

= Kola Peninsula =

The Kola Peninsula ( from Kildin Sami : ????????? ?????? , Kuelnegk njoarrk ; Northern Sami : Guoládatnjárga , Russian : ?? ? ?????? ?????? ? ?????? , Kolsky poluostrov , ) is a peninsula in the far northwest of Russia . Constituting the bulk of the territory of Murmansk Oblast , it lies almost completely inside the Arctic Circle and is bordered by the Barents Sea in the north and the White Sea in the east and southeast . The city of Murmansk is the most populous human settlement on the peninsula , with a population of over 300 @, @ 000 as of the 2010 Census .

Despite the peninsula 's northerly location , its proximity to the Gulf Stream leads to unusually high temperatures in winter , but also results in high winds due to the temperature variations between land and the Barents Sea . Summers are rather chilly , with the average July temperature of only 11 ° C ( 52 ° F ) . The peninsula is covered by taiga in the south and tundra in the north , where permafrost limits the growth of the trees resulting in landscape dominated by shrubs and grasses . The peninsula supports a small variety of mammals , and its rivers are an important habitat for the Atlantic salmon . The Kandalaksha Nature Reserve , established to protect the population of common eider , is located in the Kandalaksha Gulf .

While the north of the peninsula was already settled in the 7th ? 5th millennium BCE , the rest of its territory remained uninhabited until the 3rd millennium BCE , when various peoples started to arrive from the south . However , by the 1st millennium CE only the Sami people remained . This changed in the 12th century , when Russian Pomors discovered the peninsula 's game and fish riches . Soon after , the Pomors were followed by the tribute collectors from the Novgorod Republic , and the peninsula gradually became a part of the Novgorodian lands . No permanent settlements , however , were established by the Novgorodians until the 15th century .

The Novgorod Republic lost control of the peninsula to the Grand Duchy of Moscow in 1471 , but the Russian migration did not stop . Several new settlements were established during the 16th century , and the Sami and Pomor people were forced into serfdom . In the second half of the 16th century , the peninsula became a subject of dispute between the Tsardom of Russia and the Kingdom of Denmark ? Norway , which resulted in the strengthening of the Russian position . By the end of the 19th century , the indigenous Sami population had been mostly forced north by the Russians as well as by newly arriving Izhma Komi and Kominized Nenets ( so @-@ called Yaran people ) , who migrated here to escape a reindeer disease epidemics in their home lands in the Southeast of the White Sea . The original administrative and economic center of the area was the town of Kola , situated at the estuary of the Kola River into the Kola Bay . However , in 1916 , Romanov @-@ na @-@ Murmane ( now Murmansk ) was founded and quickly became the largest city and port on the peninsula .

The Soviet period saw a rapid increase of the population , although most of it remained confined to urbanized territories along the sea coast and the railroads . The Sami people were subject to forced collectivization , including forced relocation to the town of Lovozero and other centralized settlements , and overall the peninsula was heavily industrialized and militarized , largely due to its strategic position and the discovery of the vast apatite deposits in the 1920s . As a result , the ecology of the peninsula suffered major ecological damage , including contamination by military nuclear waste and nickel smelting .

After the dissolution of the Soviet Union , the economy went into decline and the population quickly started to decrease . Between 1989 and 2002 , Murmansk Oblast lost almost a quarter of its population ; and almost 100 @, @ 000 more between 2002 and 2010 . Nevertheless , the economy rebounded somewhat in the first decade of the 2000s and the peninsula remains the most industrially developed and urbanized region in northern Russia .

= = Geography = =

= = = Location and overview = = =

The peninsula is located in the far northwest of Russia , almost completely inside the Arctic Circle and is washed by the Barents Sea in the north and the White Sea in the east and southeast . Geologically , the peninsula occupies the northeastern edge of the Baltic Shield . The western border of the peninsula stretches along the meridian from the Kola Bay through the valley of the Kola River , Lake Imandra , and the Niva River to the Kandalaksha Gulf , although some sources push it all the way west to Russia 's border with Finland . Under a more restrictive definition , the peninsula covers an area of about 100 000 square kilometers ( 39 000 sq mi ) . The northern coast is steep and high , while the southern coast is flat . The western part of the peninsula is covered by two mountain ranges : the Khibiny Mountains and the Lovozero Massif ; the former contains the highest point of the peninsula ? Mount Chasnachorr , the height of which is 1 191 meters ( 3 907 ft ) . The Keyvy drainage divide lies in the central part . The mountainous reliefs of the Murman and Kandalaksha Coasts stretch from southeast to northwest , mirroring the peninsula 's main orographic features .

