

Impact Factor:

ISRA (India) = 6.317
ISI (Dubai, UAE) = 1.582
GIF (Australia) = 0.564
JIF = 1.500

SIS (USA) = 0.912
ПИИИ (Russia) = 3.939
ESJI (KZ) = 8.771
SJIF (Morocco) = 7.184

ICV (Poland) = 6.630
PIF (India) = 1.940
IBI (India) = 4.260
OAJI (USA) = 0.350

SOI: [1.1/TAS](#) DOI: [10.15863/TAS](#)

International Scientific Journal Theoretical & Applied Science

p-ISSN: 2308-4944 (print) e-ISSN: 2409-0085 (online)

Year: 2022 Issue: 10 Volume: 114

Published: 27.10.2022 <http://T-Science.org>

Issue

Article



Danil Sergeevich Shcherbakov

Institute of Service and Entrepreneurship (branch) DSTU
bachelor

Artyom Alexandrovich Tikhonov

Institute of Service and Entrepreneurship (branch) DSTU
bachelor

Vladimir Timofeevich Prokhorov

Institute of Service and Entrepreneurship (branch) DSTU
Doctor of Technical Sciences, Professor, Shakhty, Russia

Galina Yurievna Volkova

LLC TsPOSN «Orthomoda»
Doctor of Economics, Professor,
Moscow, Russia

ON THE IMPORTANCE OF INVESTMENT AND INFRASTRUCTURE PROJECTS FOR THE SOCIO-ECONOMIC DEVELOPMENT OF THE CHUKOTKA AUTONOMOUS OKRUG

Abstract: *in the article, the authors studied the role and significance of the development strategy for the economy of the Chukotka Autonomous Okrug in general and its key industries in particular, which is built in three scenarios: conservative, basic, target. The conservative scenario implies the inertial development of the region: the Okrug will continue to be mono-dependent on the gold mining industry, the volume of public and private investments attracted will be significantly lower than expected, the Baimskaya ore zone development project will not be implemented. The baseline scenario implies partial implementation of the investment projects stated in this Strategy: the volume of investments and coal production at the deposits of the Bering coal basin will be fixed at the minimum values specified in the agreement on the ASEZ (750 thousand tons), the project for the development of the Baimskaya ore zone will be implemented in full. The target scenario implies the full implementation of the investment projects stated in this Strategy, in particular, the development of the Baimskaya ore zone and bringing production at the deposits of the Verkhne-Alkatvaamsky site of the Bering coal basin to 5 million tons with the attraction of the necessary investment for this.*

Key words: *Advanced Development Territory, TOR, economic activity, significance, efficiency, socio-economic development strategy, financial condition, sustainable TEP, resources, profit, profitability, priority, preferences, demand, competitiveness.*

Language: *English*

Citation: *Shcherbakov, D. S., Tikhonov, A. A., Prokhorov, V. T., & Volkova, G. Y. (2022). On the importance of investment and infrastructure projects for the socio-economic development of the Chukotka Autonomous Okrug. ISJ Theoretical & Applied Science, 10 (114), 467-492.*

Soi: <http://s-o-i.org/1.1/TAS-10-114-54> **Doi:**  <https://dx.doi.org/10.15863/TAS.2022.10.114.54>

Scopus ASCC: 2000.

Introduction

UDC 339.38:327.51

The main directions for the implementation of this Strategy in the Chukotka Autonomous Okrug are:

- development of the seaport of Pevek and its terminals;

Impact Factor:

ISRA (India) = 6.317
 ISI (Dubai, UAE) = 1.582
 GIF (Australia) = 0.564
 JIF = 1.500

SIS (USA) = 0.912
 ПИИЦ (Russia) = 3.939
 ESJI (KZ) = 8.771
 SJIF (Morocco) = 7.184

ICV (Poland) = 6.630
 PIF (India) = 1.940
 IBI (India) = 4.260
 OAJI (USA) = 0.350

- creation of a transport and logistics hub in the deep-sea year-round seaport of Provideniya;
- modernization of the Chaun-Bilibinsky energy center;
- development of transport infrastructure, including the construction of the interregional highway Kolyma - Omsukchan - Omolon - Anadyr;
- connection of the Nenets Autonomous Okrug to the unified telecommunications network of the Russian Federation by creating a submarine fiber-optic communication line Petropavlovsk-Kamchatsky - Anadyr;
- development of the Baimsky and Pyrkakaysko-Maysky mineral resource centers of precious and non-ferrous metals;
- development of the Bering coal mineral resource center, construction of a year-round terminal in the Arinai deep-water lagoon;
- creation of an emergency rescue unit and an Arctic crisis management center in the city of Pevek;
- the development of Arctic cruise tourism and the formation of ethno-ecological tourist clusters in the territories of Anadyr, Pevek and the village. Providence.

Over the past 5 years, the Chukotka Autonomous Okrug has secured the status of one of the largest gold mining regions in Russia. Building the economy around this industry for many years ensures the district achieves high GRP and per capita tax revenues, and

allows attracting investment and labor. At the same time, the emphasis on the development of one flagship industry gives rise to mono-dependence and, as a result, the vulnerability of the regional economy to external pricing conditions.

Further intensification of economic activity should be based on the use of competitive advantages and opportunities of the district, on a comprehensive account of the natural, geographical, historical and demographical features of the region. The analysis showed that the development of the Chukotka Autonomous Okrug until 2030 should be associated with the diversification of the extractive industry of the region, the development of traditional industries of the indigenous peoples of the Chukotka Autonomous Okrug and the social sphere (Figure 1).

As a result of the implementation of this Strategy, by 2035 the Chukotka Autonomous Okrug will become a region:

- specializing in the extraction and processing of various natural resources and using the most modern technologies for this;
- guaranteeing its population the level of income and quality of life corresponding to the successful northern territories of Canada and the USA;
- characterized by dynamic and sustainable growth of the economy and budget revenues.



Figure 1. Chukotka Autonomous Okrug

Main part

The basis for the development of the Strategy is a number of legal acts:

- Forecast of socio-economic development of the Russian Federation for the period up to 2035;
 - Charter of the Chukotka Autonomous Okrug.
- The Chukotka Autonomous Okrug is the most

northeastern subject of the Russian Federation, belongs to the Far Eastern Federal District, borders on Yakutia in the West, the Magadan Region and the Kamchatka Territory in the south, and the state of Alaska of the United States of America in the East. The entire territory of the Okrug belongs to the Arctic zone of Russia.

Impact Factor:

ISRA (India) = 6.317
ISI (Dubai, UAE) = 1.582
GIF (Australia) = 0.564
JIF = 1.500

SIS (USA) = 0.912
ПИИЦ (Russia) = 3.939
ESJI (KZ) = 8.771
SJIF (Morocco) = 7.184

ICV (Poland) = 6.630
PIF (India) = 1.940
IBI (India) = 4.260
OAJI (USA) = 0.350

The population as of January 1, 2018 was 49.3 thousand people (the smallest among all regions of Russia), GRP per capita - 1.32 million rubles. in 20120 (third place among the regions of Russia after the Tyumen and Sakhalin regions) (Figure 2).

In recent years, the development of the region has taken place in accordance with the Development Strategy of the Okrug until 2035, approved by the Decree of the Government of the Chukotka Autonomous Okrug dated July 16, 2014 No. 290-rp “On Approval of the Strategy for the Social and

Economic Development of the Chukotka Autonomous Okrug until 2035”.

In this Strategy, the basic directions of economic activity in the region were determined by the further development of the locomotive industry (gold mining), the development of traditional economic sectors of the indigenous peoples of the Chukotka Autonomous Okrug, as well as the diversification of the region's mining industry through the accelerated development of the coal and copper industries.



Figure 2. Administrative map of the Chukotka Autonomous Okrug

In order to ensure the successful implementation of the chosen areas of economic activity within the framework of the spatial development of the Chukotka Autonomous Okrug, the Strategy provided for the accelerated development of the Anadyr and Chaun-Bilibinsky regions through the development of rich deposits of coal and non-ferrous metals, respectively, the creation of the necessary conditions for the successful development of traditional industries of the indigenous peoples of the Chukotka Autonomous district and the necessary associated transport and energy infrastructure.

The focus of the development of the social sphere in the Strategy was to increase the income and living standards of the population of the Chukotka Autonomous Okrug (Figures 3-4).

Since 2013, the Okrug has experienced moderate growth in most key indicators of economic development. Industrial production grew by 21.5%, gross regional product - by 9.7%, while the same

indicators for Russia as a whole amounted to 5.3% and -0.5%, respectively. Investments in the Okrug's fixed capital over the specified period decreased by 22.2%, which is associated with investment cycles for the development of the Okrug's deposits (the peak of investment activity fell on 2012-2013).

During this period, it was possible to achieve positive dynamics in the development of most of the key industries for the Okrug.

Gold production increased from 24.6 to 32.1 tons from 2013 to 2015. In 2016-2017 there was a planned decrease in production to 25.3 tons, associated with the depletion of rich ore reserves at the largest developed deposits.

Silver mining associated with gold mining in 2013-2017 decreased from 165.3 to 130.8 tons.

Brown coal production decreased from 233.9 to 189.4 thousand tons from 2013 to 2017, however, the total coal production in the Okrug increased from 354.0 to 438.8 thousand tons due to the start of production at

Impact Factor:

ISRA (India) = 6.317
ISI (Dubai, UAE) = 1.582
GIF (Australia) = 0.564
JIF = 1.500

SIS (USA) = 0.912
ПИИЦ (Russia) = 3.939
ESJI (KZ) = 8.771
SJIF (Morocco) = 7.184

ICV (Poland) = 6.630
PIF (India) = 1.940
IBI (India) = 4.260
OAJI (USA) = 0.350

the Fandyushkinskoye field of Beringovsky coal basin.

Gas production is focused solely on meeting the internal needs of the Okrug. During the specified period, it increased by 29.2% (from 23.4 to 30.2 million m3).

According to the official data of the Federal State Statistics Service, electricity production in the Okrug increased from 564.6 million kWh in 2013 to 704.6 million kWh in 2017, which is associated with an increase in the needs of the extractive industry and the inclusion of isolated consumers.

The retail trade turnover and the volume of paid services to the population increased from 5.5 billion rubles. in 2013 to 9.1 billion rubles. in 2017 and from 4.2 billion rubles. in 2013 to 4.9 billion rubles. in 2017, respectively, in real terms, the growth was 6.8% and 11.7%, respectively. Taking into account the decrease in the average annual population of the Okrug by 2.1% over the specified period and the isolation of the Okrug from the “outside world”, the achieved indicators are significant.

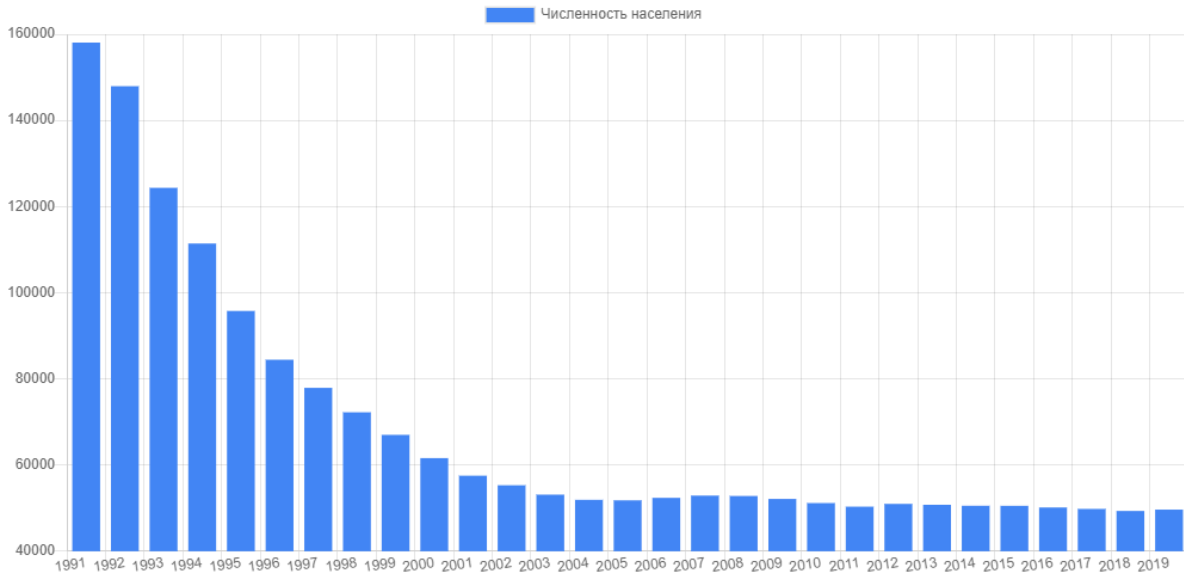


Figure 3. Population in the Chukotka Autonomous Okrug

Despite the higher level of prices relative to the average indicators for Russia and the Far Eastern Federal District, retail turnover per capita in the Chukotka Autonomous Okrug is lower by 9.5% and 13.7%, respectively, due to the underdevelopment of this industry in the region. Due to the multiple excess of tariffs for electricity, heat supply and utilities in the Okrug over the average Russian indicators, the volume of paid services per capita in the region significantly (by 56.2%) exceeds the corresponding indicator in Russia.

The traditional sectors of the economy of the Chukotka Autonomous Okrug include reindeer breeding, which provides 45-50% of the needs of the inhabitants of the Okrug in meat products, and marine fur hunting, which meets the needs of the indigenous population of coastal villages in the meat of sea animals. During the analyzed period (2018-2021), the number of deer decreased from 172.5 to 150.8 thousand heads, the volume of products of the marine fur trade - from 2.4 to 2.1 thousand tons. The reasons for the decline in the number of deer are abnormal weather conditions and organizational measures within reindeer breeding enterprises. Marine fur hunting is a regulated activity. Hunting is allowed and, as a result, quotas are allocated only to the indigenous peoples of

Chukotka in order to preserve their national identity.

The average annual production of aquatic biological resources, taking into account the objects of fishing in the internal sea waters and the territorial sea of the Russian Federation, the exclusive economic zone and on the continental shelf of the Russian Federation, adjacent to the coast of the Chukotka Autonomous Okrug, as well as in inland freshwater reservoirs, is about 10 thousand tons (pollock, cod, halibut, crabs), salmon - 3 thousand tons, freshwater - 50 tons. Resources fully meet the needs of the population of the Okrug, and most of it is sold outside of it.

