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The Russian Arctic

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INTRODUCTION

This thesis focuses on the essence of the Russian Arctic, on the inhabitants of this area, miscellaneous ethnicities, on the surrounded environment which is characterized by a harsh climate, the management of mineral resources, regional structure, economic activity, focusing on the topic of the Global Warming and the impacts of the Corona Virus on the region. In this thesis I will argue about the Arctic, and its question of the depletion of natural resources, I would like to demonstrate that an unanimous measures should be taken to resolve the challenges of the second part of the XXI century in this area. The international community should act in cooperation resolving not only the economic, humanitarian or scientific issues but they mostly should decide its jurisdictional status, dealing with clashes that may lead states towards the world war.

The thesis is divided into two chapters. The first chapter consists of an introduction that gives the comprehensive picture of the Russian Arctic, that is based on the analysis

of its geography, administrative structure, infrastructure, ports, investments, as well as the economic activity in the Arctic, and the natural potential which are the precious natural resources.

The second chapter deals with the Russian vision of the Arctic: the way the region is *governed* and *militarized,* and how this area could become an arena of the future clashes. I will analyze the strategy of the State Program up to 2035 and the fundamental development of the Core Development Zones in the Arctic, examining the risks they currently face, the attitude of the Russian Government towards Non-Governmental Organizations, the current survey of the Climate Change, how it is evaluated by the Russian experts, as well as the impact that the ongoing Covid19 Pandemic has had on the Economy of the Arctic region.

The methodology that I will use consist on the comparative (among countries) and analytical methods, but also divertive and critical thinking approach such as the analysis of the different articles and textbooks. Indeed, the chart bars will help me to bolster the analytical point of view regarding the decline of the population in the most populated cities of Russian Arctic. The scientific approach dealing with life as well as researched method will be used.

This thesis could be placed in the field of the Arctic research, it could also be useful to the Russian or Italian companies that deal with commodities, but especially for those companies for which the concept of sustainability is still new, and who would like to introduce Sustainable Development in their business model.

FIRST CHAPTER

1. The essential characteristics of the Russian Arctic

SECOND CHAPTER

Russian view on the Arctic

ABSTRACT

Il concetto di scrivere questa tesi è nato non solo dal tema di attualità sul cambiamento climatico, ma soprattutto da voler trasmettere la visione del Governo russo sulle regioni dell'Artico russo. Questa tesi viene realizzata sotto la chiave del programma statale 2035, della legge uscita a marzo dell'anno corrente. Parlando dell'Artico si ha una visione di un mondo lontano, e poco conosciuto, eppure quest'area geografica racchiude molto altro. È una rilevante importanza economica e strategico-militare, è un'arena per le operazioni militari, ma anche un ambiente di sperimentazione. Insomma, si tratta di una terra tutta da scoprire: un vero 'magazzino di risorse che, non a caso, da qualche tempo è nel cuore dei centri di ricerca del clima e delle università. Per non parlare dei mass media che riportano in continuazione notizie sul cambiamento climatico, la minaccia dei cataclismi, l'avanzare dello scioglimento dei ghiacciai e di acidificazione dell'acqua marina, oppure come la CO2 possa incidere alla distruzione dell'ambiente e della perdita della flora marina.

Oggi l'Artico è rivendicato da 8 stati, il territorio russo ne occupa la parte maggiore. Ed è composto da varie regioni con rispettivi fusi orari: ben 7. Queste regioni sono abitate non solo dagli abitanti locali russi, ma anche da tante popolazioni di varie origini etniche, e indigene. Nell'Artico russo vivono circa 2,5 milioni di abitanti secondo i dati del Consiglio dell'Artico. Gli indigeni vivono in queste regioni nordiche mantenendo le loro tradizioni e i costumi. Praticano lo sciamanesimo, si occupano prevalentemente di pesca, caccia e allevamento di renne. Lo Stato russo da dei sussidi alle popolazioni indigene e incentiva soprattutto i giovani di quelle regioni. Oltre alle popolazioni indigene ci sono gli abitanti locali che ai tempi dell'URSS erano quasi il triplo, ma con la caduta dell'Unione Sovietica e poi a causa delle numerose riforme economiche e delle crisi cicliche molti abitanti furono costretti a spostarsi. Parlando dell'aspetto demografico nella tesi si analizzano tramite un grafico le 3 città più popolate: Murmansk, Norilsk e Vorkuta, per percepire questo calo drastico della popolazione rispetto agli anni '80. Ma c'è anche un tasso di nascita piuttosto basso e il tasso di mortalità alto, dovuto appunto alle condizioni vitali difficili, con un clima estremamente freddo.

Viste le ragioni climatiche ostili, i salari di quest'area sono molto più alti rispetto alle altre parti della Russia. Per tale motivo queste città diventano quasi un 'luogo di passaggio' di tanti operai che spesso si spostano lontano dalle loro famiglie per partire e

guadagnare un salario più soddisfacente. In queste regioni ci lavorano sia gli operai russi che molti migranti provenienti dalle ex Repubbliche Sovietiche. Per via del clima ferreo non è facile lavorare e mantenersi in buona salute. Su questo aspetto il nuovo programma statale ha avviato degli incentivi affine di un miglioramento nel campo della sanità.

Il nuovo programma di stato si basa su seguenti fondamenti economici: creazione delle Zone Economiche Speciali, mantenimento del loro funzionamento e creazione di condizioni favorevoli per il rapido sviluppo socioeconomico della zona artica russa; sviluppo della Rotta Marittima settentrionale e mantenimento della navigazione artica; sviluppo di attrezzature e tecnologie per i settori petrolifero e del Gas e dell'ingegneria industriale necessari per sviluppare giacimenti minerari della zona artica della Federazione Russa. Protezione, prevenzione dei rischi e il monitoraggio dell'ambiente, così come protezione delle popolazioni indigene e incentivi a delle popolazioni giovani. Dal punto di vista economico si analizzano i vari indicatori e gli scopi da raggiungere nel programma attuale, inoltre, si cerca di capire come viene indottrinato il discorso sullo sviluppo sostenibile in Russia. È un concetto nuovo, che si augura possa essere adottato dalle compagnie il quanto prima possibile.

L' Artico è famoso per la sua ricchezza ed unicità dei giacimenti delle risorse minerali, come il gas, i diamanti, l'oro, il carbone, ma è anche uno dei principali produttori di petrolio. Le rotte marine e i collegamenti fluviali lo rendono navigabile. Tutto ciò rende la Russia tra i primi esportatori di giacimenti, ma allo stesso tempo il suo PIL proviene prevalentemente dal circa 60% da gas e petrolio. Questo per certo rende vulnerabile l'economia del paese che in momenti imprevisti come la Pandemia del COVID-19 si trova con un calo drastico del prezzo del petrolio. A tal proposito, con il virus il PIL del 2020 si è già ridotto del 4-6% rispetto all'anno scorso. Per ciò nella tesi si sottolinea il fatto che la Russia dovrebbe adottare un modello di business basato sullo sviluppo sostenibile o sulle alternative altrettanto efficienti.

È da tenere presente che oggi Il settore energetico russo è sotto il potere statale e non più sotto le politiche liberali come ai tempi dell'Unione Sovietica con M. Gorbachev. Sebbene c'erano quelle politiche liberali, c'era molta più occupazione e con la caduta del regime comunista si è creato il caos degli anni '90, durante il quale molti oligarchi si sono arricchiti illegalmente. Per cui sono voluti degli anni per una ripresa profonda di tutti i settori. Con la salita al Governo del Presidente V. Putin, la situazione geopolitica, militare si è dovuta rivalutare sotto molti aspetti. Le esercitazioni e i movimenti nell'Artico hanno certamente attratto l'attenzione occidentale. Infatti, l'Artico viene spesso inteso dagli europei come un posto lontano, usato a scopi militari russi. Invece le basi militari della

NATO erano già presenti da prima nell'Artico e hanno continuato le loro esercitazioni fino ad oggi, mentre la Russia ha dovuto riprendersi economicamente negli ultimi 30 anni. Per cui in questa tesi si vuole dimostrare il fatto che secondo la visione russa più che una *militarizzazione* ci è stato il 'recupero del tempo perso' a differenza degli occidentali che hanno una visione più allarmante. Questo allarme è dovuto al fatto che la Russia negli ultimi 30 anni ha dovuto a riprendere il ritmo e a rinvestire nella Ricerca, installare delle basi militari e i sommergibili, fare delle esercitazioni, e a rafforzare la Sicurezza Nazionale pur di sorvegliare la ricchezza naturale dell'Artico.

Piuttosto di continuare a sviluppare l'economia in quelle regioni Artiche e rafforzare la sicurezza Nazionale e di continuare a costruire delle basi militari, l'Artico avrebbe più bisogno di essere salvaguardato e protetto, ma ciò deve avvenire attraverso la cooperazione, collaborazione, resilienza e solidarietà tra i paesi. Soprattutto adesso che dobbiamo affrontare il tema del cambiamento climatico che deve essere preso in considerazione da tutti i paesi e non solo quelli limitrofi. Infatti, il Consiglio dell'Artico è già un buon esempio di collaborazione tra i paesi, e da la possibilità a 32 paesi *osservatori* e alle ONG di avere delle opportunità per la cooperazione e attribuzione del proprio contributo nell'Artico. Bisognerebbe trasformare i rischi dell'Artico nella sicurezza. Per molti motivi il tema dell'Artico viene spesso ripreso nei dibattiti politici al centro dei quali vi è la discussione e la critica su che tipo di politiche applicare e chi deve governare quest'area, il controllo dello spazio Artico e qual è il suo destino. In questo contesto la Russia ha avuto delle dispute per la rivendicazione sull'estensione della sua piattaforma continentale nell'Oceano Artico, nel mare di Bering, e la disputa norvegese-russa nel mare di Barents. Questo ha creato delle tensioni tra i paesi.

Per molti motivi trattati precedentemente l'Artico viene visto in maniera appetibile dagli altri Paesi che ancora non fanno ancora parte del Consiglio e, magari, occupano solo lo stato *dell'osservatore* in esso. L'apparsa dei nuovi 'attori' nell'Artico come la Cina e il Giappone, sotto forma di paesi *osservatori*, stanno già facendo molti investimenti nell'area dell'Artico.

Inoltre, la Cina sta stringendo sempre di più partnership e intesa politica con la Russia. Come dimostrano i progetti commerciali firmati dai due paesi (commodities, digitalizzazione) che avvalorano come tale intesa si sviluppi in maniera proficua giungendo a prospettive strategiche e piani futuri tra cui diverse strategie nazionali di compagnie petrolifere per lo sviluppo delle nuove regioni (comprese le zone artiche e sub-artiche) e voglia di trovare dei nuovi approcci e soluzioni innovative (comprese le nuove tecnologie per lo sviluppo di giacimenti di gas e di petrolio sulle piattaforme dei

mari artici e sub-artici). Ci sono molti rischi che possono correre durante l'estrazione dei giacimenti. La maggior parte delle riserve di gas si trovano al largo della costa della Russia, per questo motivo sono installate numerose piattaforme sul territorio della costa e la maggior parte degli idrocarburi vengono estratti lungo la costa del Mare del Nord. Per precisazione solo nel Mare di Barents (quell'area che appartiene alla Russia) nello *Shtokman* sono siti circa 32,000 miliardi di metri cubi di gas naturale e 31 milioni di tonnellate di gas condensato. Così altrettanto sono importanti il Bacino di *Kara*, il pozzo di *Prirazlomnoye*, la piattaforma del Nord Est di *Sakhalin* e tante altre sono in processo di essere studiate e approfondite. In totale, gli scienziati ritengono che l'Artico russo contenga circa il 95% del volume totale di gas naturale domestico e circa il 60% delle riserve di petrolio.

Il principale meccanismo di sviluppo del territorio Artico diventeranno le Zone Economiche Speciali (ZES) collocate nelle regioni artiche nordiche, nord-est, sia quelle sud-est che prevedono lo sviluppo del territorio come un progetto olistico secondo il principio di garantire il collegamento reciproco di tutti i settori di attività nelle fasi di pianificazione, definizione degli obiettivi, finanziamento e realizzazione. Secondo il programma, le ZES sono progetti complessi di sviluppo socio-economico, che implicano l'applicazione simultanea di strumenti di sviluppo territoriale e settoriale, nonché meccanismi per l'attuazione di progetti di investimento, anche sui principi del partenariato pubblico-privato e municipale-privato. Queste aree sono oggetto di investimento di molti investitori sia russi che stranieri. La creazione di queste zone dovrà generare la crescita del tasso di occupazione, visto che i nuovi progetti dovrebbero creare dei nuovi lavori.

Tutte queste regioni sono collegate da delle ferrovie, strade, i porti e dalle numerose infrastrutture. Impossibile non menzionare vari porti dell'Artico, come il famoso porto di *Sabetta* situato sulla Penisola di *Yamal* la più ricca area di gas naturale, dal quale viene esportato il gas liquido (LNG) e i prodotti petroliferi. *Sabetta* è un porto di grande importanza, infatti, sono stati fatti numerosi investimenti per la sua realizzazione. La compagnia *Novatek* ha firmato un contratto con la Gazprom per la distribuzione dei prodotti di LNG. La terra dove avviene l'estrazione è paludosa, ciò rende particolarmente impegnative le operazioni di perforazione. Nella stagione invernale, la luce del giorno è disponibile solo per un breve periodo durante il quale è necessario eseguire la maggior parte dei lavori. Inoltre, l'area è molto remota, con poca manodopera locale disponibile. Nonostante queste sfide, diverse aziende stanno investendo nella regione per recuperare le grandi riserve del gas. La compagnia *Novatek* e *Total* stanno sviluppando un altro

progetto chiamato *Shtokman* nella stessa regione. Anche lo sviluppo delle ferrovie è uno dei punti portanti da realizzare nel programma statale.

La strategica Rotta del Mare del Nord (NSR) che è come un'arteria internazionale che collega numerosi stati ed oggi la sua sovranità è al centro dell'attenzione, perché la si vuole rendere disponibile a tutti i paesi, ma la Russia, vuole mantenere la sua sovranità visto che si protrae per la maggioranza nelle vicinanze del territorio russo. La NSR è una rotta che rende disponibile la navigazione durante tutto l'anno, è più corta perché si collega con l'Europa rispetto alla via tramite il Canale di Suez, quindi è anche possibile risparmiare sul carburante. Per rendere navigabile la via nell'oceano, la Russia ha creato dei rompighiacci nucleari più potenti al mondo.

Il clima nell'Artico russo è vario, però è prevalentemente caratterizzato da un inverno lungo e temperature estremamente basse, con le estati corte. Nonostante ciò durante gli ultimi anni sono state registrate temperature sempre più alte e l'avanzare del cambiamento climatico è forte. La Russia sta subendo un innalzamento delle temperature 2 volte più accentuate rispetto agli altri Paesi, mentre l'Artico russo sono 4 volte più alte. Il cambiamento climatico sta già creando dei danni alla Russia sotto forma di alluvioni (fiume Amur 2013), siccità, incendi (Siberia 2019) ecc. Questo potrebbe portare a delle catastrofi naturali ancora più gravi. In primis sono le popolazioni indigene e gli abitanti locali che potrebbero trovarsi faccia a faccia con le catastrofi naturali come le inondazioni. Quindi sarebbero costretti a dover lasciare le proprie terre e a mutare il loro modo di vivere. Se per le comunicazioni marittime e fluviali questo potrebbe sembrare ad essere un vantaggio perché le acque diventerebbero più percorribili e quindi servirebbero meno risorse per il trasporto delle merci, ma allo stesso tempo le inondazioni creerebbero numerosi danni alle infrastrutture. L'Artico è un ambiente molto fragile ed è il primo a percepire il Cambiamento climatico, lo scioglimento dei ghiacciai, l'assottigliamento del *permafrost* (al 60% copre il continente) e le infiltrazioni del metano sottoterra che viene considerato dieci volte più pericoloso rispetto alla CO2 tutto ciò potrebbe portare a dei cambiamenti sul Pianeta irreversibili e difficili da gestire se non prendiamo immediatamente decisioni per prevenire, o quanto meno alleviare, questi problemi. C'è tuttora la negligenza delle compagnie contro l'ambiente e lo Sviluppo Sostenibile dovrebbe diventare la priorità di tutte le compagnie che non hanno ancora adottato questo concetto. La riduzione della CO2 è una prima regola da affrontare. Nella tesi si potranno vedere il pensiero degli esperti russi sulla situazione a riguardo. In particolare, nella sezione del Cambiamento Climatico si toccheranno le prevenzioni politiche del Governo riguardo il clima e il tipo di sviluppo sostenibile intrapreso (le

misure di adattamento come quelle degli incendi e mitigazione della produzione nell'ambito dell'agricoltura).

Come suggerisce il professore A. Ishkov del fondo di Vernadsky, le misure adottate durante la Pandemia del Covid-19, dovrebbero servire per affrontare in maniera più responsabile il cambiamento climatico. È essenziale agire già da oggi, ma il cambiamento deve avvenire dai primi passi di tutti noi. L'obiettivo strategico è quello di raggiungere uno sviluppo socio-economico sostenibile orientato all'ambiente della società sulla base del patrimonio scientifico ma anche attraverso delle scelte politiche.

CONCLUSIONE:

Durante la stesura di questa tesi ho analizzato i lati positivi e quelli negativi nello sviluppo della regione artica russa. I punti positivi sono quelli legati alle risorse minerali che sono come una 'locomotiva' per l'economia e lo sviluppo della Russia, mentre in quelli negativi rientrano il cambiamento climatico e l'interpretazione della *governance* sull'Artico. Attraverso l'analisi dei documenti, articoli e libri vorrei trasmettere la visione dei russi, che considerano questa regione come un'area geostrategica, ricca di risorse naturali, un ambiente di ricerca, ed in complesso un'area del futuro.

Se ne conclude che la più grade difficoltà è quella di mantenere i tempi di sviluppo industriale e di ridurre le conseguenze negative delle imprese che producono un impatto negativo sulla natura. I limiti di produzione della CO2 si devono rispettare. Dal momento che la regione artica è tanto attratta dai paesi sviluppati e dai blocchi economici regionali dal punto di vista economico, questo potrebbe essere una chiave di risoluzione di molti aspetti, come quello ambientale, dove appunto i principi ecologici si potrebbero integrare bene nella strategia dello sviluppo economico, ma tutto sotto forma di sviluppo sostenibile.

La diminuzione delle risorse minerarie potrebbe portare l'Artico sulla strada di una sfida futura che potrebbe già avere delle ripercussioni verso la seconda metà del XXI secolo. Infatti, si sottolinea come tutti gli stati abbiano già mostrato la loro attenzione e il loro interesse verso la sua presunta divisione. Molti paesi vedono l'Artico come un'area di futuri scontri**.** I seguenti 3 processi: economico, ecologico e governativo, devono essere presi in considerazione per prendere già da oggi in mano il controllo della situazione.

L'attenzione si pone sull'aspetto governativo, perché i meccanismi di regolamento non sono ancora chiari. A differenza di alcuni stati, molti altri hanno già rivendicato le loro aree, perciò questo potrebbe portare a scontri futuri tra i paesi. Si dovrebbero sviluppare maggiormente gli aspetti di un regolamento mondiale che potrebbero identificare il futuro di questa regione. Visto che l'Artico è ancora una zona che ha uno *status* mondiale poco chiaro. Infine, per quanto riguarda le risorse minerarie, si suppone che nessun paese nemmeno il più ricco al mondo (dal punto di vista economico, umanitario, scientifico) sia capace di risolvere tutti i problemi che ci sono ancora da affrontare in questa regione. In complesso tutte le decisioni e le sfide riguardanti l'Artico dovrebbero essere affrontate dall'unanimità. Visto che l'artico potrebbe diventare una sfida, l'Artico dovrebbe essere sviluppato non solo nell'ambito economico, umanitario, ma soprattutto dovrebbero essere prese delle decisioni riguardo l'aspetto della sua *governance*. Tutto ciò potrebbe causare sfide militari future, quindi il suo destino dovrebbe essere definito già da oggi.

Secondo la mia opinione, l'Artico per la Russia è una zona di futuro e viene vista come un'area geostrategica. Per la sua ricchezza di risorse minerali questa zona sarà sempre sorvegliata. Nella seconda metà del XXI secolo potrà essere una zona di grandi scontri militari, se non viene presa una decisione già da ora, dopo sarà tardi per tutti gli stati ad affrontare delle sfide future.

L'Artico è un territorio ricchissimo, di natura unica, ma è contemporaneamente fragile. Esso ha un potenziale economico molto forte, perché è pieno di risorse minerarie. A mio riguardo, in quanto è un ambiente con l'ecosistema sensibile, nessun paese al mondo ha abbastanza risorse e forze necessarie per affrontare tutti i problemi ecologici che stanno crescendo. Pertanto, gli sforzi unanimi sono disperatamente necessari, sono inevitabili e ogni nazione dovrebbe reagire per proteggere questo ambiente. Cosicché ci deve essere un approccio di cooperazione e resilienza. Inoltre, le Nazioni Unite dovrebbero essere più decisive nel coinvolgere tutte le nazioni attraverso il Consiglio dell'Artico, WWF, Greenpeace, e altre organizzazioni internazionali. L'approccio scientifico è più adatto per l'Artico, per cui sarebbe più opportuno studiare questo territorio poiché è il nostro patrimonio comune e tutti noi dobbiamo preservarlo. Mentre dal punto di vista economico lo sviluppo sul territorio artico deve essere più trattenuto, perché nuoce alla natura e in effetti, i rischi ambientali sono alti, ciò danneggia l'ecosistema e i danni potrebbero essere irreversibili. (Come le fuoriuscite di idrocarburi, inquinamento di aria, flora marina e acqua ecc.) Ogni sviluppo economico di questa regione deve essere ponderato, e valutato dal punto della sua sicurezza, sostenibilità e

resilienza. Ci dovrebbero essere più programmi educativi che trattino delle discussioni scientifiche dei temi come problemi ecologici. Inoltre, il tema ecologico deve essere indottrinato nel sistema scolastico. Il penultimo decreto firmato dal Presidente a marzo 2035 pone poca attenzione sul Cambiamento Climatico, è questo potrebbe essere soggetto alla critica, visto che stiamo già vivendo il cambiamento climatico e le misure adeguate per fronteggiarlo sono necessarie. Infine credo che la Russia dovrebbe cambiare il suo modello di business e piuttosto investire nell'innovazione, tecnologia e invece diminuire l'estrazione delle risorse minerarie visto che stanno diminuendo e di passare su quelle più sostenibili come le fonti rinnovabili.

1. THE ESSENTIAL CHARACTERISTICS OF the RUSSIAN ARCTIC

§ 1. Geography

The first step to understand the Arctic is to make one familiar with its territory and geography. For many years it has been described as a vast territory with a severe climate, and as a place difficult to live in. Instead, it is a strategic area especially for the Arctic countries that have their own political, territorial and economic claims and interests. "The Arctic (this term that has double interpretation. The word comes from the Greek ἄρκτος — "bear", but also it means ἀρκτικός — "North") — is the single physical-geographical region of our Planet which is located next to the North Pole and is formed by the boundaries of the continents of Eurasia and North America, almost the entire Arctic Ocean Islands (except coastal Islands of Norway), as well as contiguous parts of Atlantic and Pacific Oceans. The Southern border of the Arctic coincides with the Southern border of the *Tundra*[1] zone. The total area is around 27 million square kilometers."[2] The Arctic is the territory occupied by Arctic States such as the Russian Federation (RF), Denmark (Greenland), Canada, Norway, Sweden, Finland, the United States (Alaska), and Iceland.[3] The Arctic is the Northern region of the Earth. Its water territories are composed by the Arctic Ocean with marginal seas — Greenland, Barents, Kara, Laptev, East Siberian, Chukchi, Beaufort as well as Baffin and Fox bays, numerous Straits and bays of the Canadian Arctic archipelago and the Northern parts of the Pacific and Atlantic oceans.[4] In shield areas where sedimentary rocks mantle the crystalline variety, as in North-

[1] *Tundra*: is a natural geographical area that occupies the Southern part of the Arctic belt and it is characterized by a harsh climate and sparse vegetation.
[2] R. M. Valeev, G. I. Kurdyukov (2017), *International law*, "Textbook for bachelor students", Statut, Moscow, pp.147-148.
[3] G. I. Tunkin (1994), *International law*, "textbook for bachelor students", (p. 380), Moscow.
[4] https://ru.arctic.ru/geographics/

central Siberia, the topography varies from plains to plateaus, with the latter deeply dissected by narrow valleys. Far beyond the margins of the shields, extensive plains have evolved on soft sedimentary rocks. In Siberia the Ob delta, its Northeastern extension to the Laptev Sea, the North Siberian Lowland, the West Siberian Plain, and farther east the Lena-Kolyma plains (including the New Siberian Islands) have also developed on sedimentary rocks. Although there are differences in the degree, these terrains are essentially flat, occasionally broken by low rock scarps, and covered with numerous shallow lakes. The plains are crossed by large rivers that have laid down deep alluvial deposits. The majority of the Arctic territory belongs to the Russian Federation.

1.1 *Climate, ice and relief*

The Arctic zone is dominated by the **Arctic climate**. The main features of the climate are low annual temperatures, which is due to significant heat expenditure on melting ice and snow and intensive cooling in winter. Due to the length of the polar day and night, solar radiation is extremely uneven. The radiation balance in the South of the Arctic is positive, but 2-3 times less than in temperate latitudes. In the Arctic basin, there is a negative heat loss that is compensated by the influx of warm air and water masses. Cyclonic activity is intense in winter. Northern cyclones, which come from the Atlantic and less often from the Pacific oceans are associated with the highest air temperatures, clouds and a large amount of precipitation, sharp weather changes and frequent strong hurricane winds.[5] To the Northeast beyond the Barents Sea, precipitation is far less, but the summer is shorter and permanent ice is widespread. Weather disturbances penetrate into the Kara Sea beyond *Novaya Zemlya*. In General, according to researchers, **temperatures** in the Arctic are rising twice as fast as in the rest of the World. This could lead to the extinction of many plant and animal species in the region. Warming threatens the existence of indigenous peoples of the Arctic — their food and lifestyle are directly dependent on the flora and fauna.

