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The Three Seas Initiative

ECR Three Seas Friendship Group

ECR GROUP

EUROPEAN CONSERVATIVES AND REFORMISTS

Table of Contents

1. About ECR 1

2. Introduction 2

3. Authors 3

4. European Union and the Three Seas Initiative - Dr Jan Parys 5

5. Preliminary Identification of Potential Main Transport Corridors in The Three Seas Initiative Area - Dr Łukasz Zaborowski 25

6. Cooperation in the energy sector in the framework of the Three Seas Initiative. Current state and challenges. - Dr hab. Robert Zajdler 46

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About ECR

Since the establishment of the ECR Group in 2009, we have been working hard for the EU to go back to basics and provide common sense solutions. We believe that at the heart of any decision taken by the EU should be consideration whether it represents added value for hard-working taxpayers across the Union. To achieve this, ECR MEPs continue to focus their efforts on decentralisation, bringing people and businesses together, promoting fair and free trade, and supporting a secure Europe as well as other objectives.

Our efforts have been successful in improving the lives of citizens across the EU each day, and we will continue to promote a broader agenda for long-term, Europe-wide, Euro-realistic reform. We will also continue our hard work to ensure a more flexible, open and economically dynamic EU, which will deliver tangible benefits for its citizens and taxpayers.

With your support and the ongoing efforts of our MEPs, we believe that an EU that respects the wishes of its citizens, spends taxpayers' money responsibly and supports the sovereignty of its Member State governments is an EU that is better, can build a stronger future, and serves its citizens responsibly.

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Introduction

Dear Reader!

It is with great pleasure that I present the inaugural collective work prepared for the Three Seas Initiative Friendship Group of the European Conservatives and Reformists in the European Parliament. This publication focuses on two main aspects of cooperation among 12 countries of our region.

Dr. Łukasz Zaborowski of the Sobieski Institute will present the intricate paths of transportation links all the way from Finland in the north to Greece in the south. Dr. Robert Zajdler, representing the same institution, will analyse the issues of energy supplies. The two topics are of a groundbreaking geopolitical importance and they overlap by creating a network of connections that strengthens the security and the position of Central and Eastern European countries. The work of Dr. Jan Parys may be viewed as the ideological synopsis, as the author presents in its historical and cultural foundations, whose significance for the success of the Three Seas Initiative is no less important than economic and infrastructural issues.

The analyses collected in this publication were created during an unusually interesting period, namely at the time of the US presidential elections. The public discourse raised many questions about the future of Warsaw-Washington cooperation in the event of the defeat of Donald Trump, who had been supportive of Poland.

The arguments presented by the authors, which lay out the far-reaching extent of common interests, linking our part of Europe with the United States, should convince even the greatest of sceptics that we will be able to count on the support of the White House, regardless of which political option its host represents.

To conclude with this positive message, I hope you have a great read!

Witold Waszczykowski
Member of the European Parliament
Chairman of the ECR's Three Seas Initiative Friendship Group in the EP

Authors

Dr. Jan Parys – A researcher and politician.

Dr. Parys graduated from the Faculty of Social Sciences of the University of Warsaw in 1973, where he also obtained his doctoral degree. After graduation he worked at the Polish Academy of Sciences. Since 1985, he has been cooperating with the J.M. Bocheński Sovietology Centre in Fribourg, Switzerland, where he published a book titled: "Entre la religion et la foi". In the government of Prime Minister Jan Olszewski he served as the first Polish civil minister of national defence, and as the head of the Ministry of Defence he initiated the Republic's pro-western defence policy.

After leaving the Ministry of Defence, he participated in the works on the Citizen Draft Constitution, drawn up by the Solidarity Trade Union. Then, for a number of years, he was an advisor in large joint-stock companies. Between 2008 and 2015, he held the position of Rector at the Jagiellonian College in Toruń, where he taught international security. Between November 2015 and April 2018, he worked for the Ministry of Foreign Affairs.

Dr. Łukasz Zaborowski – Geographer, planner, regionalist.

Dr. Zaborowski is an expert at the Sobieski Institute, lecturer at the Ignatianum Academy in Krakow and, until recently, Head Specialist at the Regional Planning Office in Radom. President of the Radom Scientific Society. His research includes the spatial structure of the country in historical, cultural, settlement and administrative terms; he is the author of the concept of territorial division adjustment at the provincial level.

His expertise involves regional development, spatial policy and public transport planning.

As part of his social work, he is creating a knowledge compendium for regional education for the Radom region.

PhD Robert Zajdler, Doctor of Sciences, Legal Adviser.

Dr Zajdler specialises in energy markets, climate protection and competition. He is an energy expert at the Sobieski Institute. He is an assistant professor at the Faculty of Administration and Social Sciences at Warsaw University of Technology.

He also runs a law firm providing services for the energy sector, Zajdler Energy Lawyers & Consultants. Previously, for the State Treasury General Prosecutor's Office, he was also Poland's plenipotentiary in arbitration proceedings, including those based on the Energy Charter Treaty and FIDIC rules.

As a member of the Office of the Committee for European Integration, he was involved in negotiations on Poland's accession to the European Union and the adaptation of Polish law to the requirements of European Union law.

He has also worked for the European Commission. More information on: orcid.org /0000-0002-4258-8979

Photo: three-seas.eu

Dr. Jan Parys

The European Union and the Three Seas Concept

There is a certain paradox we are facing today, because although the Three Seas region is located in Europe, there are more people who know what the European Union is than those who know what the Three Seas is.

What is the Three Seas?

Today, the Three Seas is not just an idea or a plan, it is an undisputed fact. For it is a fact that 12 EU countries, located between the Baltic, the Adriatic and the Black Sea, cooperate with one another. This cooperation is mostly focused on the construction of shared infrastructure, as well as on the creation of international connections along the north-south line in Europe.

The Three Seas area includes: Austria, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia. In total, these countries are inhabited by almost 130 million citizens, or more than 22% of the EU's population, and cover 1,218,000 km², or nearly 30% of the EU's surface area. For years, these countries have boasted higher GDP growth rates than the old EU countries. Today, the Three Seas is not only a geographical concept. The region took on political and economic significance when the countries within it agreed on permanent cooperation commitments.