Administratively , the territory of the peninsula consists of Lovozersky and Tersky Districts , parts of Kandalakshsky and Kolsky Districts , as well as the territories subordinated to the cities and towns of Murmansk , Ostrovnoy , Severomorsk , Kirovsk , and parts of the territories subordinated to Apatity , Olenegorsk , and Polyarnye Zori .

#### == Natural resources ==

Because the last ice age removed the top sediment layer of the soil , the Kola Peninsula is on the surface extremely rich in various ores and minerals , including apatites and nephelines ; copper , nickel , and iron ores ; mica ; kyanites ; ceramic materials , as well as rare earth elements and non-ferrous ores . Deposits of construction materials such as granite , quartzite , and limestone are also abundant . Diatomaceous earth deposits are common near lakes and are used to produce insulation .

#### == Climate ==

Proximity of the peninsula to the Gulf Stream leads to unusually high temperatures in winter , resulting in significant temperature variations between land and the Barents Sea and in fluctuating temperatures during high winds . Cyclones are typical during the cold seasons , while the warm seasons are characterized by anticyclones . Monsoon winds are common in most areas , with south and southwesterly winds prevailing in winter months and with somewhat more pronounced easterly winds in summer . Strong storm winds blow for 80 ? 120 days a year . The waters of the Murman Coast remain warm enough to remain ice-free even in winter .

Precipitation levels on the peninsula are rather high : 1 000 millimeters ( 39 in ) in the mountains , 600 ? 700 millimeters ( 24 ? 28 in ) on the Murman Coast , and 500 ? 600 millimeters ( 20 ? 24 in ) in other areas . The wettest months are August through October , while March and April are the driest .

The average temperature in January is about ? 10 ° C ( 14 ° F ) , with lower temperatures typical in the central parts of the peninsula . The average temperature in July is about + 11 ° C ( 52 ° F ) . Record lows reach ? 50 ° C ( ? 58 ° F ) in the central parts and ? 35 to ? 40 ° C ( ? 31 to ? 40 ° F ) on the coasts . Record highs exceed + 30 ° C ( 86 ° F ) almost on all the territory of the peninsula . First frosts occur as early as August and may last through May and even June .

#### == Flora and fauna ==

The peninsula is covered by taiga in the south and tundra in the north . In the tundra , cold and windy conditions and permafrost limit the growth of the trees , resulting in a landscape dominated by grasses , wildflowers , and shrubs such as dwarf birch and cloudberry . In northern coastal areas , stony and shrub lichens are common . The taiga in the southern areas is composed mostly of pine trees and firs .

Reindeer herds visit the grasslands in summer . Other animals include red and Arctic foxes , wolverines , moose , otters , and lynx in the southern areas . American minks , which were released near the Olenitsa River in 1935 ? 1936 , are now common throughout the peninsula and are commercially hunted . Beavers , which became endangered by 1880 , were re @-@ introduced in 1934 ? 1957 . All in all , thirty @-@ two species of mammals and up to two hundred bird species inhabit the peninsula .

Beluga whales are the only cetacean being common around the peninsula . Other dolphins , including Atlantic white @-@ sided dolphins , white @-@ beaked dolphins , and harbor porpoises , as well as large whales , such as bowhead , humpback , blue , and finback , also visit the area .

The coasts of the Kandalaksha Gulf and the Barents Sea are important breeding grounds for bearded seals and ringed seals . Gray seals are rare and endemic to the Barents Sea . Greenland seals , or harp seals , also can be seen from time to time .

Twenty @-@ nine species of fresh water fish are recognized on the territory of peninsula , including trout , stickleback , northern pike , and European perch . The rivers are an important habitat for the Atlantic salmon , which return from Greenland and the Faroe Islands to spawn in fresh water . As a result of this , a recreational fishery has been developed , with a number of remote lodges and camps available to host sport @-@ fishermen . The Kandalaksha Nature Reserve , established in 1932 to protect the population of common eider , is organized in thirteen clusters located in the Kandalaksha Gulf of the Kola Peninsula and along the coasts of the Barents Sea .

### = = = Hydrology = = =

The Kola Peninsula has many small but fast @-@ moving rivers with rapids . The most important of them are the Ponoy , the Varzuga , the Umba , the Teriberka , the Voronya , and the Yokanga . Most rivers originate from lakes and swamps and collect their waters from melting snow . The rivers become icebound during the winter , although the areas with strong rapids freeze later or not at all .

