjørnøya is situated almost exactly midway between the mainland and the southern tip of Spitsbergen island. Bjørnøya occupies about 178 km². The island's history is tied to hunting and trapping, but also attempted mining. Bjørnøya is especially known for its large and important bird-nesting cliffs. Since 1932 the Norwegian Meteorological Institute has operated a radio station and conducted meteorological observations on the island. The station has a staff of about 10, the members of which are replaced twice a year.

Hopen is a long, narrow island that juts out of the sea about 100 km southeast of Edgeøya. The island has an area of 47 km² and its history is

closely linked to hunting and trapping, but also to research. The meteorological station was established in 1947 and its on-site staff is composed of four people. As with the station on Bjørnøya, the personnel are replaced twice a year.

Other places with regular activity

In addition to the places and activities mentioned above, a number of hunting and trapping stations are still operating in Svalbard. Hunting and trapping while wintering in Svalbard was once an extensive industry, but today only a few trappers are left. One can generally figure on four such stations in Svalbard: Akseløya in Van Mijenfjorden, Kapp Wijk in Isfjorden, Farmhamna in Forlandsundet and Austfjordneset in Wijdefjorden. The first three are still in private ownership, while Austfjordneset is now owned by the state and is lent out by the Governor of Svalbard.

The age and history of these trapping stations vary, but the activity itself has a long tradition in Svalbard. It is in any case an activity that has always had to adapt to both natural and market conditions. Production and mortality for harvestable species vary from area to area and from year to year. Quotas must therefore be based on sound knowledge of the stocks and on annual counts of reindeer in relevant areas. Within these limits, hunting and trapping activity can help supply food service establishments, among others. The synergy thus created is positive, helping preserve the trapping tradition while producing useful products for other actors in Svalbard. The Government will therefore accommodate the continuation of such practices as part of the activity in Svalbard.

3 Framework under international law

3.1 Norwegian sovereignty

Norwegian sovereignty over Svalbard is undisputed. ‘Sovereignty’ refers to a state’s exclusive dominion over its territory and its exclusive right to exercise authority there, including the right to adopt and enforce laws and other rules. Norway’s sovereignty is confirmed in the Svalbard Treaty and in accordance with general international law by tacit acceptance on the part of the other states. For that reason, all states are obliged to respect Norwegian sovereignty over Svalbard in the same way they respect Norwegian sovereignty over the other parts of Norway.

Sovereignty over Svalbard applies not only to the land territory, but also to the territorial sea around the archipelago – that is, the internal waters and territorial sea extending to 12 nautical miles – and the airspace above.

As a consequence of this sovereignty, Norway has the exclusive right to exercise authority over all nationals and companies – Norwegian as well as foreign – throughout the territory. No other state may exercise authority in Svalbard. Such exercise of authority would infringe Norwegian sovereignty.

All private legal persons in Svalbard, both individuals and companies, must adhere to Norwegian rules and administration in the same manner as on the mainland.

International agreements that Norway has joined also apply to Svalbard unless specific exceptions apply. One such exception has been made for the EEA Agreement. The Svalbard Treaty is discussed in section 3.2, and some specific international agreements of particular importance to Svalbard in section 3.3.

3.2 The Svalbard Treaty

3.2.1 Introduction

The Svalbard Treaty was signed on 9 February 1920 and entered into force on 14 August 1925. On that same date, Svalbard became an indivisible and inalienable part of the Kingdom of Norway

through a separate act of law: the Act of 17 July 1925 No. 11, known as the Svalbard Act. The Svalbard Treaty is open to accession, and more than 40 parties have acceded to the Treaty to date.

The Treaty contains a number of provisions concerning the treatment of nationals and companies from the parties to the treaty. Under the Treaty, Norway has assumed a limited obligation under international law to treat equally nationals and companies from the parties to the treaty. This obligation applies to certain subject areas that are enumerated in the Treaty. The Treaty also sets forth limitations on taxation and military activity in the archipelago. Because the Treaty is an agreement under international law, only the parties (the states) may demand equal treatment by Norway on behalf of their nationals and companies.

The following sections present a review of the history of the Svalbard Treaty and a discussion of some of the Treaty’s provisions. A general assessment of the Svalbard Treaty was also provided in previous white papers regarding Svalbard. Reference in this regard is made to Report No. 39 (1974–1975) to the Storting, Report No. 40 (1985–1986) to the Storting, Report No. 9 (1999–2000) to the Storting, and Report No. 22 (2008–2009) to the Storting.



Figure 3.1 Signing of the Svalbard Treaty in Paris on 9 February 1920.

Photo: From the archive of the Governor of Svalbard

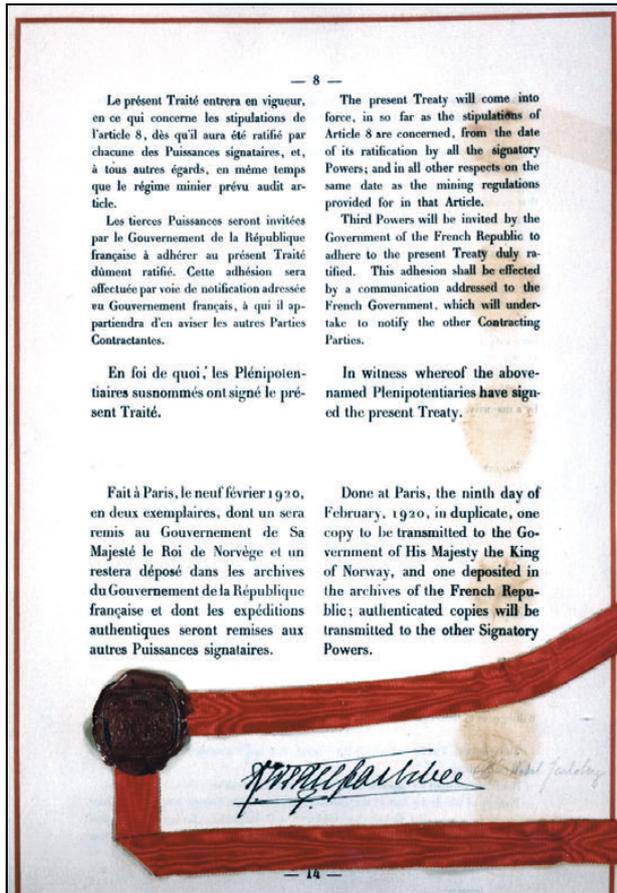


Figure 3.2 The Svalbard Treaty.

Photo: From the archive of the Norwegian Polar Institute

One of the main objectives of the Treaty was to achieve final clarification of all outstanding issues of international law through recognition of Norwegian sovereignty. This also provides predictability and clarity to the other parties to the Treaty.

3.2.2 A history of the negotiations

The Svalbard Treaty came about as a result of negotiations during the Paris Peace Conference after the First World War in 1919. The growing economic activity in Svalbard at the beginning of the 1900s necessitated clarification of the archipelago's status. Prior to the First World War, Norway hosted three international conferences (the Kristiania conferences) to discuss the possibility of establishing international joint governance of the archipelago, with a view to addressing the growing need for regulation and control of coal mining operations. The idea was inspired by the British-French administration on the New Hebrides in the Pacific Ocean, an arrangement which was later criticised and eventually dissolved prior to the creation of the independent state of Vanuatu.

At every turn, the proposals put forward at the Kristiania conferences were met with opposition, and were deemed not to be feasible. The outbreak of the First World War put a stop to further discussion.

Norway then brought its case before the peace negotiations in 1919, arguing that the only 'satisfactory and lasting solution would be to return the archipelago to Norway'. At the same time it was indicated that there would be no objections to granting certain rights to foreign nationals.

The issue was put on the conference agenda even though the archipelago had not been affected by military operations during the war. A key reason for doing so was the losses Norway had sustained during the war despite its neutrality. A significant part of its merchant fleet had been sunk, resulting in considerable loss of life and tonnage, while Norway had secured uninterrupted sea lines of communication and supply throughout the war. The great powers felt they owed a

Box 3.1 From Norway's presentation to the Supreme Council of the Paris Peace Conference on 10 April 1919

'Now, the experience of the successive negotiations and the labours of the Conference of 1914 seem fully to have demonstrated that there are insurmountable difficulties in the way of settling an international administration for the islands of Spitsbergen and Bear Island, starting with the idea of terra nullius, and that the only satisfactory and permanent solution will be to return this archipelago to Norway.

This solution would in no way exclude an arrangement by which the present occupants would have the right to submit possible litigation relative to their property rights to the decision of an international tribunal. In the same way, the Norwegian Government would not object to the insertion of a clause on the future control of the mines of Spitsbergen in the agreement returning the islands to Norway.

'The Norwegian Government is convinced that it is serving the interests of peace in submitting to the Conference this question, which has been for so long in litigation, and expresses the hope that all the Powers will agree to return this archipelago definitively to Norway, the only country which has ever exercised sovereign rights there.'

Box 3.2 From the Report of the Spitsbergen Commission to the Supreme Council of the Peace Conference on 5 September 1919:

The archipelago being currently no man's land, everyone agrees on the need to bring to an end this state of affairs, by providing it with a defined status. To this end, two solutions have been envisaged: The first solution proposed by various Powers and certain members of the Commission, consisted in granting to Norway a mandate under the League of Nations. A second solution, requested by Norway, consisted in attributing sovereignty over the archipelago to this Power subject to certain stipulated guarantees for the benefit of the other States. Considering the major interests that Norway has with regard to Spitsbergen, its proximity to the archipelago, and the advantage of a definitive solution, the Commission rallied unanimously behind the second system, which has met on no objections from any of the most directly interested Powers.

debt of gratitude to Norway, at the same time as they sympathised with the arguments Norway presented to the peace conference. US Secretary of State Lansing had previously indicated that final clarification of the issue of sovereignty over Svalbard in Norway's favour would be included in the conditions for lasting peace in Europe. In 1919 Norwegian Foreign Minister Ihlen gave his assurance that Norway would not create any difficulties in the settlement of Denmark's claim to Greenland. This was part of a mutual understanding with the Danes that Denmark would also refrain from creating difficulties over Norway's claim to Svalbard.

Various solutions were proposed and discussed. The commission dealing with the case rejected a proposal whereby Norway would only administer Svalbard on behalf of the international community. Instead the committee voted unanimously to recognise full Norwegian sovereignty over Svalbard on certain conditions. In doing so, the conference rejected all notions that the territory should be administered by Norway on behalf of other states. Other states, moreover, were invited to accede to the treaty through a simple notification procedure. This provided a means of quickly winning broad support for final settlement

of the issue of sovereignty. This is essential both for an understanding of the Svalbard Treaty and for its interpretation.

The outcome of the negotiations is reflected in Article 1 of the Svalbard Treaty, which recognises Norway's 'full and absolute sovereignty' over Svalbard. Norway has full control over Svalbard in accordance with the normal rules of international law. The Svalbard Treaty stipulates certain limitations imposed by international law on Norway's right to exercise authority. These are discussed in section 3.2.5 below.

The states that signed the Svalbard Treaty on 9 February 1920 were Norway, the United States, Denmark, France, Italy, Japan, the Netherlands, Great Britain and Sweden. Several other states have subsequently acceded to the treaty. The Soviet Union formally recognised Norwegian sovereignty over the archipelago in an exchange of notes with Norway in 1924. The recognition was made without conditions, 11 years before the Soviet Union ratified the Treaty in 1935. As stated in the communication, the recognition meant the Soviet Union would not raise any future objections to the Treaty.

3.2.3 Principles of interpretation

Article 31 of the Vienna Convention on the Law of Treaties of 1969 specifies the general rules of interpretation for treaties. The provision states that a treaty must be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose. Norway is not a party to the Vienna Convention, but the rule of interpretation expresses customary law by which all states are bound.

The principles of international law for treaty interpretation provide a methodical approach based on the wording of the treaty, whereby provisions are read in context and are supported in other objective sources for the parties' intentions. An expression may be given a special meaning – that is, a meaning that differs from ordinary usage in international state and treaty practice – only if it can be established that this was the intention of the parties.

Therefore, in line with ordinary principles of international law governing treaty interpretation, the Svalbard Treaty must primarily be interpreted on the basis of the terms and expressions in the actual text. The original texts of the Treaty are French and English. It is the wording in these versions that determine the legal content of the

Treaty. These texts form the basis for interpreting the rights and obligations set forth in the Treaty, and no interpretative weight may be accorded to translations, not even one into Norwegian.

The point of departure for interpretation is the ordinary linguistic understanding of the terms and expressions, placed in their context in the Treaty. The wording in the Treaty explicitly states that Norway shall have full sovereignty. The wording and expressions contained in the Treaty also clearly indicate the geographical scope of application for the respective provisions.

3.2.4 Geographical scope of application

The Svalbard archipelago is defined geographically as all of the islands; great and small, and rocks between the geographical coordinates 10° and 35° E longitude and 74° and 81° N latitude. The wording makes clear that only the actual islands within these coordinates are covered; that is, the land territory, and not the surrounding waters.

It is clear from the wording of certain provisions in the Treaty that they apply both to land territory and to territorial waters.

At the time the Treaty entered into force, Norway had territorial sea extending to four nautical miles. Norway's territorial sea was extended in 2004 to 12 nautical miles from the baseline. After that, the Treaty provisions applicable in territorial waters also became applicable in the area between four and 12 nautical miles.

The special rules stipulated in the Treaty do not apply on the continental shelf or in zones that were created in accordance with provisions in the United Nations Convention on Law of the Sea governing exclusive economic zones. This follows from the wording of the Treaty and is underpinned by the Treaty's prehistory and by its development and system.

3.2.5 Treaty limitations on the exercise of authority

In Article 1 of the Svalbard Treaty, Norwegian sovereignty is recognised on the terms set forth in the Treaty. Limitations have not been placed on sovereignty as such, but rather on how Norwegian authority may be exercised in certain specifically defined areas. Thus, Norway has an exclusive right to exercise authority in these areas as well.

Norway's obligations under the Svalbard Treaty are linked especially to three issues. These

involve requirements of equal treatment, collection of taxes and duties, and military matters.

Equal treatment/non-discrimination

Under the Svalbard Treaty, Norway has an obligation to ensure equal rights for nationals and companies from parties to the Treaty in areas defined in the Treaty. This is a requirement of non-discrimination based on nationality for persons and on national affiliation for companies. Among the areas covered are hunting and fishing, access to the archipelago, engaging in certain types of commercial and industrial activity, and property rights including mineral rights.

Nationals or companies from parties to the Treaty may not be placed at a disadvantage compared to Norwegian nationals or companies in these areas, and there may be no distinction made between nationals or companies from parties to the Treaty on the basis of nationality. Although the Treaty prohibits discrimination based on nationality in specified areas, it does not provide unlimited or unconditional liberty for anyone to engage in activity in these areas. The equal treatment rule is not an obstacle to regulating or, if necessary, prohibiting an activity for other reasons. The right to issue such regulations ensues from Norway's sovereignty. The Norwegian authorities are generally concerned with ensuring sound regulation of activities in Svalbard. This means that regulations applicable in Mainland-Norway must also be applied in Svalbard should developments in a given activity warrant it. In some cases more stringent regulations may be necessary in Svalbard to protect its vulnerable environment. Regulation of different forms of activity is discussed elsewhere in this white paper.

The Treaty itself presupposes observance of local regulations as a condition for exercising some of the rights specified in the Treaty; for example, in Article 3 concerning certain types of commercial activity.

Similarly, the requirement for non-discrimination does not apply to all types of activity in Svalbard, but only to the areas specifically set forth in Articles 2 and 3 of the Treaty. Hunting and fishing and maritime, industrial, mining and commercial operations are covered by the requirement for equal treatment. What the requirement for equal treatment covers from case to case must be determined on the basis of an interpretation of the Treaty, in accordance with the principles concerning, *inter alia*, wording and context as mentioned above.

To the extent which the Norwegian authorities stipulate regulations for or practice equal treatment in areas other than those mentioned in the Treaty, it is done so for reasons other than obligations under international law.

Taxes, duties, etc.

Pursuant to the first paragraph of Article 8 in the Svalbard Treaty, Norway is obliged to adopt what is known as a mining code. The Mining Code was laid down by the Royal Decree of 7 August 1925. It ensues from the second paragraph of Article 8 in the Svalbard Treaty that taxes, dues and duties may only be levied in Svalbard if there is a need to do so. According to the wording, Article 8 applies specifically to mining activities. Furthermore, such taxes, dues and duties must be used to the exclusive benefit of Svalbard, and may not be used for purposes on the mainland. However, as long as the effect of the use of these revenues occurs in Svalbard, it ensues from the wording and intent that the actual spending of tax revenues may occur elsewhere, as in the case of purchases made on the mainland of equipment, etc. for use in Svalbard.

The purpose of this taxation is to meet needs in Svalbard, and such needs are determined by discretionary judgement. Administration, public services and infrastructure, such as airports and search and rescue services, are needs that warrant such taxation. Previous deficits in the Svalbard budgets may be covered by such taxation, since these are central government expenditures for operations, measures, investments, etc. that have exclusively benefited Svalbard.

The restrictions in the second paragraph of Article 8 do not cover payment for public services where there is legal basis to require payment for them. Nor is payment for private services supplied under contract covered by the restrictions.

Pursuant to Article 8, third paragraph, Norway may levy an export duty on exports of minerals, and instructions have been issued on how much duty is payable on quantities exported.

In practice, Norway has chosen to maintain a generally low level of taxes and duties in Svalbard, including for activities other than mining. This policy has contributed to the development of businesses and communities in Svalbard.

Use for warlike purposes, and other military matters

By virtue of its sovereignty, Norway also has full right of control of military and defence matters.

Nevertheless, Article 9 of the Svalbard Treaty sets out limitations on Norway's exercising its sovereignty with regard to establishing – or allowing to be established – naval bases, to constructing fortifications, and to using Svalbard for warlike purposes. These limitations – and particularly the prohibition against use for warlike purposes – must be viewed in light of the preamble of the Treaty. Here the parties state that in recognising Norwegian sovereignty they wish for Svalbard to be 'provided with an equitable regime' to assure its development and peaceful utilisation.

The prohibition against using Svalbard for warlike purposes is generally applicable and applies to all parties to the Treaty. By virtue of its sovereignty, Norway has a particular duty to ensure that no one violates this prohibition. Norwegian policy has been designed to ensure proper compliance with the Treaty and a restrictive practice with regard to Norwegian military activities in Svalbard.

Article 9 does not constitute a prohibition against all military activity. It pertains solely to acts of war or activities for the purpose of waging war, and to constructing naval bases or infrastructure that can be classified as fortifications. Defensive measures and other military measures are permitted. The archipelago is covered by provisions of the North Atlantic Treaty, including Article 5 concerning collective self-defence. Norway may individually and collectively implement defensive measures in wartime or under the threat of war.

The prohibition against fortification pertains to specific physical structures that are reinforced to withstand attack and that are usually equipped with artillery positions. Therefore, it does not affect all installations or structures of a military nature or significance.

The prohibition against naval bases means that no permanent military installation may be established for the purpose of stationing and provisioning military vessels with supplies or services normally offered at a naval base. However, the provision poses no obstacle to the Norwegian Coast Guard or other vessels making port calls in Svalbard to receive services and supplies from civilian suppliers as needed.

Visits by Norwegian naval vessels, Coast Guard vessels, Armed Forces' aircraft or Norwegian military personnel do not infringe the Treaty and are in keeping with long-established practice. Norwegian policy has been designed to ensure proper compliance with the Treaty and a restrictive practice with regard to Norwegian military

activities in Svalbard. Consideration of the issue of military visits to the archipelago has placed particular emphasis on aspects such as frequency and duration, type of unit, and the need to carry out operations. For example, frequent calls by Norwegian Coast Guard vessels are deemed natural, given the nature of their duties in the waters surrounding Svalbard.

All foreign military activity in Svalbard is prohibited, and would constitute gross infringement of Norwegian sovereignty. Unless they are involved in innocent passage through the territorial sea, foreign military and civilian government vessels wishing to enter the Norwegian territorial sea around Svalbard must apply well in advance for diplomatic clearance. The same applies to port calls in Svalbard and to aircraft overflights and landings at airports. The requirement for such clearance ensues from general international law, but for the sake of clarity is also laid down in the Regulations of 2 May 1997 concerning access and entry to Norwegian territory in peacetime for foreign military and civilian government vessels.

The Norwegian authorities practice a highly restrictive policy with regard to granting diplomatic clearance to foreign military aircraft and vessels. Foreign government craft with military purposes are not granted diplomatic clearance. Dispensation may be granted on certain conditions to foreign aircraft that are registered as military aircraft but are being used for civilian purposes. That may be the case, for example, when Norwegian authorities invite high-level representatives of foreign government authorities to Svalbard for civilian purposes and the use of scheduled or other civilian aircraft is impractical or impossible. An additional requirement is that government craft used in this way must have a civilian appearance.

In a declaration to the parties to the Treaty in 1971, Norway stated that the airport in Longyearbyen 'is to be reserved exclusively for civil aviation'. This declaration was issued independently of the Svalbard Treaty and is a self-imposed restriction. The purpose of a flight will determine whether or not it is deemed 'civil aviation'. Consequently, military aircraft on civilian missions may be granted permission to use the airport. Permission is granted, for example, to Norwegian Armed Forces aircraft in connection with search and rescue operations, coastguard operations and training flights for such operations.

3.2.6 Research

The Svalbard Treaty does not regulate research activities. Nationals of the parties to the Treaty have neither a right nor equal right to conduct research activities in the archipelago.

Since the 1960s, Norwegian authorities have chosen to actively facilitate international polar research in Svalbard by, among other things, developing Ny-Ålesund as a research platform. Norwegian authorities wish to continue facilitating international research activity in Svalbard; see Chapter 8, 'Knowledge, research and higher education'.

Research activities in Svalbard must be conducted in line with relevant Norwegian regulations, including the Svalbard Environmental Protection Act. This matter is discussed in more detail in Chapter 8.

Article 5 of the Treaty stipulates in the second paragraph that conventions shall be concluded to lay down the conditions for conducting scientific research. The provision says nothing about which conditions must apply; nor was it ever followed up. There has been an increase in the number of international cooperation agreements, projects and networks of significance for scientific research over the past decade. It is no longer relevant to negotiate separate agreements on the conditions for scientific research in the archipelago. It is therefore up to the Norwegian authorities, by virtue of Norway's sovereignty, to regulate research activity.

3.3 International agreements

3.3.1 EEA Agreement and Schengen Agreement

When Norway ratified the EEA (European Economic Area) Agreement in 1992, Svalbard was excluded from its scope of application because of the special circumstances ensuing from Norway's international legal obligations under the Svalbard Treaty. For rules stemming from Norway's obligations under the EEA Agreement to apply to the archipelago, the relationship to Svalbard Treaty parties that are not members of the EEA would have to be clarified on account of the principle of non-discrimination in the areas where this principle applies. However, the free trade agreements between Norway and the European Economic Community and the Convention establishing the European Free Trade Association continue to apply to Svalbard.

The Schengen Agreement was signed in 1985. The purpose of the agreement is to abolish border posts and border controls between member states and reinforce external border controls. Norway acceded to the Schengen Agreement in 1996. As a consequence of the provision in Article 3 of the Svalbard Treaty governing access, Svalbard is not covered by the agreement concerning association with the Schengen cooperation. For more information on Schengen, see section 5.3.3.

3.3.2 WTO Agreement and GATT Agreement

No general reservations concerning Svalbard were made in connection with the establishment of the World Trade Organization (WTO). The WTO was created on the basis of the previously concluded General Agreement on Tariffs and Trade (GATT), which entered into force on 1 January 1948. Similarly, GATT contains no reservations for Svalbard. Among GATT's key objectives are non-discrimination and reduction and elimination of tariff and trade barriers, and in essence the agreement harmonises with the Svalbard Treaty's requirement for non-discrimination.

In practice, GATT has had no special significance for Svalbard, because pursuant to the Act of 21 December 2007 No. 119 relating to customs duties and movement of goods (the Customs Act), Svalbard lies outside the Norwegian customs area. Therefore, goods imported to Norway from Svalbard are subject to customs clearance. Goods originating in Svalbard are exempt from customs duty according to the provisions of the customs tariff.

3.3.3 Sanctions adopted by the UN Security Council

The UN Security Council can with legally binding effect under international law impose sanctions that are on states, persons or entities. Norway has an obligation to implement such sanctions, an obligation that takes precedence over other obligations under international law. Such obligations apply as much for Svalbard as for the rest of Norway. The implementation of sanctions that include travel restrictions are discussed in more detail in section 5.3.4.

4 Objectives, policy instruments, administration

4.1 Key objectives

The objectives of the Svalbard policy have remained unchanged for a long time, and have been articulated in Report No. 40 (1985–1986) to the Storting *Svalbard* (see Recommendation to the Storting No. 212 (1986–1987); Report No. 9 (1999–2000) to the Storting *Svalbard* (see also Recommendation to the Storting No. 196 (1999–2000)); and Report No. 22 (2008–2009) to the Storting *Svalbard* (see Recommendation to the Storting No. 336 (2008–2009)). These objectives have been reiterated in subsequent Storting documents relating to Svalbard and are reaffirmed annually when the Svalbard budget is approved. 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
- Maintenance of Norwegian communities in the archipelago

There is broad political consensus across party lines on the objectives of the Svalbard policy. This was confirmed by the Storting's consideration of Report No. 22 (2008–2009) to the Storting *Svalbard*, and is also reflected in its consideration of the annual Svalbard budgets.

The Government attaches importance to continuity and predictability in the administration of the archipelago, and will therefore continue to pursue the overriding objectives of the Svalbard policy. Continued predictability in the administration of Svalbard in line with these objectives provides security for the population of Longyearbyen while enhancing stability and predictability in the region.

For a more detailed account of the overriding objectives, reference is made to Report No. 22 (2008–2009) to the Storting *Svalbard* and to the respective chapters in this white paper.

4.2 Policy instruments

By virtue of Norway's sovereignty over the archipelago, the authorities have access to the same policy instruments that are available in the rest of Norway. The central government's key social development policy instruments are: legislation, economic policy instruments and various forms of ownership. Participation in committees or organisations can also constitute policy instruments. Specific to Svalbard in this respect is the coordination of Svalbard affairs within the central government administration through the Interministerial Committee on the Polar Regions. In addition, a separate budget proposition (the Svalbard budget) is presented simultaneously with the national budget. These policy instruments are discussed in more detail below.

How, and to what degree, these policy instruments are used depends on whether the economic climate is characterised by continued, self-driven development or whether particular forms of stimulus are desired. At all times, the framework for their use is proper compliance with the Svalbard Treaty and the overriding objectives of the Svalbard policy. Development in the past decade has been largely of the self-driven variety. In such a situation, the primary task of the authorities is to provide for necessary regulation to ensure that development does not conflict with the overriding objectives as a whole. Since the previous white paper on Svalbard was presented, a growing number of laws and regulations concerning Svalbard have been implemented, ensuring that the activities pursued in the archipelago accord with Norwegian law.

As described in the introduction, this white paper pays particular attention to the objective of maintaining Norwegian communities in the archipelago. This objective is pursued through the family community policy in Longyearbyen. Continued development of existing activities such as tourism, research and higher education will contribute to this. However, it is also important to facilitate broader, more diversified economic activity.

Both economic activity and research and higher education activity are most likely to succeed in cases where they build upon on Svalbard's inherent natural conditions. Facilitating economic activity, particularly tourism, stands out as one of several measures that can contribute to achieving this objective. However, the central government is not a tourism industry actor, and the authorities will also have other considerations in mind, as illustrated by the five overriding objectives of the Svalbard policy. In order to facilitate economic activity, the Storting has approved this Government's proposal to allocate NOK 20 million to Innovation Norway. This appropriation enables businesses to apply for start-up grants or funding to develop different initiatives.

The scope of research and higher education in Svalbard has doubled during the past decade, making these areas an important part of Norwegian activity in the archipelago. Longyearbyen has strengthened its position as a hub for research and higher education, both of which form much of the foundation for the local community.

This white paper describes the Government's ambitions for Svalbard, and in doing so provides guidelines for the archipelago's further development. It is important that the administration take these into consideration in its work.

The Longyearbyen Community Council was established in 2002 and must, according to its statement of purpose, ensure 'a rational and effective administration of common interests within the framework of Norwegian Svalbard policy'. According to the provision, the Longyearbyen Community Council has an important task with regard to achieving national objectives. Of particular note is the council's role as local facilitator, helping to increase and diversify economic activity in accordance with the guidelines of this white paper.

4.2.1 Legislation

Legislation is the most important policy instrument for Norway's exercise of authority in Svalbard and for advancing its other Svalbard policy objectives. See Chapter 5, 'Legislation', for a more detailed discussion of legislation as a policy instrument and of the legislative situation in specific areas. Important regulations in different areas are also discussed in more detail in Chapter 7, 'Environmental protection'; Chapter 9, 'Economic activity'; and Chapter 10, 'Civil protection, rescue and emergency preparedness'.

4.2.2 State ownership in companies and real property

The Norwegian state owns the mining company Store Norske Spitsbergen Kulkompani AS (SNSK), Kings Bay AS, Bjørnøen AS and the University Centre in Svalbard (UNIS), all of them as state-owned limited companies. The Ministry of Trade, Industry and Fisheries today manages the state's shares in SNSK, Kings Bay AS and Bjørnøen AS, while the Ministry of Education and Research manages the state's ownership in UNIS. Furthermore, Svalbard Satellite Station (SvalSat) is owned by Kongsberg Satellite Services (KSAT), a company in which the state has an indirect ownership interest through its ownership interest in Space Norway and Kongsberg Gruppen.

State ownership in companies in Svalbard

The Norwegian state owns, either directly or indirectly, several companies in Svalbard. The objective of state ownership of companies in Svalbard is to contribute to maintaining and further developing the community in Longyearbyen in a way that supports the overriding objectives of the Svalbard policy.

The SNSK group is a state-owned company. The group currently consists of the parent company, Store Norske Spitsbergen Kulkompani AS (SNSK), and the wholly owned subsidiaries Store Norske Spitsbergen Grubekompani AS (SNSG) and Store Norske Boliger (SNB). SNSK owns approximately 380 housing units through Store Norske Boliger AS. SNSK also owns 65 per cent of the shares in the subsidiary Pole Position Logistics AS. SNSK's head office is located in Longyearbyen. The SNSK group is also the largest claim holder in Svalbard, with 324 claims.

During almost 100 years of operation, SNSK has supported the Longyearbyen both directly and indirectly. In recent years the company has been classified as a Category 3 company according to the definition given in Report No. 27 (2013–2014) to the Storting *Diverse and Value-Creating Ownership*. Companies in this category compete with other businesses on a commercial basis. At the same time, the objective of state ownership in SNSK is to contribute to maintaining and further developing Longyearbyen in a way that supports the overriding objectives of the Svalbard policy. The state's ownership objective is met through its ownership role in the company, and not by issuing special guidelines for company operations.

SNSK has played, and will continue to play, an important role in the Longyearbyen by supplying coal to the power plant. The company's recent performance has provided cause to reconsider its categorisation. To better reflect the various issues the state must consider as owner of SNSK, the Government announced in Proposition to the Storting No. 52 S (2015–2016) that SNSK's categorisation would be changed from Category 3 to Category 4. Category 4 includes companies with sectoral policy objectives. Report No. 27 (2013–2014) to the Storting *Diverse and Value-Creating Ownership* states that the objective for this type of company should be adapted to the purpose of ownership. As owner, the state will place emphasis on the achievement of sectoral policy objectives as effectively as possible. The company and its further development are discussed in more detail in Chapter 9.

Kings Bay AS is a state-owned company. Kings Bay owns land and most of the buildings in Ny-Ålesund. Kings Bay AS provides services in Ny-Ålesund to facilitate research and scientific activity, and contributes to developing Ny-Ålesund as a Norwegian centre of international Arctic scientific research. Today the company receives subsidies for investments from the central government budget, and plays a key role in achieving the objective of further developing Svalbard and Ny-Ålesund as a platform for international polar research. The company also administers many cultural heritage sites in Ny-Ålesund and in the surrounding land area measuring 295 km².

The business purpose of Bjørnøen AS is to manage and utilise the company's property in Svalbard, and other related activities. Bjørnøen owns all the land and some historically significant buildings in Bjørnøya. The company is administratively organised under Kings Bay AS. The objective of state ownership in Bjørnøen AS is to manage property holdings on Bjørnøya. The company's operations must be effective.

SvalSat is owned by Kongsberg Satellite Services (KSAT). In turn, 50 per cent of KSAT is owned by Space Norway (which is wholly owned by the Ministry of Trade, Industry and Fisheries) and 50 per cent by Kongsberg Gruppen, in which the state has a 50-per-cent stake. The station in Svalbard is the northernmost in the world for downlinking satellite data, and currently has 16 employees and an annual turnover of more than NOK 100 million. SvalSat is a global leader in downlinking data from weather satellites in polar orbit. State ownership in KSAT contributes indi-

rectly to ensuring that SvalSat is managed in line with the overriding objectives of the Svalbard policy, and affords control to ensure that the nature of its activities does not change without that being the intention.

State ownership of land in Svalbard

The Norwegian state owns approximately 98.4 per cent of all land in Svalbard. Through its ownership in Kings Bay AS and Bjørnøen AS, the state indirectly owns a further 0.75 per cent of land in Svalbard. In 2015 the state purchased land in Svalbard from SNSK.

In addition to land, the state owns infrastructure and building stock related to Mine 7 in Adventdalen, in Svea, and in Lunckefjell, as well as some infrastructure and building stock in Longyearbyen. The Ministry of Trade, Industry and Fisheries owns the state's real property in Svalbard. Parallel with the transfer of the land to the state in 2015, a rental and management agreement was signed with SNSK under which the company rents and manages the real property on behalf of the Norwegian state.

The state-owned properties in Svalbard are managed in line with the overriding objectives of the Svalbard policy. Through its ownership of the land in Longyearbyen, the state will, in consultation with the Longyearbyen Community Council as the planning authority, facilitate business and urban development within the scope of the objectives of the Svalbard policy. In the time ahead, the Government will consider how the building stock and infrastructure in Svea should be further managed pending a possible decision to discontinue mining operations.

Table 4.1 Summary of distribution of land ownership in Svalbard, by percentage of land area

Landowner	Percentage of land area
Norwegian state	98.4 per cent
Kings Bay AS	0.47 per cent (Kings Bay)
Bjørnøen AS	0.28 per cent (Bjørnøya)
Trust Arktikugol	0.4 per cent (Barentsburg and Pyramiden, etc.)
AS Kulspids	0.1 per cent (Søre Fagerfjord)
Horn family	0.35 per cent (Austre Adventfjord)

4.2.3 The Svalbard budget

Every year government funding is allocated for a variety of purposes in Svalbard, drawing on the Svalbard budget and on central government budget chapters pertaining to various sectoral ministries. The Ministry of Justice and Public Security presents the Svalbard budget as a separate budget proposition concurrently with the central government budget proposal. A separate budget for Svalbard is presented every year in order to show the revenues and expenditures in Svalbard. The budget gives an overall view of the Government's focus areas and priorities in Svalbard. Report No. 22 (2008–2009) to the Storting, *Svalbard* states that the Ministry of Justice and the Police 'will consider a closer examination of the content of some of the chapters of the budget to ensure that appropriations harmonise in the best possible way with the objectives of the various chapters'. In pursuance of this, budget chapter 2, 'Subsidies for cultural purposes etc.', has been discontinued and the resources transferred to other chapters. Furthermore, the following three budget chapters have been added: chapter 4, 'Subsidies to Svalbard Museum'; chapter 3020,

'Statsbygg, Svalbard'; and chapter 3022, 'Tax Office, Svalbard'. In addition, some chapter titles have been updated. Combined, these revisions have helped give a more accurate description of the various allocations from the Svalbard budget.

Tax revenues in Svalbard have varied considerably during the period since the previous white paper was published (Report No. 22 (2008–2009) to the Storting *Svalbard*); see Table 4.2. This is due primarily to large tax revenues from profits by the rig operator Seadrill Norge AS and SNSK. The decline in revenues in financial year 2014 was due to an adjustment to the tax assessment for Seadrill Norge AS. After final settlement, it was decided that revenues previously taxed under Svalbard tax rules for the financial years 2008–2012 should be reassessed under ordinary tax rules.

Still, expenditure from the Svalbard budget during that period shows an increase, reflecting the general rise in activity in the archipelago during that period as well as government investment in Svalbard and the High North.

Figure 4.1 shows total appropriations for Svalbard purposes from the central government budget during the period. The reason for the increase shown here is the same as that given

Table 4.2 Overview of Svalbard budget trends, based on accounting figures 2008–2014

(NOK million)	2008	2009	2010	2011	2012	2013	2014
Revenues	134	539	349	816	540	151	-1 058
Subsidies	96	-298	-95	-544	-240	176	1 512
Expenditure	230	241	254	272	300	328	455

Source: Meld. St. 3 Central government accounts including National Insurance for 2008–2014

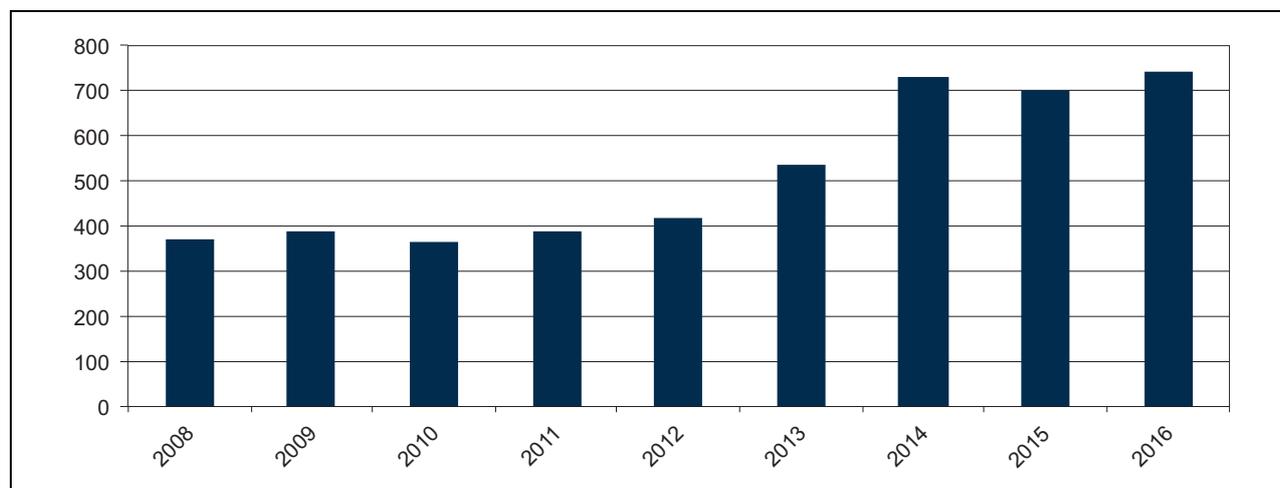


Figure 4.1 Total appropriations from the central government budget for Svalbard purposes, in NOK million.

Proposition 1 S to the Storting, Svalbard budget, from 2008 to 2016

above: increased investment in Svalbard and the High North. The increase during this period is closely linked to the rehabilitation of the energy supply system in Longyearbyen and the signing of new rental contracts for helicopters and service vehicles by the Governor of Svalbard in 2014.

The Svalbard budget gives the Storting an overall presentation of the Government's investments and priorities in Svalbard. The Svalbard budget also provides the opportunity for annual presentation of developments in the archipelago. At a time when economic activity stimulus in Longyearbyen is welcome, the Svalbard budget is a policy instrument the central government can use to help achieve development towards this objective in line with the overriding objectives of the Svalbard policy. For these reasons, the Government will continue the system of presenting a separate budget for Svalbard.

4.2.4 Administration

As in the rest of Norway, the management and administration of Svalbard have changed over time. Previously the general rule was that central authorities had overriding and direct control over most of the Norwegian activities in the archipelago. In step with new developments elsewhere, this situation has gradually changed, with the result that the management aspect is now more decentralised. This development is part of a deliberate policy tailored to the situation. The situation for Longyearbyen is therefore closely related to the fact that the scope and diversity of economic activity have increased compared with previous periods.

Developments in recent years also show that the coordination of Svalbard affairs is becoming increasingly complex. There are a number of reasons for this, including in particular Longyearbyen's recent growth, the increase in private economic activity, and more extensive field activity (especially in tourism and research). Although these developments have resulted in a gradual reduction in special administrative treatment for Svalbard beyond where this is necessary, there is still a need to view some Svalbard issues using a comprehensive, overall perspective. Therefore, the decentralisation of authority also entails a specific need to coordinate between the responsible authorities.