The temperatures are rigid, and they are varying. Indeed, as the Great Russian Encyclopedia runs: “The typical conditions of Arctic lands are extreme fluctuations between summer and winter temperatures characterized by permanent snow, ice in the high country, grasses, sedges, and low shrubs in the lowlands and *permafrost*, the surface

[5] Y. Osipov (2004), *Great Russian Encyclopedia*, 1st ed., Vol. 1, p.228, Russia.

layer of which is subject to summer thawing. Three-fifths of the Arctic terrain is outside the zones of permanent ice. The brevity of the Arctic summer is partly compensated by the long daily duration of summer sunshine."[6]

Arctic ice is of great importance for The Earth's climate system. The ice cap reflects the sun's rays and thus does not allow the Planet to overheat. In addition, Arctic ice plays a major role in the water circulation systems in the oceans. The total mass of Arctic ice has decreased by 70% compared to the level of the 1980s[7]. In September 2012, according to the hydrometeorological center, the area of the ice cap reached its minimum for the entire time of observation, amounting to 3346.2 thousand km2. The Laptev sea, the East Siberian sea, and the Chukchi sea reached the lowest indicators-65% of the norm. The density of ice also decreased.[8] In 2013-2014, ice melting was much slower, and only a minimum of 5000-5100 thousand km2 was reached (compared to 3346.2 in 2012).[9] A small increase in the mass and area of ice in 2013-2014 should not be considered a change in the trend of ice cap disappearance, but the speed in this trend was much slower than forecasts.[10] "According to scientists who have studied Climate Change impact, in all regions of the Arctic in the recent years, the area of the ice covered is rapidly decreasing. As of February 25, 2015, this figure was 14.54 million km2. While for the period 1981-2010, the area of ice in the Arctic was on average 15.64 million km2. Many experts assume that in the twenty-first century, most of the Arctic water area will be completely free of ice in the summer, and this will open up new prospects for sea cargo transportation."[11]

The origins of the rocks in the Arctic and plateaus are ancient and some of them were destroyed, whereas the others originated later, and they formed mountains that are young and higher than the others. In fact, as the *New Encyclopedia Brittanica* clarifies: "The strongly folded rocks associated with the two orogenic periods in the Arctic form separate physiographic regions. The original mountains of the older, Paleozoic folding were long ago destroyed by erosion, but the rocks have been elevated in recent geologic time, and renewed erosion, often by ice, which has produced a landscape of plateaus, hills, and mountains that looks like the higher parts of the shields. Regarding plateaus like

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[6] Y. Osipov (2004), *Great Russian Encyclopedia*, (1st ed., Vol. 1, p.228), Russia.
[7] https://www.bbc.com/russian/science/2012/08/120827_arctic_ice_record_low.shtml
[8] https://meteoinfo.ru/news/1-2009-10-01-09-03-06/6488-15012013-
[9]http://www.gismeteo.ru/news/klimat/ploschad-ledyanogo-arkticheskogo-pokrova-dostigla-godovogo-minimuma/
[10] https://www.gismeteo.ru/news/klimat/11634-arktika-mozhet-lishitsya-ledyanogo-pokrova-k-2030-godu/
[11] https://earthobservatory.nasa.gov/features/SeaIce

Novaya Zemlya and *Severnaya Zemlya*[12] they rarely exceed 2,000 feet. The younger groups of fold mountains of Northeast Siberia are generally higher. While the deepest ground, known *permafrost*[13] is in Northern Siberia, it exceeds 2,000 feet. The depth of the ***permafrost*** depends on the site, climate, vegetation, and recent history of the area, particularly whether it was covered by sea or glacier ice. The very deep *permafrost* was probably formed in unglaciated areas during the Ice Ages. In Northern Siberia fossil ice has been reported up to 200 feet thick, although in these cases it may be glacier or lake ice that has subsequently been buried under river deposits. If ground ice melts, due to a change in climate, pits are formed in the ground and quickly fill with water to form lakes and ponds. In their frozen state the silts have considerable strength, but if they thaw, they change in volume, lose their strength, may turn to mud. Variations in volume and bearing capacity of the ground due to changes in the *permafrost* constitute one of the major issues in Arctic construction."[14]

There are four major and many minor islands in the group mountains. Although they are low-lying, consisting primarily of plateaus less than 2,000 feet high, all the larger islands have ice caps that cover rather less than 2,000 feet high, all the larger islands have ice caps that cover rather less than half the total area. Outlet glaciers reach the sea and they are an occasional source of icebergs. Elsewhere the Russian northern areas are remarkably free of ice. Small cirque glaciers are found in the Ural Mountains and the Mountains of Northeastern Siberia. Not until the Pacific is approached do the mountains again have alpine glaciers, another indication of the importance of moisture for the development of glaciers. *Tundra* areas has a continuous cover of vegetation, and many different *Tundra* plant communities may be recognized. In the drier and better drained parts, heath *Tundra*, made up of a carpet of liches and mosses with isolated flowering plants. The *Tundra* vegetation is the source of food for the Northern grazing mammals but contains few foods of direct value to human.

The Arctic Ocean consists of two principal **deep basins** that are subdivided into four smaller basins by three transoceanic submarine ridges. The central of these ridges extends from the continental shelf off Ellesmere Island to the New Siberian Islands, a distance of 1,100 miles. This enormous submarine mountain range was discovered by

[12] *Severnaya Zemolya:* is an archipelago in the North Arctic ocean of the Taimyr Peninsula on the border of the Kara sea and the Laptev sea.
[13] *Permafrost*: is a permanently frozen soil.
[14] Robert P. Gwinn, Chairman, Board of Directors Peter B. Norton (2003), *The New Encyclopedia Britannica,* Macropaedia, Knowledge in Depth, 15 th ed.,Vol. 14, pp.1-7.

Soviet scientists in 1948-49 and reported in 1954. It is named the Lomonosov Ridge after the scientist, poet, and grammarian Mikhail Vasilyevich Lomonosov. The Lomonosov Ridge has an average relief of about 10,000 feet and divides the Arctic Ocean into two physiographic ally complex basins. These are referred to as the Eurasia Basin on the European side of the ridge and the Amerasian Basin on the American side. The Lomonosov Ridge varies in width from 40 to 120 miles, and its crest ranges in depth below sea level between 3,1000 and 5,400 feet.[15]

1.2 *Mineral resources*

This sub-chapter enlightens on the **abundant mineral resources of the Arctic**, which are rightly considered to be the "diamond" of the region. Many countries want to get an access to the Arctic possessions as a major resource base, that is why this issue have already caused a lot of controversy and arguments among the so called 'Arctic countries'.

According to a study of the Arctic's Natural Resources published by Journal "Science"[16], the region contains 83 billion barrels of oil, which makes up 13% of the World's undiscovered reserves. There are about 1550 trillion m3 of natural gas reserves in the Arctic. Most of the undiscovered reserves of oil are located near the coast of Alaska, and **almost all gas reserves are located off the coast of Russia**.[17] If we talk about fossil fuels coming from natural resources, the Arctic region, according to geologists, is the World's largest circumpolar minerogenic belt, rich in oil and gas and ore fields. "Already today, a significant part of hydrocarbons is extracted here, and the potential of oil and gas fields is estimated at almost a quarter of the world's forecast resources" [18], as V. Shtyrov said. Indeed, in the *Great Russian Encyclopedia* it is defined that: "The Arctic sector is a sedimentary basin containing huge reserves of oil and combustible gas, estimated in the range of 100 to 150 billion tons of conventional fuel, including the Russian shelf of about 90 billion tons. They began development of deposits of a large oil and gas province on

[15] Robert P. Gwinn, Chairman, Board of Directors Peter B. Norton (2003), *The New Encyclopedia Britannica,* Macropaedia, Knowledge in Depth, 15 th ed.,Vol. 14, pp.1-7.

[16] https://www.ncbi.nlm.nih.gov/pubmed/19478178

[17] https://ru.arctic.ru/resources/

[18] V. Shtyrov (2018), *Artika i Dalnyj Vostok: velichie proektov*, "Ocherk i pubblicistica", Knizhnyi mir, Moscow, p.124.

the Western Arctic shelf."[19] According to the identified and projected reserves of many types of minerals, the continental Northern shelf is a truly unique national reserve of Russia. The recoverable resources of hydrocarbons alone amount to more than 100 billion tons in terms of oil. In the Western sector, a giant gas-oil province has been discovered, which contains 70% of all the initial recoverable resources of the Russian shelf known to date. Moreover, this data will be undoubtedly increased, because active searches continue, and their completion is still very far away. **In the very near future, new oil and gas production centers in the Western sector may be set up, in addition to the Pechora oil and gas condensate field, in two more large areas - the Central Barents and South Kara regions. The second largest oil and gas area has been identified on the shelf of North-Eastern Sakhalin. The potential of this area is estimated at 1.6 billion cubic meters of gas.** In the late 70s, large deposits of the Odoptu Sea and Chayvo were discovered here, in the 90s-Lunskoye and Arkutun-Dagi. In all other areas of the sea North and North-East, many studies of the shelfs are conducted therefore in the future we may expect promising discoveries there. For example, according to scientists, the Northern and Eastern shelf of the the Okhotsk Sea, the Khatyr and Anadyr sections of the Bering sea, the Chukchi and East Siberian seas, and the Laptev sea are very promising for oil and gas potential. **In total, scientists believe that the Russian Arctic contains around 95% of the total volume of domestic natural gas and about 60% of oil reserves.** In addition, the Arctic shelf is rich in many other mineral resources - gold, copper, nickel, tin, platinum, manganese, coal, and others. The situation with expensive rare earth elements is no less impressive: 95% of all domestic reserves of this unique raw material also fall on the polar region. The potential resources of precious metals are extremely large - about 40% of Russian gold and about 90% of silver are also found in the Arctic. The gold potential is mainly associated with the alluvial province covering the *Severnaya Zemlya* archipelago and the Northern part of the Taimyr Peninsula. On the coast of the Chelyuskin Peninsula and at the bottom of the Vilkitsky Strait, three gold - bearing nodes with numerous placers with a gold content of 0.7 - 0.8 to 1.5-2 grams per cubic meter have already been identified. To the East, on the coast and in the water area of the long Strait, the *Valkaraysky* district of placer gold is allocated. Of the four placers explored here, one is very large, with a high content of precious metal. A detailed listing of all the Arctic natural deposits would make quite a voluminous pamphlet. At the same time, of all these natural resources, only the gold deposit on the island of Bolshevik in the

[19] Y. Osipov (2004), Great Russian Encyclopedia, (1st ed., Vol. 1, p.227), Russia.

Severnaya Zemlya archipelago and the coal deposit in the Svalbard archipelago belonging to Norway were really involved in domestic industrial development until recently. Those listed data on natural reserves clearly shows that the mineral resource potential of the Russian shelf is characterized by a wide range of solid minerals.[20]

§ 2. Administrative subdivision

The Arctic area is composed by 8 countries – Russian Federation, the United States, Canada, Denmark, Iceland, Norway, Sweden, and Finland. The first five of them are the coastal states since their territory is in front of the of waters of the North Arctic Circle. Due to their geographical location, historic reasons, preferential rights to use the Arctic space this approach is reflected in the so-called sector theory, according to which each coastal state has special rights in its polar sector of a triangle, the basement of which is the coast of the corresponding state, and the sides – the lines are passing along the Meridians to the North Pole.

The current legal regime of Arctic Ocean, including those permanently covered by ice, is regulated by the norms of the International Sea Law, relating to Maritime zone (Internal Sea Waters, Territorial Sea, Exclusive Economic Zone, Continental Shelf, Open Sea).

In 1982, the UN Convention on the Law of the Sea was adopted, according to which the state's territorial jurisdiction extends only to the shelf, while the offshore zone is declared Internationally. Russia joined this agreement in 1997. The USA did not ratified the Convention (This makes it very difficult for the Arctic Council to participate in collective decisions on the Arctic. For the United States there remains a path of unilateral actions under the slogan of free navigation and the strengthening of such organizations). According to the Convention, coastal waters can be no more than 12 miles from the baselines, the exclusive economic zone – a 200 miles from the baselines (plus 150 miles for the continental shelf, only if it can be proved that the seabed is an extension of the

[20] V. Denisov, (2012), *Warm Arctic: The Russians are coming*, "Nash sovremennik", vol. 7, Moscow, Russia, pp.210-217.

coast). In 2008 it was also signed a new Declaration in Greenland – Ilulissat Declaration that expresses agreement that the existing norms of International Law provide a necessary and sufficient basis for responding to any challenges in the Arctic such as the protection of the marine environment, maritime safety, and division of emergency responsibilities if new shipping routes are opened.

"The Arctic space is not directly regulated at the international level. The fragmentary legal regime of the Arctic is determined by the National Legislation of the Arctic countries and international legal agreements, mainly in the field of environmental protection.

Russia does not have a single act regulating all issues related to the Arctic, in fact there have been several unsuccessful attempts to adopt a corresponding law. In particular, drafts of the Federal law on the Arctic zone of the Russian Federation and the Federal law on legislative support for the development of the Arctic and Northern territories of the Russian Federation have been developed."[21] In accordance with the decree announced by the President V. Putin, the Ministry of regional development of the Russian Federation is the body responsible for the Arctic region in the Russian Federation. The Ministry of economic development is responsible for the sustainable development of the region. The interests of the Russian Federation on the issue of dividing the Arctic ocean floor are represented by the Ministry of Foreign Affairs.

2.1 *Territorial divisions*

"There are two types of territorial divisions in Russia:

1. Administrative-territorial structure is for the orderly implementation of public administration functions;
2. Territorial organization of local self-government.

There are two main approaches to the ratio of administrative and territorial (municipalities) divisions: combining two types of divisions — the borders of municipalities coincide with the borders of administrative divisions.

The first structure - administrative-territorial device of the subjects of the Russian Federation established by the charters or Constitutions of constituent entities of the Russian Federation, regional laws of subjects of the Russian Federation "About

[21] http://www.iecca.ru/ru/zakonodatelstvo/voprosy-prava/item/77-pravovoj-rezhim-arktiki

administrative-territorial device" and the corresponding registries of the administrative-territorial units of subjects of the Russian Federation, according to which the majority of subjects of the Russian Federation are divided into administrative-territorial units, which basically at the top level are the districts and towns of regional (territorial, Republican, district) values (normally not included in the areas), as well as in some regions and closed administrative divisions. Within the framework of the local Government, they usually correspond to municipalities with the status of a municipal district and an urban or municipal district. At the lower level of the administrative-territorial structure of subjects of the Russian Federation, rural districts (village councils) or settlements are sometimes distinguished, as well as rural localities, urban-type settlements (work settlements) and cities (of district significance), and inner-city districts. Within the framework of local government, they usually correspond to municipalities with the status of rural settlements or urban settlements with their constituent localities.

The second structure - is Municipality, it is a territory where local self-government, municipal property, and the local budget are carried out by elected bodies within the framework of the municipal structure in the Russian Federation's constituent entities. In municipalities, the Executive and legislative authorities are elected (usually the mayor and the city Duma). Municipal division is provided for the creation of local self-government bodies in these territories in accordance with the Constitution and legislation. Municipal authorities are not part of the system of state authorities. [22]

Since May 2019, the legislation of the Russian Federation introduces the creation of 8 types of municipalities: rural settlement (*selskoe poselenie*), urban settlement (*gorodskoe poselenie*), municipal district (*municipalnyj rajon*), urban area (*gorodskoj okrug*), intra-city territory of a Federal city (*vnutrigorodskaya territoriya goroda federalnogo znacheniya*), urban area with intra-city division (*gorodskoj okrug s vnutrigorodskim deleniem*), intra-city district (*vnutrigorodskoj rajon*), municipal district (*municipalnyj krug*). The largest municipality by its area in Russia is the Taimyr Dolgan-Nenets municipal district, by population instead, is the city district of Novosibirsk.[23]

"The Soviet doctrine was based on an almost complete correspondence between administrative division and local government (the concept of local self-government as an independent public authority in the Soviet Union was not recognized in principle). With the proclamation of local self-government in the Constitution of the Russian Federation

[22]https://komnbiz.ru/en/osnovnaya-administrativno-territorialnaya-administrativno-territorialnoe-ustroistvo-rossii-princip.html

[23] https://komnbiz.ru/en/osnovnaya-administrativno-territorialnaya-administrativno-territorialnoe-ustroistvo-rossii-princip.html

as a special independent form of public power, a dispute arose about the relationship between municipal and administrative territorial divisions. If the administrative-territorial units corresponded geographically to the spatial limits of the distribution of powers of local government bodies, then now the municipal-territorial structure has de facto absorbed the administrative-territorial division."[24]

Russian Arctic area include the following regions:
"Arkhangelsk oblast, Republic of Komi, Krasnoyarskij kraj, Oblast of Magadan, Murmansk region, Khanty-Mansi Autonomous Okrug, Chukotka Autonomous Okrug, Yakutia, Yamalo-Nenets Autonomous district". [25]

2.2 *Polar possessions of Russia*

The borders of the Northern Polar possessions of the USSR were determined by the decree of the Presidium of the CEC of the USSR dated April 15, 1926. The water border then passed from the Kola Peninsula through the North Pole to the Bering Strait.

"In 1997, Russia ratified the 1982 Convention on the Law of the Sea. The Convention establishes the same 12 miles of sovereign territorial waters and 200 miles of economic zone - with free navigation, but exclusive rights to use mineral and biological resources. However, any country can claim its national jurisdiction over the seabed and its subsoil (part VI of the Convention) and beyond 200 miles, if it is proved that the shelf from its shores extends beyond this distance."[26]

In order to obtain rights to the Polar possessions, Russia will have to prove that the Lomonosov and Mendeleev underwater Ridges have a continental origin associated with the territory of Russia. With regard to the **Lomonosov Ridge**, this is disputed by

[24] A. Kondrashev, O. Ronzhina (2018), *Administrativnoe-territorialnoe ustrojstvo subektov Rossiiskoj Federacii: objee i osobennoe (na primere Rossijskoj Arktiki)*, Rossijskoe Pravo Obrazovanie Praktika i Nauka, n.3, p.53
[25]https://www.northernforum.org/index.php/en/
[26] R. M. Valeev, G. I. Kurdyukov (2017), *International law: textbook for bachelor students,* Statut, Moscow, pp.148-151

Denmark, which believes that the ridge is a sunken part of Greenland.[27] To gather evidence that the Lomonosov ridge is a continuation of the Polar lands of Russia, the Russian side sent an unprecedented expedition "Arctic-2007" in the July-August 2007, consisting of surface and underwater parts, which culminated in the Russian flag being set over the Arctic Ocean near the North pole of the Earth.[28] Indeed, Anatoly Sagalevich, Yevgeny Chernyaev and Artur Chilingarov were granted with title of "Hero of the Russia" for their courage and heroism demonstrated in harsh conditions and successful completion of High-Latitude Arctic Deep-Water Expedition. This generated concerns and conflicts from the bordering countries, whose response was claiming for the belonging of their territories.[29]

On one hand, with the development of technologies for offshore oil production, the still unresolved problem of establishing the boundaries of the continental shelf of the Arctic States is becoming more and more urgent. **The delimitation of Maritime spaces in the Arctic is one of the priorities of Russian policy in the region.** The sectoral division of the Arctic, adopted as a normal rule of international law in the 1920s, contradicts the UN Convention on the law of the sea of 1982, which sets the limits of the continental shelf of States within a 200-mile zone with the possibility of further expansion to 350 miles. There is no consensus in world practice on whether to apply the Convention on the law of the sea to the Arctic zone. Russia is interested in preserving the sectoral principle, while the **United States supports limiting the continental shelf, although it has not ratified the 1982 Convention.** However, the main share of shelf resources in any case is concentrated within 200-mile zones of States.

§ 3. Demography

If the question who lives in the Arctic is raised, the immediate response is supposed to be – the Arctic peoples, evidently not only they. People coming from other regions of Russia live there too. "Arctic people" are a generalizing name for the peoples, nationalities, and tribes that have historically lived permanently in the North of the Arctic

[27] https://arctic.ru/analitic/20181115/804847.html
[28] https://ria.ru/20180321/1516890795.html
[29] https://arctic.ru/analitic/20181115/804847.html

circle. There is evidence that the Arctic has permanently been inhabited at least since the middle of the third Millennium BC — these people received the conditional name *paleoeskimos*.[30] The population is a mix of Caucasians and many other ethnical groups of indigenous peoples. There are around 40 nationalities living in the Russian Arctic, and more than 70% of them call themselves Russians. Russians were the earliest people to settle in the Arctic. They migrated in to the North because mostly were attracted by natural resources that generated many well-retributed jobs.

3.1 *Ethnic groups in the Russian Arctic*

Indigenous people have inhabited the Arctic for thousands of years. On what regards the proportion of indigenous people it is estimated to be around 10% of total population living in Arctic areas. The following indigenous people live in Russia: "Aleuts, Alutorians, Veps, Dolgans, Itelmen, Kamchadals, Kereks, Ketas, Koryaks, Kumandins, Mansi, Nanais, Nganasans, Negidals, Nenets, Nivhi, Oroki (Ulta), Orochi, Sami, Selkup, Soyots, Pelvises, Telengites, Teleutes, Tofalars (Tofa), Tubalars, Tuvans-todzhin, Udege, Ulchi, Khanty, Chelkans, Chuvans, Chukchis, Chulyms, Shortsy, Evenki, Evens, Ents, Eskimos and Yukagirs."[31] Each ethnic group has its own ancient culture, language and traditional occupations, but the Arctic indigenous people are united by a unique way of life and methods of nature management inherited from their ancestors and adapted to extremely harsh conditions of survival. The most populated of the indigenous peoples of the Russian Arctic are the Yakuts (Sakha).[32] It is an ethnic group of about 500 thousand people. The ancestors of the Yakuts led a nomadic lifestyle, later it was replaced by sedentary, with the construction of houses. However, in summer, traditional yurts are used in pastures. The main occupation is cattle breeding — the Yakuts breed special breeds of horses and cattle adapted to harsh conditions, and in the Northern regions — deer. Applied art is highly developed, such as wood carving, bone carving, metal jewelry, and birch bark products — from small boxes and boxes to metal plates, and beads on urasa panels — a traditional summer home. Modern Yakuts preserve their

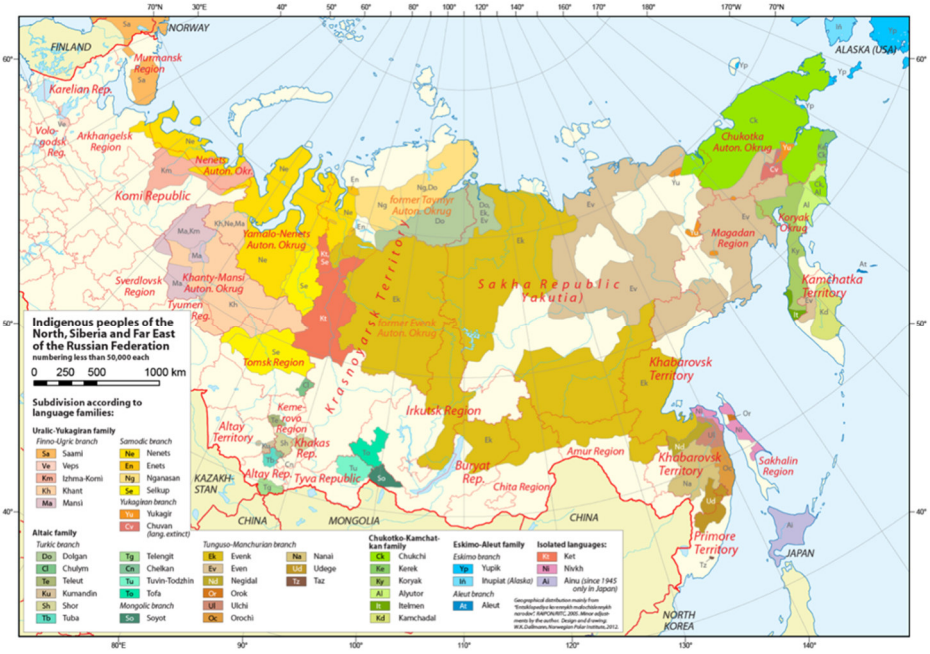
[30] https://fb.ru/article/192272/korennyie-narodyi-arktiki-kakoy-narod-yavlyaetsya-korennyim-narodom-arktiki

[31] N. Vakhtin (2016), *Naselenie Sibiri i Severa*, "Materials for the textbook", European University in Saint Petersburg, Russia, p.8.

[32] https://xn----8sbbmfaxaqb7dzafb4g.xn--p1ai/narody-arktiki/

culture, the Yakut language is taught in schools on the territory of Yakutia, it is used for television, radio broadcasting, and books.

According the Arctic Council's data, (see the map) it is possible to observe how many different ethnic groups are spread all over the Russian Federation:



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"There is a great variation of cultural, historical and economic backgrounds among the groups. Immigrants settled lately in that area have altered the balance indigenous and non-native people as it happened in USA, Canada, and so forth. However, a common feature for most of the indigenous communities in the Arctic is that they have already undergone substantial changes due to the Globalization of the western lifestyle, state's policies, modern transport and the introduction of mixed economy. In general, indigenous people have a specific connection to land that they have inhabited. Other features, for example distinct language, culture and traditional livelihoods such as reindeer herding, fishing and hunting are characteristics of indigenous people in the Arctic. **Industrialization, social change and environmental problems such as Climate Change, however, present threats to the continuity of these livelihoods and culture.** Recently, a political organization of indigenous peoples has led to international recognition and clarification of human and political rights concerning indigenous populations. Rights to land and natural resources are an important part of the culture and

33 https://www.apecs.is/research-archive/maps-of-indigenous-people-in-arctic/734-indigenous-peoples-of-the-north-siberia-and-the-far-east-of-the-russian-federation.html

survival of indigenous peoples in the Arctic."[34] Moreover, the Secretary of the Security Council of Russian Federation– Nikolaj Patrushev in the interview to *Rossijskaya Gazeta* regarding the Arctic's safety said:

"The development of the Arctic can inevitably have a negative impact on natural diversity and affect the lives of the indigenous population of this region, whose economic activities are directly related to nature. Today states strive to gradually restore natural ecosystems to a level that guarantees the stability of the environment and are engaged in the formation of a responsible attitude to nature. In the recent years, Russia has significantly tightened environmental requirements for conducting economic activities in the Arctic. In addition, the accumulated environmental damage is being eliminated. […] We support the continued regular exchange of data on the state of the Arctic environment and climate. **It is necessary the preservation of traditions and culture of the indigenous population**."[35]

However, according to the last decree[36] regarding the basement of the State Policy of the RF in the Arctic region for the period up to 2035 signed on 5th March 2020, the **Government is concerned about the decrease of the population of Arctic**, the fact that it is present a low level of social development, weak transport system and information technology field, especially, in the traditional zone where are situated indigenous peoples. The Russian Government goal is to rise the life quality of locals and to protect the environment of traditional way of living especially of indigenous people.

3.2 *Settlement in the Arctic regions*

Arctic areas are inhabited approximately by four million people according to the AHDR (Arctic Human Development Report) of the Arctic. The settlement area is divided between eight Arctic countries. The circumpolar region is extremely sparsely populated. Using more broad definition, according to the University of the Arctic Atlas, there are approximately 13.1 million people living in the area of the circumpolar North.

[34] https://www.arcticcentre.org/EN/arcticregion/Arctic-Indigenous-Peoples
[35] I. Egorov (2016), *Arktika bez opasnosti*, "Rossijskaya gazeta", Moscow, n. 197, p.8.
[36] http://kremlin.ru/acts/bank/45255

During the 1950s and 1960s, the number of Arctic people started to grow rapidly because of improved health care for indigenous populations and the discovery of vast natural resources located in the North which led to a large influx of immigrants. Recently, however, population growth in the Arctic has slowed down in general and in some cases (e.g. Russian North) the total population has been even declining. It is estimated that two thirds of the total population live in relatively large settlements. The settlement of the indigenous peoples living in circumpolar countries is characterized by small, widely scattered communities.[37]

In post-Soviet Russia, the northern region can be divided into the oil and gas areas of the Khanty-Mansi and Yamal-Nenets okrugs, and other areas. The population is growing in the oil and gas areas and declining slowly in the others. Over 75% of analyzed settlements have been decreasing throughout the 21st century, mainly as a result of outmigration.[38] During the Soviet Union the Russian North was overpopulated almost twice, today the situation is completely different because the population declined dramatically due to market reforms, natural population decline or, the prevailing migration outflow. And the Government is trying to attract people and companies to install there, giving them incentives and many opportunities.

3.3 *Current population*

Because of harsh weather conditions, Arctic area is not widely populated, and it is considered to be the least populated on the Planet. The autochthon groups are often occupied of reindeer husbandry, marine fishing, instead upcoming people are dealing with mining and maintenance of transport routes. Population density in Arctic is due 0,1-0,2 people per square kilometer. “The most important cities, ports, industry and mountain circles are **Murmansk, Norilsk, Vorkuta**, Salekhard, Nar’an-Mar, Dudinka, Igarka, Dikson, Tiksi and so forth.”[39] The development of the Arctic’s natural resources requires appropriate demographic and labor potential. **Around 4 million including indigenous**

[37] https://www.arcticcentre.org/EN/arcticregion/Arctic-Indigenous-Peoples
[38]https://nordregio.org/nordregio-magazine/issues/arctic-changes-and-challenges/cities-on-ice-population-change-in-the-arctic/ 2.04.2020
[39] Y. Osipov (2004), Great Russian Encyclopedia, (1st ed., Vol. 1, pp.227-232), Russia.

people currently live on the border of Arctic Ocean, more than half of them live in the Polar regions of Russian Federation. Russia's Arctic is home to around 67 thousand inhabitants that are part of indigenous minorities, of which 75% live in rural areas. To maintain this number (or a sufficient number based on the needs of the country's economy), a constant external supply and support are necessary.