Major lakes include Imandra , Umbozero , and Lovozero . There are no lakes with an area smaller than 0 @.@ 01 square kilometers ( 0 @.@ 0039 sq mi ) . Recreational fishery is developed in the region .

### = = = Ecology = = =

The Kola Peninsula as a whole suffered major ecological damage , mostly as a result of pollution from the military ( particularly naval ) production , industrial mining of apatite , and military nuclear waste . About 137 active and 140 decommissioned or idle naval nuclear reactors , produced by the Soviet military , remain on the peninsula . For thirty years , nuclear waste had been dumped into the sea by the Northern Fleet and Murmansk Shipping Company . There is also evidence of contamination from the 1986 Chernobyl disaster , with contaminants being found in the flesh of reindeer and other animals , and from the 1972 and 1984 controlled nuclear explosions 21 kilometers ( 13 mi ) northwest of Kirovsk . Additionally , several nuclear weapons test ranges and radioactive waste storage facilities exist on the peninsula .

The main industrial pollution source is Norilsk Nickel in Monchegorsk ? the large smelters responsible for over 80 % of the sulfur dioxide emissions and for nearly all nickel and copper emissions . Other polluters of note include the thermal power stations in Apatity and Murmansk .

### = = History = =

#### = = = Early history = = =

The Rybachy Peninsula in the north of the Kola Peninsula was already settled in the 7th ? 5th millennium BCE . In the 3rd ? 2nd millennium BCE , the peninsula was settled by the peoples who arrived there from the south ( the territory of modern Karelia ) . By the end of the 1st millennium CE ,

the peninsula was settled only by the Sami people , who did not have their own state , lived in clans ruled by elders , and were engaged mostly in reindeer herding and fishing . In the 12th century , Russian Pomors from the shores of the Onega Bay and in the lower reaches of the Northern Dvina River discovered the peninsula and its game and fish riches . The Pomors organized regular hunting and fishing visits and started barter trade with the Sami . They also called the White Sea coast of the peninsula Tersky Coast ( Тeрскaя Кoстa ) or Terskaya Land ( Тeрскaя Зeмлa ) .

By the end of the 12th century , the Pomors explored all northern coast of the peninsula and reached Finnmark ( an area in the north of Norway ) , necessitating the Norwegians to support a naval guard in that area . The name given by the Pomors to the northern coast was " Murman " ? a distorted form of " Norman " .

= = = Novgorodians = = =

Pomors were soon followed by tribute collectors from the Novgorod Republic , and the Kola Peninsula gradually became a part of the Novgorodian lands . A 1265 treaty of Yaroslav Yaroslavich with Novgorod mentions Tre Volost ( Трe Вoлoст ) , which is later also mentioned in other documents dated as late as 1471 . In addition to Tre , Novgorodian documents of the 13th ? 15th centuries also mention Kolo Volost , which bordered Tre approximately along the line between Kildin Island and Turiy Headland of the Turiy Peninsula . Kolo Volost lay to the west of that line , while Tre was situated to the east of it .

By the 13th century , a need to formalize the border between the Novgorod Republic and the Scandinavian countries became evident . The Novgorodians , along with the Karelians who came from the south , reached the coast of what now is Pechengsky District and the portion of the coast of Varangerfjord near the Voryema River , which now is a part of Norway . The Sami population was forced to pay tribute . The Norwegians , however , were also attempting to take control of these lands , resulting in armed conflicts . In 1251 , a conflict between the Karelians , Novgorodians and the servants of the king of Norway lead to the establishment of a Novgorodian mission in Norway . Also in 1251 , the first treaty with Norway was signed in Novgorod regarding the Sami lands and the system of tribute collections , making the Sami people pay tribute to both Novgorod and Norway . By the terms of the treaty , Novgorodians could collect tribute from the Sami as far as Lyngen fjord in the west , while Norwegians could collect tribute on the territory of the whole Kola Peninsula except in the eastern part of Tersky Coast . No state borders were established by the 1251 treaty .

The treaty lead to a short period of peace , but the armed conflicts resumed soon thereafter . Chronicles document attacks by the Novgorodians and the Karelians on Finnmark and northern Norway as early as 1271 , and continuing well into the 14th century . The official border between the Novgorod lands and the lands of Sweden and Norway was established by the Treaty of Nöteborg on August 12 , 1323 . The treaty primarily focused on the Karelian Isthmus border and the border north of Lake Ladoga .