The growth in activity in Svalbard has meant that more laws are now made applicable to the archipelago, and several ministries now play a role in formulating the Svalbard policy than was the

case a few decades ago. At the same time, Longyearbyen now has more diversified economic activity and a more complex constellation of actors that influence developments locally. The Longyearbyen Community Council has established its position as the local authority and administrative body; dialogue with the ministries is important to ensure that Longyearbyen's community development conforms with the overriding objectives of the Svalbard policy. The Ministry of Justice and Public Security and the Longyearbyen Community Council maintain regular dialogue.

Central administration

The Ministry of Justice and Public Security has responsibility for coordinating polar affairs in public administration. One of the ministry's key policy instruments in this regard is the Interministerial Committee on the Polar Regions. The committee convenes about 10 times a year and performs its work in accordance with specific instructions first laid down by the Royal Decree of 6 January 1965. The committee's mandate and composition were strengthened by the Royal Decree of 18 October 2002. The Interministerial Committee on the Polar Regions is a coordinating and consultative body for the central administration's handling of polar affairs, and serves as a special advisory body to the Government on such matters. The fact that polar matters are submitted to the Interministerial Committee on the Polar Regions changes neither the decision-making authority of the relevant ministry nor the relevant minister's constitutional responsibility for decisions made.

Another important tool for the central administration is the Svalbard budget, which is presented annually as a proposition by the Ministry of Justice and Public Security; see the discussion of the Svalbard budget above.

The Governor of Svalbard

The Governor of Svalbard is the Government's highest-ranking representative in the archipelago, and serves as both chief of police and county governor. As chief of police, the Governor of Svalbard has the same responsibilities and authority as chiefs of police on the mainland. The Governor has responsibility for the rescue services and also for community preparedness. The main tasks in these areas of responsibility consist of rescue and emergency preparedness, police duties and public prosecution. See Chapter 10, 'Civil protection, res-



Figure 4.2 The Governor of Svalbard's administration building.

Photo: Frode Schärer Bjørshol, Ministry of Justice and Public Security

cue and emergency preparedness', for a more detailed discussion of rescue and emergency preparedness tasks in Svalbard.

As county governor, the Governor of Svalbard acts as the regional state environmental authority in Svalbard, and is responsible for enforcing environmental legislation and monitoring compliance. The Governor's environmental protection duties cover a broad spectrum, including protected areas, species management, cultural heritage, encroachment and pollution. Planning activities not designated as the responsibility of the Longyearbyen Community Council come in addition. Case preparation, application processing, regulatory duties and development of management plans are other important tasks of the Governor in the area of environmental protection. See Chapter 7, 'Environmental protection', for a more detailed discussion of the environmental tasks in Svalbard.

The Governor of Svalbard is also an important adviser on the formation of the Svalbard policy.

To enable the Governor of Svalbard to resolve new challenges relating to rescue and emergency preparedness, the police manpower has been strengthened and a new annex to the administration building has been built to house a new operations room. The environmental department has also allocated more positions.

All these investments make the Governor of Svalbard well equipped to resolve current tasks in a satisfactory manner. If the Governor is assigned new tasks and responsibilities, there will be further need to strengthen manpower levels.

Longyearbyen Community Council

The Longyearbyen Community Council (LCC) was appointed in 2002 and has become an important partner for the central authorities. The council works to ensure environmentally responsible and sustainable community development in Longyearbyen that complies with the wishes and needs of the local population and is within the framework of the Svalbard policy. The LCC receives most of its operating funds via a block grant from the Ministry of Justice and Public Security. Some guidelines are issued to the council by the central authorities through letters of allocation and contact with the ministry.

The establishment of the LCC has provided a more up-to-date form of exercising of authority at local level. The council has management responsibility for specific areas within the Longyearbyen land-use planning area. In many areas its tasks are similar to those of a mainland municipality. LCC also has responsibility for energy supply, however. On the other hand, it has no tasks or expenditure

Box 4.1 Management of tourism, field trips and other travel activity in Svalbard

The Governor of Svalbard processes cases pursuant to the Regulations of 18 October 1991 No. 671 relating to tourism, field trips and other travel in Svalbard. These regulations have two purposes. One is to ensure that everyone who travels around Svalbard take safety into account when planning and carrying out field trips. The duties to provide notice of activity and to carry insurance are important in this connection. The tourism regulations are also intended to safeguard the interests of the natural environment and cultural monuments. In this respect, the regulations align with the provisions in the Svalbard Environmental Protection Act regarding behaviour in the field.

The tourism regulations were recently revised, and the resulting amendments entered into force on 8 January 2015. This revision was performed after close dialogue between the Governor of Svalbard and the tourist industry in Svalbard, among others.

On completion of the revision process it was concluded that there was no need to create a mandatory certification scheme for guides. This matter was looked into as a follow-up to the Storting's consideration of the previous white paper on Svalbard; see Recommendation to the Storting No. 336 (2008–2009), in which this mat-

ter was raised. In extension of this follow-up, new provisions were introduced setting requirements for the qualifications of tour operators in Svalbard. Another new provision was introduced assuring the Governor of Svalbard access to documentation needed in exercising official tasks pursuant to the regulations. A new administrative sanction was also introduced giving the Governor of Svalbard authority in certain circumstances to postpone tour operators' right to submit notice of planned tours.

Safety and environmental considerations apply regardless of who travels around Svalbard. This was made explicit in a new provision stipulating that representatives from research and educational institutions were also subject to the tourism regulations when travelling in the field.

The Governor's tourism adviser has prime responsibility for administering the tourism regulations, as well as for liaising between the tourism industry and the Governor of Svalbard. This channel of communication serves as a good tool for exchanging information, providing guidance, and discussing issues that either party may wish to raise. The tourism regulations have been in force since 1992, and experience has proven them a useful tool in a growing, dynamic tourism market.

for elderly care because Longyearbyen is not a cradle-to-grave community. Nor does the council have any responsibility for expenditure for other health and care services; see section 6.3.3.

Supplying energy in the form of both heat and electricity is one of the LCC's most important tasks, as well as one of the most expensive. To secure operations and extend the lifetime of the power plant, extensive maintenance and upgrading work has begun. The state covers two-thirds of the cost of this work. The upgrade is expected to extend the lifetime of the power plant by 20 to 25 years from when the work began in 2013. Between 2012 and 2014 funding was allocated to build a sewage treatment plant to deal with emissions of sulphur and particulates from the power plant, among other things.

Operation of the power plant is currently based on coal from Mine 7. The long-term supply of coal from this mine may be affected by the changes in the production plans for Mine 7.

See section 6.2.3 for a more detailed discussion of energy supply.

Other government agencies etc.

The Norwegian Polar Institute is a directorate under the Ministry of Climate and Environment, and is the central government institution for mapping, environmental monitoring and management-related research in Arctic regions. The Norwegian Polar Institute has a permanent presence in Longyearbyen as advisory body to the Governor of Svalbard, among other things. The Directorate of Mining, with the Commissioner of Mines at Svalbard, has its own office and staff in Svalbard. The directorate administers the Mining Code for Svalbard. The tax office in Svalbard is established in Longyearbyen, and Statsbygg Svalbard has its office there, too.

Avinor is a state-owned limited company, and Longyearbyen Hospital is part of the University

Hospital of North Norway and as such is state-owned; see the Health Authorities and Health Trusts Act. Svalbard Church is now a public agency in Svalbard. It has been proposed that the agency be separated from the state and transferred to the Church of Norway, in line with the

proposal to establish the Church of Norway as an independent legal entity, separate of the state; see Proposition to the Storting No. 55 L (2015–2016) to amend the Church of Norway Act.

5 Legislation

Legislation and its enforcement constitute a key element of any society based on the rule of law. Svalbard is no different from the rest of the country in this respect, and our exercise of authority over the archipelago is based on Norwegian legislation. Legislation is a key policy instrument for implementing the objectives of the Svalbard policy, and is necessary for achieving rational social development within the scope of these objectives. Important laws and regulations related to the implementation of the Svalbard policy are discussed in more detail in: Chapter 4, 'Objectives, policy instruments, administration'; Chapter 7, 'Environmental protection'; Chapter 9, 'Economic activity'; and Chapter 10, 'Civil protection, rescue and emergency preparedness'.

This chapter presents a review of the principles governing the application of legislation in Svalbard and of the status of implementation of laws and regulations not previously applied. This chapter also deals with areas of law that are especially important for social development and with other legislative work going on in specific areas.

5.1 Legislative principles

The previous white paper on Svalbard (Report No. 22 (2008–2009) to the Storting *Svalbard*) gave a thorough review of the principles governing the application of legislation in Svalbard. This discussion was based on the Office of the Auditor General's management audit of Svalbard (Document No. 3:8 (2006–2007), which noted that in certain areas Svalbard seemed under-regulated. The Office of the Auditor General raised the question of whether Longyearbyen's development, with a complex business community and a growing number of foreign nationals, suggested a need to make additional legislation applicable there. The Office of the Auditor General also called for an assessment of whether changes ought to be made to the principles governing how laws are made applicable to Svalbard. Furthermore, in processing the Office of the Auditor General's report (see Recommendation No. 46 (2007–2008) to the Storting)

the Storting pointed out that a review of these principles would require thorough assessment.

The review of the 2008–2009 white paper stipulated that the legal framework for Svalbard should be as similar as possible to that of the mainland, and that new legislation as a rule should be made applicable in Svalbard unless special circumstances dictated otherwise or unless exemptions or adaptations were needed. It was further stipulated that legislation should apply and be enforced equally throughout the archipelago unless there was a need for transitional arrangements or other ways of phasing in legislation. The Storting endorsed these guidelines through consideration of the white paper by the Standing Committee on Foreign Affairs.

Nonetheless, not all legislation will automatically be made applicable to Svalbard. The white paper stipulated that the principles laid out in section 2 of the Svalbard Act should continue to apply. That is to say that legislation dealing with private law, criminal law and the administration of justice should apply unless otherwise decided. Other legislation, in practice referred to as public law rules, must be introduced separately. In its consideration of the white paper, the Standing Committee on Foreign Affairs agreed that this was an appropriate solution because conditions for the local community differed from those on the mainland.

Accordingly, separate assessments are made of the relationship to Svalbard for rules of a public law nature. This is necessary both when considering whether laws and regulations already adopted should apply to Svalbard and when adopting new legislation. Such a consideration must determine whether an act of law is suited to conditions in Svalbard and whether there is a need for local adjustments. These may be warranted by administrative, climatic, geographical or other local conditions.

In some areas, separate laws or regulations have been passed that are specially adapted to conditions in Svalbard. One such area is environmental protection, where the Svalbard Environmental Protection Act implements the ambitious environmental objectives for the archipelago. This

act is discussed in more detail in section 7.3.2. A separate taxation act has also been adopted for Svalbard; see section 5.3.2. Another example is the regulations concerning tourism, field trips and other travel activity, which are discussed in Box 4.1.

Although the objective, as already mentioned, is for legislation to be applied and enforced equally throughout Svalbard, not all laws are suited to conditions in the entire archipelago, and in some cases there will still be a need for transitional arrangements. Other ways of phasing in may also be necessary, in order, for example, to give particular organisations the ability to restructure. In special cases, exemption provisions may be considered for certain types of activity. Administrative factors may also necessitate adjustments in cases where Svalbard, for example, lacks local agencies or administrative levels corresponding to those on the mainland. It may be appropriate to introduce legislation which, for practical and administrative reasons, is made applicable only in the Longyearbyen land-use planning area.

The Government will carry forward the principles of applying legislation described above, and will continually assess whether legislation applied to the mainland should also be applied to Svalbard. The following section elaborates on certain matters with respect to legislation for Svalbard.

5.2 Status of instituting legislation

In keeping with the guidelines set out in the previous white paper (Report No. 22 (2008–2009) to the Storting *Svalbard*), several laws have since been instituted which previously did not apply to Svalbard. In its audit, the Office of the Auditor General pointed to the Competition Act, the Property Unit Ownership Act, the Harbours and Fairways Act and the Food Act as examples of under-regulation. The Competition Act was made applicable to Svalbard in 2009, while the Harbours and Fairways Act and the Pilotage Act were made applicable in 2010 and 2012 respectively. Introduction of both the Pilotage Act and the Harbours and Fairways Act required a number of local adjustments to be made in laws and regulations. The provisions governing municipal emergency preparedness duties in the Civil Protection Act were introduced for the Longyearbyen Community Council (LCC) in 2012. Other legal provisions now in application are the National Security Act (2013) and the instructions for the County Governor and Governor of Svalbard's work relating to civil pro-

tection, emergency preparedness and crisis management (2015). A comprehensive body of laws and regulations in the area of health legislation was also recently made to apply to Svalbard (see section 5.3.1 for further discussion). The Food Act was also made applicable in Svalbard, and work is under way to assess which parts of the regulations pertaining to the act should also apply. Thus, many of the laws mentioned in the Office of the Auditor General's performance audit have now been introduced, as well as other legislation. Furthermore, the new Property Unit Ownership Act due to be put forward in 2016 will also apply to Svalbard. Therefore, although some areas of legislation still need to be reviewed and considered for application to Svalbard, the need for regulation raised in the performance audit by the Office of the Auditor General must to all intents and purposes now be considered met.

In recent years the general approach to implementing legislation for Svalbard has been that legal authority in the archipelago is assigned to the body that possesses the responsibility for that issue on the mainland. As a result, a growing number of bodies, such as the Norwegian Maritime Authority and the Norwegian Coastal Administration, have assumed tasks and direct authority in Svalbard. For example, the County Governor of Troms has supervisory responsibility for schools, assisted by expertise in Svalbard affairs from the Governor of Svalbard. This arrangement allows the respective authorities to cultivate their roles as experts and at the same time relieves the Governor of Svalbard and the Longyearbyen Community Council of having to develop expertise unnecessarily. Prior to this arrangement, the absence of local competent authorities and the long distance to the mainland meant that the Governor of Svalbard was assigned these tasks and responsibilities. Today it is both natural and appropriate that the relevant competent authorities perform these tasks and assume these responsibilities.

The previous white paper on Svalbard (Report No. 22 (2008–2009) to the Storting *Svalbard*) presented an overview of business and company legislation that applies to Svalbard. With reference to a Supreme Court ruling published in Rt. 2007 p. 801, it was shown that the public law parts of business and company legislation did not apply to Svalbard unless specifically provided. Furthermore, it was pointed out that the Ministry of Finance was in the process of considering the extent to which the Accounting Act and Book-keeping Act should be made applicable to self-employed persons and others engaged in eco-

conomic activity in Svalbard. It was also recommended that other legislation in this area of law be more closely evaluated.

A recently appointed committee on auditing and accounting has been tasked with examining the application of auditing legislation to Svalbard. The Ministry of Finance is still considering the application of the Accounting Act and the Book-keeping Act to Svalbard, in consultation with other relevant ministries. The committee that will review the Foundation Act will also consider whether it should apply to Svalbard. It will also consider to what extent the other public law elements of business and company legislation should be made applicable to Svalbard. This will also be relevant in light of the development of new businesses in Longyearbyen for which it may be necessary to consider whether the legal framework for developing different types of local products suits the need.

5.3 Specific legislative issues

5.3.1 Welfare legislation

General situation

As discussed above, not all laws are suited to Svalbard's conditions. For one thing, central parts of Norwegian welfare legislation are not applicable to Svalbard. The reasons are related to taxes and the fact that immigration legislation does not apply to Svalbard.

Norway has several obligations under international law that apply to Svalbard as in other parts of Norway. Through the Svalbard Treaty, Norway also has certain obligations under international law that apply only to Svalbard.

Immigration legislation is not made applicable to Svalbard. The reason for this originates in the access provision in Article 3 of the Svalbard Treaty. No requirements for visas, residence permits or work permits are imposed on foreign nationals when entering Svalbard (see section 5.3.3 for a more detailed discussion).

In accordance with the overriding objective of the Svalbard policy to maintain Norwegian communities in the archipelago, the tax system in Svalbard must ensure competitive conditions and stimulate local business activity. Consequently, tax rates in Svalbard are significantly lower than on the mainland. See section 5.3.2 for a more detailed discussion.

The Norwegian authorities make allowance for a certain level of welfare benefits in Longyear-

byen. The low tax rate and the fact that immigration legislation does not apply are reflected in the range of local services available (see section 6.3.3 for a more detailed discussion). No social or welfare services are provided for individuals who cannot finance their stay in Svalbard through labour market participation. Therefore, central laws conferring statutory rights, such as the Social Services Act, do not apply to Svalbard. There are also special provisions for Svalbard that give the Governor of Svalbard the authority to refuse entry to people unable to take care of themselves. The Introduction Act of 4 July 2003 does not apply to Svalbard, either, so the Longyearbyen Community Council is not obliged to offer an introduction programme or Norwegian language training.

In its performance audit, the Office of the Auditor General pointed to the increased proportion of foreign nationals in Longyearbyen with no ties to Norwegian municipalities on the mainland, and wondered both whether more acts of law should be made applicable and whether it will be possible over time, given the background, to maintain the objective of not allowing Longyearbyen to become a cradle-to-grave community.

In the previous white paper on Svalbard, however, it was emphasised that Longyearbyen would not become a cradle-to-grave community. The Government considers it important to continue to pursue this objective, and does not intend to expand the range of welfare services currently provided. Norwegian nationals or families who need services beyond those available in Svalbard must contact their home municipalities. Foreign nationals with no ties to the Norwegian mainland will not have this option, and must therefore contact their home countries if their needs cannot be met locally.

General health legislation

Until recently, health matters in the broad sense were mainly governed by the Regulations of 15 June 1928 No. 3357 relating to medical and health matters in Svalbard (Health Regulations), and application of general health legislation for Mainland-Norway has been highly restricted. The Health Regulations provided the legal basis for a range of measures, such as water quality. The Longyearbyen Community Council had authority pursuant to the regulations within the Longyearbyen land-use planning area, and the Governor of Svalbard for the rest of the archipelago.

In step with the development of social conditions in Svalbard, particularly in the local commu-

nity in Longyearbyen, there has been a need for more regulation in the area of healthcare, including the professional practices of healthcare personnel, and for modernising the legal basis for the supervision of food hygiene and water quality. As a result, the Ministry of Health and Care Services issued regulations on 22 June 2015 to the effect that several health laws and regulations must be made fully or partly applicable to Svalbard. The regulations were drawn up in cooperation with the ministries involved, and entered into force on 1 October 2015. Simultaneously, the health regulations of 1928 were repealed.

The main purpose of the legislative work has been to modernise health legislation for Svalbard and bring it more in line with mainland legislation. However, to a large extent the regulations only establish by law practices already in place. Svalbard is not intended to be a cradle-to-grave community. Consequently, no care services are provided, and the health service in Svalbard is not organised in the same way as on the mainland. The purpose of the regulations has not been to introduce new types of services or new entitlement legislation. Accordingly, neither the Act relating to health and care services nor the Act relating to patients' rights has been made applicable.

Under the regulations, however, the laws governing healthcare personnel, health supervision, the specialist health service, communicable diseases, public health and emergency health preparedness have now been made fully or partly applicable. The same applies to the acts relating to pharmacies, medicines and foods and to several other acts of law. The following acts of law had already been made fully or partly applicable: the acts relating to nuclear energy activity, radiation protection and use of radiation, patient injury compensation, and the health authorities and health trusts.

Because the health service in Svalbard is not organised in the same way as on the mainland, some adaptations were also made to provisions in mainland regulations that have been made applicable to Svalbard. That is the case, for example, with regard to the Act relating to the control of communicable diseases and to Chapter 3 of the public health act concerning environmental health. In principle, Longyearbyen Hospital functions as the municipal medical officer in this area, but the regulations also assign certain tasks to the Longyearbyen Community Council.

In accordance with the practice now generally followed whereby the competent mainland author-

ities are also responsible for supervising activities in Svalbard, the County Governor in Troms supervises healthcare personnel and the health service in Svalbard. The Norwegian Food Safety Authority supervises compliance with the acts relating to food and to cosmetic products and body care products.

The organisation of the health service in Svalbard is discussed in more detail in section 6.3.3.

The production and sale of alcoholic beverages are regulated by the Regulations of 11 December 1998 relating to the alcohol scheme for Svalbard. The production of alcohol in Svalbard used to be prohibited under an act of law from 1928, but the ban was lifted in 2014 after action taken by actors in Svalbard wishing to produce beer locally. Since the amendments of 2014, the regulations governing the production of alcohol in Svalbard are now largely the same as on the mainland. A licence has been granted to produce beer in Longyearbyen, and Trust Arktikugol has applied for a licence to do likewise in Barentsburg.

5.3.2 Tax legislation

Svalbard has its own taxation regulations. The Svalbard Taxation Act (Act of 29 November 1996 No. 68 relating to tax payable to Svalbard) makes Svalbard a separate area for tax purposes. Two forms of taxation apply: a special withholding tax scheme and tax assessment. Under the withholding tax scheme, the employer withholds a percentage of gross salary and pension, and this constitutes the final tax assessment. Income other than salary and pension is taxed after assessment according to the same rules that apply on the mainland, though at lower rates. In Svalbard, salary and pension are taxed at a rate of 8 per cent up to 12 G (G = National Insurance basic amount) and at a rate of 22 per cent for income exceeding 12 G. In addition are national insurance contributions for employees who are members of the Norwegian National Insurance Scheme. Other income such as investment income and income from self-employment are taxed at a rate of 16 per cent. It is important that the taxation system in Svalbard is tailored to conditions in the archipelago and that its basic workings ensure competitive conditions. At the same time, it is important to prevent the favourable tax level from being exploited to save tax on investment returns that are made outside Svalbard and do not create activity or employment in the archipelago. Companies with profits not earned from returns on activity or investment in

Svalbard will now be taxed for such profits at the same tax rates that apply on the mainland.

5.3.3 Immigration legislation, nationality etc.

As mentioned in section 3.2.5, Article 3 of the Svalbard Treaty imposes on Norway an international obligation to treat equally nationals and companies from parties to the Treaty in certain areas. This applies to access to the archipelago, among other things. In practice, Norway has in this area not discriminated between nationals from the parties to the Treaty and nationals from other countries. Therefore, given its purpose, the legislation regulating foreign nationals' access and entry to the realm is not suitable to conditions in Svalbard. For this reason the Immigration Act of 15 May 2008 No. 35 and pertinent regulations have not been made applicable to Svalbard.

No work permit, residence permit or visa is required to travel to Svalbard. Furthermore, Svalbard is not included in the Schengen cooperation. The rules on entry and exit control across the external Schengen border therefore apply to travel between the Norwegian mainland and Svalbard. Pursuant to section 6 of the Immigration Act and subsection 1–15 of the Immigration Regulations, identity checks have been implemented on departure from and arrival at the airports in Tromsø and Oslo. Therefore, foreign nationals who reside Svalbard must, like other foreign nationals, comply with the provisions in the Immigration Act when travelling between Mainland-Norway and Svalbard, and foreign nationals subject to visa requirements must have a visa when travelling to the mainland. Today, the Governor of Svalbard issues such visas upon application, in accordance with section 13 of the Immigration Act.

The purpose of the rules in the Immigration Regulations is to meet Norway's obligation to control the external borders of the Schengen Area. However, the need may also arise for control systems affecting travellers to and from the archipelago itself, for reasons of national security. In addition to its own domestic needs, Norway has international obligations to monitor activities on Norwegian territory. The need for control is not fully met by the legislation for Mainland-Norway. This is because the mainland controls will not identify individuals travelling to Svalbard via other countries. Moreover, in some cases there may be a wish to carry out controls in Svalbard. One reason for this is that Svalbard may have to deal with

other types of challenges than those faced by Mainland-Norway. The provision concerning access in Article 3 of the Svalbard Treaty does not preclude establishment of control regimes, including entry and exit controls, in order to monitor travellers and individuals entering the archipelago. The Government will consider the need to introduce such regimes.

The previous white paper on Svalbard (Report No. 22 (2008–2009) to the Storting *Svalbard*) described how the increasing number of foreign nationals in Longyearbyen created a need to consider legal problems associated with foreign nationals. This included certain issues concerning foreign spouses/cohabitants and children of Norwegian nationals and the possible need to introduce special rules in this area. In pursuance of this, a provision was incorporated into the Immigration Regulations (subsection 11–4 (b)) in 2010 stipulating that a long period of residence in Svalbard may be taken into consideration when calculating the required period of residence for qualifying for a permanent residence permit in Norway. The other conditions for granting a permanent residence permit must also be met. There are currently no plans to make further amendments to these regulations in favour of foreign nationals. The Government will monitor the situation to determine whether the provision works as intended, and in light of that will continuously assess the possible need to tighten the rules.

The Act of 10 June 2005 No. 51 relating to Norwegian nationality (Norwegian Nationality Act) generally applies to Norwegian nationality and also covers Svalbard. This act requires legal residence on the mainland in accordance with immigration legislation before applications for acquiring Norwegian nationality may be granted. The Norwegian Nationality Act prescribes no special rules for persons with foreign nationality who reside in Svalbard. Persons wishing to apply for Norwegian nationality must meet the terms of the act, including those governing residence permits, in the same manner as other applicants. Entitlement to Norwegian nationality may therefore not be based solely on residence in Svalbard. Foreign nationals born in Svalbard or who reside in the archipelago for a long period will not be granted Norwegian nationality on this basis alone. There are no plans to change these rules.

5.3.4 Legislation on rejection and expulsion

As mentioned above, the Immigration Act does not apply to Svalbard, and therefore no visa or

other requirements are needed to travel there. Nonetheless, this does not mean that everyone has an unconditional right to reside in Svalbard. The Governor of Svalbard may, inter alia, refuse entry to or expel persons who lack sufficient means to remain there or who are unable to take adequate care of themselves. Persons suspected or convicted of violating laws that apply to Svalbard may also be refused entry or expelled under certain conditions. This follows from the Regulations of 3 February 1995 laid down with legal basis in the Svalbard Act. The regulations also contain provisions regarding expulsion.

Regulations were laid down by Royal Decree on 7 August 2015 relating to the rejection from Svalbard of persons who were subject to travel restrictions. These regulations were issued to make it possible to prevent persons designated as ‘listed persons’ from residing in Svalbard. The regulations apply to persons subject to travel restrictions adopted by the UN Security Council or who are covered by international restrictive measures that Norway has aligned itself with. Such persons will be refused entry by the Governor of Svalbard on arrival or at a subsequent point in time.

The background for the adoption of specific regulations governing travel restrictions relating to Svalbard is that – unlike Mainland-Norway – Svalbard is not part of the Schengen Area; see section 3.3.1. This means that the Schengen entry control system has no relevance for persons who travel directly to Svalbard from areas outside the Schengen Area. The need to implement travel restrictions for Svalbard has been limited because most people travelling to the archipelago have done so via Mainland-Norway. In such instances, listed persons would be identified through the Schengen regulations before they reach Svalbard. All scheduled air traffic to Svalbard goes via Mainland-Norway. However, it is possible to arrive at the archipelago by charter plane or boat without travelling via the Schengen Area. The Government attaches importance to ensuring that sanctions and restrictive measures with which Norway has aligned itself must be enforceable throughout the country, including Svalbard.

The regulations are temporary, and will be repealed on 31 August 2016. The Government is considering the issue of control regimes for Svalbard, including the introduction of permanent legislation to prevent listed persons from residing on Svalbard.

5.3.5 Education Act and Kindergarten Act

In the Regulations of 18 January 2007 No. 76 relating to primary and secondary education and upper secondary education in Svalbard, the Ministry of Education and Research stipulated that the Act of 17 July 1998 No. 61 relating to primary and secondary education and training (the Education Act) and pertinent regulations were applicable to primary and secondary education and upper secondary education in Svalbard in so far as they are suited to local conditions. Under these regulations, children of Norwegian nationals have the same right and obligation to attend primary and lower secondary school while residing in Svalbard as they would have on the mainland. Children of foreign nationals have a right, but not an obligation, to attend primary and lower secondary school while residing in the archipelago. The Longyearbyen Community Council (LCC) has responsibility for providing education in Longyearbyen. It follows from the regulations that the LCC *must* fulfil the right to primary and lower secondary education and that it *may* also provide upper secondary education. In Barentsburg, the mining company Trust Arktikugol provides education for the children of its employees.

The Act of 17 June 2005 No. 64 relating to kindergartens does not apply to Svalbard. Nonetheless, two conditions for the LCC’s receiving appropriations from the national budget are that the intentions in the act determine how the kindergartens in Longyearbyen are run and that no significant distinction be permitted between the operation of kindergartens in Longyearbyen and on the mainland. This is discussed in the Government’s budget proposal for Svalbard for 2016 (Prop. 1 S (2015–2016), p. 28. See also section 6.3.

Guidelines are needed on what the Longyearbyen Community Council should provide in these areas. The objective is for Longyearbyen to be a viable local community, and today it is a community that provides a good range of services. Nonetheless, the special community frameworks discussed in section 6.3 determine the scale of the services to be provided and, consequently, what the inhabitants should expect. Moreover, the Government has no objective to expand the range of services beyond that currently offered.

The issue of which provisions in the Education Act and pertinent regulations are suited to those frameworks is decided by the Ministry of Education and Research. The Ministry of Education and Research has permitted certain organisational

deviations from the Education Act with regard to teacher hours, subjects and levels.

With regard to children and young people with special needs, the Education Act currently provides for special education assistance for children in kindergartens and for special tuition for pupils in primary, lower secondary and upper secondary schools. Given that the LCC is not obliged to provide upper secondary education, however, it has been decided that Chapter 5 of the Education Act, concerning special education, should not be applied to upper secondary education. The ministry has nevertheless urged the council to do as much as possible to adapt its upper secondary instruction, to the degree local conditions permit, for the benefit of pupils with special needs.

Regarding the physical environment, the Anti-Discrimination and Accessibility Act provides for individual accommodation for people with disabilities, but these provisions are not made to apply to Svalbard. However, the Education Act also provides for individual accommodation for pupils with disabilities, and these apply to Svalbard in so far as they are suited to local conditions.

The development of Longyearbyen as a family community, albeit with special conditions, means that there is now a need to clarify the Longyearbyen Community Council's obligations under the Education Act and the Kindergarten Act in respect of children of both Norwegian nationals and foreign nationals. This has gained particular salience since several amendments have been proposed to both of those acts of law. It has been proposed to transfer the duty to provide special education assistance to children under school age from the Education Act to the Kindergarten Act.

In addition, it is proposed that rules ensuring suitable, individually adapted kindergarten availability for children with disabilities be incorporated into the Kindergarten Act. This duty corresponds to the municipalities' duty under the Anti-Discrimination and Accessibility Act to provide individual accommodation in municipal kindergartens. The rules in this act providing for universal design and individual accommodation currently do not apply to Svalbard. It is proposed to incorporate today's four acts of law dealing with equality and anti-discrimination, including the Anti-Discrimination and Accessibility Act, into one single act covering equality and anti-discrimination. It is proposed that the exemptions that already apply to Svalbard will continue to apply in the new act of law, but a separate assessment is needed as to whether the rules for individual accommodation in schools and kindergartens should apply to Svalbard.

The Child Welfare Act applies to Svalbard, though with special rules laid down in the Regulations of 1 September 1995 No. 772 relating to application of the Child Welfare Act to the archipelago. Norway's local government reform includes plans to change the quality and structure of the child welfare services in a way that entails a redistribution of responsibilities between central and local government. Here, too, a special assessment will be needed to determine the effect of such changes on Svalbard.

In dialogue with the Longyearbyen Community Council and others, the Government will continue its work clarifying the council's obligations in these areas. See also section 6.3.4 for further discussion.

6 Longyearbyen

6.1 Introduction

One of the overriding objectives of the Svalbard policy is maintaining Norwegian communities in the archipelago. This objective is achieved through the family-oriented community life in Longyearbyen.

Longyearbyen is not a cradle-to-grave community, and there are clear limits to the services that should be made available for residents of the community. This is reflected in the archipelago's low level of taxation and the fact that the Norwegian Immigration Act does not apply here. The Government's aim is for Longyearbyen to remain a viable local community that is attractive to families and helps to achieve and sustain the overriding objectives of the Svalbard policy.

Continued development within existing activity will contribute to this. It is nonetheless desirable to facilitate growth of a broader and more diversified economy. In connection with the estimated accounts for the 2015 central government budget, NOK 50 million was allocated to measures that will help enable restructuring and rapid employment in Longyearbyen. An important reason for this decision was the challenging situation faced by the coal company Store Norske Spitsbergen Grubekompani (SNSG) and the consequences for Longyearbyen. Many jobs have already been lost as a result of the situation. When downsizing of the company began in 2011, there were approximately 350 employees in the corporate group. A large part of them, however, commuted between Svea and the mainland. For as long as the operating pause continues, there will be about 100 employees in the company, including the activity at Mine 7 and administrative staff. Implementation of the operating pause will be determined one year at a time, but not beyond 2019. It must be assumed that a reduction in revenue on such a scale will have consequences for other activities in Longyearbyen. The circumstances surrounding the SNSK group are described in more detail in Chapter 9, 'Economic activity'. Of the restructuring package's NOK 50 million, Innovation Norway was awarded NOK 20

million. The funds are used to maintain Norwegian presence and activity in Longyearbyen, and not least to develop and support commercial projects that are compatible with and support the objectives of the Svalbard policy.

The Longyearbyen Community Council has a key role in the restructuring process, and there is close dialogue between the council and Innovation Norway. It follows from Section 29 of the Svalbard Act that the council's task is rational and efficient administration of the public interest pursued within the Svalbard policy framework, with the aim of environmentally sound and sustainable local community development. The Longyearbyen Community Council has been awarded NOK 4.5 million of the restructuring package to strengthen its effort to develop the local community further. The Svalbard Chamber of Commerce, with its knowledge of the local conditions and economy, has been awarded NOK 0.5 million. Another NOK 3 million has been allocated to development of a business and innovation strategy directed by the Ministry of Trade, Industry and Fisheries. In addition, the Longyearbyen Community Council has been awarded NOK 22 million to reduce the maintenance backlog in infrastructure while contributing effectively to construction-sector employment.

The Government emphasises that efforts to restructure Longyearbyen have been going on for a long time. At the start of the 1990s, Longyearbyen was described as a 'one-industry town' (see Report No. 50 (1990–1991) to the Storting). Ten years later, during consideration of Report No. 9 (1999–2000) to the Storting (see Recommendation No. 196 S (1999–2000)), it was determined that many of the conditions that previously had justified calling Longyearbyen a one-industry town had changed. A better range of public services had sprung up, and the community had also gained a broader business base. In addition to the mining operations, there had been a rise in tourism, research and higher education, space-related activity and other enterprises. Although services in some areas, such as healthcare, are limited, Longyearbyen today is seen as a local community with a

well-developed public infrastructure, good public services and a broad-based, diverse economy.

The Government wants this trend to continue within the framework of the overriding objectives of the Svalbard policy, so that in future the community will continue to possess the character, breadth and variety that make living in Longyearbyen attractive, thereby supporting the objective of maintaining Norwegian communities in the archipelago.

The Government does not, however, wish to facilitate a form of growth that quickly triggers a need for heavy investment in new infrastructure such as water supply and heat and electric power production. Establishing and maintaining infrastructure in an Arctic climate is costly, and the Longyearbyen Community Council already faces significant challenges maintaining existing infrastructure. Significant investments in recent years have also been made in energy provision to ensure continued stable production of electricity and heat. The sum total of the investments undertaken over many years provides Norway as a whole with an infrastructure at 78° N not found anywhere else at the same latitude.

The central government has long borne a special responsibility for the development of infrastructure in Svalbard. Relevant reference is made to Report No. 22 (2008–2009) to the Storting (see Recommendation No. 336 S (2008–2009)), in which the Standing Committee on Foreign Affairs stated: ‘The committee refers in this context to the strong national interests and international legal obligations associated with the archipelago, and to the resulting requirement of strong state involvement. This should apply in particular to upgrading and construction of heavy infrastructure as well as energy supplies and port facilities.’

The Government wishes therefore to emphasise the importance, now and in future, of strong state involvement in the further development of strategic infrastructure in the archipelago.

The introduction and growth of activity at the University Centre in Svalbard (UNIS) exemplify the development of infrastructure that has also contributed significantly to the development of the Longyearbyen community. UNIS has 110 permanent employees (2015), several adjunct professor/adjunct associate professor positions and a number of visiting researchers. The employees and their families in combination with UNIS students constitute about 25 per cent of Longyearbyen’s population. For further discussion of UNIS, see Chapter 8.

A well-functioning infrastructure is essential for value creation, security and an acceptable level

of environmental risk. Good infrastructure is also vital to job creation and stimulating economic development. It is therefore important to approach Longyearbyen’s further development in a step-by-step fashion, with ongoing assessment of the effects of the SNSK group’s reorganisation on the community of Longyearbyen and with attention paid to what additional development in various areas would mean for infrastructure capacity.

The avalanche disaster on 19 December 2015 reinforces the importance of such development. The avalanche made more urgent the work of climate-adapted land development and of freeing up space in the centre of Longyearbyen for residential use. Coordinated action will have positive effects for the Longyearbyen community while facilitating desired economic growth. It is of central importance that the plans prepared for economic development be balanced against this land-use planning effort.

Growth of the community beyond today’s level is not an objective. It is important, though, that the character, breadth and diversity of the community make it an attractive place to live, thereby supporting the objective of maintaining Norwegian communities in the archipelago.

Within this framework, there will be a need for some expansion and accommodation of suitable development in selected areas.

6.2 Areas for further development

The central government authorities are responsible for the overarching development framework in the archipelago through such measures as legislation and central government budget allocations. The development work is carried out locally, however. The Longyearbyen Community Council is an important actor in this regard, cooperating, for example, with Innovation Norway and the Svalbard Chamber of Commerce. Coal mining has been a cornerstone in maintaining the Longyearbyen community. It is unlikely that one type of activity alone will be able to offset the loss of jobs in coal mining. It is therefore important to continue investing in existing operations, while also paving the way for new and varied activities. There has long been a deliberate focus on facilitating research and higher education, tourism, space-related activity and various other activities. This has produced good results. Going forward, the Government wants to accommodate further development of activities that can help achieve the objective of maintaining Norwegian communities

in the archipelago. This will lay the groundwork in the long run for a more robust community.

6.2.1 Tourism: Longyearbyen and surrounding areas

Tourism is one of the principal industries in Svalbard. The tourism industry experienced growth in recent years and is an important contributor to employment in Longyearbyen. Both the city and the areas around it offer significant tourist experience value associated with the unique natural environment and cultural heritage sites located

there. With Longyearbyen now undergoing a restructuring process, it is natural that one of the industries being facilitated is tourism. Development of tourism products in Svalbard must include the development of new services and products and of more and better-adapted information. This particularly applies to the areas closest to Longyearbyen, its planning area and the adjoining areas. But it is also important to facilitate environmentally sensitive tourism within the Isfjorden area and Management Area 10, where both Longyearbyen and the other communities are located (see Figure 6.1).