Restraining factors for the development of the fish processing industry are the territorial and climatic features of the region. The cost of products manufactured in the Okrug is higher than the products of other regions of the Far East, and the volume of the domestic market is small due to the small population.

The development of other types of agricultural activities in the Okrug is complicated by the harsh climatic conditions of the regions of the Far North, the needs of the population are met mainly through the import of products.

Due to climatic conditions and low population density, the manufacturing industry in the Chukotka

Impact Factor:

ISRA (India) = 6.317
 ISI (Dubai, UAE) = 1.582
 GIF (Australia) = 0.564
 JIF = 1.500

SIS (USA) = 0.912
 ПИИЦ (Russia) = 3.939
 ESJI (KZ) = 8.771
 SJIF (Morocco) = 7.184

ICV (Poland) = 6.630
 PIF (India) = 1.940
 IBI (India) = 4.260
 OAJI (USA) = 0.350

Autonomous Okrug is poorly developed. The vast majority of food, clothing, vehicles and other consumer goods, machinery and equipment are brought into the

District by sea during the navigation period from June to November, or by expensive air.

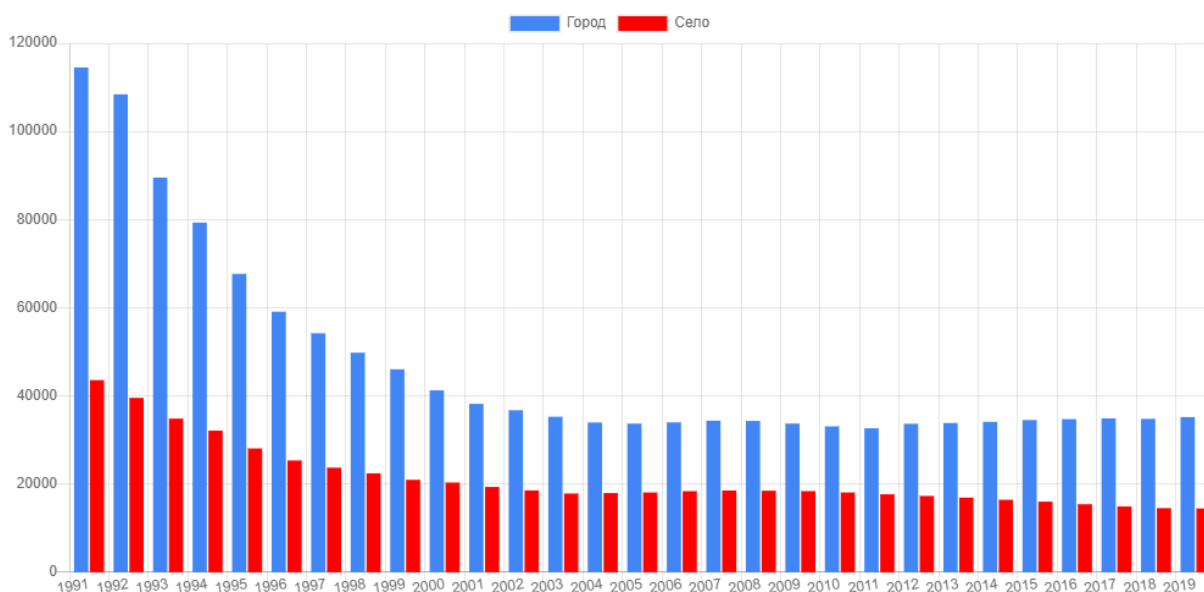


Figure 4. The share of the urban and rural population in the Chukotka Autonomous Okrug

GRP structure from 2018 to 2021 changed towards a significant increase in the contribution of the extractive industry to the final indicator (from 33.2% to 50.1%), which is associated with an increase in the extraction of minerals with a decrease in the output of traditional industries (agriculture and forestry, hunting, fishing and fish farming) and services. As a result, in 2018, more than half of the GRP (50.1%) was in the mining industry, 32.3% in the service sector, 11.3% in the production of electricity, gas and water, 5.2% in construction, 0.7% - for traditional industries, 0.4% - for the manufacturing industry.

The territory of the Chukotka Autonomous Okrug is divided into 6 districts: Anadyrsky, Bilibinsky, Iultinsky, Providensky, Chaunsky and Chukotsky. The Anadyrsky district, together with the Chaunsky and Bilibinsky districts, is the center of the accelerated economic development of the region, other areas are centers for the development of traditional folk crafts and the preservation of the cultural heritage of the Okrug's indigenous population. The administrative center, as well as the center for the development of the social sphere and the provision of public services in the region, is the capital of the Okrug, Anadyr.

On the territory of the Anadyr industrial zone, the Zapadno-Ozernoye gas field is currently being successfully developed, aimed at covering the internal needs of the Okrug. Annual gas production is about 30 million m³.

A promising project for the development of the Anadyr industrial zone is the project for the development of deposits in the Bering coal basin with

total resources of over 1 billion tons of high-quality coal that meets international standards. Foreign investors have been involved in the development of the basin's deposits. In order to ensure comfortable business conditions, in 2015 the Chukotka Territory of Advanced Socio-Economic Development (hereinafter TOP) was created. As of October 1, 2018, the volume of investments made by anchor investors under the ASEZ agreement is 917 million rubles. In 2019, the implementation of the first stage of the investment project for the development of the Bering coal basin (development of the Fandyushkinskoye field) began, 249.4 thousand tons of hard coal were mined. The project has an export orientation, 65% of the produced in 2019.

The Chaun-Bilibino industrial zone is rich in non-ferrous metal deposits. Currently, several large gold deposits are being mined (Kupol, Maiskoye, Dvoynoye - 81.6% or 20.7 out of 25.3 tons of gold mined in 2019 in the Okrug). The Kekura and Klen gold deposits are being prepared for commissioning in 2022. The reserves of the deposits are about 62.1 and 18.0 tons of gold, respectively. Exploration, preparatory and design work is being carried out at the Kekura gold deposit. The design documentation for the mining and processing plant is being developed. A temporary shift camp has been built at the Klen gold and silver deposit, and sites are being prepared for the construction of a factory and a mine. The volume of implemented for 2018-2021. private investment is 4.6 and 1.0 billion rubles. for the Kekura and Klen deposits, respectively.

Impact Factor:

ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 1.582	ПИИЦ (Russia) = 3.939	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 8.771	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

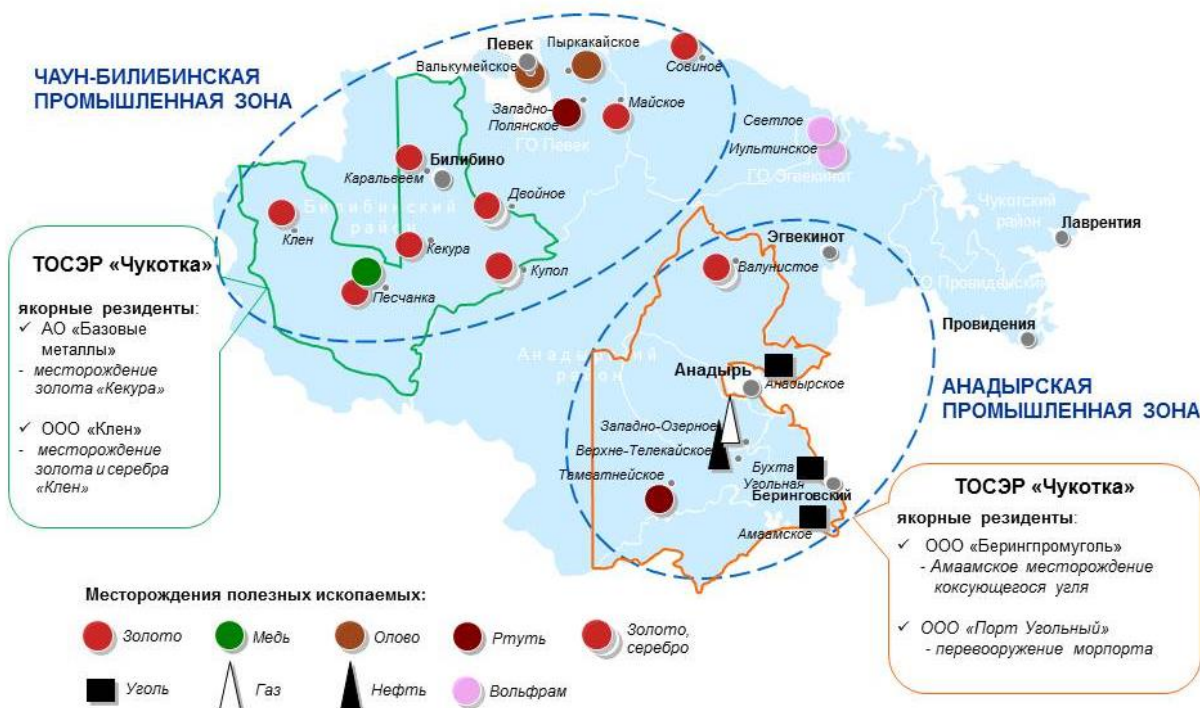


Figure 5. Mining in the Chukotka Autonomous Okrug

The largest promising project for the development of the Chaun-Bilibino industrial zone is the development of deposits of the Baimskaya ore zone, primarily the gold-bearing porphyry copper deposit Peschanka, one of the largest copper deposits in the world (the resource potential of the deposit is 27 million tons of copper and 1,600 tons of gold). Geological exploration is currently being completed at the Peschanka deposit (for 2018-2021, the volume of private investment in exploration amounted to about 4 billion rubles) and the technical design of the mining and processing plant and its infrastructure is underway.

In order to improve the standard of living of the population by reducing prices for essential goods, as well as ensuring food security, the Government of the Chukotka Autonomous Okrug is implementing measures aimed at increasing the attractiveness of the development of the food industry and agriculture. In order to attract private investment in the manufacturing industry of the region, in July 2016, Pevek was included in the territory of the free port of Vladivostok (hereinafter referred to as FPV). The focus of FPV Pevek is the development of small businesses in consumer sectors. As of the end of October 2018, 4 food industry enterprises are being created on its territory. The power system of the Chukotka Autonomous Okrug is a technologically isolated territorial power system. As part of the energy system of the district, three power centers operate in isolation

from each other: Anadyrsky, Egvekinotsky and Chaun-Bilibinsky and a zone of decentralized energy supply, represented by 35 rural settlements. Also, there are industrial consumers in the region that have their own generating capacities, isolated from the general power system. To supply heat and hot water to the settlements of the Chukotka Autonomous Okrug, centralized open heat supply systems are used.

The largest volume of electricity consumption falls on mining industrial enterprises. The dynamics of electricity supply to consumers is mainly determined by the level of production of non-ferrous metals and the weather factor. The main consumers of productive supply of electricity in power centers are:

- 45-46% - industrial enterprises (Table 1);
- 20-25% - own and economic needs of enterprises of housing and communal services;
- 10-11% - the population and the management companies providing services to them;
- 3% - transport and communications;
- 20% - other industries (fish processing enterprises, food complex, construction companies, etc.).

The largest volume of heat consumption falls on residential and administrative buildings (table 2). The dynamics of heat supply to consumers is mainly due to the weather factor.

Impact Factor:	ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 1.582	ПИИЦ (Russia) = 3.939	PIF (India) = 1.940
	GIF (Australia) = 0.564	ESJI (KZ) = 8.771	IBI (India) = 4.260
	JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

Table 1. The largest industrial consumers of electricity and power in the Chukotka Autonomous Okrug

Name of the main large consumers of electrical energy	Name of the power unit to which the consumer is connected	Total capacity of equipment, MW	Average annual electricity consumption, mln kWh
Joint Stock Company "Chukotka Mining and Geological Company"	Own generation, isolated	28.7	139.7
Public corporation "Mine Karalveem"	Chaun Bilibinsky	9	40.6
Limited Liability Company "Rudnik Valunisty"	Egvekinotsky	3.5	25
Limited responsibility of "Gold Mining Company "Mayskoye"	Chaun-Bilibinsky	12	64.0

Table 2. The structure of thermal energy consumption in the Chukotka Autonomous Okrug

Consumers, (thousand Gcal)	year 2013	2018	2019	2020	2021
Total heat production	1156	1133	1070	980	961
Own needs	49	48	46	48	48
Losses in heat networks	101	99	94	74	56
Total sold to consumers, including:	1006	986	930	858	857
public utilities and population	493	484	457	422	427
industry	211	207	198	182	180
other sectors of the economy	302	295	275	254	250

The generation of heat and electricity is carried out at power plants and coal-fired boilers with a total installed electricity and heat capacity of 246.49 MW and 721.91 Gcal/h, respectively. In the structure of the installed capacity of power plants of the energy system of the Chukotka Autonomous Okrug (table 3) the share

of combined heat and power plants (hereinafter referred to as CHPP) is 54%, the share of a nuclear power plant (hereinafter referred to as NPP) is 19%, 26% is accounted for by diesel power plants (hereinafter referred to as DPP) and about 1% - by a wind power plant (hereinafter referred to as WPP).

Table 3. Installed capacity structure

	Name of generating companies	Installed electric power, MW	Installed thermal power, Gcal/h	Source type	Main type of fuel
1	JSC Chukotenergo (subsidiary of PJSC Magadanenergo)	132.25	399.28		
1.1	Anadyr CHPP	50.0	140	CHP	Gas and coal from local deposits
1.2	Anadyr GMTTP (property of the Government of the Chukotka Autonomous Okrug, leased to JSC Chukotenergo)	18.25	68.28		
1.3	Egvekinotskaya GRES	34.0	92		
1.4	Chaun CHP	30.0	99		
2	Branch of Rosenergoatom Concern JSC - Bilibino NPP	48.0	67	nuclear power station	Nuclear fuel
3	Enterprises of housing and communal services	66.24	255.63	DES, boiler houses	Imported diesel fuel, Coal from local deposits
Total		246.49	721.91		

The power supply to consumers is carried out through the electric network 0.4-110 kV with a total length of power lines (hereinafter referred to as power lines) of 2221.26 km and an installed transformer

capacity of 619.95 MVA. The total depreciation of 35-110 kV electrical networks in the Chukotka Autonomous Okrug exceeds 80%.