The Three Seas countries in Europe

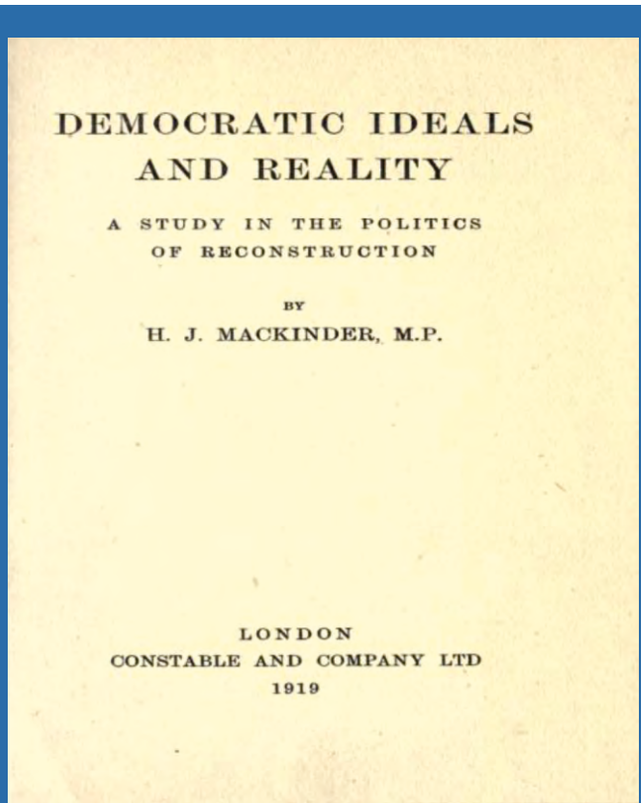
Origins of the Three Seas

You could say it’s an old concept.

In 1904, Halford John Mackinder published an article in The Journal of the Royal Geographical Society, entitled "Geographical Axis of History". It was there where he first formulated his concept of the heart of Eurasia, or Heartland. After WWI, in 1919, Mackinder met the leading Polish politicians, Józef Piłsudski and Roman Dmowski, to discuss how to ensure peace in Europe by building a geopolitical balance on the continent.

Following these discussions, he published a work entitled “Democratic Ideals and Reality”. In the work, he put forward the idea that whoever rules the Central and Eastern Europe is in control of the heart of Eurasia. Since that publication, due to the power play among European powers, the importance of the region began to be appreciated by politicians.

H . J . Mackinder



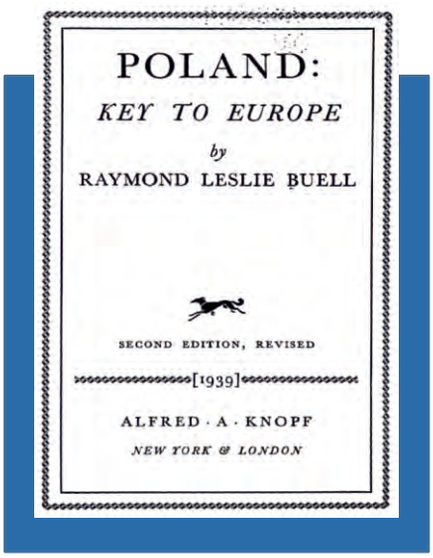
DEMOCRATIC IDEALS
AND REALITY

A STUDY IN THE POLITICS
OF RECONSTRUCTION

BY
H. J. MACKINDER, M.P.

LONDON
CONSTABLE AND COMPANY LTD
1919

A work that fully illustrates the importance of Mackinder's theory for modern politics is the book by his student Raymond Leslie Buell published in London in 1939, entitled “Poland - Key to Europe”.


POLAND:
KEY TO EUROPE
by
RAYMOND LESLIE BUELL
SECOND EDITION, REVISED
[1939]
ALFRED · A · KNOPF
NEW YORK & LONDON

In 1915, in Germany, Friedrich Naumann, as if in response to Mackinder's 1904 theses, published the book "Mitteleuropa", suggesting the establishment of a German sphere of influence in Central Europe.

In Poland, after the end of WWI, Józef Piłsudski and Józef Beck believed that countries located in our part of Europe should form a block called Międzymorze [Intersea Region]. Hence, the strong alliance of the then Second Polish Republic with Hungary and Romania. The objective of the alliance was to build a block that would counterbalance the influence of Germany and Russia. The weakness of this concept in the inter-war period was the lack of support from any powerful Western state.

At the same time, Czechoslovakian President Tomasz Masaryk proposed that the small countries between Germany and Russia should be politically and economically linked, but in consultation with Russia and France. France was ready to get involved in supporting this bloc,

as long as it enters in cooperation with Russia. The 1935 Czechoslovak-Russian pact on mutual assistance derailed the chances of close cooperation between Prague and Warsaw, and thus annihilated the opportunities for the Intersea Region initiative.

During WWII, General Władysław Sikorski was an advocate of a Polish-Czech federation. These plans were halted under Russian pressure on the Czechoslovak authorities in exile in London.

After WWII, the famous Belgian historian Jacques Pirenne (1891-1972), published a work in 1947, titled “Les grands courants de l’histoire universelle” [The main currents of universal history]. Some of his assumptions state that the culture of a maritime state, such as, for example, the states of the Three Seas region, favours the emergence of democratic systems, and the culture of a continental state favours the emergence of authoritarian systems. This thesis is based on the old belief that seas connect people and facilitate transport, and that continental countries with large spaces face difficulties communicating. Today, this assumption can be called into question by the progress made in air transport, but the fact remains that the countries of the Three Seas region bear the characteristics of maritime states.

WWII, or more specifically, its consequences in the form of the Iron Curtain, divided Europe into the spheres of influence of the Soviet Union and the West. This division was solidified at the Tehran and Yalta conferences by Stalin, Roosevelt and Churchill, still during the war. For 44 years, the countries of the Interseas region were deprived of their sovereignty, and could not cooperate with one another on their own. (Austria was the only one which, after 10 years, managed to free itself from Russian influence.) The Iron Curtain, which Churchill first spoke about publicly in Fulton in March 1945, divided Europe for many years. For more than 40 years after the war, the Western countries were consolidated not so much by common goals but by a sense of threat from the Communist regime.

After the conference in Tehran, Henryk Tennenbaum, President of Polish-Jewish groups in exile in London, warned that the conviction of the need for Russian hegemony in Eastern Europe would result in “Munich à la russe”. He wrote about this in his work, “Central and Eastern Europe in World Economy" published in London in 1944. The de facto division of Europe adopted in Tehran, Yalta and Potsdam was a recognition of the status quo established by Ribbentrop and Molotov in 1939.

Pope John Paul II often reminded politicians from Western Europe that they should not forget the Eastern European nations that had been subjugated, repeatedly stressing that Europe had two lungs, one eastern and the other western. He spoke of two parts of Europe, not that the richer countries are to subjugate or absorb the poorer countries. At the end of the 20th Century, Eastern Europe was moving towards the West, but that did not mean that it was placing itself in its hands. These countries wanted sovereignty. The principle of self-determination is widely recognised as a policy priority in the countries of the region.

Between 1945 and 1989, the countries enslaved by the USSR were in Europe, but they were not capable of self-determination. They returned to the independent international arena in 1989,

when communism collapsed, because the Soviet empire had collapsed. The crucial year was 1991, when the Warsaw Pact was dissolved, and Soviet troops were withdrawn from Central Europe. In 1999, the Czech Republic, Poland and Hungary joined NATO. In 2004, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia joined the EU. Soon after, other countries in the region joined NATO and the EU. This was the time when the geopolitical results of WWII were actually being erased. When, after 1989, the threat from the Soviet empire weakened, Europe became divided in its attitude towards Russia. The countries of the former Soviet bloc, that experienced the tender mercies of the Soviet occupation, still regard Russia as a threat, and perceive the western countries as reliable partners, whose cooperation can counterbalance US influence. For the citizens of the Three Seas countries, Russia is not a Tolstoy's, but rather a Stalin's country, which imposed the Brezhnev doctrine of limited sovereignty. It is widely assumed that the West won the Cold War. But that does not mean that Russia capitulated at the Paris Conference in 1990. It had remained a dangerous nuclear power, harbouring the ambition to rebuild its sphere of influence in Europe.