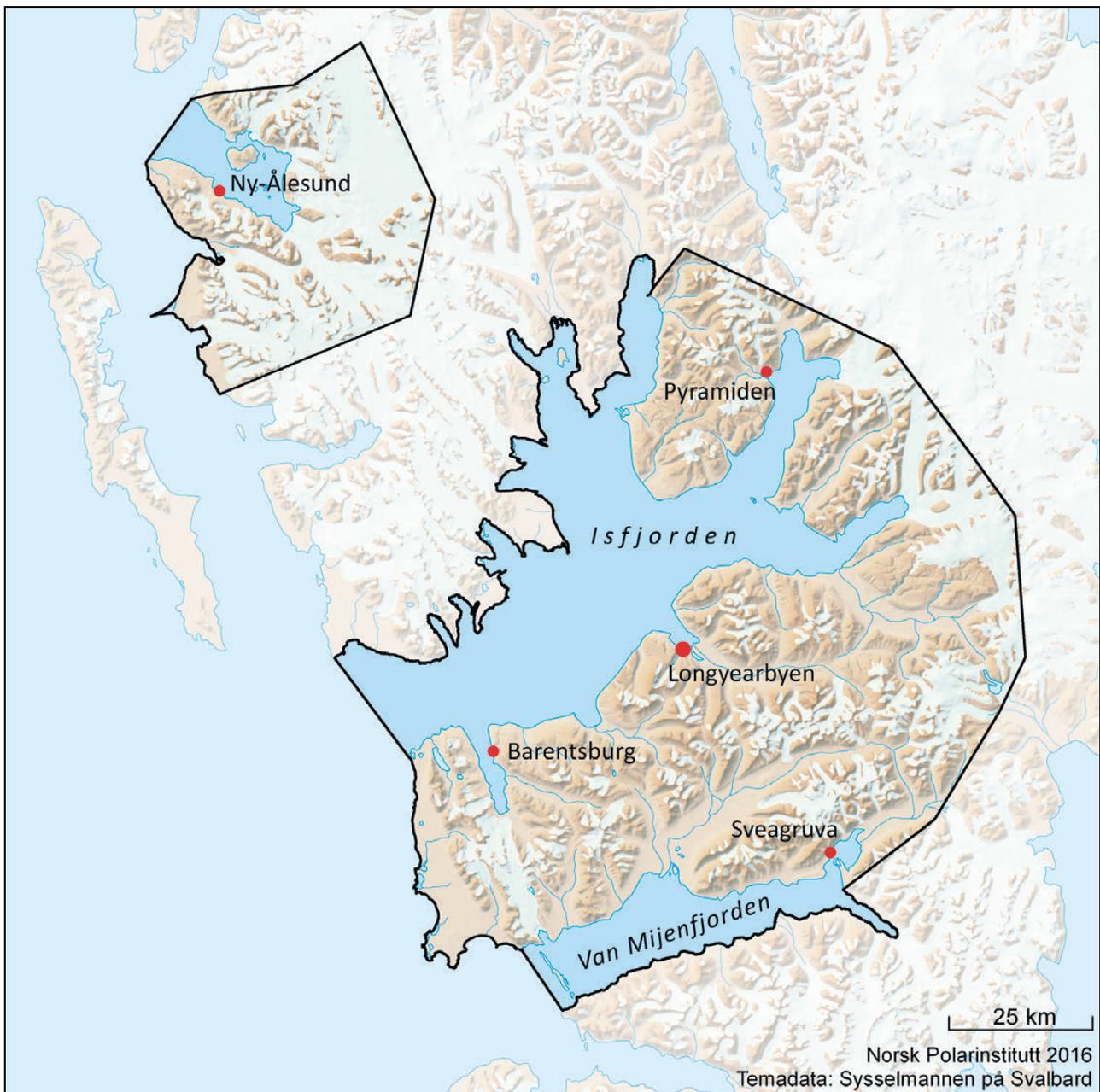


Figure 6.1 Management Area 10.

Map: Norwegian Polar Institute

The development of new tourism products must be sustainable and take place within the limits established by the environmental objectives, safety regulations and other regulations in Svalbard. For the nature-based tourism industry, it is also important to preserve what is unique about Svalbard's natural environment. Within this framework there is scope for further development of tourism in Longyearbyen. The Government will facilitate the development of tourism in Management Area 10, which includes Isfjorden and the areas surrounding the communities (see Figure 6.1). Local actors in the tourism industry have drawn up a master plan for tourism in Svalbard. It includes elements that could be relevant in future development.

For tourism in Longyearbyen to be able to grow, Longyearbyen must be developed as an arena for visitor experience with a varied range of activity and experiences made available to visitors. Development of attractions in the vicinity of Longyearbyen will provide an important supplement to the existing range of activity, especially during the polar night. An expanded offering of interesting attractions might entice tourists to stay longer than they usually do today. Prolonged stays would result in increased revenue per visitor, which is positive for the business community in Longyearbyen. The ratio of revenue to environmental impact associated with tourist transport to and from the archipelago would also improve. Increased focus on year-round tourism would also be important for the local community in Longyearbyen.

Among the things the tourism industry wants to develop (see the master plan for tourism from 2015) are products related to commercial tourism cabins. In 2007, permission was granted under the Svalbard Environmental Protection Act for the establishment of three commercial cabins for use by the tourism industry in Svalbard. Creating more such cabins may be appropriate as part of the further development of tourism in Svalbard. Such a process would then be based on the same principles and central criteria as the process from 2007, with localisation within Management Area 10 and outside established protected areas, open advertisement of the plan, a limited number of permits and a set of criteria for evaluating projects.

The tourism companies in Svalbard have aired a number of ideas for different types of temporary facilities for overnight or daytime visits in winter within Management Area 10. Such facilities can increase the breadth and scope of tourism products and services. The same can be said of accommodating vessel disembarkation at selected loca-

tions in Isfjorden. It is important, in any event, that such facilities be adapted to their surroundings and that comprehensive evaluations of scale, location and environmental impact be undertaken. Tourism companies are in discussion with the Governor about some of these ideas.

Non-motorised tourism packages offering activities such as dogsledding, with Longyearbyen as their base, have undergone significant development, and are now experiencing growing demand. The potential exists for further development and growth of such travel products as dogsledding and skiing trips. Consistent with the objective of limiting motorised traffic in Svalbard, the Government will facilitate this by, for example, exploring opportunities for increased use of the large snowmobile-free area.

The Government will also secure natural places of interest and cultural heritage sites in the immediate vicinity of Longyearbyen that are important for tourism and the local inhabitants. A project will accordingly be initiated to assess the need for greater protection of areas in the lower Adventdalen that are especially rich in bird life. At the same time, simple adaptations will be considered in nearby areas in the form of sherpa trails and similar measures to make nature and cultural sites in the areas more accessible. By making use of the leeway provided by existing regulations and objectives, the Government will ensure sound and predictable framework conditions for tourism in Longyearbyen.

There is also a need for more long-term plans for the use of Management Area 10. Management plans for this area, including both protected and unprotected areas, will therefore be prepared. The Governor has been asked to initiate this work. The purpose is to facilitate and manage use of the area so that the objectives of increased local value creation and positive visitor experiences are fulfilled, even as appreciation for Svalbard's unique environmental qualities is increased and cultural heritage assets are maintained.

Food culture, too, can be of interest in travel product development. Several actors in Svalbard want to be able to provide local food to their customers, such as meat from Svalbard reindeer and fish from Isfjorden. Such measures contribute both to improving the tourism product and reducing the environmental impact associated with the transport of food. All harvesting in any case must take place within the framework of environmental regulations. Beer brewing and local production of chocolate demonstrate that there is demand for products with a local connection.

For further discussion see Chapter 7, 'Environmental protection', and Chapter 9, 'Economic activity'.

6.2.2 Relocation of public-sector jobs

The Government is considering the possibility of relocating public-sector jobs to Longyearbyen as a

Box 6.1 Fredheim: The trapping station that was relocated



Figure 6.2 Fredheim.

Photo: Helene Mokkelbost, Office of the Governor of Svalbard

Fredheim in Sassenfjorden was the trapping station of the renowned trapper Hilmar Nøis. He spent 38 seasons in Svalbard, 35 of them as a wintering trapper. Fredheim was his main station, and where he wintered most often.

The trapping station consists of the main house, Villa Fredheim (begun in 1924 and completed in 1927), Gammelhytta (built by Fredrik Antonsen and Simon Ingebrigtsen in 1908), and an outbuilding constructed at the same time as the villa and used as an emergency cabin. Fredheim is a popular destination for residents and visitors alike in snowmobile season.

For many years shore erosion had crept towards the trapping station. Had nothing been done, the buildings would have been swallowed by the sea. Various measures were considered, including erosion prevention and moving of the buildings. Gammelhytta was moved six metres from the shore's edge in 2001, but was still not safe.

Actual planning for moving Fredheim started in autumn 2013. Relocation of the station was cleared by the Directorate for Cultural Heritage and the Norwegian Environment Agency, and the project began in earnest in spring 2014.

In the summer of 2014 the buildings were jacked up on steel beams and braced internally, while the floors were removed to avoid damage

during the moving process. In April 2015 all the buildings were hauled by tracked vehicle across snow-covered terrain up onto the brink east of the station, and in the summer of 2015 Fredheim were reassembled internally and externally. All work was performed according to antiquarian guidelines.

The relocation itself went smoothly, without damage to the buildings, thanks to good planning and execution. The building group looks much as it did before, and there are no scars in the terrain.

The Governor, as the responsible authority, must preserve a representative assortment of cultural heritage sites as a reference base and source of experience for future generations. Svalbard's harsh climate is a constant threat to buildings and equipment. Climate change may intensify this threat. Conscious prioritisation is needed to ensure breadth and representativeness for the future.

The Fredheim trapping station is one of the most distinctive and valuable artefacts of cultural history in Svalbard. That is why it was so important to keep the buildings from being destroyed by shore erosion. The project cost about NOK 2 million and was funded by the Governor and the Ministry of Climate and Environment.

contribution to attaining the objective of maintaining Norwegian communities in the archipelago. As a start, the Norwegian Consumer Council is considering establishing three to five office positions in Longyearbyen as part of the agency's reorganisation. The office will answer directly to the council's Tromsø office.

At an extraordinary meeting on 19 February 2016 the Ministry of Health and Care Services gave Norsk Helsenett SF (Norwegian Health Network) the task of planning for the creation of a central service centre providing administrative services to the central health and care services administration as part of its activity. The service centre will be responsible for key functions related to procurement, ICT and records/document management. Norsk Helsenett SF's assignment involves creating a time schedule and work plan to establish the service centre by 1 June 2016 at the latest.

The assignment calls for the service centre to be established in the Oslo area, with redistribution of certain services at a later date to the state-owned enterprise's other locations in Trondheim and Tromsø, or to Svalbard.

6.2.3 Port development

Maritime traffic around Svalbard at present consists largely of cruise and cargo traffic, research-related shipping and some traffic tied to fisheries activity. The trend in recent years has been of generally increasing traffic. Longyearbyen today has

three quays: Gamlekaia (the Old Quay), Kullkaia (the Coal Quay) and Bykaia (the Town Quay). In addition, Turistkaia (the Tourist Quay) has been installed as a floating dock of plastic material. Bykaia and Turistkaia constitute Longyearbyen's public port service, and are the port facilities for heavy cargo and passenger/cruise traffic.

Today there is limited capacity at the port facilities in Longyearbyen, despite relatively heavy traffic to be accommodated in a short season. The capacity limit at Bykaia, which serves the larger tourist and cargo vessels, was reached already in 2005. The number of ships that had to lie at anchor in the 2012–2015 seasons varied between 134 and 179. The total number of port calls in that period ranged from 812 to 1,163. This results in clear limits to whether and how long each cruise ship may dock, and by extension, the degree to which the local economy can take advantage of the cruise traffic.

Longyearbyen's port infrastructure was discussed in Report No. 22 (2008–2009) to the Storting *Svalbard*, where it was pointed out that Longyearbyen, because of increased commercial and industrial activity in the Arctic, should expect to gain in importance as a base for rescue and pollution-control preparedness and for maritime services. Since 2009, the need for expanded port capacity has grown. The trend in recent years shows increasing maritime traffic to the Arctic, both in number and in scale, especially for cruise traffic.

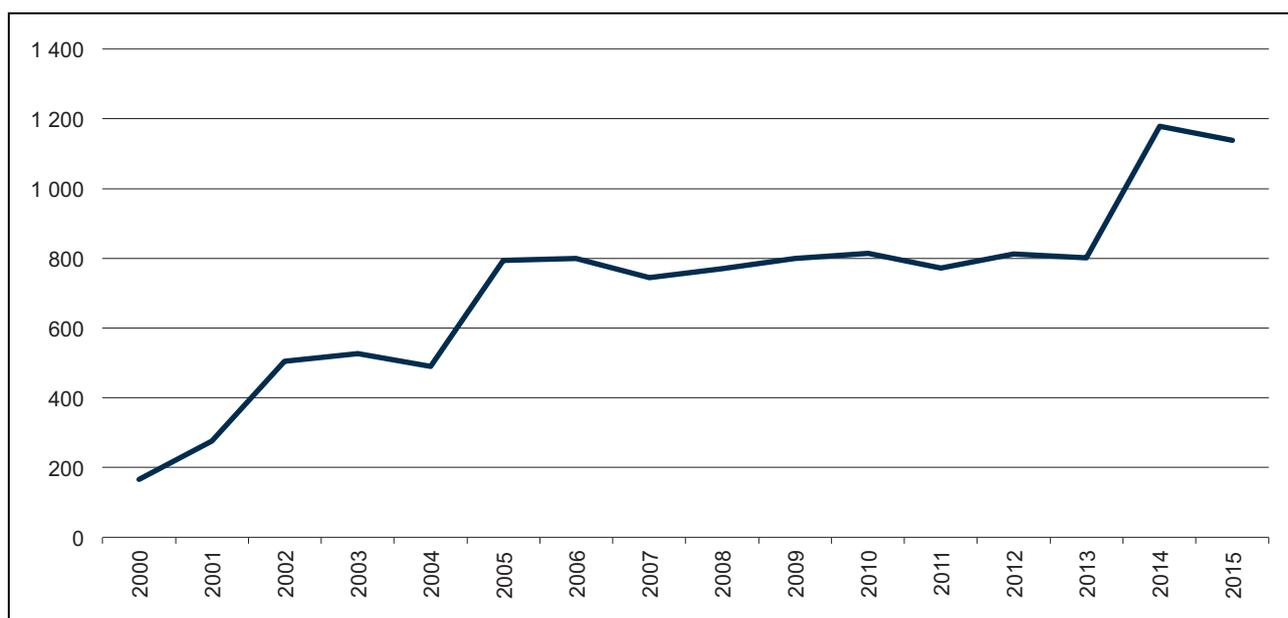


Figure 6.3 Increase in the number of Longyearbyen port calls since 2000.

Source: Longyearbyen Community Council. The figure for 2015 is for the period up to 15 November 2015.



Figure 6.4 Cruise ship in Longyearbyen's port.

Photo: Ståle Nylund, Office of the Governor of Svalbard

A number of studies have been conducted locally to identify and document challenges and opportunities for additional port development in Longyearbyen. As a result, the Longyearbyen Community Council has drafted proposals for new port infrastructure that have been submitted to the Ministry of Transport and Communications.

In the current National Transport Plan (NTP) (see Meld. St. 26 (2012–2013) *National Transport Plan 2014–2023*), up to NOK 200 million in state funds have been set aside in the plan period for upgrading and new construction of port infrastructure in Longyearbyen, based on a cost estimate of NOK 400 million. It is further assumed local actors and private business may contribute to the projects' realisation. In the 2016 central government budget, NOK 15 million has been set aside for planning of new port infrastructure in Longyearbyen. The Norwegian Coastal Administration (NCA) has been tasked with assessing concepts proposed by the Longyearbyen Community Council for upgrading port infrastructure. The NCA's report is scheduled to be available in October 2016.

The aim of the NCA's work is to study the type of port infrastructure necessary to accommodate

Longyearbyen's projected maritime traffic, thus contributing to further developing of the local economy. On the basis of the proposals submitted by the NCA, the Government will determine how to proceed in developing port infrastructure in Longyearbyen.

6.2.4 Svalbard Science Centre

The Svalbard Science Centre opened in 2005 and is the main arena for education and research in Longyearbyen. The University Centre in Svalbard (UNIS) is located at the centre. In addition to UNIS, the centre hosts the Norwegian Polar Institute, the Svalbard Science Forum (Research Council of Norway), the Svalbard Museum and the national cultural history magazine, as well as the University of Tromsø, Akvaplan-niva, the Nansen Environmental and Remote Sensing Center, the Institute of Marine Research, the Norwegian University of Science and Technology, SINTEF, the Japan National Institute for Polar Research and the student welfare association. See discussion of the key actors in Chapter 8, 'Knowledge, research and higher education'. Research in Svalbard is important to the advancement of

understanding in many subjects, and has helped expand frontiers in several scientific disciplines. UNIS has received support from the Ministry of Foreign Affairs to establish a new *Arctic Safety Centre* in Longyearbyen. The Arctic Safety Centre is a collaboration between the Norwegian University of Science and Technology, SINTEF, the Norwegian Polar Institute, the Governor of Svalbard, Pole Position Logistics, SvalSat, the Longyearbyen Community Council, Lufttransport and Visit Svalbard.

The establishment, and subsequent expansion, of the Svalbard Science Centre has contributed to a significant amount of activity with positive repercussions in Longyearbyen. It draws not only students and employees, but also tourists and local residents who are increasingly using what it has to offer, including popular science lectures and the Svalbard Museum. A 2014 evaluation¹ of the Svalbard Science Centre shows that it is also widely used for entertaining and important visits, and concludes that the centre has contributed to a more diverse economy.

The unique natural environment and geographic location, the long polar traditions and the good access to modern infrastructure make Svalbard an attractive platform for both Norwegian and international Arctic research. This is an area in which Norway has an outstanding opportunity to contribute to the development of global knowledge. There is a strong interest in research, and active publication, dissemination and information are vital if this knowledge is to be shared and used. Presentation of research to a broad audience will contribute to this; likewise, conveying what is unique about scientific research and knowledge production in Svalbard could provide support to other activities, such as tourism.

6.2.5 Land development in Longyearbyen

The Longyearbyen Community Council is working on new land-use plan for Longyearbyen. This work will provide the framework for future development in Longyearbyen. As part of the process the Longyearbyen Community Council is considering moving industry-related operations from the port area known as Sjøområdet to Hotellneset, a nearby peninsula, creating at the same time a 'greener' Longyearbyen. This will free up space in

more central areas of Longyearbyen for other potential use, such as housing. It is also the Longyearbyen Community Council's wish to develop Hotellneset into a future business park and to accommodate new economic activity there. A prerequisite for developing the area is facilitation of infrastructure, such as electricity and water supply. There is uncertainty as to the extent of pollution in the ground and the clean-up costs. According to the Longyearbyen Community Council, potential development of Hotellneset will also require construction of a warehouse to store coal.

Efforts to free up space in the centre of Longyearbyen have been further highlighted by the avalanche disaster in December 2015. A number of houses were destroyed and cannot be rebuilt in the area they occupied before the avalanche. This has created a new situation which, in the view of the Longyearbyen Community Council, requires rapid creation of new residential areas that will mean reallocating other land. The Government therefore proposes to increase the allocation by NOK 10 million for residential construction and land development in Longyearbyen. Reallocation undertaken in coordinated fashion should produce positive effects for the Longyearbyen community while facilitating the desired economic development. The council is therefore considering undertaking a speedy examination of land use in Longyearbyen and initiating the work of laying out new infrastructure.

6.2.6 Energy supply

Supplying energy, both heat and electricity, is one of the Longyearbyen Community Council's most important tasks, and also one of the most costly. The Longyearbyen power plant is a coal-fired cogeneration station dating from 1983 that supplies electricity and district heating for the whole of Longyearbyen. The power plant is owned by the Longyearbyen Community Council. To stabilise operations and extend the power plant's life cycle, a large-scale project of maintenance and upgrades has been initiated. The state is covering about two-thirds of the costs of this work.

The overall energy load of the community is large. The power plant currently supplies both electricity and district heating at near its maximum capacity. Demand growth in Longyearbyen could trigger a need for substantial investments in energy production. Establishment and maintenance of infrastructure in an Arctic climate is costly, and the Longyearbyen Community Council already faces challenges in maintaining existing

¹ 'Svalbard forskningspark: Ettorevaluering, desember 2014' (Svalbard Science Centre: Ex-post evaluation, December 2014). Erik Whist, Gro Holst Volden, Knut Samset, Morten Welde and Inger Lise Tyholt Grindvoll (NTNU 2014).

infrastructure. The Government therefore does not want to encourage growth that would quickly trigger a need for major investment in infrastructure such as water supply, heating and power generation systems. It is therefore important that work continue on maintaining existing infrastructure and energy efficiency.

The upgrading of the power plant, which started in 2013, is expected to extend the plant's life cycle by 20–25 years from the start of the upgrade. In the 2012–2014 period, funds were also allocated for the construction of equipment to scrub the plant's emissions of pollutants such as sulphur and particulates. CO₂ emissions at the Longyearbyen coal plant are high in comparison to the amount of energy produced. Over time, UNIS has developed expertise on CO₂ storage possibilities in Adventdalen. The aim of the project has been to investigate whether it is possible to store CO₂ in Adventdalen. The project has also aimed to facilitate CO₂ research and methodology development. The calculations and simulations conducted so far indicate provisionally that it is probably possible to store CO₂ in Adventdalen without CO₂ leakage occurring, but that further testing is necessary to be certain. The project has concluded for the time being.

6.2.7 Water supply

Isdammen, a reservoir, is Longyearbyen's only source of drinking water. The Longyearbyen Community Council is responsible for its operation and maintenance as well as for risks associated with any dam breach and/or water loss. Issues related to sedimentation and leakage are among the significant challenges at Isdammen. The Longyearbyen Community Council has initiated work to secure this drinking water source for the years to come. Isdammen is also the only water source from the beginning of September to the beginning of July each year. The council wants eventually to establish a reserve water source or other solution so water can be supplied if something unforeseen should happen to the primary water source. The council will have the issue examined in the spring of 2016, with engineering and planning of a future reserve source to follow.

6.3 Provision of services

6.3.1 In general

In the previous white paper (Report No. 22 (2008–2009) to the Storting *Svalbard*) it was stated that

Box 6.2 Seed vault

The Svalbard Global Seed Vault is an underground facility for long-term and back-up preservation of duplicate seeds from the world's seed collections. The seed vault, established in 2008, is owned by the Norwegian state and administered by the Ministry of Agriculture and Food. The Norwegian Directorate of Public Construction and Property, or Statsbygg, operates the facility, while the Nordic Genetic Resource Centre (NordGen) coordinates the admission of seeds. The seed vault is the largest of its kind, storing more than 870,000 seed samples from the world's most important crops in 2015. That year, more than 40 per cent of agricultural plant genes were secured here, and new seed samples continue to be added three to four times each year. The aim of Norwegian ownership is to create predictable and secure conditions for the preservation of as much genetic diversity as possible in crops that are important to food and agriculture, and thereby to improve global food security. The seed vault generates considerable international interest, and has raised awareness about the importance of protecting genetic material, as well as about Svalbard and Norway, in part due to media coverage around the world. For the Norwegian Government, it is important to maintain a long-term perspective in preserving the seed collections in the vault.

Longyearbyen should continue to be developed as a qualitatively good community with welfare and other services tailored to the community's size and structure, all within an environmentally acceptable framework. 'Robust family community' is the phrase often used. It was also determined that Longyearbyen was not to become a cradle-to-grave community with fully developed service offerings, and that such a policy was both a prerequisite for the low tax rate and a consequence of there being no requirement in Svalbard for foreign nationals to hold work or residence permits. The Standing Committee on Foreign Affairs said in its consideration of the Svalbard white paper (Recommendation No. 336 S (2008–2009) that «(...) these factors mean that the community frameworks must necessarily be some-



Figure 6.5 Camp Svalbard offers outdoor camp weekends, summer and winter, for youth aged 13 to 18 who are residents of Svalbard. Participants experience Svalbard's natural landscape in safety, with competent instructors and leaders.

Photo: Marianne Stokkereiit Aasen/Longyearbyen Community Council

what different than for local communities on the mainland, and the committee believes this is an appropriate form of organisation». Longyearbyen today is seen as a local community with well-developed infrastructure and good services. The 'normalisation' that has guided community development here in recent years has, in the Government's view, been successful, and Longyearbyen currently exhibits the characteristics of a 'robust family community', with services tailored to its needs. There is no intention to develop services beyond the current level.

Services in Longyearbyen are seen to be by both central and local actors. Basic services are provided by the Longyearbyen Community Council, Longyearbyen Hospital, the Governor of Svalbard and several other actors. The Longyearbyen Community Council also provides all infrastructure services inside the Longyearbyen land-use planning area. It is also responsible for the school, the

kindergartens and the child and family service. A number of other services and facilities, including a library, a sports and swimming hall, a cultural centre and a youth club, are also provided by the community council.

Additional services in Longyearbyen are supplied by others, including both public and private agencies. Examples include infrastructure-related services, such as the airport and data and telecommunications, and service functions such as banking and postal services. Longyearbyen also has a varied assortment of shops, dining and overnight accommodation, restaurants and other entertainment spots.

The Government will continue to facilitate a low taxation level in Svalbard. In conjunction with other framework conditions, this gives an indication of the intended service level in Longyearbyen, and of its continued limitation with comparison to the mainland. For the foreseeable future,

therefore, Longyearbyen will not become a cradle-to-grave community.

6.3.2 Cultural activity

Culture and sports are strong focal points in Longyearbyen. Although institutionalised cultural offerings are naturally limited, the cultural life is extensive, with wide-ranging and diverse options. These include both professional organisations and voluntary activity in most parts of the cultural field.

The Longyearbyen Cultural Centre contains both cinema and stage. Galleri Svalbard presents permanent and temporary art exhibitions. The gallery also offers a residence for visiting artists. Longyearbyen has a public library, and the Svalbard Museum displays exhibits from Svalbard's culture and history to the present day. The Northern Norway Art Museum has established Kunsthall Svalbard at the Svalbard Museum, for temporary contemporary art exhibitions. The Northern Norway Art Museum is also considering the possibility of establishing an artist residence/guest studio in order to accommodate artists who wish to work there.

The cultural arts school offers children and young people fully qualified instruction in a variety of cultural subjects. There is a broad spectrum of clubs and associations, including several sports teams. Sporting facilities include a multi-purpose hall and a swimming hall.

It is important that residents in Svalbard have access to a wide variety of high-quality cultural activity, much as the rest of the country does. This is consistent with the premise of Norwegian cultural policy: that culture has both intrinsic value and value to individual residents. Climate and surroundings may restrict the opportunity of people in Svalbard, compared with people elsewhere in Norway, to develop and express themselves. In this perspective, a well-functioning cultural scene contributes to quality of life and a desire to live in Svalbard. A broad and diverse cultural life also has an affect on other aspects of society.

Cultural affairs can provide important support to the tourism industry, both in terms of cultural expertise and the cultural content in tourism products. Surveys show that tourists increasingly seek out cultural experiences when travelling, and that those who do so represent an affluent customer group. Cultural initiatives could represent an important element in further efforts to develop the Svalbard community; see section 9.4.1, 'The tourism industry'.

Svalbard Church is located in Longyearbyen, and is part of the Church of Norway. The church is open to all, and is also a resource for the other Svalbard communities. The church is an important culture-bearing institution in the local community, and a cultural actor as well. The church serves a unifying function, especially when accidents or disasters strike, and it plays a central role in emergency preparedness. It is important that Svalbard Church be maintained as part of the cultural and social foundation of the community in Longyearbyen and the other inhabited locations in Svalbard.

6.3.3 Health and welfare services

The Northern Norway Regional Health Authority, through the University Hospital of North Norway (UNN Tromsø), is responsible for public health services in Svalbard. The University Hospital of North Norway-Longyearbyen Hospital (UNN Longyearbyen) provides essential health services. The healthcare service in the archipelago is organised differently from the system in the Norwegian mainland, where municipalities are required to ensure that an array of local health and care services is provided. The Longyearbyen Community Council does not have such a responsibility. Longyearbyen Hospital provides some types of service not normally provided in hospitals; see below. Longyearbyen is not a community with services available for all phases of life, so care services and other services of a prolonged nature, such as home nursing care, nursing home stays, respite care, practical assistance, etc. People who need such services must therefore receive them in their home municipalities on the mainland. Foreign nationals without any connection to the mainland will have no such opportunity, and must therefore obtain such services in their own countries. For further discussion of this issue, see section 5.3.1.

Longyearbyen Hospital has six beds for admission and observation. The hospital is prepared for emergency response 24 hours a day. This includes outpatient clinic examinations in cases of suspected illness or injury. Medical treatment and minor surgical procedures can usually be performed at the outpatient clinic, while patients who need to undergo further testing or to be referred to a specialist other than one that Longyearbyen Hospital can offer must seek help on the mainland or in their home country. Emergency medical services are provided to people travelling in the archipelago and adjacent waters, without their being

resident in Svalbard. In Barentsburg, the mining company Trust Arktikugol has a healthcare service in connection with its operations, but Longyearbyen Hospital helps when needed.

Emergency medical services in Svalbard consist of an emergency medical dispatch centre (AMK), an emergency assistance service, an ambulance service, off-road rescue in cooperation with volunteers, a rescue helicopter service organised by and in cooperation with the Office of the Governor, and an air ambulance service to the mainland. Longyearbyen Hospital is part of the University Hospital of North Norway (UNN Tromsø) and cooperates with UNN Tromsø, sometimes via video-based medical emergency interaction (VEMI). This enables medical consultation and guidance from UNN Tromsø to employees at Longyearbyen Hospital.

Longyearbyen Hospital provides some types of service not normally provided in hospital, including services comparable to primary healthcare on the mainland, such as general practice medicine, midwifery, health visitor services and physiotherapy. The hospital also has a dental service and an occupational health service, but no permanent psychologist service.

Treatment costs and deductibles for health services rendered at Longyearbyen Hospital are covered largely in accordance with rules and rates applicable on the mainland. In cases where the patient is neither a member of Norway's National Insurance Scheme while in Svalbard nor covered by a mutual agreement Norway has concluded with another country, and which includes Svalbard, the patient must either have insurance that covers the expenses or pay directly for the treatment. The EU regulation on the coordination of social security systems (Regulation 883/2004), whose area of application includes medical assistance in the European Economic Area, does not apply to Svalbard.

Veterinary service

There are animals in Svalbard, too, and dog keeping is widespread, especially in the tourism industry. On the mainland, animal health and welfare are safeguarded through special legislation, including the Food Act and laws governing animal welfare and animal health personnel. The Ministry of Agriculture and Food is the competent ministry for this legislation. The Food Act and the Animal Welfare Act are applicable in Svalbard. The Act relating to veterinarians and other animal health personnel, however, does not apply to the

archipelago. On the mainland, municipalities are responsible for ensuring satisfactory access to veterinary services, which are performed by private-practicing veterinarians. Municipalities are also responsible for organising on-call clinical veterinary services. In 2013 a private veterinary practice was established in Svalbard. It has received annual subsidies from the Ministry of Agriculture and Food. The Ministry of Justice and Public Security has also contributed start-up support.

On the mainland, no veterinarians in private practice receive support from the Ministry of Agriculture and Food. Certain municipalities where economic activity is sparse and access to veterinarians is unstable are provided government grants for measures to secure adequate supply of veterinary services. As mentioned, the Act relating to animal health personnel is not applied in Svalbard. Nor is Svalbard a municipality in its own right, which means mainland systems and programmes related to this topic are not automatically transferrable. The possibility of making the Act relating to animal health personnel applicable in Svalbard will be considered in connection with an upcoming revision of the act.

6.3.4 Children and youth

The number of children and young people in Longyearbyen has grown in step with the development as a family community. While in 2008 there were 372 people aged 0–19 in Longyearbyen, the number in the 2015–2016 school year was 430.

There are two kindergartens operating in Longyearbyen. Both are run by the Longyearbyen Community Council, with all-day care available for children aged 0–6. The coverage rate in Longyearbyen is currently 100 per cent, and places are made available within three months of application. After several years of a growing child population and expansion in day-care capacity, the number of children in day-care has now declined from 145 children in 2012 to 107 in 2015, and the operating level has been adjusted accordingly. During the same period, the proportion of foreign children in the kindergartens has risen from 20 per cent in 2013 to 32 per cent in 2015.

The Longyearbyen Community Council is also responsible for schooling in Longyearbyen. Longyearbyen School has a primary and lower secondary school as well as a department for upper secondary education; after-school and cultural arts programmes are also available. The Governor of Troms county supervises the school, while the Governor of Svalbard assists on issues relating to



Figure 6.6 Every year on 8 March, the return of the sun is marked with a traditional gathering on the old hospital steps at Skjæringa.

Photo: Anastasia Gorter, Office of the Governor of Svalbard

matters in Svalbard. In the 2015–2016 school year, there are 225 primary and lower secondary school pupils and 25 pupils receiving upper secondary instruction. Ten per cent of the pupils are from outside Norway.

As mentioned in section 5.3.5, the Education Act and the Kindergarten Act determine the framework for the Longyearbyen Community Council's duties in providing for education. According to the regulations, education at the primary and lower secondary level must be provided, while the council may choose to provide upper secondary instruction. The Education Act also contains provisions on individual adaptation for pupils with special needs.

The regulations pertaining to schools and kindergartens in Longyearbyen are described in more detail in section 5.3.5. Due to the operative principle of applying them «to the appropriate degree» or «circumstances permitting», a need has arisen to clarify the scope of the council's duties in a number of areas. With regard, for example, to the duty to provide special education for pupils in the upper secondary level, the Minis-

try of Education and Research has ruled that the Longyearbyen Community Council is not obliged to provide such instruction. The ministry has nevertheless urged the council to do as much as possible to adapt its upper secondary instruction, to the degree local conditions permit, for the benefit of pupils with special needs.

Report No. 22 (2008–2009) to the Storting *Svalbard* indicated furthermore that the Longyearbyen Community Council itself must consider which special services to provide beyond what is necessary under statute, but to do so «on the basis of an overall evaluation», taking into account the resources that such services require and proportionality with regard to the rest of the services provided.

This presents the Longyearbyen Community Council with challenges and hard choices involving both its direct obligations and any additional services it is to provide, in which case different needs must be weighted and prioritised. The fact that many pupils are foreign nationals raises special issues. The council has therefore asked for guidelines on how the regulations should be practiced, and which services are to be provided.

Table 6.1 Population in Longyearbyen, by nationality.

Country	2009	2010	2011	2012	2013	2014	2015*	2016**
Norway	1652	1604	1637	1643	1569	1557	1513	1472
Thailand	93	92	103	103	112	111	116	116
Sweden	65	72	91	94	107	125	123	141
Denmark	32	27	31	37	30	41	43	40
Germany	26	23	23	25	25	30	38	39
Russia	30	35	39	42	42	47	47	50
Ukraine	8	9	10	13	16	23	26	21
Philippines	10	12	16	18	20	27	37	40
Other, Europe	51	57	64	80	87	117	133	144
Other, outside Europe	27	32	54	52	48	54	68	67
Total	1994	1963	2068	2107	2056	2132	2144	2130

* as of 1 December 2015

** as of 1 April 2016

Source: Svalbard Tax Office

The Government wishes to emphasise that the low taxation level and the fact that immigration legislation does not apply to Svalbard make for special framework conditions in the local community of Longyearbyen. Longyearbyen is not intended to be a cradle-to-grave society, and the aforementioned framework conditions are dimensioned for the services that are to be provided, and by extension for the expectations residents should have regarding, for example, special services for children and youth. The Government therefore believes that the adapted school services and the restrictive practice currently in place should be continued, and that providing services beyond the current level is not an objective. Nor, accordingly, should the Longyearbyen Community Council provide services of a clear social-policy character.

Further work will therefore be done, as also mentioned in section 5.3.5, to clarify the council's obligations with respect to the Kindergarten Act, the Education Act and the proposed act on gender equality and prohibiting discrimination. This work will also include clarifications needed as a result of structural and quality-based child welfare reforms, and changes in the division of responsibility between the state and the municipalities.

6.3.5 Foreign nationals

Opportunities for gainful employment and a reasonably well-developed list of services, along with the fact that work and residence permits are not

required in Svalbard, have made it attractive for foreign nationals to settle in Longyearbyen. The population structure is therefore changing. The number of foreign nationals has increased from 326 in 2008 to 658 as of 1 April 2016; it has in other words almost doubled. The number of Norwegian nationals, however, has decreased in the same period, from 1,692 to 1,478. While foreign nationals accounted for 15 per cent of the population in 2008, the proportion on 1 April 2016 was about 31 per cent. In primary and lower secondary school, about 10 per cent of the children are foreign nationals, while in the kindergartens the figure is about 32 per cent. In one of the kindergartens, 37.5 per cent of children are foreign nationals, from 11 different countries.

This population trend raises several issues that relate in particular to the situation of children and youth. While the services provided in Longyearbyen are available to all residents, including foreign nationals, it is indeed limited, and does not address all needs, certainly not across the entire human life span. Even a prolonged stay in Longyearbyen will not by itself open the way to a further stretch of time on the mainland for foreign nationals; see discussion in section 5.3.3. This is also the case for foreign children born during their parents' stay in Svalbard. Norwegian nationals may travel to the mainland for further schooling and studies, and to their respective mainland municipalities to fulfil any care needs. Foreign nationals without such ties have no such opportunity, apart from a limited access to upper second-

ary education. They must therefore return to their home country to fulfil their needs. This may become a challenge, especially for second-generation and, eventually, third-generation children born during their parents' stay in Longyearbyen, and when ties to the home country over time may have become weak.

Responsibility in such situations rests with the parents. Just as the Norwegian authorities do not wish to facilitate life-long residence for Norwegians in Svalbard, it is not up to the Norwegian authorities to facilitate life-long residence for foreign nationals who choose to stay in Svalbard. It is therefore important that foreign nationals who come to Longyearbyen be given clear, accurate information about the applicable legal and practical constraints of life there, including the limited range of services and the fact that a life-long stay in Longyearbyen cannot be pursued. It will also be important to advise foreign nationals that they have no access to welfare benefits on the Norwegian mainland, and that they will therefore need to maintain contact with their home country. On the mainland, municipalities are responsible for various introduction programmes for foreign nationals. Although these programmes are inapplicable to Svalbard, it is natural for the Longyearbyen Community Council to have primary responsibility for providing such information, in close cooperation with other authorities, such as the Norwegian Labour and Welfare Administration and the Governor of Svalbard.

When it comes to services specifically geared to foreign nationals, the Longyearbyen Community Council has, as mentioned, no obligation to offer introduction programmes, etc. Although the council offers Norwegian-language instruction for newly arrived foreign nationals, the Government does not intend to make provision for, or fund, additional introduction programmes or other accommodations specifically for foreign nationals in Longyearbyen.

The Longyearbyen Community Council has also pointed out that in certain areas it will be necessary to clarify whether it is obliged to fund services for foreign children; this concern will be followed up in dialogue with the relevant ministries.

6.4 Summary

The Government will:

- Seek to maintain Longyearbyen as a viable local community that attracts families and helps fulfil and support the overriding objectives of the Svalbard policy.
- Further develop the Longyearbyen community, with various types of development under continual assessment.
- Facilitate continued development of existing activities such as tourism, research and higher education, as well as a broad and varied range of economic activities.
- Facilitate the possibility of maintaining some activity at Svea during a restructuring period for Longyearbyen, while mining operations at Svea and Lunckefjell are suspended.
- Strengthen the Longyearbyen community by increasing funding for housing and land development in Longyearbyen by NOK 10 million.
- Facilitate employment and restructuring in Longyearbyen, using funds provided in the estimated accounts for the 2015 central government budget.
- Continue efforts to facilitate development of sound infrastructure in Svalbard, including energy and water supply.
- Decide on further work to develop port infrastructure in Longyearbyen once the Norwegian Coastal Administration's conceptual study is completed.
- In close consultation with tourism operators, take coordinated action to better facilitate tourism in Management Area 10, which includes the Isfjorden area and areas surrounding the inhabited locations.
- Consider facilitating closer contact between the Governor of Svalbard and the local tourism industry by redirecting resources for this purpose.
- Enable the Northern Norway Art Museum to consider establishing a residence/guest studio for visiting artists.
- Consider relocating public sector jobs to Svalbard to help achieve the objective of maintaining Norwegian communities in the archipelago.

7 Environmental protection

7.1 Introduction

Protection of the natural environment is a key element in the Svalbard policy, and the preservation of Svalbard's distinctive natural wilderness has long been an overriding objective of this policy. This is also a result of the Svalbard Treaty, which contains provisions concerning the preservation of Svalbard's natural environment. Svalbard has a natural and cultural heritage of international significance and value, which Norway has a special responsibility to preserve. This was emphasised in the two previous white papers concerning Svalbard.

The overriding objectives of the Svalbard policy remain unchanged, and will ensure comprehensive and balanced management of the archipelago. Preservation of the area's distinctive natural wilderness is one of these overriding objectives. More specific objectives for environmental protection in Svalbard have also been issued, and have long guided its management policy (see section 7.2). These objectives, too, remain unchanged. At the same time, the management of natural and cultural heritage sites in Svalbard must take into account the fact that Svalbard's communities and its environment are both changing, and must facilitate necessary restructuring and further development in line with the objectives that have been set. One of the overriding objectives of the Svalbard policy is to maintain Norwegian communities in the archipelago. Accordingly, activities that ensure this must be facilitated. Experience to date shows that significant growth in tourism and research and the further development of existing mining operations have been possible within the framework of existing environmental regulations and objectives.

The magnificent nature and abundant animal life of Svalbard offer significant opportunities for nature experiences and nature-based tourism. With the exception of a few particularly vulnerable areas, almost all of Svalbard is accessible to vessel-based tourism when ice conditions permit. This is also the case inside the protected areas, where extensive activity in the form of adventure

cruises already takes place in the summer season. In spring, large areas are accessible for snowmobile trips starting from, for example, Longyearbyen, even though certain areas are protected from such traffic so as to accommodate non-motorised tourism and outdoor recreational activity. Svalbard also offers unique opportunities to research climate change and the environment in the Arctic, in a natural environment that is relatively untouched by other influences. Its geographical position also makes Svalbard an attractive location for a various types of space-related activity. Moreover, Svalbard is relatively easily accessible and has a highly developed infrastructure by Arctic standards. By deliberately capitalising on these advantages, Norway has allowed research, higher education, space activity and nature-based tourism to grow and become important activities that also make up an increasingly large part of the foundation for Norwegian communities and presence in Svalbard. These activities over time have also led to a rise in traffic in Svalbard's natural environment, and to the need for better forms of facilitation and, as needed, regulation to protect the environment in the long term.