3.4 *Labor migrants*

Labor migrants are that part of population that began to settle in Siberia and the North of Russia. Since mid-1990s residents of other regions of Russia and the former Soviet Union, who were in the conditions of hard economic reforms were forced to look for a job in the North. This is usually oil and gas industry, as well as partly trade and some other industries. As an example, the geographical distribution of labor migration in the Tyumen region, Khanty-Mansi and Yamalo-Nenets districts, one of the richest regions of Russia: according some data of 2013, 54 % of employees come here from the Volga region, 22 % - from the regions of Siberia, 15 % - from other regions of the Ural district. The main "donors" of labor for these oil and gas regions are the Republic of Bashkortostan, Omsk, Sverdlovsk, Kurgan regions, Tatarstan, Udmurtia, Chelyabinsk, Novosibirsk, Kirov, Orenburg regions. There is little information about this category of population, and researchers paid attention not that many years ago.[40] In comparison with the Soviet Union the population has drastically declined. Today, it is used to come to this regions for seasonal work or work of a couple of years in order to earn money (in Siberia usually salary is double) and then come back to the region of origin.

3.5 *Demographic potential assessment of the Northern regions of Russia*

[40] N. Vakhtin (2016), *Naselenie Sibiri i Severa*, "Materials for the textbook", European University in Saint Petersburg, p.26.

Russia's largest city above the Arctic Circle is Murmansk, also the Arctic's most populated city and historically known as an Arctic hub, with a population of 292,465 (2019). Norilsk has 180,976 (2019) inhabitants and Vorkuta counts 54,223 (2019) people. The bar chart below shows the population amount of the **largest cities in Russian Arctic** according to Rosstat:

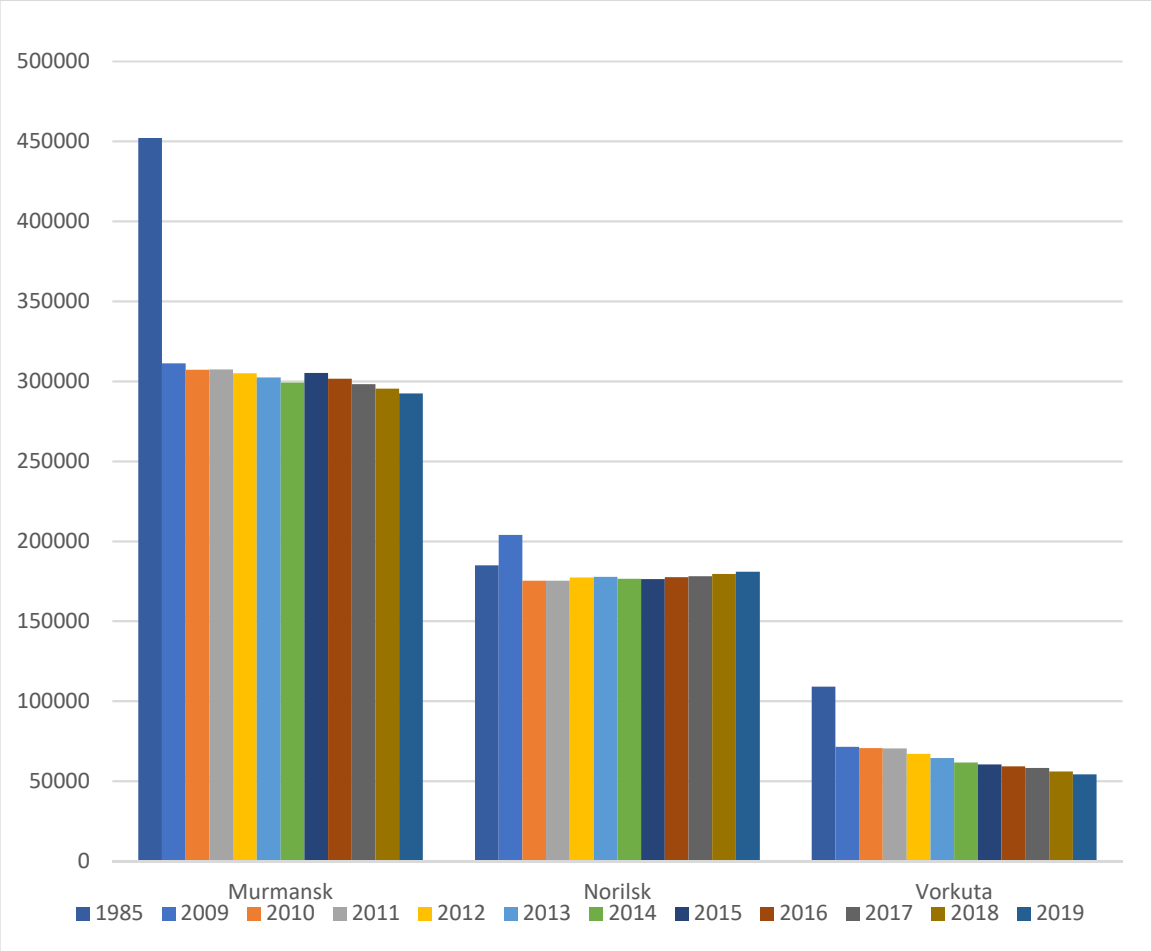

Figure 1 Demographic decline in Arctic biggest cities over the last 10 years

We can deduct that over the last 35 years, the Murmansk Oblast population was in clear decline. In fact, the population has decreased by nearly 159,535 over the last 35 years, Norilsk has already lost in 10 years 22,954 inhabitants (since 2009) in 35 years it has lost not that much 4,024 but still it was in decline, Vorkuta instead has lost 54,777 in comparison with 1985 year. "The Arctic regions differ considerably in terms of population size, growth rates and the structure of settlements, as well as fertility, epidemiological and migration patterns. There are also significant demographic differences between indigenous and non-indigenous populations in the Arctic. Across the Arctic, there has been a general trend towards the concentration of populations into larger urban centers and a decline in smaller settlements. The population of the Russian Arctic

has continued its post-Soviet contraction with ongoing decline in all but two regions. Russia's cities are much larger than those in other Arctic regions as a result of the Soviet Union's central planning system. "The absence of work prospects, few opportunities for the children, the exorbitant prices of basic goods, the chronic shortage of heating, gas, and electricity, and the poor links with the rest of the country have pushed millions of Russians to relocate from the arctic since the fall of the Soviet Union."[41] The break-up of the Soviet Union, the transition to a market economy and the liberalization of society resulted in significant demographic upheaval in Russia and the Russian North. The population of the Russian North adjusted to the new economic conditions by declining by 20% through the large-scale outmigration of nearly a quarter of the population and many settlements across the Russian Arctic were closed or abandoned when they became depopulated. The largest population decline was in the Far East, where the population of Kamchatka declined by one-third, the Magadan oblast by nearly two-thirds and the Chukotka okrug." [42]

There is **a long-standing dilemma about how to develop the Arctic regions: on a rotational basis or by creating permanent settlements and large cities**. The contribution of the Arctic zone to Russia's GDP is more than 10% (more than 20% of Russian exports) with a share in the population of about 2%. Promising areas will also be developed on a rotational basis. Although there is no question of establishing new cities, there is a need to create **comfortable conditions in existing cities and settlements in the AZRF**[43]. As an alternative method, the option of creating state programs that involve medium or long-term temporary residence in the Arctic zone and create conditions for subsequent safe return to other parts of the country are considered.

§ 4. Infrastructure

The Arctic Infrastructure consists in railways and roads, bridges and highways, large power plants and transmission lines, gas and oil pipelines. The Arctic **transport system** is the key element of the Northern Sea Route which is like an international **artery**

[41] https://css.ethz.ch/content/dam/ethz/special-interest/gess/cis/center-for-securities-studies/pdfs/RAD-96-8-10.pdf

[42]https://nordregio.org/nordregio-magazine/issues/arctic-changes-and-challenges/cities-on-ice-population-change-in-the-arctic/

[43] *AZRF* stands for Arctic Zone of Russian Federation

of the Arctic. The most important role plays in the Russian Arctic - the nuclear icebreaker. Russia has **the largest icebreaker fleet in the world** (4 nuclear-powered icebreakers and around 30 diesel-powered ones). Due to increasing efficiency of logistics and improved navigation conditions in the Northern seas as the consequence of the Global Warming, the economic feasibility of extracting natural resources in the Arctic is getting better.[44]

Since Russia has some rivals in the field of transit information, strategic affairs resources ensuring information independence, where the Western countries are on the first places, in order not to fall behind the most successful countries the Russian Government introduced in 2017 some improvements in the infrastructure sector and strategic planning. Neither the Economy nor the National Security should be threatened by other countries.

4.1 *The transport route and shipping traffic*

"The **Northern Sea Route** is considered to be the most effective way of navigation and the shortest sea route between Northern Europe and the Far East. As it was discussed on the Forum in St. Petersburg on 9-10 April 2019, where the main target of discussion was raising cargo shipments up to 80 million tons via NSR by 2024.[45] The NSR definitely has many advantages. (see the map)

The Economist

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[44] V. Shtyrov (2018), *Artika i Dalnyj Vostok: velichie proektov*, "Ocherk i pubblicistica", Knizhnyi mir, Moscow, pp.124-125.
[45] E. Maziong (2019), *Na Yamale segodnya stroyatsya doroghi bez kotoryh slozhno razvivat stranu,* "Rossijskaya Gazeta", Moscow.
[46] https://www.economist.com/the-economist-explains/2018/09/24/what-is-the-northern-sea-route

"The length of the NSR from the Kara Strait to Providence Bay is about 5,600 nautical miles. The NSR is a viable alternative to the Suez Canal: whereas the route from Murmansk to the port of Yokohama (Japan) via the Suez Canal is about 12,500 nautical miles, the NSR cuts the trip down to only 5,770 nautical miles.)"[47] This means that NSR makes possible to significantly save on fuel, reduce the cost of staff remuneration and the cost of ship chartering. In addition, there are no queues and payment for the passage of the ship, despite the icebreaker fee should be paid. Finally, when a ship passes through the NSR, there is no risk of a pirate attack.[48]

The **port of the city of Arkhangelsk** is a commercial port situated on a strategic position, integrated to the NSR as a transport corridor. It is devoted to the transportation of cargoes and logistics, the hub is up to 11.5 million tons per year and it is oriented to year-round service. Today, the prospects for the development of the Arkhangelsk commercial seaport are largely related to the development of oil and gas fields in the Arctic. The port is a link in the transport and technological scheme of the Northern-Western region. In order to increase competitiveness, Arkhangelsk Sea Commercial Port is actively working on the development and modernization of port facilities and retraining of specialists.

The Arkhangelsk region has preserved its transport, logistics and infrastructure positions in the Arctic as much as possible. The main personnel of the Arctic expeditionary fleet, the Northern regional hydrometeorological service, polar hydrography of the Ministry of transport of the Russian Federation and the Navy are based in the port.

The port of Sabetta has significantly expanded its borders since its foundation. Now the port of Sabetta includes a sea terminal at Mys Kamennyy and "Utrenniy" terminal (Salmanovskoye field). In total, in 2019 the number of calls to the port of Sabetta amounted to 55% of the total shipping traffic on the NSR – 1485 voyages out of 2694. The largest number of voyages was made to the main area of *Sabetta* port – 831, to *Mys Kamennyy* – 528, and to the still developing terminal *Utrenniy* – 126.[49] As part of the Yamal-LNG project, the Arctic port of Sabetta was built to serve the increased LNG

[47] https://forumarctica.ru/en/news/transport-to-be-key-theme-of-arctic-territory-of-dialogue-5th-international-arctic-forum-business-pr/
[48] I. Arzumanov (2013), *Yamalo-Neneckij avtonomnyj okrug- Kraj stanovitsya centrom*, "Gazeta Kommersant", n. 156, p. 16.
[49] https://arctic-lio.com/nsr-shipping-traffic-activities-in-sabetta-in-2019/

production and its further transportation along the routes of the Northern sea route. After the launch of the port of Sabetta, cargo traffic increased by 280% (7.9 million tons), which was an unprecedented result. In the near future, it is planned to build the *Bovanenkovo* — Sabetta railway with a subsequent exit via the Ob — Bovanenkovo-Kara road to the Northern latitudinal course, which would connect the industrial areas of the Urals with the infrastructure of the NSR.[50]

The main shipping traffic of the port is LNG (Liquefied Natural Gas) transportation and transportation of oil products. Also, gas condensate is exported from Sabetta. Besides the export, general cargo vessels, container ships and bulk carriers arrive to the port, they ensure the port's vital activities and the arrangement of its new areas. **Nuclear icebreakers** operated at the approach to the Ob Bay, as well as in the water area itself, they ensured the safety of passage through the channel.[51] Only the unique location of Yamal makes possible to create logistic model that provides year-round LNG supplies to the markets of Europe and North America, as well as direct LNG supplies to the Asia-Pacific Region (APR) via the Northern Sea Route. To ensure year - round shipments and postings in Arctic conditions.

4.2 The goals in railway infrastructure

Talking about *Bovanenkovo-Sabetta* - is a 170km **railway** that should connect the Northern and Sverdlovsk Railways with the port of *Sabetta* on Yamal, which will be a logical continuation of the "Northern latitudinal Railway". The project is expected to start in 2022.[52] While the Northern Latitudinal Route is a railway line in the Yamalo-Nenets Autonomous district (Ob-Salekhard-Nadym-Novy Urengoy-Korotchayevo), which should in the future connect the Northern railway with the Sverdlovsk railway and open a direct route to the industrial enterprises of the Urals. The start of the project was delayed several times, but with the active development of deposits in Yamal, the project's significance has increased (the expected implementation period is 2018-2025).

Looking on the map:

[50] E. Maziong (2019), *Na Yamale segodnya stroyatsya doroghi bez kotoryh slozhno razvivat stranu,* "Rossijskaya Gazeta".
[51] https://arctic-lio.com/nsr-shipping-traffic-activities-in-sabetta-in-2019/
[52] E. Maziong (2019), *Na Yamale segodnya stroyatsya doroghi bez kotoryh slozhno razvivat stranu,* "Rossijskaya Gazeta", Moscow.

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we can realize that the shortest way from the Arctic to Moscow is through Arkhangelsk, since the continuation of the Arctic sea highway on the coast is the Northern railway, which can be reached from the first port of Russia to its capital in 19 hours. The Arkhangelsk port already has experience in handling transit cargo from Scandinavia via the TRANS-Siberian railway to the Far East and Central Asia."[54] Moreover, on the map we can see the railway development plan for 2030. The railways to be implemented by the year 2030 are indicated by the pink line (those ones are the strategical railways), the blue color lines (technological), in red lines (are the railways for the cargo), lines in orange (socially significative), in green are the High-speed railways. While the dotted pink, blue and green lines and strategical, for the cargo and the High-speed railways to be done after the year 2030.

Murmansk transport hub-creation of transport infrastructure on the Western shore of the Kola Bay, include coal and oil terminals and the Severnaya-Lavna **railway** line. "The project of the development of the port of *Lavna* is a strategic one for our country.

[53] https://cf.ppt-online.org/files/slide/r/rniRe3B7Yq0lAGJfTM162oCxEs8bmwSKtzNOIa/slide-15.jpg

[54] https://ascp.ru/O-kompanii/Istoriya

This is a modern high-tech deep-water port in Murmansk, which will allow handling 18 million tons of coal per year. It also provides for the construction of non-public access **roads** with a length of 2.3 kilometers", the Minister of Transport Yevgeny Dietrich said. – We have been working on this project for a long time, and today it is restructured in such a way that the shareholders include participants interested in the work of this port. In General, this is a Prime example of public-private partnership. In this case, STLC (State transport leasing company), as a state-owned company, joined the efforts of private investors. This will provide the necessary synergy and increase efficiency. And the project itself can become an example for the development of port infrastructure in Russia in the future."[55]

On June 1, 2020 there was a terrible railway bridge crash. The bridge that was used to connect Murmansk with the whole Russia as well as to transport cargo and passenger trains to the port of Murmansk, fell into the Kola river. "This is a very unpleasant precedent, which shows the seriousness of the risks of large investment projects that involve significant railway cargo flows and depends on a single railway line (especially a single-track one) that connects with the rest of the country's railway network" – explains the Head of the region Andrey Chibis. As a result of restrictions on Railway between the Murmansk region and the rest of Russia, not only the terminals in the port of Murmansk that receive cargo via the Russian Railways network, but also may suffer the overall investment attractiveness of the region. One of the highest profiles and recent project of the region is the creation of the first advanced development territory in the Arctic "Capital of the Arctic", which includes Murmansk and the Kola district. **The project regarding the development of territory in the Arctic was signed by the government in mid-May this year.** The list of anchor investors of the project includes NOVATEK-Murmansk LLC, Lavna Sea commercial port LLC, Tuloma Sea terminal LLC and Murmansk region development Corporation JSC, and the regional authorities are aimed at expanding the number of investors. The region expects that this development will create at least 1.5 thousand new jobs, and the total investment in the region will amount to more than 125 billion rubles.[56]

[55] https://gtlk.ru/press_room/news/item/Novosti/Podpisano-aktcionernoe-soglashenie-po-stroitelstvu/
[56] https://www.dp.ru/a/2020/06/03/Transportnaja_izoljacija_po

Belkomur (White sea — Komi — Ural) is a **railway** that should connect the Perm' region, the Komi Republic and through Arkhangelsk to the White sea. At the stage of searching for investors. The planned length is about 1200 km.

Barents Sea (Barents Sea — Komi — Ural) is a **railway** line that should connect the port of Indigo (NAO- Nenets Autonomous Okrug), Sosnogorsk (Komi Republic), midnight (Sverdlovsk region) and Surgut. At the stage of searching for investors. The total planned length will be around 1200 km.

Karskomur - extension of the railway line from Vorkuta to the port of Arcturus on the Kara sea (about 200 km). At the stage of searching for investors.

Modernization and **expansion of the icebreaker fleet** in the conditions of increasing traffic intensity in the Arctic Ocean. The growth of cargo traffic along the Northern Sea Route is rapid: in 2016, this figure amounted to 7.3 million tons and for the first time exceeded the figures of the 1980s. **It is expected that by 2025 it may increase 10 times and reach 80 million tons.** The development of the South Tambey gas condensate field (Yamal LNG) and the construction of the port of *Sabetta* on Yamal became a key impetus for the development of cargo transportation on the NSR. **The Northern Latitudinal Railway should not be perceived as a competitive Northern Maritime Route project, but as an auxiliary one that provides the necessary logistics for the development of navigation in the Northern seas.** Thus, activation of extraction of resources in the Arctic, the development of the mainland's transport infrastructure and throughput of the Arctic ports put the question on the status of the icebreaker fleet and have the necessary capacity to implement these projects. The modernization program involves the construction of three universal nuclear icebreakers of the project 22 220, which will conduct vessels in the Arctic seas and in the mouths of polar rivers (the work should be completed by 2019-2022). At the same time, they keep developing the new nuclear icebreaker "Leader", which will be able to overcome ice up to four meters thick. Construction is underway at the Baltic plant in Saint Petersburg. In total, Russia plans to receive six new nuclear-powered icebreakers in the near future, but only one of the existing fleets will remain in operation ("50 years of Victory"), the same applies to most of the diesel-electric icebreakers.

The development of technologies for resource extraction on the continental shelf of the Arctic seas. It is on the shelf that the main share of undiscovered resources is concentrated (about 90% of the hydrocarbons on the Arctic shelf of Russia have not been explored), but production here is associated with a number of technological and legal problems. To date, offshore production is conducted only at the *Prirazlomnoye* oil field

in the Pechora sea (Gazprom Neft). The development of production technologies on the Arctic shelf is difficult in the context of **sanctions**, as cooperation with Western companies was minimized, which meant investment and technology transfer. In 2014, with the participation of the American company ExxonMobil, the Pobeda oil and gas condensate field were discovered in the Kara sea, but later the company was forced to withdraw with heavy losses from all joint projects with Russia. The US and EU sanctions, in particular, imply a ban on deliveries to Russia of equipment and technologies for offshore production at a depth of more than 150 meters. As a result, several promising offshore projects were frozen. Russia will continue to develop this area independently, but this will take more time.

In the recent years, new trends have emerged in the Arctic, which are attracting more and more attention to it, including from non-Arctic States. This is due to the consequences of global warming, which leads, on the one hand, to the melting of ice and, in the future, there will be more facilitation of economic activities in the region. On the other hand, the melting of *permafrost* increases the risk of failure of facilities and railways, and the melting of ice requires modification of existing navigation schemes (potential flooding of the coast and the need to move ports). Nevertheless, this creates the prospect of developing year-round navigation along the Northern Sea Route, which partly calls into question the need for a large-scale renewal of the icebreaker fleet.

An analysis of the development and use of the transport system in the Arctic zone of Russia shows that sea transport in the Northern latitudes of the Arctic and Subarctic zones is currently almost an alternative and the most effective way to import machinery and technological equipment, energy carriers, industrial goods, food necessary for the functioning of territorial production complexes located in the coastal zone of the Arctic seas and the life support of people living in the zone."[57]

No less important for the World Economy are the emerging prospects for turning the existing sea routes in the Arctic Ocean — the Northwest Passage along the coasts of Canada and the United States and the Northern Sea Route of Russia into permanent transcontinental highways. This will significantly reduce the cost, time and cost of transporting goods from South-East Asia to Europe. Revolutionary changes in world economic relations will give Northern cross-polar routes, the organization of which is always more feasible.[58]

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[57] I. Arzumanov (2013), *Yamalo-Neneckij avtonomnyj okrug- Kraj stanovitsya centrom*, "Gazeta Kommersant", n. 156, Moscow, p. 16.
[58]V. Shtyrov (2018), *Artika i Dalnyj Vostok: velichie proektov*, "Ocherk i pubblicistica", Knizhnyi mir, Moscow, pp.124-125.

The main cargo flow in the waters of the Northern Sea Route is currently formed by projects for the development of mineral resources with a year-round transportation scheme, which ensures the importance of their icebreaking support.[59] "At the moment, 95% of cargo flow through the NSR. This project is accounted for the export of minerals from the Arctic, while Northern delivery and transit provides only 5%," emphasizes M. N. Grigoriev, Director of the consulting company "Gekon".[60] To the question what is the priority of the NSR A. Fadeev the researcher of University of Economic Issues of the Kola research center of the Russian Academy of Sciences said: "The main priority of the development of the NSR should be development of adjacent territories and not the export of hydrocarbons. Furthermore, according to V. A. Masloboev (the adviser to the Chairman of the Kola scientific center of the Russian Academy of Sciences, doctor of technical Sciences) when developing the Northern Sea Route, it is important to take preventive measures to protect the environment.[61]

It is remarkable that the Ministry of emergency situations creates conditions in advance for the safe implementation of major economic, infrastructure and investment projects in the Arctic.[62] It only remains to understand and clarify their actual list, other problems of effective development of the Arctic territories of Russia in the foreseeable future, and not only that.

4.3 *Digital infrastructure*

According the statistical data, it is worth to invest and to build in Arctic area and basically that is what the foreign investors are doing. Because the building of data centers is covering 60% of savings of energy. As Minister of the Russian Federation for the development of the Far East and the Arctic Alexander Kozlov said: "First of all, we should think about National Security and we should not give away the Arctic zone of the country no matter what, to the foreign cable laying. What we should do is to build our line linked with data center. Resolution of Arctic issues with digitalization is the resolution not only for Arctic regions but also to the whole Russia. It will solve problem

[59] V International Conference «The Arctic» (2020), *Arktika: shelfovye projecty I ustojchivoe razvitie regionov*, Sourcebook, Moscow, p. 65.
[60] https://arctic.gov.ru/digest/?%20date_start=2020-04-30%2000:00#news-29911
[61] *Ibidem*.
[62] http://www.arcticandnorth.ru/news.php?ELEMENT_ID=344926

for National security."[63] At the moment, Khanty Mansi and Yamalo-Nenets Authonomous Okrug are the only ones having more than 70% of digitalization. There are still some settlements of Arctic regions who have not internet access. In the Republic of Komi 587 out of 759 (77%) are not covered by internet connection yet. In Arkhanghelsk are not covered 3721 out of 3974 (93%). In Murmansk oblast 40 out of 3313 (29%). There is still an absolute necessity of connection in Polar areas of Russia. The government has approved the digital economy program for the Russian Federation, which was developed on the basis of the strategy for developing the information society in the Russia until 2030, including the creation of a backbone infrastructure for communication lines, a center for storing and processing information. Therefore, the construction and creation of data centers is very relevant for the implementation of the digital economy program of the Russian Federation.

However, according the third stage (2021-2025) of the State Program regarding the socio-economic field (**Resolution No. 1064 of August 31, 2017 -2025),** what the Government should focus on consists on formation of advanced scientific and technical reserve and technologies necessary for the **creation of advanced technology and the development of electronic component based for solving problems in the field of socio-economic development of the Arctic zone** of the Russian Federation and ensuring National Security. Creation of radio-electronic equipment to ensure the solution of tasks for the socio-economic development of the Arctic zone of the Russian Federation (This has been discussed also on Forum 2019 in the S. Petersburg). Formation and operation of reference development zones to the extent necessary to ensure integrated socio-economic development of the Arctic zone of the Russian Federation. **Organization of production of competitive high-tech products for the needs of geological exploration, mining and processing of mineral raw materials in the Arctic zone of the Russian Federation, ensuring energy efficiency of mineral resource development processes based on the principles of resource conservation and rational use of natural resources.**

[63] From Arctic Expo Forum (Arctic: the present and the future) placed in Saint Petersburg, Russia 2018 https://www.youtube.com/watch?v=1zrAF0UbtQA&t=1201s

§ 5. Economic activity and investments

The Arctic is one of the richest regions in the World, especially because of its mineral resources, for this reason it became economically attractive for the most developed countries. For all strategic types of minerals, the forecast resources of the Arctic subsurface are significantly higher than the repaid ones volumes for the entire history of exploitation. Moreover, there are more attractive objects for long-term investment in the Arctic zone of Russia than in any other places.[64] The economic structure of almost all Arctic territories, including the Russian segment, is dominated by the extraction of minerals, primarily natural gas, oil, and various ores. Fishing and fish processing, reindeer husbandry and traditional fisheries, and tourism play a significant role in the economy of the state.[65]

The Russian Federation represents the largest economic power in the Arctic, mainly because of its impressive stakes in petroleum and mining activities. The Russian Federation, which encompasses the biggest and most populated territory in the Far North, produces around two-thirds of the region's total wealth. The industrial-scale extraction and limited processing of natural resources – commodities, is an important area of the Arctic states' economy. Most importantly, Russian Arctic has produced billions of cubic meters of oil and gas over recent decades.[66]

"The economic situation of the circumpolar Arctic is distinct among world regions. The formal economy is based on the large-scale exploitation of natural resources. However, traditional hunting and gathering, fishing, and animal husbandry also continue to be important to northern peoples. Arctic sub-regions depend strongly on their mother economies in the South, and the central governments of Arctic states support much of the overall consumption through transfer payments to local agencies and individuals. In general, the Far North plays an asymmetrical role in the world economy, exporting

[64]V. Selin, V. Zukerman (2008), *Ekonomicheskie usloviya i innovacionnye vozmozhnosti obespecheniya konkurentnosposobnosti mestorozhdenij uglevodorodnogo syr'ya arkticheskogo shelfa*, "Apatity", Izdatelstvo Kolskogo nauchnogo centra RAN, Moskow, pp. 83-84.