The region as an object of bidding

For China, the Three Seas region is a transport gateway to Europe for the "Belt and Road" trade initiative. A few years ago, in 2012, China already recognised the importance of the location of the Central and Eastern European region. At that time, it promoted cooperation within the 16 + 1 initiative. China wanted the region to play the role of an intermediary in trade between China and Western Europe. The basis is to be the construction of rail and road connections from China to Europe, dubbed the construction of the New Silk Road.

The Chinese Belt and Road Initiative

For the United States, the region is important as the eastern flank of NATO, an important area for Europe's defence against threats from Russia.

Russia treats the countries of the region as a lost sphere of influence and a path for its exports to Germany. In Germany, many politicians still look at the region through the prism of Friedrich Naumann's vision of “Mitteleuropa”. Politicians in Berlin would like the region to be a sphere of German influence in the European Union. Hence the very reluctant attitude in Berlin to any attempts at regional integration, such as the Visegrad Group or the Three Seas.

Proof of the importance of the Three Seas in international politics is provided by the political events of autumn 2020. Following the US elections, the head of the CDU, Annegret Kramp Karrenbauer, presented the future US administration with the conditions under which transatlantic cooperation can be renewed. She proposed that Germany increase its arms expenditure, take over responsibility for security and the situation in Europe, while the US focuses on competition with China, and remains present in Europe only as a “nuclear umbrella”. The conditions propounded by the head of the CDU were clear: the United States is to surrender its European influences to Germany. For our region, this would mean dependence on Berlin policy. Thus, Naumann's ideas from a hundred years ago reemerged. A region, which, after years of dependence on the USSR, is struggling to build its own political and economic identity with the support of the US, would become a German “Mitteleuropa”. The CDU authorities did not ask us, the inhabitants of the region, about our opinion. They treated the region as an object of bidding between Berlin and Washington.

Fortunately, after a few days, on 18 November 2020, the United States House Committee on Foreign Affairs of the US House of Representatives made a declaration by the votes of both parties, in which it categorically rejected the proposals of the CDU authorities. The Congressmen stated, inter alia, that: The Three Seas Initiative increases the political and economic independence of the region towards Russia, thereby increasing the security of Europe and the US, and that the region's dependence on Russia should be overcome by new investment in energy, as the latter seeks to undermine democratic institutions and freedom in Europe by using energy as a means of political blackmail. That is why the US House of Representatives, in its Resolution 672, declares its support for the development of the Three Seas, and, at the same time, confirms its negative opinion on the Nord Stream II project. In a nutshell, the Congress sees the role of the US in Europe not only in terms of security guaranteed by NATO, but also through strengthening the Three Seas region. In the declaration, the twelve countries were referred to as US allies of vital importance, due to the convergence of interests between the United States and the countries of the region. The adoption of a resolution including such wording by both parties means that the positive attitude of the US to the Three Seas lies in the strategic interests of the US, and a change of the administration in Washington will not change the approach to the Three Seas Initiative. The resolution is a clear rejection of the CDU concept for Europe.

The interest in the importance of the region by China, the US and Germany is proof that

the twelve countries of the Three Seas are important in international politics, and that joint actions undertaken by the region make sense. None of the twelve countries alone will achieve, on the EU level, the influence exerted jointly by the countries integrated into regional structures.

Common interests

As EU Member States, the Three Seas countries realised that they not only have a common heritage, but also common interests. What counts especially in the EU, is the ability to build coalitions and push for common projects. Therefore, the establishment of the Three Seas by the President of Croatia Kolinda Grabar-Kitarović and the President of Poland Andrzej Duda in 2016 in Dubrovnik was a response to these challenges.

Thus, the Three Seas was created primarily as a lobbying group within the EU, and not as an alternative to the EU. The objective of the countries of the region is to attract the attention of the EU's decision-makers, and to focus it on the problems of an area that has been forgotten and economically neglected for decades. This includes, in particular, the construction of road, rail, pipeline and port infrastructure, as well as energy supplies from various sources, instead of depending on a single vendor from the East.

Between 2014 and 2020, the countries of the Three Seas received over EUR 155 billion from the EU for development. In the financial perspective for 2021-2027, it will be EUR 376 billion. It should be strived to ensure that part of the funds, i.e. a quarter of the funds allocated to individual countries, is earmarked for projects that are important for at least several countries in the region. In 2019, upon the initiative of Poland and Romania, an important institution for the region, the Three Seas Initiative Investment Fund, was established.

The main projects of the Three Seas are the North-South gas corridor from Świnoujście to the Czech Republic, Slovakia, Hungary and Croatia. This is the purpose of the long-term gas supply contracts signed by Poland with Qatar in 2015 and with the US in 2017. These supplies are possible because a natural gas terminal named after Lech Kaczyński was built in Świnoujście. The construction of the Baltic Pipe will also allow gas supplies from Norwegian deposits.

Another important project is the Via Carpathia, which is a road link from Lithuania through Poland, Slovakia, Romania and Bulgaria to Greece.

Another major infrastructure project is Rail Baltica, a railway from Helsinki through the Baltic States, Poland to Berlin, and the East Med railway route connecting Austria, the Czech Republic, Bulgaria, Hungary, Romania and Slovakia with Germany and Greece.

Numerous serious projects have already been submitted to the Three Seas Investment Fund. A number of these include countries along the Danube River. Work is underway on projects involving telecommunications and cyber security. There are three main priorities in the activities of the Three Seas that are currently important for the Fund: energy, transport and telecommunications.

The international importance of the Three Seas

An important stage in the development of the Three Seas was the summit in Warsaw in 2017. At that time, the US President not only took part in the talks, but also supported the initiative of the Three Seas, promised funds and guaranteed the supply of raw materials in the event of a Russian blockade or blackmail. The meeting emphasised that countries want to act in consultation with the EU, and with the support of the US. Over time, the area of cooperation was extended to include environmental projects and support for innovation.

Washington's support for the Three Seas initiative negotiated by Polish diplomacy headed by Witold Waszczykowski convinced German and EU authorities to accept the Three Seas initiative. It was proved to be the case with Germany's admission into the Three Seas as a partner, on a status similar to that of the US, and by the presence of European Council President Juncker at the Three Seas summit in Bucharest in 2018.

According to a 2019 study conducted by the European Parliament, the Three Seas primarily facilitates the sale of American LNG in Europe, and, at the same time, makes Europe independent of energy supplies from Russia. This proves a very narrow perception of its role of the region.

International reactions to the creation of the Three Seas were varied. Initially, many countries doubted that this could be a sustainable initiative. Then it was criticised and ridiculed. Nevertheless, it started to function, and is now waiting for further understanding and partnership-based acceptance.