Given the uncertainty about the future of continued mining in Svea, the Longyearbyen community now faces a restructuring in which activity and traffic levels linked to tourism, research and higher education, among others, may increase further. Such an increase in activity and traffic will heighten the need for management based on knowledge.

The environmental regulations and environmental objectives in Svalbard establish the framework for all activities. Within that framework, however, there is latitude for additional activities related to tourism, research and higher education.

This chapter describes the challenges these developments represent and announces some new measures to facilitate necessary restructuring and further development, and to ensure that this can be achieved within the framework of the Svalbard Environmental Protection Act and the environmental objectives.



Figure 7.1 Svalbard reindeer and Svalbard rock ptarmigan grazing together.

Photo: Nicolas Lecomte, Norwegian Polar Institute

In close dialogue with the relevant actors in Svalbard, the environmental authorities will now take coordinated action to better facilitate tourism in the zone known as Management Area 10, which includes the Isfjorden area and areas surrounding the inhabited locations (see map in Figure 6.1). With this in mind, the first phase of this work will be initiated as soon as possible, ensuring a comprehensive approach to the construction of new commercial tourist cabins and the use of temporary facilities for the tourism industry in winter. Efforts will also begin on the consideration of accommodating vessel disembarkation at selected locations in the Isfjorden area and to put in place better frameworks for non-motorised tourism products such as skiing and dogsledding trips.

An active visitor management strategy will ensure that use of protected areas is facilitated in such a way as to permit the best possible visitor experience while at the same time increasing respect and understanding for the protection and safeguarding of the natural and cultural heritage assets. Through good dialogue with the users, the authorities will ensure a management that takes

into account the challenges climate change creates for the environment and for activities such as tourism and research.

The Government will also secure natural assets and cultural heritage sites located near inhabited locations and important for tourism, recreation and the local population. Furthermore, a process has begun to assess whether there is any basis for nominating parts of Svalbard as World Heritage sites, due to the internationally significant natural and cultural heritage found there.

To ensure comprehensive, long-term management, the Government will continue developing management plans for the protected areas in Svalbard. These plans will facilitate activity in accordance with the purpose of the protection and the protection provisions. Another important objective is to adapt management policy to the rapid climatic and environmental changes Svalbard is facing. In order to facilitate activity and ensure sound coordination of management inside and outside the protected areas in Management Area 10, management plans will be drawn up that include both protected and unprotected areas.

7.2 More on the environmental objectives for Svalbard

Protecting Svalbard's distinctive natural wilderness is one of several long-established overriding objectives of the Svalbard policy. The purpose of the Svalbard Environmental Protection Act, which entered into force in 2002, is to preserve a near-pristine environment in Svalbard with regard to contiguous areas of wilderness, landscape, flora, fauna and cultural heritage. Within this framework, the act allows for environmentally sound community, research and business operations.

In Report No. 22 (2008–2009) to the Storting *Svalbard*, which the Storting endorsed through its consideration of the white paper (Recommendation No. 336 (2008–2009) to the Storting), more detailed objectives were set for protecting the environment in Svalbard. Apart from some minor adjustments, these objectives are the same as those stated in Report No. 9 (1999–2000) to the Storting *Svalbard*.

The objectives are as follows:

- On the basis of its internationally significant natural and cultural heritage, Svalbard shall be one of the world's best-managed wilderness areas.
- Within the framework set by the Treaty and considerations of sovereignty, environmental considerations shall prevail in the event of conflicts between environmental protection and other interests.
- The extent of wilderness areas shall be maintained.
- Flora, fauna and cultural monuments that warrant protection should be preserved virtually intact, and natural ecological processes and biodiversity must be allowed to evolve virtually undisturbed by human activity in Svalbard.
- There shall be large and essentially pristine nature areas in Svalbard that meet the need for reference areas for climate and environmental research.
- The possibility to experience Svalbard's natural environment undisturbed by motorised traffic and noise shall be ensured, including areas that are easily accessible from the inhabited locations.

The Government will continue to use these environmental objectives as the basis for its management of Svalbard. At the same time, within the scope of the objectives and applicable legislation, the Government considers it important to facilitate further necessary development in the inhabi-

tated locations and development of new and sustainable activities.

7.3 Challenges and measures

7.3.1 State of the environment

After consideration of Report No. 22 (2008–2009) to the Storting (see Recommendation No. 336 (2008–2009) to the Storting) it was concluded that the state of the environment in Svalbard was generally good, and that this provided a good starting point for successfully protecting Svalbard's natural wilderness.

It was pointed out that the climate in Svalbard was changing rapidly, and that we were already witnessing the first impacts of climate change on some stocks. It was also stressed that there was a risk that steadily growing traffic would affect an increasing number of locations and areas in Svalbard.

The state of the environment in Svalbard is still generally good, and for some species, such as the walrus, stocks have continued to regenerate and increase after previous overexploitation. The impacts of climate change have become even clearer, and are now better documented. We have gained more knowledge about the vulnerability of ecosystems to climate change on land, in the sea and in pack ice, and new studies show that climate change poses the most serious threat to species and ecosystems in Svalbard and in the Arctic region generally. Although the level of different types of activity in and around Svalbard has increased, the impact of current human traffic and other local activity is considered moderate.

7.3.2 Current policy instruments

Svalbard already has a modern framework of environmental regulations and a well-functioning system for managing natural and cultural heritage sites; these provide a good starting point for handling the environmental protection challenges that Svalbard faces. The regulations offer many opportunities for development within the existing framework.

The most important policy instrument for achieving the environmental objectives for Svalbard is the Svalbard Environmental Protection Act and accompanying regulations. The act, which entered into force in 2002, is a framework act. Its purpose is to maintain a nearly intact environment in Svalbard with regard to contiguous areas of wilderness, landscape, flora, fauna and cultural herit-

age. Within this framework, the act allows for environmentally sound community, research and business activity.

The act contains more detailed provisions on a number of environmental topics. The Svalbard Environmental Protection Act and accompanying regulations govern area protection, encroachment into the natural environment and traffic, protection of cultural heritage sites, land-use planning in the communities, local pollution and waste, and hunting, trapping and fishing. This legislation lays down the framework for all activity and land use that may have an impact on the environment. Within the protected areas, the protective regulations are the most important tool for setting limits on activity and land use. In the areas that are not protected, activity and land use are governed by a strict, general environmental regulatory framework. In land-use planning areas surrounding the inhabited locations, the Svalbard Environmental Protection Act and accompanying regulations define the framework for land-use planning and activity that may impact the environment. Almost 14 years after coming into force, the Svalbard Environmental Protection Act has shown that it satisfactorily addresses the need for comprehensive, long-term management of the archipelago. Moreover, the act has not prevented a significant increase in activity during that period. The regulations governing environmental matters remain unchanged, and the Government will carry them forward as a predictable framework for all activity in Svalbard.

The protected areas in Svalbard cover 65 per cent of the land area and 87 per cent of the territorial sea. Between 2002 and 2006, protection of these areas was supplemented and expanded on the basis of geographical analysis, so that all of Svalbard's main ecosystems are sufficiently encompassed. New geographical and environmental data have been obtained since then, but important knowledge gaps still exist as to whether the protection is sufficiently representative of all of Svalbard's natural environment. To safeguard areas with special qualities, protection may still be regarded as an appropriate policy instrument.

Management plans have been drawn up for the nature reserves in East Svalbard, as well as draft management plans for the national parks and bird sanctuaries on the west side of Spitsbergen. A management plan is being developed within the framework of the protection regulations, elaborating on them and rendering them more specific. The plan should provide predictability through

specific guidelines for area use, information, case processing, etc.

The current legislation provides a good starting point for dealing with future challenges because intact ecosystems in themselves help make nature more resilient to the impacts of climate change. The Government will therefore continue to pursue the current protection policy. At the same time, necessary adaptation and flexibility for managing climate change and increasing activity will be addressed. Management plans serve as an important tool in this context.

In Svalbard there is a close connection between life on land and life in the adjacent areas of sea and pack ice. These marine areas are important habitats for many species found in Svalbard, particularly ice-dependent species such as the polar bear, and Arctic seal and whale species. The surrounding marine areas are also feeding areas for Svalbard's seabird populations.

The environmental regulations in Svalbard are applicable in Svalbard's territory as far as the territorial limits. Many species in Svalbard are migratory or belong to stocks that inhabit large parts of the marine and pack-ice areas surrounding the archipelago. It is important that these stocks be managed and protected with equal effect throughout their area of distribution. Consequently, the management plans and regulations that govern activity in the waters around Svalbard are also important for environmental protection in Svalbard. Management of areas outside the territorial limits is not a topic of discussion in this white paper, however.

For seabirds and marine mammals at the top of the marine food chains, the management and control of fisheries in the territorial sea and the Fisheries Protection Zone around Svalbard are vital. This topic is discussed in more detail in section 9.4.7. Fulfilment of international obligations to protect migratory species and stocks we share with other countries, as well as vulnerable species and ecosystems, is also vital to environmental protection in Svalbard.

7.3.3 The significance of climate change for environmental management

The temperature in the Arctic is rising approximately twice as fast as the global average, and Arctic species and ecosystems are particularly vulnerable to climate change. Svalbard and the surrounding marine areas are among the parts of the Arctic where these changes are occurring fastest, and where natural and cultural heritage

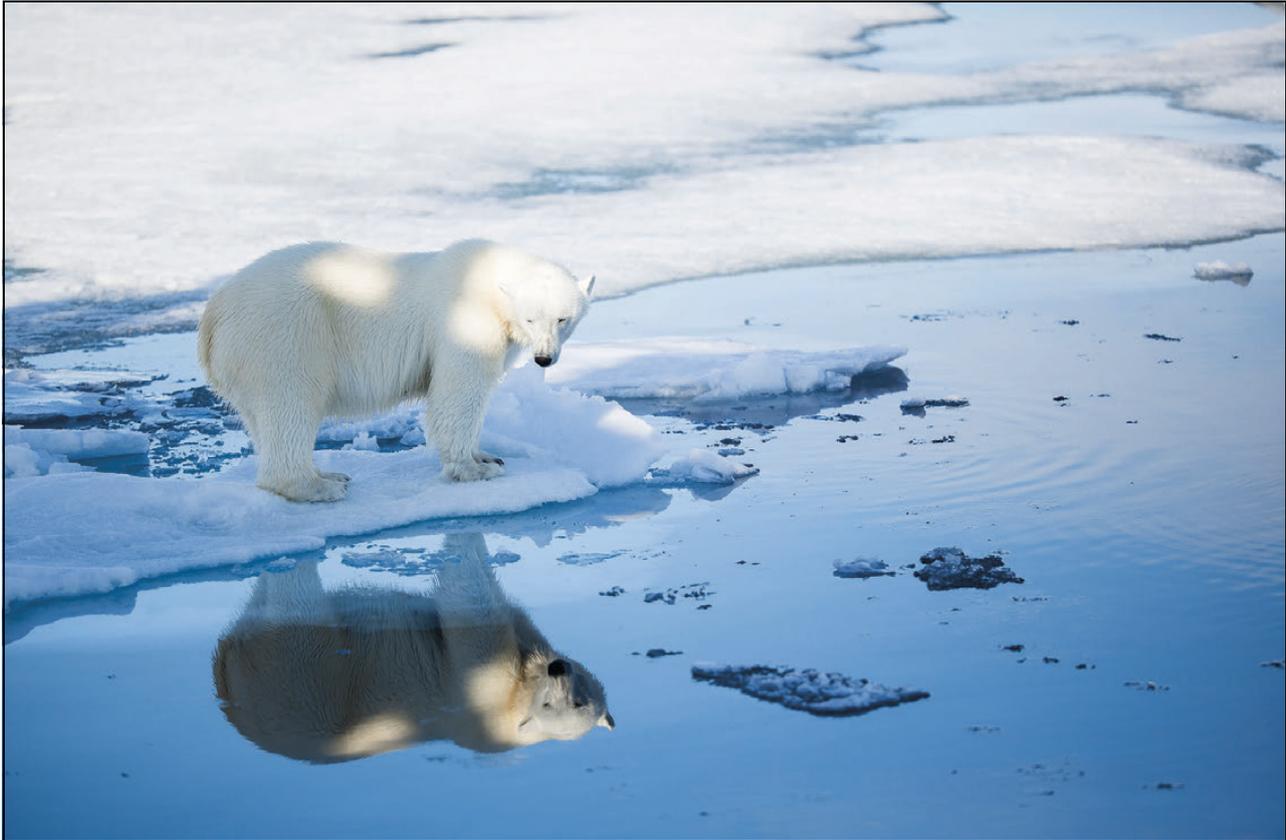


Figure 7.2 Polar bear.

Photo: Jon Aars, Norwegian Polar Institute

sites are expected to suffer the worst consequences.

In its latest report, the UN Intergovernmental Panel on Climate Change concludes that the risk of significant changes in Arctic ecosystems in the long term is extremely high. Climate changes will reduce the habitats of several species found in the Arctic today. Many of these may eventually disappear from increasingly large parts of the Arctic region, and Svalbard is among the areas where this is expected to occur with greatest rapidity. This is because the sea ice surrounding Svalbard is retreating faster than in most other parts of the Arctic and because Svalbard, as a result, is an area where climate models predict the temperature will continue to rise particularly fast.

In addition to the direct environmental impacts of these climate changes, retreating sea ice will make more and more of Svalbard's coastal and marine areas accessible for activity for much of the year. This presents opportunities for a continued rise in maritime traffic related to cruise tourism and fishing around Svalbard and in the northern Barents Sea, but also the potential for greater environmental impact and risk.

Together with other environmental impacts, including changes in activity, rapid climate changes pose a significant and growing challenge to environmental protection in Svalbard. Continual change in future environmental conditions is therefore something the environmental management authorities must take into account, and to which the tourism industry and other activities must adapt.

The restructuring process facing Longyearbyen may lead to increased activity and, as a result, heighten the challenges related to traffic. Such an increase in traffic must therefore be managed in a way attuned to the rapid changes in climate and environmental conditions. This means that management of local activity must account sufficiently for species and habitats that are exposed to increasing pressure as a result of climate change. This applies not least to ice-dependent species such as the polar bear and seals, which are at risk of having their main habitats significantly reduced as the sea ice gradually retreats. The combination of increased traffic and climate changes underlines the importance of having plans in place to manage the areas sur-

rounding the inhabited locations (Management Area 10). Such plans will facilitate further development of various nature-based tourism products while taking into account the increasing pressure on the environment stemming from such factors as climate change. They will also help provide predictable conditions for the business community while providing the authorities with a useful management tool for the area.

Ocean acidification caused by increased uptake of carbon dioxide from the atmosphere by the ocean is an increasingly important factor affecting Arctic marine ecosystems. Ocean acidification occurs faster in the Arctic because cold water absorbs more carbon dioxide. In the long term it must be expected that ocean acidification may have significant consequences for the marine ecosystems around Svalbard. This phenomenon will interact with climate change in ways that are hard to predict, but that could affect plankton and other key species and therefore the structure and function of marine ecosystems.

Increased environmental impact caused by climate change and ocean acidification are considerations that must be incorporated into the management of species and their habitats, and that may have significance for activity frameworks. Environmental management can facilitate desired development by learning from experience and by accessing and exploiting new knowledge. Important prerequisites for such management include a set of clear, verifiable environmental objectives, continuous monitoring of the state of the environment, development of models for predicting changes, and regular assessment of the state of the environment and goal attainment. Such management must also include sound processes for involving those affected by the measures. The Government will further develop environmental management in Svalbard to ensure that these prerequisites are in place. The Government is determined to safeguard species and habitats that may be exposed to further pressure resulting from climate change and ocean acidification combined with other impact factors. Important tools in this context are management plans and practical implementation of the Svalbard Environmental Protection Act.

7.3.4 Challenges related to traffic and other activity

Despite increased activity in and around Svalbard, the scope of the impact resulting from traffic and other local activity is still deemed moderate. Few

conflicts have been registered between organised tourism activity and natural and cultural heritage assets as a result of today's tourism activity. One reason for this may be sound industry procedures and attitudes with regard to complying with environmental regulations, and training for guides that results in an emphasis on careful management of traffic by operators. Emphasis is also placed on reaching out to individual tourists with good information about regulations and safety measures.

Since the previous white paper on Svalbard, tourism and traffic levels have increased, as has international interest in Svalbard as a platform for Arctic research.

In the Barents Sea, fishing for fish species such as cod and haddock has extended more to the north in recent years. Simultaneously, cruise traffic and research activity have contributed to a rise in maritime traffic in the waters surrounding Svalbard. On land, too, traffic is increasing and traffic patterns are changing as a result of climate change and retreating sea ice. This is the case for cruise ship disembarkations and snowmobile traffic alike. These trends have been managed satisfactorily through existing policy instruments, and the tourist industry has adopted its own measures to help limit the environmental impact. Tourism and research are activities that contribute much-needed knowledge and create good ambassadors of environmental protection in Svalbard as a result of the natural experiences they provide. These activities may also contribute to restructuring needed in the years to come. However, these types of activities also create more traffic. Through the use of current regulations and management plans, traffic through the natural environment will be managed so as to allow such traffic to increase in a way that is sustainable and that addresses environmental considerations in line with current objectives.

Report No. 22 (2008–2009) to the Storting *Svalbard* pointed out that Svalbard could be divided roughly into three zones according to acceptable levels of impact from traffic. The lowest impact level is accepted in the nature reserves. In the three large national parks established in 1973, slightly higher levels of traffic and impact are accepted. In the remaining areas, which encompass central Spitsbergen including the Isfjorden area and the inhabited locations, traffic impacts are more acceptable than in the nature reserves and the national parks established in 1973. This three-way division will continue in the implementation of environmental regulations and the development of management plans.

A growth in tourism may have significance for the natural environment and cultural heritage sites in the Isfjorden area. This area contains national parks, other protected areas and areas that are not protected. We must therefore assist in managing use of this area so as to ensure the best possible visitor experience while at the same time increasing respect and understanding for the protection and safeguarding of the natural and cultural heritage assets. The work on visitor management related to national parks on the mainland will serve as an important reference base in this connection, and similar processes should be implemented in the Isfjorden area. Growth in tourism and other activities also heightens demand for knowledge about vulnerable areas and resource deposits, and about which areas can tolerate increased use. In the summer of 2015, the Governor of Svalbard and local tourism industry actors conducted such vulnerability studies of some areas in Isfjorden. Further mapping and development should rely on a comprehensive methodology based on the Norwegian Biodiversity Information Centre's 'Nature Types in Norway' classification system. On the basis of such mapping, work will be initiated to facilitate disembarkation at selected locations in the Isfjorden area.

In 2007 permission was granted under the Svalbard Environmental Protection Act to establish three cabins for commercial use in connection with tourism in Svalbard. See section 6.2.1 for further discussion of cabins for commercial use and other measures to facilitate further development of the tourism industry inside Management Area 10.

Management plans will be drawn up for the national parks in central Spitsbergen. This work will also include assessing management of the intervening non-protected areas in order to adopt a comprehensive approach to different types of traffic and other activity in the areas surrounding the inhabited locations. This particularly applies to Management Area 10 (see map in Figure 6.1) and the busiest traffic areas on the east coast.

In a comprehensive plan like this, guidelines on traffic in different areas must be assessed according to where increased traffic is desirable and where concern for natural assets makes increased traffic undesirable.

Important measures have already been launched in Svalbard in response to retreating sea ice, easier access and increased exposure of vulnerable species and nature areas to traffic. Regulations governing the large nature reserves in eastern Svalbard, for example, have been amended to include certain restrictions on traffic in selected

areas. In 2007, ships were banned from carrying heavy fuel oil through these nature reserves. In 2009, the ban was expanded to apply to all parts of the national parks on the west side, with some time-limited exemptions that were repealed in 2015. Exemptions still apply for sailing to and from Sveagruva. This significantly reduced the risk of environmental damage caused by emissions of heavy fuel oil inside the largest part of Svalbard's territorial sea. Maritime safety and emergency preparedness are discussed in more detail in Chapter 10.

The environmental management authorities will pay closer attention to traffic in areas with important and vulnerable environmental assets. Emphasis will be placed on good dialogue with users to find solutions that take into account the challenges for activities such as tourism and research that could arise from possible changes to the framework governing traffic. Changes in the framework must be followed up with specific information and increased supervision during critical periods. Consideration of new measures may also evaluate alternative traffic routes and solutions to ensure predictability for the tourism industry.

Less snow and fjord ice in springtime could also make snowmobile trails impassable and thereby affect conditions for tourism and other activity. At the same time, less sea ice will make it easier to reach many areas by boat for longer periods during the year. During winters with little fjord ice, most snowmobile traffic will be concentrated in areas where ice is still found. In such situations, both snowmobile traffic and animal life will be concentrated in the remaining ice-covered areas, and animals will be exposed to an increasing level of disturbance. The environmental management authorities have circulated for public consultation a proposal to amend the regulations governing motorised traffic in Svalbard. The proposal involves expanding the area where visitors can operate snowmobiles when participating in organised tours or when accompanied by permanent residents. The background for the proposal is that a decline in fjord ice in Tempelfjorden and Billefjorden has created a need to protect animal life from motorised traffic on the fjord ice as well as a need on the part of tourism operators for an alternative route to Pyramiden when the fjord ice is unsafe. Allowing an alternative route across the glacier systems will address both the tourism industry's need to arrange tours to Pyramiden and the need to avoid disturbing polar bears and seals at a sensitive time of the year.

When considering traffic related to research and monitoring, the needs and opportunities for knowledge development – to provide a basis for Svalbard’s management, among other things – will have to be balanced against the need to avoid traffic in vulnerable areas and at the most sensitive times of the year. In general the need for updated knowledge about the environment and changes in the state of the environment is growing because of the speed of climate change. The Svalbard Environmental Protection Act contains rules governing permits for motorised traffic. These stipulate, among other things, that management must take into account the objective to limit motorised traffic in Svalbard when processing applications for permits for motorised traffic.

Supervision and the exercise of authority will also create a need to travel in vulnerable areas from time to time, including periods when disturbances should be avoided. Nonetheless, the clear objective for such activity must be to keep traffic in vulnerable areas to an absolute minimum.

7.3.5 Infrastructure development into nature

With the exception of a few areas surrounding the inhabited locations and the mines in Svalbard, the archipelago appears as a large, contiguous wilderness area with no elements of heavy infrastructure development such as roads or power lines, etc.

In principle, infrastructure development in protected areas is not permitted. In areas that are not protected, the Svalbard Environmental Protection Act places restrictions on permits and conditions for activities that involve infrastructure development.

The Svalbard Environmental Protection Act stipulates that settlement and business activity as a rule should be located in the land-use planning areas. Establishment of mining operations requires permission under the Svalbard Environmental Protection Act, and the holding of claims does not give entitlement to infrastructure development in Svalbard. The restrictive practice governing permits and conditions under the Svalbard Environmental Protection Act will be pursued in respect of activities that result in the infrastructure development of natural areas and landscapes outside the established inhabited locations and mining areas. This practice is based on the environmental impact of the activity in question. This means, in the case of applications to conduct activities such as exploratory drilling for minerals, one must examine the overall impact of the explora-

tory activity on the environment in terms of both scope and time. If such an application to conduct exploratory drilling is approved, it does not mean the applicant can later expect to be granted a permit to begin mineral extraction if the exploration gives promising results. Such decisions will be considered individually, based on the restrictive practice at the time and on the objective of maintaining the extent of wilderness in Svalbard.

Stringent conditions will also be set for infrastructure developments inside or in extension of established mining areas and inhabited locations in order to protect environmental interests in the case of new or expanded activity. This particularly applies to new activities that will affect wilderness areas or important and vulnerable environmental assets. In 2011 permission was granted to establish a new mine in Lunckefjell on condition that the area involved be returned to its original condition on cessation of operation. It was also stressed that the operating period should last only five years before being returned to its original condition, and that any infrastructure developments should be of a temporary nature. Similar requirements must be anticipated if permission is granted to expand existing mining areas or other activities that involve heavy infrastructure developments into nature. On granting permission for the new mine in Lunckefjell the ministry stated, with regard to opportunities for more activity of the same type in the same area, that all applications must be specifically considered in light of the principle of cumulative environmental impact. An infrastructure development permit related to the mining operation in Lunckefjell does not mean permission will automatically be granted to establish similar activities in other areas in future.

7.3.6 Pollution and waste

Some species are still negatively affected by long-range transported pollutants. Levels of classic pollutants such as PCBs in animals from Norwegian Arctic areas are showing a generally downward trend, mainly because of a ban introduced against their production and use, whereas the concentration levels for chemicals not banned internationally are rising. The levels for certain new pollutants are far higher than for the classic pollutants, indicating that the new pollutants pose a challenge. Most of the pollutants found in the Arctic are transported over long distances. Local sources of pollution are discussed below in the section dealing with the environment and land-use planning in the local communities.

Marine littering and microplastics in the sea and on the beaches around Svalbard have been identified as a growing problem. Marine debris such as plastic rope, fishing nets and plastic bags can kill animals that eat it or become entangled in it. Microplastics are tiny plastic particles that come from the breakdown of plastic debris in the sea or that enter the marine environment via drainage and runoff from land, resulting from wear and tear of plastic products such as car tyres and fleece garments or from products containing microplastics, such as scrubbing agents. Microplastics can represent an additional stress factor for animals in the Arctic region that are exposed to climate change. As well as having a direct impact on animals, microplastics can also serve as routes for dispersal and uptake of pollutants.

Every year the Governor of Svalbard invites the local population to take part in a beach-cleaning exercise. This clean-up helps reduce the risk to animal life and makes the coastal areas more attractive to tourists. In 2016 the Norwegian Environment Agency will publish an analysis of national measures against marine littering and an assessment of potential measures to reduce and prevent the occurrence of microplastics in the marine environment.

7.3.7 New species

Several new species have been observed in Svalbard in recent years, partly as a result of a warmer climate and partly as a result of the introduction of non-native species. The rapid warming weakens the climatic barrier against non-native species from temperate regions and raises the risk that such species will gain a foothold and spread in Svalbard and in the Arctic waters, where they could displace native species. The release or transport of organisms that are not found naturally in Svalbard is prohibited under the Svalbard Environmental Protection Act without special permission. Work on drafting an action plan to prevent the introduction and spread of non-native species in Svalbard is in its final phase, and will be implemented by the environmental management authorities.

The discharge of untreated ballast water represents a particularly high risk of introducing non-native organisms into the marine environment. Ballast water is regulated by ballast water regulations that entered into force in 2009. The Ballast Water Convention is expected to enter in force in the near future. Once it does, Norway will revise its ballast water regulations.

The snow crab is a species that is regarded as new to the Barents Sea and that is now spreading towards Svalbard. The snow crab appears on the Norwegian Biodiversity Information Centre's Black List of alien species in the high-risk category. It is not yet known how the crab arrived in the Barents Sea from the Beaufort Sea. The species could come to occupy marine areas around Svalbard and account for a major part of the bottom fauna. Bycatches of isolated crabs have already occurred in East Svalbard. It is difficult to predict what this crab will mean for the rest of the ecosystem, but it could eventually have a significant impact on marine ecosystems. Like the king crab, the snow crab feeds on a wide range of bottom organisms. Studies of the state of the environment in areas expected to be affected are currently being conducted to document the impacts.

7.3.8 Environment and land-use planning in the local communities

The local communities in Svalbard are under development, and one feature common to all of them is that the Svalbard Environmental Protection Act's aim of environmentally sound community, research and business operations will form the basis for future development. Increased activity in the local communities and their immediate vicinity may affect the environment through the expansion of buildings and infrastructure, more traffic, more hunting and fishing in surrounding areas, and increasing emissions and generation of waste. The scale of the environmental impact in and around the inhabited locations in the coming years will depend largely on what requirements are placed on land use, energy efficiency, traffic, waste management and emissions.

New knowledge about the pollution situation in the communities indicates that local emissions affect the environment more severely than previously believed. The Government therefore considers it important that local sources of pollution be brought under control.

Svalbard's local communities have a long history, with cultural heritage sites and environments that bear witness to different phases in their development. These heritage sites have great symbolic and source value, as storytellers. The buildings present today evolved in close connection with the historical core of the area, and striking a balance between cultural heritage interests and development aims can prove challenging.

The Svalbard Environmental Protection Act contains provisions regulating land-use planning

within specifically defined land-use planning areas around the communities. The intention behind these provisions is to fulfil the purpose of the Svalbard Environmental Protection Act in the best possible way and to lead development in a desired direction.

Each land-use planning area has a planning authority which, in addition to its ongoing planning duties, ensures that plans are complied with and followed up. The planning authority is the landowner or the party granted this authority by the ministry.

A land-use plan clarifies the actual use of land, but grants no automatic right to start up a new activity. The activity itself may be subject to other provisions in the Svalbard Environmental Protection Act and, possibly, other regulations. Although an activity may be in compliance with an approved land-use plan, a special permit from the Governor of Svalbard may be required in some cases.

The climate changes in Svalbard – as in the rest of Norway – increase the risks of avalanche and flood, more extreme weather conditions, and higher storm surges caused by sea-level rise. Physical infrastructure such as roads, buildings and ports are therefore more exposed to these types of climate-related incidents. Climate-related incidents can pose a threat to life and health. Climate changes add strain to critical Arctic infrastructure that is already vulnerable, thereby creating a need for upgrading and adaptation. Coastal erosion could also become a growing problem in Svalbard. It is therefore important that land-use and community planning in the planning areas take climate change into account. The guide to land-use planning under the Svalbard Environmental Protection Act is currently being revised. A description of how the planning areas in Svalbard should take climate change into account will be included in the revised guide.

The local communities in Svalbard are very different in character, as are the types of land-use conflicts that need to be resolved. The communities also have different management traditions and, accordingly, different planning needs. For this reason the planning system is flexible, and allows details to be adapted to the needs of the communities.

Longyearbyen is the planning area that has changed most in recent years. The land-use plan for Longyearbyen was last adopted in 2009 and is currently under review. A new plan is expected to be approved in late 2016/early 2017. The Longyearbyen Community Council is the planning authority in Longyearbyen, and may approve land-

use plans insofar as no objections are raised. Work is currently being undertaken to implement Longyearbyen's numerous detailed zoning plans into the land-use plan. The land-use plan will be an important document for showing how Longyearbyen wants to develop in the coming years, making it an important tool in the community's current restructuring process. Knowledge about areas prone to flood and avalanche will be vital for sound planning. This knowledge must also be reflected in the land-use plans so that these serve as adequate tools for further developing the local community.

A key purpose of land-use planning is to set guidelines on what may be built and where, and to what extent undeveloped areas may be used. The plan must therefore be sufficiently detailed to provide a basis for planning and building decisions. For some areas, such as the central areas, separate zoning plans may have to be prepared.

The areas in the immediate vicinity of Longyearbyen are heavily used by the local population all year round, and cultural heritage sites are often tourist destinations. Longyearbyen's cultural heritage sites can be said to represent the community's profile, and are used to market the town as a tourist destination. In addition, interesting fossil deposits, including those of reptiles, are found in the vicinity of Longyearbyen. The potential within this field is considerable, in respect of further research, higher education and information dissemination, and as part of the offering to tourists.

The environmental management authorities have taken a closer look at the natural and cultural heritage assets in the area surrounding Longyearbyen and its value in terms of outdoor recreation and tourism. Adventdalen is regarded as one of the most important areas for waders and freshwater birds in Svalbard; sixteen of Svalbard's red-listed bird species have habitats there. The lower section of Adventdalen is a particularly important resting and stopover area for a large number of geese and waders. This area also has several small sites that are highly valuable for plant life. Work will be initiated to assess the need for greater protection of these areas in lower Adventdalen.

Adaptation to make local natural and cultural heritage attractions more accessible will have positive effects for both tourism and the local population. Possible measures include the installation of 'sherpa trails' inside the planning area.

Barentsburg's land-use plan from 2004 is currently undergoing revision. A new planning programme was approved in the autumn of 2015, and

the responsible planning authority, Trust Arktikugol, wishes to update the plan so that existing infrastructure, buildings and land use are accurately reflected in the plan, while at the same time facilitating new land use. Research and tourism have become important activities, and the aim is that the plan should facilitate further development of these activities.

Pyramiden had its first land-use plan approved by the Governor of Svalbard in 2014. The background for the requirement to prepare a land-use plan was the wish to develop *Pyramiden* for tourism and research purposes. Trust Arktikugol is the responsible planning authority for *Pyramiden*, and has performed maintenance work in the planning area since 2007.

Sveagruva's land-use plan was revised in 2012, but the planning area has undergone changes since then. The land-use plan has served as the steering document for Store Norske Spitsbergen Grubekompani AS (SNSG) in connection with the physical development of *Svea*, and provides a basis for decision-making on the use and protection of the land and buildings there. The Norwegian Government took over as landowner in *Svea* in the spring of 2015. *Svea's* coal-mining operation is currently suspended. During this suspension, SNSG rents the land and infrastructure from the state. Based on this situation, the Ministry of Climate and Environment has given SNSK authority to act as the planning authority in *Svea*. The future of the mining operation in *Svea* is now uncertain. Changed use of the area would require the land-use plan to be revised so that the use and the plan are in accord. Under the Svalbard Environmental Protection Act, revision of land-use plans is to be considered every four years. At the request of the Governor of Svalbard, SNSK has initiated work on revising the land-use plan for *Svea*.

Ny-Ålesund has begun work on revising its current land-use plan. Since the current plan was approved in 2009, a more detailed zoning plan has been drawn up for a new geodetic observatory and various changes have occurred in the *Ny-Ålesund's* building stock.

Pollution in the inhabited locations

The Norwegian Environment Agency has granted emissions permits to the coal mining operations in *Svea Nord*, *Lunckefjell* and *Mine 7*, to the coal power plant in *Longyearbyen*, and to the coal mining operation and coal power plant in *Barentsburg*. The Governor of Svalbard has also granted other emissions permits, including to *Avinor* for

operating *Svalbard Airport*. The scope of pollution from diffuse sources such as soil contamination and waste disposal sites remains uncertain.

PCB sources in the inhabited locations were identified under the PCB project, as it was called, and since then a number of clean-up measures have been implemented and the use of PCB phased out. The biggest challenges lie in *Barentsburg* and *Pyramiden*, and the work has been conducted in good cooperation with Trust Arktikugol. The environmental reviews of buildings in *Barentsburg* and *Pyramiden* have resulted in new findings of material containing PCB. Requirements were set for clean-up and restoration where deemed necessary.

Supervision and environmental surveys have shown continuing waste-management challenges in several inhabited locations, involving both hazardous waste and building refuse. The need for improved regulations and measures to ensure compliance will be assessed.

A sewage treatment plant opened in *Ny-Ålesund* in the autumn of 2015. Opening of the plant means that sewage is no longer discharged untreated into the fjord, a development which validates the investment in *Ny-Ålesund* as a research station with its own marine laboratory, among other facilities. The research station in *Hornsund* has had a sewage treatment plant since 2008. *Longyearbyen* currently has no sewage system. *Adventfjorden* is affected by the emissions, so there is a need for sewage treatment. This matter will be examined further. The need to treat emissions from other inhabited locations and research stations will also be assessed. The *Longyearbyen Community Council* will have responsibility for establishing and operating a sewage treatment plant in *Longyearbyen*.

7.3.9 Cultural heritage sites

Climate changes also affect Svalbard's cultural heritage sites in the form of increasing erosion, more extensive damage from rust and rot, thawing permafrost, landslides, etc. The iconic cableways and pithead installations from mining operations in *Longyearbyen* and vicinity are exposed to rot and landslides, and the airship mooring mast in *Ny-Ålesund* to rust; meanwhile, the hunting and trapping cabins and other important buildings in Svalbard are decaying at a faster rate. The warmer climate and retreating sea ice in Svalbard mean that coastal erosion is happening faster than before. At the same time, less sea ice leads to more wave activity, which in turn leads to more



Figure 7.3 Adventdalen.

Photo: Ståle Nylund, Office of the Governor of Svalbard

erosion of unprotected shorelines, where most of Svalbard's cultural heritage sites are situated.

A list of the 100 most important cultural heritage sites and cultural environments was drawn up in the Cultural Heritage Management Plan for Svalbard 2013–2023. Fifty of them were assigned high priority. Follow-up of the prioritised cultural assets may involve supervision, proposals for preservation, inclusion in land-use plans or restoration and maintenance. In the case of some cultural heritage sites of particular historical and/or experiential value, there will be a need to initiate preventive measures, such as ones to counteract rot or erosion.

In the case of particularly valuable cultural heritage sites, detailed documentation ought to be undertaken or archaeological emergency excavations carried out to preserve their value as historical sources that would otherwise be lost. Also to be considered is whether to relocate cultural heritage assets or carry out preventive measures such as erosion control.

Industrial cultural heritage sites represent a particular challenge. These sites are important symbolic structures for Longyearbyen and Svalbard. The most important ones will be given priority with regard to immediate measures and secur-

ing. Under the Svalbard Environmental Protection Act, owners are required to maintain protected cultural heritage assets. Should they fail to do so, and if there is a risk of decay, the Directorate for Cultural Heritage may order the owner or user to carry out corrective measures.

7.3.10 World Heritage

As a state party to UNESCO's Convention Concerning the Protection of the World Cultural and Natural Heritage (World Heritage Convention), Norway is obliged to identify potential world heritage assets within its own territory. Given the unique natural and cultural heritage assets the archipelago represents, Svalbard in 2007 was placed on Norway's tentative list of sites under consideration for nomination to the World Heritage List in the next five to ten years. Any nomination of parts of Svalbard to the World Heritage List would mark an important Norwegian contribution to a more geographically and thematically representative World Heritage List, and would align with the objective of making Svalbard one of the world's best-managed wilderness areas. Through consideration of Report No. 22 (2008–2009) to the Storting *Svalbard* (see Recommendation No. 336

Box 7.1 Lower Adventdalen

Figure 7.4 Purple sandpiper

Photo: Stein G Nilsen, Norwegian Polar Institute

The Adventdalen delta and Adventdalen west of Jansonhaugen make up a vital resting and stop-over area for a large number of water birds in both spring and autumn. A total of 74 water bird species have been registered here, 25 of which are wader species. No other area in Svalbard plays host to such a diversity of species. A total of 16 of Svalbard's red-listed bird species are found in this area, among them brent goose, sanderling, dunlin, red knot, ringed plover, red phalarope and European golden plover. The three species mentioned last also nest there.

The Adventdalen delta becomes ice-free earlier than the other delta areas in Svalbard. Migrating water birds can therefore find food here before settling down to nest. Around 10,000 pink-footed geese feed here in late May every year, in addition to brent geese and a large number of barnacle geese.

The lower sections of Adventdalen, particularly Fivelflya, have abundant areas of moist/

bog tundra. This means the area has a higher incidence of certain bird species than any of the protected areas in Svalbard. This is especially the case for the red-listed dunlin. More than 80 per cent of Svalbard's total population is believed to nest here. The purple sandpiper also appears in large numbers; as many as 2,000 have been sighted simultaneously. The purple sandpiper has been designated a species of national responsibility¹ for Svalbard, since a significant proportion of the global population nests in the archipelago.

The Longyearbyen Field Biological Association has been an important contributor of information concerning the incidence of bird species and other natural assets in this area. In 2015 the Longyearbyen Field Biological Association called for this area to be protected and designated as a wetland site of international importance under the Ramsar Convention. The association also stressed the positive significance this would have for tourism and for development of tourism in Svalbard. Viewed in connection with the proposed nature information centre in Longyearbyen, the creation of a protected area and nomination of the area for inclusion on the Ramsar Convention's list of wetland sites of international significance could lead to the establishment of an important arena for information and experience while also serving as a new tourist attraction.

¹ A species of national responsibility is a species Norway has a particular responsibility to protect. A significant proportion (25 per cent or more) of such a species' European stock is in Norway.

(2008–2009) to the Storting), further work was announced to review Svalbard as a World Heritage area. The Government will assess whether there are grounds for a nomination of parts of Svalbard as a World Heritage Site on the strength of its internationally significant natural and cultural heritage.