[65] V. Fauzer, A. Smirnov (2018), *Mirovaya Arktika: prirodnye resursy, rasselenie naseleniya, economica*, "Economica i upravlenie narodnym xozyajstvom Arkticheskoj zony", Institut sozialno-economicheskih i energeticheskih problem Severa Komi nauchnogo centra Uralskogo otdeleniq RAN, Moscow, pp. 6-10.
[66] https://arctic.ru/economics/

considerable quantities of raw materials and importing most of the finished products needed to meet internal demands."[67]

In order to strengthen the status of the Russian Federation as a key Arctic power, at the legislative level, significant efforts are being taken to improve the quality and efficiency of economic development in the Arctic.[68]

Last year the Russian President on the S. Petersburg Forum said: "We are creating and we will set favorable conditions for those companies working there in strident Arctic conditions, with lack of proper infrastructure and need to invest in technologies, we will ensure 100% conservation of the fragile nature in the Arctic. First of all, we must think about the interests of the small indigenous peoples of the North. This is an additional burden (load) on companies, and States should largely take this load."

5.1 *State Program up to 2035*

The State Program of socio-economic development of the Arctic zone of RF (**Resolution No. 1064 of August 31, 2017 extended to 2025**) that has been signed by Vladimir Putin expresses the significant and positive will to change in better socio-economic field of tjis region: **Resolution No. 1064 of August 31, 2017**, the new version of the State program "Socio-economic development of the Arctic zone of the Russian Federation" updated the list of subprograms and main tasks, indicators and targets, and expanded the list of participants. The implementation of the state program will create conditions for accelerated socio-economic development of the Arctic zone, achieving strategic interests and ensuring Russia's National Security in the Arctic.

The main program goals are development of Science, technologies and increasing the efficiency of using the resource base of the Arctic zone of the Russian Federation and the Continental Shelf of the Russia in the Arctic. Moreover, improve the efficiency of state management of the socio-economic development of the Arctic zone of the Russian Federation.

[67]https://arctic.ru/economics/#:~:text=The%20economic%20situation%20of%20the,be%20important%20to%20northern%20peoples.
[68]https://cyberleninka.ru/article/n/mery-zakonodatelnogo-regulirovaniya-v-oblasti-obrascheniya-tverdyh-kommunalnyh-othodov-v-arkticheskoy-zone-rossiyskoy-federatsii/viewer

Target indicators of the Program – The main purpose is to share the Gross Regional Product produced in the Arctic zone the total gross regional product of the subjects of Russia; The Program is implemented in three stages: Stage I-2015-2017, Stage II-2018-2020, Stage III-2021-2025. The expected results of the program are the implementation and State's support mechanisms, their activities, financial and **economic justifications**, **creation of a comprehensive system of information support for National interests and socio-economic development** of the Arctic zone of the Russian Federation; creation of mechanisms to strengthen the position of the Russian Federation in international organizations and expand mutually beneficial international cooperation in the Arctic;

The goals of the subprogram are to develop real sectors of the economy of the Arctic zone of the Russian Federation; create conditions for improving the quality of life and protection of the population in the Arctic zone of the Russian Federation; create a comprehensive system of information support for National interests and socio-economic development of the Arctic zone of the Russian Federation.

5.2 *Investments*

According the **Resolution No. 1064 of August 31, 2017: The objectives of the State program** are to increase **investment activity on the territory** of the Arctic zone of the Russian Federation; ensuring the implementation of projects for the economic development, as well as the continental shelf. **Target indicators and indicators of the subprogram** - volume of **investments** into fixed capital in the framework of the territory of the Russian Federation which formed the basic part of development of the Arctic zone of the Russian Federation; the growth rate of the volume of goods and services produced in the territory of the Arctic zone; the growth rate of exports of goods and services, in total exports of the Arctic zone of the Russian Federation.

For the implementation the Government assigned the Federal budget which consists of 131281950,4 thousand rubles (including Federal budget funds for activities of the Ministry of defense of the Russian Federation in the amount of 17142857,2 thousand

rubles for 2019 - 2025 annually; budget allocations for 2021 - 2025 are indicated subject to the allocation of additional budget allocations from the Federal budget).[69] The main tasks in the sphere of economic development of the Arctic zone of the Russian Federation are State support for business activities, including support for small and medium-sized businesses in order to create attractive conditions for private investment and ensure their economic efficiency.

5.3 *Tax reduction for the Arctic investors*

The Ministry for the Development of the Russian Far East (*Minvostokrazvitiya*) selects preferential treatment for the Northern territories: "It is proposed to extend the far Eastern **free port regime** to the territory of the Arctic zone — this draft law has been developed by the Ministry of regional Development. This is the first initiative of the Department for regulating the Arctic zone, entrusted to it at the beginning of the year. The key promises to investors are the provision of **tax benefits**, which should be elaborated in detail in the amendments to the Tax code. Investors are offered a standard set of benefits for Russian port-franco, such as simplified conclusion of infrastructure concession agreements and application of the free customs zone procedure.

It is assumed that companies planning a new project in the Arctic that will be able to obtain the status of a resident of a free port in the Arctic, if they commit to invest at least 5 million rubles in it within three years from the date of inclusion in the register of residents. The management company (MC) is proposed to appoint the Far East development Corporation (already performs such functions in the free port and in the territories of advanced development in the far East). "The proposed solution will allow to save money of the Federal budget", — stated in the explanatory Memorandum. The main tasks of the management system are to evaluate business plans, review and conclude agreements on the implementation of activities, and monitor their implementation."[70]

"The Ministry of regional development of Russia began accepting applications from investors planning to implement investment projects in the Arctic, which the state will help in creating infrastructure. The Ministry of the Russian Federation for the development of the Far East and the Arctic launched the selection of investment projects that are planned to be implemented on the territory of the Arctic zone of Russia to provide

[69] http://government.ru/docs/29164/ 10/04/2020
[70] E. Kriuchkova (2019), *Porty Arktiki stanut svobodnymy*, "Kommersant", Moscow, n. 61, p.2.

state support for the creation of energy, road or other external infrastructure,"[71] the Ministry of the Development of the Russian Far East reported. For the encouragement of the investors some rules for selecting such projects were approved in March 2020 by the Russian Government. Where investors spending at least 300 million rubles in projects in the Arctic will be able to claim a non-refundable subsidy of up to 20% of their investment.

The selection will last one and a half months, until June 1. In order to pass it, projects must contribute to the socio-economic development of the district and **create jobs**. The investor will also be required to have experience in implementing **investment projects**, register a company in the Arctic zone of Russia, and have no debts, bankruptcy or reorganization. The decision on the final list of investment projects will be made by the Presidium of the State Commission for Arctic development.

"Investors in the Arctic territories are interested in the new tool of state support, since the low development of infrastructure in the Arctic remains one of the limiting factors for the development of business, and consequently the economy of the Arctic zone as a whole," the message quotes the head of the Ministry of regional Development Alexander Kozlov. Currently, a set of support measures is being developed for investors in the Arctic. In particular, tax incentives have been prepared, and a broad package of subsidiaries are expected for mining companies.[72] In March Vladimir Putin signed a law[73] that imposes tax incentives of mineral-deposit inquiring operations and the evaluation of such deposits, as well as hydrocarbon prospecting and production operations in certain areas of the Russian Arctic.

We can make a conclusion that the Russia sees the Arctic as a rich natural resources area that has an historic background. It is considered as a strategic area of the World. With difficult climatic conditions is difficult to build and construct. However, it is the main GDP factor for the economy of Russia. The new State Program is supposed to make the Arctic area even better, for this reason made the best incentives for the investors.

II Russian View on Arctic

[71] https://minvr.ru/press-center/news/25206/
[72] https://tass.ru/ekonomika/8251073
[73] https://arctic.ru/economics/20200319/934004.html

§ 1. The Arctic Governance

In this chapter is analyzed the question about the Arctic space, its *governance* and destiny, *militarization*, the actors and cooperation. The Climate Change tackles many issues that should be briefly resolved such as CO2 emissions. Not less important is the jurisdictional aspect of the Arctic that should be solved by unanimity. Being attracted by the natural resources (that are on the way of depletion) many states would preferer to set on their bases in this geostrategic area. I will discuss how this region is a fragile land and it should be always protected and supported, but this can only happen throughout the resilience, collaboration, cooperation and the states' solidarity. The decision should be now taken unanimously in order to prevent the future clashes in the Arctic. In order to deal with the future of the Arctic vision three most important aspects will be discussed in this chapter. Economical, social and jurisdictional.

1.1 *Craving for the natural resources*

A brief history of how the governance took over and how we ended up in the 'race for the resources' and how the Arctic became a land of struggles, we can find a brief explanation of this process in the book of *Governing the Arctic change*:

"Arctic region has been an imagined and contested space since European explorers and adventurers attempted to discover and conquer the lands and waters of the 'Far North' in the late eighteenth century. Soon after, the region became an **arena of and for geostrategic struggles**, primarily in the European North, through the twentieth century. It was not until Mikhail Gorbachev in 1987 publicly envisioned an Arctic 'zone of peace and cooperation' that new imaginaries changed old politics – of course triggered by the end of East-West confrontation only a few years later in that his speech 'provided inspiration for some tangible achievements, and those have provided the foundation for the Arctic region as it stands today'. Most importantly in this respect, **negotiations** on the Arctic Environmental Protection Strategy began in September 1989 upon Finnish

initiative resulted in an agreement in June 1991, the precursor of today's **Arctic Council** founded only five years later. This process has resulted in **strong imaginaries** of the Arctic being governed peacefully and in a **cooperative** manner between eight Arctic states (the USA, Canada, Russia, Norway, Denmark, Sweden, Finland and Iceland) with the aim to provide viable solutions to **environmental protection and sustainable development** in a region they all hold sovereign rights in."[74]

It may appear that the Arctic Council has split the Arctic into 8 parts, and it generated some debates, other countries not making part of this intergovernmental organization but owning the status of the *observer*, desire to take part of it and to play an important role over it. Despite the fact, some may have a different position such as K. Volkov in the magazine *Rossijskaya Gazeta* he writes: "However, Asian *observer* countries primarily declared neither an interest in natural resources, nor an attempt to "stake out a place" in the region, but a desire to **preserve biodiversity and forecast climate**. […] according to experts, it should be about shared participation, and not about full financing construction by other countries."[75] One may say that those countries are taking that position in order not to demonstrate their strong desire towards the natural resources and they are showing their interest under the aspect of preservation of biodiversity and forecast climate. They would rather claim their desire for resources in order to challenge all the countries to make a policy decision unanimously in order to decide already now the destiny of the Arctic, and not make any mistakes that may lead to future military challenges.

In fact, as the experts from the RIAC (Russian International Affairs Council) say that the participation of Asian partners will provide an opportunity to develop and joint projects and help to attract attention to the region in countries that have not been particularly interested in the Arctic until now. At the same time, the policy of containment may lead new players building contacts separately with certain members of the "Arctic eight". [76]

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[74] K. Keil, S. Knecht (2017), *Governing Arctic Change. Global Perspectives*, Palgrave Macmillan, Germany, p.7

[75] K. Volkov (2016), *Vse hotyat v Arktiku*, Rossijskaya Gazeta, n.13, Moscow, p.5.
[76] *Ibidem*.

The Arctic region is described in different ways and sometimes in a chaotic way. For instance, Kathrin Keil and Sebastian Knecht in the book *Governing Arctic Change* describe the Arctic as an 'Eldorado', or even as a 'sink for pollutants':

"Internal and external images, visions and perceptions, for example reinforce the region as an '**Eldorado'**, a '**sink for pollutants'**, a 'tipping point for the Earth system', a 'race for resources', a 'Global Arctic', or a 'Homeland'. Many security narratives also prevail, such as 'high latitudes - low tension', 'emerging conflicts', 'great power rivalry', 'Zone of Peace' and 'Arctic exceptionalism' or a '**new Cold War'**. From all of these, the two main narratives, or discourses, which dominate and compete with each other, are: 'high latitudes - low tension/Zone of Peace' representing the reality of relevant Arctic stakeholders and being a resilient narrative of Arctic geopolitics, versus the more hypothetical narrative of 'race of resources with emerging conflicts' often pushed by the media."[77]

Since the Climate Change warming started to be on the Policy Agenda, the Arctic is getting more and more vulnerable and 'palatable' for both Arctic and non-Arctic States, some authors describe this crave even as a **race for resources**. It is as a place globally embedded, it is a region with a sensitive climate, environmentally and socio-economically connected and so forth. "Arctic change takes place and is **governed in a global perspective**. But to speak of the Arctic as a 'globally embedded space' […]. The global Arctic is both a political reality and not despite but because of that a place of and for different imaginations and contestation by various actors. **Current transformations more and more push a once peripheral region closer into the high-level debates of twenty-first century world politics, particularly those on climate and resource governance**."[78] Indeed, I expect that in the second part of this century we will have to face military scenarios in the Arctic area.

The new scenarios and debates are opening and becoming more and more frequent. Of course, also the environmental aspect is warning us which is the Arctic Environment. The Arctic should be supported at the right moment and in the right way since there are endangered species of animals, natural resources, indigenous peoples and the fragile environment. The management of the Arctic region should be competently structured.

[77] L.Heininen, H. Exner-Pirot (2019), *Redefining Arctic Security*, "Arctic Yearbook", Uarctic, p.7
[78] K. Keil, S. Knecht (2017), *Governing Arctic Change. Global Perspectives*, Palgrave Macmillan, Germany, p.5

"The pragmatic understanding of the role of political imaginaries as organizing principles and cognitive structures for a widely shared sense of a legitimate *governance* order in which different actors interact and collaborate towards common goals."[79] Of course, it is necessary to put everything on the scale as soon as possible in order not to damage the rights of indigenous peoples, atmosphere, and finally decide the destiny of all the aspects (economic, humanistic and jurisdictional).

Many countries are attracted by the Arctic region especially for the reason of mineral resources that are on the way of depletion. This took the attention of many states to take action in order to split the Arctic and to have their own part. But this decisions should be made unanimously, in order to prevent the future negative scenarios such as military clashes. I totally agree with the description of the book written by K. Keil, S. Knecht that say:

"The future Arctic is subject to diverse and probably ever-changing imaginaries, some more dominant than others since the modes of contemporary Arctic governance are left to the interests and political ideas of its residents, governments and other stakeholders possibly located far away from what is usually perceived as 'Arctic'."[80]

The choices should be made rationally in order not to make any mistakes and damages evaluating all the fundamentals such as socio-economic and jurisdictional. Indeed, the Arctic is already the object of continuous debates. The authors Smith and McCarter mentioned in the book *Governing Arctic change* are wandering about what kind of policies should be applied, and which ones should be legitimated: "So why and how do imaginaries matter for politics in the 'Global Arctic'? Imaginaries matter because **the Arctic as a global (ised) political region** is still in its infancy and it is **continuously debated** how existing and nascent challenges for the region are to be governed, **using which institutions including which stakeholder groups, and how to design policy solutions**. The Arctic as an emerging region in world politics is a contested one (Smith and McCarter 1997; Steinberg et al. 2015) **[…] tied in manifold ways to the international political, climate and economic system, though its governance framework is not carved in stone and yet to be determined. Imaginaries contain political idea(l)s of how to govern such an emerging region or how to reform the**

[79] K. Keil, S. Knecht (2017), *Governing Arctic Change. Global Perspectives*, Palgrave Macmillan, Germany, p.6
[80] K. Keil, S. Knecht (2017), *Governing Arctic Change. Global Perspectives*, Palgrave Macmillan, Germany, p.6

Arctic Council as a central political venue for regional affairs. (Pedersen 2012; Wilson 2015). Each of these imaginaries can render possible **certain pol**icy tracks and **institutional arrangements, which legitimize and empower specific groups and governance solutions,** and sideline others: 'By ordering the world, ideas may shape agendas, which can profoundly shape out-comes. Insofar as ideas put blinders on people, reducing the number of conceivable alternatives, they serve as invisible switchmen'. Despite continuing border-making practices in the Arctic that led to the fear of the region's carve-up, joint circumpolar governance mechanisms have been facilitated by spatial imaginaries of a common Arctic space between Arctic States. **Political imaginaries** thus have far-reaching consequences for the analysis of *who governs (involvement), where governance takes place (institutional politics) and what is to be governed (issues)* with regard to Arctic change."[81] Indeed, it would impossible to manage the whole Arctic area, even by the most powerful state, but what should be done is gathering unanimity and making such important decisions over the Arctic area.

May we wander what kind of political imaginaries should create **cooperation** and involvement? "It is no big news that the dominant geopolitical order has been increasingly challenged by new actors joining the Arctic community, leading to diffusion of a plurality of interests, ideas and ideals. Further, state-centered analyses often implicitly adopt a narrow regional lens promoting circumpolar solutions to circumpolar problems and leaving aside both formal and more informal steering mechanisms on other scales below and beyond the state level and outside the Arctic region. Finally, most geopolitical approaches stand in the tradition of realist International Relations theory **emphasizing the importance of Arctic space and resources to notions of security and the exercise of state sovereignty at the expense of a more holistic and nuanced view on the governanc**e of Arctic change in a time of globalization. In short, geopolitical imaginaries of Arctic affairs restrain our understanding of what is to be governed (mainly security issues), who governs (primarily the Arctic (coastal states) and where governance takes place (in exclusive clubs like the A5 or the Arctic Council)."[82] The beginning of the involvement of the Arctic countries is good, but there should be more participation also of the other countries. The Arctic Council is a good example of the cooperation that called

[81] K. Keil, S. Knecht (2017), *Governing Arctic Change. Global Perspectives*, Palgrave Macmillan, Germany, pp.8-10.
[82] *Ibidem.*

the presence of the states with the status of the *observers*. But further actions over the Arctic jurisdiction should still be done.

The current situation of the Russian Arctic is explained by the Professor of the University of Yakutsk, Inga Nikulkina: "A number of Russian scientists note that the current processes in the Arctic, the geopolitical situation and the geo-economic development of the leading Arctic countries are influenced by factors such as: **increasing demand for resources (in hydrocarbon energy carriers), depletion of traditional deposits**; increasing contradictions, intensifying the struggle for resources, for the Arctic space; the presence of potentially significant natural resources in the Arctic; natural and climatic changes in the Arctic; scientific and technical progress (including the progress of technologies for mining).

While Socio-economic processes taking place in the modern Russian Arctic are influenced by both geopolitical and domestic trends, which, in turn, are caused by various reasons and problems. "As rightly pointed out by V. S. Selin, geo-economic positioning and prospects for socio-economic development of the Russian Arctic are based on two fundamental principles of "**Globality**" - the Russian North and Arctic are parts of the World's North and Arctic, and all processes in this macroregion are influenced by global trends and the alignment of forces operating here". "**Sovereignty**" - the Russian North and Arctic are the most important parts of the National socio-economic system and they play a significant role in ensuring the National interests and Security of Russia"[83]

The special geopolitical position of the Arctic causes an increase in international competition for the development of the commodities potential and transport corridors of this macro-region. In this article I appreciated how I. Nikulkina describes the idea of the Arctic as the **space** which should be supervised in different aspects:

"At the same time, the Arctic contradictions are determined by the struggle for **control over space**, as well as **for financial and technological control over activities**. Taking the recent boom of the unfolding struggle for resources and control over the Arctic is connected with huge reserves of mineral and biological raw materials, the richest raw material reserve of global importance of hydrocarbon raw materials. This explains the growing interest of most countries in the development of the Arctic, including near-Arctic

[83]http://www.old.fa.ru/dep/ods/autorefs/Dissertations/%D0%9D%D0%B8%D0%BA%D1%83%D0%BB%D0%BA%D0%B8%D0%BD%D0%B0%20%D0%98%D0%92%208c501261cc6a50964e36f418eb5ee7a2.pdf

ones. The Arctic's mineral resource potential includes significant reserves of oil, gas, non-ferrous metals, and bioresources, including in the adjacent part of the Arctic sea shelf. Thus, according to experts, the total cost of mineral resources in the Arctic subsurface exceeds 30 trillion dollars.[84] The total value of the explored reserves of energy and mineral resources in the Russian Arctic is around three trillion dollars, with hydrocarbons accounting for about two-thirds." [85]

The balance is possible, and it is achievable through the collaboration and cooperation among all the states. We will see what measures should be taken in the merit. This topic will be discussed in the following paragraph.

In the recent years, the Arctic has become one of the parts of the world that attracts special attention. Not only in the Arctic countries are interested in Arctic, but also far beyond their borders. This is primarily due to political and economic considerations, which are not always based on an appropriate level of scientific understanding of the entire set of processes that determine the current state and prospects for the development of the Northern region. A serious analysis of the prospects for the development of the Arctic zone, an understanding of how multilateral interactions will develop in this part of the world and how likely it is to implement a regional model of cooperation, largely depend on an adequate and objective definition of what the Arctic is.[86] Since we already know that the Arctic's resources are diminishing it is time to decide its destiny, its socio-economical, but mostly the jurisdictional aspect of its governance. These decisions about the common goals should be made by unanimity of the states.

1.2 *The Russia's National Strategy*

The USSR collapse led to the degradation of the Arctic policy of the new Russia in the 90s. The weakening of the state's economy, the lack of a proper political will and decent funding led: to the weakening of all components of the Arctic complexity of the Country, to a systemic crisis in the Far North and caused an outflow of population from

[84] Draft Strategy for the development of the Arctic zone of the Russian Federation and ensuring national security for the period up to 2020 http://narfu.ru/development_program/Stategy_arctic.pdf
[85] Nikulkina (2017), *The Methodology for the development of fiscal and customs mechanisms implementation of State Financial Policy in the Arctic Zone of Russian Federation*, Phd dissertation, Moscow, pp. 26-30.
[86] http://www.arcticandnorth.ru/Encyclopedia_Arctic/DVO_RAN_round_table.pdf

the Russian Arctic. “This region has been held hostage to unintended market reforms. In the field of foreign policy of the Arctic, Russia has followed in the Wake of other States’ initiatives. Russia’s Ratification of the UN Convention on the Law of the Sea in 1997 was the beginning of an impassioned debate in the country over the fact that a voluntary rejection of the Arctic sector declared by the USSR would lead to the loss of vast polar possessions. It is only at the beginning of the 21st century that the values in Russia’s Arctic policy are evaluated, which are reflected in the dialogue between science and government on these issues and the adoption of a number of fundamentally important state decisions. In March 2000, the government adopted the Concept of socio-economic development of the North (until 2015) and issued an order to start preparing a submission on the outer limits of the continental shelf in the Arctic for submission to the UN Commission on the limits of the continental shelf. At the end of 2001, the Russian application was sent to the UN, and in the summer of 2002, it was returned for revision and additional funding.”[87]

By the way the Russian President Vladimir Putin announced plans to adopt a new strategy for the development of the Russian Arctic until 2035 this year. According to him, the document should combine the activities of National projects and state programs, investment plans of infrastructure companies, programs for the development of Arctic regions and cities.

To sum up, the Russian policy strategy consists on: the socio-economic field; National Security and the borders defense; environmental Security; the IT and digitalization; the Science and technology. The Russian Government will do as much as possible to protect the region, with the respect of locals, and indigenous people, who are always protected in the Arctic. Finally, all the points should take into account the Sustainable Development.

1.3 *Towards the Sustainable Development*

[87] https://narfu.ru/upload/medialibrary/c3c/Uchebnoe-posobie_Mezhdunarodnye-otnosheniya-v-Arktike_mesto-i-rol-Evropei_skogo-Soyuza.pdf

Since we are in the 'Decade of action' I would like to give an important weight in my thesis regarding the Sustainable Development. As UN Member States are in the process of implementation of 17 Goals[88], I would like every country to indoctrinate the implementation of 'Sustainable Development' both in any kind of sector until it is present in a Global system. This may be realized just by **cooperation** and **solidarity**. For this reason, I analyzed the article written by S. Buryanov which fits the discourse of the implementation of the Sustainable Development.

"The issue of forming a system of global governance as a response to the destructive development of global processes, the backlog of political globalization and deepening global challenges. It is noted that the primary basis for the formation of a planetary management system should be **global law** which includes the scientific direction, the system of norms and principles, and an academic discipline. The author's position consists on the fact that the formation of a global law (normative system) that should begin with the creation of a global system of legal education integrated with the Science. In modern conditions of increasing inequality in the development of global social processes, one of the consequences of which are the global challenges, it is relevant to study the prospects for the formation of a **management system for the previously indicated processes for the implementation of the sustainable development.** Here we should agree with the opinion of the authors of the collective work (Arbatov et al. 2003), who believe that **"globalization with a human face, if we talk about the alternative, requires a new political structure of the world, adequate to the nature and scale of the problems that humanity faces today".** Researchers note that an adequate world order "will take place if it is based not on the rule of one or several powers - although the roles of different countries may be different - **but on the principles of cooperation and solidarity**". In this context, as A. A. Nemchuk rightly notes, the globalization, being a natural process of world social development, requires an adequate political response of national States to the deepening of economic interdependence, involves **expanding the number of formats of international cooperation and improving the coordination of their activities.** Yashkova also reasonably believes that in order to solve the global problems (economic, environmental, etc.), it is necessary **to combine the efforts of the world's States and their citizens, but not on the terms of dictate of some and**

[88] https://www.un.org/sustainabledevelopment/development-agenda/

subordination of others, but on equal, parity grounds, which will avoid many contradictions and conflicts (Yashkova 2007).

The modern Science is gradually developing an understanding of the importance of joint **efforts for the formation of adequate management of global processes (eng. global governance),** which should be formed in order to overcome global challenges, find ways to transition to sustainable development, and ultimately – the preservation and survival of civilization.

At the same time, most researchers believe that the implementation of an adequate model of global governance is a necessary condition for the transition to sustainable development of human civilization. In the scientific literature, sustainable development is considered as an alternative to the unresolved consequences of global challenges and real threats to the development of the human community. At the first step, we should agree with the opinion of A. B. Weber, who believes that in modern conditions it is extremely important "**to give international cooperation a new quality that is adequate to the changed conditions of human existence, new conditions for ensuring international security in all its hypostases, a new level of interdependence of countries and peoples**" (Weber 2009).

When considering the highly debatable issue of managing global processes, it is necessary to define the concepts and relationship between global governance and global regulation. Thus, A. N. Chumakov differentiates these concepts. «...In contrast to regulation, management is always associated with the conscious activity of people, which is based on the goal setting, feedback and creativity. In other words, **management is carried out only consciously, purposefully and involves both obtaining a particular result and searching for the most optimal ways to achieve the goal**" (Chumakov 2010).

I strongly believe that the Sustainable Development may start from the behavior of every single person, changing own habits and the UN Agenda 2030 should be respected by every state. Of course, we all should take consciousness in order to start the change from the bottom up. Those ones are recommendations that should be followed globally, starting the change towards the SD from the single person spreading around, only in that way we can reach the common goals.

In the above context, I. V. Ilyin and M. A. Kaverin point to the existence of a regulatory system that can be transformed into a system of global governance based on

the transition from international relations to global ones (Ilyin, Kaverin 2014). I believe that this approach is scientifically sound and corresponds to the realities of modern social relations. Some modern mechanisms of global regulation are the foundation, basis, and possibly (after reform) part of the emerging system of global governance.

However, L. E. Grinin points to the trends of turbulent and conflicting changes in the balance of forces, the formation of a new multipolar world order, which will require "a fairly stable balance of forces and interests, new models of supranational governance and coordination of world processes" (Grinin 2016). And here we should agree with the opinion of this author, who believes that "it is necessary, on the one hand, to constantly work to ensure that Russia's interests are taken into account as much as possible in this new construction, and on the other hand, that Russia's policy is based on new trends".

Speaking about the radical transformation of legal norms of Globalization, the researcher emphasizes that "the future law of sustainable development will become one of the most likely options not just for international law, but for a qualitatively new – global – law in the transition to SD and the corresponding global governance".[89]

In General, "among the most well – known approaches to the formation of a global process management system are the world state (government), the global management system based on the UN and intergovernmental organizations, as well as its variants with the participation of transnational corporations and non - governmental organizations" (Buryanov 2016).