Currently, everyone can see that common economic interests are gradually creating a new bloc within the EU, that it is a community which strengthens not only the region but also the Union, as it allows for faster business development, which is important for the whole of Europe. The conviction that the stronger the Three Seas region, the stronger the European Union, is gradually beginning to prevail. It should be stressed that it was only EU membership that allowed the countries of the region to overcome past disputes, and the possibility of sharing EU funds has accelerated the region's integration.

The importance of the Three Seas in the Union is best demonstrated by statistics on foreign trade between the Union's main economic power, namely Germany, and the countries of the Three Seas. The 2019 figures for turnover and exports are as follows:

- German exports to Russia - EUR 26 billion,
- German exports to China - EUR 96 billion,
- German exports to France - EUR 106 billion,
- German exports to the countries of the Three Seas - EUR 251 billion,
- Germany and US turnover - EUR 190 billion,
- Germany and China turnover - EUR 205 billion,
- Germany and France turnover - EUR 172 billion,
- Germany and Russia turnover - EUR 57 billion,
- Germany and the Three Seas region turnover - EUR 475 billion.

These figures show serious economic significance of the Three Seas region for the German economy and thus the region's influence on the economic situation of the entire Union. The Three Seas are 10 times more important to the German economy than its trade relations with Russia, and over two times higher than economic exchanges with China, the US or France. The strength of the Three Seas is therefore not only formal, it is not merely the 12 votes in favour, but it is a large economic turnover as well.

To date, the behaviour of various Western politicians towards Poland and the entire Three Seas is often an attempt to patronise our region. The economic importance of the countries of the Three Seas in the EU economy should encourage these politicians to consider altering their patronising behaviour, because a policy that does not take the economic factors into account is doomed to fail.

It can be said that since the Enlightenment, a debate has been raging among politicians and humanists on ways in which civilisations can develop. For some, “civilisation” means a high degree of political and economic development in individual countries on a single development path, which resembles a ladder that everyone needs to climb. However, it is not a commonly shared view. The era of Romanticism in historical research was characterised by an assumption about the multiplicity of civilisations and cultures. An example of such a dispute, which is well known in Europe, was the difference of views in Poland between the concepts of Stanisław Staszic and Joachim Lelewel.

Staszic, in the work "The Human Race", ed. 1820, stated that people have one path of development regardless of their geographic latitude. This was a view similar to that of Herder (“This, too, a Philosophy of History”, ed. 1791). According to Staszic, there are younger and more advanced developing countries. There are no differences between nations, but differences in the degree of development. Any deviations from the pattern of development hinder progress and

can lead to war. Lelewel ("Historie de Pologne", ed. 1844, "History of Poland" ed. 1863), while describing the history of the Slavic region, believed that every nation has its own specificity, its own concept of freedom, law, personhood and democracy. This means that differences among states should be respected as a natural phenomenon. This example shows how concepts of history can influence the course of current politics, foster consensus or, if the doctrine of universal development patterns is to be considered, create conflicts.

Contrary to stereotypes, Poland had not had conflicts with Germany for many centuries. After the Teutonic Order was subjugated by the Teutonic Knights, the country enjoyed centuries of peace. The first serious conflict between Poles and Germans in modern times took place in 1848 during the Spring of Nations. It was then that the Prussian government tried to incorporate part of the Duchy of Posen into its territory. It was then that the term "Drang nach Osten" [Drive to the East] was mentioned for the first time. It was described in 1849 by a Polish scholar Julian Klaczko (1825-1906) in the publication "Die Deutschen Hegemonen" [The German Hegemonies]. At the end of the 19th Century, the well-known German historian Karl Lamprecht (1856-1915) drew a distinction between the German homeland (deutsches Mutterland), as being located west of the Elbe River, and the German colonial area (deutsches Kolonialland).

Invest in the image

No economic alliance will matter if it is not supported by a mechanism to promote common heritage and common interests. This rule also applies to the Three Seas. Today, the Three Seas is mainly perceived as an economic potential.

Currently, the countries of Europe are under pressure exerted by the dispute between the liberal and conservative ideology. It is not the region's goal to impose the Central European lifestyle and thinking on anyone. The populations of the region want the countries of the Three Seas to preserve their heritage and to continue building on the foundations of the Latin civilisation. Citizens expect that regardless of economic development and cooperation with the EU, their traditions and political principles will be preserved.

No state or international organisation has the right to interfere in other states' internal affairs. Moreover, all civilised states have signed commitments that prohibit such interference, as it is a serious violation of sovereignty. It is common knowledge that the UN Charter guarantees every state the right to equal rights and self-determination, which excludes external interference or pressure on countries' internal affairs. In Section VI of the CSCE Declaration of August 1975, the principle of non-interference in internal affairs is explicitly stated, because this is the basis for peaceful cooperation between states.

The EU Treaty, in Article 4, paragraph 2, reads that the Union shall respect the equality of Member States as well as their national identities. Therefore, full legal and international grounds exist for the countries of the Three Seas region to stand up in defence of not only their economic interests but also of their values.

Article 4

1. In accordance with Article 5, competences not conferred upon the Union in the Treaties remain with the Member States.

2. The Union shall respect the equality of Member States before the Treaties as well as their national identities, inherent in their fundamental structures, political and constitutional, inclusive of regional and local self-government. It shall respect their essential State functions, including ensuring the territorial integrity of the State, maintaining law and order and safeguarding national security. In particular, national security remains the sole responsibility of each Member State.

The truth about the Three Seas region will not spread by itself, it is necessary to be active in its defence and promotion. Investing in one's own regional image and reputation has definite merits and is worthwhile. The European Union is not only about economic rivalry. There is also competition for a better image, because this is a special kind of important capital, without which it is difficult to maintain political influence or an economic position.

There is no need to pretend that for generations some politicians in the West have been consciously promoting negative opinions about the Three Seas region, implying that it is not only economically backward but also deprived of its heritage. The concept of the so-called Eastern Europe is intended to legitimise their dominant position, which entitles them to interfere in the affairs of the region, and forces others to listen to their advice. Meanwhile, the colonial identity of Western Europe is a colonial identity towards non-European countries in the 19th century. Today, the concept of a different, i.e. "backward East" is supposed to justify the dominant position of various bureaucrats. Western politicians often display attitudes of cultural racism and cultural hegemony, hostility and arrogant contempt towards anyone from the East. Their multi-culturalism applies solely to Muslims. According to various bureaucrats, Europe consists only of a few countries from the western part of the continent, which share a colonial past, and the rest of the world is peripheral.

This is a [direct] reference to a political concept of the 19th Century, when Europe was ruled by a consortium of powers, an alliance of imperial states created after the Congress of Vienna.