7.3.11 Environmental management's need for knowledge

Currently, the need for monitoring and evaluating the state of the environment is covered in part by

the system of Environmental Monitoring of Svalbard and Jan Mayen (MOSJ). This system will be further developed to address the growing need for knowledge about the status of Svalbard's environment and the trends observed. The monitoring programmes SEAPOP and MAREANO provide knowledge, respectively, about seabirds in and around Svalbard and the seabed surrounding Svalbard. Aerial monitoring to map the impact of climate and environmental contaminants in Svalbard is performed as part of the central government's environmental monitoring. In addition, surveys and research are conducted on the impacts

Box 7.2 Svalbard's Environmental Protection Fund

Svalbard's Environmental Protection Fund allocates funds to measures that protect natural environments and cultural heritage sites in the archipelago, in accordance with section 98 of the Svalbard Environmental Protection Act and the fund's statutes. The fund's resources should contribute to ensuring that Svalbard's distinctive wilderness and cultural heritage are preserved as sources of experience, knowledge and value creation. The fund's income is largely derived from the environmental fee for visitors to Svalbard. Enterprises, organisations and private individuals may apply for funding. The Ministry

of Climate and Environment has appointed a board for the fund, and the Governor of Svalbard acts as its secretariat. Since its formation in 2007, the Environmental Protection Fund has allocated NOK 97 million to 471 environmental projects, and experience shows that the Fund is a well-established economic instrument in the work of protecting Svalbard's environment. Examples of projects recently supported by Svalbard's Environmental Protection Fund are a new waste disposal plant in Barentsburg, restoration of a locomotive in Ny-Ålesund, and a collection scheme for beach litter in Longyearbyen.



Figure 7.5 «Toa»: Steam locomotive No. 2 was made in Berlin in 1909 and it arrived in Ny-Ålesund in 1917. The locomotive was used to transport coal from the pitheads to the shipping quay before lorries took over that work. In connection with Kings Bay's centenary, Svalbard's Environmental Protection Fund has granted funding to restore the locomotive so it can continue to serve as a storyteller and landmark in Ny-Ålesund. The restoration work is being carried out at the Aurskog-Høland Line's special workshop in Sørumsand.

Photo: Asbjørn Hagen

of climate change and other impact factors. This research has been strengthened in recent years through the establishment of the Norwegian Polar Institute's Centre for Ice, Climate and Ecosystems (ICE) and the Fram Centre in Tromsø. The Fram Centre in Tromsø is now being expanded in a new building phase, and a new ice-strengthened research vessel is under construction. Knowledge about the state of the environment and climate change in Svalbard is decisive for local environmental management and is important for the further development of conventions and other international forms of cooperation.

Work is being conducted to improve the environmental monitoring parameters of cultural heritage sites. This work is being carried out under the MOSJ system. Reporting on the status of individual cultural heritage sites is done by updating the Askeladden cultural heritage database, and a concentrated effort to quality-assure the data held there is advisable. There is a need to strengthen existing knowledge about threatened and vulnerable species and habitats in the Norwegian part of the Arctic and to conduct more systematic assessments of threatened and vulnerable natural environments. This particularly applies to the significance of climate change for threatened natural environments in the Arctic. The knowledge base for threatened and vulnerable species and habitats in Svalbard, with emphasis on marine and sea-ice environments, will be further developed.

7.3.12 Environmental information

The Governor of Svalbard has proposed establishing a nature information centre in Longyearbyen. Twenty-six authorised visitor centres have been established on the mainland, focusing on a range of topics such as national parks, wetlands, wild reindeer and predators. Three World Heritage centres have also been established for the purpose of providing accurate information, enhancing knowledge about world heritage, and strengthening ties to local communities. In large parts of Svalbard where the land and marine areas are protected, there is untapped potential for visitors to be introduced to the archipelago's unique environmental assets in a way that allows them to be both preserved and experienced. The proposed nature information centre will convey the value of Svalbard's cultural and natural assets and serve as a communications arena for administration,

research, higher education, tourism and other economic activities.

7.4 Summary

The Government will:

- Continue to pursue the current objectives and regulations in the environmental field.
- Within this framework and in close consultation with tourism operators, take coordinated action to better facilitate tourism in Management Area 10, which includes the Isfjorden area and areas surrounding the inhabited locations.
- Ensure a comprehensive and environmentally responsible approach to the construction of commercial tourist cabins and the use of temporary facilities for tourism in winter.
- Improve knowledge about the Isfjorden area's vulnerability to human traffic, and on that basis consider measures to facilitate vessel disembarkation at selected locations.
- Improve the framework for non-motorised tourism products such as ski and dogsled trips.
- Continue work on management plans that facilitate further development of activities such as tourism, research and higher education. Ensure that management plans are drawn up for areas surrounding the inhabited locations (Management Area 10), including both protected and unprotected areas. Ensure that use of the protected areas is facilitated and managed to permit the best possible visitor experience while increasing respect and understanding for the protections and safeguarding the natural and cultural assets.
- Facilitate in finding solutions for areas that are becoming more vulnerable to human traffic as a result of a warmer climate and retreating sea ice. The environmental management authorities have circulated for public consultation a proposal to expand the area where visitors can operate snowmobiles when participating in organised tours or when accompanied by permanent residents. Secure natural assets and cultural heritage sites located near communities and important for tourism, recreation and the local population. To this end, work will be initiated to assess the need for greater protection of areas in lower Adventdalen, where bird life is especially abundant.

8 Knowledge, research and higher education

8.1 Introduction

Research and higher education represent an important focus area for Norwegian activity and presence in Svalbard. Its unique nature and location, long polar traditions, easy accessibility and modern infrastructure make Svalbard an attractive platform for Norwegian and international Arctic research and higher education. Research in Svalbard is of great interest to both the Norwegian and international scientific communities, and educational and research activity is on the rise.

The presence of researchers from many different countries creates many opportunities for international cooperation within the framework of Norwegian facilitation and regulations. Research activity also provides a basis for the unique study programme at the University Centre in Svalbard (UNIS), where students from many different countries meet and gain common insights and knowledge that the world needs.

Research in Svalbard is important for knowledge development in many thematic areas, and has contributed to moving forward the state of the art in several disciplines. For example, new technology and improved logistics have made it possible to study life in Arctic waters all year round. New studies show that far more biological activity goes on below and near the ice around Svalbard during the polar night than previously assumed.

Norway is at the forefront of international polar research, and still ranks third in the world in the number of published articles dealing with the Arctic.¹ This is therefore an area where Norway is uniquely placed to contribute to global knowledge development. Active publication, dissemination of findings and information sharing are vital if this knowledge is to be recognised and put to use.

The need for knowledge and expertise regarding the Arctic region is greater than ever before. Climate changes in particular pose major challenges to our knowledge. The climate changes are most noticeable in the Arctic, and Arctic species and ecosystems are particularly vulnerable to them. Developments in the Arctic region will have ripple effects around the world because of the key role the polar regions play in the global climate system. Insight in many disciplines is needed to understand the changes taking place and their impacts. This task is too great for one country or research discipline to resolve single-handedly. It requires interdisciplinary, international cooperation, sharing of data, and infrastructure. Developing climate models also requires many different types of data from the Arctic, and both Norwegian and international institutions provide infrastructure, contribute long, standardised measurement series, and participate in international measurement networks. These provide a basis for important system studies and for the reports issued by the UN Intergovernmental Panel on Climate Change. Norwegian research in and around Svalbard also contributes to a solid knowledge base for Norwegian policy, management and business activity in the Arctic and in Svalbard.

Knowledge is vital for restructuring existing businesses and for creating a basis for new ones. This is why investments are being made in industry-oriented research and innovation throughout the country. This is the case for Svalbard, too, and cooperation between the business and research communities could potentially take advantage of the archipelago's natural advantages. This means accommodating a business community that develops and uses the results of research and development work and that cooperates with other knowledge communities. Space research, cold-climate technology, logistics and tourism are potential areas of research in this context. The policy for research and higher education in Svalbard has several dimensions. It is a part of national policy for research and higher education, which places emphasis on quality, internationalisation, and leveraging of national advantages. It is also a central

¹ Source: 'Norsk polarforskning – forskning på Svalbard. Ressursinnsats og vitenskapelig publisering – indikatorer 2014' (Norwegian polar research: Research in Svalbard. Resource input and scientific publication: Indicators 2014). Dag W. Aksnes, Kristoffer Rørstad, Report 2015:37, Nordic Institute for Studies in Innovation, Research and Education (NIFU).

element in Norwegian policy for the High North and the Arctic, where knowledge is a key focus area. Research and higher education also constitute an important element in the Svalbard policy, and contributes to the achievement of overriding policy objectives such as maintaining Norwegian communities in the archipelago. The Government's goals for research and higher education in Svalbard remains unchanged. These were most recently affirmed through the Storting's consideration of Report No. 22 (2008–2009) to the Storting *Svalbard* (see Recommendation No. 336 (2008–2009) to the Storting):

- Research and higher education shall be key elements of Norwegian activity in Svalbard in the years to come.
- Svalbard shall be further developed as a platform for international research, higher education and environmental monitoring. The archipelago's infrastructure and unique research possibilities shall be exploited even better than they are at present. The infrastructure must be supplemented with measures that further strengthen Svalbard's position in international knowledge development.
- Norway shall be a key player in the development of knowledge in and about Svalbard, not just a facilitator. A professional leading role must be ensured in particular through the professional standing and quality of Norwegian polar research.
- All activity shall be in accordance with an overriding consideration of the environment. Research and higher education in climate and the environment is a natural focus area, and this research is itself dependent on the area being kept unaffected by local impacts as far as possible.

Norway has for many years facilitated higher education and extensive Norwegian and international research in Svalbard. As host for this important international activity, the Government now wants to facilitate conditions so that these unique research opportunities can be exploited in an even better way. The Government will therefore take action towards:

- better use and coordination of resources
- more clearly defined research priorities
- improved quality and professional management
- more clearly defined expectations for scientific quality, cooperation, and open sharing of data

This in turn will promote scientific advances and better results from the overall research activity in

Svalbard, and support the objectives of minimising adverse environmental impacts and strengthening the scientific basis for the study programmes offered.

Section 8.2 discusses research and educational activity in Svalbard, and some key challenges and needs. Section 8.3 describes the priorities in this area going forward.

8.2 Status and challenges

8.2.1 Investments and increasing activity

The scope of research and higher education in Svalbard has doubled during the past decade, making this area a vital part of the activity in the archipelago. In line with the objectives stated in the previous white paper (Report No. 22 (2008–2009) to the Storting *Svalbard*), Svalbard today is a platform for international research, higher education and environmental monitoring.

It is an expressed objective that Svalbard's unique natural advantages and accessibility be fully exploited for research and higher education purposes. At the same time, the activity itself must not cause harm to this platform. Research and higher education have taken place – and by and large ought to continue to take place – on the basis of established inhabited locations and research stations. There has been a relatively clear division of labour between research establishments, in keeping with the qualities naturally inherent in their locations. This, together with practical coordination of fieldwork, has helped minimise damage and wear and tear. This applies to both fieldwork for research purposes and field-based instruction. Increasingly, remote sensing and automated data collection have also been helping to reduce the environmental impacts while making it possible to collect data from otherwise inaccessible areas. Developing such solutions further requires a community that encourages innovation and technology development in Svalbard.

Accordingly, Norwegian authorities have concentrated on developing and making available buildings, infrastructure and logistical services for research and education activity and on developing entities and services for practical and technical coordination, primarily through UNIS, the Norwegian Polar Institute, Kings Bay AS and the Svalbard Science Forum, and by establishing the Svalbard Integrated Arctic Earth Observing System (SIOS). The various actors are discussed in more detail elsewhere in this chapter.

Longyearbyen's role as a centre of research and higher education has been strengthened, and Longyearbyen now includes a large, broad-based scientific community centred around the Svalbard Science Centre. UNIS and the Norwegian Polar Institute each play a central role in this community. The Svalbard Science Centre also serves as an important meeting place for research dissemination, scientific debate, public education and information for students and employees, local inhabitants, tourists and other visitors. There is a wish to facilitate further development of this role. See section 6.2.4 for a more detailed discussion of the Svalbard Science Centre. In 2009, UNIS provided instruction to just under 400 students from 25 countries. The number of study places has risen steadily over the years. In 2015 UNIS had 690 students from 44 countries, equivalent to 202 student full-time equivalents. UNIS's academic staff consists of 27 professors and associate professors, in addition to PhD candidates, postdoctoral fellows, researchers and technical and administrative personnel. In total these account for 110 permanent positions. In addition, there are 43 adjunct professors/adjunct associate professors. The number of scientific articles published has risen from 90 in 2009 to 104 in 2015, 38 per cent of which in level 2 journals (the highest quality level). This trend has earned UNIS a significant position in Svalbard's knowledge landscape. See Box 8.3 for further discussion.

Several other organisations and research installations are located in or around Longyearbyen. These include EISCAT (European Incoherent Scatter Scientific Association), which owns and operates an antenna facility outside Longyearbyen for exploring the upper atmosphere. This organisation is owned by research councils and institutes in the member countries of Finland, Japan, China, Norway, the UK and Sweden. The Centre for Polar Ecology, which is part of the University of South Bohemia, Czech Republic, was opened in Longyearbyen in 2014.

Ny-Ålesund has been developed as a research community where several international institutions are active. The state-owned company Kings Bay AS owns land and buildings, and is in charge of operations, with the exceptions of the Sverdrup station, which is owned by Statsbygg and rented by the Norwegian Polar Institute, and the geodetic observatory, which is owned by the Norwegian Mapping Authority. Ny-Ålesund is the world's northernmost year-round research community. Since research activity began there in the 1970s, and particularly over the past 10–15 years, considerable govern-

ment resources have been invested in developing Ny-Ålesund into an important platform for scientific research on the Arctic, global climate, and climate change. Ny-Ålesund's favourable location alongside Kongsfjord is well suited to environmental monitoring and research. Ny-Ålesund has therefore evolved into an important node in international research and monitoring networks.

Regular flights operate to Ny-Ålesund, and Kings Bay AS provides joint facilities for accommodation and scientific research activity. Kings Bay rents out buildings to international research institutions that use the facilities as a base for research in Svalbard. Fourteen institutions currently have rental contracts and conduct permanent research activity in Ny-Ålesund. As measured by the number of research days in Ny-Ålesund, the Norwegian Polar Institute is the largest Norwegian research institution. The second-largest is the Norwegian Mapping Authority. The international institutions come from Germany, The United Kingdom, Italy, France, Japan, South Korea, China, the Netherlands and India.

A significant amount of research is also conducted elsewhere in the archipelago. The Norwegian Meteorological Institute has stations at *Hopen* and *Bjørnøya*, which primarily are used for routine meteorological observations. Radiosondes are also released on *Bjørnøya*. In addition, meteorological measurements are conducted for other Norwegian scientific institutions in both locations. The stations represent an important preparedness resource for search and rescue operations, and make logistics available to public institutions during (short-term) missions of benefit to society.

Trust Arktikugol has been facilitating research activity in the mining community of *Barentsburg* since 1962. Most of the research conducted today is associated with the Russian Academy of Sciences, Roshydromet, and the Polar Marine Geological Research Expedition. The Arctic Antarctic Research Institute (AARI), an institute affiliated with Roshydromet, plays an increasingly larger role. The research conducted covers a range of disciplines including archaeology, geology, hydrology, atmospheric research, oceanography and geophysics. Barentsburg's research facilities have been upgraded in recent years, with installation of a satellite ground station and new chemical laboratories, among other improvements.

The Institute for Geophysics at the Polish Academy of Sciences has since 1957 had a research station based in *Hornsund*. This station has been permanently manned since 1978. It is also used as a base for visiting researchers from

various – primarily Polish – institutions. The station has been expanded and is fully operational, with research being conducted in meteorology, geophysics, glaciology, and ionospheric and atmospheric science.

SINTEF established a field laboratory in 1984 in Svea, where it conducts technological research in cooperation with UNIS and private-sector partners. The level of activity is increasing, and there is a general increase in demand for facilities for research, development, testing and education in Arctic climate. Svea's climate and geology afford stable fjord ice conditions and are conducive to research activity on topics such as dealing effectively with oil in ice, environment and security, construction and geotechnology, geology, materials technology, Arctic operations and safety, education and training. Svea's coal-mining operation is currently suspended. In the time ahead, the Government will look into the continued management of Svea's building stock and infrastructure after a possible decision to discontinue mining operations.

Several infrastructure investments have been made in recent years for the benefit of research and higher education activity in Svalbard. This applies not least in Ny-Ålesund, where the Norwegian state, through Kings Bay AS, has invested resources in further developing basic infrastructure and new services for research purposes. Kings Bay Marine Laboratory, which opened in 2005, is particularly well suited to conducting research in marine ecology, physiology and biochemistry, though it can also accommodate studies in oceanography, marine geology and physics. The Zeppelin station is one of the most central stations in a global network for atmospheric measurements coordinated by the World Meteorological Organization (WMO). The unique international scientific community and good access to both Norwegian and international advanced research equipment provide opportunities for high-quality scientific research. Common facilities and services provided by Kings Bay AS, such as the marine laboratory and the canteen, have contributed significantly to international cooperation in Ny-Ålesund. In 2015 the job of laying fibre-optic cable between Longyearbyen and Ny-Ålesund was completed. This is a prerequisite for development of a new geodesic observatory for the Norwegian Mapping Authority and also helps improve conditions for research and environmental monitoring in Ny-Ålesund. The new observatory is currently under construction and is expected to be ready for use in 2018.

In 2013 the Office of the Auditor General of Norway performed an audit on the utilisation of research infrastructure in Norwegian areas of the Arctic, and concluded that some Norwegian research infrastructure on Svalbard could be better utilised (Document 3:13 (2013–2014)). In particular, the Office of the Auditor General mentioned the potential to increase utilisation of the Sverdrup station and the marine laboratory in Ny-Ålesund. This conclusion was based on the number of research days in Ny-Ålesund between 2011–2013, with statistics showing a decline in the share of Norwegian research days and low activity during the winter. The Storting has asked the Government to consider measures to increase utilisation of research infrastructure in Svalbard, including measures to increase Norwegian research activity in Ny-Ålesund (Storting resolution of 25 November 2014 No. 34). The underutilisation was largely rectified in 2014 and 2015. Norwegian and international interest in the marine laboratory has grown substantially in recent years, and utilisation reached record levels in 2014 and 2015, partly because UNIS began using the laboratory in connection with its study programmes. Although several measures have been implemented, it is important to stay mindful of the need to increase utilisation of scientific infrastructure in Svalbard and to have strategies to do so. SIOS is an important measure in this regard (see discussion in Box 8.2). In general, importance will be attached to achieving positive synergy and a practical balance between Norwegian-owned and foreign-owned research infrastructure in the coming years.

Nearly 1,000 researchers from around 30 countries visit the archipelago annually in connection with fieldwork.² Many of them are affiliated to Norwegian or international institutions that conduct research on a permanent basis in Longyearbyen, Ny-Ålesund, Hornsund or Barentsburg. Measured in research days³, the number of researchers in Svalbard has increased by around 120 per cent in the past 10–15 years. Researchers from Norwegian institutions account for more than half the registered research days. Although the level of Norwegian research activity has

² Svalbard Science Forum: Estimates based on data registered in the *Research in Svalbard* database.

³ NIFU:2015. *The term research days* indicates how many days were spent in Svalbard for research purposes, but is not an exact measurement of the amount of research. For example, data and observations gathered during research stays in Svalbard are normally processed at the home institution instead of in Svalbard.



Figure 8.1 The Norwegian Mapping Authority's new geodetic observatory in Ny-Ålesund. The observatory is due to be completed in 2018.

Photo: Martin Nerhus Øen/Veidekke Arctic

increased substantially and is by far the highest measured, in terms of both research publication and research days in Svalbard, the Norwegian share has decreased slightly. This is due to a greater increase in activity levels for international institutions overall than for Norwegian institutions, though the trends in Longyearbyen and Ny-Ålesund have varied somewhat. The Norwegian share of research days in Longyearbyen has increased. In Ny-Ålesund, the number of Norwegian research days has increased, but the share of Norwegian research days has decreased due to a higher level of activity for the international institutions. The Norwegian share of research days there in 2014 was 35 per cent, about the same as in 2010. During the period 1996–2000, when there were fewer international research institutions in Ny-Ålesund, the Norwegian share was over 50 per cent.

8.2.2 Stronger need for coordination

The growing international interest in research in Svalbard contributes to knowledge development in the Arctic. The objective is for this to happen in accordance with Norwegian research policy, which places emphasis on international research and infrastructure cooperation and on open access to data and publications. At the same time, the high level of interest puts pressure on vulnerable areas in nature, creating a need for clearer and

better coordination of research activity in Svalbard.

Coordination in Svalbard in general and in Ny-Ålesund in particular was also a key issue in the previous white paper on Svalbard. The Norwegian authorities have implemented several measures to this end, first and foremost by further developing and strengthening entities and services whose purpose is to enhance coordination.

The previous white paper (Report No. 22 (2008–2009) to the Storting *Svalbard*) signalled a stronger coordinating role for the Svalbard Science Forum (SSF). SSF is composed of the key national and international research actors in Svalbard, with representation by the four research locations: Longyearbyen, Ny-Ålesund, Barentsburg and Hornsund. SSF received a new, reinforced mandate from the Ministry of Education and Research in 2011. The Research Council of Norway leads the forum and serves as the secretariat. SSF's secretariat manages and operates the Research in Svalbard database (RiS). The database is owned by the Research Council of Norway.

While it is not compulsory to register research activity conducted in Svalbard in the RiS database, it is strongly encouraged. Moreover, from 2015 the Governor of Svalbard requires RiS database registration for research projects that need the Governor's permission for passage, etc. pursuant to the Svalbard Environmental Protection Act. The Svalbard Science Forum, Svalbard's Environ-

Box 8.1 The Norwegian Mapping Authority's new geodetic earth observatory in Ny-Ålesund

The Norwegian Mapping Authority's observatory in Ny-Ålesund is the northernmost of its kind in a global network of geodetic stations. It receives signals from quasars, which are distant celestial bodies located up to 13 billion light-years out in space. When collated with measurements elsewhere on the earth, this indicates movements in the earth's surface with millimetre precision as well as how fast the earth is rotating and the exact position of the earth in space. This is important for satellite-based infrastructure, among other things. The new facility, a major investment by Norway, provides enhanced measurement accuracy and represents a substantial contribution to global cooperation in earth observation. The earth observatory is the northernmost observatory of its kind, and is part of a global observation and research network. The observatory will be upgraded with new technology and will combine multiple geodetic measurement techniques, resulting in enhanced measurement accuracy. The new observatory, with a cost framework of around NOK 300 million, will be completed in 2018.

mental Protection Fund and the Research Council of Norway also have registration requirements for projects receiving financial support. In Ny-Ålesund and at the research station in Hornsund there are internal procedures for registering in the database. All in all, development of the RiS database has improved the overview of research activity in Svalbard to the benefit of both the authorities and the research communities, and has made it possible to significantly improve coordination of research activity.

SSF has contributed to the development of plans and priorities for research in Ny-Ålesund with initiatives for joint research programmes (flagship programmes) in Ny-Ålesund. SSF also advises the Governor of Svalbard in cases where that office processes applications by researchers and research institutions for passage, etc. pursuant to the Svalbard Environmental Protection Act. Furthermore, SSF assists the Research Council of Norway in managing two support programmes for research cooperation and fieldwork in Svalbard:

the Svalbard Strategic Grant (SSG) and the Arctic Field Grant (AFG). Both Norwegian and international actors may apply to these.

An important government institution is the Norwegian Polar Institute, which serves as adviser to the Norwegian authorities on scientific and strategic matters. The Norwegian Polar Institute has a permanent staff deployed in Svalbard, and holds a central position in Svalbard and in Norwegian polar research in general. The institute plays a key coordinating role in Ny-Ålesund by acting as the secretariat for the Ny-Ålesund Science Managers Committee (NySMAC), a body for voluntary coordination for all institutions with permanent activity and large-scale research projects in Ny-Ålesund. The institute also hosts Norwegian researchers and researchers from international institutions not established in Ny-Ålesund. The Norwegian Polar Institute is therefore well placed to both facilitate and coordinate research activity in Svalbard, and is one of the tools available for managing and developing Norway's role as host. See Box 8.4.

A particularly important initiative that can help strengthen coordination is the Svalbard Integrated Arctic Earth Observing System (SIOS). SIOS is organising cooperation to facilitate mutual access to infrastructure and data already established in Svalbard by Norwegian and international institutions. This cooperation will offer researchers new opportunities to contribute to interdisciplinary studies of the earth system, where measurements associated with ocean currents, atmospheric and geological conditions, the extent of ice and snow, and plants and animals interconnect in complex patterns. This demands far more expertise, infrastructure and measurement data than any single research institution can provide. Svalbard is well suited to this type of research, partly because climate and environmental changes are easy to observe in the Arctic. In addition to the scientific benefits, the objective is improved coordination, resource utilisation and scientific quality. The project will also promote transparency in research activity and alleviate the pressure on nature and the environment.

In order to achieve these objectives, it is important to gain the participation of as many research communities as possible with relevant infrastructure in Svalbard. The Government will facilitate further development of SIOS from a preliminary project into an established cooperative organisation. This is described in more detail in section 8.3.3.

Box 8.2 Svalbard Integrated Arctic Earth Observing System (SIOS)

The Svalbard Integrated Arctic Earth Observing System (SIOS) is a Norwegian-initiated international cooperation project aimed at enhancing knowledge about global climate and environmental changes, with a basis in infrastructure in Svalbard. The participants include several Norwegian and international institutions with research infrastructure relevant for earth system science. 'Infrastructure' in this case refers to laboratories, observatories, field equipment, etc. SIOS itself neither owns nor operates the research infrastructure, but facilitates mutual access to existing equipment and the sharing of

collected data. SIOS also helps improve coordination of new initiatives and research priorities.

The Research Council of Norway led the preparatory phase, with participation by all institutions conducting permanent research activity in Svalbard. The preliminary project received funding from the EU's Seventh Framework Programme and was concluded in 2014. In 2015 a Norwegian consortium led by UNIS and the Norwegian Polar Institute started an interim project which, with Norwegian and international partner institutions, will prepare core services in the future SIOS cooperation project.

The Svalbard Science Centre also aids coordination through co-location of the central research institutions and serving as an important meeting place. An evaluation of the Svalbard Science Centre⁴ shows that it has contributed to increased cooperation and exchange of expertise between the Norwegian Polar Institute, UNIS and Svalbard Museum, and to improved information activity, logistics and support.

No consolidated, overall national strategy currently exists for research and higher education in Svalbard. Each institution by and large prepares its own activity plans. Certain initiatives establish some constraints; this is especially the case with respect to the Research Council of Norway's Policy for Norwegian Polar Research 2014–2023 and the respective flagship programmes in Ny-Ålesund (discussed in section 8.3.4). SIOS will also set forth a common strategy for further development and cooperation on the use of research infrastructure.

There is therefore a need to clarify a direction for the types of research and higher education activity that should be prioritised in Svalbard. The Government will therefore take the initiative to develop an overall strategy for research in Svalbard. The framework for this task is discussed in more detail in section 8.3.

8.3 Policy instruments and measures

8.3.1 Further development of UNIS

Cooperation between UNIS and the mainland universities has been strengthened in recent years through the cooperation agreement in 2011, a new quota system in 2014, and an annual meeting of the deans of the faculties involved. The aim has been to ensure that all courses and subjects taken by students at UNIS be included in examinations and study programmes at the mainland university. There is nonetheless a need to further develop cooperation so as to make use of UNIS's potential, to meet the requirement that 50 per cent of students come from Norwegian institutions, and to improve predictability for UNIS and the universities. It is particularly important to develop the cooperation on relevant study programmes at the universities and the course portfolio at UNIS in order to better facilitate stays at UNIS in more of its study programmes. UNIS will assess and revise its quota scheme in 2016.

In the further development of UNIS, consideration must also be given to whether students could complete a larger part of their bachelor or master theses at UNIS and whether UNIS ought to offer more of the basic courses that make up bachelor and master degree programmes. This in order to give more candidates from Norwegian universities a stronger Arctic academic profile and help utilise UNIS's capacity outside the fieldwork season.

The Government wants to maintain and develop UNIS as a unique institution for university-level studies and research in Svalbard, with a

⁴ 'Svalbard forskningspark: Ettorevaluering, desember 2014' (Svalbard Science Centre: Ex-post evaluation, December 2014). Erik Whist, Gro Holst Volden, Knut Samset, Morten Welde and Inger Lise Tyholt Grindvoll (NTNU 2014).

Box 8.3 University Centre in Svalbard (UNIS)

The University Centre in Svalbard (UNIS) is the world's northernmost higher education institution, and over the past 20 years or so it has expanded from a programme for a few Norwegian students to a world-class university centre for Arctic studies. UNIS trains candidates with polar expertise for work in public administration, the private sector and polar research. UNIS is highly popular with students from around the world, and promotes international cooperation and networks.

UNIS was originally created as a cooperative project among the four universities in 1993, but is now a limited liability company under the Ministry of Education and Research. All instruction is conducted in English, and the programmes are based on international research. UNIS offers study programmes in four disciplines: Arctic biology, Arctic geology, Arctic geophysics and Arctic technology. Most of the instruction is based on field activities and excursions, so the activity level is lower during the darkest time of year. UNIS has office space in the Svalbard Science Centre and provides most of its instruction there, though some instruction also takes place in Ny-Ålesund and Svea, as well as in the field. UNIS is not accredited as a university, and the

courses that are taught must be part of ordinary courses of study at mainland universities. UNIS's centre for auroral research, the Kjell Henriksen Observatory, is situated on Mine 7 Mountain in Adventdalen. In addition to the self-financed research in the four subject areas, UNIS participates in several externally financed cooperative projects, among them the Birkeland Centre for Space Science (BCSS), which is a Centre of Excellence at the University of Bergen. Other examples are the Sustainable Arctic Marine and Coastal Technology (SAMCoT) at the Norwegian University of Science and Technology and the Research Centre for Arctic Petroleum Exploration (ARCEX) at the Arctic University of Norway. UNIS also participates in a Centre of Excellence in Education initiative in biology (bioCeed) at the University of Bergen. UNIS has received support from the Ministry of Foreign Affairs to establish a new Arctic Safety Centre in Longyearbyen. The *Arctic Safety Centre* is a cooperative project between the Norwegian University of Science and Technology, SINTEF, the Norwegian Polar Institute, the Governor of Svalbard, Pole Position Logistics, SvalSat, the Longyearbyen Community Council, Lufttransport and Visit Svalbard.

range of academic programmes and research activity that capitalise on the natural advantages of the location. The UNIS board of directors has considered different scenarios for developing the institution. These scenarios describe both for potential academic expansion based on today's natural sciences and technology profile, and new potential subject areas that also meet the requirement of Arctic relevance, such as tourism and security in the Arctic. Future expansion of UNIS would require further expansion of the premises at the Svalbard Science Centre.

The Government will:

- Maintain and further develop UNIS as a unique institution for university-level studies and research on Svalbard, with a range of academic programmes and research activity that capitalise on the natural advantages of the location.
- Facilitate further cooperation between UNIS and mainland universities to make the most of UNIS's potential, to satisfy the requirement that 50 per cent of students come from Norwe-

gian institutions, and to improve predictability for both UNIS and the universities.

8.3.2 Improved quality and scientific leadership

Norwegian research, expertise and presence are important if Norway is to have access to – and contribute to – the international knowledge frontier in the Arctic. At the same time, the nature of the research is international, and Norwegian Svalbard research is an integral part of international research. An expressed objective is to develop and utilise both Norwegian and international expertise in different disciplines and thematic areas. It is also desirable and natural to have Norwegian leadership in key research fields. This requires central Norwegian research groups to be present, with high scientific quality, sufficient volume and strong international partners.

Norwegian polar researchers are generally attractive partners for international polar research

Box 8.4 Norwegian Polar Institute

The *Norwegian Polar Institute* is the central government institution for mapping, environmental monitoring and management-related research in the Arctic and Antarctic. The institute serves as adviser to the central Norwegian administration on scientific and strategic matters and as scientific adviser to the Norwegian Environment Agency and the Governor of Svalbard. The institute conducts extensive activities in Svalbard, including research, environmental monitoring, topographic mapping, geologic mapping, research and logistics services, operation of research stations, lighthouse inspection and advisory tasks. The institute is a key knowledge producer and possesses broad research-based expertise in areas where the environmental management authorities have direct management responsibility in the High North and polar regions or serve as a key driving force in both national and international processes. Furthermore, the Norwegian Polar Institute develops, revises and leads the Environmental Monitoring of Svalbard and Jan Mayen (MOSJ). Another important task of the institute is to help stimulate and coordinate national and international research in Svalbard through cooperation on research projects and by granting access to the institute's infrastructure, such as research sta-

tions, field equipment and transport. Along with UNIS, the Norwegian Polar Institute provides important logistical services to many Norwegian and international research partners in Svalbard. In addition to its offices in Longyearbyen, the institute has a research station in Ny-Ålesund and owns an air monitoring station on Zeppelin Mountain. The institute's research vessel, *Lance*, is also in regular use around Svalbard. In 2012 the Storting approved a resolution to build *Kronprins Haakon*, a new icebreaker research vessel. The Norwegian Polar Institute is charged with managing ownership of the vessel on behalf of the Norwegian state. The Institute of Marine Research will have operating responsibility and will lead the expeditions committee for the vessel. The Norwegian Polar Institute is charged with managing ownership of the vessel on behalf of the Norwegian state. The Institute of Marine Research will have operating responsibility and will lead the expeditions committee for the vessel. The expeditions committee will consist of the Norwegian Polar Institute, the Institute of Marine Research, and the Arctic University of Norway. According to plans, *Kronpris Haakon* will be ready for scientific expeditions in 2018, with Tromsø as its home port.

cooperation. Norway has strong research communities with active research activity in Svalbard and, in a number of areas, leading expertise. Scientific leadership is developed and expressed through international research cooperation. The Svalbard research is distinguished by its high level of international cooperation. About half of the articles have international co-authors. Norwegian polar researchers represent the most important cooperation partner for international researchers in Svalbard. This suggests solid Norwegian leadership in Svalbard research. As many as three of four Norwegian articles dealing with Svalbard were co-written by authors from other countries. This is positive, and there is a wish to maintain and further develop this position. Conducting research in Svalbard must therefore be made more attractive to Norwegian researchers. At issue are the academic and social environments, the design of funding programmes, infrastructure, and research opportunities for both established and young Norwegian researchers.

The Government's objective is for Svalbard to be used for high-quality research in priority areas. A 2015 report by the Nordic Institute for Studies in Innovation, Research and Education (NIFU), titled *Norsk polarforskning – forskning på Svalbard* (Norwegian polar research: Research in Svalbard), shows that, regardless of nationality, articles dealing with Svalbard are less frequently cited than the global average for articles dealing with polar research. The relatively low citation count may be due to the research topic or project design, but it may also indicate that the quality of international research in Svalbard could be better. In any case, the Government is concerned with emphasising quality in the future work of facilitating research activity in Svalbard.

The Government will:

- Continue the focus on polar research and the special emphasis on Svalbard research, in order to help strengthen the volume and quality of Norwegian research in Svalbard. The

Box 8.5 Research Council of Norway

The Research Council of Norway acts as the central government adviser on research policy issues, and annually allocates about NOK 9 billion to research and innovation projects. Through its programmes and schemes, the Research Council of Norway funds several research projects and activities in Svalbard. In addition, the Research Council of Norway manages the two support programmes Arctic Field Grant and Svalbard Strategic Grant, based on recommendations and advice from the Svalbard Science Forum (SSF). The Research Council of Norway regularly initiates surveys of resource input and scientific publication activity in Nor-

wegian polar research. Furthermore, the Research Council of Norway has regional responsibility to facilitate more research-based economic development in Troms county. In 2015 the area of responsibility was expanded to include Svalbard, and the Research Council's work with the business community in Svalbard was consequently intensified. The regionally responsible body cooperates with Innovation Norway Troms and Svalbard. The Research Council of Norway has a permanent presence in Longyearbyen by virtue of its responsibility as secretariat for SSF.

Government will also consider possible measures to encourage Norwegian researchers to take advantage of the research opportunities available in Ny-Ålesund.

- Facilitate increased international cooperation through bilateral and multilateral arrangements. Horizon 2020 also advertises funding for Arctic research. The general policy instruments available through the Research Council of Norway, including those that encourage Norwegian participation in Horizon 2020, will contribute to this.
- Conduct a review of research on Svalbard and consider how policy instruments can be directed with even greater effect towards both increasing Norwegian Svalbard research and encouraging the international research community to cite such research.

8.3.3 Clear Norwegian role as host

Interest in the Arctic is steadily growing, both nationally and internationally, and institutions from more and more countries are contributing with Svalbard-based research activity. Norway facilitates research and higher education in Svalbard, and will actively continue scientific research and practise a clear policy for hosting such activity. Research activity in Svalbard will be conducted in line with relevant Norwegian regulations; see Chapter 5, 'Legislation', and Chapter 7, 'Environmental protection'.

The Government will further develop Norway's hosting policy by improving coordination

and clarifying priorities and conditions for research activity. The aim is to achieve higher quality, more cooperation, transparency and sharing, and better utilisation of resources across institutional and national boundaries. Therefore, more emphasis should be placed on generally accepted criteria for developing and measuring quality with respect to utilising infrastructure and limited resources. International cooperation should be further promoted. Research findings, data and infrastructure should be made more easily available for mutual access and sharing.

The Government will develop an overall strategy for research and higher education in Svalbard. The strategy should communicate Norway's expectations for the knowledge communities in Svalbard and give direction for further development in different geographic and thematic areas. This particularly applies to expectations regarding cooperation, transparency and sharing of data across institutional and national boundaries. The strategy should contribute to quality, effective resource utilisation and transparency with regard to the international activity in the archipelago. It should also be a tool for setting priorities when expanding and using infrastructure, services and scientific activity in vulnerable nature areas in and around Svalbard that will reduce the need for infrastructure development and traffic through the natural environment. Moreover, the strategy should identify instruments and measures for pursuing objectives and strategies, and identify priority areas to which Norwegian research can contribute with especially good effect.

The Research Council of Norway will be tasked with proposing such a strategy, based on a wide-ranging process involving central authorities, the Governor of Svalbard, and all actors undertaking research and educational activity in Svalbard. The Research Council will also have primary responsibility for evaluating how the strategy is implemented.

Based on the strategy, broad cooperation will be facilitated on research infrastructure and data for earth system science through the *Svalbard Integrated Arctic Earth Observing System* (SIOS) (see discussion in section 8.2.2). The establishment of a consortium, through a memorandum of understanding (MoU) between the participating institutions, is envisaged. The consortium will form its own governing bodies where participants will make decisions regarding organisation and priorities. The consortium's decisions and the SIOS cooperation shall operate within the framework set by the Norwegian authorities for research activity in Svalbard. A non-profit limited liability company, wholly owned by UNIS, will be established to attend to recruitment, agreements, the secretariat function and services the consortium will need. SIOS will produce maximal synergy if all central Norwegian and international research institutions in Svalbard actively participate.

To improve overview and coordination, it is important to further develop the *Svalbard Science Forum* (SSF), SSF's secretariat, and the Research Council of Norway's office in Longyearbyen. This will prove extremely useful to established research communities and new researchers arriving in Svalbard. The Arctic Field Grant and Svalbard Strategic Grant funding programmes are important for international cooperation, but they should be designed, more so than they are today, to encourage activity aligned with research priorities. The proposed strategy for research and higher education will provide a good basis for this. At the same time, SSF's information and dissemination activities should be intensified in order to improve the overview of research projects and make it easier for research communities to find and enter into cooperation with each other. There is also a need to further develop the RiS database with a view to improving, among other things, the effectiveness of the Governor of Svalbard's procedures for processing applications to conduct fieldwork pursuant to environmental legislation. The objective is to have all the research communities in Svalbard use the database to enter information regarding their activity and actively use it to

enhance cooperation. The Svalbard Science Forum is an important arena for achieving this objective.

The Government will:

- Develop an overall strategy for research and higher education in Svalbard. The Research Council of Norway will have responsibility for preparing a strategy proposal on the basis of a wide-ranging process. Central government authorities, the Governor of Svalbard, the business community and all research and higher education organisations in Svalbard will be involved. The Research Council will also have primary responsibility for evaluating how the strategy is implemented.
- Facilitate formal establishment of SIOS in the course of 2016. As the host of SIOS, Norway will help cover a significant share of the expenses. The participating institutions are also expected to contribute through membership fees and other resources.
- Further develop the Svalbard Science Forum (SSF) and the Research Council of Norway's office in Longyearbyen. Objectives, tasks and roles will be updated in a new revision of the mandate. The Research Council's stimulus funding and support programmes related to SSF will be designed in line with the priorities in the strategy.