The total length of heating networks operated by

Impact Factor:

ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 1.582	ПИИЦ (Russia) = 3.939	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 8.771	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

organizations of the housing and communal complex is 468.3 km, mainly networks with a diameter of up to 200 mm. The greatest length of networks in the Anadyr and Bilibino districts. An analysis of the state of heating networks in the district shows that in 2018, 30.8 km of networks (6.6% of the total length) reached the standard operating life, and by 2025 another 16 km will be reached.

The balance of consumption/production of power and energy historically develops with a significant surplus. The Anadyr and Chaun-Bilibinsky energy centers have the largest free capacities of power plants exceeding 30 MW. The low loading of generating capacities, the high value of unit rated capacities of

power units of stations and their low maneuverability adversely affect the technical and economic performance of the power systems under consideration. The costs associated with servicing unused excess capacity ultimately significantly affect the rise in the cost of electricity tariffs for consumers. Between 2018 and 2021 the demand for electric power remained practically unchanged (table 4). There was a slight increase in the maximum load in the Egvekinot power center (from 10.5 MW in 2018 to 12.36 MW by 2021) and the same decline in the maximum load in the Chaun-Bilibinsky power center (from 45.2 MW to 43.2 MW by 2021 year). The changes were due to natural factors.

Table 4. The power balance structure of the energy system of the Chukotka Autonomous Okrug

Name of the power center	Name of parameters	2013	2018	2019	2020	2021
Anadyr	The maximum demand for e-mail. power, MW	20.5	24.0	24.5	20.76	22.5
	Available generation capacity, MW	68.25	68.25	68.25	68.25	68.25
	Surplus (+) / Deficit (-), MW	47.75	44.25	43.75	47.49	45.75
Egvekinotsky	The maximum demand for e-mail. power, MW	10.5	13	13.29	12.06	12.36
	Available generation capacity, MW	30	30	30	30	30
	Surplus (+) / Deficit (-), MW	19.5	17	16.71	17.94	17.64
Chaun-Bilibinsky	The maximum demand for e-mail. power, MW	45.2	46.3	43.4	42.3	43.2
	Available generation capacity, MW	78	78	78	78	78
	Surplus (+) / Deficit (-), MW	32.8	31.7	34.6	35.7	34.8

The actual indicators of electricity consumption did not demonstrate the growth that was previously planned during the development of the power industry of the Okrug (table 5). Electricity demand for 2018-2021 stayed at the same level. The actual indicators of

productive electricity supply to consumers in the Chukotka Autonomous Okrug decreased from 435.5 million kWh in 2018 to 409 million kWh by 2022. A slight decline occurred due to the decline in industrial production and natural migration of the population.

Table 5. Dynamics of electricity consumption

	2018	2019	2020	2021	2022
Fact, million kWh	435.5	411.2	411.2	398.6	409.0
Planned indicators of productive supply of electricity, million kWh	562.4	562.4	523.0	491.6	562.7
Deviation from the plan, %	- 22.6%	-26.9%	-21.4%	-18.9%	-27.3%

The actual indicators of useful supply of heat energy to consumers in the Chukotka Autonomous Okrug decreased from 930,475 Gcal in 2018 to 766,218 Gcal in 2021. The actual indicators of productive supply of hot water supply are from 1,833,514 m³ in 2018 to 1,262,246 m³ by 2021.

The required gross revenue (RGR) for servicing the energy infrastructure in 2021 increased by 16.8% compared to 2018 and amounted to 6,733.36 million rubles. The largest growth was shown by the costs of

electric power infrastructure, which increased by 21.6% and amounted to 5,591.84 million rubles.

A significant increase in NGR for the maintenance of the electric power infrastructure is due to the following reasons:

- low specific indicators of loading of energy sources due to reassessment of forecast indicators of demand for heat and electricity;
- high specific indicators of standard fuel

Impact Factor:

ISRA (India) = 6.317
ISI (Dubai, UAE) = 1.582
GIF (Australia) = 0.564
JIF = 1.500

SIS (USA) = 0.912
ПИИЦ (Russia) = 3.939
ESJI (KZ) = 8.771
SJIF (Morocco) = 7.184

ICV (Poland) = 6.630
PIF (India) = 1.940
IBI (India) = 4.260
OAJI (USA) = 0.350

consumption for heat and electricity generation;

- high cost of imported fuel (transport component reaches 70%);

- lack of synchronization of strategic planning documents for the development of energy infrastructure both with documents for the strategic development of municipalities and with investment programs of resource supply organizations (RSOs);

- low efficiency of technical and economic measures for assessing the feasibility of building infrastructure facilities and assessing the costs of maintaining the technical condition of facilities;

- low efficiency of measures to reduce the cost of maintenance and repair;

- low quality of the analysis of the feasibility of building or replacing equipment with a new one.

Between 2018 and 2021 tariffs for electricity from the sources of Chukotenergo JSC showed a significant increase (from 8.7-10.11 rubles / kWh in 2018 to 17 rubles / kWh (average boiler tariff) as of January 1, 2022, which is in 3-4 times higher than the average tariff in Russia). In order to reduce the negative impact of high tariffs for heat and electricity on the standard of living of the population, the Government of the Chukotka Autonomous Okrug subsidizes up to 70% of the cost of purchased heat and electricity. Also, from the consolidated budget of the Okrug, subsidies are paid to resource-supplying organizations to cover production costs: the purchase of fuel, fuel and energy resources for their own needs, and repairs. The average annual volume of subsidies directed by the RSO from the budgets of all levels of the Chukotka Autonomous Okrug in 2013-2017 was at the level of 4 billion rubles.

In order to equalize electricity tariffs for consumers in the Far Eastern Federal District to the average Russian level, the Federal Law of December 28, 2016 No. 508-FZ “On Amendments to the Federal Law “On the Electric Power Industry” was adopted. As part of this mechanism, the amount of subsidies for JSC Chukotenergo required to reduce the tariff for consumers to the average Russian level is 4.9 billion rubles in 2018.

It is planned to stop equalizing tariffs at the expense of consumers in the central part of Russia from January 1, 2025. The Chukotka Autonomous Okrug does not have a developed network within regional highways, which is associated with a significant fragmentation of the population settlement, the climatic conditions of the regions of the Far North, and is also not connected (isolated) with highways in neighboring regions.

At the moment, the role of the main freight transport route that provides the Chukotka Autonomous Okrug with the necessary consumer goods, food, raw materials, machinery, equipment and materials is performed by the "northern" delivery during the navigation period.

Cargo traffic in the internavigation period, as well as passenger traffic, incl. forced (for example, for the

purpose of sanitation), all year round are provided on the territory of the Chukotka Autonomous Okrug by expensive air. For most of the year, aviation is the only mode of transportation available, and therefore plays an exceptional and vital role for the District.

The vast majority of the settlements of the Chukotka Autonomous Okrug are provided with mobile communication services (there is no coverage by cellular operators in 3 settlements with a total population of less than 500 people, or about 0.9% of the Okrug's inhabitants) and digital television (there is no possibility of receiving digital channels in 9 settlements with population of less than 1,600 or about 3.1% of the District's residents).

Worse is the situation with Internet access. The Chukotka Autonomous Okrug is the only subject of the Russian Federation, on the territory of which there is no fiber optic communication. Internet traffic is provided exclusively through satellite communication channels, which significantly reduces the quality (including speed) and significantly increases the cost of Internet access services. As part of the elimination of the digital divide between urban and rural residents in the settlements of the Chukotka Autonomous Okrug with a population of 250-500 people in 2021, free WI-FI access points were installed (one free access point per settlement), as well as Internet access the vast majority of educational and healthcare organizations are provided, however, a significant uncovered demand for Internet access services remains. Per capita Internet traffic consumption in the Okrug (20.3 gigabytes/person) is one of the lowest among Russian regions and 9.6 times lower than the national average (194.4 gigabytes/person). The high cost and low quality of Internet access services significantly complicate the implementation of projects for the provision of state and municipal services to the population in electronic form, the implementation of distance learning, the development of telemedicine, etc.

The development of the social sphere and, as a result, the standard of living of the population is one of the key characteristics of the attractiveness of the region for living and the ability to realize the long-term development goals of the Okrug. Close attention should be paid to the quality of life of people, which is especially important for the northern regions, whose climatic features have a negative impact on the standard of living of the population.

At the same time, improving the quality of life of the population is inextricably linked with health care, education, culture, physical culture and sports, as well as social protection and the quality of public services provided. Therefore, in the Chukotka Autonomous Okrug, an active policy is being pursued within the framework of the social sphere, designed to make improvements in each of the above areas. The average annual population of the Chukotka Autonomous Okrug in 2021 was 49,585 people. Compared to the same value for 2018, there was a decrease of 2% (50,668

Impact Factor:

ISRA (India) = 6.317
ISI (Dubai, UAE) = 1.582
GIF (Australia) = 0.564
JIF = 1.500

SIS (USA) = 0.912
ПИИЦ (Russia) = 3.939
ESJI (KZ) = 8.771
SJIF (Morocco) = 7.184

ICV (Poland) = 6.630
PIF (India) = 1.940
IBI (India) = 4.260
OAJI (USA) = 0.350

people in 2018). The urban population is 70% of the total number of inhabitants (34,844 people), the share of the rural population is 30% (14,741 people).

Between 2018 and 2021 In the Chukotka Autonomous Okrug, there was a positive trend in natural population growth and average life expectancy. The number of newborns remained stable throughout the period. In 2020, the number of newborns was 649 people, the total fertility rate was 13.1 ppm, which is 1.6 ppm higher than the average Russian level and the average value of this indicator in the regions of the Far North by 0.8 ppm. At the same time, a steady decrease in the number of deaths was observed - the number of registered deaths decreased by almost 12.4% (533 in 2018, 467 in 2021). The mortality rate decreased by 1.1 ppm and in 2021 amounted to 9.4 ppm, being below the average values for Russia and the regions of the Far North (12.4 and 10.3, respectively). There are no cases of maternal death. As a result, the natural growth rate at the end of 2021 amounted to 3.7 ppm, an increase of 1.1 ppm compared to 2018 (2.6 ppm) and exceeding the same indicator for Russia and the regions of the Far North, respectively, by 4.6 and 1.6 ppm.

The main problem of the demographic development of the Chukotka Autonomous Okrug is the migration outflow observed against the background of natural population growth. At the end of 2021, it amounted to 656 people, an increase of 85% compared to the same indicator for 2018 (354 people). The basis of the migration flow is interregional migration. The presence of a migration outflow exceeding the natural increase led to a decrease in the average annual population for the period from 2018 to 2021. from 50.6 to 49.3 thousand people.

In addition to federal programs to strengthen the trend to improve the demographic situation in the Okrug, regional measures are being implemented aimed at stimulating the birth rate and increasing the average life expectancy of the population:

- provision of regional maternity capital;
- compensation payments for utilities for families with three or more minor children;
- social support for large families in the form of lump-sum payments for the purchase of food, clothes, shoes;
- lump-sum social payments for the purchase of housing to families with children;
- social payments for the purchase of housing in order to improve housing conditions for young families.

These measures of state support are in high demand, in some cases, especially in terms of social payments for the purchase of housing for large families, the demand from the population exceeds the current capabilities of the consolidated budget of the Okrug.

The incidence rate of the population of the Chukotka Autonomous Okrug significantly (by 72.4%) exceeds the average Russian indicators (1342.9 cases

of morbidity per 1000 people in the region in 2021 against 778.9 cases on average in Russia), which is associated with unfavorable living conditions and low prevalence of preventive health services in the County. There is a negative trend: since 2018, the incidence rate in the Okrug has increased by 19.6%.

About 60% of all registered cases of morbidity are related to respiratory diseases. The frequency of these cases exceeds the average Russian level by 118% (771.8 versus 353.5), there is a negative trend: the growth rate since 2018 (564.6) was 36.7%.

A similar situation is observed for diseases of the digestive system, blood and eyes. The incidence exceeds the national average by 77%, 60% and 49.4%, respectively, the growth since 2018 in the Okrug was 36.5%, 47% and 25.1%, respectively.

A consistently high (58% higher than the national average) incidence rate is observed for diseases of the musculoskeletal system and connective tissues, there is no negative trend.

Starting from 2019, the Chukotka Autonomous Okrug has a three-tier system for providing medical care. The third-level institution is the Chukotka District Hospital, which provides specialized medical care services to the population. Second-level institutions include inter-district medical centers in Egvekinot and Bilibino, which act as inter-municipal centers. First-level institutions include district hospitals and their structural subdivisions that provide primary health care (including feldsher-obstetric stations). As of 2021, there are 42 medical institutions in the Chukotka Autonomous Okrug. Only 2 settlements (the village of Tavaivaam and the village of Cape Schmidt) are not provided with medical institutions, located in close proximity and, as a result,

A significant problem is the significant deterioration of the buildings of medical institutions, which is largely associated with adverse climatic conditions and the cost of repairs, which exceeds the average for Russia.

In order to combat wear and tear, the material and technical base is being strengthened: the reconstruction of the Chaunsky district hospital, the construction of a new building of the district hospital and the district hospital in Markovo are being carried out. All-terrain vehicles and ambulances have been supplied to medical institutions.

The Okrug has a social and medical service "Mobile Brigades", serving patients in hard-to-reach settlements at home. Over four years, more than 15 thousand trips were made, more than 1.1 thousand people were served.

The annual medical examination for children is carried out mainly by the doctors of the district hospital, who, according to the schedule, travel to the settlements of the Okrug.

Air ambulance is actively involved in the region. More than 300 flights are carried out per year. In 2021, as part of the pilot priority project of the Russian Ministry of Health "Development of air ambulance",

Impact Factor:

ISRA (India) = 6.317
ISI (Dubai, UAE) = 1.582
GIF (Australia) = 0.564
JIF = 1.500

SIS (USA) = 0.912
PIIHQ (Russia) = 3.939
ESJI (KZ) = 8.771
SJIF (Morocco) = 7.184

ICV (Poland) = 6.630
PIF (India) = 1.940
IBI (India) = 4.260
OAJI (USA) = 0.350

implemented to increase the availability of emergency medical care to residents of remote and hard-to-reach settlements, the air ambulance fleet of the Chukotka Autonomous Okrug was replenished with a helicopter equipped with a modern medical module.