One can say without overstating that the political thoughts and viewpoints of some Western politicians stopped evolving in 1989, when Francis Fukuyama, a professor at Johns Hopkins University, published an essay on the end of history. The author noted the collapse of the Soviet empire and assumed that after the collapse of communist dictatorships, the whole world would follow the path towards liberal democracy and economic freedom. Fukuyama rejected Marxism, but did not notice that he himself was adopting the Marxists conviction that there is only one right path of development to be followed by all countries of the world as they progressed. Fukuyama's theses have become the flagship slogan for those who want to subordinate the whole world to liberal ideology. It has only taken a few years for the situation in the world to turn out to be more complicated. Influenced by various events, Fukuyama rejected his own views from 1989. Unfortunately, some Western elites do not want to acknowledge that his theory remains only a theory. Imposing a single system of liberal values on the whole world is unrealistic, as the world, diverse in terms of values of civilisation, cannot accept it.

Even within the group of democratic countries with free market economies, there remain different models of democracy and capitalism. Not to mention the 192 countries, each with its own political traditions and culture, forming the UN. Attempts to impose a single system of values are seen worldwide as a violation of sovereignty, as interference in the internal affairs of individual states. The supporters of Fukuyama's point of view do not give the countries of the Three Seas a chance to preserve their own heritage and individuality of their own systems.

EUROPEAN CONSERVATIVES AND REFORMISTS

Francis Fukuyama

Fortunately, not all of the Western elites have accepted Fukuyama's views. In 1993, Samuel P. Huntington, professor at Harvard University, published an article in the Foreign Affairs entitled "The Clash of Civilisations". The main thesis of the article and the book, that followed it, states that one has to respect the fact that the world is diverse, so there is no single path of development, the identity of countries from different civilisations and cultures has to be respected. Huntington saw the world as rivalry among groups of countries originating from different civilisations. In his opinion, the globalisation of economic processes does not force the unification of value systems; besides, it is difficult to say that one is superior to another. Each one is good as long as it matches individual societies. Imposing a uniform, universal system of values on different countries will result in destabilisation of democratically elected authorities, and will spur the growth of international conflicts.

Samuel P. Huntington

If we want peace and harmony, stopping the aggressors is not enough. We must also respect the distinctiveness of each culture and the sovereignty of each country. Countries have the right to maintain their own systems and their own ways of development.

The different concepts, presented by Fukuyama and Huntington are reflected in discussions and attitudes among politicians of the European Union. Notably, Fukuyama's and Huntington's perspectives are also reflected in the approach to the Three Seas Initiative. Some politicians look favourably at the development ambitions of the region, while others perceive the identity of the region as unacceptable. According to liberal, left-wing circles in the European Union, there is only room for one system of values, and one path of development. Therefore, the Three Seas countries face a challenging task: to convince the liberal circles to respect the diversity of our region. The conviction that e.g. Hungarians do not know what is good for them, and what they should want is a stereotype often encountered during debates in the European Parliament. The supporters of imposing so-called European solutions on Poland de facto believe that citizens in Poland are stupid, vote for the wrong politicians, and thus the wise people in Brussels must force them to adopt solutions that the world of progress considers to be right, i.e. concerning migrants, LGBT, gender, euthanasia, abortion, education of young people, what they call the rule of law, etc. According to many members of the European Parliament, the will of the Polish society and the Polish parliament do not matter; what matters is the opinion of the ruling elite in Brussels. It seems that as long as the elite in Brussels does not give up its sense of superiority over individual societies, the European Union will not be democratic, but will be seen as a foreign power that takes away the freedom of nations through a coercive mechanism. Perhaps politicians organising the European Union would find it useful to analyse some examples of successful integration from the past, such as the achievements and principles of the Hanseatic League or the stories of countries like Switzerland. The Swiss Confederation is an example of a country that integrates four nations using four languages without conflicts. The success of Switzerland lies in the fact that it does not question the identity of individual nations or the individuality of cantons. Each canton has its own laws and its own administration. The authorities in Bern do not fight against patriotism or attachment to regional distinctiveness.

Region-building principles

Interestingly, some politicians from Western Europe are trying to impose a single socio-economic model on Europe as a whole, and establish a binding hierarchy of good and evil. Taking advantage of political correctness, legal procedures and financial penalties, they want to discipline free nations, following a single, liberal ideology. Meanwhile, experience shows that democracy without a liberal doctrine is possible. It is paradoxical that, by proclaiming freedom and liberalism, politicians from Paris, Berlin, Rome, the Hague and Madrid are denying the right to freedom and identity to 130 million Europeans because they live in the eastern part of the continent. There is no better example of their neo-colonial thinking than this. Unfortunately, the European Commission sometimes also tries to subjugate the countries of the Three Seas because they are different, and, according to bureaucrats, everyone else being different must be tantamount to being worse. There, in Brussels, they only otherness they value is that of Muslims. It is about time for the EU to recognise that there is no single pattern of development, that countries have the right to their own systems and cultures.

The fate of the countries of the Three Seas has for centuries been a part of the history of Europe and its divisions into East and West. The eastern part of Europe was first separated when the Roman Empire was divided into East and West in 395. The division was introduced by Emper or Theodosius I for administrative reasons. He divided his country into a part where the Greek language prevailed, and a part with Latin domination. Centuries later, this division was perpetuated when the Latin Empire of Charlemagne and the Byzantine Empire with its capital in Constantinople were separated within slightly changed borders. In the 11th century, the political division was reinforced by the split between Eastern and Western Christianity. Poland lays on the borderline between these Eastern and Western influences. This can be proven by the facts that one of the first rulers of Poland, Mieszko II Lambert, knew not only Latin and German, but also Greek, and King Boleslaw the Bold, who received his crown from the German Emperor Otto II in 1025, simultaneously corresponded with the Byzantine Emperor. Nevertheless, because of its connection to Catholicism, Poland belonged to the group of Christian countries that adhered to the Latin rite, as these were subordinate to the Pope in Rome, and Rome was the center of the world at that time, as it had been for several centuries. For several centuries, Latin was the language of the Polish elite. It can be said that by the Middle Ages Poland found itself in the circle of culturally Western countries.

The fact that, as a result of the conferences in Tehran and Yalta, the Three Seas region remained marginalised, does not mean that its inhabitants were satisfied with this outcome. It was a result of betrayal by the West. Such a marginal position was not and is not established by choice. Some in the West would like to continue the system of Eastern European dependence, this time under the banner of progress. Meanwhile, the countries of the Three Seas want to maintain and revive their

identity instead of adopting foreign patterns. Our countries face a problem, because they have to make up for the time lost during the Communist subjugation. The first thing was to restore what the Communist dictatorship had destroyed. It is no wonder that we react with anxiety to attempts of imposing foreign patterns on us. It is about time to decolonise the mentality of Western politicians towards the countries of the Three Seas. Democratic traditions and principles of tolerance in our region are often older than in Western Europe. Poland, Lithuania and Hungary are not new democracies, but countries with old democratic, parliamentary and constitutional traditions. There is no reason for the region to accept the role of “perpetual followers”, who only catch up with countries considered to be progressive. It is not enough just to argue with these ignorant people. To defend oneself, one must offer one's own ideas.