O. N. Barabanov complements the above-mentioned approaches with "global cooperation, in which solutions to global problems will be taken not through approaches imposed by individual actors, but through a constructive and realizable dialogue of all interested forces. This form also presupposes the formation of a more inclusive system of global regulation, whose participation could be felt by as many States and other actors as possible" (Barabanov 2006).

From the article previously explained I do agree with the following points. The Transition to an adequate system of managing global processes for sustainable development is possible only on the basis of global law (normative system), based on the reform of international law, integrated with domestic legal systems and considered as a Trinity - as a sum of knowledge, a system of principles and norms, and an academic

[89] https://cyberleninka.ru/article/n/o-neobhodimosti-globalnogo-prava-v-kontekste-problemy-tselenapravlennogo-formirovaniya-globalnoy-sistemy-upravleniya-v-tselyah

discipline. Finally, the Formation of a global law (normative system) should begin with the creation of a global system of integrated legal education with science.[90]

How the Russian Government is going to implement the SD at National level?

"A typical approach to building a framework for sustainability is to develop a system of indicators to determine the sustainability of past trajectories and inform future policy choices. In Russia, the development of planning documents at all levels of government shall include a system of indicators to support evidence-based decision making, in accordance with the Federal Law on Strategic Planning in the Russian Federation (N 172-FZ, 2014). In accordance with this law, a system of national indicators for SD was developed in 2018.
Russia is characterized by significant regional variations in geography, economy, and social structures; as such, sustainable development objectives and indicators need to account for this variation. Only 37 out of 366 proposed indicators in the current system are presented on a regional scale, and only three concern the environment, despite the obvious need for local specificity. The Fundamentals of the state policy of the Russian Federation in the Arctic for the period until 2035, adopted on 5 March 2020, establish 15 indicators, including eight in the field of economic growth, six in terms of the level and quality of life, and one for nature preservation. While a number of policies, programs, national projects, and initiatives have been implemented in the Russian Arctic and Far East, there is still a lack of a balanced national policy in terms of long-term sustainability for these regions. The unique characteristics of the Russian Arctic and Far East (such as remoteness from centers of production and consumption, small and ultra-small populations, and resource abundance coupled with a fragile ecosystem) require special consideration when developing and analyzing the pathways toward sustainable development."[91]

[90] https://cyberleninka.ru/article/n/o-neobhodimosti-globalnogo-prava-v-kontekste-problemy-tselenapravlennogo-formirovaniya-globalnoy-sistemy-upravleniya-v-tselyah

[91] https://www.researchgate.net/publication/340029028_Sustainable_Development_in_Sparsely_Populated_Territories_Case_of_the_Russian_Arctic_and_Far_East

Moreover, "In the Arctic, sustainability and sustainable development are inextricably linked to resource exploitation."[92] Thus, the sustainable development of the Arctic means a controlled eco-social evolution toward conservative nature use, comprehensive adaptation to climate change, and a minimization of negative anthropogenic impacts on the Arctic's natural ecosystems.[93] The challenges to Arctic sustainable development are interrelated and multi-scaled in space and time."[94] The introduction of an ecosystem market is a promising pathway for achieving consensus between global, national, and local SD goals. Arctic Resilience is understood as a property of a system that provides the underlying capacity for navigating social-ecological change, whether by adapting to it or by embracing fundamental, transformative changes."[95] Resilience assessment is immediately relevant to the Arctic ecosystems natural capital governance due to environmental and socioeconomic changes in the Arctic zone. [96]

To conclude, the based on the above - mentioned understanding of the processes of globalization, modernizing the interactions of world political institutions should be aimed at their integration, interpenetration and openness. The theoretical development, legal consolidation and enforcement of an innovative non-violent (non-polar) model of international relations based on a radical reform of international law and institutions that excludes the use of force by States or the threat of its use as writer Buryanov specifies.The authors in the overall aspect of the Sustainable Development call the attention for the cooperation among the countries, their solidarity, in order to reach the everyone's goals. Everything should be made on the fundamentals of equality, and any power should not be abused. The efforts should start from the single person towards the indoctrination in

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[92] Petrov, A.N.; BurnSilver, S.; Chapin, F.S., III; Fondahl, G.; Graybill, J.K.; Keil, K.; Nilsson, A.E.; Riedlsperger, R.; Schweitzer, P. (2017) *Arctic Sustainability Research: Past, Present and Future*; Taylor & Francis Group Ltd.: Oxford,. Pp.1-22.

[93] M. Poberezhskaya, T. Ashe (2016), *Climate Change Discourse in Russia. Past and Present,* Routledge Focus, pp. 80-97.

[94] Vlasova, T.; Volkov, S. (2016), "Towards transdisciplinarity in Arctic sustainability knowledge co-production: Socially-Oriented Observations as a participatory integrated activity". *Polar Sci. 10*, 425–432.
[95] Carson, M.; Sommerkorn, M.; Behe, C.; Cornell, S.; Gamble, T.; Mustonen, T.; Peterson, G.; Vlasova, T.; Chapin, F.S., III. An Arctic Resilience Assessment. In *Arctic Resilience Report*; Carson, M., Peterson, G., Eds.; Arctic Council: Stockholm, Sweden, 2016; pp. 2–22.

[96]https://www.researchgate.net/publication/340029028_Sustainable_Development_in_Sparsely_Populated_Territories_Case_of_the_Russian_Arctic_and_Far_East

the whole global system. **The management should be carried out only consciously, with the transparency.** This will **avoid many contradictions and conflicts.** The priority should be given to the social justice, human rights, the rule of law, ideological neutrality of States, tolerance and countering intolerance.

§ 2. *Militarization*

In this paragraph I will speak about *militarization*, security and risks in the Russian Arctic. How it began and why Russia does not take a position of being a rival but is just making up the resumption of the lost time. I will argue on the most fragile aspect of nowadays situation in the Arctic which is the environmental risk and, in my opinion, instead of building a competition there should be more cooperation in order to reach the common goals.

2.1 *'Resumption of the lost time'*

Taking into consideration V. Shtyrov's book about the Arctic and Far East, (the ex President of Sakha Republic), we can see why we should not blame Russia in building *militarization* in the Arctic. "In the Cold War years, with the advent of strategic nuclear forces, both the Soviet Union and the United States saw the Northern Polar spaces as the most likely direction to strike the most likely opponent. This is due to the fact that it is through the North Pole that the shortest route passes from North America to Eurasia and vice versa. In this regard, the two parties have deployed in the Arctic, the powerful systems of early detection of intercontinental missiles and enemy aircraft and to ensure control of the movement of their carriers of nuclear weapons, created a network of drone aircrafts to accommodate or serve bombers, nuclear and strategic interceptors, organized a patrol of the ongoing struggle of submarines in the Arctic Ocean. After the end of the Cold War, the United States continued to develop and improve its offensive and defensive forces and means, **while during the reforms in Russia there was a systemic decline and collapse of the army and Navy. The Armed Forces also had a decline, contents**

of which required special organizational efforts and large sums of money. Therefore, the current steps to strengthen our military presence in the Arctic is only the resumption of what was lost, but it is not really correct to call it as a *militarization*.

The current military and political situation urgently require not only the restoration, but also a significant increase in Russia's Arctic potential defense. This is due to the fact that the potential economic and logistical opportunities of the Arctic that are opening up with **global warming** have led to a significant increase in diverse activity in the region of interested countries and in the military sphere."[97]

I would preferer to call it as a tension, but it is preserved by the Western countries. This tension comes from the 'rash for mineral resources' and in general the Arctic as a geostrategic place. Indeed, as we know Russia is lucky to have such a prosperous area, full of gas, oil, gold, diamonds, carbon and so forth. "The minerals extracted within the Arctic make up the main part of Russia's mineral resource base. According to calculations by the Russian Ministry of natural resources and ecology, the territory claimed by Russia in the Arctic may contain up to 586 billion barrels of oil (for comparison, all proven oil reserves of Saudi Arabia are 260 billion barrels). In addition to the oil and gas of the Arctic shelf, its gold-bearing and diamond placer potential is also interesting. Gold is discovered on the island Bolshevik, the Peninsula Chelyuskin and Walkerism area. Diamonds are found in the zones of the Bely sea (Belomorsky alluvial area), Barents sea (Kaninsko-timansky alluvial area) and Laptev sea (Anabaro-Khatangsky area), as well as in the marine deposits of Eastern Chukotka and the St. Lawrence Strait.[98] Fish industry is also another gem in the Arctic, it is useful for the regional economy in terms of the revenue, and employment.[99] The annual catch in Northern Russian waters (mainly in the Barents sea) ranges from 143-516 thousand tons of fish.

As a result of Global Warming, the Arctic ice and permafrost are melting. If the Arctic waters are further freed from ice, the use of the Northern Sea Route may be used for year-round cargo transit by the shortest route from Europe to East Asian countries. For transportation to 20 of the 24 largest seaports in the world, transportation via the Northern Sea Route will provide significant savings in time and fuel. TRANS-Arctic air transport is growing rapidly. According to scientists, in ten years, ships in the Arctic will

[97] V. V. Shtyrov (2018), *Artika i Dalnyj Vostok: velichie proektov*, "Ocherk i pubblicistica", Knizhnyi mir, Moscow, p.128-130.
[98] https://www.uarctic.org/media/857300/arctic_eng.pdf
[99] https://www.uarctic.org/media/857300/arctic_eng.pdf

be able to sail throughout the summer season. This suggests that Russia's role in the development of shipping in the Arctic zone will increase.

In this regard, in recent years, the media, both in the West and in the East, have increasingly raised the issue of turning the Northern Sea Route into a transit highway under transnational management. Moreover, **the region is of great strategic importance for Russia's defense capability** (Russia has a modern nuclear-powered ballistic missile submarines). "Issues in Arctic: The growing military and strategic importance of the Arctic has sharply exacerbated geopolitical contradictions in terms of unresolved Arctic issues within the framework of current international law (deepening the problems of Maritime and continental shelf delimitation in the Arctic: the problems of delimitation and demarcation of Maritime and continental shelves). The growing economic and political claims of the Arctic and non-Arctic countries to part of the water areas The Arctic ocean (hereinafter referred to as the SLO), which are subject to the sovereign rights of the Russian Federation."[100]

Also, the magazine *Arktika ekologhiya i ekonomika* writes that the Arctic region is gaining more and more important role and it is becoming as an arena of the 21st century. "Development of huge energy resources, as well as predicted warming in the Arctic they gave rise to a particularly dynamic intensification economic, political and military processes in the region. This is due to the fact that the Northern sea's path becomes a unique transport route that changes the balance not only in transportation hydrocarbons, but also in the global transport policy as a whole, and deposits of all natural resources of the Northern shelf that make up about 30% of the world's reserves. They will be able to provide almost all of the world's production for many decades. This situation and potential reserves of Arctic resources lead to the fact that military presence for control and protection national interests of the countries concerned it becomes an objective reality in the region. Until recently, the main focus world economic, political and military it was the middle East. Today, experts believe that this paradigm, which has remained unchanged for many decades, in the near future perspective will change to another focus, and the world's attention is objectively shifting to the Arctic. The well-founded transformation of the Arctic into the most important region of the world's ecology, economy and politics is followed by its accelerated *militarization*. This is an objective

[100] I. Nikulkina (2017), *The Methodology for the development of fiscal and customs mechanisms implementation of State Financial Policy in the Arctic Zone of Russian Federation*, Phd dissertation, Moscow, pp. 26-29.

reality. Moreover, the struggle for resources and unique transport capabilities the polar region turns it into a central geopolitical arena of the XXI century."[101]

The Discussion club Valdai's report describes the current situation as: "Increasing competition for trade routes, maritime zones and natural resources continues to drive a military build-up in certain coastal states and the intensification of NATO military activities in the region. In contrast with the Cold War era, when the global confrontation between the superpowers or military blocs defined military decisionmaking, the current military efforts by Arctic states are about protecting economic interests and asserting national sovereignty over maritime zones and trade routes. These developments will have an extremely negative impact on international security in regimes as well as transport and search/rescue infrastructure. China, Japan and South Korea (the nations most interested in using these sea routes) insist that the NSR and NWP are humankind's assets, or commons, and should be internationalized and made available for everyone. Russia and Canada, on the other hand, believe that they have priority in these areas for reasons of geographic proximity and history. Both Moscow and Ottawa plan to develop these routes and create there more advanced infrastructure."[102]

For all these "gems" that Russia has it is necessary to monitory the territory. Since Russia keeps its military bases in the Arctic it is legitimized by the fact that one state may do its military exercises without damages. Russian President V. Putin during the SPB Forum 2019 said that "we are open to the foreign experts on our territory". It meant that the experts from the other countries may come to see the exercises. Russia makes its military exercises in the Arctic as NATO does.

The experts outlined the main basic interests of Russia in the Arctic region establishing the true boundaries of the Arctic continental shelf of Russia; completion of the territorial division of Russia with neighboring States and international legal registration of the state border; strengthening Russia's presence in the Arctic region; **preventing military escalation in the Arctic region by other States.** Thus, **the Arctic is becoming the scene of an increasingly bitter struggle for its natural resources.** The topic of Russia's national security in the Arctic zone is particularly relevant today. The preservation of the Russian Arctic zone as **a strategic resource base for the state is of**

[101] V. Polovinkin, A. Fomichev (2013), *Tendencii usileniya. militarizacii arkticheskogo reghiona,* "Arktika: ekologia i ekonomica". n.2 (10), p.80. http://www.arctica-ac.ru/docs/2(10)/080_083_ARKTIKA_2.pdf
[102] https://www.uarctic.org/media/857300/arctic_eng.pdf

paramount importance. In this regard, the most important task is to ensure reliable protection of hydrocarbon deposits on the shelf of the Arctic seas, as well as the Northern Sea Route, especially when the intensity of foreign vessels passing through it increases.[103]

V. Shtyrov in his book about the Arctic and the Far East writes that in order to gain unrestricted access to new natural resources and logistics opportunities the goal is to maximize the *internationalization* of the Arctic, declaring all or at least part of it as an international asset.[104]

While there are the other experts who have more pessimistic scenery about the current situation in Arctic: "There is a growing discussion whether or not the security environment of the Arctic is reentering a "new" Cold War. The crux of the argument is that the era of Arctic *exceptionalism* is coming to an end. This era has been understood as a period in which the Arctic region was one in which great power rivalries ceased to exist and created an environment in which cooperation and peaceful relations were the core norms. Since the Ukrainian crisis of 2014, there have been growing questions as to whether or not this cooperative environment will be preserved or if the growing tensions between Russia and the West will result in a "new" Cold War in the Arctic. The reality is that there is no new Cold War. Likewise Arctic exceptionalism never really meant the underlying security requirements of the two sides ever really dissipated. Instead what is happening is a *renewal* of the Cold War with the Arctic as a core location of competition. At the heart of the problem is a geographical proximity of the Soviet/Russian and American location connected by the Arctic region. This is combined with the existing weapon systems that place a premium on the Arctic as the best staging location for strikes against each other. These two key variables are the reason the Arctic became a region of overwhelming strategic importance when the United States and USSR/Russia began to challenge each other's interest in the international system. It is not about conflict over the Arctic but rather the use of **military force from the Arctic** which has given the region its geopolitical importance. What now complicates the most recent version of the strategic environment of the Arctic is **the entry of China** as a growing peer competitor to the United States and in the longer term to Russia. While the tensions between Russia/USSR and the United States have a long history, the arrival of China as a "near-Arctic state," and its determination to challenge the United States' position as the global hegemon

[103] https://arsenal-otechestva.ru/article/1323-militarizatsiya-arktiki
[104] V. V. Shtyrov (2018), *Artika i Dalnyj Vostok: velichie proektov*, "Ocherk i pubblicistica", Knizhnyi mir, Moscow, p.125

means that there will soon be a three-way balance of power in the Arctic region replacing the historical bi-polar system making the region even more important and dangerouse."[105]

Cooperation in the Arcric

However, in the face of growing geopolitical tensions between Russia and its Arctic neighbours, as well as increased attention on the Arctic from outside the region, there is a risk that tensions will eventually spill over. The question therefore arises whether Arctic cooperation can survive external shocks to continue to address the broad spectrum of current and new security challenges. [106]

"In one respect that has been because, as security thinkers, we see all of the above issues and more as inherently addressing security. If security is everywhere and always, then it does not need its own volume. And yet, in the past two decades, conceptions about Arctic security have shifted. What attracts many of us in the Thematic Network to the study of the Arctic region is its unique model of defining and seeking security. Famously, while traditional security issues are alive and well, the region has uniquely accepted and embraced discourses on environmental and human security issues including environmental protection, Indigenous self-determination, safety, interregional cooperation, development, and the rule of law.

This volume seeks to articulate how security has been redefined in the Arctic region. As a field of study, Arctic security studies exhibit many – dare we use the term – *exceptional* characteristics that can help inform how security may be redefined across the globe as environmental issues and local challenges become more pertinent vis à vis traditional state security issues across the globe. It can also show how environmental and societal challenges are increasingly becoming 'traditional' security issues in and of themselves."[107]

[105] L.Heininen, H. Exner-Pirot (2019), *Redefining Arctic Security*, "Arctic Yearbook", Uarctic, p.75
[106] https://www.sipri.org/sites/default/files/2019-12/sipribp1912_geopolitics_in_the_arctic.pdf

[107] L.Heininen, H. Exner-Pirot (2019), *Redefining Arctic Security*, "Arctic Yearbook", Uarctic, p.7

2.2 Risks and security

There is an important consequence of Global Warming in the Arctic, reducing the area of ice cover, changing the structure and thickness of the ice. It consists in the fact, that individual countries or military blocs of allied States that have powerful naval strike, groups as part of their armed forces receive additional opportunities for their effective use. In ice-free coastal zones, they can deploy their fleet for combat duty directly at the borders of the territorial seas of a likely enemy. And these borders, as we know, are only 12 miles from the original coastlines. In this regard, coastal states will have to spend a lot of money to strengthen the security of their territory from **attacks from the sea.**[108]

The most important risks that RF will have to cope are environmental. Indeed, "Russia, will have to deal with the **disasters that could hit its northern territories**, when the Arctic ice melts with permafrost covering the north of the region. In June 2008, the Russian Emergency Ministry raised the alarm, revealing that the permafrost of western Siberia is shrinking rapidly at a rate of 4 centimetres a year, putting military installations and deposits of energy reserves at risk. With melting then much of the methane gas will be released into the air in - trapped under the frozen crust and the water would increase the volume of the rivers causing huge floods. In the face of these predictions it is clear that in addition to being able to exploit the immense energy and economic wealth of the Arctic, new and enormous problems will arise for the territories and local populations. "[109] Indeed, in 2004 the Arctic Climate Impact Assessment has foreseen these phenomena for the 2050.

Despite the fact that traffic is still small when compared to busier seas, it is indeed growing, especially for destination traffic linked to the servicing of local communities or fueled by natural resources exploitation. **The question of a regulatory framework is thus all the more relevant as an accident, given the fragile environment, could have disastrous consequences.** From a risk management perspective, port state control is also innovative in formalizing the sharing of information among ship inspectors of different nationalities. Control and regulation of shipping in the Arctic, therefore, remain necessary

[108] V. V. Shtyrov (2018), *Artika i Dalnyj Vostok: velichie proektov*, "Ocherk i pubblicistica", Knizhnyi mir, Moscow, p.125
[109] A. Perrone (2010), "La sfida dell'Artico", Il Polo Nord tra la geopolitica e risorse energetiche, Incroci, Fuoco edizioni, p.22.

in order to reduce pollution risk."[110] In Russia the environmental monitoring and protection, as well as the environmental safety of technological solutions, remain one of the main problems of offshore drilling in the Arctic.[111]

"Moscow is aware of the fact that, in contrast with Antarctica, the Arctic region lacks a proper international legal regime to cope with security threats and challenges, including en- vironmental ones. The Arctic-5 (the five Arctic coastal states – Canada, Denmark/Greenland, Norway, Russia, and the United States) deliberately seek to avoid signing any binding agree- ment on regional security so as not to encum- ber themselves in the unfolding geopolitical race for the division of the Arctic continental shelf. The absence of a legal regime impedes international cooperation on environmental security in the Arctic and hampers the search for ways to adapt regional ecosystems, as well as socioeconomic and cultural institutions, to climate change."[112]

"Moscow recognizes the challenge posed by climate change and included it in its recent Arctic strategy. Russia has called for improvements to the United Nations Framework Convention on Climate Change and the continuation of the Arctic Climate Impact Assessment project, which was jointly implemented by the AC and the International Arctic Science Committee. Moscow also realizes that there is still a long way to go to create an efficient multilateral system of governance to both adapt the region to climate change and prevent related conflicts between various international players in the Arctic."[113]

The assessment of Russian Arctic zone petroleum potential has revealed the urgency to estimate the correspondence of prospective Arctic oil and gas reserves development with the ambition for sustainable development framework.[114]

To conclude, Russia shows to be ready for cooperation and collaboration. The Arctic Council denies the *militarization* and this is a strong reason to cooperate together

[110] Guy Emmanuel, F. Lasserre (2016), Commercial shipping in the Arctic: new perspectives, challenges and regulations. Laval University, Polar Record, online version, janv. doi:10.1017/S0032247415001011 https://corpus.ulaval.ca/jspui/bitstream/20.500.11794/432/1/Guy%20Lasserre%20Commercial%20shipping%20in%20the%20Arctic%20Polar%20Record%202016.pdf

[111] https://www.uarctic.org/media/857300/arctic_eng.pdf

[112]https://www.uarctic.org/media/857300/arctic_eng.pdf

[113]https://www.uarctic.org/media/857300/arctic_eng.pdf

[114] https://iopscience.iop.org/article/10.1088/1755-1315/27/1/012021/pdf

in order to cope the environmental and jurisdictional challenges, economical and social issues that matter the whole humanity. All the risks should be foreseen by the unanimity in order to turn them into safety.

§ 3. Developing projects

Throughout the History of the Russian State, with the powerful patronage and protectionism of the authorities, there was a continuous development and settlement of the Northern outskirts of the country. The Arctic zone developed especially rapidly during the Soviet period, when the largest enterprises of the mining and oil and gas, timber and woodworking, fishing and food industries, shipbuilding and ship repair, energy, transport and logistics complex, which had no analogues on the Planet, were created here. Today, it makes a significant contribution to the country's economy, providing four-fifths of gas production, one-third of fish catch, most of the production of non-ferrous and precious metals, timber products, raw materials for the ferrous metallurgy and chemical industry. The macro-region ranks first in the Russian Federation in terms of gross domestic product, value added, and export products produced per capita.[115] **The Arctic zone of Russia is a promising region, the resource base of which can bring great economic benefits for subsoil users and the state**. The significant volume of reserves and forecast resources of raw materials in the reference zones, along with the lack of infrastructure and the high capital intensity of its construction in the areas of prospective production, opens up broad prospects for the formation of mineral resource centers based on the principles of clustering and allowing to obtain its positive effects."[116]

[115] V. Shtyrov (2018), *Artika i Dalnyj Vostok: velichie proektov*, "Ocherk i pubblicistica", Knizhnyi mir, Moscow, p.130-133.

[116] V.V. Fauzer (2018), *Social and economic development,* "Arctic and North", n. 33, Arkhangelsk, pp.30-38.

3.1 *State Program projects*

This paragraph will be devoted to the field of socio-economic development.

Today the main State Program valid until 2025 that deals with Socioeconomic Development is the **Resolution No. 1064 of August 31, 2017.** The State program includes the following three sub-programmes: Creation of Core Development Zones, Maintaining their Operation and Creating Favourable Conditions for the Rapid Socioeconomic Development of the Russian Arctic Zone; Development of the Northern Sea Route and Maintaining Arctic Navigation; Developing Equipment and Technologies for the Oil and Gas and Industrial Engineering Sectors needed to Develop Mineral Deposits of the Arctic Zone of the Russian Federation.

The State program establishes the concept of "Core development zones" they are also called as "support zones" or "reference zones" (*opornye zony*) in the Arctic, which are the main mechanism of State Policy in the development of the Russian Arctic. According to the program**, reference zones are complex projects of socio-economic development, which imply the simultaneous application of territorial and sectoral development tools**, as well as mechanisms for **implementing investment projects**, including on the principles of public-private and municipal-private partnership.[117]

The implementation of pilot projects for the formation of **Core development zones** consists on: commissioning of the ice-resistant self-moving platform "North Pole", creation of a modern high-tech shipbuilding yard in the Republic of Sakha (Yakutia) (limited liability company *Zhatayskaya shipyard* in cooperation with other engineering and shipbuilding companies. The program at the second-stage has funding in total of 12 billion roubles. While in the third stage 2020-2025 there are plans to establish and finance core development zones.[118]

Currently, the Arctic region is becoming an important area for the development of the Russian fuel and energy complex. The main strategic priorities include the integrated use of mineral resources and the development of transport infrastructure in the regions of the Arctic zone. [119]

[117] http://www.arcticandnorth.ru/upload/uf/daf/AaN_35.pdf
[118] http://government.ru/en/docs/29164/
[119] V.V. Fauzer (2018), *Social and economic development,* "Arctic and North", n. 33, Arkhangelsk, pp.30-38

As the *Arctic Journal* reports:

"The new version of the state program "Social and economic development of the Arctic zone" and the draft law "On the Development of the Arctic Zone of the Russian Federation" **have designated support zones as the main instrument for the development of the Arctic. Their** main task, according to the specified documents, is the development of mineral and raw materials centers (MRCs) in the Arctic zone of Russia, attraction of investments, development of the Northern Sea Route and development of energy infrastructure. Therefore, the selection of promising mineral and raw materials centers in the support zones in the Russian Arctic is an urgent task. By actualization of information on the resource potential of the Arctic zone of Russia, it is possible to form a list of prospective MRCs, the development and support of which should be in the priority focus of public policy in this region. Equally important is the analysis of **key risks such** as financial, construction and geological risks that arise when creating and developing mineral resource centers and have a significant impact on the profitability of such projects. The paper suggests some indicators that assess the macroeconomic, social, geopolitical and innovative effects that arise in the development of MRCs and which should be used for evaluating the social and economic impacts of MRC projects in support areas. Also, it is necessary to take into account the social and economic importance of MRC projects and the impact of their results on the life of the population. As the primary approach in the selection and creation of mineral resource centers, the authors propose the use of the cluster approach. **Such clusters will act as pivots in the spatial organization of the regional economy and will achieve the maximum multiplicative effect**. In conclusion, based on the analysis, the authors formulated the main principles for the implementation of MRC projects, which include: the formation of a single geological exploration program, the joint development of nearby deposits, and the formation of complex socio- economic effects for the exploration areas."[120]

"It should also be noted that for the development of deposits the Arctic needs to make huge capital investments, use unique technologies that are often not approved in the world practice, and take into account the risks that the state must deal with investors."[121] At the

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[120] S. Lipina, A. Cherepovitsyn (2018), *The preconditions for the formation of mineral and raw materials centers in the support zones of the AZRF.* "Arctic and North", n. 33, Arkhangelsk, p.24.