The opportunities for residents of the Chukotka Autonomous Okrug to receive high-tech medical care outside the district were expanded: the number of patients referred for treatment in the central regions of Russia increased from 589 in 2018 to 1112 in 2021.

The Okrug has one of the highest levels of medical personnel in Russia (74.8 doctors per 10,000 people in 2021), however, there is a shortage of personnel in a number of narrow specialties, especially in pediatric doctors.

In the conditions of scattered settlement of residents to ensure the logistical accessibility of medical services for the population, the specific need for medical personnel, infrastructure and equipment increases disproportionately. This makes the formally high levels of provision with medical personnel in the conditions of the Chukotka Autonomous Okrug actually insufficient (in 15 settlements there are only paramedical personnel).

To strengthen the staff of healthcare organizations, a number of programs are being implemented to stimulate the involvement of specialists, for example, the Arctic Doctor and the Arctic Paramedic, which give the right to receive additional cash payments if they work on the territory of the Okrug, as well as scholarship support for clinical residency. Over the past 5 years, 91 medical workers have been recruited.

In recent years, the Okrug has begun work on informatization of health care. Electronic document management and a regional medical information system are being introduced.

On the territory of the Chukotka Autonomous Okrug there are: 14 institutions of preschool education, 41 general education institutions (of which 30 institutions have preschool groups in their structure), 14 organizations of additional education, 4 - secondary vocational, 1 - additional professional (institute for advanced training) and 1 institution (branch) of higher education. The secondary school in Bilibino is one of the 100 best general education schools in Russia with a social and humanitarian profile.

As of the end of 2021, the enrollment of children in pre-school and secondary education was 100%.

Coverage of additional education for children aged 5 to 18 years was 70%. With a total number of additional education organizations of 14, their branches (structural divisions) are available in all settlements of the Okrug. Additional education services are also provided by general educational organizations, on the basis of which sections and circles of various kinds work.

About 15% (6 out of 41) of general educational organizations of the Chukotka Autonomous Okrug have classes of part-time (evening) education. 26

schools of the Okrug (63% of the total number of educational institutions in the region) have joined the project "Online Lessons in Financial Literacy", supported by the Central Bank of the Russian Federation.

In 2017, 15 exam points were organized in remote settlements to eliminate the need to take exams in district centers and the district capital.

The professional educational organizations operating in District 4 are located on a territorial basis and train specialists of secondary vocational education and workers of mass professions in accordance with the needs of the regional economy. To meet the needs of the population in obtaining vocational education in remote national villages, 11 "remote" research groups were opened. In 2021, these educational institutions trained 526 people for the following sectors of the economy of Chukotka: agriculture - 161 people (31%), industry - 104 people (20%), healthcare - 29 people (6%), construction - 55 people (10%), economics and accounting - 35 people (6%), service sector - 142 people (27%).

Higher education services are provided by the Chukotka branch of the Federal State Autonomous Educational Institution of Higher Professional Education "North-Eastern Federal University named after M.K. Ammosov, which was opened in 2011. In 2021, 36 specialists were graduated in the following areas of training: Applied Geology, Informatics and Computer Science, Power Engineering and Electrical Engineering, Thermal Power Engineering and Heat Engineering. All graduates were employed at the enterprises of the Chukotka Autonomous Okrug.

To strengthen the staff of educational organizations, a number of measures are being implemented aimed at increasing the attractiveness of working in the educational institutions of the Okrug: additional payment for high pedagogical skills, payment for accommodation of attracted teachers of additional education in the field of sports, creation of specialized housing stock, etc.

There are 44 cultural and leisure institutions, 44 libraries, and 8 museums on the territory of the Okrug. At the same time, only one locality does not have any of the above institutions (Mys Shmidta), and its residents use the infrastructure of a neighboring locality.

In order to develop culture in the district, extensive work is being done. Grants are being issued to support the development of culture in the Okrug, including the development of cinematography, spiritual and moral values, and the holding of tours by concert and theater organizations. The amount of funds allocated to finance culture in 2021 increased by 35%. These funds are directed to the development of cultural facilities, increasing the wages of cultural workers, and preserving the cultural traditions of indigenous peoples. On average, residents of the Chukotka Autonomous Okrug attend cultural events nine times a year.

Impact Factor:

ISRA (India) = 6.317
ISI (Dubai, UAE) = 1.582
GIF (Australia) = 0.564
JIF = 1.500

SIS (USA) = 0.912
ПИИИ (Russia) = 3.939
ESJI (KZ) = 8.771
SJIF (Morocco) = 7.184

ICV (Poland) = 6.630
PIF (India) = 1.940
IBI (India) = 4.260
OAJI (USA) = 0.350

Free access to all museums of the district is provided. In 2021, 278 museum exhibitions were held, the total number of visitors was 67 thousand people.

In 2020, joining the Theater HD project was carried out, providing residents of the District with the opportunity to see the performances of the best theater groups on cinema screens.

The development of physical culture and sports is one of the priority areas of development in the social sphere. There are 4 children's and youth sports schools, 11 municipal institutions of culture and sports on the territory of the district. In total, over 140 institutions, enterprises, associations and organizations involved in sports, about 200 workers of physical culture and sports are involved in the territory of the Chukotka Autonomous Okrug. 44 sports have been developed. Among them, the most popular are futsal, basketball, hockey, swimming, skiing and various types of wrestling.

One of the key tasks in this area is to involve residents of all ages and categories in active physical education and sports. To accomplish this task, mass physical culture and sports events are held on the territory of the district, for example, mass cross-country races, public races, passing the TRP standards (winter and summer decades), student sports days, etc. Percentage of the population systematically involved in sports in the period from 2018 to 2021 increased by 5.4 p.p. (from 27.4% to 32.8%), which corresponds to the average Russian level.

To date, close attention is required to the housing sector and the sphere of public services.

The features of the development of the housing sector of the Chukotka Autonomous Okrug are largely determined by the peculiarities of its geographical location, namely, unfavorable natural and climatic conditions, high transport costs, uneven settlement, and the temporary nature of residence in the North. As a result, the value of the housing commissioning indicator per person is 14.5 times less than the average Russian values, while the cost is significantly higher than the average Russian indicators.

The existing housing stock is characterized by high rates of depreciation, significantly exceeding the national average. To address this issue, the District has a number of programs in place to address high wear and tear. In 2021, the resettlement of emergency houses, which were recognized as such before January 1, 2017, was completed ahead of schedule. As a result of the implementation of this program, 314 citizens were resettled from 5.5 thousand m² of housing stock, which is in disrepair. In 2021, through the regional operator, 44 apartment buildings were repaired, in which more than 6% of the total population of Okrug apartment buildings (more than 3 thousand people) lived. In addition, families with many children, medical and pharmaceutical workers, as well as young families are provided with support for the purchase of housing, incl.

There is an acute issue of providing state housing

certificates within the framework of the program operating at the federal level when residents leave for the CRS. The federal budget has not provided funds for residents of settlements that are closing since 2017, which exacerbates social issues associated with previously closed settlements.

The main challenges in the utilities sector are high tariffs and problems with the quality of water supply. Since 2020, work has been carried out to improve water quality in 10 settlements of the Chukotka Autonomous Okrug. Water quality has been improved in 9 settlements, where over 14 thousand people live, which is more than a third of the district's population.

The main activity within the framework of social protection of the population is the provision of social guarantees for the residents of the Okrug, as well as improving their quality of life by providing a number of targeted support measures.

In 2021, 944 citizens received social services, including 722 people at home, 16 people (minors) in a semi-stationary form, 206 people (including 109 minors) in a stationary form. 436 people received urgent social services. In order to prevent the need for social services, 639 citizens were provided with social support services.

The greatest demand among all types of social services is social services (provision of food, soft inventory, living space, etc.), their share in the total amounted to more than 70%.

As part of supporting families with children in the region, various allowances and subsidies are paid to increase their disposable income, maintaining it at a level exceeding the subsistence level. Measures are being taken to improve the living conditions of large families. Between 2019 and 2021 living conditions of 20 families were improved. The granting of free land plots owned by the municipality is carried out. In addition, large families in the Okrug are provided with regional maternity capital. Taking into account various types of state support, the average amount of payments per large family in 2017 amounted to 83 thousand rubles.

The Okrug is implementing the program "Chukotka without orphans!", thanks to which more than 600 orphans have found families. There is a monthly supplement to the subsistence level for non-working pensioners and payments for resettlement to economically developed regions of the Chukotka Autonomous Okrug and regions of the Russian Federation favorable for living for single pensioners over 69 years old (in 2021, 25 elderly citizens living alone received a payment).

A significant role within the social policy of the Okrug is assigned to the formation of an accessible living environment for the disabled (this category of the population is 1642 people, 3.3% of the total population of the Okrug). Currently, about 2,000 specialists trained in the specifics of working with people with disabilities work in the field of education, culture, sports and healthcare. Measures are being

Impact Factor:

ISRA (India) = 6.317
ISI (Dubai, UAE) = 1.582
GIF (Australia) = 0.564
JIF = 1.500

SIS (USA) = 0.912
ПИИИ (Russia) = 3.939
ESJI (KZ) = 8.771
SJIF (Morocco) = 7.184

ICV (Poland) = 6.630
PIF (India) = 1.940
IBI (India) = 4.260
OAJI (USA) = 0.350

taken to increase the physical accessibility of socially significant facilities. Between 2020 and 2021 ramps and a lifting platform were installed for the Chukotka Social and Rehabilitation Center for Juveniles, a stationary ramp was installed at the Chukotka District Complex Center for Social Services for the Population, adaptive equipment was purchased (tablets and pictograms with Braille duplication, tactile stickers, etc. .d.

Increased attention is also paid to social support for veterans of the Great Patriotic War. In 2017, 13 WWII veterans lived in the Okrug. In addition to the social support measures provided for at the federal and regional levels, compensation is provided for actually incurred expenses for sanatorium and resort treatment, a one-time payment for repairs in the living quarters of WWII veterans, since 2020, all veterans living in the Okrug are provided with a monthly cash payment in the amount of 10 thousand rubles.

The main direction of development in the provision of public services was the simplification of the mechanisms for the population to apply to various structures. The main successes in the provision of public services were achieved by increasing the availability of the Internet in the region. In addition, computer literacy training for non-working pensioners has been organized since 2019 in order to enable them to receive public services in electronic form. For the period 2019-2021, 99 pensioners were trained in the educational organizations of the Okrug.

The growth of requests to My Documents centers in 2021 amounted to about 80%, 4 times more documents were issued compared to 2020. In 2021, 72 residents processed documents under the Far Eastern Hectare program through the MFC, which is 12 times higher than in 2020 (6 people).

Much attention in the policy of the Chukotka Autonomous Okrug is paid to the well-being and development of the indigenous peoples of the North. To this end, a number of measures are being implemented in the region to support the traditional way of life of indigenous peoples, as well as to preserve their culture.

As part of the implementation of the State Program "Development of the Agro-Industrial Complex of the Chukotka Autonomous Okrug for 2018-2020", emphasis was placed on the development of two traditional economic sectors for the peoples of the Okrug: reindeer herding and sea fur hunting, which are supported by a significant amount of funds from both the district and from federal budgets. In addition, the Chukotka ASEZ creates new jobs for indigenous peoples.

In 60% of schools (27 out of 45) there are opportunities for learning native languages: Chukchi, Even, Eskimo. The training of specialists with the right to teach the language is carried out at the Chukotka Multidisciplinary College.

Work is underway to strengthen interethnic relations and develop the traditional intangible cultural

heritage of the indigenous peoples of the Chukotka Autonomous Okrug, for example, literary competitions and festivals.

Measures are being taken to preserve, use and protect cultural heritage sites. 310 objects of cultural heritage are under state protection in the Chukotka Autonomous Okrug. On the territory of the district there are 81 objects included in the Unified State Register of Cultural Heritage Objects (monuments of history and culture) of the peoples of the Russian Federation.

In order to maintain and develop national sports, promote a healthy lifestyle of indigenous people in the region, mass sports events are annually organized and held: the Erakor reindeer sled race, the Nadezhda dog sled race, the Chukotka national wrestling championship in memory of A.S. Malyvanov, Beringia leather kayak regatta, northern all-around championship of the Chukotka Autonomous Region. In 2021, the Reindeer Sled Race "Ruilet" was resumed.

Own revenues of the consolidated budget of the Chukotka Autonomous Okrug from 2018 to 2020 increased by 29.3% (from 12.9 to 16.7 billion rubles), in 2021 there was a decrease in revenues to the level of 2018, caused by a planned decrease in gold production and, as a result, the tax base for income tax and revenues and taxes, dues and regular payments for the use of natural resources, which are the two largest items of tax and non-tax revenues of the District (in 2021, 68% and 17% of revenues, respectively).

The expenses of the consolidated budget of the Okrug increased by 13.0% from 27.9 billion rubles. in 2018 to RUB 31.5 billion in 2021. The increase is due to a significant increase in spending on housing and communal services (by 3.9 billion rubles or 72.4% from 5.4 billion rubles in 2018 to 9.3 billion rubles in 2021) and social policy (by 0.8 billion rubles or 47.1% from 1.7 billion rubles in 2018 to 2.5 billion rubles in 2021), while spending on the national economy decreased over the specified period by 16.9% (from RUB 10.2 billion in 2018 to RUB 8.5 billion in 2021). This line of the budget is subject to the greatest volatility, associated primarily with investment cycles for the implementation of infrastructure construction projects in the region.

The expenses of the district budget throughout the analyzed period significantly (1.8-2.2 times) exceeded their own revenues, which reduces the stability of the regional budget.

As a result of a significant increase in the expenses of the consolidated budget of the Chukotka Autonomous Okrug in 2018-2021. there was a significant increase in gratuitous receipts to the consolidated budget of the region, including from the federal budget, from 5.4 billion rubles. in 2013 to 17.2 billion rubles. in 2021

Growth in budget revenues (the sum of own budget revenues and gratuitous receipts), outstripping growth in spending led to a reduction in the deficit of the consolidated budget and the state debt of the

Impact Factor:	ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 1.582	ПИИИ (Russia) = 3.939	PIF (India) = 1.940
	GIF (Australia) = 0.564	ESJI (KZ) = 8.771	IBI (India) = 4.260
	JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

Chukotka Autonomous Okrug from 9.6 and 13.4 million rubles. in 2018 to 1.4 and 10.7 billion rubles. in 2021 respectively. The results of the analysis of the socio-economic situation and the results of the

implementation of the Development Strategy of the Chukotka Autonomous Okrug of 2014 seem to be appropriate to summarize and structure using the system capabilities of the SWOT analysis (table 6).