8.3.4 Issues specific to Ny-Ålesund

The Government wishes to strengthen Norway's role as host and coordinator of research activity in Ny-Ålesund. Ny-Ålesund shall be a platform for world-class, international scientific research cooperation, with Norway in a clear role as host and with professional standing and leadership in relevant areas. There is a need, meanwhile, for more clearly defined strategic priorities, improved academic and practical coordination, and more systematic development and management of building stock and infrastructure.

Activity should be more clearly aligned with the overriding research objectives, with a basis in research priorities, scientific quality, a greater level of cooperation, and open sharing of data and results. A gradual shift is also desired away from research stations located in separate buildings to centres thematically aligned with priority areas and equipped for shared use.

A research strategy for Ny-Ålesund will be developed with a view, in part, to strengthening Norway's role as host and supporting its Svalbard policy. Such a strategy will be a useful tool for



Figure 8.2 Ny-Ålesund.

Photo: Max König, Norwegian Polar Institute

assessing and allocating time and space in existing buildings and laboratories. It will also provide a basis and guidelines for long-term plans for further development of infrastructure, buildings and services in Ny-Ålesund. This will also form a basis for communicating clear expectations to all actors in Ny-Ålesund.

The research strategy should be seen in the context of the overall strategy for research and higher education in Svalbard. The Research Council of Norway will be responsible for drawing up the research strategy for Ny-Ålesund, in consultation with the relevant ministries and with Norwegian and international research communities. This process should secure sufficient support and breadth of participation among scientists while and at the same time protect the various Norwegian research interests in Svalbard.

The Norwegian Polar Institute, which is a directorate organised under the Ministry of Climate and Environment, will be responsible for implementing and following up the research strat-

egy in Ny-Ålesund in consultation with the Research Council of Norway and with relevant ministries and actors. The Norwegian Polar Institute already has a presence in Ny-Ålesund. The institute is a key research actor with professional standing and international credibility, and is the Norwegian state's principal body for protecting Norwegian interests in the polar regions. These aspects are vital prerequisites for satisfactorily implementing the strategy.

Organisation, operation and ownership

The research strategy will provide guidelines for the development and operation of infrastructure in Ny-Ålesund. In the future, operational responsibility for Ny-Ålesund should be seen in the context of implementing the research strategy. Since the Norwegian Polar Institute will coordinate the operative implementation of the research strategy, it is natural that responsibility for managing state ownership in Kings Bay AS be transferred from

Box 8.6 Kings Bay AS

Kings Bay AS owns land, facilities and most of the building stock in Ny-Ålesund, and provides services to the research activity conducted there. The company also owns Kings Bay Marine Laboratory. Many Norwegian and international research institutions rent buildings and facilities from Kings Bay. The Norwegian tenants are: the Norwegian Polar Institute, the Norwegian Institute for Air Research, the Norwegian Mapping Authority, the Northern Research Institute (NORUT), the Andøya Space Center and the University Centre in Svalbard (UNIS). The international institutions are: the Alfred Wegener Institute, the Chinese Arctic and Ant-

arctic Administration, Consiglio Nazionale delle Ricerche, the German Research Centre for Geosciences, Institut Polaire Francais/Paul Emile Victor, the Korea Polar Research Institute, India's National Centre for Antarctic and Ocean Research, Japan's National Institute of Polar Research, the British Antarctic Survey and the Arctic Centre of the University of Groningen. Kings Bay AS owns and maintains Svalbard's largest collection of automatically listed heritage buildings. These valuable cultural heritage sites have been cared for and repaired, but the protection regulations impose some constraints on how the building stock is used and developed.

the Ministry of Trade, Industry and Fisheries to the Ministry of Climate and Environment. This will help concentrate and clarify responsibility for following up the overriding objectives and strategies for Ny-Ålesund and enable relevant issues to be viewed in broader context. As planned, responsibility for managing the state's ownership in Kings Bay AS will be transferred from the Ministry of Trade, Industry and Fisheries to the Ministry of Climate and Environment on 1 January 2017. Responsibility for managing the state's ownership in Bjørnøen AS, which owns land and buildings of historical significance on Bjørnøya and is administratively subordinate to Kings Bay AS, will simultaneously be transferred from the Ministry of Trade, Industry and Fisheries to the Ministry of Climate and Environment. Consideration will also be given to whether the ownership rights held by Kings Bay AS and Bjørnøen AS to the land in Ny-Ålesund and on Bjørnøya should be transferred to the Ministry of Trade, Industry and Fisheries, which manages all state-owned land in Svalbard.

The Government will:

- Strengthen coordination in Ny-Ålesund through the development of a research strategy for Ny-Ålesund by spring 2017. The research strategy for Ny-Ålesund should be seen in the context of the overall strategy for research and higher education in Svalbard and should support Norway's role as host and its research policy in Svalbard. The Research Council of Norway will have responsibility for drawing up a strategy in cooperation with the relevant actors, research bodies and ministries.

- Give the Norwegian Polar Institute responsibility for operational implementation and monitoring of the research strategy in Ny-Ålesund. In order to appropriately follow up the strategy in Ny-Ålesund, regular dialogue will be established between the Research Council, the Norwegian Polar Institute, Kings Bay and the relevant ministries.
- Transfer responsibility for managing the state's ownership in Kings Bay AS from the Ministry of Trade, Industry and Fisheries to the Ministry of Climate and Environment with effect from 1 January 2017. The purpose is to coordinate implementation of the research strategy with operation and development of Ny-Ålesund. Responsibility for managing the state's ownership in Bjørnøen AS, which is administratively subordinate to Kings Bay AS, will also be transferred simultaneously from the Ministry of Trade, Industry and Fisheries to the Ministry of Climate and Environment.

8.4 Summary

The Government will:

- Maintain and further develop UNIS as a unique institution for university-level studies and research on Svalbard, with a range of academic programmes and research activity that capitalises on the natural advantages of the location.
- Facilitate further cooperation between UNIS and mainland universities to make the most of UNIS's potential, to satisfy the requirement that 50 per cent of students come from Norwe-

- gian institutions, and to improve predictability for both UNIS and the universities.
- Continue the focus on polar research and the special emphasis on Svalbard research, in order to help strengthen the volume and quality of Norwegian research in Svalbard.
 - Consider possible measures to encourage Norwegian scientists to take advantage of the research opportunities available in Ny-Ålesund.
 - Facilitate increased international cooperation through bilateral and multilateral arrangements. Horizon 2020 also advertises funding for Arctic research. The general policy instruments available through the Research Council of Norway, including those that encourage Norwegian participation in Horizon 2020, will contribute to this.
 - Conduct a review of research on Svalbard and consider how policy instruments can be directed with even greater effect towards both increasing Norwegian Svalbard research and encouraging the international research community to cite such research.
 - Develop an overall strategy for research and higher education in Svalbard. The Research Council of Norway will have responsibility for preparing a strategy proposal on the basis of a broad-based process. Central government authorities, the Governor of Svalbard, the business community and all research and higher education organisations in Svalbard will be involved. The Research Council will also have primary responsibility for evaluating how the strategy is implemented.
 - Facilitate formal establishment of the *Svalbard Integrated Arctic Earth Observing System* (SIOS) in 2016. As the host of SIOS, Norway will help cover a significant share of the expenses. The participating institutions are also expected to contribute through membership fees and other resources.
 - Further develop the Svalbard Science Forum (SSF) and the Research Council of Norway's office in Longyearbyen. Objectives, tasks and roles will be updated in a new revision of the mandate. The Research Council of Norway's stimulus funding and support programmes related to SSF will be designed in line with the priorities in the strategy.
 - Strengthen coordination in Ny-Ålesund through the development of a research strategy for Ny-Ålesund by spring 2017. The research strategy for Ny-Ålesund should be seen in the context of the overall strategy for research and higher education in Svalbard and should support Norway's role as host and its research policy in Svalbard. The Research Council of Norway will have responsibility for drawing up a strategy in cooperation with the relevant actors, research bodies and ministries.
 - Give the Norwegian Polar Institute responsibility for operational implementation and monitoring of the research strategy in Ny-Ålesund. In order to appropriately follow the strategy in Ny-Ålesund, regular dialogue will be established between the Research Council, the Norwegian Polar Institute, Kings Bay and the relevant ministries.
 - Transfer responsibility for managing the state's ownership of Kings Bay AS from the Ministry of Trade, Industry and Fisheries to the Ministry of Climate and Environment with effect from 1 January 2017. The purpose is to coordinate implementation of the research strategy with operation and development of Ny-Alesund. Responsibility for managing the state's ownership in Bjørnøen AS, which is administratively subordinate to Kings Bay AS, will also be transferred simultaneously from the Ministry of Trade, Industry and Fisheries to the Ministry of Climate and Environment.

9 Economic activity

9.1 The business community in Svalbard

Svalbard has a long tradition of economic activity. The economic activity began with hunting and trapping in the 1600s. In the 1900s, coal mining was initiated in Svalbard, and this industry has been the foundation of the inhabited locations in Svalbard. Through to the present day, this industry has made a significant contribution to stable, year-round activity in Longyearbyen.

The SNSK group's activity in Svalbard has been an important element of the Svalbard policy. Through the 1990s and 2000s, the company's role in Svalbard's growing economy became less dominant. The challenges in the 1990s resulted in an active policy to modernise the community and stimulate a wider range of businesses. Steps have been taken to facilitate a more diversified business community during this period, with resultant growth in tourism, trade, higher education, research and space activity. This effort has proved successful.

The mining operation experienced an upsurge in the early 2000s, with plans for new operations at Svea at the same time the tourism industry was continuing to grow. In 2014 production started at Lunckefjell, but financial challenges linked to coal prices led to an operational halt at the Lunckefjell mine in 2015. Although employment has fluctuated from the 1990s to the present day, over time there has been significant growth in the total number of jobs in Longyearbyen.

The general trend visible in Svalbard today has been under way for a long time. A gradual broadening of Longyearbyen's industrial structure has made the community less dependent on the coal industry. The businesses that have developed concurrently with coal mining are those that also have natural advantages in Svalbard. This is especially the case for tourism and research. But there are also other businesses with significant employment in Svalbard, such as construction, services and public sector activity. The gradual

development of a more heterogeneous business community in Svalbard is an advantage for future economic development and the creation of new jobs. Activity in industries such as manufacturing, construction and hotel and restaurant services has brought about employment trends that in large part correspond with development in the mining operations. The coal-mining industry remains important, with about 100 employees at SNSK while the suspension of operations remains in effect.

Svalbard's labour force, like that of Mainland-Norway, has become increasingly educated. Increased knowledge and the use of technology create new opportunities for economic activity and new, sustainable and profitable jobs in Svalbard as elsewhere. This means that jobs in future, even more than to date, will be focused in other fields, so that a broader effort is needed now to pave the way for new and diverse activities. There is reason to believe that such an approach will be the most effective way in the long run to stimulate new jobs and thereby contribute to the continued viability of the Longyearbyen community. There are also a number of specific challenges associated with facilitating new economic activity in Svalbard. This is a major reason there is a need for close communication on current challenges between the local actors and public policy instruments.

It is not the role of the authorities to point out which new enterprises and jobs may be relevant in future. The authorities' role, in the framework of the Svalbard policy, is to facilitate the creation of new jobs in industries where Svalbard has natural advantages. Based on past experience and Svalbard's position as a unique and exciting travel destination, there appear to be solid opportunities, especially in tourism, to develop new jobs and workplaces. But the potential for new jobs and increased value creation exists also in the service industry, infrastructure and logistical services, the maritime sector and retail.

9.2 Future economic development in Svalbard

A community with a heterogeneous business structure will be less vulnerable to changes in markets, individual industries and individual companies. Developing the breadth and complexity of Svalbard's business community is therefore desirable.

It is naturally the case that new economic activity in Svalbard occurs by and large within industries that capitalise on either Svalbard's unique natural environment or its location. Economic development and new activities in Svalbard must therefore take place within Svalbard's overall environmental management framework.

The expanded economic activity will mainly be situated in Longyearbyen. The same applies for industries like tourism, whose actual activity, while based in Longyearbyen, may occur elsewhere in Svalbard. Public infrastructure is a foundation for developing a more diverse business community in Longyearbyen. New enterprises wishing to establish themselves need good infrastructure, logistical services and access to land. Good land-use planning is therefore important for economic development. By way of regulations and the exercise of authority over land-use management, as well as state ownership of land and infrastructure, the authorities will have a large degree of control over the establishment of new enterprises.

9.2.1 Measures to strengthen activity and the business community in Longyearbyen

The Storting has already approved a proposal by the Government to allocate NOK 50 million for restructuring measures to develop Longyearbyen and facilitate new economic activity and jobs. This gets the work of restructuring and economic development off to a good start. The restructuring funds are distributed to the Longyearbyen Community Council, the Svalbard Business Council and the industrial policy instruments of Innovation Norway. Further development of Longyearbyen is thus being facilitated with the help of actors with both sound local knowledge and experience in economic development and restructuring processes.

Longyearbyen Community Council

The Longyearbyen Community Council today plays an important role in restructuring the Longyearbyen community, and will do so going forward, too. The council is intimately familiar with local conditions and knows the business community well. It also has a special responsibility for development within the Svalbard policy framework, a responsibility also enshrined in section 29 of the Svalbard Act. On that basis, the Longyearbyen Community Council has been allocated NOK 4.5 million towards restructuring and economic development efforts, primarily in Longyearbyen.

Good infrastructure is essential for developing employment and stimulating economic development. There is currently a maintenance backlog for infrastructure measures in Longyearbyen. The Longyearbyen Community Council and the Ministry of Justice and Public Security have both been concerned about this for several years. To reduce this maintenance backlog and simultaneously contribute to new jobs in the construction sector, NOK 22 million of the NOK 50 million total was allotted to infrastructure projects in Longyearbyen.

Svalbard Business Council

It is important that those who know Longyearbyen and the needs of its business community be included in the development of business-promotion measures.

The Svalbard Business Council represents the business community and works to promote its interests in the archipelago. The council received NOK 0.5 million from the restructuring package to facilitate restructuring and economic development efforts in Longyearbyen. The funds will help generate collaboration between the local business community and local authorities.

Policy instruments – Innovation Norway

Innovation Norway is a key tool of the state and county authorities in their efforts to realise value creation and economic development. With its experience in regional restructuring, Innovation Norway can be an important contributor to the restructuring work Svalbard now faces. Innovation Norway has received NOK 20 million in total from the restructuring package to enhance its presence in Longyearbyen and to develop and fund projects. A strengthened presence makes

Innovation Norway more visible and accessible to the local economic development actors. Special project funding to Innovation Norway, earmarked for Svalbard, can help the organisation provide support to specific local projects, thus contributing to economic development in Longyearbyen and helping to achieve the Svalbard policy's key objectives. Depending on which projects are proposed, it may be possible to award funds from other national programmes administered by Innovation Norway. In its work promoting new economic development, Innovation Norway must coordinate and exploit the expertise within its own organisation and in other public policy instruments. The company will work closely with the Longyearbyen Community Council and the Svalbard Business Council on the progress and prospects for creating new enterprises and jobs that support the objectives of the Svalbard policy. Experience gained from restructuring in other local communities with special restructuring challenges indicates that success requires the participation and support of local actors and key policy instruments.

To strengthen the possibility of creating a new business community in Svalbard, new expertise in enterprise and innovation will be brought in. NOK 3 million has therefore been allocated to prepare a special business and innovation strategy for Svalbard. The aim of the strategy effort is to gather input and opinions from a variety of actors as a basis for reviewing and presenting the potential that exists for Svalbard's economic development in the longer term. Input will be needed from relevant bodies of experts, including Innovation Norway and the Research Council of Norway, and from a partnership of local actors such as the Longyearbyen Community Council and the Svalbard Business Council. The Ministry of Trade, Industry and Fisheries will lead the strategy work, and the work will be anchored in the Interministerial Committee on the Polar Regions.

9.3 Objectives and framework for future economic development

Sustainability and predictability have long constituted a fundamental element of the Svalbard policy. That will continue to be the case. One of the key objectives of the policy is maintenance of Norwegian communities in the archipelago. Like communities elsewhere, Svalbard's is changing, and the development of new economic activity must be based on the same principles that apply to the

Box 9.1 Innovation Norway

Innovation Norway's main purpose is to trigger business development that is profitable from both a commercial and a socio-economic perspective, and to unleash the business potential of different regions, by pursuing the subsidiary objectives of generating more successful entrepreneurs, more growth companies, and more innovative business clusters. The company administers policy instruments involving finance, expertise, promotion, networking and advisory services. By working across different industries, regions and clusters, Innovation Norway takes a comprehensive approach to value-creating business development across a wide spectrum of Norwegian enterprises.

Innovation Norway has a decentralised office structure. It is Innovation Norway's office in Tromsø that has had operational responsibility for Svalbard. Innovation Norway can support enterprises in Svalbard using funds from national programmes. There are no special regional policy funds earmarked for Svalbard, but Innovation Norway is able to provide some degree of support to enterprises in Svalbard within the bounds of the Ministry of Local Government and Modernisation's budget item titled 'National measures for regional development'. The Ministry of Local Government and Modernisation also funds a national 'centre of excellence' for regional restructuring at Innovation Norway. This enables Innovation Norway to provide municipalities undergoing restructuring with expertise, advice and work effort, including knowledge transfer from the various restructuring processes the company has participated in over time.

development of sustainable economic growth in general industrial policy. At the same time, consideration must be given to the special frameworks applicable to Svalbard. An adaptable business and community and employees with the right expertise provide the basis for developing new economic activity in Svalbard. Innovativeness and increased knowledge make it possible to adopt new technologies, which in turn can contribute to the development of new, sustainable enterprises and jobs.

The Government's commitment to economic development, new jobs and enterprises in Svalbard will build on the main elements listed below.

The Government will:

- Facilitate development of existing and new industries within the overriding objectives of the Svalbard policy.
- Strengthen economic development efforts under the auspices of the Longyearbyen Community Council and the relevant national policy instruments in cooperation with existing business interests in Longyearbyen, using funds provided in the estimated accounts for 2015.
- Facilitate conditions for the development of a more diversified business community. Preferably, the new jobs should be stable, year-round and commercially profitable.
- Facilitate development of a new, forward-looking business and innovation strategy for Svalbard.
- Continuously assess the need for restructuring and economic development measures that support the Svalbard policy objectives.

9.4 Economic activity in more detail

9.4.1 The tourism industry

The tourism industry has long been one of Svalbard's principal industries. In Report No. 50 (1990–1991) to the Storting on industrial policy measures in Svalbard, the Government wished to facilitate the development of tourism as an industry in Svalbard. The focus on tourism was followed up in Report No. 9 (1999–2000) to the Storting *Svalbard* and in Report No. 22 (2008–2009) to the Storting *Svalbard*, where it was asserted that the tourism industry had become an important foundation of economic activity in the archipelago, particularly in Longyearbyen. Even as the Government seeks to facilitate further development of tourism, it is an overriding objective that Svalbard shall be one of the world's best-managed wilderness areas, and the best-preserved High Arctic destination in the world. The ambitious environmental objectives and strict environmental legislation pertaining to Svalbard will remain frameworks for the development of tourism.

Since the early 1990s, Svalbard has experienced gradual growth in tourism, as desired. The number of registered guest nights at hotels or guest houses has risen from barely 20,000 in 1991 to about 131,000 guest nights in 2015. That means, given an average stay per visitor of 2.24 days, that

about 60,000 guests overnights in the archipelago in 2015. The number of overnight stays is, nonetheless, modest compared with destinations on the mainland.

The latest available report, from 2014, shows an occupancy rate for overnight accommodation in Longyearbyen of 57 per cent. The tourism industry in 2014 employed 194 people directly and contributed to 103 full-time-equivalent positions in related activity. The industry had approximately NOK 363 million in sales and generated a turnover in local purchases equivalent to approximately NOK 137 million (Norwegian Institute for Urban and Regional Research/Longyearbyen Community Council).

Growth in the Svalbard tourism industry, in terms of visitors, employment and number of companies, has occurred in waves. Particularly strong growth was noted in the 1999–2001 period, before levelling out in 2001–2005. A new peak in 2008 was followed by decline and stagnation that lasted until March 2013, when competition in air travel to Svalbard contributed to renewed growth.

Cruise tourism is an important part of tourism in Svalbard. Cruise tourism can be divided into two main segments: overseas cruises, with ships arriving from afar, and expedition cruises, with Longyearbyen as the start and end point for cruise journeys in the waters around the archipelago. The ban on heavy fuel oil that was introduced with full effect from 2015 and compulsory pilotage, also introduced in 2015, have meant that ships using heavy fuel oil and those without a pilot on board are no longer permitted to sail in Svalbard's protected areas.

Tourists and crew from overseas cruise ships are largely self-sufficient, but they contribute to the retail trade in Longyearbyen and Ny-Ålesund when they go ashore. Expedition cruises are generally combined with stays in Longyearbyen before and after undertaking expeditions, and therefore contribute somewhat to the local economy. The Association of Arctic Expedition Cruise Operators (AECO) is an international organisation for expedition cruise operators operating in the Arctic and for others with interests in this industry. AECO develops standards for responsible, environmentally friendly and safe operation of expedition cruises in the Arctic.

The Svalbard Cruise Network (SCN) is committed to the development of cruise tourism to Svalbard. One way cruise tourism can be used to create value in Longyearbyen is through product and destination development in the city and Isfjorden. Cruise customers have spending power.



Figure 9.1 Tourism – cruise ship with inflatable boats.

Photo: Margrete Keyser, Office of the Governor of Svalbard

It is therefore important that provision is made for a wide range of available services that encourage cruise passengers to take advantage of the commercial and cultural activities in Longyearbyen. Improved port infrastructure in Longyearbyen should contribute to this.

Svalbard has received considerable attention in recent years. Nevertheless, the share of international visitors has declined. Targeted international marketing efforts have led to signs of an increase in the percentage of international visitors. If Svalbard is to perform well against the international competition, the promotion of Svalbard as a destination and the marketing and development of travel products must be correctly packaged and market-appropriate.

Tourism products

Considering its size, Longyearbyen today offers a wide variety of tourism products. Many are experiences connected to nature, such as guided hikes in nearby areas, kayak trips, visits to caves under glaciers, and snowmobile and dogsled safaris. Surveys indicate that it is precisely these experiences, all related to pristine wilderness, that most tourists wish to seek out. Despite today's varied offerings, the potential exists to develop additional products – anything from multi-day expeditions to outdoor adventures and excursions combined

with activities in Longyearbyen. Examples of new tourism products developed in recent years include the conversion of Mine 3 into a museum and snowmobile trips to Svea that combine industrial history with experiences of the magnificent natural environment.

Amidst rising international competition, continuing development of tourism products is crucial. As pointed out in section 6.3.2, Svalbard's cultural scene is also a resource in developing the tourism industry. The field of culture is a resource in terms of both the cultural expertise used in developing goods and services and the experiences and content of tourism products. For example, the museum and library are sources of insight into history, cultural heritage and cultural expression. The cultural institutions have extensive experience in presentation and communication. Artists can supplement the tourism industry's outdoors offerings with cultural experiences in the form of concerts, exhibitions and stage performances. Practitioners of most of the arts come to Svalbard. Cultural actors are also showing growing interest in various issues and challenges relevant to the High North and Arctic areas.

Food culture is of interest in this regard. Several businesses in Svalbard would like to offer their customers local food, such as Svalbard reindeer meat and fish from Isfjorden. Such offerings help improve the tourism product and can reduce

the environmental impact associated with transporting food. Environmental objectives and regulations, however, limit the harvesting of such resources. Beer brewing in Svalbard illustrates the consumer demand for locally sourced food and drink. Consideration will be given to the possibility of adapting regulations in this area to better meet the tourism industry's need and desire to use local food resources. Any changes must be consistent with the legislation governing Svalbard's environment.

There is no doubt that the cultural sector as a whole could make a major contribution to strengthening the tourism industry. A potential challenge exists, however, in the fact that the cultural and tourism communities both lack the mutual insight and understanding needed to appreciate what cooperation can mean for them both. It is therefore important to make the added-value potential more visible and to encourage knowledge development and exchange, and, by extension, to encourage cooperation between Svalbard's cultural and tourism actors.

One of the overriding objectives of the Svalbard policy is to maintain Norwegian communities in the archipelago. A greater number of attractive experiential opportunities might entice tourists to stay longer than they do today. Prolonged stays would result in increased revenue per visitor, which is positive for the business community in Longyearbyen. Moreover, the relationship between revenue and the environmental impact of tourist transport to and from the archipelago would improve.

There has been significant growth in new tourist offerings based on the use of sled dogs, and the opportunity exists for further development and growth in these products. Activities on the snow cover generally have less environmental impact than activities on dry land. It is therefore desirable to encourage greater use of the large snowmobile-free area, for both dogsled and ski trips. Increased activity and job creation in the tourism industry require that good air travel services be maintained. At the same time, increased tourism will help improve the basis for maintaining and further developing communications and other important societal functions in Longyearbyen.

The tourism industry is to some extent seasonal. This means that labour demand is reduced during the polar night and that it can be a challenge to create year-round jobs in Longyearbyen that contribute to the maintenance of a viable local community. Statistics in recent years indicate a

positive trend towards year-round tourism, partly as a result of aurora borealis tourism, but the polar night is still a low season. In order to facilitate year-round tourism, products must be developed that are attractive even in the dark. Since the polar night greatly limits the potential for activity outside the Longyearbyen area, varying the activities and experiences available to visitors in the greater Longyearbyen area could help make the polar night more attractive and create more year-round jobs. Several popular products are already offered during the polar night, such as Polarjazz and Dark Season Blues, but continued efforts are needed to develop year-round tourism in Longyearbyen. Developing visitor experiences and activities in the central district could help strengthen Longyearbyen as an attractive destination even during the polar night.

The environmental objectives and legislation relating to Svalbard limit the activities that can be pursued. Increased activity in the Svalbard tourism industry must take place within these limits. Nature-based tourism, which is the core of what Svalbard can offer, depends on frameworks ensuring that Svalbard's unique and unspoiled natural environment is preserved in future. The tourism industry in Longyearbyen is working towards having Longyearbyen awarded a quality label for sustainable destinations where the environment and the welfare of local communities are protected. To achieve this, the tourism industry must develop in a way that preserves natural and cultural heritage sites, ensures considerate and safe travel across the natural landscape and attends to local community needs, all while strengthening the foundation for profitable enterprises. In connection with a 2014 revision of the regulations on tourism, the Governor emphasised that there are very few conflicts on record between modern organised tourism and Svalbard's natural and cultural assets. This is partly attributable to the industry's internal discipline, which, along with the Svalbard Guide Training Course, leads operators to emphasise cautious and considerate traffic. It can nevertheless be hard to reach individual travellers with sufficient information about regulations and essential safety measures.

Developing new tourism products and getting them established takes a long time in many cases. Over and above promotion and marketing, it is crucial that tourists enjoy their visit to Svalbard and the activities they engage in while there. Good communications, infrastructure and facilities are key to the experience. Predictability and stable framework conditions, moreover, are essen-

tial for the tourism industry's ability to offer tourists positive experiences. A clear framework for land use, local resource management and facilitation of activities is crucial to the development of good tourism products and sustainable tourism in Svalbard.

The tourism industry in Svalbard will be concentrated largely in the inhabited locations and in Management Area 10. To facilitate further development of the tourism industry it is essential to provide tourism operators with sound, predictable framework conditions within the constraints established by existing regulations. Not least, it is important to find satisfactory solutions for the tourism industry when ice conditions or wildlife considerations make traffic adjustments necessary. An example of this is the proposal that the environmental management authorities have circulated for public consultation to expand the area where visitors may drive snowmobiles when participating in organised tours or when accompanied by permanent residents. The proposal addresses both the tourism industry's need to be able to operate tours to Pyramiden and the need to avoid disturbing polar bears and seals at a vulnerable time of year.

Tourism is one of the activities that can help Longyearbyen be a viable local community of high quality in future. The aim is to develop Longyearbyen as an arena for both visitors and permanent residents with a diverse range of activities and experiences that are better arranged for guests than is the case today. Increased activity and new jobs in the tourism industry will help to create a better foundation for maintaining communications and important social functions for the local community. At the same time, good communications to and from the archipelago are a precondition for further development of tourism in Svalbard.

The Government will:

- Ensure sound, predictable framework conditions that provide a basis for growth in the tourism industry, by facilitating the development of tourism products.
- Facilitate the development of tourism products in Management Area 10.
- Further develop Visit Svalbard as a developer of tourism in Svalbard, and Visit Svalbard's coordinating role for the tourism industry.

9.4.2 Mineral activity

Coal has been extracted in Svalbard since the early 1900s. Apart from coal, there have been surveys and trial operations for other minerals such

Box 9.2 Visit Svalbard

Visit Svalbard AS is a travel destination company for Svalbard. The company is wholly owned by the Svalbard Tourism Council, which is a member-based organisation for the tourism industry in Svalbard. In 2016 Visit Svalbard AS was allocated a subsidy of NOK 2.2 million from the Ministry of Trade, Industry and Fisheries in order to promote value creation and improve profitability for an environmentally appropriate form of tourism by marketing and disseminating information on Svalbard as a destination.

The company's tasks include:

- Marketing and sales promotion of Svalbard as a travel destination nationally and internationally
- Provision and promotion of tourism services on behalf of the tourism industry in Svalbard
- Development of a uniform profile for Svalbard as a destination
- Coordination of all product information about Svalbard as a destination
- Operation of the tourist information office in Longyearbyen
- Serving as the secretariat for the collective tourism industry in Longyearbyen

as phosphorus, gold, zinc, lead, copper, gypsum and marble. These efforts have not resulted in any profitable operations. No commercially viable deposits of minerals other than coal have been proven.

Today there are coal operations in Longyearbyen and Barentsburg. Store Norske Spitsbergen Grubekompani (SNSG), a subsidiary of Store Norske Spitsbergen Kulkompani AS (SNSK), is the company that runs the coal operation in Longyearbyen, while the coal operation in Barentsburg is run by Trust Arktikugol. Previously, there was also activity in Ny-Ålesund and Pyramiden, but the mines there closed down in 1962 and 1998 respectively. SNSG's coal operation in the Svea Nord mine has been in regular operation since 2002. When production in the final panel at Svea Nord is completed in the spring of 2016, SNSG will carry out preparatory activities and measures needed to suspend mining operations in the Svea area for up to three years, from 2017.

Mining Code for Svalbard

The right to search for, acquire and exploit natural deposits is regulated by the Mining Code for Svalbard, as stipulated in the Royal Decree of 7 August 1925. Only persons from, or companies domiciled in, states which are parties to the Svalbard Treaty have the right to obtain mining rights in Svalbard. The Mining Code is based on the principle of first finder's right. Whoever first discovers a mineral deposit has first right to the find and to demand a land claim (mining rights).

The owner of land where a claim has been awarded has a right to participate in the operation at a level of up to 25 per cent.

The Mining Code sets minimum requirements for the effort that must be expended to retain a claim. The obligation to work a claim is not absolute. On specified terms set forth in the Mining Code, dispensation may be granted from the work obligation. Upon application by the claim holder and recommendation by the Directorate of Mining, a dispensation from the work obligation is granted by the Ministry of Trade, Industry and Fisheries for five years, which constitutes a work-obligation period.

If a claim holder has not fulfilled the work obligation and also has not applied for and been granted dispensation, the claim lapses at the end of the following calendar year. Others may then apply for new claims in the freed-up area.

Possession of a claim does not confer the right to encroach on Svalbard's natural environment. The establishment of mining operations in Svalbard requires permission under the Svalbard Environmental Protection Act. This legislation is described in greater detail in Chapter 7, 'Environmental protection'.

At the end of 2015 there were a total of 371 registered claims in Svalbard, and the SNSK group possessed 324 of them.

9.4.3 Store Norske Spitsbergen Kulkompani*About Store Norske Spitsbergen Kulkompani*

Store Norske Spitsbergen Kulkompani was founded in 1916, and its principal activity is coal mining in Svalbard. In 1973 the state acquired one-third of the shares in the company, and from 1976 the state owned 99.94 per cent (see Proposition No. 125 (1975–1976) to the Storting). Today the state owns 100 per cent of the shares, after the remaining shares were redeemed in June 2015 (see Proposition 118 S (2014–2015) to the Storting).

Table 9.1

Claim holder	No. of claims
Store Norske Spitsbergen Kulkompani AS	324
Trust Arktikugol	33
Reistad Consult AS	1
Svalbard Oil Co. AS	3
Austre Adventfjord AS	10
	371

The group consists of the parent company, Store Norske Spitsbergen Kulkompani AS (SNSK), and its wholly owned subsidiaries, Store Norske Spitsbergen Grubekompani AS (SNSG) and Store Norske Boliger (SNB). SNSK also owns 65 per cent of the shares in the subsidiary Pole Position Logistics AS. The SNSK group is also the largest holder of mining claims in Svalbard, with 324. The group currently has about 170 employees, but due to financial difficulties the company has decided to downsize to just under 100 employees.

SNSG now has operations in two mines: Mine 7, near Longyearbyen, and Svea Nord, which is located 60 km south of Longyearbyen. Coal production in Mine 7 has remained relatively stable in recent years. In 2014, 61,462 tonnes of saleable coal were produced, as against 64,687 tonnes in 2013. About 35 per cent of the coal from Mine 7 is sold to the local power plant, which the Longyearbyen Community Council operates in Longyearbyen. The rest is exported abroad. By the company's assessment, Mine 7 had 1.9 million tonnes of total coal reserves at the end of 2014 and an expected operational life, assuming two shifts, of about 10 years. An additional 2.0 million tonnes of resources are indicated. The indicated resources are expected to have higher sulphur content and hence lower quality than today's coal reserves. Assuming it is deemed commercially profitable to extract the indicated resources, there could be production taking place in Mine 7 even after 2025. Lunckefjellgruva, located northeast of Svea Nord, was to have been in production according to its business plan, but this has been discontinued.

In Svea, the coal operation was mainly related to Svea Nord. The mine has been in regular operation since 2002. Operation in the core area of Svea Nord is coming to an end, and production is now taking place at the outer edge of the resources,

which means production conditions are more demanding. When production in the final panel is completed in the spring of 2016, SNSG will carry out preparatory activities and measures needed to suspend mining operations in the Svea area for up to three years, from 2017.

Lunckefjellgruva opened in February 2014. The mine has access from Svea Nord, and SNSG's coal operation was to have continued at Lunckefjell after Svea Nord. As a result of the difficult market outlook, however, SNSG has ceased production at Lunckefjell. There are about 8 million tonnes of coal reserves at Lunckefjell, and the quality of the coal there is such that it could be sold for metallurgical application (PCI coal), achieving a higher price than coal for electricity production. Lunckefjell is still regarded as a natural project to pursue if coal prices develop positively.

Challenging market conditions

In the 2004–2013 period the SNSK group had an accumulated profit of about NOK 1.5 billion, and it paid out nearly NOK 500 million in dividends. Relatively favourable coal prices and the positive impact of financial hedging contracts contributed to the results in this period. In recent years, as a result of a significant drop in coal prices combined with large unrealised losses on currency hedging contracts and poor market prospects for coal, SNSG has found itself in a very challenging economic situation.

The SNSK board and the ownership ministry, the Ministry of Trade, Industry and Fisheries, have been in close dialogue about the company's situation. In May 2015 the Government put forward a proposition to the Storting (Proposition 118 S (2014–2015)) whose main elements were that the state would strengthen SNSG's liquidity by NOK 500 million. Of this amount, NOK 295 million went to the purchase of real property and infrastructure then owned by the SNSK group, and NOK 205 million was provided as a subordinated loan to SNSK from the state. The funds were to be made available for operations in SNSG. The Storting approved the Government's proposal on 11 June 2015 (see Recommendation No. 343 S (2014–2015)). The funds SNSK was provided by the state were intended to help finance a minimum level of operations by SNSG in 2015 and 2016. It was also evident that coal operations at SNSG were at high risk of having to be wound down after year-end 2016 if market conditions did not improve.

With coal prices continuing to decline through the autumn of 2015, the situation for SNSK became even more difficult. In September 2015 the SNSK board contacted the Ministry of Trade, Industry and Fisheries about the deteriorating situation and the options for continued operation. The company saw no economic basis for further operation at Lunckefjell, and production was discontinued in the autumn of 2015. The board recommended to the owner that the operation of Mine 7 continue in two shifts, and that a suspension of operations for up to three years be facilitated at Svea and Lunckefjell.

There are several considerations behind state ownership of SNSK. After a comprehensive assessment – with strict attention paid to issues of maintenance, further development, and community restructuring in Longyearbyen of a kind that supports the overriding objectives of the Svalbard policy – the Government proposed (in Proposition 52 S (2015–2016) to the Storting; see Recommendation No. 214 S (2015–2016)) that the state as owner contribute capital to facilitate a suspension of operations at Svea and Lunckefjell for up to three years and that the operation of Mine 7 near Longyearbyen be continued and expanded to two shifts, in line with the board's recommendation. The ministry's proposal entails an allocation of NOK 112 million to SNSK in the central government budget for 2016.

The Government acknowledges that there is considerable uncertainty associated with business developments at SNSG and the SNSK group, including a low probability that it will be rational from a business point of view to resume production at Svea and Lunckefjell in the current three-year period. The liquidity made available to SNSG must therefore be regarded as risk capital with a high risk of being lost. The ministry also proposed converting the subordinated loan of NOK 205 million plus interest to equity in SNSK. The proposition also makes it evident that there is considerable uncertainty as to further development in the SNSK Group and that the Government will evaluate this in more detail.

Although the Svalbard community has developed several legs to stand on and can absorb the ongoing reduction in the number of SNSK group employees, a potential winding down of coal mining operations at Svea and Lunckefjell would have consequences for the community. The SNSK group still holds great significance for the Svalbard community. The financial cost of a suspension in operations must be weighed against the benefits of continued Norwegian activity related

to the Svea area coal mines after the period of minimal operations runs out 2016. Overall, the Government sees good reasons for choosing suspended operations rather than a winding down, especially given the consideration of providing the Svalbard community more time for restructuring and the objective of maintaining Norwegian communities in the archipelago.

If prices had provided a sufficient financial basis, coal deposits proven in the Svea area could have supported operations through 2023. Market conditions for coal mining have shown a negative trend in the past year, and the outlook appears challenging. For the coal resources in Svalbard to be produced profitably from an economic point of view in future, market conditions have to improve significantly. The special conditions in Svalbard also make it very expensive to run coal operations. The high cost level can to some extent be explained by factors such as location, operating conditions, security requirements and general wage pressure. SNSK today has claims in several places in Svalbard. These are deposits that can be used as reserves if coal operations beyond the one at Mine 7 become likely.

The Government will consider alternative solutions and the structural framework for the SNSK group's further activity, including alternative solutions for any continuation of activity at Svea and Lunckefjell, and it will consult with the board in this regard.

Future activity in the company

The operation of Mine 7 is scheduled to continue and to deliver coal to Longyearbyen. This may continue for several years. Beyond coal mining, the SNSK group also manages housing and property in Svalbard. Through the subsidiary Store Norske Boliger AS (SNB), the SNSK group owns about 380 housing units in Longyearbyen. The company's purpose is to own and rent out real property. Primarily, SNB rents out homes to companies in the group and to partners. The largest tenant is SNSG, which rents out housing to employees. In line with the state's objective of contributing, through its ownership in SNSG, to the maintenance of the community in Longyearbyen, the company has applied to increase the number of family homes to make it attractive for the company's employees to settle in Longyearbyen with their families. According to the company, the price level in SNB is set on the basis of what it costs to invest in housing construction in Longyearbyen, as well as to cover municipal fees, dis-

trict heating/heating and continuing and periodic maintenance.

The downsizing of SNSG in 2013 freed up several housing units, leading to a marked increase in external rentals. This development continued in 2014 and into 2015. As of February 2016, SNB was renting out about 35 per cent of its housing stock externally. This includes rentals to partners. SNSK wants to help develop the market for both residential and commercial property in step with local needs. The company's housing and property management activity will depend on the activity level in other areas of business and community life in Longyearbyen, and on financial resources. Currently, SNSK also rents the state's land at Hotellneset in Longyearbyen. SNSK is also considering further development of Hotellneset for commercial use of the area in the longer term.

When production at Svea Nord ends in the spring of 2016, SNSG will carry out preparatory activities to suspend mining operations at Svea for up to three years, starting in 2017. During the period of suspended operations, SNSK will continue to rent land and infrastructure from the state as well as to oversee management and maintenance of Svea on behalf of the state. In this period SNSK will also work for the development of new, commercially profitable activities tied to the existing infrastructure at Svea which can be combined with any future resumption of mining operations. This applies both to research activities under the direction of Svea Arctic Research Infrastructure (SARI), collaborative projects with UNIS, and facilitation of tourism activity.