[121] S. Lipina, A. Cherepovitsyn (2018*), The preconditions for the formation of mineral and raw materials centers in the support zones of the Arctic zone of the Russian Federation*, "Arctic and North", n. 33, Arkhangelsk, p.25.

same time, Russia expects to attract part of the funds for the comprehensive development of the Russian Arctic from foreign sources, incl. North-East Asia. In turn, the Russian government and regional authorities offer administrative and tax preferences for investors.[122]

"The investors in this area have several benefits such as:

1. 0% income tax for the first five years, 12% for the next five years (Kamchatka Territory has 5% income tax);
2. 0% land tax for the first five years;
3. 0% property tax for five years and less than 2.2% for the next five years;
4. 7.6% incentive insurance premium rates for investment projects implemented in the ASEZs;
5. 'Single window' mode for the investor;
6. Fast-track administrative procedures, including obtaining permits;
7. Any audit of the investor by regulatory authorities subject to the consent of the Ministry for the Development of the Russian Far East;
8. The right of a managing company to protect the resident in court.
9. Free customs zone: no import and customs duties, fast and convenient customs procedures;
10. Simplified procedures for attracting foreign labour (in case of local labour force shortages).
11. Granting land for a project."[123]

Mineral resource centers are the basis for creating Economic Development Zones in the Arctic. In accordance with the changes made to the state program "Socio - economic development of the Arctic zone of the Russian Federation for the period up to 2020 and beyond" approved in 2014, the development of the Arctic is planned through a system of "reference zones" - complex projects for the development of Arctic territories, the basis of which will be the mechanisms of public-private partner. Currently, it is planned to form 8 reference zones, each of which is a territorial multi-project and accumulates a set of multi-industry projects.

From a regional perspective, spatial planning and the formation of the MSC will help solve a range of tasks related not only to the development of the raw material base and achieving high performance indicators of its development, but **also tasks aimed at**

[122] A. Voronenko, S. Greizik (2019), *Development of Russian Arctic*,"Arctic and North", n.35,Arkhangelsk, p. 58
[123] https://forumvostok.ru/en/about/asez/

the integrated socio-economic development of regions. It is necessary to ensure the relationship of the project with related industries and maintain the stability of the economic growth of the region.

3.2 CDZ of the Northern and Far Eastern part of Russia

In this paragraph I will speak about more specifically the 8 CDZ that are placed in the North of Russian Federation.

"CDZs in the Russian Arctic assum an important role - mechanism of development of the Arctic. The region will be divided in "support areas" that include the territory's development as a holistic project, the principle of coherence of all sectoral events at the stages of planning, goal setting, financing and implementation. Implementation of the pilot projects for direct creation of the reference zones are scheduled for 2018-2020, and their operation for 2021-2025. Creating reference zones it was also actively discussed at the VI forum in 2016"[124], where they talked about eight reference zones: Kola, Arkhangelsk, Nenets, Yamalo-Nenets, and Vorkuta, Taimyr-Turukhansk, North Of Yakutia, Chukotka. At the 2017 forum, a decision was made to create a ninth zone-Karelian. (look on the map)

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[124] L. Larchenko (2017), *Ob itogah 6 Mezhdunarodnogo foruma "Arktika: nastoyachee i buduchee"*, Innovacii, n.4, pp 19-23.
[125] https://regnum.ru/news/2407690.html

On the map we can see that the 8 Reference zones that are divided into regions.[126] The **Reference zones** are formed mainly on the basis of the existing administrative division, but taking into account the Arctic issues and geography, which allows us to focus on infrastructure projects even in those regions, which are not fully included in the AZRF. The level of readiness of regions to participate in the implementation of Arctic projects is assessed based on ongoing and prospective projects within the respective reference zones.

The system of reference zones is a new tool for territorial economic development aimed at ensuring the strategic interests of the RF in the Arctic, first of all, improving the quality of life of the population, including indigenous people, developing all types of economic and social infrastructure, ensuring border security from the North, and strengthening Russia's position at the international level. Due to the strategic importance of the tasks set, the legislative documents contain modern management methods for the effective use of significant state and attracted capital investments. It is planned to create a network of project offices, the main purpose of which is to unite all departments in order to implement projects for the integrated development of the Arctic territory. The purpose of this study is to review and analyze the state of infrastructure, problems and approaches to substantiating priority projects for integrated development of Arctic Zones and methods of State support and regulation of their implementation.[127]

Today there are also 20 Advanced Special Economic Zones located in the Far East (ASEZ). (look on the map)

[126] https://publications.hse.ru/mirror/pubs/share/direct/227798352
[127] https://eee-region.ru/article/4816/

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The zones are set up under the Federal Law No.473-FZ 'On the Advanced Special Economic Zones in the Russian Federation' which became effective of 30 March 2015. New areas are to be established in the regions of the Russian Far East.[129]

This region borders the two oceans the Pacific, the Arctic, and five countries such as USA, DPRK, Mongolia, Japan, China. This Far Eastern Federal District occupies more than a third of the Russian territory, in fact it is considered as the largest federal district. Over the past few years, the Far East has been a dynamically developing part of the RF. Setting up the Vladivostok Free Port is the continuation of the TAD system.

The Far East is rich in natural resources. The macro-region extracts **98%** of Russian diamonds, **80%** of stannary, **90%** of borax materials, **50%** of gold, **14%** of tungsten, and **40%** of fish and seafood. About **1/3** of all coal reserves and hydro-engineering resources of the country are here. Forests of the region comprise about **30%** of the total forest area of Russia. [130]

3.3 Special Economic Zones of the Western Russia (SEZs)

[128] https://forumvostok.ru/en/about/asez/
[129] https://forumvostok.ru/en/about/asez/
[130] https://forumvostok.ru/en/about/

Special economic zones (SEZs) are one of the largest projects to attract direct investment in priority economic activities. The activities of SEZs in the Russian Federation are regulated by Federal law No. 116-FZ of July 22, 2005 "on Special Economic Zones in the Russian Federation." The decision to create a SEZ is approved by the Government of the Russian Federation on the basis of an application prepared by the highest Executive body of state power of a subject of the Russian Federation. SEZs are created for 49 years. According to the SEZ Law, a SEZ resident is not entitled to have branches and representative offices outside the SEZ territory. SEZ – part of the territory of the region, which has a preferential business regime, and can also apply the procedure of a free customs zone. SEZs are created for the development of manufacturing and high-tech industries, tourism, health resorts, port and transport infrastructure, development and commercialization of technologies, as well as for the production of new types of products.

On the map are indicated all the active SEZ in western Russia. At the moment there are 28 economic zones and they are divided into different sectors.

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The activities of SEZ are regulated by Federal law No. 116-FZ of July 22, 2005 "on Special Economic Zones in the Russian Federation" (hereinafter referred to as the SEZ Law). The decision to create a SEZs is approved by the Government of the Russian Federation on the basis of an application prepared by the highest Executive body of State power of a subject of the Russian Federation. According to the law the concept of "Special Economic Zone is a special economic zone that shall mean a section of the territory of

[131] http://eng.russez.ru/

the Russian Federation determined by the Government of the Russian Federation where a special procedure for exercising business activities is applied. The main of SEZ goal shall be set up with the objective of developing processing industries, high-technology industries, manufacturing novel types of products, transport infrastructure and also tourism and sanatoria-resort sphere."[132] SEZs are created for 49 years. SEZs – part of the territory of the region, which has a preferential business regime, and can also apply the procedure of a free customs zone. SEZs are created for the development of manufacturing and high-tech industries, tourism, health resorts, port and transport infrastructure, development and commercialization of technologies, as well as for the production of new types of products.[133]

The Special Economic Zones offer their residents a special legal status resulting in a number of tax and customs preferences and they are also created in order to attract the foreign direct investment.[134] In order to apply for a residency it is necessary to select SEZ, prepare a business plan, present the project to the Advisory Council and sign an agreement. And finally, choose the field among: industrial zones, innovative zones, touristic zones, or logistic zone.[135]

Maxim Oreshkin, the Aide to the President of RF explains that "both the infrastructure and the conditions for implementation of these projects have been created in the territories of Special Economic Zones (SEZs). Today the SEZ is a unique tool that fosters manufacturing and hightech industries, contributes to the development of advanced technologies, the production of new types of products. SEZs are the key driver of attracting of capital investment to the Russian regions by improving the investment climate, and increasing innovation activity in the business sector. This expands mutually beneficial international cooperation in various spheres of economy and industry. Since the SEZs were established, more than 750 companies, individual entrepreneurs out of 38 countries have acquired a SEZ resident status. During these years the revenue of the SEZ residents amounts to over 12.2 billion dollars (including 5.8 billion dollars of the SEZ residents' private investment), more than 35 thousand jobs have been created. Over 120 foreign companies, including such global brands as Honeywell, Kronospan, Boeing, have chosen the sites of the Russian SEZs for implementation of their projects. Moreover, some of them have already launched their production process, i.e. 40 largest factories, among

[132] https://www.wto.org/english/thewto_e/acc_e/rus_e/WTACCRUS58_LEG_324.pdf
[133]https://www.economy.gov.ru/material/directions/regionalnoe_razvitie/instrumenty_razvitiya_territoriy/osobye_ekonomicheskie_zony/
[134] http://eng.russez.ru/oez/
[135] http://eng.russez.ru/becoming_resident/

of them are the worldwide brands Yokohama, Bekaert, Ford, Armstrong, Kastamonu, Bettermann, etc. To conclude, it is clear that SEZs mechanism is developing in the right way, as it takes into account the mutually beneficial interests of the Government and the business. Finally, the crucial role of the "SEZ Business Navigator 2019" in increasing the efficiency and the information openness of this mechanism."[136]

On the 1st June The Ministry of Economic Development announced three new zones that are going to be opened:

"Three new special economic zones (SEZs) will be created in the Nizhny Novgorod region, the Republic of Bashkortostan and the Saratov region. The relevant resolutions prepared by the Russian Ministry of economic development have been signed by the Government. By 2029 the total investment volume of potential residents will amount to 35.2 billion rubles. The establishment of the SEZ shall not require any additional expenditures from the Federal budget.

In the new SEZ of industrial production type "Kulibin" in the city of Dzerzhinsk, Nizhny Novgorod region, it is planned to produce chemical products, gas filling complexes, and pharmaceutical products. The total amount of tax and customs deductions of resident companies to budgets of different levels should reach more than 5 billion rubles by 2029, and it is planned to create 2.4 thousand new jobs."[137]

3.4 *Strategy*

The Arctic region is getting more and more important for Russia, and the other coastal countries. Russia is developing a strategic plan in order to get high profits, but what should be done is that the Arctic can be exploited, but in a proper way, neither damaging indigenous people, nor the environment. In the previous 2015 State Program of National Security the Government was concerned in the following points: as Inga Nikulkina explained:

[136]https://www.economy.gov.ru/material/file/f5782f0d10a8434058927a8e76d94a61/Russian_Special_Economic_Zones_Business_Navigator_2019_eng.pdf
[137]https://www.economy.gov.ru/material/news/pravitelstvo_utverdilo_sozdanie_treh_osobyh_ekonomicheskih_zon_s_obshchim_obemom_investiciy_rezidentov_bolee_35_mlrd_rubley.html

"The strategic role consists in the National Security, economic interests of Russia, basement of the most effective integration of Russian economy in the worldwide industry spared among the regions such as Arctic, Siberia and the Far East. The National Security should support the **strategic sustainability** and partnership where a particular meaning stands in equal development and reciprocal international cooperation in Arctic. The formation of a new technical and economic structure concerning the development of Arctic and Northern countries sharply actualized many issues related to the development of the Arctic space. The unique geopolitical position, huge resource potential, military-strategic and environmental significance of the Arctic make it a region of strategic interests of the World's leading countries."[138][139]

Today the Foundations of State Policy of the Russian Federation in the Arctic in the Period to 2035 are almost the same. (The strategic planning is ensuring the National Security of the Russian Federation and it is developed in order to protect the National interests of the Russian Federation in the Arctic. The main targets consist in development of the infrastructure of the NSR, cooperation of the coastal states. The goals are: to cope with the population decline, improvement of the lifestyle, economic development, environment, medical care, faster the development of the social infrastructure, social support, investments, commodities, development of the ecotourism, protection of indigenous peoples rights, development of the technology, innovation, and so forth. Indeed, the Russian Economic Development concretely in Arctic consists at the first point, the Ministry for the Development of the Russian East is inviting the investors to project in Arctic. The investors will be helped with incentives in order to implement their projects and they will receive help from the State. Second, the State Duma has enacted a law on expanding the resources base for LNG export which will give opportunity to influence four deposits with total reserves of over 1.5 trillion cubic meters of gas into LNG production and increase the loading of the Northeast Passage where LNG can account 70 million tons of loading by 2030. (In the following fields: Novatek's Verkhnetiuteyskoye, Zapadno-Seyakhinskoe, Shtormovoye and Soletsko-Khanaveyskoye). As a consequence, all these projects are supposed to create new jobs. Third, five companies to become residents of the Arctic ASEZ in Murmansk will invest almost 140 billion roubles. Then the carrier Sevmorput (NSR) delivered over 20,000

[138]http://www.old.fa.ru/dep/ods/autorefs/Dissertations/%D0%9D%D0%B8%D0%BA%D1%83%D0%BB%D0%BA%D0%B8%D0%BD%D0%B0%20%D0%98%D0%92%208c501261cc6a50964e36f418eb5ee7a2.pdf
[139] http://kremlin.ru/acts/bank/40391

freight units to Arctic LNG-2. Fourthly, young indigenous peoples will be incentivizes in order to invest and improve their living conditions. Green energy and solar panels are going to be installed in order to produce no harmful emissions into the atmosphere.

§ 4. NGO & IGO

The environmental cooperation among the countries in the Arctic started in Murmansk in 1987 when the Soviet leader Mikhail Gorbachev invited all the coastal states for a greater collaboration on the environmental issues. As a consequence was formed the Arctic Council and a Declaration on the Protection of the Arctic Environment and Arctic Environmental Protection Strategy (AEPS) were adopted. I strongly believe that more cooperation will be done as soon as possible and important decisions should be taken over the Arctic future economical, environmental and political aspects.

In this sub-chapter I would like to introduce the measures that the states have already taken with the Arctic Council in order to speak all together and make some decisions in order to avoid future clashes and meet a common goal.

The main organization caring about environment in Arctic is the **Arctic Council**. It is a leading intergovernmental forum promoting cooperation, coordination and interaction among the Arctic States, indigenous communities and the rest of the Arctic population in relation to common Arctic issues, in particular in relation to Sustainable Development and environmental protection in the Arctic.[140] Of course, there are many Non-governmental organizations in Russian Arctic, whose destiny we will see on the paragraph after the Arctic Council. First of all, we should understand the function of the Arctic Council.

4.1 *The Arctic Council*

It is important to mention the presence of the **Arctic Council** which plays an important role. Since 1996 the eight Arctic States formed it. It was formally established in 1996. According to Ottawa Declaration the 8 Members of Council are permanent participants and they are also representing the Arctic Indigenous peoples in the Council being supported by the Indigenous Peoples Secretariat. There are also Working Groups who research and monitoring. The other position is occupied by 13 States (Germany, The

[140] https://arctic-council.org/en/about/

Netherlands, Poland, United Kingdom, France, Spain, Republic of Singapore, People's Republic of China, Republic of Korea, Republic of India, Japan, Italian Republic and Switzerland) they have the status of *observers,* which is open to non-Arctic states, along with inter-governmental, inter-parliamentary, global, regional and non-governmental organizations that the Council determines can contribute to its work.

"The Council may also establish Task Forces or Expert Groups who carries out specific position. Black Carbon and Methane Expert Group. Their goal is to assess progress of the implementation of the Arctic Council's Framework for Action on Black Carbon and Methane, and to inform policy makers from Arctic states and for participating Arctic Council Observer states. This includes preparing, on a once every two-year cycle of the Arctic Council chairmanship, a high level "Summary of Progress and Recommendations" report, with appropriate conclusions and recommendations.

The Arctic Council regularly produces comprehensive, cutting-edge environmental, ecological and social assessments through its Working Groups. The Council has also provided a forum for the negotiation of three important legally binding agreements among the eight Arctic States:

1. Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic (2011)
2. Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic (2013)
3. Agreement on Enhancing International Arctic Scientific Cooperation (2017)

The Chairmanship of the Arctic Council rotates every two years among the Arctic States. The first country to chair the Arctic Council was Canada (1996-1998), followed by the United States, Finland, Iceland, Russia, Norway, the Kingdom of Denmark, and Sweden. The second cycle of Chairmanships began in 2013. Iceland chairs the Arctic Council from 2019 to 2021, and it is due to the Russian Federation from 2021 to 2023. The Arctic Council is a forum; it has no programming budget. All projects or initiatives are sponsored by one or more Arctic States. Some projects also receive support from other entities. The Arctic Council does not and cannot implement or enforce its guidelines, assessments or recommendations. That responsibility belongs to each individual Arctic State.[141] Furthermore, **the Arctic Council represents other 6** (Indigenous peoples) Councils such as: the Aleut International Association, the Arctic Athabaskan Council, the

[141] https://arctic-council.org/en/about/

Gwichin Council International, the Inuit Circumpolar Council, the Russian Association of Indigenous Peoples of the North, and the Saami Council."[142]

There are also 12 Non-governmental Organizations approved as *Observers* in the Arctic Council:

- Advisory Committee on Protection of the Sea (ACOPS)

Barrow Ministerial meeting, 2000

- Arctic Institute of North America (AINA)

Reykjavik Ministerial meeting, 2004 (as: Arctic Circumpolar Route)

- Association of World Reindeer Herders (AWRH)

Barrow Ministerial meeting, 2000

- Circumpolar Conservation Union (CCU)

Barrow Ministerial meeting, 2000

- International Arctic Science Committee (IASC)

Iqaluit Ministerial meeting, 1998

- International Arctic Social Sciences Association (IASSA)

Barrow Ministerial meeting, 2000

- International Union for Circumpolar Health (IUCH)

Iqaluit Ministerial meeting, 1998

- International Work Group for Indigenous Affairs (IWGIA)

Inari Ministerial meeting, 2002

- Northern Forum (NF)

Iqaluit Ministerial meeting, 1998 Oceana

- Oceana

Fairbanks Ministerial meeting, 2017

- University of the Arctic (UArctic)

Inari Ministerial meeting, 2002

- World Wide Fund for Nature, Arctic Program (WWF) [143]

"Since the political interest increased in the Arctic it reflects in a growing number of states and organisations seeking *observer* status in the Arctic Council. Another way in which Arctic issues are linked with external actors and activities is through Arctic scientific reports feeding into international assessments and policy-making, as the Arctic Council and individual members in different ways support multilateral programs and

[142] https://arctic.ru/population/
[143] https://arctic-council.org/en/about/observers/non-governmental-organizations/

agreements. There are, however, significant differences in Arctic influence in international forums."[144]

"The United Nations Framework Convention on Climate Change (UNFCCC) plays an important role since it pays a particular attention on the function of the Arctic Council members the eight Arctic countries and six indigenous people's groups, including different levels of collaboration under the Conventions. (2001 Stockholm Convention on Persistent Organic Pollutants (POPs), 2013 Minamata Convention on Mercury."[145]

The Arctic Council has opened up to connect currently 32 non-Arctic states, intergovernmental and interparliamentary as well as NGO with the status of 'observer'.[146] This is an important opportunity to cooperate together for the good of all the states and the Arctic region. Regarding the limits of the Arctic Council as a governing body, the council states that "The Arctic Council does not and cannot implement or enforce its guidelines, assessments or recommendations. That responsibility belongs to each individual Arctic State."[147]

4.2 *Restrictions on NGOs or Noncommercial organizations*

In 1924, the All-Russian Society for the Protection of Nature (VOOP), became the first major environmental organization in Russia. The organization involved prominent natural scientists of the time, the society membership had grown to fifteen thousand by 1932. In spite of the Communist regime's resistance to nature protection projects that interfered with Soviet plans for economic development, the Society managed to publish a bimonthly journal, *Okhrana prirody* (Protection of Nature). While many environmental organizations were forced to close during the 1930s, the All-Russian Society retained its independent status in the Soviet Union. It still exists today with various local branches across Russia.[148]

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[144] K. Keil, S. Knecht (2017), *Governing Arctic Change. Global Perspectives*, Palgrave Macmillan, Germany, p.104.
[145] K. Keil, S. Knecht (2017), *Governing Arctic Change. Global Perspectives*, Palgrave Macmillan, Germany, p.102
[146] K. Keil, S. Knecht (2017), *Governing Arctic Change. Global Perspectives*, Palgrave Macmillan, Germany, p.163.
[147] CRS Report – prepared for Members and Committees of Congress by Congressional Research Service https://crsreports.congress.gov
[148]http://www.environmentandsociety.org/tools/keywords/foundation-all-russian-society-protection-nature#:~:text=In%201924%2C%20the%20All%2DRussian,major%20environmental%20organization%20in%20Russia.&text=While%20many%20environmental%20organizations%20were,status%20in%20the%20Soviet%20Union.

Today there are thousands Non-Governmental Organizations in Russia, but they have many restrictions from the Russian Government, especially, with the law of 2006 (On Introducing Amendments to Certain Legislative Acts of the Russian Federation). According to Russian Government all the NGO are considered to be "foreign agents". Heritage.org explains:

"The Kremlin was especially concerned with Western NGOs and foreign funding of Russian NGOs. Putin repeatedly indicated that the Kremlin would not allow financing political activities in Russia from abroad. In early November 2005 a group of the Kremlin connected State Duma deputies submitted a harsh bill designed to tighten state control over NGOs. The bill envisioned compulsory registration for NGOs followed by the submission of information about their performance and the filing of fiscal reports for scrutiny by a registration agency. The bill's authors proposed to prohibit the operations of foreign NGOs' representative offices in Russia. These foreign offices would be required to register their branches in Russia as Russian public policy associations. The bill put before the Duma raised a tide of protests both in the Russian democratic community and in the West. Most Russian NGO leaders decried the bill as unconstitutional and counter to the standards of civil society. […] An avalanche of protests from American and other foreign public policy organizations assailed the State Duma and the Kremlin. […] The passage of the law was preceded by a media campaign initiated by the Russian secret services that leveled charges at a number of Russian NGOs for having contacts with Western intelligence services. Its purpose was to justify the need for a stiff control over NGO financing. […] The NGO law came into effect on April 18, 2006. It will regulate the activity of over 500,000 NGOs in Russia, including 148,000 public policy organizations and 5,000 foreign NGO branches. To manage these oversight duties, the Justice Ministry has employed a 5,000-strong bureaucratic staff, in addition to the 1,000-strong NGO registration staff. As NGOs feared, the regulations issued by the government agencies in response to the law have introduced harsh restrictions on NGO performance. From now on, NGOs will have to report every detail of their activities. An activity report form is seven small-print pages long and includes accounts of performance, both of the substance of an NGO's work and its expenses. If money is spent on putting on events, the NGO must detail their number, the topics, and participation. Foreign organizations, such the Heritage Foundation's Moscow office, also must indicate the cost of office supplies. The regulations will significantly increase an NGO's expenses. Russian rights organizations are unanimous in their belief that the worst expectations of

this new law are justified. If an NGO cannot be banned directly, the red tape, all-out control, endless check-ups, and a stepped-up financial burden could smother it." [149]

Moreover, the "law on foreign agents", or rather the package of amendments submitted by Federal law No. 121 of July 20, 2012 on changes to certain legislative acts of the Russian Federation in terms of regulating the activities of Non-Profit Organizations performing the functions of a "foreign agent", was adopted in 2012. The first version assumed that if there are two signs – the presence of foreign funding and the fact of political activity – non-profit organizations registered in Russia will have to voluntarily join the register created by the Ministry of justice and officially receive the status of a foreign agent. Since none of the main players in the civil sector did this (except For the Association "non-profit partnership" Promotion of competition in the CIS [150] countries, whose status is still questionable), in 2013, a series of Prosecutor's checks took place, organized in order to urgently and massively replenish the empty register. If the law exists, it should work. In 2014, 29 organizations were included in the register, 81 in 2015, and 43 more in 2016 over five years, 162 organizations became foreign agents (data as of July 31, 2017). The "law on agents" allows us to analyze not only the practice of its application, but also how non-profit organizations adjusted to the new legal conditions and what strategies they used to stabilize the situation and keep the ability to work.[151]

Many NGO were forced to lockdown and blacklisted, even if they were trying to keep doing their activity and they only registered their activity not in appropriate way. Some of the managers of these organizations were arrested. The others keep leading their activity despite the risk and they are forced to maintain the status of "foreign agent".

The explanation that the government gives regarding that status of a foreign agent is simply connected with the idea that the presence of these NGO should be sponsored in some way and somehow, and probably by the foreign sponsors who maybe want some benefits, interest or advantages as exchange. For this reason, just to prevent any suspects, the Russian government has introduced for whom wants to run an NGO all those long procedures in order to be as much transparent as they can and demonstrate not being related with the Western countries.

[149] https://www.heritage.org/europe/report/russias-ngo-law-attack-freedom-and-civil-society
[150] *CIS* stands for Commonwealth of Independent States is a regional intergovernmental organization of 9 members, and 2 founding non-member, post-Soviet Republics in Eurasia. It was formed following the dissolution of the Soviet Union in 1991.
[151] https://www.opendemocracy.net/ru/foreign-agents-pravila/

In the next subchapter (about the Governmental documents) we will see how the international NGO-Greenpeace criticized the Russian Government and what are the measures that they suggest taking in order to face the most important issue of nowadays which is the Climate Change.

§ 5. Government documents

In this chapter I wil explain the basement of the most important state program of RF, and I would like to pay attention more on the environmental aspect of this program, since I have already mentioned in the previous sub-chapters the complexity of the economical aspects. The importance of the socio-economic implementation should be evaluated by all the states. In this sub-chapter I will show how The Russian Federation manage with its new State program for 2035.

The President Vladimir Putin announced plans to adopt a new strategy for the development of the Russian Arctic. The document should connect the activities of National projects and state programs, investment plans of infrastructure companies, programs for the development of Arctic regions and cities. The Russian policy strategy consists on: the socio-economic field; National Security and the borders defense; environmental Security; technological and innovative development; more attention on the Science and Research. Incentives destinated to indigenous people, especially for young people. Finally, all the points should take into account the Sustainable Development.

In September 2019 Greenpeace tried to involve Russia to take stronger measures and to call the attention of the Russian Government to the "Second warning from the World's scientists to humanity", which was signed by more than 15 thousand scientists from 184 countries. The topic treated is a particular concern invoking the current trajectory of potentially catastrophic climate change due to increased greenhouse gases emissions from the burning of fossil fuels.[152]

Greenpeace reminds that throughout all Russia, for the whole year and in all seasons, warming is continuing — with the average rate of growth of annual air

[152] http://bit.ly/2lXD6xO

temperature in Russia is 2.5 times greater than the rate of global temperature rise.[153] On the territory of Russian Federation, the number of meteorological hazards is increasing: their average value for the period 2014-2018 exceeded the same value for 1998-2002 by almost 3 times.[154]

The Ministry of agriculture estimated 9.5 billion rubles in damage to Russian agricultural producers in 2019 from emergencies, including those caused by climate anomalies.[155] The consequences of Climate Change can lead to losses of up to 2% of Russia's GDP per year until 2030[156], and if greenhouse gas emissions are not reduced, GDP will decline per capita in Russia may already be 3% by 2050 and 9% by 2100. [157]

At the current rate of greenhouse gas emissions, the average annual temperature of the Planet may increase by 4 °C this century. In the world Bank report "Why the world 4 °C warmer should be prevented" experts conclude: "There are no certainties that adaptation to a World 4 °C warmer is possible."[158] and experts from the Global Challenges Foundation, investigating scenarios of temperature increases of more than 3 °C in their report "Global catastrophic risks", concluded: "The Scale of destruction is beyond our modeling capabilities. With a high probability, human civilization comes to an end."[159]

5.1 *Foundations of State Policy of the Russian Federation in the Arctic in the Period to 2035*

The Russian Government has enacted a law on 5th March 2020 which builds the Basement of National Policy of Russian Federation in Arctic that treats issues of different character. The document is valid until 2035.[160] The main subjects treated are: National

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[153] Roshydromet. Report on climate features in the Russian Federation for 2018 http://bit.ly/2lR1Vf5

[154] *Ibidem*

[155] The Ministry of agriculture assessed the damage to farmers from emergencies in 2019. Ria news. 04.09.2019: http://bit.ly/2lUOWJ9

[156] Statement of the head of the Ministry of agriculture of the Russian Federation Alexander Tkachev at the FAO conference. 3 July 2017: http://bit.ly/2lU1UXA

[157] Long-term macroeconomic effects of climate change:
Cross-Country Analysis. NBER working paper No. 26,167. August 2019: http://bit.ly/2lS0flu

[158] The World Bank. Turn Down The Heat: Why a 4 °C Warmer World Must Be Avoided: https://bit.ly/2ZbcPPx

[159] Global Challenges Annual Report: GCF & Thought Leaders Sharing What You Need to Know on Global Catastrophic Risks 2017: https://bit.ly/2Z6gC0x

[160]http://static.kremlin.ru/media/events/files/ru/f8ZpjhpAaQ0WB1zjywN04OgKiI1mAvaM.pdf

Security, National policy, Foreign policy, basement of regional development, issues of strategic development, natural resources, economic development, NSR, environmental protection, population, and infrastructure.