Table 6. SWOT-analysis of the socio-economic situation of the Chukotka Autonomous Okrug

<p>Strengths</p> <ol style="list-style-type: none"> 1. A rich mineral and raw material base of the main minerals: non-ferrous and precious metals, stone and brown coal, oil and gas 2. Availability of experience and competencies in attracting large industrial investors to the development of the Okrug's fields 3. Operation of mechanisms stimulating economic activity in the Okrug: ASEZ Chukotka, FPV Pevek 4. Support of the Federal Center for the Development of the Okrug's Infrastructure 5. Renewable natural resources: significant stocks of fish, aquatic invertebrates, algae and marine mammals in ecologically clean water bodies; reindeer pastures with rich forage base for reindeer herding 	<p>Weak sides</p> <ol style="list-style-type: none"> 1. Unfavorable natural climatic factors for living and farming 2. The high cost of living and doing business in the District, incl. electricity cost 3. Low level of availability and quality of social services for the population and the service sector 4. Transport remoteness, lack of internal and interregional land transport 5. Lack of own sources of income (planned unprofitability) for maintenance and development of energy and communal infrastructure 6. Monodependence of the Okrug's economy on gold mining 7. Unsustainable budgetary system of the District: high dependence on gratuitous receipts from the federal budget 8. Low depth of processing bioresources (products of reindeer breeding and sea fur hunting)
<p>Capabilities</p> <ol style="list-style-type: none"> 1. Growth of economic activity in Asia-Pacific countries 2. Intensification of the development of the Northern Sea Route in terms of improving "outside" logistical links and ensuring the District has access to liquefied natural gas 	<p>Threats</p> <ol style="list-style-type: none"> 1. Reduction of gratuitous receipts from the federal budget 2. Underfunding (lack of project financing) and, as a result, a backlog in the implementation of approved infrastructure projects 3. Deterioration of the price environment for the main export commodities of the Chukotka Autonomous Okrug

Based on the above SWOT analysis, the goal, objectives, development factors, as well as areas of activity of the Chukotka Autonomous Okrug until 2035 are determined.

The key goal of implementing the Strategy for the socio-economic development of the Chukotka Autonomous Okrug until 2035 is to increase incomes and living standards of the population while moving towards a balanced and sustainable regional budget. Achieving the goal of the Strategy requires the solution of several tasks.

The task in the field of economic development is the creation of new enterprises in the mining industry of the Okrug and the production of socially significant goods.

The task in the field of spatial development is the removal of infrastructural restrictions, primarily in the field of transport, energy and information and telecommunication technologies, for the integrated socio-economic development of the Chukotka Autonomous Okrug.

The task in the field of development of the social sphere is to improve the quality of the provision of social services.

To successfully achieve the goals and objectives set, the Strategy of the Chukotka Autonomous Okrug should be built taking into account key factors and experience in the development of the Northern Territories:

Firstly, the climatic features of the Chukotka Autonomous Okrug relative to other regions of Russia (low average annual temperatures, short duration of the summer season, permafrost, etc.) largely determine the socio-economic parameters of the region's development: high cost of living (as of October 2018 the cost of a fixed set of goods and services in the Okrug (25.7 thousand rubles) is the highest among the regions of the Russian Federation, 68.5% higher than the national average (15.3 thousand rubles)), high tariffs for electricity and housing -utilities, undeveloped transport network, economic and infrastructural isolation from the rest of the country and the most developed Russian and Asian markets;

secondly, it is advisable to carry out the economic development of the northern territories based on one sector of the economy (as a rule, the extractive industry), as evidenced by both domestic and foreign experience in the development of the northern

Impact Factor:

ISRA (India) = 6.317
ISI (Dubai, UAE) = 1.582
GIF (Australia) = 0.564
JIF = 1.500

SIS (USA) = 0.912
ПИИИ (Russia) = 3.939
ESJI (KZ) = 8.771
SJIF (Morocco) = 7.184

ICV (Poland) = 6.630
PIF (India) = 1.940
IBI (India) = 4.260
OAJI (USA) = 0.350

territories of the USA, Canada, Denmark, etc. However, in order to reduce vulnerability from the external price environment, the sectoral development of this sector should be diversified. For the Chukotka Autonomous Okrug, as part of the diversification of the mining industry, the most promising projects are the development of the Baim ore zone and the Bering coal basin;

thirdly, the Chukotka Autonomous Okrug has a significant export potential. The potential of the extractive industry far exceeds the needs of the region's domestic market. From a logistical point of view, export to the Asia-Pacific countries is much more feasible than entering the Russian market. An effective tool for the implementation of the export-oriented model is the territories of priority development with competitive conditions (including tax incentives and support for the creation of the necessary infrastructure) relative to neighboring countries;

fourthly, the solution lies in the need for the active participation of the federal center, about which, incl. evidenced by foreign experience in the development of the northern territories. The governments of the United States and Canada are stimulating further industrial development of the northern territories by investing in the necessary energy, transport, information and communication infrastructure. Support is provided for the geological study of poorly explored territories, the assessment of promising areas, the search and exploration of mineral deposits, incl. previously not mined in the territory of the corresponding region;

fifthly, the success of the socio-economic development of the Chukotka Autonomous Okrug is the obligatory preservation of the habitat, culture of the indigenous peoples of the North, as well as the development of traditional industries of the indigenous population.

The economic development of the Chukotka Autonomous Okrug until 2035 is based on two areas of industrial activity: the coal industry and the extraction of ores of non-ferrous (precious and non-precious) metals, as well as the traditional economic sectors of the indigenous population of the Okrug.

The development of the coal industry in the Okrug until 2035 is to increase the production of hard coal to the design capacity at the deposits of the Bering coal basin, primarily at the Fandyushkinskoye field deposit, then at other deposits of the Verkhne-Alkatvaamsky area and the Amaamskoye deposit.

The first stage of development of the fields in the basin has been completed: in 2021, production began at the Fandyushkinskoye field. The second stage (2025-2030) involves increasing production to 750 thousand tons per year. Further dynamics of production at this field is critically dependent on the situation in coal prices. In the conservative and baseline scenarios, production will remain at the level of 750 thousand tons until 2035, in the target scenario it will gradually increase to 5 million tons per year due to the expansion of production at this field, as well as the start of

development of other fields in the Verkhne-Alkatvaamsky area.

In the conservative and baseline scenarios as part of the development of the Fandyushkinskoye field in 2025-2030, private investments in the amount of 1.3 billion rubles will be attracted. Investments will be directed to the acquisition of heavy mining equipment, the development of the infrastructure of the field, as well as the construction and overhaul of the road from the field to the seaport of Beringovskiy. The implementation of the target scenario will require an increase in investment, incl. for the construction of a processing plant.

The largest prospective deposit of the Bering coal basin is the Amaam deposit (resources are estimated at 521 million tons, potential production volumes are 5-7 million tons per year). To date, prospecting and appraisal, geological exploration and design and survey work have been carried out. However, due to the lack of debt financing, as well as low prices for coking coal, active development of this deposit is currently suspended. The inclusion of the fields of the Bering coal basin in the Chukotka ASEZ, carried out in 2021, will allow the implementation of the Fandyushkinskoye Pole field development project in a short time, and will also increase the attractiveness of the development of other fields in the basin.

One of the key directions for the development of the economy of the Chukotka Autonomous Okrug until 2035 is the launch of the mining of non-ferrous metal ores at the Peschanka deposit of the Baim ore zone. The volume of production of copper, molybdenum, gold and silver in concentrate when the enterprise reaches its design capacity will be about 285 thousand tons, 4 thousand tons, 15 tons and 120 tons, respectively.

For 2018-2035 it is planned to invest about 290 billion rubles in the development of the Peschanka deposit. private investment, including 5.3 billion rubles. - in geological exploration, 248.6 billion rubles. - in production assets (including the construction of a mining and processing plant), 15.4 and 20.5 billion rubles. – to the transport and energy infrastructure of the field, respectively.

As part of the project, about 3,000 new jobs will be created. The need for labor resources will be satisfied through the rotational method of work. The enterprises will organize shift camps and create the necessary social infrastructure to ensure the livelihoods of employees coming from other territories.

The development of such a large deposit greatly increases the Okrug's needs for electricity and power (when the Baimsky GOK reaches its design capacity, the annual demand for electricity and power of the Baimsky GOK will be about 1,900 million kWh and 240 MW, respectively, with the Okrug's current demand of ~ 700 million kWh and 78 MW). In order to meet this demand, electricity flow will be organized within the Okrug and from the Magadan Region (from the Ust-Srednekanskaya HPP), for which it was decided to technically combine the Chaun-Bilibinsky

Impact Factor:

ISRA (India) = 6.317
ISI (Dubai, UAE) = 1.582
GIF (Australia) = 0.564
JIF = 1.500

SIS (USA) = 0.912
ПИИИ (Russia) = 3.939
ESJI (KZ) = 8.771
SJIF (Morocco) = 7.184

ICV (Poland) = 6.630
PIF (India) = 1.940
IBI (India) = 4.260
OAJI (USA) = 0.350

energy hub of the Chukotka Autonomous Okrug with the energy system of the Magadan Region.

The basic direction of the economic development of the Okrug until 2035 is to support the progress made in the gold mining industry. The planned decline in production at current deposits will be compensated by the commissioning of new deposits: in 2023 - Klen (annual gold production after the deposit reaches its design capacity will be about 1.5 tons) and Kekura (annual production - about 6 tons), in 2025 city - Peschanka (annual production - about 15 tons).

From 2018 to 2035 the development of the Kekura and Klen deposits will attract private investments in the Okrug in the amount of 16.0 and 7.1 billion rubles, and will create about 1,170 and 600 new jobs, respectively.

It is planned to supply the Klen field with energy from its own generation (diesel power plant), and the Kekura field - from the same energy sources as the Peschanka field.

As a result, gold production in 2021-2026 will be about 24.1-24.4 tons, in 2022, after the launch of the Kekura and Klen fields, it will increase to 29.1 tons. For 2022-2023 it is planned to complete mining operations at two large deposits of the Okrug (Kupol and Dvoynoye deposits - 64.5% of gold mined in 2018 on the territory of the Okrug) and, as a result, gold production will decrease to 22.8-25.1 tons. This decrease will be offset by the commissioning of the Peschanka field. In 2024, gold production in the region will recover to the level of 2021 (28.6 tons). Production growth is expected from 2025, in 2025-2035. will be from 24.3 to 34.0 tons.

To accelerate the development of gold and polymetallic deposits in the Chaun-Bilibinsky industrial zone, the territory of the Bilibinsky municipal district has been included in the Chukotka ASEZ since January 2019.

The reserve for the region is to maintain and, if possible, increase the level of production of alluvial gold, significant reserves and resources of which are available in the Okrug. It is necessary to take into account the fact that placer gold mining employs a significant part of the able-bodied population of the districts of the Okrug. The level of alluvial gold mining during this period will remain at the level of 2.5-3 tons per year.

In addition to the large copper and gold deposits mentioned above, the largest tin deposit in the east of Russia, the Pyrkakay stockworks, is located on the territory of the Chaun-Bilibino industrial zone (the approved reserves of tin ore are 119 million tons). The field is located 65 km from the city of Pevek, relatively close to the developed infrastructure of the area with a road to the site and close to passing power lines. The deposit is prepared for open-pit mining with a large volume of ore extraction. The development of the deposit is currently not expected due to the low metal content in the ore (tin content - from 0.21% to 0.24%, tungsten - from 0.01% to 0.02%) and, as a result, low

profitability development of the deposit at the current relatively low prices for tin. Change in price environment

Reindeer husbandry and sea fur hunting are an integral part of the cultural heritage and livelihoods of the indigenous population of the Chukotka Autonomous Okrug. Violation of the nutrition structure, by replacing with other products, leads to a deterioration in the health of the population, a reduction in life expectancy, and a deterioration in the anthropological indicators of children and adults. Therefore, the main focus of the Strategy is to ensure the volume of production of these socially significant types of products at a level not lower than the current one. For the reindeer herding economy, this is expressed in the growth of the number of reindeer from 150.8 thousand heads in 2021 to 153.2 in 2035, which will ensure the production of meat in slaughter weight in the amount of 411.2 tons by 2035. For marine animal hunting - in not reducing the volume of allocated quotas and increasing the depth of product processing.

The northwestern part of the Bering Sea is one of the most important fishing areas in the Far East. Estimation of stocks of aquatic bioresources of coastal seas and inland waters (fish, marine mammals, invertebrates) according to the data of fishery science makes it possible to annually produce about 0.6 million tons.

Until 2035, a project will be implemented for the construction of a federal property facility designed for comprehensive servicing of fishing fleet vessels in the deep-sea, year-round seaport of Provideniya with a length of 150 linear meters. The amount of financing will amount to 675 million rubles. from the state budget, 80 million rubles. from the district budget and 375 million rubles. from extrabudgetary sources. The fish marine terminal will allow comprehensive servicing of fishing vessels for the transportation, storage and distribution of fish products. The average annual volume of transshipped products will be more than 50 thousand tons.

A fish processing plant will be put into operation with deep processing of catches of aquatic biological resources and the production of semi-finished products with a production volume of 10 tons per day. The amount of financing will amount to 50 million rubles. from the regional budget and 280 million rubles. from extrabudgetary sources. The plant will provide deep processing of fish, including from the volumes allocated by OJSC Chukotrybpromkhoz and LLC Chukotoptorg for catching (harvesting) aquatic biological resources in inland sea waters and the territorial sea of the Russian Federation adjacent to the coast of the Chukotka Autonomous Okrug. The resulting organic products will differ in environmentally friendly content and quality due to the short period from the catch to the finished product.

As part of the project, about 100 new jobs will be created.