As landowner and owner of the infrastructure in Svea, the state will have certain expenses in managing and maintaining the properties. The costs related to Svea are costs that the state will have to fund regardless of the SNSK group's further development. An important job ahead will therefore be to examine how Svea can be managed further if mining operations at Svea are wound down.

Changed purposes and categorisation

The state must attend to several purposes through its ownership of the SNSK group. On the one hand, the ownership is supposed to help support the overriding Svalbard policy objectives. For many years, the company's mining operations have contributed significantly to stable, year-round Norwegian activity and presence in Svalbard. SNSK has also signed agreements with the state on operation and maintenance of parts of the

state's real properties in Svalbard. On the other hand, the state's purpose in owning SNSK has been for the company to operate on a commercial basis and with a view to delivering competitive returns. This has proved difficult in recent years.

To better reflect the state's various interests as owner of SNSK, the Government has changed the categorisation of the state's ownership in the company. The Government has moved SNSK from Category 3 (commercial objectives and other specifically defined objectives) to Category 4 (sectoral policy objectives). Apart from this, today's framework for corporate governance of the company is to be extended. Requirements have been set for efficient operations.

The Government will:

- Assess the situation for continued SNSK operations in light of developments in the price and market outlook for coal.
- Administer ownership in SNSK so that it contributes to the Longyearbyen community in a way that supports the overriding objectives of the Svalbard policy.
- Assess future development and activity in Svea in light of the state's role as landowner and infrastructure owner.

9.4.4 Space activity

Svalbard is Norway's foremost advantage as a space nation. The archipelago's geographical location is ideal for space activity, both for exploration of the atmosphere and downlinking of satellite data. Its northern position gives Svalbard a competitive advantage with regard to downlinking information from satellites in polar orbits. Svalbard is the only easily accessible place where it is possible to communicate with satellites in polar orbits during each orbit that such satellites make around the earth. Downlinking satellite data from Svalbard thus helps to make the operation of polar-orbit satellites more efficient. As a result, the services provided by the station in Longyearbyen are in high demand.

Svalbard plays a key role in Norwegian space activity, and the space activity in Svalbard continues to develop strongly. Space activity is an important part of the economic base in Svalbard. Svalbard's accessibility and northern location, along with the communities associated with the University Centre in Svalbard (UNIS), result in an active research community. UNIS is involved in research into Arctic geophysics and studies of the aurora borealis.

The European Incoherent Scatter Scientific Association (EISCAT) is an international scientific

organisation that operates three radar facilities for ionospheric studies. EISCAT has four stations, including one in Svalbard outside Longyearbyen. Norway is a member along with five other countries.

SvalSat and SvalRak

The cornerstones of space activity in Svalbard are the Svalbard Satellite Station (SvalSat) ground station and the Svalbard Rocket Range (SvalRak). SvalSat downlinks information from satellites in polar orbits, and SvalRak provides launch services for scientific balloons and rockets. SvalSat has about 30 employees and is owned by Kongsberg Satellite Services (KSAT). The state, through Space Norway AS, owns 50 per cent of KSAT. Space Norway AS also operates the fibre optic cable to Svalbard. SvalRak is owned by Andøya Space Center AS (ASC). ASC is a state company under the Ministry of Trade, Industry and Fisheries.

Svalbard Satellite Station, located on Platåberget at Longyearbyen, is the northernmost satellite downlink station in the world. Through effective utilisation of SvalSat, Norway is exploiting its geographical advantage. This has made Norway a major international player in the satellite downlink market. SvalSat is currently the largest commercial satellite ground station in the world and a global leader in downlinking meteorological data from polar-orbit satellites. With its downlink services at Svalbard and at the Troll station in Dronning Maud Land in Antarctica, KSAT is the only company in the world that can offer downlinking of information near the North Pole and the South Pole alike. This permits quick access to observational data from polar-orbit satellites, providing KSAT with a competitive advantage.

SvalRak is a launch station for research rockets at Ny-Ålesund. Because Svalbard is situated very close to the magnetic north pole, the rocket-launching range is particularly well suited for studies of the aurora borealis and other phenomena specific to the Arctic. Along with Norwegian researchers, the users of the facility are primarily Japanese and American. There is also increased interest in the release of large stratospheric research balloons from Svalbard.

Major international actors such as the US, European and Japanese space agencies, as well as several other major actors in space activity, make use of the services and infrastructure at SvalSat. The European Space Agency (ESA) uses the installations at Platåberget near Longyearbyen for



Figure 9.2 Svalbard Satellite Station. Svalbard Airport, Longyear, is visible by the fjord.

Photo: ©KSAT – Kongsberg Satellite Services

both commercial and research-related activity. SvalSat operates antennas for NASA, the European meteorological organisation EUMETSAT and the ESA, among others. Many earth observation satellites travel in polar orbits, so from positions near the poles it is possible to communicate with and downlink data from these satellites at relatively short intervals. Services based on earth observation data are of great administrative and commercial significance to Norway, especially in the management of marine areas in the far north. SvalSat also operates antennas for the Galileo, EGNOS and Copernicus EU programmes, thereby helping to strengthen the programmes' coverage and performance in Norwegian areas of interest.

Large investments have been made to strengthen SvalSat's position as a leading provider of space-based services. In 2004, fibre optic cables were introduced for transmitting data from Svalbard to the mainland. As a result, real-time access to data from the satellites is also available on the mainland. The development was funded through an agreement with the US aerospace and meteorological agencies, NASA and NOAA; the fibre optic cables are owned by Space Norway AS.

Future opportunities

There is reason to believe that international interest in the use of Svalbard's space infrastructure will continue to grow. Satellite data downlinked in Svalbard is used operationally in the monitoring of sea-ice conditions, oil pollution and maritime traffic. This information is critical to preventing and detecting accidents and environmental crime at sea.

Svalbard's geographical location provides unique opportunities for space research, including research on space weather. Space weather research is research into the sun's effect on the earth. It is common for space weather to affect the earth, but in most cases the effect manifests itself in the form of remarkable natural phenomena: aurora borealis and aurora australis. It is the truly powerful solar storms that may have consequences for us, because such storms can affect our systems on earth, interfering with satellite signals, for example, as well as other technologies and infrastructure. Vulnerability rises in step with society's adoption of increasingly sensitive technology. Norway is a leader in aurora borealis

research, and the Kjell Henriksen Observatory (KHO) outside Longyearbyen represents the core of Norwegian and international research into the aurora borealis. Together with rocket and satellite measurements and the EISCAT and Super-DARN radar facilities, this research infrastructure is unique to Svalbard. This research infrastructure puts Norway in a strong position to participate in international collaboration in this field.

Efforts are under way to integrate the space activity with other observational platforms, such as SIOS, whose contributions include improved availability of climatic, environmental and earth observation data from Svalbard from satellites.

In this way Norway will also be able to help explore the solar system. Norwegian researchers' understanding of satellite data and field measurements from glaciers in Svalbard could be important to an understanding of glaciers and any potential biological life on Mars and other planets. NASA and the ESA use Svalbard regularly to test equipment employed in space missions for solar system exploration.

Substantial funds have been allocated to encourage Norwegian companies to take part in research and innovation efforts in a European context. It is important that Norwegian space activity actors also take part in European collaboration, so as to exploit the competitive advantages that Svalbard's location and attributes provide in space-related research, innovation and economic development.

The earth's curvature and Svalbard's location far from other land masses limit opportunities for coverage by conventional communication channels, such as marine VHF radio and satellites in geostationary orbit over the equator. Existing systems that provide satellite communications in areas north of 75° N have limited performance and capacity. This can present a challenge in operations such as search and rescue. The Government will look into the possibility of a solution for a satellite-based communications system in the High North.

Space activity creates high-technology jobs in the northernmost counties and in Svalbard. Continued growth in space-based activity in Svalbard will lead to increased interest from domestic and international communities alike. Space infrastructure and space activity in general have great potential to contribute to future sustainable activity and value creation in Svalbard.

The space activity exploits Svalbard's geographical advantages, and navigation and earth observation satellites are particularly useful in

these areas, as they can cover large areas with relatively little infrastructure without harming the environment. Space-based infrastructure provides useful and cost-effective benefits to the population and business community in Svalbard. Good examples include environmental monitoring and maritime emergency preparedness, which are particularly important for the High North, including Svalbard. The need for space-based services will continue to grow in fields related to civil protection, the environment and climate, among others. The fibre optic cable link to Svalbard is an example of infrastructure put into place because of the commitment to space activity in Svalbard, and which benefits residents and scientists in Svalbard by enabling fast and secure internet access.

The Government will:

- Facilitate space activity as part of the future economic base in Svalbard.
- Assess the need and possibility of a satellite-based communications system in the High North.

9.4.5 Electronic communications services

Electronic communications were liberalised in Norway in 1998. The electronic services legislation – the Act of 4 July 2003 No. 83 relating to electronic communications (the Electronic Communications Act) – is applicable in Svalbard, with the exception of the competition rules in chapters 3 and 4 as well as section 9–3. The permit system on the mainland is also applicable in Svalbard, with the exception of permits relating to the establishment and use of satellite ground stations, for which special rules are needed out of concern for provisions in the Svalbard Treaty. The regulations for establishing, operating and using satellite ground stations in Svalbard are being revised to make them up-to-date and forward-looking. The aim is to reorganise and strengthen the supervisory activities.

Access to frequency resources in Svalbard is now administered so that special licences are awarded for Svalbard regardless of corresponding frequency licences for the Norwegian mainland. In Svalbard, growing interest is focused mainly on research activity involving the use of radio frequencies and the need for allocation of frequency licences.

Under the electronic communications legislation, the opportunity exists for a number of commercial actors to take part, but Telenor ASA remains the most important provider of electronic

communications networks and services to Svalbard.

The fibre optic cable to Svalbard provides the business community, the public sector, the research and education community and the general population with electronic communications at least as good as those on the mainland, due to the virtually unlimited capacity of these fibre optic cables. It is natural to envisage the creation of additional initiatives for utilising the capacity of the fibre optic cables to the mainland in future.

The Svalbard cable's service interruption in June 2014 showed how dependent all communications to and from Svalbard are on this transport channel. The interruption led the owner to conduct a value assessment and a risk and vulnerability analysis of the connection, including the cable landing point and the linkage of data streams into the commercial electronic communications networks. The relevant actors are now following up on these efforts.

Because of Longyearbyen's limited geographic area, it has been used as a testing ground for new technology. As a result, residents have had access to advanced services before most other Norwegians. Apart from providing modern services to the business community and public administration, Telenor Svalbard today offers modern 'triple play' solutions (telephony, IPTV and broadband access) to the populations of Longyearbyen and Ny-Ålesund. There is full fibre optic coverage, and the typical broadband line to a household has a transfer rate of at least 50 Mbit/s.

A fibre optic connection between Ny-Ålesund and Longyearbyen was recently established. The connection is redundant, with two separate cables. The connection was put into operation in May 2015 and is the world's northernmost high-speed connection. The radio link that previously served as the communications connection is being terminated. The technology is now present to allow the activity in Ny-Ålesund to link up to the rest of the world with high-speed connectivity via the new cable and the fibre optic connection between Longyearbyen and the Norwegian mainland. Between Longyearbyen and Svea, the connection is via radio link.

Both NetCom and Telenor offer mobile telephone services and mobile broadband (3G and 4G) in Longyearbyen, Svea and Barentsburg. Both providers also cover large parts of Adventdalen, Van Mijenfjorden and Isfjordbassenget.

The Government will:

- Revise the regulations governing the establishment and operation of satellite ground stations in Svalbard.

9.4.6 Maritime activity

Norway has a long tradition of shipping in the Arctic and the High North, and the Norwegian maritime industry has extensive expertise in the special conditions and challenges of Arctic waters. The maritime traffic around Svalbard consists mainly of cruise and cargo traffic, research-related shipping and fishing.

The number of overseas cruise ships coming to Svalbard has varied between 21 and 34 per year since 1997, but the number of passengers has almost trebled in the same period. Since the peak year, 2012, there has been a slight decline in arrivals to Svalbard by the large cruise vessels. The decline may be related to several factors: economic conditions, the introduction of a ban on heavy fuel oil in the protected areas, the introduction of compulsory pilotage, and limited port capacity in Longyearbyen.

The large overseas cruise vessels visit only the west coast of Svalbard. The ban on heavy fuel oil is discussed further in section 7.3.4. In addition to the overseas cruise vessels, much of today's cruise tourism takes place using small and medium-sized vessels. These vessels do not use heavy fuel oil, and can travel throughout Svalbard, including the large nature reserves in the east.

Spills of heavy fuel oil in the event of ship accidents could have serious negative consequences for the environment in the vulnerable and valuable areas around Svalbard. A ban on heavy fuel oil was therefore introduced in the nature reserves on the east side of Svalbard in 2007 and in the national parks on the west side in 2009, with a few time-limited exceptions (see over). The ban on heavy fuel oil is not applicable in Isfjorden, among other places, and imposes no restrictions on cruise traffic there.

Future opportunities

The northern marine areas are undergoing change, and the melting ice could provide opportunities for expanded economic activity and wealth creation in Svalbard. The growth potential for the maritime industry will be affected by growth in other industries and by any new activity that is begun in or around Svalbard and that depends on maritime transport. This also presents new environmental and security challenges. A well-functioning infrastructure is a premise for increased value creation, improved security and reduced environmental risk.

The High North, including Svalbard, is not sufficiently prepared to accommodate a potential activity increase in a safe, environmentally friendly and efficient manner. Norway is nevertheless the Arctic coastal state that must be regarded as having the most developed infrastructure in the area, not least as regards ocean surveillance. This gives Norway, with its geographical position and existing and planned infrastructure, an advantage with regard to international collaboration and potential localisation of international operations.

The capacity of the port facility in Longyearbyen is limited at present. New port infrastructure will be an important measure for further development in fields such as research, tourism, logistics and maritime services. In the National Transport Plan 2014–2023, up to NOK 200 million has been set aside for new port infrastructure in Longyearbyen. A more detailed account of the Norwegian Coastal Administration's work studying different port infrastructure solutions for Longyearbyen is presented in Chapter 6.

The Ministry of Trade, Industry and Fisheries has issued rules expanding the trade area for NIS-registered cargo ships and passenger ships so that they receive operational access to Svalbard from 1 January 2016. This contributes to a strengthening of the Norwegian-registered fleet and promotes the Norwegian maritime business community in Svalbard.

The Government will:

- Decide on further work to develop port infrastructure in Longyearbyen.

9.4.7 Fisheries activity

Regulation of fisheries resources

Fishing takes place in the territorial sea around Svalbard and in the Fisheries Protection Zone outside. The fishing in the territorial sea is far less extensive than in the Fisheries Protection Zone around Svalbard. Several of the stocks outside Svalbard migrate between Norwegian, foreign and international waters. For migrating stocks it is important to ensure protection and management throughout their area of distribution. Pursuant to the Act of 17 December 1976 No. 91 relating to the economic zone of Norway, a Fisheries Protection Zone of 200 nautical miles was established around Svalbard by the Royal Decree of 3 June 1977. Thus, the reason for establishing a non-discriminatory Fisheries Protection Zone around Svalbard

was primarily to achieve control of fishing in the area in order to preserve the resources and avoid unregulated fishing.

Today, fishing for cod, haddock, capelin, redfish, Greenland halibut, shrimp, Norwegian spring-spawning herring and snow crab is regulated in this area. Different regulations have been issued for the various fisheries, including quota regulation and effort regulation. The regulations are issued pursuant to the Act relating to management of wild living marine resources (Marine Resources Act). In addition, regulations on fishing in the territorial sea of Svalbard are issued pursuant to the Svalbard Act, while regulations on fishing in the Fisheries Protection Zone around Svalbard are issued pursuant to the Act relating to the economic zone of Norway. Uniform rules have been issued for fishing in the territorial sea around Svalbard and in the Fisheries Protection Zone around Svalbard. This includes reporting rules, rules for keeping a catch logbook, provisions on mesh size in fishing gear, the use of sorting grids and minimum sizes for fish, etc. Inside the three original national parks and the nature reserves from 1973, the seabed is protected. Excluded from the protection is shrimp fishing at depths exceeding 100 metres.

The Coast Guard and the Directorate of Fisheries are jointly responsible for the practical aspects of exercising resource control in areas under Norwegian fisheries jurisdiction. A significant part of the Coast Guard's resources are used in the northern marine areas. The Coast Guard is part of the Armed Forces, and provisions relating to the Coast Guard's tasks and administrative duties are found in the Coast Guard Act and the Coast Guard Instructions. The Coast Guard's exercise of control and enforcement measures in the territorial sea of Svalbard shall be in accordance with directives issued by the Governor of Svalbard.

It is essential to manage living marine resources in such a way that they can continue to be harvested in future. Control over fishing in the territorial sea and Fisheries Protection Zone around Svalbard must therefore be as good as in other areas under Norwegian jurisdiction. International obligations with respect to resource management and resource control must also be carried out there. It is in the interest of all fishing nations that genuine control is exercised over the outtake of fish from these areas, and that illegal fishing is avoided.

Landing of catch

Svalbard has no tradition of commercial landing or processing of fish and seafood, and the seafood sold and consumed there has come in large part from the mainland. Recently, interest has grown in establishing fish processing plants and developing various tourism concepts related to local food that would involve commercial landing of fish and seafood in Svalbard. The Government will facilitate such seafood industry related to local food and tourism. For the time being, however, the likelihood of demand to land catches in Svalbard is uncertain. The likelihood will depend on the fish species and the nature of the fishing fleet in the area.

Landing and sale of seafood on the mainland are subject to detailed regulation through acts and regulations, including the Marine Resources Act, the Act relating to first-hand sales of wild marine resources (the Fishermen's Sales Organisation Act) and the Act relating to food production and food safety (the Food Act). The land territory in Svalbard has previously been exempt from these regulations. Legislation outside fisheries legislation, including environmental legislation, may also have a bearing on the establishment of fish processing plants.

To ensure that considerations of resource control and food safety are addressed in Svalbard as elsewhere, processes have been initiated to implement the necessary regulations. The application of such a framework would be an important contribution to facilitating the regulation of sales of locally caught fish for commercial use in Longyearbyen.

The Food Act's scope of application was extended to Svalbard and Jan Mayen in October 2015. None of the Food Act's regulations were made applicable at the same time. Interministerial consideration is currently being given to decide which of these regulations, including those related to fishing, should be made applicable. The Norwegian Food Safety Authority holds supervisory authority under the Svalbard Act.

The Marine Resources Act's scope of application was extended in January 2016 to include the land territory of Svalbard. The Directorate of Fisheries is the competent supervisory authority under the act. Previously, the act was applicable in all Norwegian maritime zones, on Norwegian land territory with the exceptions of Svalbard and Jan Mayen, on the Norwegian Continental Shelf, and on all Norwegian fishing vessels wherever they happen to be. The act provides for, inter alia, regulations on purchase registration and regula-

tions on landing and sales notes that impose obligations upon landing of catches, as well as for requirements applicable to those who operate fish processing plants. The regulations to date have not been made applicable in Svalbard. If a fish processing plant is established in Svalbard, these regulations may be defined more precisely by issuing regulations for this purpose. The Directorate of Fisheries is the competent supervisory authority under the act. Regulations outside the fisheries regulations may also have a bearing on the establishment of fish processing plants.

The third main act of relevance to the topic, the Fishermen's Sales Organisation Act, requires first-hand sales through fish sales organisations by all who land fish in Mainland-Norway and by Norwegian fishermen wherever they land their raw catch. It is forbidden to sell, export or process fish except through or with the approval of a competent sales organisation. As of today, the act is applicable in the marine areas around Svalbard, but not on the land territory. No requirements are therefore imposed under the Fishermen's Sales Organisation Act with regard to the establishment of fish processing plants in Svalbard today. Whether it will be necessary to extend the applicability of parts of the act to the land territory of Svalbard will be assessed on an ongoing basis as warranted by developments involving new activity.

Reference is made to the Storting's resolution from its consideration of a white paper on seafood industry competitiveness (Meld. St. 10 (2015–2016), see Recommendation No. 215 S (2015–2016)), the recommendation's resolution I, which reads as follows: 'The Storting requests the Government to make proposals in the upcoming Svalbard white paper regarding how increased fishing and other harvesting of marine resources can have positive ripple effects for Svalbard.' The white paper was processed by the Storting on 5 April of this year, so it has not been possible in the time since then to prepare such proposals. The Government will return to the Storting on this matter.

The Government will:

- Facilitate conditions for the seafood industry in connection with local food and tourism.

9.4.8 Air transport activity

Svalbard Airport, Longyear, is owned and operated by Avinor and was officially opened in 1975. In 2007, the airport was expanded with a new terminal. As a result of the highly seasonal influx of tourists, Svalbard Airport's traffic patterns vary. It

Table 9.2 Aircraft movements and passengers at Svalbard Airport, Longyear.

Year	Aircraft movements	Passengers
2006	6521	128067
2007	7064	129317
2008	8911	138934
2009	6609	129336
2010	6490	125781
2011	6350	126350
2012	6626	133481
2013	6943	151651
2014	6745	161223
2015	6453	166477

Source: Avinor

is nevertheless organised and operated in the same manner as Avinor's airports on the mainland. It has also been upgraded in recent years, including with the creation of expanded security areas both alongside and at the ends of the runway, in accordance with regulatory requirements. The new terminal building that opened in 2007 is also dimensioned with a view to expected growth in air traffic.

The general increase in activity in Svalbard is also evident in the increase in the number of passengers at the airport. The trend in air traffic is presented in Table 9.2. Avinor expects stable and moderate growth ahead. In recent years there has been a steady increase in the number of passengers, particularly since Norwegian began regular flights in 2013. According to Avinor, the number of passengers is rising because aircraft passenger counts are higher, and because the types of aircraft deployed on some flights have more capacity than before.

There are also airports in Ny-Ålesund and Svea, and a heliport at Kapp Heer, Barentsburg. The airport at Ny-Ålesund, Hamnerabben, is owned and operated by Kings Bay AS. Flights are operated between Ny-Ålesund and Longyearbyen once or twice weekly in winter and two or three times weekly in summer. The flights carry scientists and employees to and from Ny-Ålesund. Svea Airport is situated at the inner reach of Van Mijenfjorden. The airport is owned by the Ministry of Trade, Industry and Fisheries and operated by Store Norske Spitsbergen Grubekompani AS.

All flights to and from Svalbard, according to the regulations on aviation in Svalbard, must go via Svalbard Airport, Longyear, so this airport receives all direct flights to the archipelago. Both SAS and Norwegian operate scheduled services to Svalbard from the mainland. In addition, West Air flies regular cargo flights on contract with Norway Post. Beyond this, in recent years there has been a slight increase in charter flights for tourists to Svalbard.

The use of unmanned aircraft has increased rapidly and sharply, and such craft are thought to be of potential use in Svalbard, for research purposes in particular. Norway takes part in international cooperation on unmanned aircraft use for scientific purposes through the Arctic Monitoring and Assessment Program (AMAP) in connection with the Arctic Council. The Civil Aviation Authority of Norway has issued regulations specifically on the use of unmanned aircraft. The regulations came into force on 1 January 2016, and are applicable in Svalbard. The European Commission is working to develop common European rules in this area.

Regulation of air traffic

All air traffic in Svalbard is subject to the provisions of the Aviation Act and the Regulations of 23 November 1973 concerning aviation in Svalbard.

Large parts of Norway's aviation legislation implement into Norwegian law EU legislative acts that have been incorporated into the EEA Agreement. Since Svalbard is not covered by the EEA Agreement, the question of whether EU aviation provisions should be made applicable in the archipelago is subject to special consideration. Regulations implementing EU legislative acts are applied to Svalbard where relevant. This ensures that regulations exist for all forms of aviation in Svalbard.

There is no scheduled air service to Svalbard from abroad. As mentioned, the archipelago is not covered by the EEA Agreement, and according to the regulations on aviation in Svalbard, everyone conducting flights to Svalbard must have permission from the Civil Aviation Authority. It follows from these regulations that permission may be granted on set conditions, including time period, aircraft type to be employed, and limitations on use. Applications for the establishment of routes to Svalbard from abroad are given thorough and consistent consideration, and the Norwegian authorities so far not have not given consent for such routes.

Helicopter traffic

Helicopter traffic represents a significant part of the air traffic in Svalbard. Lufttransport AS provides helicopter services for the Governor of Svalbard in accordance with the agreement of 1 April 2014. The service is carried out using two Super Puma helicopters. The helicopters may also be hired by others when the Governor's needs pose no hindrance. During the summer months, Lufttransport AS also operates other helicopters for clients in Svalbard.

Commercial aviation is not covered by the equal-treatment obligation under the Svalbard Treaty. This is reflected in Norwegian legislation as well as in long-term, consistent practice. Under the Aviation Act, only aircraft with Norwegian nationality can engage in air transport in Norwegian territory. The Civil Aviation Authority may grant dispensation from the nationality requirement, however, if there are special reasons for doing so. For years, Russian helicopter operators have been granted dispensation to conduct helicopter flights in association with the mining operation in Barentsburg. For other missions, permission must be applied for in each individual case. The outcome of such applications is determined by the aviation authorities on the basis of a specific assessment.

Passenger lists for flights to and from Svalbard

Passenger lists for all flights to and from Svalbard shall be delivered to the Governor of Svalbard. This follows from the regulations on aviation in Svalbard. The provision was incorporated into the regulations in 1996, but was not followed up for all flights. On 3 July 2015, therefore, the Civil Aviation Authority issued an announcement (Aeronautical Information Circular – AIC) amending the administrative practice and ensuring that the provisions of the regulations are complied with, so that the passenger lists are routinely submitted to the Governor. The passenger lists are to be sent to the Civil Aviation Authority together with applications for permission to fly to and from Svalbard, and the authority forwards the passenger lists to the Governor. The amendment entered into force on 4 July 2015 for charter flights and on 25 October 2015 for scheduled air services.

9.4.9 Petroleum activity

The marine areas surrounding Svalbard have not been opened for petroleum activity. There has

been drilling for petroleum on land in Svalbard, but without any commercially recoverable discoveries. Permission has not been granted for exploratory drilling in the territorial sea surround Svalbard. Nor has permission been granted to drill on land since the Svalbard Environmental Protection Act came into force in 2002. In the vicinity of the island of Hopen and along the west coast of Spitsbergen, certain claims have been granted on the basis of indications of petroleum deposits. A claim is a preferential right to exploit the natural resources within a specifically defined area, but provides no right to begin activity unless permission is granted in accordance with the Svalbard Environmental Protection Act and other regulations that apply to Svalbard. The Government expects that current policies will be continued with regard to petroleum activity in the territorial sea of Svalbard.

9.5 Summary

The Government will:

- Facilitate the development of existing and new businesses within the overriding objectives of the Svalbard policy.
- Strengthen economic development efforts under the auspices of the Longyearbyen Community Council and relevant national policy instruments in cooperation with existing business interests in Longyearbyen, using funds provided in the estimated accounts for the 2015 central government budget.
- Facilitate conditions for the development of a more diversified business community. Preferably, the new jobs should be stable, year-round and commercially profitable.
- Facilitate development of a new, forward-looking business and innovation strategy for Svalbard.
- Continuously assess the need for restructuring and economic development measures that support the Svalbard policy objectives.
- Ensure sound, predictable framework conditions that provide a basis for growth in the tourism industry, by facilitating the development of tourism products.
- Facilitate the development of tourism products in Management Area 10.
- Further develop Visit Svalbard as a developer of tourism in Svalbard, and Visit Svalbard's coordinating role in the tourism industry.
- Assess the situation for continued SNSK operations in light of developments in the price and market outlook for coal.

- Administer ownership in SNSK so that it contributes to the Longyearbyen community in a way that supports the overriding objectives of the Svalbard policy.
- Assess future development and activity in Svea in light of the state’s role as landowner and infrastructure owner.
- Facilitate space activity as part of the future economic base in Svalbard.
- Assess the need and possibility of a satellite-based communications system in the High North.
- Revise the regulations governing the establishment and operation of satellite ground stations in Svalbard.
- Decide on further work to develop port infrastructure in Longyearbyen once the Norwegian Coastal Administration’s conceptual study is completed.
- Facilitate conditions for the seafood industry in connection with local food and tourism.

10 Civil protection, rescue and emergency preparedness

10.1 Introduction

Society faces a variety of challenges in the area of civil protection and emergency preparedness. Preventing and reducing vulnerability, so that society can better handle incidents and crises and quickly restore societal functions if an undesirable incident occurs, is a priority. The Government will continue to intensify its efforts to strengthen civil protection and emergency preparedness; see the budget proposal for 2016 for the Ministry of Justice and Public Security (Prop. 1 S (2015–2016)).

This chapter describes the organisation, roles and responsibilities of civil protection and emergency preparedness work in Svalbard. It also presents a discussion of available resources and specific challenges that require attention.

As in the rest of Norway, the job of civil protection and emergency preparedness in Svalbard has been intensified, including both the prevention and response aspects. Svalbard's geographic location poses particular challenges in respect of civil protection and emergency preparedness for which planning is needed.

Prevention has been particularly important, and each sector is responsible for identifying the assets that need attention, the risks that key assets face, and how vulnerable they are. Based on such analyses, individual enterprises must implement preventive measures.

Previous white papers on Svalbard have focused attention on security and emergency preparedness challenges posed by increasing maritime traffic in the waters surrounding Svalbard and in the High North generally. One objective has been to reduce the risk of undesirable incidents involving maritime transport in Svalbard in order to protect human life, health and the environment, and over the years several measures have been implemented to ensure that the quality of security and rescue services at sea, on land and in the air is proportionate to the activity level. However, other areas also demand attention in terms of mapping and assessing risk and vulnerability.

Long distances and a demanding climate pose additional challenges. Local emergency preparedness, moreover, is not of a scale to deal with major or simultaneous incidents. Preventive measures are therefore critical. It is also extremely important that the various agencies cooperate and coordinate, and that they plan and prepare for resources to be provided from the mainland in the event of major incidents.

Should incidents nonetheless occur, it is important to be well drilled and prepared to manage them. Historically, there have been a number of challenging operations and missions in Svalbard. The avalanche in Longyearbyen in December 2015 showed how a whole community was mobilised and a major, vital effort was undertaken to save lives and care for those affected. This undesirable incident also illustrated the need for assistance from the mainland.

10.2 Key actors

10.2.1 Governor of Svalbard

The Governor of Svalbard is the Norwegian Government's highest-ranking representative in the archipelago, and acts in the capacities of both chief of police and county governor, and is the principal authority with regard to both planning and crisis management in the area of civil protection and emergency preparedness. The Governor plays a vital role both in preventing undesirable incidents and in managing them when they occur. The Governor emphasises cooperation with the local emergency preparedness actors and superior authorities. The objective is a state of readiness that ensures the safety and security of the population of Svalbard.

By virtue of being county governor, the Governor of Svalbard is responsible for civil protection in the archipelago; see the Royal Decree of 19 June 2015 Instructions for the county governors' and Governor of Svalbard's work relating to civil protection, emergency preparedness and crisis management. These instructions set guidelines for the duties of the Governor of Svalbard relating

to civil protection and emergency preparedness and for coordinating crisis management in the event of undesirable incidents.

In line with the instructions, a dedicated emergency preparedness council has been appointed in Svalbard and is chaired by the Governor of Svalbard, as is also the case with county governors on the mainland. The council consists of representatives from large research institutions and companies in Svalbard, the Longyearbyen Red Cross, Svalbard Church, and Longyearbyen Hospital. The council discusses relevant civil protection and emergency preparedness issues and serves as an arena for oversight and exchange of information. The council contributes to a joint risk and vulnerability assessment and a common platform for planning civil protection and emergency preparedness in Svalbard, and must also be prepared to assist the Governor of Svalbard in crisis management. In coordinating with the emergency preparedness council, the Governor of Svalbard obtains a good overview of available capacities and expertise in the archipelago.

A key element in the civil protection duties of the Governor of Svalbard is the preparation of a risk and vulnerability (RAV) analysis for Svalbard. In 2013 the Governor prepared an RAV analysis for Svalbard covering the following main categories: natural incidents, major accidents, and serious intentional incidents. It was based in part on the Directorate for Civil Protection and Emergency Planning's national risk assessment. The RAV analysis was prepared in cooperation with local emergency preparedness actors and adopted by the emergency preparedness council for Svalbard, and provides a basis for revising and further developing an integrated set of emergency preparedness plans. An updated RAV analysis is due to be completed in 2016.

By area, Svalbard is Norway's largest police district, and the Governor has the same authority as a chief of police on the mainland. The police manpower was expanded with three new positions from 1 July 2014, and a new operations room was opened when construction of the Governor's administration building was completed in the autumn of 2014. This will improve the Governor's ability to address new and major challenges in the areas of rescue and emergency preparedness.

Svalbard local rescue coordination centre

As chief of police, the Governor of Svalbard also heads the rescue management team in the local rescue centre in Svalbard. In addition to the Gov-

ernor of Svalbard, the rescue management team consists of representatives from the Longyearbyen Community Council, Longyearbyen Fire and Rescue Service, Telenor Svalbard, Longyearbyen Hospital, Store Norske Spitsbergen Kulkompani AS, Avinor/Svalbard Airport, the Governor of Svalbard's helicopter operator SAR, Lufttransport and the Longyearbyen Red Cross Search and Rescue Corps. External advisers may be called on when necessary.

The rescue plan of the Governor of Svalbard is based on the model plan for rescue services in Norway and is regularly updated in line with new experience and societal changes. The plan covers incidents and accidents at sea, on land and in the air. The Governor has also established a set of plans for dealing with acute pollution, nuclear accidents and pandemics, as well as a general crisis management plan and other emergency preparedness plans.

When an incident occurs, managing it depends on the efforts of volunteers and the provision of resources from the mainland when necessary. In 2015 the local rescue coordination centre in Svalbard coordinated 80 rescue missions. This number has remained relatively stable over time, with an annual average of 71 over the past five years.

10.2.2 Longyearbyen Community Council

Within its geographic area of responsibility, which corresponds to the Longyearbyen land-use planning area, the Longyearbyen Community Council (LCC) is an important actor in civil protection and emergency preparedness in Svalbard.

Since 2011 the municipalities have had a general emergency preparedness duty under the Act relating to the municipal preparedness duty, civil protection measures and the Norwegian civil defence (Civil Protection Act). The purpose of a general preparedness duty is to ensure that the municipalities view preparedness activities in context and plan accordingly. On 18 December 2012 a similar duty was imposed on the LCC through regulations authorised by the Civil Protection Act that make parts of the act applicable to Svalbard.

The regulations exist to ensure that the LCC attends to the safety and security of the population. The LCC must work systematically and cohesively on civil protection across sectors, with a view to reducing the risk of loss of life or damage to health, the environment or material assets.

The LCC is required to undertake a general risk and vulnerability (RAV) analysis that includes mapping, systemising and assessing the likeli-

Box 10.1 Strengthened cooperation in the Arctic

Increased activity and traffic in the Arctic region call for a strengthening of rescue service cooperation between countries with search and rescue responsibilities in Arctic waters. In 2011 Norway concluded a treaty with Canada, Denmark, Finland, Iceland, Russia, Sweden and the United States to cooperate on search and rescue coverage in connection with air and sea traffic in the Arctic.

Norway's area of responsibility for search and rescue was expanded when Norway assumed responsibility further east towards the Russian area of responsibility and north of Sval-

bard to the North Pole. The agreement established a more binding rescue service cooperation, including enhanced regional organisation of search and rescue operations in the Arctic. The agreement was signed at the Arctic Council's ministerial meeting in Nuuk, Greenland, and is being followed up by the Emergency Prevention, Preparedness and Response Working Group (EPPR).

This reinforced search and rescue cooperation is important for optimising the resources available in the region and for being able to respond promptly to persons in distress.

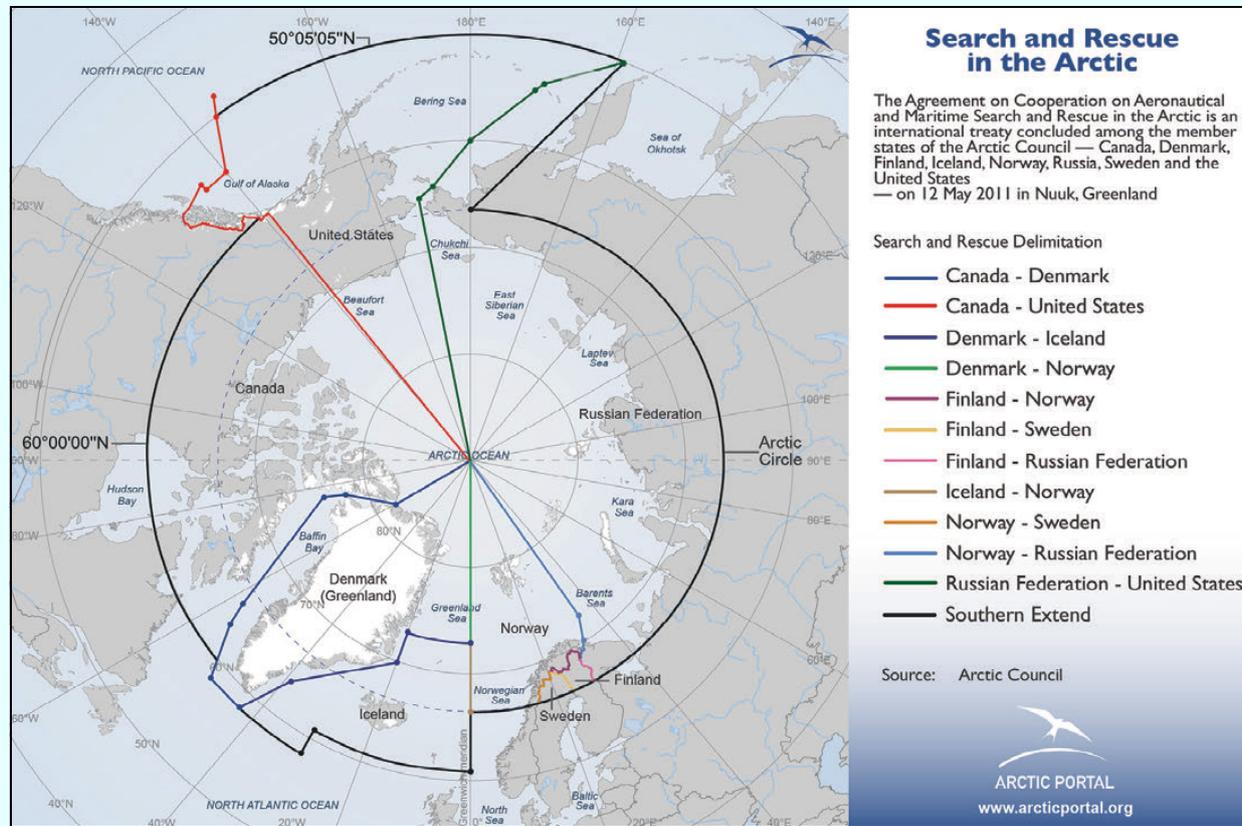


Figure 10.1 Map of 'rescue sectors'

Map design: Arctic Portal
Source: Arctic Council

hood of undesirable incidents that could occur in the Longyearbyen land-use planning and how they could affect the planning area and the LCC. The LCC prepared a RAV analysis in 2014 which forms the basis for agency-specific emergency preparedness plans.

The local government must be prepared to manage undesirable incidents and, based on the general RAV analysis, develop a general preparedness plan. The preparedness plan must coordinate and integrate other preparedness plans for the planning area, and must be coordinated with other

relevant public and private crisis and preparedness plans. The regulations set out the minimum requirements for what preparedness plans must cover.

The LCC provides the fire and emergency preparedness service, fire prevention activity and the alarm service, and operates the ambulance service on behalf of Longyearbyen Hospital.

The Longyearbyen Fire and Rescue Service has a duty to protect and save human life, property and the environment. The emergency response service is organised as an emergency standby service staffed by part-time personnel.

The Fire and Rescue Service has a technically advanced alarm centre for receiving emergency calls via the 110 emergency number. The centre also monitors external fire alarms and technical alarms in Longyearbyen. The centre is based in the premises of Energiverket and is manned by personnel on a round-the-clock duty rota.

Activities are also conducted to raise awareness about fire prevention. This is done by informing inhabitants, supervising special fire objects, assisting with training activity and conducting fire drills. The Longyearbyen Fire and Rescue Service also assists the Governor of Svalbard with fire safety supervision in the inhabited locations outside Longyearbyen.