When building the Three Seas, it seems worthwhile to take into consideration some good models of international cooperation. We can quote the opinions of John Paul II, who has been an authority, especially in this region. During his pontificate he made 29 speeches to the diplomatic corps. As he said in the European Parliament in Strasbourg in October 1988, "If religion and Christianity were deprived of its influence on ethics and the shape of societies, it would mean not only forgetting the heritage of the European past, but also a serious threat to a future with dignity". On various occasions the Pope pointed out four important goals to politicians dealing with international affairs: defending life, peace, freedom, and fighting against hunger and poverty. According to the Pope, the negative phenomena in international life include the pursuit of domination over and exploitation of other peoples, as well as egoism replacing solidarity. He also proposed dialogue and respect for the rights of people and nations as tools. He pointed out that peace is not merely a lack of conflict, because a lack of conflict is a utopian concept. Peace is the ability to resolve disputes amicably through fair conduct, or respect for the rights of peoples and nations. These are the principles which, with respect to the accomplishments of John Paul II, make building the Three Seas worthwhile.

BABS Fund

Right now, the concept of the Three Seas lacks ideological foundations, the ones that have existed in our countries for centuries, but they need to be brought back and popularised. Financial means are necessary to popularise the idea of the Three Seas in Europe. It’s about time to begin spending at least 1% of the funds on regional investments in communication among citizens of the countries that make up the region, and on the promotion of the great Three Seas Initiative in Europe. This fund can be called BABS (this stands for the three seas: the Baltic, Adriatic and Black Seas). Without this, it will be difficult for us to achieve understanding, support, and gain financial resources. We have good examples of fruitful cooperation of countries in common structures within

the European Union. There is the group of Benelux countries that have been coordinating their activities for many years. The Visegrad Group is also an example of effective cooperation. Therefore, there are positive examples, upon which the Three Seas Initiative can be developed.

As we know, the wording of treaties and the lingo of finances, issues concerning pipelines and optical fibres do not fully describe the human world. The countries of the Three Seas cannot agree to act as if they were on the margins of politics, to accept the role of suppliers of components for Western factories, and the role of a market outlet. Today, some politicians in the West want to treat the people of our part of Europe as second-class citizens, or even worse than refugees from Africa. In the economic sphere, the Three Seas states are neglected. In the cultural and political sphere, we have a long history and serious traditions, although Western societies are rather poorly familiar with this knowledge. I believe that we have no reasons to have an inferiority complex. The countries of our region cannot be perceived as an anomaly, but as ones with a separate path of development. We do not have to slavishly imitate Western Europe.

Let's remember that it was in the West that WWII was initiated. It was there, after the war, where philosophical doctrines appeared, undermining the foundations of European thinking, questioning the concepts of truth derived from Aristotle, and the laws of logic. It is time to say directly that today it is the supporters of popular ideologies in the West that are afraid of the facts, and therefore, they concentrate on the destruction of truth itself as a value. Meanwhile, the truth about the world cannot be replaced by political correctness or private narratives. We should defend the teachings and promotion of Greek philosophy, Roman law, the history of Christianity, the history of the entire Europe, which is also history shared by the nations of the Three Seas. Quite candidly, it was the adoption of Christianity that opened the door to the circle of global culture for our nations. Perhaps, it would be a good idea to publish the fundamental works on the history and culture of the region in English. We can adopt EU development strategies, but on the condition that the EU takes our point of view into account beforehand.

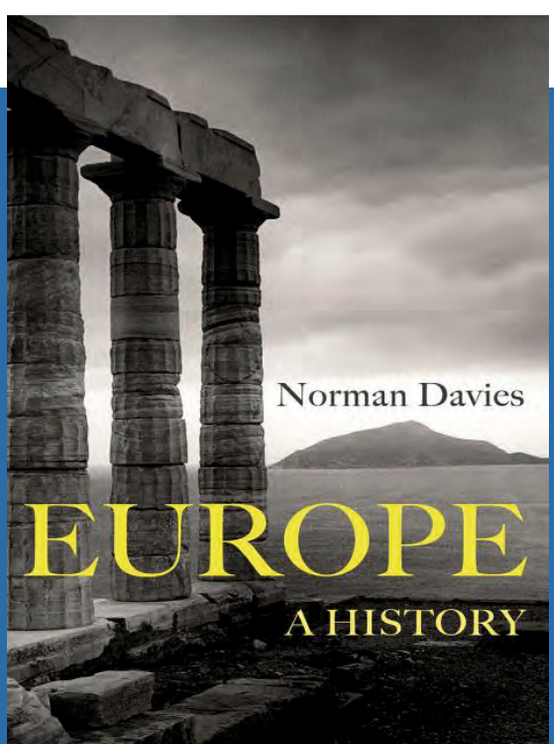
The voicing of common interests by the countries forming the Three Seas within the EU is necessary, regardless of whether the country is governed by the left or the right, because it is about maintaining independence and rejecting clientelism in international life. Today, we can see a crisis of so-called liberal democracies. Globalism, which condemned nations to non-existence, turned out to be a harmful myth. Europe is and will be a mosaic of various cultures and peoples. This diversity of Europe is its great wealth. This is the perspective to use when looking at the Three Seas Initiative.

The younger generation is always impatient and willing to contest the status quo. The dispute between liberalism and conservatism is breaking up Europe in terms of ideology, threatening with

political conflicts and divisions within the Western civilisation. It is a myth that only liberalism guarantees democracy. Republican-system states had existed in Central and Eastern Europe long before the concept of liberal democracies emerged. There is no reason to reject these roots. The cultivation of politics according to the rules indicated by John Paul II is an important point of reference for many inhabitants of the region. It is a fact that many countries in the region prefer pragmatic conservatism to liberalism. And as a popular adage has it, facts are not subject to disputes.

When life matters

The younger generation of European citizens expects more than just an improvement of their standard of living. **Young people need to be shown perspective, i.e. to be shown that our individual lives** are not only about work and consumption, but that they **matter**. Young people are now fascinated with the possibilities offered by access to the digital world. As a result, they sometimes break away from family and tradition, from the world of values other than those offering instant gratification. I have been wishing that an intelligent IT engineer who can write programs develops computer games that promote the Three Seas. The books of Bohdan Cywiński, Norman Davis or Jerzy Kłoczowski can be an excellent basis that would inspire such a computer engineer.



Europe: A History by Norman Davies

Each year, millions of people in Europe travel around and across the Three Seas countries. Why isn't there an application that guides tourists through the most important castles, palaces and sanctuaries, the oldest monasteries and universities, Romanesque, Gothic and Baroque monuments,

places associated with great artists such as Milan Kundera, Copernicus, Matejko, Wyspianski, Eliade, Sandor Marai or Zbigniew Herbert? We need to project the world through the eyes of great individuals of culture, who were born in our countries. Even the most enthusiastic beach-lover will sometimes want to see something, visit famous places, and drink coffee in the shade of famous landmarks. As a holiday programme, sunbathing on the beach is not enough for many.