The need for labor resources will be met at the

Impact Factor:

ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 1.582	ПИИЦ (Russia) = 3.939	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 8.771	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

expense of the local population.

The implementation of the project will allow servicing fishing vessels engaged in fishing in the Far East basin for further transportation of fish products by the Northern Sea Route to the central regions of the country.

Changes in the typology of the territories of the Chukotka Autonomous Okrug until 2030 are not envisaged. Anadyrsky district will continue to develop as an administrative center, a center for the development of the social sphere and the coal industry of the region, Chaun-Bilibinsky - a center for the development of non-ferrous metallurgy, other areas - centers of traditional economic sectors of the Okrug's small indigenous peoples.

The internal spatial development of the territories and, as a result, the demand for the maintenance and/or construction of infrastructure facilities and institutions for the provision of social services in the Chukotka Autonomous Okrug until 2035 is determined by the dynamics (the emergence of new and the closure of current ones) of demand points for these facilities and services. The emergence of new and the closure of current points of demand, in turn, is determined by the dynamics of the development of the industrial enterprises of the Okrug.

The current structure of settlement and employment of the indigenous and non-indigenous population of the Okrug until 2035 and the expected changes in the population of individual settlements associated with the planned closure of city-forming enterprises and, as a result, the likely migration outflow or even the closure of settlements is a determining factor in spatial development region.

A typical example is the city of Bilibino, in whose

economic development until 2030 significant structural changes are planned. At the moment, the vast majority of employees work at the two largest enterprises: the Bilibino Nuclear Power Plant and the Karalveem gold mine. The conservation of the Bilibino NPP is scheduled for 2022, the cessation of production at the Karalveem mine after 2035. The Okrug is faced with the task of determining what the socio-economic image of the city will be after 2035 and, as a result, either organize the resettlement of residents or create new workers places, for example, at new deposits of the Chaun-Bilibino industrial zone (it must be taken into account that the largest of the deposits expected to be developed before 2035 (Peschanka, Kekura, Klen) are outside the transport accessibility for residents of Bilibino and, as a result,

Secondly, the emergence of new large industrial facilities (development of new large deposits) requires the involvement of a large amount of labor resources on an ongoing basis for a long time and, as a result, the creation of new or development of existing (if any in the immediate vicinity) settlements.

For the sustainable economic development of the region, it is important to ensure the availability and possibility of technological connection to the energy infrastructure for business and the population within an acceptable time frame. As target indicators for the timing of connection, it is planned to use the targets of the roadmap "Increasing the availability of energy infrastructure", approved by the Order of the Government of the Russian Federation.



Figure 6. Energy infrastructure in the Chukotka Autonomous Okrug

In order to provide electricity and capacity in the region, it is planned to build and reconstruct a number

of large energy infrastructure facilities. These objects perform two tasks:

Impact Factor:	ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 1.582	ПИИИ (Russia) = 3.939	PIF (India) = 1.940
	GIF (Australia) = 0.564	ESJI (KZ) = 8.771	IBI (India) = 4.260
	JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

- replacement of decommissioned capacities of the Bilibino NPP;
- providing energy to promising industrial

consumers in the Chukotka and Bilibino regions. At the moment, the creation of several objects is being considered (table 7).

Table 7. List of energy infrastructure facilities considered for creation

Problem being solved	Main activities
Replacement of retired capacities of Bilibino NPP in 2022	<ul style="list-style-type: none"> - Extension of the operation life of the Chaun CHPP until 2025 inclusive - Construction of an energy source in Bilibino with off-site infrastructure
Replacement of retired capacities of Chaunskaya CHPP by 2026	<ul style="list-style-type: none"> - Construction of a new thermal power plant in Pevek - Integrated LNG project in Pevek
Ensuring power supply to promising industrial consumers at the Kekura and Peschanka fields	<ul style="list-style-type: none"> - Construction of an overhead transmission line 110 kV overhead line Bilibino - Peschanka I circuit with a tap at the Kekura substation - Construction of two single-circuit power lines 110 kV between the cities of Pevek and Bilibino
Ensuring uninterrupted power supply to consumers and reducing accidents in the Egvekinot power center	- Reconstruction of OHTL 110 kV EGRES – Bouldery in the most damaged areas
Consolidation of the Anadyr and Egvekinot energy centers	<ul style="list-style-type: none"> - Construction of SS 110 kV Anadyrskaya on the left bank of the Anadyr Estuary - Construction of an intersystem overhead line 110 kV Anadyrskaya CHPP - Valunisty with SKRM
	- Reconstruction of the substation Valunisty
Ensuring power supply to the potential Tumannaya Ploshchad gold deposit	<ul style="list-style-type: none"> - Design and construction of power grid facilities (overhead lines and substations) from Egvekinotskaya GRES to the field - Phased restoration of the 110 kV overhead line EGRES - Iultin with a branch line at 87 km - Reconstruction of the existing 110 kV overhead line EGRES-Valunisty - Reconstruction of ORC 110 kV EGRES with installation of SKRM - Construction of a new generation in the Egvekinot energy center for the amount of power shortage (reserve) or reconstruction of the EGRES with an increase in installed capacity
Development of the Central Chukotka geological and economic region, which has rich deposits of minerals	- Construction of a 110 kV overhead line at the Iultin substation - with. Ryrkaypiy

A large proportion of energy facilities are being built in the Okrug using budget funds, while in most regions the practice of attracting extra-budgetary funding for the construction and reconstruction of energy infrastructure facilities is already being actively implemented. The need to intensify the efforts of the Government of the Okrug in this area is in line with the “Main Directions of Activities of the Government of the Russian Federation for the period until 2025” (approved by the Government of the Russian Federation on September 29, 2018) in terms of attracting non-state non-tariff sources of investment in the scope of activities of subjects of natural monopolies.

In the conditions of construction and reconstruction of significant volumes of energy infrastructure, and, as a result, a significant increase in

the cost of its subsequent maintenance, it is especially important to provide economically justified tariffs for business development in the region. The level of tariffs should be lower than the prices for energy generated by the objects of own generation. Otherwise, industrial consumers will switch to their own generation, and the built energy infrastructure will not be in demand.

According to the tariff forecast until 2025 (table 8.) and the projected price for electricity of own generation at 18 rubles/kWh, this condition is met. To ensure acceptable economic tariffs, the presence of such large consumers as the Baimsky GOK is especially important, so the region needs to make every effort to keep them in the overall balance of energy consumption in the region.

Impact Factor:	ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
	ISI (Dubai, UAE) = 1.582	ПИИИ (Russia) = 3.939	PIF (India) = 1.940
	GIF (Australia) = 0.564	ESJI (KZ) = 8.771	IBI (India) = 4.260
	JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

Table 8. Forecast of Economically Justified Tariff Dynamics

Economically justified one-part tariff for consumers of Chukotenergo JSC	year	2019	2020	2021	2022	2023	2024	2025
	RUB/kW*h	18.89	27.75	20.96	12.66	13.87	14.14	12.49

To determine the list of objects of centralized energy systems implemented in 2020-2030, it is necessary to further refine the main documents for the development of the energy sector in terms of determining demand and its elasticity from tariff dynamics, technical solutions, the cost of objects and the impact on tariff growth. Documents requiring updating: schemes and programs for the development of the electric power industry and investment programs of resource supply organizations (RSO).

In order to support the population and consumer groups equated to them by reducing the tariff to the average Russian one by subsidizing the costs of resource-supplying organizations, it is necessary to direct efforts to improve the energy efficiency of these consumer groups, for which it is necessary to finalize the energy efficiency program of the region in terms of detailing measures. The subsequent areas of work of the Government of the Okrug to improve the efficiency of resource-supplying organizations serving the population and equated consumer groups will be aimed at synchronizing the development programs of the North Ossetia with each other and with the plans for the development of municipalities in order to reduce the costs of developing and maintaining housing and communal services facilities. It is required to develop programs for the integrated development of the communal infrastructure of settlements,

To implement all the above areas, it is important to increase the cost efficiency of resource-supplying organizations for maintaining the technical condition, construction and reconstruction of energy infrastructure facilities to the level of average Russian companies, taking into account the influence of climatic and territorial conditions. It is necessary to develop a regional program to improve the efficiency of resource-supplying organizations with the active use of long-term tariff formation mechanisms that encourage RNOs to implement programs to improve operational efficiency.

Increasing the energy independence of the region from expensive imported fuel will remain an important direction. In this direction, work will continue in the region on the introduction of the use of renewable energy technologies and energy-saving technologies in the production, transmission and consumption of energy. First of all, this concerns the housing and communal sector of isolated settlements, which consume significant volumes of imported fuel and the largest possible distance for its delivery from ports. At the same time, it is necessary to note the high potential for the development of renewable energy in the Okrug. Estimated wind energy resources of the Chukotka Autonomous Okrug reach 1.5 trillion. kWh per year

and are highly stable. In most of the Okrug, the average annual wind speed is 4-6 m/s. On the southeastern coast of Chukotka, the average annual wind speed reaches 6-9 m/s. The implementation of such projects will require the region to take into account the availability of highly qualified personnel and technical solutions from companies planning to invest and operate energy infrastructure facilities. An increase in the number and volume of renewable energy generation will require the introduction in the Okrug of a centralized digital platform that performs the functions of monitoring, managing and maintaining equipment and energy facilities, taking into account the significant disparity in the location of objects on the territory of the Okrug and the high complexity of organizing the presence of highly qualified technical personnel on the ground. planning to invest and operate energy infrastructure facilities. An increase in the number and volume of renewable energy generation will require the introduction in the Okrug of a centralized digital platform that performs the functions of monitoring, managing and maintaining equipment and energy facilities, taking into account the significant disparity in the location of objects on the territory of the Okrug and the high complexity of organizing the presence of highly qualified technical personnel on the ground.

In order to replace expensive imported coal and diesel fuel as energy sources of centralized energy systems and provide an acceptable economically justified tariff for industrial consumers, further development of options for replacing currently used fuels with cheaper gas and oil solutions is required. Firstly, due to the currently actively developed export routes of liquefied natural gas (LNG) of NOVATEK along the Northern Sea Route. According to preliminary estimates, the reconstruction of the existing Chaunskaya CHPP or the construction of a new LNG-fired CHPP in Pevek will make it possible to achieve the price of electricity from the plant busbars at ~ 9 rubles/kWh. This is 2 times lower than the cost of electricity in the framework of the alternative option for building a coal-fired station (18 rubles/kWh).

The implementation of projects aimed at increasing the energy independence of the region from

Impact Factor:

ISRA (India) = 6.317
ISI (Dubai, UAE) = 1.582
GIF (Australia) = 0.564
JIF = 1.500

SIS (USA) = 0.912
ПИИЦ (Russia) = 3.939
ESJI (KZ) = 8.771
SJIF (Morocco) = 7.184

ICV (Poland) = 6.630
PIF (India) = 1.940
IBI (India) = 4.260
OAJI (USA) = 0.350

expensive imported fuel should be subordinated to the goals of reducing the tariff burden on industrial consumers and reducing the amount of subsidies from the regional budget to cover the difference between tariffs for the population and the costs of operating organizations. The main direction for the development of the transport infrastructure of the Okrug until 2030 is to move away from the transport isolation of the region through the development of the road network, reconstruction and expansion of the port infrastructure, reducing the cost and improving the quality of internal and external air traffic.

The largest project in the development of the Okrug's transport infrastructure is the construction of

the Kolyma-Omsukchan-Omolon-Anadyr highway with access roads to Bilibino and Egvekinot, with a total length of about 2.3 thousand km and a cost of more than 150 billion rubles. In addition to solving the problem of the isolation of the regions of the Chukotka Autonomous Okrug from each other and from other regions of Russia, the construction of this highway is caused by the needs of industrial enterprises that are being created on the territory of the Chaun-Bilibino industrial zone, including the construction of an energy bridge for power supply to the deposits of the Baim ore zone.

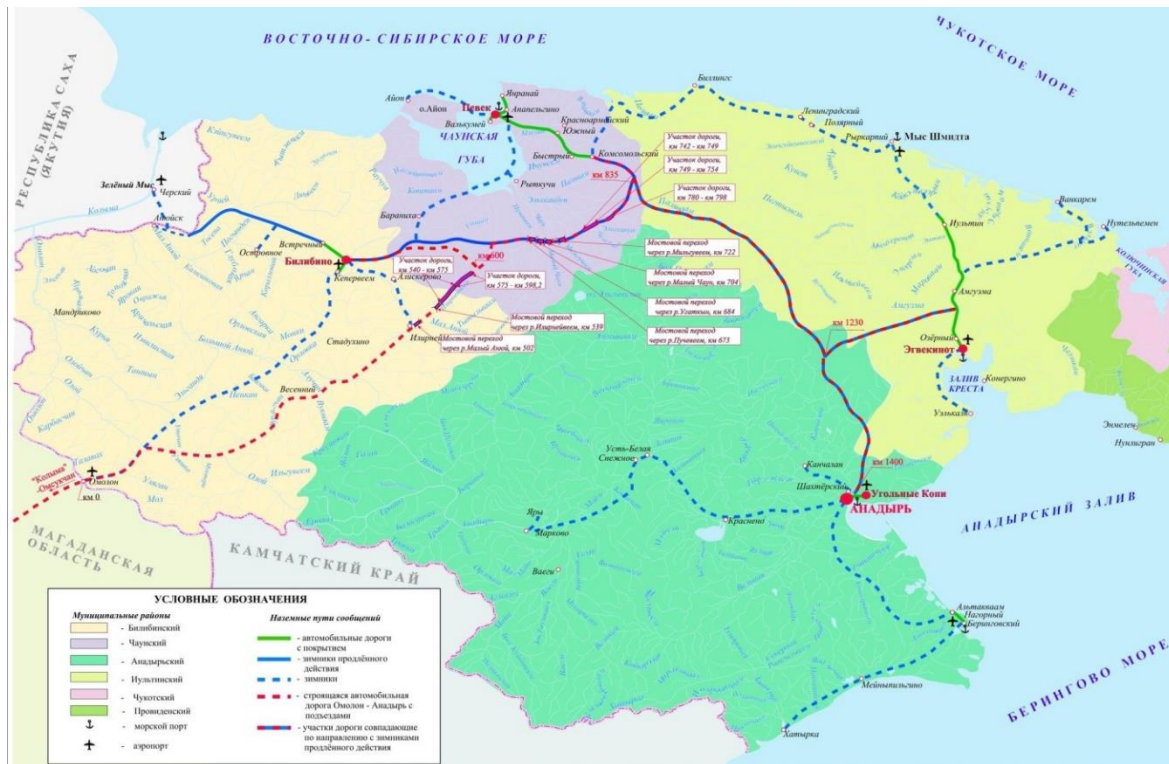


Figure 7. Map of roads in the Chukotka Autonomous Okrug

Strategically important from the point of view of providing the Okrug with essential goods, as well as the development of enterprises focused on exporting products to the Asia-Pacific countries, is the port infrastructure, the state of which critically affects the efficiency of importing essential goods during the navigation period. In order to improve the efficiency of the "northern" delivery, as well as to ensure economic growth, within the framework of the Strategy, it is planned to reconstruct and expand the port infrastructure of the Chukotka Autonomous Okrug, incl. the seaport of Beringovskiy, necessary to increase the number and further development of residents of the Chukotka ASEZ (Figure 7).