Fire protection legislation in Svalbard

The following laws apply to Svalbard: the Act relating to flammable liquids and gases under pressure (Act of 21 May 1971 No. 47) and the Act relating to explosive goods (Act of 14 June 1974 No. 39). In addition, regulations relating specifically to fire protection apply to Svalbard, with legal basis in the Svalbard Act (Regulations of 20 August 1993 No. 815). The Ministry of Justice and Public Security is working to make the Act relating to the prevention of fire and explosion (Act of 14 June 2002 No. 20) applicable in Svalbard. The Directorate for Civil Protection and Emergency Planning, the Governor of Svalbard and the Longyearbyen Community Council contribute to this activity.

10.2.3 Longyearbyen Hospital

Longyearbyen Hospital is a key actor in Svalbard's emergency health preparedness, and supplies health services to the population and others visiting and travelling around Svalbard. The hospital is part of University Hospital of North Norway (UNN) and provides primary health services, preventive health services, infection control and pre-

hospital medical and nursing care. Health and welfare services are discussed in more detail in section 6.3.3.

The hospital is an acute-care hospital with round-the-clock emergency preparedness, and is involved in all types of incidents that may lead to health problems. As well as acute illness or injury, these may involve contamination of drinking water, power outages, food shortages, animal pests and contagious diseases.

Important elements of health preparedness for acutely sick and injured persons in Svalbard and the surrounding waters are the manpower and expertise at Longyearbyen Hospital, close communication with UNN Tromsø, and fast evacuation/transport to the mainland. Svalbard's health service will always have to deal with much of the initial phase of an emergency. Longyearbyen Hospital is not adequately equipped to deal with major incidents single-handedly. This heightens the necessity of coordination with UNN Tromsø and efficient transportation to and from the mainland in cases of severe, acute illness or injury. A summary report on of the avalanche of 19 December 2015, prepared by the Northern Norway Regional Health Authority (RHA), UNN Tromsø and Longyearbyen Hospital, identified many areas for improvement. The Northern Norway RHA will follow this matter up in cooperation with the Governor of Svalbard.

Through their duty of care, the Northern Norway RHA and the University Hospital of North Norway have responsibility for all health services in Svalbard. Experience from incidents such as the avalanche in Longyearbyen in December 2015 shows that the psychosocial aspects of emergency preparedness are important. A process will be initiated to review the status of psychosocial emergency preparedness and follow-up in Svalbard.

Based on the Governor of Svalbard's work updating the RAV analysis for Svalbard, which is due to be completed in 2016, it is natural that the Northern Norway Regional Health Authority assess whether its overall resource capability is sufficient for fulfilling its duty of care in respect of emergency medical preparedness in Svalbard.

10.2.4 Svalbard Church

Svalbard Church is formally integrated in rescue service cooperation with the Governor of Svalbard, and is prepared to take part in this work by providing support to those involved. The church is also an important resource in the work that goes on during and after incidents. The church is

part of the Governor of Svalbard's advisory staff, and assists in the task of notifying next of kin. With a capacity of approximately 60, the church community room could be suitable as a centre for evacuees and relatives.

10.3 Resources

10.3.1 Helicopter

Since 1 April 2014, the Governor of Svalbard has had two large rescue helicopters. A contract has been signed with Lufttransport AS for the hiring of two Super Puma helicopters, complete with advanced equipment. This arrangement was reached as a result of both the expanded area of responsibility resulting from the Arctic search and rescue agreement and the added significance Longyearbyen will gain as a base for search and rescue operations and pollution preparedness in the northern waters.

These long-range helicopters can rescue up to 18 people in distress within a radius of 120 nautical miles. They have modern search equipment as well as greater load capacity and better communications and safety equipment than previous models. Response time has been reduced from two hours during normal office hours and 12 hours otherwise to two hours around the clock. Construction of a new, modern hangar was completed on 1 April 2014 to provide appropriate hangar conditions for the new helicopters. The result is a significant increase in emergency preparedness and safety for permanent residents of Svalbard, tourists, and the search and rescue helicopter crews. During the summer months, Lufttransport AS also operates other helicopters for clients in Svalbard, such as Store Norske Spitsbergen Kulkompani AS and the Norwegian Polar Institute.

The new long-range search and rescue helicopters to be introduced on the mainland in 2020 have greater capacity than today's Sea King helicopters and will therefore further strengthen Svalbard's helicopter preparedness.

10.3.2 Air ambulance

Geographic conditions and community patterns make the air ambulance a vital service for effective treatment, transport and preparedness in the event of acute illness or injury. The service contributes to the provision of equitable health care, and is a necessity if patients are to benefit from modern treatments of time-critical conditions when distances to relevant hospitals are long.

The emergency medical services outside hospitals are discussed in an Official Norwegian Report (NOU 2015: 17 Først og fremst). According to the report, today's air ambulances are poorly suited for longer missions and the load constraints for missions to Svalbard and Jan Mayen are considerable. The regional health authorities' national air ambulance service (Luftambulansetjenesten ANS) will enter into an agreement to procure air ambulance services for emergency preparedness and for planned missions on behalf of the four regional health authorities. The new agreement will run from July 2019 to 2030.

10.3.3 Service vessels

The Governor of Svalbard's service vessel, *Polarsyssel*, is a key resource in rescue and emergency preparedness missions involving shipwrecks, groundings, oil spills, personal injuries, etc. To strengthen and adapt the Governor of Svalbard's rescue and emergency preparedness duties and to conduct necessary inspections and supervision of the growing traffic at sea and around the archipelago, NOK 18 million was allocated in 2016 to extend the length of the vessel's service season by about three months; see Recommendation No. 17 S (2015–2016). It is vital that helicopters and vessels can coordinate successfully, and the service vessel is therefore equipped with a helipad big enough to accommodate the Governor of Svalbard's helicopters.

The year 2015 was the first year the vessel sailed the entire season (180 days). The experiences were generally positive, and an agreement was reached in March 2016 to extend the season to 270 days.

10.3.4 Norwegian Coast Guard

The Norwegian Coast Guard is a vital resource in rescue operations in Svalbard. The Norwegian Coast Guard cooperates closely with the Governor of Svalbard. The Governor of Svalbard has entered into a cooperation agreement with the Norwegian Coast Guard specifying guidelines for the support to be provided. Furthermore, the Coast Guard vessel *KV Svalbard* is approved for coordinated actions with the Governor of Svalbard's helicopters, such as helicopter landings on the vessel. This strengthens civil emergency preparedness in the areas around Svalbard.



Figure 10.2 The Governor of Svalbard's service vessel and helicopter.

Photo: Per Andreassen, Office of the Governor of Svalbard

10.3.5 Longyearbyen Red Cross Search and Rescue Corps

The Longyearbyen Red Cross Search and Rescue Corps has 60 active volunteers and is organised into avalanche, glacier, vehicle and marking groups. A training programme developed for members lasts two years and consists of a 40-hour compulsory first-aid course and considerable field training. A duty phone has also been set up that can issue a mass alert when the Governor of Svalbard reports a need for assistance. The Search and Rescue Corps has considerable material resources, including a mobile field hospital.

In cooperation with other emergency preparedness actors, including the Governor of Svalbard and the Joint Rescue Coordination Centre Northern Norway, the Longyearbyen Red Cross Search and Rescue Corps has developed an Arctic Survival Kit concept. The concept consists of 30 bags that can be dropped from an airplane or helicopter, with a capacity for 240 persons. Each bag contains equipment for eight people: four mountain tarps, two ground sheets, eight bottles of water, eight heat packs, one rescue blanket, splints, and a first-aid kit. This concept makes up part of the rescue preparedness in and around Svalbard.

The Governor of Svalbard cooperates closely with the Joint Rescue Coordination Centre on planning and carrying out joint exercises, and the expertise and capacity of the rescue corps constitutes a vital part of Svalbard's emergency preparedness and rescue resources. The Longyearbyen Red Cross Search and Rescue Corps is a key resource in Svalbard's local rescue coordination centre.

10.4 Exercises

Exercises are an important way of strengthening coordination between different actors. A high level of exercise activity was maintained again in 2015. In addition to individual training activity and exercises, most exercises have been carried out in cooperation with one or more of the cooperating emergency preparedness actors.

Exercise Svalbard

Exercise Svalbard was a national emergency health preparedness exercise that was carried out on 4 and 5 November 2014. The main scenario was an explosion and fire on board a cruise ship. The exercise involved evacuating passengers to

the mainland and evacuating casualties to the University Hospital of North Norway in Tromsø with the help of resources from the Norwegian Armed Forces and the Swedish authorities. Emphasis was also given to lessons learned from 22 July 2011.

The purpose of the exercise was to manage a large-scale incident, find weaknesses, and consider improvements. The exercise involved all stages and levels in the rescue, evacuation and treatment chain, from the accident scene in Svalbard to the local hospital, and evacuation from Svalbard to the mainland. A wide variety of offices and organisations took part, among them: the Governor of Svalbard, the Longyearbyen Community Council, the Northern Norway Regional Health Authority, the County Governor of Troms, the University Hospital of North Norway, the Norwegian Armed Forces, the Joint Rescue Coordina-

tion Centre, the Longyearbyen Red Cross, the Ministry of Health and Care Services, the Norwegian Directorate of Health and a number of other directorates and ministries. An evaluation conference was held and an evaluation report written, and areas for improvement will be followed up.

The exercise showed that Svalbard has is well trained in emergency preparedness. However, emergency medical personnel are an extremely vulnerable resource. The same applies to emergency medical equipment. It is therefore necessary to have access to prompt and comprehensive medical assistance from the mainland.

In 2015 the National Police Directorate, the Norwegian Directorate of Health and the Directorate for Civil Protection and Emergency Planning established national procedures for cooperation between the emergency services in situations of acute and life-threatening violence (*pågående livs-*



Figure 10.3 Exercise Svalbard. Passengers from the accident vessel jumped or were thrown into the water in Billefjorden. The Governor of Svalbard's helicopters evacuated passengers to land (Brucebyen), where a temporary reception centre was set up and manned by the police, medical personnel and volunteers from the Longyearbyen Red Cross Search and Rescue Corps. Equipment consisted of a field hospital with multi-fuel heaters, rescue blankets, etc., which the Red Cross stores. This material was flown out along with emergency response personnel. Life-saving first aid was administered on site, and medical personnel prioritised the patients by condition before airlifting them to Longyearbyen and the hospital.

Photo: Stefan Claes, UNIS

Box 10.2 Rescue service

'Norwegian rescue service' refers to the publicly organised emergency response from multiple cooperating partners to rescue people from death or injury resulting from acute accidents or dangerous situations that are not specifically dealt with by established bodies or special measures. The rescue service is a collaboration of public bodies, volunteer organisations and private enterprises and individuals under the leadership and coordination of two Joint Rescue Coordination Centres and subordinate local rescue coordination centres. Svalbard is an important element in the Norwegian rescue service, and has its own local rescue coordination centre.

The Joint Rescue Coordination Centre leads and coordinates all types of rescue missions (land, sea and air rescue services). This is done either directly from the Joint Rescue Coordination Centre Northern Norway or the Joint Rescue Coordination Centre Southern Norway, or via missions assigned to subordinate local rescue coordination centres. The Joint Rescue Coordination Centre also has leadership responsibility for maintaining and further developing cooperation within the rescue service between incidents. Each coordination centre consists of a rescue management team composed of the main cooperation partners, and is headed by the chief of police for Bodø or Sola.

A new organisational plan for the rescue service was adopted by Royal Decree on 19 June 2015. The resolution entered into force on 2 November 2015. The supporting instructions give a mandate and directions for the composition of the local rescue coordination centres. For Svalbard's local rescue coordination centre, the mandate applies with necessary adaptations. See section 10.2.1 for a more detailed discussion of Svalbard's local rescue coordination centre.

truende vold (PLIVO)). The Governor of Svalbard, Longyearbyen Hospital and the Longyearbyen Fire and Rescue Service carried out a joint exercise in PLIVO procedures in 2015. This will be followed up with annual exercises.

In the autumn of 2016 the Norwegian Coastal Administration will carry out a full-scale joint

exercise in managing acute pollution in the waters surrounding Svalbard. The exercise is a direct follow-up of the Norwegian Coastal Administration's emergency preparedness analysis for maritime traffic in the areas around Svalbard and Jan Mayen (2014); the purpose of the exercise is partly to verify some of the issues that came to light in the analysis and partly to accumulate experience relating to Arctic maritime pollution responses.

10.5 Specific issues

10.5.1 Flooding and avalanches

The Norwegian Water Resources and Energy Directorate (NVE) has overall responsibility for public administration tasks related to the prevention of flood and avalanche damage. This involves assisting municipalities and society at large with expertise and resources for mapping, land-use planning, securing, monitoring, alerting and emergency preparedness. In 2013 Svalbard was included, on par with mainland municipalities, in the assistance NVE provides to prevent flood and avalanche damage. This followed Meld. St. 15 (2011–2012) *Hvordan leve med farene*, a white paper on living with flood and avalanche hazards.

Flood and avalanche warnings

Monitoring and warning about floods and avalanches help mitigate the consequences of these incidents and enhance safety for people living and travelling in exposed areas. Time spent in exposed areas can be limited, and damage to movable assets avoided.

On the mainland, NVE issues regional warnings for floods, landslides and snow avalanches. Local authorities must decide how to respond to the regional warnings.

Since the winter of 2014/2015, NVE has been conducting a pilot project for regional avalanche warnings, with main target group consisting of people travelling in avalanche terrain and parties responsible for closing and opening transport arteries and evacuating buildings. The planned time period for the pilot project in 2015/2016 was extended as a consequence of the avalanche in December 2015 (see Box 10.3). In addition, a system of local avalanche risk assessments was established for avalanche-prone buildings in Longyearbyen. Local avalanche warnings and avalanche risk assessments for avalanche-prone buildings are normally covered by local actors.

The pilot project will be evaluated and followed up in consultation with the Longyearbyen Community Council. NVE plans to continue issuing its avalanche warnings in Svalbard during the winter of 2016/2017, using much the same format as when the service was launched in January 2016.

Safety measures

'Safety measures' refers to various physical measures to reduce the damaging effects of floods and avalanches on buildings and infrastructure. Every year NVE sets priorities as to which safety measures can be funded on the basis of social cost-benefit analyses. NVE can provide funding for safety measures of up to 80 per cent of the development costs. The assistance programme for funding and carrying out safety measures is not rights-based; instead, funds are allocated from the national budget on a priority basis.

Potential safety measures in Svalbard must be evaluated in the same manner as on the mainland. In cooperation with the authorities in Longyearbyen, NVE has so far focused on floods and slush avalanches in Longyearfjella and Vannledningsdalen. Together with the authorities in Longyearbyen, NVE will assess the need for safety measures. This need must be seen in the context of future land use in Longyearbyen. See also the discussion of land-use development in Chapter 6.

Mapping of floods and avalanches

Hazard and risk mapping provides knowledge about which areas are prone to flood and avalanche and about the potential consequences. Such knowledge is needed for methodical, effective risk management of floods and avalanches.

The mapping of flood and avalanche hazards in Svalbard will be given priority in NVE's national mapping programme in 2016. This will provide a better basis for the Longyearbyen Community Council when reviewing land-use plans. The new mapping is also important for emergency preparedness management and for gaining an overview of where the need for safety measures is most pressing.

10.5.2 Preparedness against acute pollution

Preparedness against acute pollution is an important damage mitigation measure. The formal basis for preparedness and response to acute oil pollution is enshrined in the Svalbard Environmental Protection Act. The act imposes a duty on anyone engaged

in an activity in Svalbard to prevent acute pollution and ensure that measures be taken should pollution occur, including measures to mitigate the damage to nature. The preparedness requirements imposed on enterprises in Svalbard are laid down by the Norwegian Environment Agency.

In the event of an acute oil spill in Svalbard, the party responsible for the spill will be responsible for cleaning it up. This is done under the supervision of the Norwegian Coastal Administration, which can delegate its authority to the Governor of Svalbard.

The Norwegian Coastal Administration and the Governor of Svalbard have an agreement to coordinate oil spill contingency operations for Svalbard, including Bjørnøya. The agreement also applies to other sources of pollution. The agreement is based on the assumption that emergency preparedness organisations are familiar with their respective responsibilities and tasks in connection with oil spill contingency operations in this area. In the agreement, responsibilities related to the duty to respond are divided between the Norwegian Coastal Administration and the Governor of Svalbard, based on geographic zones.

An oil spill contingency depot has been established in Longyearbyen, and a smaller amount of equipment is stored at Ny-Ålesund. Oil spill response equipment is also available in Barentsburg and Svea. Depot equipment is primarily intended to deal with spills of heavy fuel oil. The Governor of Svalbard's service vessel, *Polarsyssel*, is the most important resource in oil spill preparedness in Svalbard, and is equipped with oil spill response equipment when at sea.

In 2014 the Norwegian Coastal Administration conducted an environmental risk and preparedness analysis for Svalbard. One of the findings of the analysis was the need for access to more local equipment and personnel. A more detailed account of the analysis will be presented in the planned white paper to the Storting on maritime safety and emergency preparedness in 2016.

10.5.3 Shipping and maritime safety

More than 80 per cent of maritime traffic in the Arctic passes through Norwegian waters. The level of maritime traffic in the waters surrounding Svalbard has increased in recent years, and new areas have become accessible for longer periods in the year as a result of retreating sea ice. It is important to be able to manage this increased activity in ways that are safe, environmentally friendly and effective.

Box 10.3 The avalanche in Longyearbyen

The avalanche on 19 December 2015 demonstrated that the community in Longyearbyen is able and willing to step up when incidents occur. The accident resulted in two fatalities and several injured. A number of houses were heavily damaged, and almost two hundred people were evacuated. The avalanche from Sukkertoppen was approximately 200 metres wide. The Norwegian Geotechnical Institute (NGI) estimates that 20,000 m³ of snow was released. This is equivalent to approximately 5,000 tonnes of snow. The size of the avalanche was classified as large (Class 4 of a possible 5). The cause of the avalanche was a combination of old snow cover with persistent weak layers at ground level, snow precipitation, a temperature rise and strong easterly winds that carried extremely large amounts of snow onto the leeward side above the affected buildings.

A rescue mission was immediately launched by the Governor of Svalbard, Longyearbyen Hospital and the Longyearbyen Fire Service. Crews from the Longyearbyen Red Cross Search and Rescue Corps and many volunteers from Longyearbyen also took part.

The avalanche created a critical need for assistance from the mainland. This assistance consisted of air ambulances, medical personnel, police officers, NGI and NVE representatives, search and rescue dogs from Norwegian Peo-

ple's Aid, and other volunteers. These were all transported to Svalbard. There was also a need for emergency response personnel to quickly return to the mainland once their mission was completed. The same applied to volunteers and others who wanted to leave Svalbard in light of the uncertain situation in and around Longyearbyen. The Ministry of Justice and Public Security therefore commissioned a plane to transport these people to the mainland.

The accident mobilised an entire community. The rescue services performed a major and vital task. What is more, the entire community stepped up to save lives and care for those directly affected. The way in which the accident was managed demonstrated the Svalbard community's strong collective commitment to emergency response. All the same, it is important that the incident be reviewed. The Ministry of Justice and Public Security has charged the Directorate for Civil Protection and Emergency Planning with the task of evaluating the incident, with the assistance of the Joint Rescue Coordination Centre Southern Norway and the Norwegian Police University College. Both preventive efforts and management of the actual incident will be evaluated with a view to making potential improvements. The evaluation is to be submitted to the ministry by 1 September 2016.

Accidents involving vessels can lead to loss of life and environmental or material damage. The measures to prevent accidents include requirements for ships and crews, maritime infrastructure, traffic monitoring, and services such as pilotage services. Emergency preparedness for cases in which accidents occur is also important.

There are special challenges associated with maritime traffic in the waters surrounding Svalbard, in addition to which this area contains vast natural assets that are vulnerable to the effects of incidents such as acute oil spills. The archipelago's geographic and climatic conditions, in combination with deficient navigational charts and limited access to communication systems, pose constant challenges to maritime safety around the archipelago.

In addition, more extreme weather could affect maritime traffic in the waters surrounding Svalbard and exacerbate the consequences of

engine breakdowns or other incidents at sea. Climatic conditions, long distances, and relatively few local resources make search and rescue operations, preparedness against acute pollution and clean-up operations in Svalbard particularly challenging tasks. To ensure sustainable development and prevent accidents and harmful spills, it is important that the industry set high safety and environmental standards.

Report No. 22 (2008–2009) to the Storting *Svalbard* placed decisive emphasis on preventive measures in the work of reinforcing maritime safety in Svalbard, and underlined the need for monitoring and for further development of maritime safety regulations. In the period since the white paper was published, the focus on maritime safety and preventive measures for ships and crews operating in polar waters has increased, both nationally and internationally.

A number of measures have been introduced to improve maritime safety in the waters surrounding Svalbard. The state pilotage service was launched in 2012. Transitional schemes ensured a gradual introduction, and the first season with compulsory pilotage in the archipelago was launched in 2015. More effective monitoring tools have been introduced, and although large areas still remain uncharted, extensive work has been done on charting the waters surrounding Svalbard. Moreover, international efforts on the Polar Code, behind which Norway has been a driving force, are now complete. The Polar Code also covers the waters surrounding Svalbard, and will enter into force in 2017.

Future challenges relate to a number of factors. Both weather and ice conditions can change quickly, causing changes to the water itself along the coast. Correspondingly, increased activity in the High North, Svalbard included, will create new challenges to preventive maritime safety. Other developments in Svalbard and in the High North call for a thorough assessment of maritime safety in the archipelago, and for the implementation of measures wherever necessary.

The objective is to reduce the risk of undesirable incidents in maritime transport in Svalbard, so that damage to life, health and the environment can be avoided. Preventive measures are crucial to Svalbard. The Government will ensure that maritime activity sets high standards of safety and emergency preparedness in the north.

The following sections present a description of the risk situation, as well as a discussion of the different elements which, combined, contribute to maritime safety in Svalbard.

Risk situation

Surveillance data show that there is maritime traffic around the whole of Svalbard. Passenger ships in particular navigate close to the coastline and around the whole of Svalbard when ice conditions permit. The west side of Spitsbergen, particularly Isfjorden and Van Mijenfjord, has the most traffic. Moreover, maritime traffic in the waters surrounding Svalbard is seasonal. The extent of sailed distance from January to April is relatively small. Thereafter it increases, peaking in the months from July to October. The traffic level decreases from November.

Maritime traffic around Svalbard differs from maritime traffic in marine areas such as the North Sea, the Norwegian Sea and the Barents Sea in that traffic density is far lower and fishing vessels

account for a very large proportion of the traffic (close to 70 per cent). The amount of traffic in the form of cargo ships and tank ships is less around Svalbard than along the mainland. Cruise traffic has increased in recent years, and today accounts for almost 20 per cent of the total cruise traffic in Norwegian waters.

Because there is markedly less maritime traffic in the waters surrounding Svalbard, the expected frequency of maritime accidents is lower in the areas around the archipelago than along the mainland coastline. Nevertheless, a shipping accident near Svalbard could have serious consequences for life, health and the environment.

Svalbard consists to a large degree of especially vulnerable and protected natural areas. The overall potential for damage in Svalbard is therefore large, while the acceptance of risk of environmental damage is proportionately low. Acute oil spills from shipping are among the incidents with the most potential to cause significant and long-term damage to the natural environment. The greatest risk of environmental damage from accidents is to coastal waters.

Response times for action after an acute oil spill will be long in most places in Svalbard, depending on the distance to local oil spill response equipment and vessels with oil spill response equipment permanently on board. Oil spills can therefore spread over large areas before oil spill response measures can be implemented. Moreover, availability of infrastructure for operations in the event of accidents and challenges is limited, due to the long distances in the archipelago. This applies to factors such as the number of depots, suitable emergency ports and available towing vessels. Such accidents may therefore affect human life and the environment more adversely than similar situations on the mainland.

To avoid acute spillage of heavy fuel oil in connection with shipping accidents, fuel quality requirements have been set to the equivalent of light marine diesel fuel for ships sailing in the nature reserves on the east side and in the large national parks on the west side. The bans in these areas were introduced in 2007 and 2009 respectively. This means that heavy fuel oil is prohibited in most parts of Svalbard's territorial sea.

Regulations

The International Maritime Organization (IMO), a UN agency, develops international rules for shipping. This international regulatory framework establishes important parameters for Norway's

regulation of maritime transport. The trend is moving towards increasingly stringent environmental and safety regulations. Regardless of where a vessel is located, it is subject to general requirements for ships and crews that follow from international regulations. Flag states are obliged to conduct inspections and supervision to ensure that their ships comply with the regulations. In addition, foreign ships calling at Norwegian ports are subject to inspection.

The UN Convention on the Law of the Sea of 1982 provides the legal framework for use of the sea. Like maritime traffic in other waters, maritime traffic in polar waters is subject to international conventions adopted in the IMO. So far, the regulatory framework has not been adapted to account for conditions in polar waters. Norway has therefore been a driving force in calling for the implementation of binding global regulations for ships operating in polar waters (the Polar Code); see Box 10.5, 'The Polar Code'.

An important contribution to enhance maritime safety in Svalbard is the Ship Safety and Security Act, which entered into force in 2007. This act applies to Norwegian ships regardless of their location, including in Svalbard. The Ship Safety and Security Act has been made applicable to Norwegian as well as foreign ships operating inside the Norwegian territorial sea of Svalbard, with certain adaptations. Under the act, the Norwegian Maritime Authority has the authority to carry out port state inspections of foreign ships. The Ship Labour Act, which entered into force on 20 August 2013, applies to employees who work on board Norwegian ships, regardless of where they sail, including around Svalbard.

One important contribution towards regulating and facilitating safe maritime traffic in Svalbard has been the introduction of a maritime safety system and legal framework similar the mainland's. Harbour and fairway legislation was made to apply to Svalbard in 2008 and extended in the new Harbour and Fairways Act through regulations relating to harbours and fairways in Svalbard, with certain adaptations. Correspondingly, the Pilotage Act was made applicable to Svalbard in 2012 through regulations relating to pilotage services in Svalbard. The Ministry of Transport and Communications, through the Norwegian Coastal Administration, is responsible for waterways management and has the authority to impose specific fairway measures including traffic and speed restrictions and tugboat requirements.

Box 10.4 Maritime strategy

In 2015 the Government launched its maritime strategy, entitled 'Maritime Opportunities – Blue Growth for a Green Future'. This strategy covers the High North, and contains several measures of significance for maritime activity and maritime safety in Svalbard:

- Ensure high standards of safety and emergency preparedness for maritime activity in the north.
- Contribute to stronger global marketing of Norway's unique Arctic maritime expertise and favourable geographic position for Arctic maritime activity, research and competence building.
- Ensure a good level of emergency preparedness in search and rescue and oil spill contingency planning in the High North.
- Ensure effective implementation of the Polar Code.
- Consider further operationalisation of the Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic (SAR-Arctic)

10.5.4 Maritime safety measures in Svalbard

Safe navigation in the Arctic is contingent on reliable maritime navigation charts and ice data, and is a key part of the infrastructure needed to secure life, health, the environment and assets. Mapping of the Arctic marine areas in general is inadequate, while the need for good charts is heightened by the increase in traffic density and the appearance of larger, more deep-drafting vessels and higher-speed vessels. The work begun on charting important maritime areas around Svalbard will continue.

Well-functioning communications systems are a prerequisite for safe navigation and for effective, reliable rescue services and emergency communications. However, existing satellite communications systems offer little or no coverage north of 75° N. The Government wants to have good communication systems in place for the marine areas in the north. Furthermore, effective emergency preparedness is dependent on land-based communications working optimally. It is therefore desirable to assess the need to expand the maritime coastal radio service (HF radio) to provide better coverage in the High North than is the case today.

Another key requirement for sound maritime safety is good surveillance, communications and information systems. This is particularly important for Svalbard because of the relatively long distances, and because access to emergency preparedness resources is extremely limited compared to areas close to the mainland. The waters around Svalbard are monitored by the Vardø Vessel Traffic Service. Over the past 10 years, traffic monitoring in Norwegian coastal and marine areas has been significantly improved, and situational awareness today is far more detailed than ever before. The development of infrastructure for receiving signals from the Automatic Identification System (AIS), used in collision avoidance and tracking, has been important to improved monitoring. AIS signals can be detected by radio from other ships, and also from land-based base stations and satellites.

The Norwegian Coastal Administration develops technical solutions for land-based AIS base stations in Svalbard. The development of the land-based AIS base stations was discussed in Report No. 22 (2008–2009) to the Storting *Svalbard* and firmly embedded in Report No. 26 (2012–2013) to the Storting *National Transport Plan 2014–2023*. The Government will build land-based AIS base stations in the areas in Svalbard with heaviest traffic in order to reinforce maritime traffic monitoring and provide the Vardø Vessel Traffic Service and other agencies with continually updated maritime situation reports. This will provide a better basis for following up accidents and mounting effective rescue operations.

The pilotage scheme should make maritime traffic safer and protect the environment by ensuring that vessels operating in Norwegian coastal waters have navigators with good knowledge of the waterways and competence to sail safely. Compulsory pilotage was introduced gradually, and was fully enforced in Svalbard in 2015. This means that the state pilotage service, the pilotage obligation and the pilot exemption certification scheme also apply to Svalbard. Introduction of the pilotage service is an important measure for increasing maritime safety in Svalbard.

Lighthouses and beacons

Lighthouses and beacons are visual or radar-based devices used for position tracking and safe navigation along coastlines. In Svalbard the Norwegian Polar Institute is responsible for operating and maintaining the navigational devices, on commission from the Norwegian Coastal Administra-

Box 10.5 The Polar Code

Like maritime traffic in other waters, shipping in polar waters is subject to international conventions adopted by the UN's International Maritime Organization (IMO). The regulatory framework so far has not been adapted to account for the special conditions in polar waters. Development of global, binding regulations for ships that operate in the Arctic and Antarctic was put on the IMO's agenda in 2009 at the suggestion of Denmark, Norway and the United States. The Polar Code has now been adopted, and will enter into force on 1 January 2017. Norway has been a central actor in the development of the Polar Code, and has led the work in IMO.

The Polar Code is a binding global regulatory framework for ships operating in polar waters, meaning the Arctic and Antarctic. The Polar Code comes in addition to the regulatory framework already present in applicable conventions and codes (SOLAS, MARPOL, the STCW Convention, etc.).

The Polar Code consists of two parts, one dealing with safety and the other with the environment. The code sets specific requirements for ships operating in these waters regarding construction, equipment, operation, protection of the marine environment, navigation and crew training. The Polar Code represents some of the most important work that has been done to ensure sustainable shipping in polar waters. The Government intends to ensure effective implementation of the regulations.

tion. The objective is that the devices themselves and their operation should leave the smallest possible footprint in Svalbard's vulnerable environment. The extent of marking is assessed in light of traffic trends around the archipelago.

In Vestpynten near Longyearbyen, successful tests have been conducted of navigational devices powered on energy from solar panels. The existing navigational infrastructure in Svalbard will be further developed and modernised to optimise risk reduction and lower operating and maintenance costs. This can include systematic rebuilding of the lighthouse lights to operate on the basis of LED light sources and solar cells. This upgrade

Box 10.6 BarentsWatch

BarentsWatch is a comprehensive monitoring and information system that secures access to quality-assured information about the northern marine and coastal areas. This system makes it easier for various administrative bodies to exchange information and data. BarentsWatch consists of two main parts: an open (public) part and a closed (restricted access) part. The open part is a publicly accessible web portal for Norwegian and international users, and offers usefully organised and processed information covering topics such as climate, the environment and maritime transport. The closed part is a system for authorities with operative responsibility at sea, and is intended to enhance common, quality-controlled situational awareness as a basis for improved operational management.

would reduce maintenance needs, improve reliability and provide better navigational guidance.

Virtual navigation devices may prove useful in Svalbard because of the climatic conditions there. With such devices, chart symbols with navigation guidance are communicated to vessels via AIS base stations. Virtual navigation devices are not yet used in Norwegian waters, but are used to some degree in other countries, including Arctic areas. An example of their use is the marking of open channels in ice. Consideration will be given to whether these navigation devices should be used where physical marking is impossible. However, this measure will depend on the AIS base stations in Svalbard being expanded. The establishment of virtual navigation devices will therefore be considered, and will be viewed in connection with the development of other maritime safety measures in Svalbard.

10.5.5 Aviation safety level

Svalbard has an Arctic climate, and a number of weather-related incidents occur in connection with flights landing at and departing from Svalbard Airport, Longyearbyen, such as wind shear and turbulence. All the same, the Civil Aviation Authority believes on the basis of experience that aviation safety in Svalbard is at about the same level as elsewhere in Norway where similar flying takes place in uncontrolled airspace. Compared

with the mainland, there are no special aviation safety challenges in Svalbard beyond those associated with the topographical and climate conditions that prevail there. After reviewing reported accidents and incidents in Svalbard, the Civil Aviation Authority found no reason to conclude that flights to and from the archipelago involve special safety problems.

In the autumn of 2010 Avinor commissioned three new navigational systems (distance-measurement equipment) to ensure safer approaches to Svalbard Airport, Longyear, and the airport in Svea. This has led to significant improvements in safety during approaches. Avinor has found the results so far to be positive. However, it has taken time to develop procedures, and the potential in the systems has not yet been fully tapped.

At present Svalbard Airport has a local aerodrome flight information service (AFIS officers) and no air traffic control service (air traffic controllers). According to regulations, air traffic control services in the form of tower control must be established when the number of flight movements exceeds 15,000 in the two preceding years, and at least 7,500 of these flight movements are instrument flights. An annual growth rate of 7–8 per cent in the number of flights at Svalbard Airport could trigger such a requirement in the course of a 10-year perspective. Moreover, the regulations permit the Civil Aviation Authority to demand establishment of an air traffic control service under other circumstances following a discretionary assessment of traffic and other conditions at the airport. However, the Civil Aviation Authority has concluded that the current traffic situation does not warrant the need to require establishment of an air traffic control service at Svalbard Airport.

10.6 Summary

Recent years have seen a significant strengthening of rescue preparedness in Svalbard, in respect of resources such as new helicopters, a new service vessel with extended sailing season, and the introduction of preventive measures such as the state pilotage service and the Harbour and Fairways Act. Measures have been introduced to mitigate the risk of incidents and environmental damage and to enhance safety both on land and at sea.

The avalanche in December 2015 served as a dramatic reminder of the importance of having the best possible local system that can immediately be coordinated and deployed to manage

emergency, extraordinary incidents and crises. The accident also showed the necessity for good cooperation between the Governor of Svalbard, the Longyearbyen Community Council, Longyearbyen Hospital, Svalbard Church, the Longyearbyen Red Cross and other local cooperating partners. The rescue operation was extensive, and there was a shortage of human resources at several junctures.

It is also important to acknowledge that Longyearbyen is and will remain dependent on resources from the mainland. The dimensions of Svalbard's emergency preparedness level will be continually assessed in the dialogue between the central authorities, the Governor of Svalbard and other key actors in Svalbard. Forming the basis of this work will be the experiences gained from the avalanche, the evaluation report, and the general increase in activity in the area.

The Government will:

- Continuously assess emergency preparedness in Svalbard in light of the activities carried out in the archipelago and changes in risk level.
- Respond appropriately to any findings by the Directorate for Civil Protection and Emergency Planning in its assessment following the avalanche on 19 December 2015.
- Survey flood and avalanche risks in Longyearbyen in 2016, through the Norwegian Water Resources and Energy Directorate.
- Work nationally and internationally to ensure effective implementation of the regulations on sailing in polar regions (the Polar Code).
- Continually assess measures to reduce the risk of undesirable maritime transport incidents in Svalbard.
- Continue the work of charting important maritime areas around Svalbard.
- Work towards establishing good communication systems for the northern marine areas.
- Further develop and modernise Svalbard's existing navigation infrastructure to optimise risk reduction and lower operating and maintenance costs.
- Develop land-based AIS base stations in the busiest areas of Svalbard to strengthen maritime traffic monitoring.

11 Economic and administrative consequences

Three comprehensive white papers on Svalbard have previously been presented to the Storting at approximately 10-year intervals. The white papers have each helped guide the archipelago's development for a number of years, and the comprehensive review process has encouraged balanced development within the framework established by the Svalbard policy objectives.

The objectives of Norwegian Svalbard policy have remained the same for a long time and are set out in Report No. 40 (1985–1986) to the Storting *Svalbard*, Report No. 9 (1999–2000) to the Storting *Svalbard*, and Report No. 22 (2008–2009) to the Storting *Svalbard*. These objectives have been reiterated in subsequent Storting documents relating to Svalbard and are reaffirmed annually when the Svalbard budget is approved.

With this white paper, the Government confirms that the overriding objectives of the Svalbard policy remain unchanged. Continued predictability in the administration of Svalbard in line with these objectives provides security for the population of Longyearbyen while enhancing stability and predictability in the region.

This white paper describes challenges and possible measures for Svalbard. The Government will continually assess the need for measures to ensure that further development of the Longyearbyen community aligns with the Svalbard policy. The avalanche disaster has also demonstrated the necessity of ensuring that Svalbard's infrastructure can accommodate the present level of activity, as opposed to introducing new activities that might trigger a need for heavy investment. Within these parameters, further development in selected areas is being facilitated.

It has been decided to suspend operations at the Lunckefjell mine in Svea, and the company's workforce has been heavily reduced. The workforce reduction has so far not led to a corresponding reduction in the number of inhabitants in Longyearbyen. This is partly because of the high level of commuting by the company's employees. It must nonetheless be acknowledged that the consequences could have additional effect in future.

11.1 Measures with limited or no budgetary consequences

In this white paper the Government stakes out a course for development of Longyearbyen and management of the archipelago, in accordance with the overriding objectives of the Svalbard policy and in line with our long-term interests. Account is given of measures which contribute to achieving these objectives in different areas.

To ensure that Longyearbyen maintains a breadth and quality that coincides with Norwegian interests, this white paper outlines further development in selected areas. Tourism is an important industry, and since the 1990s has become highly significant for Longyearbyen. This white paper signals the authorities' intention to now take coordinated action to better facilitate tourism in the areas surrounding Longyearbyen by allowing, for example, for the establishment of new commercial tourist cabins and facilitating disembarkation at selected locations in the Isfjorden area. It also issues signals about facilitating the landing of fish for commercial use in the local hotel and tourism industry.

Another key topic in this white paper is research. Svalbard has been developed as a successful platform for Norwegian and international research. It is important for Norway to be in the driver's seat, visibly and clearly hosting activities.

11.2 Measures proposed in the Revised National Budget for 2016

Longyearbyen was struck by a major avalanche on 19 December 2015, and several houses were destroyed. These houses cannot be rebuilt in the same area. The Government has therefore proposed increasing the allocation to the Longyearbyen Community by NOK 10 million for housing and land development in Longyearbyen.

11.3 Major measures already begun

In the estimated accounts for the 2015 central government budget, NOK 50 million was allocated for restructuring measures to develop Longyearbyen and pave the way for new economic activity and new jobs.

The Longyearbyen Community Council was allocated NOK 4.5 million of these funds for restructuring and economic development efforts in Longyearbyen.

There is currently a maintenance backlog for infrastructure measures in Longyearbyen. To reduce this maintenance backlog and simultaneously contribute to new jobs in the construction sector, NOK 22 million of the NOK 50 million total was allotted to infrastructure projects in Longyearbyen.

The Svalbard Business Council represents local business and industry, and works to promote economic interests in the archipelago. The council was allocated NOK 0.5 million in restructuring funds to facilitate restructuring and economic development efforts in Longyearbyen. These funds are intended to generate cooperation between local business and industry and local authorities. Innovation Norway was allocated NOK 20 million in restructuring funds towards establishing a stronger presence in Longyearbyen and towards developing and funding projects.

New business and innovation expertise will be brought to strengthen opportunities for generating a new economic boost in Svalbard. NOK 3 million has been allocated to develop a business and innovation strategy specifically for Svalbard.

11.4 Other measures

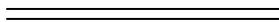
The current capacity of Longyearbyen's port facility is limited. New port infrastructure is highlighted locally as an important measure for further development. In the National Transport Plan for 2014–2023, up to NOK 200 million in government funds was set aside for harbour infrastructure. The Norwegian Coastal Administration is already examining various solutions, and this work is expected to be completed in October 2016. The Government will then decide on the way forward.

With this white paper, the Government presents an account of various measures that help reinforce the work involving Svalbard. Most of the measures described in this white paper can be covered by the relevant ministries' existing budgetary frameworks. Beyond these measures, the white paper also discusses other measures that could lead to spending increases within the national budget. Measures discussed in this white paper will be considered in connection with the Government's further work related to Svalbard. The Government will return to proposals for specifying and implementing the measures mentioned in the white paper in connection with the annual budget proposals.

The Ministry of Justice and Public Security

r e c o m m e n d s :

that the recommendation from the Ministry of Justice and Public Security concerning Svalbard dated 11 May 2016 should be submitted to the Storting.



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