Digital progress has led many people to lose their way, to a belief that their lives do not depend on them, and therefore their lives have no meaning. The ideological confusion is often followed by political chaos. If we do not teach young people how to pose existential questions, if we do not convince them that they are part of a race of generations who pass the baton over to their descendants, we will lose them. Focusing on consumption, alcohol and drugs is often an escape from questions about the meaning of life, about death, about what good is, how to deal with evil and injustice in the world. **Escaping is the reaction of people whose life is limited to ongoing consumption**, who have been deprived by mass culture of their tradition, of the sense of belonging to a community, who have no role models to follow or authorities, and who have been uprooted and feel lonely in a world strange to them.

We are responsible for showing young people in Europe that life is worth living, because here and now we are the hosts, that we are not just employees and consumers, that there are authorities worth listening to when exercising our freedom. Such authorities are not only great inventors, or heroes of victorious battles. They are also laymen and clergy, people of culture, who are meritorious to our nations because they respected the Decalogue, because they were able to reject the Darwinian model of society, as proposed by Machiavelli and Hobbes.

The younger generation

The younger generation in Europe wants to live like free people, who can take care of their loved ones and the environment, in countries where there are equal opportunities for everyone, regardless of gender, age, religion or opinion. **In order to break the feeling of alienation among young people, they need to be given a chance to identify with the country they live in**. This is only possible if each country's decisions are made by people with a mandate from the society, not by foreign bureaucrats. Promising that we will quickly fix the entire world is hard, but we can make the citizens of our Three Seas region feel better. It will happen if people know that it is their home, where they can pursue their goals, take care of their families, of the natural environment, of what is closest to them and of what is most important to them. Then and only then will young people become convinced that they are not just a bunch of individuals ruled by bureaucrats, but part of a larger historical and cultural community. They will then feel that their lives matter. Democracy is a powerful force, and not just as a procedure enabling a peaceful change of the power elite. **Democracy is important because**

it creates a chance for the majority of citizens to identify themselves with the country in which they live, because only then can people pursue common goals considered important, and feel that their lives matter.

Recently, there has been a pattern of alarming behaviours among certain people in the European intellectual and financial elite. Some feel “European and free” only when they disavow their national identity in favour of a system of universal rights. Meanwhile, the attempt to impose a single pattern of thinking on the citizens of all countries is reminiscent of the worst times, i.e. Nazi and Communist dictatorships. Universalism in its approach to history and politics is perceived as a threat in our region. In fact, the view of one, generally applicable system of universal values has been challenged by social scientists for at least a hundred years. It is a purely ideological idea, with no scientific basis. Such an attitude also leads to the elite being detached from the majority of society. It is simply difficult to be merely European. The European culture is made up of cultures contributed by individual nations. It does not exist outside of them. We can feel like European citizens precisely because we entered this circle of civilisations, having previously belonged to our country and nation. There is no Europeanness without the foundations, which constitute the traditions of individual states.

It is enough to perceive one's own country as a common good, which must be looked after within a united Europe. This is also the mission of the countries that make up the Three Seas region.

EUROPEAN CONSERVATIVES AND REFORMISTS

Dr. Łukasz Zaborowski

Preliminary Identification of Potential Main Transport Corridors in The Three Seas Initiative Area

Outline

The study analysed the geographical space of the Three Seas Initiative in terms of potential transport links. Starting with the shape of the area, the main centres and settlement systems were identified within the Three Seas area and its surroundings. The largest seaports in each region were then identified, with reference to ports in Western Europe. Based thereon, theoretical main axes of connections and directions of complementary connections in individual regions were determined. The courses of these routes were compared with transport corridors, formally designated in the European Union. A preliminary assessment was carried out on equipping the lines with transport infrastructure in accordance with the requirements of the TEN-T network. The sections of the network that require supplementing the infrastructure were identified.

What does the Three Seas Initiative look like from a geographer's perspective? Its shape can be described as a set of separate pieces. The central part is on the border of four Visegrad Group countries and Austria. Two distinctive segments extend far to the north and south-east. The first is made up of the three Baltic States, the second includes the two Black Sea countries. A much smaller area, closer to the centre of the Three Seas, is occupied by the two Adriatic countries. The distance from Tallinn in Estonia to Koper in Slovenia is 1,700 km. From Świnoujście in Poland to Burgas in Bulgaria - 1,600 km.

It is tempting to say that the Three Seas region fills the area between the three seas. However, this is a misleading statement. Between the Adriatic and the Black Sea, the space is partly occupied by non-EU countries. The picture is further complicated by the fact that Croatia owns a large part of the Adriatic coastline, and the hinterland remains outside its borders. In this way, Bosnia and Herzegovina and Serbia form a quasi-enclosure, reaching far into the area of the Three Seas. Also on the eastern border, the space between the Baltic States and Romania is partly occupied by Belarus and Ukraine. It is 150 km from Budapest to the border with Serbia and 250 km to Ukraine. These facts greatly affect the possibility of building links within the Three Seas region. It will change after one of the countries joins the Union. Let us take a look at the area of the Three Seas by identifying the main settlement centres and sea ports.

Main settlement centres

Settlement centres will be considered by the size of functional urban areas (not cities within administrative boundaries).[1] We take into account the settlement network in the Three Seas area, and similar-sized centres in its surroundings. For it is precisely the largest centres, with a population exceeding 5 million, that are located in the closest vicinity of the Three Seas. A separate size category is Istanbul in the south-west, only 135 km in a straight line from the EU border, and 210 km from Burgas. Only the largest European capitals - London and Paris - are comparable to the 15-million metropolis. In the north-east, a similarly situated St. Petersburg, with a population of over 5 million, lies 135 km from the Union's border. Within the EU, there is a similarly large center at the western end of the Three Seas: Berlin is only 60 km from the Polish border and 125 km from the port in Szczecin.

There are 6 centers within the Three Seas zone with more than 2 million inhabitants in a functional urban area. The largest are Budapest, Warsaw and Vienna, each with around 3 million. Budapest and Vienna are quite close, 215 km away from each other. Warsaw is 550 km from both cities. It has the northernmost location. Bucharest, Prague and the Silesian-Dąbrowski conurbation with the main city of Katowice are close in numbers. Prague is the westernmost big metropolis of the Three Seas region; it is 250 km from Vienna, 500 km from Warsaw and 300 km from Berlin. Bucharest is among the largest eastern and southernmost agglomerations. It is also much more remote - 650 km from Budapest and 950 km from Warsaw, but closer - 450 km - to Istanbul. The Katowice Conurbation is situated in the middle between the largest metropolises of the Three Seas: about 300 km from Budapest, Prague, Warsaw and Vienna. At the same time, it is close to the geometric centre of the Three Seas: about 1,200 km from the north-eastern tip of Estonia and the south-eastern tip of Bulgaria; 650 km from the south-western tip of Slovenia and 500 km from the north-western tip of Poland.

The centres similar in size to the six main metropolises of the Three Seas, situated in its surroundings, are: Munich - 300 km south-east of Prague, 350 km west of Vienna, and Belgrade - 300 km south of Budapest and 450 km west of Bucharest.