To ensure economic growth and improve the living standards of the population until 2030, it is necessary to increase the number of domestic and

international flights with a simultaneous decrease in their cost, as well as the reconstruction of airport infrastructure that provides cargo traffic during the non-navigation period and passenger traffic all year round (Figure 8).

An important external factor in overcoming the isolation of the Chukotka Autonomous Okrug from other regions of the Russian Federation and other states is the planned multiple increase in the traffic of the Northern Sea Route, which will reduce the cost and increase the range of goods imported during the navigation period (including the possibility of importing and, as a result, use of liquefied natural gas for energy needs of the District). The implementation of this project will require a large-scale reconstruction of the port infrastructure of most of the "northern" cities of Russia, incl. seaport of Pevek.

Impact Factor:

SISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 1.582	ПИИЦ (Russia) = 3.939	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 8.771	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

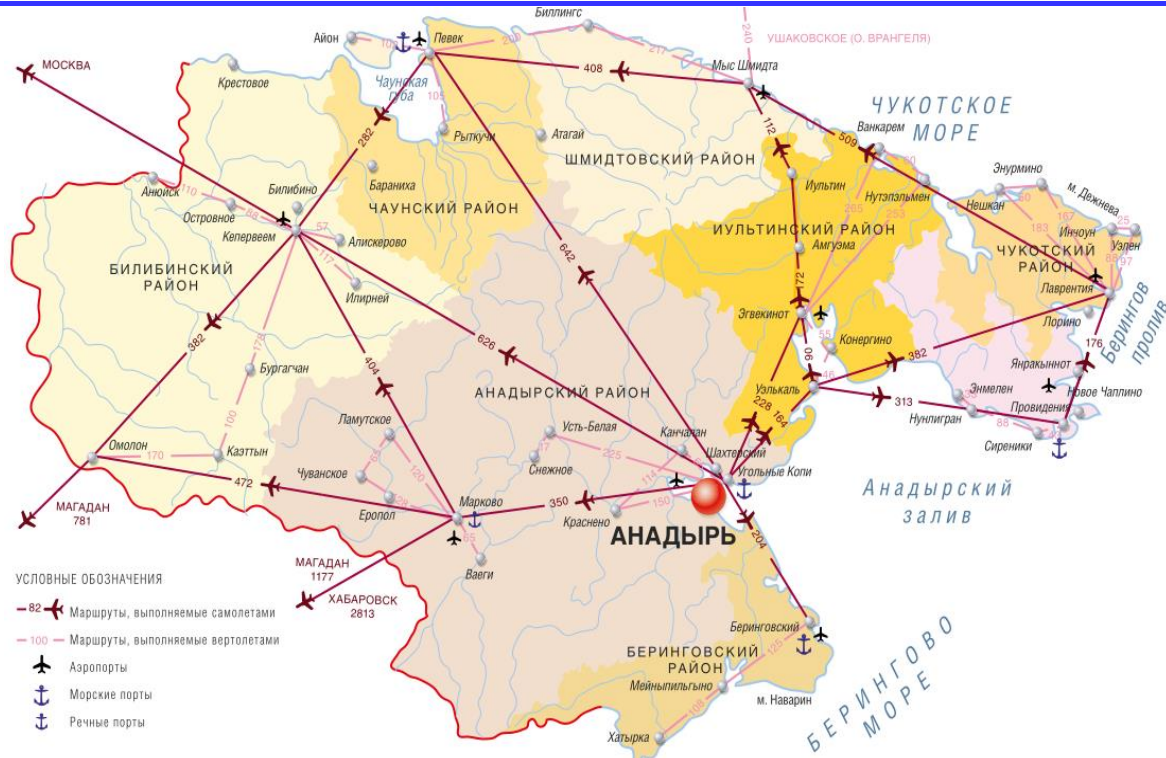


Figure 8. Air traffic in the Chukotka Autonomous Okrug

The key direction for the development of the Chukotka Autonomous Okrug in the field of information and telecommunication technologies is to improve the quality (including speed and coverage) and reduce the cost of Internet access services, necessary to improve the quality of life of the population of the Chukotka Autonomous Okrug, incl. through the development of telemedicine, distance learning and e-government services. Improving the quality of communications can be implemented in two ways: The first is to expand the resource of satellite communications coming to the Chukotka Autonomous Okrug. The second is the construction of FOCL.

The expansion of the satellite communication resource does not require significant capital and operating costs, and can also be implemented in a short time (unlike the construction of fiber optic lines), however, to reduce the cost of Internet access, significant annual subsidies for tariffs for these services will be required, as well as periodic (as growth in demand) re-expansion of the resource. This option is optimal for the settlements of the Chukotka Autonomous Okrug, to which, due to the small number and remoteness, it is not economically justified to lay FOCL.

The construction of FOCL is a more capital-intensive, but more systemic solution that will significantly improve the quality of Internet access services provided while significantly reducing their cost. As part of the implementation of the Strategy, it is necessary to determine the option for laying the cable. At the moment, an option is being considered that implies providing the western part of the Okrug

with high-speed Internet by synchronizing the laying of fiber optic lines with the energy bridge construction project, and the eastern part by building an underwater fiber optic trunk from the Kamchatka Territory to the Chukotka Autonomous Okrug. According to preliminary estimates, the cost of construction will be about 4 and 8 billion rubles, respectively.

To select the optimal option for providing the Okrug with high-quality and affordable Internet, a feasibility study of each of the considered options is required.

To date, in the demographic policy of the Chukotka Autonomous Okrug, the most priority area of the Government's activity is to reduce the migration outflow of the resident population. To this end, the Okrug will work to increase the number of economic and social benefits available to the population, which will increase the attractiveness of the region, reducing the proportion of the population migrating to other regions. In addition, the attraction of labor force to the facilities planned for development should lead to a migration influx of the population.

Other areas that will also receive attention include:

- Increasing birth rates by developing mechanisms to support young families and families raising children within the framework of social support for the population;
- reduction of mortality rates due to the development of the healthcare sector.

The development of the Okrug's health care will be focused on solving key problems: increasing the logistical accessibility of the services provided and the

Impact Factor:

ISRA (India) = 6.317
ISI (Dubai, UAE) = 1.582
GIF (Australia) = 0.564
JIF = 1.500

SIS (USA) = 0.912
ПИИИ (Russia) = 3.939
ESJI (KZ) = 8.771
SJIF (Morocco) = 7.184

ICV (Poland) = 6.630
PIF (India) = 1.940
IBI (India) = 4.260
OAJI (USA) = 0.350

provision of the population with medical personnel, incl. through the use of modern technical solutions.

The key areas of healthcare development in the Chukotka Autonomous Okrug include eliminating the shortage of personnel, especially narrow specialists. To solve this problem, it is planned to implement programs to attract medical specialists and develop telemedicine.

The use of modern telecommunication technologies is one of the most promising areas in the healthcare sector, allowing to increase the availability and quality of services provided while reducing costs. With their help, it is possible to organize consultations for residents of remote settlements, where there is an objective lack of opportunity to accommodate the necessary specialist on a permanent basis, and the costs of visiting the necessary specialist to the patient are high. This is especially true in the context of a shortage of medical specialists, incl. narrow specialists.

An important direction in the development of health care in the Okrug is to increase the availability of medical diagnostics, including high-tech ones. Due to the low population density in the Chukotka Autonomous Okrug, there are problems with the provision of diagnostic services to all residents, which makes this area extremely relevant. One of the main options for solving the problem under consideration is the placement of diagnostic equipment in settlements without the placement of specialists involved in the interpretation of diagnostic results in the field. The results will be transmitted to healthcare institutions with the necessary specialists, using telecommunication technologies. This measure will reduce the workload, as well as improve the quality and availability of diagnostic services for the population.

Another tool for providing healthcare services "at a distance" is the development of systems for remote monitoring of the health of patients, providing patients with the means to independently monitor their health in order to detect diseases in a timely manner.

The priority areas of development include reducing the degree of depreciation of the infrastructure of medical institutions. Due to the climatic features of the regions of the Far North, the cost and frequency of capital and current repairs of infrastructure facilities significantly exceeds the average Russian indicators. The use of telemedicine and the creation of mobile medical centers will reduce the demand for the creation of new health infrastructure facilities, but will not affect the need for major repairs of existing facilities. In order to improve the quality of services provided, additional capital investments are required to renovate the district's medical facilities.

Additional areas of development in the healthcare sector include:

- elimination of territorial disproportions in the provision of medical personnel and medical services (in addition to the use of telemedicine, it is necessary to develop the social and medical service "Mobile Brigades");

- development of specialized emergency medical care and medical evacuation, mainly air ambulance as the main method of emergency medical evacuation, taking into account existing infrastructural restrictions and climatic conditions (including through the acquisition of a second specialized aircraft);

- development of advanced training programs for medical workers;

- development of a regional medical information system;

- increasing the volume of medical care provided for prevention purposes;

- improving measures to combat socially significant diseases, carrying out activities to raise public awareness of the risks associated with the consumption of tobacco and alcohol products, drugs.

The main vectors for the development of the education sector in the Chukotka Autonomous Okrug until 2030 are increasing the availability and quality of education, as well as modernizing the educational infrastructure.

In order to improve the availability and quality of education, especially in remote areas, attention will be paid to the development of distance education systems using information and communication technologies, e-learning. At present, the digitalization of society sets new educational standards. Increasing the availability of information and communication technologies in educational institutions will provide additional opportunities in education for students, will allow classes with specialists who are not available in the educational institution itself, and will also increase the availability and variety of additional education disciplines.

One of the most urgent problems in the field of education in the Chukotka Autonomous Okrug is the transition of all schools in the district to teaching in one shift. In accordance with the list of instructions of the President of Russia dated December 5, 2014 No. Pr-2821 and the order of the Government of the Russian Federation dated October 23, 2015 No. 2145-r "On the program" Assistance in the creation in the constituent entities of the Russian Federation (based on the predicted need) of new places in general educational institutions" for 2018-2025" in general educational institutions, a transition to one-shift training is required, which necessitates the creation of a new educational infrastructure that can meet the established requirements.

The need to expand the educational infrastructure in connection with the transition to one-shift training is exacerbated by the problem of significant accumulated depreciation of the existing infrastructure. Significant funding is required to overhaul the existing infrastructure, as well as to build new buildings.

Among other areas of development in the educational sphere, the following stand out:

- creation of own higher educational institution;

- increasing the percentage of coverage of children with additional education services, including

Impact Factor:

ISRA (India) = 6.317
ISI (Dubai, UAE) = 1.582
GIF (Australia) = 0.564
JIF = 1.500

SIS (USA) = 0.912
ПИИИ (Russia) = 3.939
ESJI (KZ) = 8.771
SJIF (Morocco) = 7.184

ICV (Poland) = 6.630
PIF (India) = 1.940
IBI (India) = 4.260
OAJI (USA) = 0.350

through the construction of new infrastructure and distance learning;

- increasing the level of individualization of general education programs, as well as their integration with programs of additional and professional education;

- improving the conditions for providing full-fledged education opportunities for people with disabilities, including through the development of distance learning, the construction of new infrastructure;

- expanding the use of WorldSkills methods in secondary vocational education aimed at raising the status and standards of vocational training, increasing the flexibility of educational programs;

- improving the professional competencies of employees of educational institutions through the implementation of advanced training programs, the development of mentoring;

- attracting qualified specialists (including young ones) from other regions in the field of secondary vocational education and higher education.

In the sphere of culture of the Chukotka Autonomous Okrug, the following areas of development are distinguished:

- ensuring the preservation and development of the cultural heritage of the Chukotka Autonomous Okrug;

- attraction of qualified specialists (including young ones) from other regions;

- modernization of the material and technical base of cultural institutions;

- increasing the availability of cultural services for the population, including through the introduction of information technologies.

In the field of physical culture and sports, it is planned to work in the following areas of development:

- development of sports infrastructure in order to increase the availability of physical culture classes;

- promoting a healthy lifestyle among the population, increasing the proportion of people involved in physical activity;

- development of folk games and national sports of the peoples of the Chukotka Autonomous Okrug.

Attracting skilled labor and reducing migration outflow is impossible without providing the population with comfortable living conditions that meet modern standards, which is especially important for the northern regions due to adverse climatic conditions.

The key direction of development in this area is to reduce the degree of depreciation of the housing stock. To this end, it is planned to implement a project to relocate Okrug residents from buildings that were recognized as unsafe after January 1, 2012. According to preliminary estimates, this program will affect about 1,300 residents. At this stage, it is planned to resettle 635 emergency residential premises, for which more than 20 thousand m² of new housing space will be built. Due to budgetary restrictions, about 30% of residential premises (~300 premises) will remain

unaffected. Their resettlement will require the allocation of additional funding. Other areas of development in the housing sector include:

- issuance of federal housing certificates to residents of closed settlements;

- keeping utility tariffs close to the average Russian level;

- further improvement of water quality in settlements, incl. through the implementation of measures to improve the quality of water in settlements, as well as the creation of local treatment facilities;

- attraction of investors in order to increase investment activity in the housing market.

Within the framework of social protection of the population, in addition to the activities already implemented, the following priority areas of development are identified:

- improvement of mechanisms for providing targeted payments to socially unprotected categories of the population;

- increasing the availability and quality of social services, including expanding the list of social services provided remotely, modernizing the material and technical base of social protection organizations and developing mobile points for the provision of social services.