Going into merit of point n.5 (dealing the environment especially, regarding the main environmental tasks in the field and protection of environmental safety) letter "e" consists in:

"Охрана окружающей среды в Арктике, защита исконной среды обитания и традиционного образа жизни коренных малочисленных народов, проживающих на территории Арктической зоны Российской Федерации." [161]

"Protection of the environment in the Arctic, protection of the native habitat and traditional way of life of indigenous peoples in the Arctic zone of the Russian Federation."

It is a good point to protect the environment, but since we are on era of the Climate Change it would be better to invoke and express explicitly the issue of the Climate Change in the State Strategic program. Nevertheless, the point regarding the Climate Change has not been completely expressed, but it was mentioned in the point 15. Following are all the points that deal with the environment but the are not that much stronger that supposed to be:

"Основными задачами в сфере охраны окружающей среды и обеспечения экологической безопасности являются:

а) развитие на научной основе сети особо охраняемых природных территорий и акваторий в целях сохранения экологических систем и их адаптации **к изменениям климата**;

б) обеспечение сохранения объектов животного и растительного мира Арктики, охрана редких и находящихся под угрозой исчезновения растений, животных и других организмов;

в) продолжение работы по ликвидации накопленного вреда окружающей среде;

[161] http://kremlin.ru/acts/bank/45255

г) совершенствование системы мониторинга окружающей среды, использование современных информационно-коммуникационных технологий и систем связи для осуществления измерений со спутников, морских и ледовых платформ, научно-исследовательских судов, наземных пунктов и из обсерваторий;

д) внедрение лучших доступных технологий, обеспечение минимизации выбросов в атмосферный воздух, сбросов в водные объекты загрязняющих веществ и снижения иных видов негативного воздействия на окружающую среду при осуществлении хозяйственной и иной деятельности;

е) обеспечение рационального природопользования, в том числе в местах традиционного проживания и традиционной хозяйственной деятельности малочисленных народов;

ж) развитие комплексной системы обращения с отходами всех классов опасности, строительство современных экологически чистых мусороперерабатывающих комплексов;

з) реализация комплекса мер по исключению попадания в Арктическую зону Российской Федерации токсичных веществ."[162]

"The main tasks in the field of environmental protection and environmental safety are:

a) development of a network of specially protected natural territories and water areas on a scientific basis in order to preserve ecological systems and adapt them to **climate change**;

b) ensuring the conservation of Arctic fauna and flora, protection of rare and endangered plants, animals and other organisms;

c) continuing work to eliminate accumulated environmental damage;

[162] http://kremlin.ru/acts/bank/45255

d) improvement of the environmental monitoring system, use of modern information and communication technologies and communication systems for measurements from satellites, sea and ice platforms, research vessels, ground stations and observatories;

e) introduction of the best available technologies, ensuring minimization of air emissions, discharge of pollutants into water bodies, and reduction of other types of negative impact on the environment in the course of economic and other activities;

e) ensuring the rational use of natural resources, including in places of traditional residence and traditional economic activities of small number of people;

g) development of a comprehensive waste management system of all hazard classes, construction of modern environmentally friendly waste processing complexes;

h) implementation of a set of measures to prevent toxic substances from entering the Arctic zone of the Russian Federation."

These points are valuable in order to take measures to protect the environment, but are still not enough. However some more measures concerned about the environment are going to be taken specifically, are some changes introduced to the Russian Constitution of 1993. The following are the amendments that soon are going to be integrated with the Constitution:

"Охрана окружающей среды

Согласно поправкам, которые предлагается внести в статью 114 Основного закона, Правительство РФ:

- осуществляет меры, направленные на создание благоприятных условий жизнедеятельности населения, снижение негативного воздействия хозяйственной и иной деятельности на окружающую среду;

- создает условия для развития системы экологического образования граждан, воспитания экологической культуры."[163]

"Environmental protection

According to the amendments proposed to article 114 of the Basic law, the Government of the Russian Federation:

- implements measures aimed at creating favorable living conditions for the population, reducing the **negative impact of economic and other activities on the environment**.
- creates conditions for the development of the system of environmental education of citizens, **education** of environmental culture."[164]

During the Pandemic there was a suspension of environmental protection by Russian Government, and it is absolutely unfair, since the environment is even more vulnerable in this period, because of massive use of plastic and so on. The environment should be always protected. Specifically, the implementation of *ecofriendly* technologies, that we need on the time of Corona Virus should be integrated.

The new amendments could be criticized since they do not lead to any concrete actions. They are just generic, but what we need are specific actions in order to protect our environment especially because the Arctic is melting faster than other parts of the World. The average annual temperature of the Planet has already increased by about 1 °C compared to pre-industrial levels. The effects of Climate Change are increasingly being felt both in Russia and around the World.

Moreover, it would be better to introduce at schools the subject "Ecology" in order to prepare students to be aware to cope Climate Change. We will be able to fight the CC only if we change our lifestyle and our behavior. It should be indoctrinated already in schools. Regarding the Russian schools, they have already the theme of "ecology" included as a topic in many subjects. In my opinion, Russia has already done a good start,

[163] http://duma.gov.ru/news/48735/
[164] *Ibidem.*

but it should be more practically oriented and applied to the reality. Finally, the idea of the ecology should be present worldwide.

Greenpeace after many researches suggest some actions in order to protect the environment and to avoid catastrophic phenomena. Climate change is a complex problem that requires action in all sectors of the economy. The Russian Federation ranks fourth in the world among countries in terms of anthropogenic greenhouse gas emissions, and the problem of modern climate change it cannot be solved without our active participation. At the same time, the potential for reducing greenhouse gas emissions in Russia is very high. According to scientific data, the increase in the average annual global temperature of the planet should be limited to 1.5 °C — after which the consequences of climate change can become catastrophic.[165] This intention of States is set out in the Paris agreement, which the Russian Federation has also signed. Thus, we can talk about the principle of 1.5 degrees, which cannot be ignored, and on which decisions made today should be based, since the well-being of current and future generations depend on it. In order to achieve the Paris agreement goal with a high degree of probability, it is necessary to reduce CO2 emissions to zero by 2050.[166]

As *Moscow Times* claims that, "Russian leaders have been reluctant to take steps to reduce the country's greenhouse gas emissions. While this comes as no surprise – as Russia's economy is largely dependent on fossil fuel exports – it also means the country is doing little to slow global warming."[167]

Currently, the Ministry of Economic Development is preparing a strategy for the long-term development of the Russian economy with a low level of greenhouse gas emissions until 2050. The 1.5-degree scenario is evaluated which is supposed to reach the goals of Paris agreement. [168] Due to the fact that this is a key document that will determine the future of the Russian economy for decades to come, as well as Russia's real contribution to the global fight against Climate Change, Greenpeace considers it critical to make the right decisions today: such a strategy must be adopted and implemented

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[165] Global Warming of 1.5 °C. An IPCC Special Report: http://bit.ly/2lZAVtB

[166] Global Warming of 1.5 °C. An IPCC Special Report: http://bit.ly/2lZAVtB

[167] https://www.themoscowtimes.com/2020/03/04/is-russia-finally-waking-up-to-climate-change-a69517

[168] http://bit.ly/2mfcHvz

according to the scenario "1.5 degrees". In this way, the Russian government will confirm its commitment to the goals of the Paris agreement, it will give the necessary signal to business, and will also be able to avoid short-sighted decisions on investments in infrastructure for extracting and burning fossil fuels that will not be payed off in a low-carbon World. Since the Russian economy is largely based on revenues from the oil industry, the adoption of such strategy now on the threshold of a new technological revolution is more relevant than ever. At the same time, according to recent estimates, the achievement of price parity for electric vehicles with cars with an internal combustion engine in some markets will occur in the future of three to five years, and at the same time will continue to fall in the cost of energy received from renewable energy sources (RES). Experts conclude, that as a result of these factors, the economy of the oil industry in the segment of production and sale of fuel for gasoline and diesel vehicles is "in inexorable and irreversible decline".[169] Experts recommend redirecting investments to renewable energy and energy storage technologies as soon as possible. Thus, the implementation of a new climate-friendly policy in Russia becomes not only a necessary response to the challenge of climate change, but also a guarantee of country's economic survival and competitiveness in the new low-carbon world.[170]

§ 6. Climate Change Impact

In this paragraph I will argue about the Climate in its overall aspect, while in following sub-chapter I will speak more specifically about the Climate Change. The end of the last century was characterized by the phenomenon of the Global Warming which raised an immediate interest in the Arctic. Its most noticeable result was an increase in air temperatures in the high latitudes of the Northern hemisphere and, as a result, the melting of continental glaciers and a decrease in the area of ice in the Arctic Ocean. Extrapolation

[169] BNP Paribas Asset Management. Wells, Wires, and Wheels...— Eroci and the Tough Road Ahead for Oil. For professional investors — August 2019: https://bit.ly/2T7EASC

[170] Report Greenpeace (2019). *What should Russia do with Climate Change*. https://greenpeace.ru/wp-content/uploads/2019/09/ D0%BA%D1%80%D0%B8%D0%B7%D0%B8%D1%81%D0%BE%D0%BC-%D0%B4%D0%BE%D0%BA%D0%BB%D0%B0%D0%B4-Greenpeace.pdf

of observed Climate Changes into the future gives some authorities reason to believe that it is highly likely that the Arctic Oceans will be completely free of ice covered within the next few decades. Even if these forecasts are considered too radical, the current state of Affairs has significantly improved the conditions for navigation and development of the shelf and coastal zones in the Arctic seas. This also opens up completely **new opportunities for the global economy**.[171]

"Like the rest of the globe, temperatures in the Arctic have varied but show a significant warming trend since the 1970s, and particularly since 1995. The annual average temperature for the Arctic region (from 60^{o} to 90^{o} N) is now about 1.8^{o} F warmer than the "climate normal" (the average from 1961 to 1990). Temperatures in October-November are now about 9^{o} F above the seasonal normal. Scientists have concluded that most of the *global* warming of the last three decades is very likely caused by human-related emissions of greenhouse gases (GHG, mostly carbon dioxide); they expect the GHG-induced warming to continue for decades, even if, and after, GHG concentrations in the atmosphere have been stabilized. The extra heat in the Arctic is amplified by processes there (the "Polar amplification") and may result in irreversible changes on human timescales" [172] the report from Members and Committees of Congress said, while in the following paragraph it will be possible to understand the Russian point of view regarding the situation of Climate Change.

6.1 *Russian scientists' view on the Climate Change*

With the occasion of the Global Environmental Week in Russia[173], a well-known Professor and Doctor in Chemical Sciences Alexandr Ishkov[174] expressed his position

[171] V. Shtyrov (2018), *Artika i Dalnyj Vostok: velichie proektov*, "Ocherk i pubblicistica", Knizhnyi mir, Moscow, p.124

[172] CRS Report – prepared for Members and Committees of Congress by Congressional Research Service https://crsreports.congress.gov

[173] http://www.vernadsky.ru/proekti-fonda/eco-lectory/

[174] Is a member of the Board of Trustees of the V. I. Vernadsky Foundation he is a Deputy head of the Department – head Of the Department of PJSC Gazprom

regarding the Climate Change and not only. According to him, in the Ecology everything is interconnected and a thoughtless intervention into the ecosystem could bring dangerous consequences. The changes in the Ecosystem could be **Anthropogenic**, and the chain could bring unpredictable and catastrophic events. Every single intervention should be done with analysis and forecast. Even though this could be sometimes hard to realize. He provides an example regarding the replacement of **ammonia** in the refrigeration sector which was considered as the salvation of humankind from starvation since it is the most adequate and cheap storage of domestic products and perishable goods. It was discovered that the use of **CFS** (freon) was detrimental since it was causing the ozone depletion. Therefore, in 1987 the Montreal Protocol was then ratified by all states in order to face this issue. Another good example is the **DDT** (short for dichloro-diphenyl-trichloro-ethane) substance that was synthesized, and it was considered at the first moment as a salvation from malaria and pests.

R. Carson in his book explains that:

"DDT was first synthesized by a German chemist in 1874, but its properties as an insecticide were not discovered until 1939. Almost immediately DDT was hailed as a means of stamping out insect-borne disease and winning the farmers' war against crop destroyers overnight".[175]

Lately, it was revealed that it was causing deaths and anomalies. Then, further conventions were introduced even though DDT at the beginning apparently brought us many benefits.

One of the cases (which also may turn harmful) is **the massive construction of wind turbine**, that in Europe have already brought some of negative effects. Maybe in around 15 years we will be able to see a negative impact on the environment. The insect population may decrease, it may bring unfavorable conditions for agriculture. Most probably it will be taken the corresponding measures and it will be a peculiar business solution. The fact that the massive construction of wind turbine A. Ishkov underlines, may be harmful for the whole ecosystem, unfortunately, is a point of view that is still to be taken into consideration by other scientists.

Professor expresses his opinion regarding the main ecological issues that deal with us nowadays. **"For the past 15 years our issues are the pollution of the**

[175] R. Carson (1962), *The Silent Spring*, Crest Book, p.20

environment, waters, soil, desertification, and so forth. One of the main issues is the conservation of the Biodiversity. Today, these problems are escalating. Political decisions and financing the Science are the issues that are on the second plan. While huge amount of resources and propaganda are spent on the issue of the Climate Change. This concern was born due to the struggle for energy resources in the world economy. Countries of the "Golden billion" with small energy resources, such as hydrocarbons, and less developed countries, not included in the Golden billion in possession of those resources, this generates a certain dependence and in order to overcome this dependence there should have been some political decisions which were not popular, since it could lead to the rise in price of energy goods, and services. So, the fact that the Climate has changed and is been changing and it will also change in the future under the influence of many different factors including the human activity, a certain "obsession" was created, and the Global Environmental issues were placed on the background. Today the entire Ecology is in massive creation." As A. Ishkov explains that the main focus is on the greenhouse gases (GHG), which are declared as an enemy. On his opinion, to both the Science and environment GHG is a negative phenomenon.

Taking into consideration the issue of air pollution, according to WHO around 7 million deaths are due to air pollution every year.[176] In Russia it has been introduced a National Project of Clean Air.[177] The **Ocean pollution** (plastic islands) is tremendous today. The river pollution and the issue of clean water are pushed on the second plan too, even governments provide little resources for it. A. Ishkov concerns about one of the biggest issues which is **deforestation** that causes huge amount of negative effects and the greenhouses gases. Today, there are some versions supporting the idea that the methane penetration in the atmosphere is also one of the most dangerous menaces of the Planet. But A. Ishkov notices that according the fundamental resources methane is considered one of the renewable mineral resources. Since there are different sources as the thermogenic ones which at the depth of the ocean methane is created from non-organic substances. Methane is also a basement of the food-chain, it could be considered as the one food salvation for humanity.

"There is no single accepted view on how deposits of liquid and gaseous hydrocarbons came into being. Most petroleum geologists learn toward the idea that crude oil originated in organic matter buried in ancient bodies of water along with finely divided

[176] https://www.who.int/health-topics/air-pollution#tab=tab_2
[177] https://xn--80agfniahlkdbfn5a8c2gsb.xn--p1ai/proekt/chistyj-vozduh/

stream-borne products of the breakdown and weathering of terrestrial rocks. The notion of the organic genesis of oil has been advocated by V.I. Vernadskii and A. V. Sidorenko and others. A number of scientists have put forward the hypothesis that petroleum and gas hydrocarbons are inorganic in origin, formed by complex reactions of carbon and hydrogen in the Earth's mantle and core under anomalous conditions, followed by outgassing of the Earth's interior. Also, worth noting are hypotheses about the origin of hydrocarbons from organic lithosphere material in processes taking place at depth and related to the development of magma chambers high temperatures and high geodynamic pressures, and electric fields in deep tectonic faulting zones".[178]

The CO2 emission in the air which is potential cause of the Global Warming is one of the main issues of nowadays. "Of course, is not the energy fault" as A. Ishkov thinks, instead it is people and every single person who creates many sources of pollution and it is not the natural gas and hydro energy to condemn. He remarks that the main cause of the Climate Change are not the energy resources.

Also V. Grachev (Professor from faculty of Global Processes of MGU, Lomonosov University) sustains that CO2 is not the main cause of the Global Warming, but it is an escalation of situation around the Global Warming. The CO2 is the gas of our life. The "war" against the CO2 will last not that long.[179]

6.2 *Spill oil pollution*

The Arctic ecosystem is one of the most fragile on the Planet. The growth of production, processing and transportation of hydrocarbons and minerals will inevitably lead to environmental pollution. Tens of thousands of fields have been drilled in the Arctic and it is officially recognized that at least half of them were leaking, the Russian geographical society notes.

Interventions on the continental shelf are particularly dangerous. No country in the world has the technology to eliminate the consequences of accidents in Arctic waters-especially when oil penetrates under the ice: poor visibility and adverse weather

[178] A. I. Rybalchenko, M. K. Pimenov (1998), *Deep Injection Disposal of Liquid Radioactive Waste in Russia*, Battelle Press Columbus, Richland, p.29.
[179] https://www.youtube.com/watch?v=hDY25O5ShFY

conditions prevent it. The consequences of accidents have been felt for decades, as the bacterial decomposition of oil is extremely slow due to low temperatures.

Russia is absolutely not ready for an emergency in the Arctic. The Russian Emergency Ministry recognizes that today, neither in the Barents sea nor in the far East, "the requirements for localization of oil spills are basically not implemented" due to the lack of watercraft, the inability to coordinate the actions of vessels, to ensure "their transitions for the delivery of collected oil, and so forth.", wrote the magazine of Russian Emergency Minestry called "Civil protection".

Gazprom Neft is the operator of the *Prirazlomnaya* platform in the Pechora sea, is the first company to start producing oil on the Russian Arctic Shelf. For more than a year, environmentalists sought a plan from Gazprom's daughter to eliminate emergency spills, but they only waited for a short list of measures. Experts of the center "Informatics of risk" studied 34,000 accident scenarios at *Prirazlomnaya*. Almost 140,000 square meters were at risk. [180]

Speaking in terms of wider perspectives of Arctic, it is not a region in the Northern Pole, it is rather a **macro-region** where the issues of socio-economic development and national security protection are maximally interrelated. **All is interconnected** with global developments where the development, economic aspects bring enormous consequences to the rest of the world, but we should take into account that we are all responsible for the Arctic since the Climate Change and pollution are without borders, it threatens our State Security. It is a fragile and risky environment. We will see all the beneficial and adverse consequences of the Climate Change impact on Arctic region.

Natural Catastrophe in Norilsk city. May 29th, 2020 there was an incident on the territory of Norilsk, an Arctic city. At the Nadezhdinsky plant, a tank burst and there was a large spill of diesel fuel. According to official data, 20 thousand tons of oil products got into the water and soil.

[180] A. Razinceva (2013), *Ostorozhno Arktika!* (Watch out, The Arctic!), "Vedomosti", n. 36, Moscow, Russia.

In Norilsk and Taimyr, an inter-municipal state of Emergency has been declared. A regional response regime has also been put in place as the spill moves towards the sea. Oil products have already been found in the Ambarnaya and Daldykan rivers. The consequences of the accident will be observed for a long time, especially in the Northern nature. This can change the lives of indigenous peoples and affect people's health.[181]

As experts say fortunately it happened not in an agglomerate of many inhabitants but in a small area. The diesel spilled in the river and according to the ecologist it brings not only a catastrophe for the Ecology, but it also may be dangerous for humans if it accidently happens in the food chain.

"Ecologist Alexander Kolotov is confident that the effects of the spill fuel on the fragile and vulnerable Arctic ecosystem could be severe. He stressed that there was a loss not of oil, but of diesel and it is much worse. Diesel oil is more toxic than oil and it contains chemical compounds that are not captured by booms. Some of the compounds well interact with water, dissolve and filter through the hose — explained the expert."[182]

According to Greenpeace the catastrophe damage may exceed 6 billion rubles.
In Russia, companies often avoid financial responsibility for environmental damage. This must stop: Greenpeace has asked the government to change Federal laws to prevent environmental disasters like the one that occurred on Taimyr.[183]

6.3 *Methane emissions over the Arctic seas*

The content of methane over the Arctic seas, in the air layer at an altitude below 4 km, is growing, and the area where the increased concentration of methane is registered is expanding. The excess of concentration was measured relative to the comparison area — the area above the sea surface located between Scandinavia and Iceland.

Some scientists sustain that methane is the third most important greenhouse gas in the Earth's atmosphere, after water vapor and carbon dioxide. Methane is mainly produced by the life of the tanks, but there are other sources of this gas.

[181] https://greenpeace.ru/news/2020/06/02/do-i-posle-avarija-na-tajmyre-v-kosmosnimkah/

[182] https://iz.ru/1018811/aigul-khabibullina-svetlana-kazantceva/bagrovye-reki-k-chemu-privedet-razliv-20-tys-tonn-dizelia-v-norilske

[183] https://greenpeace.ru/news/2020/06/02/do-i-posle-avarija-na-tajmyre-v-kosmosnimkah/

It is well known that there are deposits of methane hydrates under the Arctic floor. By its nature, this is ordinary ice, with methane molecules embedded in the crystals. They can only exist under high pressure — at sea depths of more than 200 m and at low temperatures-no higher than 1 degree Celsius. In one volume of solid hydrate contains about 160-180 volumes of gaseous methane. When heated, the methanohydrate decomposes and the methane passes into a gaseous form. Methane dissolved in water can reach the surface and pass into the atmosphere.[184] The depth of the ocean in the Barents sea is several hundred meters. In summer, the warm and therefore light surface water layer prevents cold deep water saturated with methane from reaching the surface. In autumn, the surface layer cools, and since November, almost the entire thickness of the sea is effectively mixed. This leads to an intense release of methane into the atmosphere. Over the years, the discharge increases, apparently following an increase in the temperature of the deep water layers. The expected increase in water temperature in the Barents sea overlaps with the constant warm North Atlantic current at a depth of 200-300 m, that is, just where the methane hydrate stability zone is located. There are only occasional direct measurements of methane above the surface of the Arctic seas, but satellite data indicate an accelerated increase in the concentration of this gas.

Thanks to a special device, the acceleration of methane growth in recent years has been registered, which corresponds to global ground data. In addition, it allowed not only to identify areas of increased methane emissions over the Arctic seas, but also to estimate the rate of their increase over the years.[185]

6.4 *Dumping*

The UN environmental program (UNEP) highlights the following main environmental problems in the Arctic region: — Climate Change and melting of Arctic ice, — pollution of the waters of the Northern seas by oil and chemical waste, as well as by sea transport, — reduction of the population of Arctic animal species and changes in their habitat. All these issues concern not only Russia, but 7 other States: Canada, Denmark, Finland, Iceland, Norway, Sweden, and the U.S. The solution of existing problems can only be implemented by joint work of all participating states. But, unfortunately, in practice the deal it does not go that far, because of the economic and diplomatic lack of readiness to “help each other”. The situation is also aggravated by the

[184] D. Wallace, D. Silander (2018.), *Climate Change, Policy and Security*, Routledge, pp.216-221.
[185] L. Yurganov (2017), *Metan nad Arktikoj*, “Nauka i zhizn”, XXI, Moscow, pp. 46-48.

geopolitical issue of ownership of the underwater part of the Lomonosov and Mendeleev ranges, which is still unresolved between Russia, Denmark and Canada.

On the occasion of the Year of Ecology in Russia (2017), Russian President Vladimir Putin and Prime Minister Dmitry Medvedev visited the island and Alexandra Land archipelago Franz-Joseph, where the state evaluated the results of the liquidation of environmental damage in the Arctic. The meaning of the event was characterized by the beginning of a massive "General cleaning" on the territory of the Russian Arctic. By the way, such cleaning turned out to be very expensive, according to the Minister of natural resources Sergey Donskoy, 2.5 billion rubles. And that was only a small part of the huge amount of waste that needed to be worked on. For reference, there are only 102 sites in the Arctic zone of Russia that require the disposal of waste accumulated since the development of the region by the Soviet Union. The Ministry of Natural Resources made a road map large-scale "cleanup" in the Arctic, scheduled for 2017-2019 years and found that the most unfavorable region is Krasnoyarsk Krai, on the territory of which there are 52 objects of accumulated detriments. At the same time, the Nenets Autonomous district and Yakutia are considered the cleanest.

Since 2010 on the territory of "General cleaning" has begun in the Arctic, one of the main initiators and executor of which is the Russian Ministry of defense. The Ministry of Natural Resources and ecology of the Russian Federation developed the "Arctic cleanup Program", which was implemented in the period 2012-2017. As part of the program, more than 42,000 tons of garbage were removed, the largest share of which was made up of metal barrels with waste oil products and coal. After analyzing past mistakes in the waste management system, the Ministry of defense has included facilities for storing fuel and lubricants in the new military camps being created in the Arctic, and a safe system for handling household waste has been established. Since January 1st, 2019, amendments to the Federal law "on production and waste consumption" have come into force, which introduce a number of significant changes in the field of legal regulation of waste management.

Changes in Federal legislation in the field of waste management have included activities for the treatment of MSW (Solid municipal waste) as part of public services, which changes the order of organization of this activity. In accordance with other types of public services, activities for handling MSW must be organized within the framework of state regulation. The long-term goal of the reform is to move from the storage of MSW

in landfills to their processing. This requires switching to a new waste management system in each region and creating an infrastructure for sorting and processing waste.

Despite the fact that the transition to a new system for handling MSW launched in 2017 and the development of territorial schemes, the most important issue of the Arctic regions regarding the creation of facilities for processing, sorting, and dumping of garbage still remain open.

A successful solution to the problems of waste removal and disposal in the Arctic territories of the Russian Federation will allow for many years to preserve the fragile ecosystem of the Arctic, which is intended to become a guarantor of energy security not only for Russia, but also for humanity as a whole for many decades.[186]

The animals are the main victims of human interference in the environment. Sometimes for their instinct and as a defense of themselves they could bring menace for men. According to Elena Agbalyan, a Doctor of biological Sciences, Head of the Research of the Arctic center, the number of bears in the Arctic has significantly increased over the past 15-20 years. And this is caused primarily by Climate Warming. The situation when the bears come to settlements is observed in almost all of North Taiga zone of the Yamal Peninsula.

At the same time, the fact that bears come out to people, massively, is the fault of the people themselves, A. Sokolov, a Senior Researcher at the center, is sure. Bears are attracted to numerous **dumps** on the outskirts of cities and towns, for them this is an easy way to find food. It has come to the point that some people export bread and other products to the forest to feed the bears. Under the influence of Climate Change and anthropogenic factors, the Northern and southern borders of the Arctic rodent habitat have shifted in recent decades.[187]

6.5 *Methane emissions and forecast*

All Arctic Council States have submitted updated emissions data, with the exception of the Russian Federation. The reference level of **black carbon emissions** for 2013 has remained at a similar level as estimated in the Expert Group 2017 Summary Report despite some new or modified data on emissions. According to the available data

[186] *Issues of legislation Regulation of Waste Management in the Arctic Region of Russia,* "Rossijskaja Arktika", n. 4, pp.74-77.
[187] E. Maziong (2019), *V zharkoj- zharkoj Arktike* (In the warm, warm Arctic), "Rossijskaya Gazeta", n. 191, Moscow, Russia, p.22.

many countries have already reduced their national emissions since 2013 and the estimate of the 2016 situation indicates a collective reduction of 16 % over a 3-year period (see Appendix 2) for the seven Arctic countries that have provided reported data.