Another treaty dealing the matters of the northern borders was the Treaty of Novgorod signed with Norway in 1326 , which ended the decades of the Norwegian @-@ Novgorodian border skirmishes in Finnmark . Per the terms of this treaty , Norway relinquished all claims to the Kola Peninsula . However , the treaty did not address the situation with the Sami people paying tribute to both Norway and Novgorod , and the practice continued until 1602 . While the 1326 treaty did not define the border in detail , it confirmed the 1323 border demarcation , which remained more or less unchanged for the next six hundred years , until 1920 .

In the 15th century , Novgorodians started to establish permanent settlements on the peninsula . Umba and Varzuga , the first documented permanent settlements of the Novgorodians , date back to 1466 . Over time , all coastal areas to the west of the Pyalitsa River had been settled , creating a territory where the population was mostly Novgorodian . Administratively , this territory was divided into Varzuzhskaya and Umbskaya Volosts , which were governed by a posadnik from the area of the Northern Dvina . The Novgorod Republic lost control of both of these volosts to the Grand Duchy of Moscow after the Battle of Shelon in 1471 , and the republic itself ceased to exist in 1478 when Ivan III took the city of Novgorod . All Novgorod territories , including those on the Kola Peninsula ,

became a part of the Grand Duchy of Moscow .

= = = Russian settlement = = =

Russian migration to the peninsula continued into the 16th century , when new settlements such as Kandalaksha and Porya @-@ Guba were established . Kola was first mentioned in 1565 . In the end of the 15th century , the Pomors and the Sami people were forced into serfdom , mostly by the monasteries . Monastery votchinas greatly expanded during the 17th century , but were abolished in 1764 , when all of the Kola Peninsula peasants became state peasants .

In the second half of the 16th century , King Frederick II of Denmark ? Norway demanded that the Tsardom of Russia cede the peninsula . Russia declined , and in order to organize adequate defenses established the position of a voyevoda . The voyevoda sat in Kola , which became the administrative center of the region . Prior to that , the administrative duties were performed by the tax collectors from Kandalaksha . Newly established Kolsky Uyezd covered most of the territory of the peninsula ( with the exception of Varzuzhskaya and Umbskaya Volosts , which were a part of Dvinsky Uyezd ) , as well as the northern part of Karelia all the way to Lendery .

Despite the economic activity , permanent settlement of the peninsula did not intensify until the 1860s and even then it remained sporadic until 1917 . The population of Kola in 1880 , for example , was only around 500 inhabitants living in 80 households , compared to 1 @,@ 900 inhabitants in 300 households living there in 1582 . Transportation facilities were virtually non @-@ existent and the communication with the rest of Russia irregular . 1887 saw an influx of Izhma Komi and Nenets people who were migrating to the peninsula to escape a reindeer disease epidemic in their home lands and brought their large deer herds with them , resulting in increased competition for the grazing lands , a conflict between the Komi and the Sami , and in marginalization of the local Sami population . By the end of the 19th century , the Sami population had mostly been forced north , with ethnic Russians settling in the south of the peninsula .

In 1894 , the peninsula was visited by the Russian Minister of Finance , who became convinced of the region 's economic potential . Consequently , in 1896 a telephone and a telegraph line were extended to Kola , improving the communication with the mainland . A possibility of building a railway was also considered , but no action was taken at the time . Also in 1896 , Alexandrovsk ( now Polyarny ) was founded , and grew in size so rapidly that it was granted town status in 1899 ; Kolsky Uyezd was renamed Alexandrovsky on that occasion .

During World War I , the still poorly developed peninsula suddenly found itself in a strategic position , as the communication between Russia and the Allies was cut and the ice @-@ free harbors of the Murman Coast remained the only means of sending the war supplies to the Eastern Front . In March 1915 , the construction of the railroad was rushed , and the railroad was quickly opened in 1916 , even though it was only partially completed and poorly built . In 1916 , Romanov @-@ na @-@ Murmane ( modern Murmansk ) was founded as the terminal point of the new railroad ; the town quickly grew to become the largest one on the peninsula .