In order to promote the socio-economic development of the indigenous peoples of the North, the following key areas are identified:

- support and development of the main types of traditional economic activities: domestic reindeer breeding and sea fur hunting;

- measures to ensure employment of the rural population by involving in the construction and repair of social infrastructure facilities, organizing self-employment, developing the infrastructure for traditional folk crafts (fishing, hunting, collecting wild plants, bone carving);

- improvement of measures to reduce the susceptibility of indigenous peoples to alcoholism;

- preservation of interethnic peace and harmony, harmonization of interethnic (interethnic) relations;

- preservation of the national and cultural identity of the peoples of the Chukotka Autonomous Okrug: folk art, cultural traditions, linguistic heritage, including through the continuation of the successful practice of holding festivals of the culture of indigenous peoples and national sports.

The forecast of indicators for the development of the economy of the Chukotka Autonomous Okrug in general and its key industries in particular is built in three scenarios: conservative, base, target.

The conservative scenario implies the inertial development of the region: the Okrug will continue to be mono-dependent on the gold mining industry, the volume of public and private investments attracted will be significantly lower than expected, the Baimskaya ore zone development project will not be implemented.

The baseline scenario implies partial

Impact Factor:

ISRA (India) = 6.317
ISI (Dubai, UAE) = 1.582
GIF (Australia) = 0.564
JIF = 1.500

SIS (USA) = 0.912
ПИИЦ (Russia) = 3.939
ESJI (KZ) = 8.771
SJIF (Morocco) = 7.184

ICV (Poland) = 6.630
PIF (India) = 1.940
IBI (India) = 4.260
OAJI (USA) = 0.350

implementation of the investment projects stated in this Strategy: the volume of investments and coal production at the deposits of the Bering coal basin will be fixed at the minimum values specified in the agreement on the TOP (750 thousand tons), the project for the development of the Baimskaya ore zone will be implemented in full.

The target scenario implies the full implementation of the investment projects stated in this Strategy, in particular, the development of the Baimskaya ore zone and bringing production at the deposits of the Verkhne-Alkatvaamsky site of the Bering coal basin to 5 million tons with the attraction of the necessary investments for this. Implementation of promising, but currently not being developed projects (for example, the development of the Amaam deposit in the Bering coal basin, the Pyrkakai stockwork tin deposit, the gold ore deposits of the Chaun-Bilibino industrial zone not specified in this Strategy, as well as oil and gas fields in the Anadyr basin) within the framework of no target scenario.

Within the framework of the section, the expected results of the implementation of the Strategy by 2030 for the target scenario are given. The values of the Okrug's key development indicators for other scenarios are given in the Appendix to this Strategy.

By 2035, as a result of the implementation of this Strategy, the Okrug's economy is expected to grow significantly. The main growth will occur due to a multiple increase in coal production, as well as the start of industrial production of copper concentrate. The development of the Okrug's infrastructure will provide opportunities for the intensive development of the extractive industries, which, taking into account the multiplier effect, will increase the revenue of the Chukotka Autonomous Okrug by 2.9 times, and the gross regional product by 2.7 times.

The active implementation of projects for the development of the Okrug's deposits rich in minerals will qualitatively change the structure of the gross regional product. The share of the Okrug's base sector (extraction of precious metals) in GRP will decrease from 41.7% in 2017 to 14.6% by 2035, which, along with the development of the copper and coal industries, will allow diversifying the Okrug's mining industry (avoiding single-product industry) and, as a result, will ensure greater sustainability of the development of the region's economy. The contribution of the extractive industry as a whole to GRP will increase from 43.0% in 2017 to 57.7% in 2035.

The key result of the implementation of the Strategy will be a significant increase in income and living standards of the population of the Chukotka Autonomous Okrug, supported by economic growth and improved quality of social services. As a result, from 2017 to 2035, it is planned to increase the income of the population by 67.0%.

The implementation of the Strategy will make it possible to significantly increase the own revenues of the consolidated budget of the Chukotka Autonomous

Okrug. The accelerated growth of the mining industry and, as a result, the tax base for key taxes for the Okrug (profit and income tax and taxes, fees and regular payments for the use of natural resources) will ensure a 2.5-fold increase in tax revenues of the budget by 2035.

A significant increase in own revenues will significantly reduce the amount of subsidies to the consolidated budget of the Chukotka Autonomous Okrug (by 2.1 times by 2035) without reducing the volume of public investment, make a net cash flow for the federal budget (the difference between the amount of revenues to the federal budget of taxes and fees from the Chukotka Autonomous Okrug and the value of gratuitous receipts to the consolidated budget of the region from the federal budget) positive by 2028.

In 2028-2035 net cash flow for the federal budget will stabilize at the level of 10 billion rubles, and will continue to grow. Such significant growth will be ensured by increasing production at the fields of the Bering coal basin in 2019-2025, and the launch of the Peschanka deposit in the Baimskaya ore zone in 2025.

Conclusion

To achieve the goal and objectives of this Strategy, the main activities of the Government of the Chukotka District should be coordinated with actions at the federal and municipal levels, and it is also necessary to develop various forms of public-private partnership.

To attract investments in the mining industry of the Okrug and the production of socially significant goods, it is necessary:

- provide the necessary transport and energy infrastructure for the Chukotka ASEZ (with the involvement of budgetary and non-budgetary sources of financing);
- to develop the transport infrastructure of the FPV Pevek in order to attract residents and develop the production of consumer goods (with the involvement of budgetary sources of financing);
- provide comprehensive consulting, informational and administrative support to potential investors.

As part of the spatial development (removal of infrastructure restrictions) of the Chukotka Autonomous Okrug, it is necessary to:

- introduce digital mechanisms for planning, selecting options for the development of the energy system and assessing the economic (tariff) consequences of the construction and operation of energy infrastructure facilities;
- update program documents for the development of energy infrastructure: schemes and programs for the development of the electric power industry, programs for the integrated development of housing and communal services and investment programs of resource-supplying organizations;
- develop plans for the use of alternative sources of fuel and energy resources in connection with the

Impact Factor:

ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 1.582	ПИИИ (Russia) = 3.939	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 8.771	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

opening of access to the market for LNG supplied from the South Tambej gas condensate field (Yamal LNG);

- encourage private investment in the construction and operation of energy infrastructure through the principles of concessions and public-private partnerships;

- develop and implement measures to improve the energy efficiency of the population and equivalent subsidized categories of consumers;

- develop and implement regional programs to improve the performance of resource-supplying organizations with the introduction of additional regulatory tools that encourage companies to optimize costs (required gross revenue) in the long term;

- create a telecommunications infrastructure that provides the population with high-quality Internet access at low prices (with the involvement of budgetary sources of financing). To select the optimal option, a detailed study of the feasibility study of two options for expanding Internet access is required. It is necessary to comprehensively take into account the parameters of the predicted volume of data transfer on the one hand and the volume of capital and operating costs, as well as subsidies on the other, in order to most effectively solve the problem of the existing deficit.

To improve the quality of the provision of social services to the population of the Chukotka Autonomous Okrug, it is necessary to:

- develop modern forms of providing social services (health care, education, culture, sports) and public services to the population of remote small settlements, incl. remote (using digital technologies) and mobile forms of providing medical services, additional education and services of cultural and leisure organizations;

- carry out a major overhaul and reconstruction

of the existing ones, as well as build the missing social facilities, incl. through the development of concessions and outsourcing in the field of maintenance and operation of social facilities;

- provide support to socially vulnerable groups of the population, incl. in the purchase of housing;

- promote the resettlement of the population from areas with declining economic activity;

- provide financial and organizational support for the development of traditional industries of the indigenous population and the preservation of the cultural heritage of the Chukotka Autonomous Okrug.

The strategy provides for co-financing of a number of projects and activities from the federal and regional budgets as part of the implementation of priority national projects, federal and regional (state) targeted programs, as well as from extrabudgetary sources using public-private partnership mechanisms. Considering the features of the strategy of socio-economic development of the Chukotka Autonomous Okrug - in order to provide favorable conditions for attracting investments in it, ensuring comfortable living conditions for the population of this region. At the same time, in this region it is planned to implement the problems caused by the unsatisfactory state of transportation, namely, the need to build and commission new and reconstruct existing roads,

The system of 7 strategic directions is linked to 7 long-term strategic goals and is generally aimed at creating conditions for the integrated development of human potential and the consolidation of the population in the republic through providing basic needs in education, healthcare, infrastructure, a favorable environment, jobs, including highly qualified, concomitant development of services and institutions (Table 9).

Table 9. Priority areas and strategic goals of the Strategy

Strategic Direction	Strategic goal
Infrastructure for life	Improvement of transport, engineering, housing and communal infrastructure as a necessary condition for the development of the economy and the social sphere
Development of the economy and entrepreneurship	creating new jobs, increasing investment attractiveness, pursuing a cluster policy, developing traditional industries and services, creating conditions for the development of new industrial clusters
Development of tourism and hospitality industry	preservation of the cultural and historical heritage of the Arctic regions: Yamal - Nenets Autonomous Okrug, Krasnoyarsk Territory, Republic of Sakha (Yakutia), Chukotka Autonomous Okrug, Komi Republic, creation of a modern hospitality industry in the Arctic regions: Yamal - Nenets Autonomous Okrug, Krasnoyarsk Territory, Republic of Sakha (Yakutia), Chukotka Autonomous Okrug, Komi Republic.
Sustainable spatial development	expansion of international cooperation, implementation of a balanced spatial policy aimed at strengthening the economies of municipalities in the regions of the Russian Arctic: the Murmansk region, the Republic of Karelia, the Arkhangelsk region, the Nenets Autonomous Okrug, the creation of a comfortable urban environment, the introduction of new technologies
Enhancing environmental sustainability and safety	implementation of the value system of sustainable development, green economy, ensuring the reproduction of a healthy population, as well as the growth of life expectancy and quality by solving environmental problems to pass on to future generations for subsequent multiplication of the opportunities that the region currently

Impact Factor:

ISRA (India) = 6.317	SIS (USA) = 0.912	ICV (Poland) = 6.630
ISI (Dubai, UAE) = 1.582	ПИИИ (Russia) = 3.939	PIF (India) = 1.940
GIF (Australia) = 0.564	ESJI (KZ) = 8.771	IBI (India) = 4.260
JIF = 1.500	SJIF (Morocco) = 7.184	OAJI (USA) = 0.350

	has
social development	ensuring a high quality of life for the population by increasing the availability of high-quality social services, the implementation of spiritual and cultural development, interethnic harmony
Effective Governance: Implementation Tools	creation of a modern development management system, introduction of advanced practices of public participation, new instruments of tax, budget and investment policy

The implementation of the Strategy is designed to respond to the main demographic challenge of the long-term development of the Russian Arctic regions. In conditions of rather high mobility of the population, people choose to live in those regions where they can realize their potential. The answer to this should be an appeal to the needs and capabilities of each inhabitant

of the regions of the Russian Arctic and positioning the state as an assistant, the role of civil society in governance should be radically changed, mechanisms for effective feedback from residents should be established. Therefore, at the center of the Strategy are people and their well-being.

References:

- (2020). *On the strategy for the development of the Arctic zone of the Russian Federation and ensuring national security for the period up to 2035*, Decree of the President of the Russian Federation No. 645 of October 26, 2020 Moscow, 2020 - 42 p.
- (2014). *On the territories of advanced socio-economic development in the Russian Federation*, Federal Law No. 473 - FZ of December 25, 2014 - 32 p.
- (2020). *On the Fundamentals of the State Policy of the Russian Federation in the Arctic for the period up to 2035*. Decree of the President of the Russian Federation of March 5, 2020 No. 164.
- (2021). *Methodological and socio-cultural aspects of the formation of an effective economic policy for the production of high-quality and affordable products in the domestic and international markets*: monograph /O.A. Golubeva [and others]; with the participation and under the general. ed. can. philosopher. sciences, prof. Mishina Yu.D., Dr. of Tech. sciences, prof. V.T. Prokhorov; Institute of Service and Entrepreneurship (branch) of the Don State Technical University. (p.379). Moscow "Regulations".
- (2020). *Features of quality management for manufacturing import-substituting products at enterprises in the regions of the Southern Federal District and the North Caucasus Federal District using innovative technologies based on digital production*: monograph / O.A. Golubeva [i dr.]; under total ed. Dr. tech. sciences, prof. V.T. Prokhorov; Institute of Service and Entrepreneurship (branch) of the Don State Technical University. (p.362). Novochoerkassk: Lik.
- (2019). *Participatory management of the enterprise team is the basis for the formation of high-quality digital production of import-substituting products*: monograph / O.A. Golubeva [and others] under the general. ed. Candidate of Philological Sciences, Professor Mishin Yu.D. and Doctor of Technical Sciences, Professor Prokhorov V.T.; Siberian State University of Communications; Institute of Service and Entrepreneurship (branch) of the Don State Technical University. (p.176). Novochoerkassk: Lik.
- (1266). *Regions of Russia. Socio-economic indicators*. 2020: Stat. Sat. / Rosstat. (1266p.). Moscow.
- Govorova, N.V. (2020). Development of the human potential of the Russian Arctic (demographic aspect). *Bulletin of the Institute of World Civilizations*, M., 2020, T. 11, No. 1, p. 72.
- Korchak, E.A., & Serova, N.A. (2019). Migration factor in the formation of human capital in the Arctic territories of Russia. *Vestnik NEFU. Series "Economics. Sociology. Culturology. economics. sociology. Culturology"*. 2019, No. 2 (14), p.28.
- Fauzer, V.V., & Smirnov, A.V. (2018). Russian Arctic: from forts to urban agglomerations. *EKO*, 2018, No. 7, pp. 112-130.
- Yushkin, N. P., & Burtsev, I. N. (2005). *Mineral resources of the Russian Arctic. North as an object of complex regional studies*. Ed. ed. V. N. Lazhentsev. (p.512). Syktyvkar.
- Ivanov, V.A. (2019). Methodological and practical aspects of strategic management of sustainable development of the agrarian sector of the northern region. *Bulletin of the Research Center for Corporate Law, Management and Venture Investment of Syktyvkar State University*. 2019, No. 1, p. 17.