Assuming no change in emissions of black carbon from the Russian Federation, current actions and policies would reduce total black carbon emissions by 23% in 2025, compared to 2013. An additional 12kt of reductions by Russia would result in an aggregate reduction level of 25% by 2025. Russia has not provided a 2025 projection, but a 12kt reduction would represent a reduction of Russian emissions by 3 % or more relative to 2013 by 2025.

The Arctic Council's revised 2016 emission inventory is five percent lower than the level indicated for 2013 in the 2017 Summary report. Countries that provided forecast data expect a slight reduction in methane emissions between 2015 and 2030.

It should be known that, according to the IPCC AR5 estimate, the comparative warming effect of methane is 28-36 times greater than CO2 (per kg) over a 100-year period. This warming will be concentrated in the first few decades after the release, unlike CO2, whose warming effect extends over the entire 100-year period."[188]

6.6 *Indigenous people view on Climate Change*

In this paragraph I will analyze the humanitarian aspect of the overall aspects that should be taken (with the economic and jurisdictional aspects spoken before) into consideration in order to reach the common goals and cooperation.

The future Arctic is subject to diverse and probably ever-changing imaginaries, some more dominant than others since the modes of contemporary Arctic governance are left to the interests and political ideas of its **residents and indigenous people**,

[188] Expert Group on Black Carbon and Methane: Summary of progress and recommendations 2017 https://oaarchive.arctic-council.org/handle/11374/2411

governments and other stakeholders possibly located far away from what is usually perceived as 'Arctic'.[189]

"Arctic residents are not watching passively as the environment changes before their own eyes. They are responding quickly; people are experimental and industrious in exploring new strategies, and they try every new chance eagerly. But their adaptation often comes with pain, confusion, and loss. People also realize that if the weather tilts too much toward the new regime it would take years to develop relevant new expertise in forecasting, navigation, and safety rules. Their age-old knowledge of animals, land, and sea may well become guess-work if or when the climate shifts, the snow melts down, the ice moves away, and the animals follow suit." [190]

There are some positive factors of Climate Change, for instance the hunting is easier than before according the indigenous people:

"With this warmer weather, the animal behavior is still the same. They just migrate earlier. And during wintertime, despite all these changes of ice and weather, there is no effect on them. We can get more walruses in winter now, if it's a good weather for hunting. Because of that, I am not that much concerned." [191]

No doubt that, early Arctic people were as attentive to the many signals as are the northern residents of today, and probably much more. Whatever is gained in today's observation, due to new technology, information, and literacy was certainly counterweighed by the ancestral higher concentration and more active processing of information. Simply, people had to work harder, learned more, and remember better, in order to survive. They were also trained to accomplish many more tasks and at earlier age.

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[189] K. Keil, S. Knecht (2017), *Governing Arctic Change. Global Perspectives*, Palgrave Macmillan, Germany, p.6.

[190] J. Arneborg, B. Grønnow (2006), *Dynamics of Northern Societies. Proceedings of the SILA/NABO Conference on Arctic and North Atlantic Archaeology,* PNM (Vol. 10), Copenhagen, pp.15-16.

[191] *Ibidem*

Climate change poses a new threat for all of the indigenous peoples.

Regardless of underlying causes, the Arctic is undergoing a period of significant change that is likely to continue well into the next century, if not longer, and affect all sectors of the circumpolar North. People in the Arctic are worried about contaminants, land use, climate, security and access in the form of rights to land and sea. Arctic peoples often point out that their environment has always been dynamic and that constant adaptation to 'change' is simply a part of what they do and who they are. Climate change significantly impacts the traditional harvesting activities of indigenous peoples. Rapid weather changes and occurrence of thin ice and severe weather conditions (e.g. strong winds and storms) **makes hunting more dangerous**. Furthermore, disappearing sea ice affects many species that are subject to harvest, for instance polar bears, seals, whales and some fish stocks depend on ice cover. Additionally, the ice plays an important role in sea temperature regulation and primary productivity. As a result, the livelihoods connected with hunting, fishing and herding are under threat. Indigenous peoples have an especially strong bond with nature and the changes in harvesting activities may have implications on the economy, society, culture and health.

Eventually, the survival of many groups as distinctive peoples is endangered. Additionally, housing, infrastructure and transport connections of coastal indigenous communities are seriously affected by climate changes, with rising maintenance costs and sometimes even the necessity of **relocation**.[192]

The melting of the *Tundra*'s *permafrost* has caused outbreaks of deadly anthrax and a series of violent explosions in the Russian Arctic. This constitutes a serious danger for both reindeer, ecosystem and Arctic inhabitants. Temperatures reaching over 30°C in intense heat waves across Siberia led to the melting of the ***permafrost***.[193]

There are some positive effects of Climate Change, in particular, the ice melting that may create instead some **opportunities** too, but in the transport sector:

"Record low extents of Arctic sea ice in 2012 and 2007 drew the attention of scientists and policy makers to Climate Change in the high North, and on the implications of projected ice-free seasons in the Arctic within decades. Some scientists have projected that the Arctic will be free of ice in latest summers as soon as the 2030s. **This opens**

[192] https://www.arcticcentre.org/EN/arcticregion/Arctic-Indigenous-Peoples

[193] https://www.thearcticinstitute.org/countries/russia/

opportunities for transport through the Northwest Passage and the Northern Sea Route, extraction of potential oil and gas resources, and expanded fishing and tourism.

It has been researched that the physical changes in the Arctic include warming ocean, soil, and air temperatures; melting permafrost; shifting vegetation and animal abundances; and altered characteristics of Arctic cyclones. All these changes are expected to affect traditional livelihoods and cultures in the region and survival of polar bear and other animal populations, and raise risks of pollution, food supply, safety, cultural losses, and national security. Moreover, linkages ("teleconnections") between warming Arctic conditions and extreme events in the mid-latitude continents are becoming more apparent, defined by extreme events such as the heat waves and fires in Russia in 2010, 2019, and in 2020…Hence, changing climate in the Arctic suggests important implications both locally and across the Hemisphere."[194]

6.7 *The Ozone hole over the Arctic*

Scientists discovered an ozone hole over Arctic in the 1980s. The reason for this is the mass of cold air trapped in the region of the North Pole. This is stated in a study published in the journal Nature. It arose from the use of *chlorofluorocarbons* (CFCs), a substance used to make aerosols. At the end of the twentieth century, many countries banned the use of CFCs, which reduced the size of the hole. However, in 2019, a new ozone hole of record size appeared in the Arctic. In this case, its appearance was influenced by Climate Change. Scientists have found that due to the high content of freons in the atmosphere, the ozone hole over the South Pole is tightened more slowly. This conclusion was reached by specialists of the Massachusetts Institute of technology.[195]

6.8 *Wildfires*

"Wildfires cause annually significant losses of natural resources and property in the Arctic and beyond. The recommendations reflect that management and mitigation of wildfires demand multiple actions that vary depending on specific regional circumstances

[194] CRS Report – prepared for Members and Committees of Congress by Congressional Research Service https://crsreports.congress.gov

[195] https://news.ru/science/ozonovaya-dyra-rekordnyh-razmerov-poyavilas-nad-arktikoj/

such as ecosystem health, climate and weather patterns, access to wildfire sites, and proximity of people and infrastructure.

The Group of Experts from the Arctic Council give some recommendations:

- Build and maintain international mutual aid and resource exchange arrangements amongst Arctic nations that have specialized experience in wildfire management, suppression, and monitoring.
- Develop region-specific public education campaigns on wildfire prevention and safety.
- Develop and implement regionally appropriate forest management practices that reduce the risk of severe wildfires.
- Use the best available science to develop prediction models that can be used to examine fire risks at daily to decadal scales, to support drafting of prevention and emergency response plans."[196]

Currently the new Forest Code was adopted in 2006 by Russian Federation which shifted responsibility for forest maintenance from Federal agencies to regional authorities and tenants. Unfortunately, the number of employees of the forest guard was reduced several times. Today Russia has only around 19,000 employees devoted for forest protection, compared to other countries, this is not enough because the territory of the Russian Federation is huge. Even Canada, the second largest country on the Planet has 209,940 forestry employees.[197]

6.9 *Issues and solutions*

[196] Expert Group on Black Carbon and Methane: Summary of progress and recommendations 2017 https://oaarchive.arctic-council.org/handle/11374/2411

[197] Food and Agriculture Organization of the United Nations (2012), "The Russian Federation Forest Sector, Outlook study to 2030", FAO Fiat Panis, Rome, p.69.

According the United Nations Industrial Development Organization, in the coming decades, an **increase in the world's population** and its level of well-being will lead to an increase in the world's energy demand by 40-50 %.[198] All serious forecasts show that coal, oil and gas will remain the most important energy carriers for many years to come. Their combustion is accompanied by the formation of greenhouse gases. And the problem of reducing the emission of these gases into the atmosphere at the same time as providing the world economy with sufficient energy is already quite acute.

To reduce emissions, a number of measures must be implemented: improving energy efficiency, carbon capture and storage(CCS), switching to new fuels (for example, from coal to natural gas), developing nuclear power, and using renewable energy sources. Given that the world economy will continue to depend on fossil fuels for the foreseeable future, the most important of these measures is the large-scale introduction of CCS technologies.

As reported by a Russian geochemist V. Vernadsky, there should be rational balance in all: rational balance between different groups of population, production and consumption. The path towards the bright future, which is the essence of our life and sphere of activity and if we come back it will be a catastrophe or if we go forward it will be a bright- future with peace and equity on the Planet, without any conflicts, and poverty. The report from Club of Rome 2018 (members of which dedicated itself to identify the most critical problems facing humanity) that came to the conclusion "The old world is doomed, the new world is inevitable" it clearly says that we are still in the speculative capital that is a huge damage to the field of sociology, economy and ecology. The Pandemic has shown that we can still stop and have a look from different point of view. The lockdown from Covid-19 has shown that the nature is still able to regenerate itself, but humans should be more rational toward Ecosystem. We still have a chance to change our lifestyle, our ratio toward the Nature and take the right path toward the bright future.[199]

Conforming to the Professor Grachev, the Global Ecology should study balances, the global cycle of substances of the future. It is important understand the global processes. Virus that we are fighting today it is not the only one that we are facing, we

[198] http://www.unido-russia.ru/archive/num1/art12/

[199] https://www.youtube.com/watch?v=hDY25O5ShFY

already had SARS (2002), MERS (2012), and we also have to face new viruses in the future. If we learn how to manage photosynthesis it twill be almost as how to control the thermonuclear energy. If we learn how to manage it, we will have the renewable resources of biomasses. The raise of the population he also considers as a myth that requires profits. He says that they want leave just a part of population, which would be an anti-human policy. We will have food for everyone and there will be enough energy. Because the techno-researched progress will give us opportunity to manage energy in huge quantities but to get through the artificial photosynthesis an unlimited quantity of substance that we need for nutrition.

V. Grachev underlines that the extraction of carbon from the nature, requires many years to regenerate its equilibrium, this damage of the Global Cycle of Carbon - it is one of the main causes of the Global Climate Change. That is the reason we should say "no" to carbon. We should respect the Global Cycle, and if we damage it, it will revenge.

The Covid-19 also seems to have origins from a damage of nature's balance, this is a Global intervention of humans in the Nature. We should stop mistreat the nature. The biosphere and cycles they are inseparable. There should be a balance. The balance deals with Sustainable Development where all the spheres coincidence with each other: environmental, social, and economic sphere. They are developing on the same level. Biosphere is suffering from viruses, but it should be protected, we should not make deforestation, in order to prevent this crash in balance. Balance is a very important basement of Ecology, Social and Economic field. The Environmental balance is composed by water, energy and material resources, energy-material chain will all work. [200]

Pandemic is a Global and socio-ecological issue. Social because it is changing living conditions, inequality, famine, poverty, unemployment, illnesses. As Professor Grachev says this is the speculative capital's fault. This thesis comes from Club of Rome, that underlines that the speculative capital is the main reason of ecological crises. Global and local issues come together. Global issues they were always linked with socio-ecological outcomes. From ecological issues have been raising social issues. Globalist

[200] *Ibidem*.

influences all our life. Global ecological problems outgrow global socio-ecological problems. [201]

Only all together we will be able to solve Pandemic. Global science – Globalistic, is expected that it will make some contribution to it. We make our global contribution to the ecology of the whole world. Russian Federation has a strategic position on the Earth, since we have 12% of forest of the whole world. There is the deepest lake - Bajkal, which is rich of clear water.

Finally, Greenpeace's report concerns about further measures that should be immediately taken. In addition to a long-term development strategy (previously mentioned) with low greenhouse gas emissions, we offer a set of urgent measures that can be implemented today. They will help either get a relatively quick positive climate effect (for example — the introduction of a possible door-to-door heat metering), or to lay the necessary Foundation for such an effect in the future (e.g. development of renewable energy sources — which give a more gradual effect, but in the long term are an integral part of the power system, without which a safe, low-carbon world is not possible). The proposed measures cover the main sectors of the economy: energy, forestry, agriculture, and waste management. Some of them are also designed to help change people's individual behavior as a necessary element for achieving a goal 1.5 °C.[202] the Proposed steps will require concerted action from authorities, businesses and citizens, as well as an adequate level of funding. But the cost of inaction will be much higher.

Professor A. Ishkov from Vernardski Foundation is concerned about the fact that Ecological issues are getting worst. He thinks that the measures that have been taken today regarding the Covid-19 Pandemic, will be taken soon to face the Ecological issues too. For this reason, it is better to take an action on the basement of preliminary studies than waiting for as he said: "Until somebody gets hurt with hard times".

[201] https://www.youtube.com/watch?v=ohlg0RwSfI
[202] According to IPCC 2018, the emission reduction trajectories leading up to the 1.5 °C goal include significant changes in individual behavior: https://bit.ly/32epAG9

§ 7. Looking towards Asia

Russia is taking a new strategy for the collaboration with China where the Government see good opportunities. Over the last years this union is getting even stronger. This cooperation consists on the economic, logistic, tourism, commodities, and military fields. In the following paragraph I will prove this partnership through strategic projects.

"Russia and China stand the best chance to develop cooperation in the Far East. […] China is an enormous market, while Russian Far East is a gigantic treasury of natural resources with comfortable cities by the border."[203] Alexey Chekunkov, Chief Executive Officer, Far East and Baikal Region Development said.

7.1 *Russian-Chinese partnership*

Regarding the commodities Russia made many contracts with China, for instance with the Gas: "Fast growing markets in East Asia, especially in China, are increasingly vied for among Arctic producers. Especially for Russia, this is also part of the country's strategy to diversify its hydrocarbons' export destinations. For now, virtually all Russian oil and gas pipelines are leading solely to the west. Russia is therefore pursuing plans to build pipelines to the Russian Pacific coast and to China specifically in order to access Asian markets. Oil is already flowing from East Siberia to the east through the East - Siberia-Pacific Ocean pipeline. A recent boost has been an agreement between Russia's state-controlled Rosneft and Chinese state company CNPC on a 25-year contract, which could double Russia's oil exports to China to 30 million tons per year (Røseth 2014, p. 848). But in recent years there has been only little progress in increasing gas exports to

[203] https://forumspb.com/en/news/news/novye-platformy-sotrudnichestva-kitaja-i-rossii-perspektivy-razvitija/

Asian markets. A major reason has been disagreements about gas prices; China is not willing to pay (high) European prices for Russian gas (Hulbert 2012; Pinchuk 2012; Schröder et al. 2011, pp 18-20, 24). But in May 2014, an agreement was signed between Gazprom and CNPC under which Gazprom will deliver 38 billion cubic metres of natural gas to China annually for 30 years; a deal valued at $400 billion (Røseth 2014, p. 848). The price tag on the gas has been officially revealed but according to Røseth's research, both sides were able to agree on a price between $387 and $380 per thousand cubic metres, which is comparable to the average price for European gas exports in 2013 (Røseth 2014, p. 848). However, transportation costs from Russia to China are expected to be higher, also because significant investments in pipeline or liquefied natural gas technology will be necessary."[204]

In the Report made by the Congressional Research it is clearly explained how the two countries manage the logistic and commodities aspects:

"For Russia, the question of whether and how to respond to China's activities in the Arctic may pose particular complexities. On the one hand, Russia is promoting the NSR for use by others, in part because Russia sees significant economic opportunities in offering icebreaker escorts, refueling posts, and supplies to the commercial ships that will ply the waterway. In that regard, Russia presumably would welcome increased use of the route by ships moving between Europe and China. More broadly, Russia and China have increased their cooperation on security and other issues in recent years, in no small part as a means of balancing or countering the United States in international affairs, and Russian-Chinese cooperation in the Arctic can both reflect and contribute to that cooperation. On the other hand, Russian officials are said to be wary of China's continued growth in wealth and power, and of how that might eventually lead to China becoming the dominant power in Eurasia, and to Russia being relegated to a secondary or subordinate status in Eurasian affairs relative to China. Increased use by China of the NSR could accelerate the realization of that scenario: As noted above, the NSR forms part of China's geopolitical Belt and Road Initiative (BRI)."[205]

By the time the Russian-Chinese relations will be more intensified, and they have a long way to go. Indeed, even the military relations with China are getting strengthen.

[204] K. Keil, S. Knecht (2017), *Governing Arctic Change. Global Perspectives*, Palgrave Macmillan, Germany, pp.284-285.
[205] CRS Report (April 28th 2020) – prepared for Members and Committees of Congress by Congressional Research Service p.44. https://crsreports.congress.gov

The Western media see this cooperation as a strategic one, as a military partnership in my opinion this is slightly exaggerated but almost true:

"What brings Russia and China together is mainly their rivalry with the United States. There is, however, a significant difference between the two in their perspective in this race. Russia is competing at political and military levels and China – primarily in economics and trade. This difference becomes, in the long run, a factor influencing Beijing's cooperation with Moscow. […] Over the last three decades, Russia and China have significantly developed their military cooperation (arms sales, joint military exercises, among others). The advanced weapons provided by Moscow have allowed China to strengthen its air defense and anti-ship defense. In particular, they have enhanced China's capability to defend against the threat of foreign naval and air forces near its territory. Participation in joint exercises allows China to learn from Russian combat experiences gained in Ukraine or Syria."[206]

The St. Petersburg International Economic Forum reports the following prospects for development between Russia and China. They have accomplished many plans and some others are to be increases. Zhou Liqun, the Chinese, General Manager of the Chengtong International Investment Ltd comments sees the current situation as a positive one:

"We have an agreement to increase our mutual trade turnover up to $100 billion by 2015, and 200 billion — by 2020. This, however, never happened. The current volume of trade is $80 billion, while it reached $500 billion with the USA. We hope that we will be able to reach $100 billion this year. We are highly complementary,"

"The numbers show that we have some results, and one can tell by looking at the transport. The volume of container traffic between our countries was up by 55% last year, and by another 35% this year. We have achieved even better results with the Silk Road project. Last year, the transit cargo flow from China through Russia was up by 80%, and by 32% this year, and we expect it to grow even faster," Aleksandr Misharin, the First Deputy Chief Executive Officer, Russian Railways said."[207] Moreover, there are increasing investments in the joint projects:

[206] https://warsawinstitute.review/issue-2020/russia-china-a-limited-liability-military-allianc
[207] https://forumspb.com/en/news/news/novye-platformy-sotrudnichestva-kitaja-i-rossii-perspektivy-razvitija/

"We have established a Russian-Chinese investment fund. We have invested in more than 20 projects and exceeded the initial capital of $1.1 billion. The investments will help us boost trade. We need more transparency in investment. We expect Russian investors to increase transparency, too. If we enhance investments, we can enhance trade," Tu Guangshao, Vice Chairman, China Investment Corporation. "We need robust financial tools that will help us overcome **the effects of the crises**. We consider this to be the most important thing," Xiaolin Li, Executive Vice President of the Board of Directors, Silk Road Planning Research Centre."[208]

The IT field during the Pandemic has opened new projects and strengthen the relation between two states, especially in the field of digital infrastructure:

"The combination of strict quarantine measures and lost oil revenues will lead to increased belt-tightening by the Russian state. Similarly, the growing reliance on teleworking brought on by the coronavirus will also require accelerating upgrades to digital infrastructure and a swifter rollout of its 5G network. With the Russian state budget under pressure, Chinese companies, which can provide world-leading tech at a far lower price point than their Western competitors, have a serious advantage."[209]

A survey has been done regarding the Chinese companies' investors.

"The survey took place between April 20 and 26, and involved 30 companies, which represented construction, metalworking, development and installation of oil and gas equipment, trade and other industries. "Despite the crisis that has gripped the entire global economy today, as well as the current state of the Russian economy, almost 100% of the Chinese entrepreneurs surveyed do not plan to leave the Russian market. The exception was the hygiene products company. It plans to leave the Russian market as soon as the coronavirus pandemic ends. At the same time, 20% of the companies surveyed do not plan to reduce investments in their businesses in Russia, and another 20% make plans for further expansion of the business,"[210] TASS reports.

[208] https://forumspb.com/en/news/news/novye-platformy-sotrudnichestva-kitaja-i-rossii-perspektivy-razvitija/
[209] https://www.rferl.org/a/pandemic-partnership-coronavirus-clears-path-for-deeper-china-russia-ties-in-hi-tech/30619246.html
[210] https://tass.com/economy/1154477

The Chinees investors have no fear to keep developing business related to Pandemic: "In general, Chinese entrepreneurs believe that this pandemic is a temporary phenomenon. Despite all the difficulties and inconveniences due to the introduction of various kinds of restrictive measures, many companies plan to further develop their business in Russia."[211]

Indeed, in my view the Pandemic has 'pushed' the countries towards a stronger cooperation. I think that since the 'trade war' between Tramp's Administration and China, China is making different strategic choices, taking even more into consideration its trusted partner-Russia. "Russia is for China an interesting partner to spread its interests and also a geographical strategic interesting location as a neighbor in the Far East. But China acts as a global player and spreads its interest among partners. Several trade agreements between Russia and China have been signed to stimulate trade and use each other's strengths."[212] During the Pandemic again we can see the Asian point of view, the Asia-Pacific Magazine writes:

"As China's economy has suffered comparatively less and is supported by an ambitious stimulus package, it will become a key driver of Russia's economic recovery after the crisis. The Russian and Chinese economies are complementary and trade between the two countries rose 3.4 percent in the first quarter of this year thanks to the oil price crisis. Although Russia pursues the import substitution of technology, since its access to Western technology is restricted the government has increased imports of high-tech equipment from the non-Western world. Specifically, Chinese products, with better reliability at a reasonable price, have supplanted both Russian-made production and Western tech companies. As a result, Russia's MTS signed an agreement with Huawei to build its 5G infrastructure. Russia's embrace of a mass surveillance system with facial recognition will also enhance its cooperation with China's Hikvision."[213]

To conclude, for the reasons listed before China and Russia should cooperate even more, learn from each other, and make new projects. The Pandemic has shown that the

[211] https://tass.com/economy/1154477
[212] Taco C. R. Van Someren, Shuhua van Someren-Wang (2017), *Strategic Innovation in Russia: towards a Sustainable and Profitable National Innovation System*, Springer, Netherlands, pp-63-64.
[213] https://thediplomat.com/2020/05/should-china-worry-about-the-russia-us-reset/

countries relied on each other and their partnership has strengthened, and it will be strong on the way to go.

§ 8. CORONA VIRUS (COVID-19)

In December last year, the Covid-19 Pandemic was born in the Wuhan Region, China. This has had repercussions all over the planet, including Russia. As for the Arctic we can say that there was a collapse in oil prices that Russia had to face. An economic crisis due to a drastic drop in demand has arrived. All the spare tanks were filled to accumulate the extracted oil. The demand of commodities has fallen more from European countries than from Asia, in fact the latter are the majority that demand more compared with the more advanced countries, because it seems that they have begun to march towards the energy transition of renewable sources. But this change will be pretty difficult if the oil price is high, but if the oil price will maintain its accessible price, the most developed countries may think to deal with the renewable resources.

8.1 *COVID-19 impact on the Russian economy*

The oil market was one of the main victims — for the first five weeks in 2020, oil prices continuously fell, marking the most negative trend since November 2018, pushing the oil-producing countries and the OPEC+ cartel to a significant correction of the previous rate.[214]

As *Interfax* reports: “The World oil market is going through an unprecedented test: even if you do not focus on the incident of “negative prices”, thanks to which the inhabitants of the whole world learned about the WTI grade and the town of Cushing, the current situation is unique. Coronavirus just a month after the collapse of the OPEC + deal brought producers back to the negotiating table, and the “opinion leaders” – Russia and Saudi Arabia – had to accept a third giant, the United States, into their ranks.

But even now, after the producing countries **have agreed to reduce production, no one can predict further developments in the market,** says Alexander Novak, the

[214] https://russiancouncil.ru/analytics-and-comments/analytics/vliyanie-koronavirusa-na-neftyanoy-rynok/

Head of the Ministry of Energy, a direct participant in all the most dramatic events in the oil history of recent years. In an interview with *Interfax*, he spoke about his vision of a new oil agreement and future prospects for global coordination, including with the United States, Russian commitments within OPEC+, as well as the situation in the domestic fuel and energy Sector against the background of the crisis in the world economy."[215]

Lately, the agreements reached at the 9th and 10th (Extraordinary) OPEC and non-OPEC Ministerial Meetings. "In the face of unprecedented difficulties facing the oil market, it is of the utmost importance that all the signatory countries fully implement the voluntary production reduction agreement and that the objective is to ensure a conformity of over 100%, Algeria's Minister (the Head of Energy and President of the OPEC Conference) said in a statement."[216]

From the Pandemic, Russia must learn a lot, first of all it should begin to change its business model which at the moment is mainly based on the commodities' export. But this cannot last forever and longer in crises such as these, the country suffers so much the repercussions on the economy but also in all other sectors.

The low oil prices may have different consequences for different areas in different countries. For example, the less developed countries have become more attracted to the renewable energy. The risk is very strong because obviously if the price of oil is very low, renewable sources skip to the last place. While the higher the price of oil the cheaper it becomes to do pass on the field of renewables. At the same time the increase in the price of oil could negatively affect the energy transition.

One point that could be to the advantage is that during this period of lockdown the CO2 emission has been reduced, but from the point of view of the CC the effects are not particularly significant also because after each closure the factories and industrialization has resumed at a rampant pace the work.

The Russia lacks innovative technologies, investment in science and research, digitization, machines, and robots. The is no lack of intelligence, since they are able to produce high - tech military machines that only the USA can compete. More should be invested in research and innovation in order to skip the 'oil needle' (*нефтяная игла-neftyanaya igla* as the Russians call it), and instead trying to produce products and services both for the country that has production gaps and making exports. This is the case with many other oil countries, in fact Russia is often referred to as a 'military giant

[215] https://www.interfax.ru/interview/706585
[216] https://www.opec.org/opec_web/en/press_room/5916.htm

and economic Dwarf', since Russia is among of the first military powers in the world, while at the economic point is pretty weak and it needs more efforts. Russians should take the risk of creating the products that the world wants in order to be able to export them and grow the country's GDP, so it should shift the focus to the production of the products rather than keep depending on the raw materials. This could be the spring for the countries' economies to be pushed forward. The Russian President repeats every year that: "we have to invest in research, technology, and so forth" but in practice it is not carried out and it is not easy as one may think. Despite the fact that the Covid-19 Pandemic has created turbulences for the country, Russia will be able to go out from this economic crisis, since its just temporal aspect.

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