= = = Soviet and modern periods = = =

Soviet power was established on the territory of the peninsula on November 9 [ O.S. October 26 ] , 1917 , but the territory was occupied by the Triple Entente forces in March 1918 ? March 1920 . Alexandrovsky Uyezd was transformed into Murmansk Governorate by the Soviet government in June 1921 . On August 1 , 1927 , the All @-@ Russian Central Executive Committee ( VTsIK ) issued two Resolutions : " On the Establishment of Leningrad Oblast " and " On the Borders and Composition of the Okrugs of Leningrad Oblast " , according to which Murmansk Governorate was transformed into Murmansk Okrug ( which was divided into six districts ) and included into Leningrad Oblast . This arrangement existed until May 28 , 1938 , when the okrug was separated from Leningrad Oblast , merged with Kandalakshsky District of the Karelian ASSR , and transformed into modern Murmansk Oblast .

All in all , the Soviet period saw a significant increase in population ( 799 @,@ 000 in 1970 vs. 15

@, @ 000 in 1913 ) , although most of the population remained concentrated in the urban localities along the railroads and the sea coast . Most of the sparsely populated territories outside the urbanized areas were used for deer herding . In 1920 ? 1940 , the town of Kirovsk and several work settlements were established on the peninsula .

The Sami peoples were subject to forced collectivization , with more than half of their reindeer herds collectivized in 1928 ? 1930 . In addition , the traditional Sami herding practices were phased out in favor of the more economically profitable Komi approach , which emphasized permanent settlements over free herding . Since the Sami culture is strongly tied to the herding practices , this resulted in the Sami people gradually losing their language and traditional herding knowledge . Most Sami were forced to settle in the village of Lovozero , which became the cultural center of the Sami people in Russia . Those Sami resisting the collectivization were subject to forced labor or death . Various forms of repression against the Sami continued until Stalin 's death in 1953 . In the 1990s , 40 % of the Sami lived in urbanized areas , although some herd reindeer across much of the region .

The Sami were not the only people subject to repressions . Thousands of people were sent to Kola in the 1930s ? 1950s , and in 2007 over two thousand people ? descendants of those forcibly sent here ? still live on the peninsula . A significant portion of the people deported to Kola were peasants from southern Russia subjected to dekulakization . Prisoner labor was often used when building new factories and for manning those which were operational : in 1940 , for example , the whole Severonikel Metallurgy Mining Complex was turned over to the NKVD system .

= = Population = =

Historically , due to its northern location , the peninsula 's population had been sparse : in 1913 , for example , only about 13 @, @ 000 ? 15 @, @ 000 people lived there ; mostly along the shores . However , the discovery of the vast natural resource deposits and industrialization efforts led to an explosive population growth during the Soviet times . By 1970 , the population of the peninsula was around 799 @, @ 000 . The trend reverted in the 1990s , after the dissolution of the Soviet Union . The population of the whole Murmansk Oblast went down from 1 @, @ 150 @, @ 000 in 1989 to 890 @, @ 000 in 2002 to 795 @, @ 000 in 2010 .

As of the 2010 Census , the population consisted mostly of Russians ( 89 @. @ 0 % ) , Ukrainians ( 4 @. @ 8 % ) , and Belarusians ( 1 @. @ 7 % ) . Other groups of note include Komi ( ~ 1 @, @ 600 inhabitants ) , Sami ( ~ 1 @, @ 600 ) , and Karelians ( ~ 1 @, @ 400 ) . The indigenous Sami people are mostly concentrated in Lovozersky District .

= = Economy = =

= = = Historical background = = =

During the 15th ? 16th centuries , the main occupations of the Tersky Coast population were Atlantic salmon fishing , seal hunting , and the extraction of salt from the sea water . The salt extraction in Kandalaksha and Kola was mostly carried out by the monasteries in Pechenga and Solovki , and for a long time remained the only " industry " on the peninsula .

By the mid @-@ 16th century , Atlantic cod fishing developed on the Murman Coast in the north . The 1560s saw a rapid growth of international trade , with the Russian merchants from different regions of the country arriving to the peninsula to trade with the merchants from Western Europe . In 1585 , however , the trade was moved to Archangel , although the settlement of Kola was still permitted to trade locally produced goods .

During the 17th century , the salt extraction activities gradually went into decline as the locally produced salt was uncompetitive with cheap salt produced in the Kama River regions . Extensive poaching also lead to the significantly reduced outputs from pearl hunting . However , commercial deer herding became more popular , although its share in the economy remained negligible until the

19th century . By the end of the 17th century , the practice of seasonal fishing and hunting settlements in the north of the peninsula became very common .

Peter the Great , recognizing the political and economical importance of the peninsula , promoted its industries and commerce ; however , the region fell into neglect after St. Petersburg was founded in 1703 and most of the shipping trade shifted there . In 1732 , large deposits of silver in native form were discovered on Medvezhy Island in the Kandalaksha Gulf and copper , silver , and gold deposits were found in the lower reaches of the Ponoy River . However , despite the efforts ongoing for the next two centuries , there was no commercial success . At the end of the 18th century , the local population learned the practice of peat production from the Norwegians and started using peat for heating . Timber cutting industry developed in the region at the end of the 19th century ; mostly in Kovda and Umba .

The Soviet era saw drastic industrialization and militarization of the peninsula . In 1925 ? 1926 , significant deposits of apatite were discovered in the Khibiny Mountains , and the first apatite batch was shipped only a few years later , in 1929 . In 1930 , sulfide deposits were discovered in the Moncha area ; in 1932 ? 1933 iron ore deposits were found near the upper streams of the Iona River ; and in 1935 , significant deposits of titanium ores were discovered in the area of modern Afrikanda .

The collectivization efforts in the 1930s lead to the concentration of the reindeer herds in kolkhozes ( collective farms ) , which , in turn , were further consolidated into a few large @-@ scale state farms in the late 1950s ? early 1970s . By the mid @-@ 1970s , the state farms were further consolidated into just two , based in Lovozero and Krasnoshchelye . The consolidations were rationalized by the necessity to isolate the herders from the military installations , as well as by the need to flood some territories to construct hydroelectric plants .

Fishing , being the traditional industry of the region , was always considered important , even though the volumes of production remained insignificant until the beginning of the 20th century . In the 1920s ? 1930s , the Murmansk Trawl Fleet was created and the fishing infrastructure started to develop intensively . By 1940 , fishing accounted for 40 % of the oblast 's and for 80 % of Murmansk 's economy .

During the Cold War , the peninsula served as the naval basing area for a large portion of the Soviet naval and air strategic forces , providing protection from and posing a threat to northern Norway .

= = = Modern economy = = =

After the economic slump of the 1990s , the economy of the oblast started to rebound during the first decade of the 2000s , although at a rate below the country 's average . Today the Kola Peninsula is the most industrially developed and urbanized region in northern Russia . The major port of the peninsula is Murmansk , which serves as the administrative center of Murmansk Oblast and does not freeze in winter . Although the strategic importance of the Kola Peninsula has diminished since the Cold War , the peninsula nevertheless still has the highest concentration of nuclear weapons , reactors , and facilities in Russia , with the number of nuclear reactors alone exceeding any other region of the world .

Mining is the basis of the oblast 's economy , and mining enterprises remain the principal employers in such monotowns as Apatity , Kirovsk , Zapolyarny , Nikel , and Monchegorsk . The Kola Mining and Metallurgical Company , a division of Norilsk Nickel , conducts nickel- , copper- , and platinum @-@ group @-@ metals @-@ mining operations on the peninsula . Other large mining companies include OAO Apatit , which is the largest producer of phosphates in Europe ; OAO Olcon , one of the leading producers of iron ore concentrates in Russia ; and OAO Kovdorsky GOK , an ore @-@ mining and processing enterprise .

The fishing industry , although still operating significantly below the Soviet level of production , remains profitable , supplying 20 % of Russia 's fish in 2006 and with the volumes steadily growing in 2007 ? 2010 . Murmansk is a key base for three fishing fleets , including Russia 's largest , the Murmansk Trawl Fleet . Fish breeding , especially of salmon and trout , is a growing industry .

The energy sector is represented by the Kola Nuclear Power Plant near Polyarnye Zori , which produces about half of all energy , and a network of seventeen hydroelectric and two thermal power stations , generating the other half . The energy surplus , accounting for about 20 % of the total generated energy , is transferred to the unified energy system of Russia , as well as exported to Norway and Finland via the NORDEL system .

With the economy of the oblast being mostly export @-@ oriented , transportation plays an important role and accounts for 11 % of the Gross Regional Product . On the Kola Peninsula , the transportation network includes ship transport , air transport , automotive transport , electrified public transport , and access to the railways mostly passing through the rest of Murmansk Oblast . The city of Murmansk is an important port on the Northern Sea Route . The largest airports are the Murmansk Airport , which handles international flights to Scandinavian countries , and the joint military @-@ civilian Kirovsk @-@ Apatity Airport located 15 kilometers ( 9 @.@ 3 mi ) southeast of Apatity .