The group next in size is made up of centres with 0.8-1.6 million inhabitants - there are 8 of them. This group is headed by Sofia, which is the southernmost city with over a million inhabitants. It is 300 km from Bucharest and 500 km from Istanbul. The capitals of the group include Riga

[1] Eurostat, ec.europa.eu/eurostat/databrowser/view/urb_lpop1/default/table?lang=en

and Zagreb, located at the opposite ends of the Three Seas region. Riga is the largest centre in the northern part of the area, 550 km from Warsaw. Zagreb is the largest city in the south-western part of the Three Seas, less than 300 km from Budapest and Vienna. There are also 5 Polish centres in this class: Gdańsk with its conurbation, Krakow, Łódź, Poznań and Wrocław. Gdańsk and Riga are the largest centres with seaports in the Three Seas region. Similarly sized agglomerations are Helsinki in the north, Dresden, Leipzig and Nuremberg in the west, and Thessaloniki in the south.

The four smallest capitals of the Three Seas countries have between 0.5-0.8 million people in a functional urban area. Tallinn is the northernmost center of the system, located 300 km north of Riga, and only 80 km over the Gulf of Finland from Helsinki. Vilnius is 250 km south of Riga and 400 km north-east of Warsaw. At the same time, it is the capital city closest to the Union's eastern land border - only 30 km from Belarus. The opposite end of the Three Seas is flanked by Ljubljana, 120 km west of Zagreb, and half that distance from the Italian border. Finally, Bratislava lies at the heart of the region: between Budapest and Vienna, 170 and 50 km, respectively. Its location is well reflected in the Slavic name etymologically meaning the praise of brotherhood. Similar centres are Brno and Ostrava in the Czech Republic, Lublin in Poland, Plovdiv in Bulgaria and Venice - in the close vicinity of the Three Seas region.

Main settlement systems

If we look for the "center of gravity" of the Three Seas, let us consider even larger settlement systems co-created by urban centres lying relatively close to one another. Let us consider the complexity of Krakow and Katowice agglomerations as a "mega-conurbation", 70 km in a straight line. To this, we will add the neighbouring Ostrava on the border of Czech Silesia and Moravia, 70 km away from Katowice, and the complementary Bielsko-Biała system on the Polish side. The mega conurbation outlined above has a population of over 5 million.

Tallinn – das nördliche Ende des North Sea-Baltic Corridors, Photo by Sebastian Pawłowski

However, given the differences in population density, the centre of gravity of the Three Seas should be sought further south. Here, the Bratislava and Vienna system emerges as the second center, only 50 km away from each other, with a combined population of nearly 4 million. Another metropolis, Budapest, is 170 km away from Bratislava. This band of three capitals and the mega-conurbation described above are about 250 km away from each other. Let us assume them to be the settlement core of the Three Seas.

Relatively close, at a distance of about 250 km from the extreme core centers, there are four other capitals: the neighbouring Ljubljana and Zagreb to the south-west, Prague to the west and Warsaw to the north-east. The whole is complemented by two eastern settlement systems, far away, at least 600 km each from the core centers. In the north-east is a band of three Baltic capitals: Vilnius, Riga and Tallinn. In the south-east - Bucharest and Sofia. In both systems, the distances between each of the main centers are also roughly 250 km.

Main sea ports

The second indicator of potential transport routes will be seaports. These are the natural ends of land routes. All the more so in the area defined as the Three Seas (or the inter-sea area). Let us compare the ports of the European Union by gross weight of goods trans-shipped in 2019[2]. The four largest are located on the North Sea. Rotterdam is unquestionably in the lead, followed

[2] Eurostat, https://ec.europa.eu/eurostat/web/products-datasets/-/mar_go_am_fr

by Antwerp with 440,000 and 215,000 tonnes of cargo respectively. The next are Hamburg and Amsterdam, each with a cargo weight of over 100,000 tonnes. The largest port in the Mediterranean is Algeciras with 90,000 tonnes, located on the Strait of Gibraltar, right by the Atlantic. We still have a group of eight ports in Europe with values between 50,000 and 75,000 tonnes. Among these, attention should be drawn to Trieste - 60,000 tonnes, an Italian port, but right on the Slovenian border. The largest ports in the Three Seas are only in the next 25-50,000 tonne range. The first three are Gdańsk, Klaipėda and Constanţa, with cargo weights of 42-46,000 tonnes. The fourth port is Riga with a cargo of 31,000 tonnes. Other outstanding ports are Koper, Gdynia, Tallinn, Windawa and Burgas, each of them shipping about 20,000 tonnes in 2019.

In terms of space analysis, however, it will be appropriate to consider certain nodes as harbour complexes situated in close proximity to each other. As far as transport accessibility is concerned, such neighbouring ports can be seen as a functional whole. Thus, Italian Trieste and Slovenian Koper, only 10 km in a straight line, can be considered together. This cluster trans-ships 82,000 tonnes, making it the sixth largest port in the Union. An obvious move would be to link Polish Gdańsk and Gdynia, which are 20 km apart. The complex will be promoted to a higher size class to take 8th place. The same applies then to the layout of Szczecin and Świnoujście, 60 km away, but functionally bound by their location along the mouth of the River Oder. The system's capacity is ca. 26,000 tonnes, and it is placed between Riga and Tallinn among the port complexes of the Three Seas.

Theoretical linking axes

The shape of the Three Seas area and the distribution of main settlement nodes are determined by the run of two main axes of connections. Each of them reaches respectively the distant regions of the eastern Baltic and the Black Sea. At opposite ends, the first one reaches the Adriatic region with an extension to Italy, the second one crosses the land border of the Three Seas towards Berlin or the North Sea. At the intersection of the main axes lies the Bratislava-Vienna city complex.

The NE-SW axis: (Helsinki-) Tallinn-Riga-Kaunas/Vilnius-Warsaw-Katowice/Krakow-Bratislava/Vienna-Ljubljana/Zagreb (-Venice).

The NW-SE axis: (Berlin-) Prague-Vienna-Bratislava-Budapest-Bucharest/Sofia (-Istanbul).

These axes are outlined broadly, as strands rather than linear routes. Nevertheless, these are not all important potential links within the Three Seas. To start with, we will discuss the shorter NW-SE axis, which we will call the Black Sea. In the south-east, we will first consider its Danube variant, to the largest Black Sea port in the Three Seas region, namely Constanța. Then, as Balkan offshoots, we will discuss the routes to Sofia and to the port of Burgas, and also the routes to the Aegean Sea.

We should note that the traditional transport link to Bulgaria from the core of the Three Seas and the Adriatic region leads through Serbia. However, we will ignore them in our analysis as they run

beyond the borders of the Union. Looking from the north, however, the Balkan branches of the Black Sea axis are part of the Carpathian conceptual axis, connecting the immediate eastern ends of the Three Seas.

The longer NE-SW axis is divided into three parts: The (semi-) Baltic axis and the (semi-) Adriatic axis – on both sides of the core of the Three Seas, respectively, plus the Moravian and Slovak core routes. As the Adriatic axis, we will consider the Slovenian variant to the largest port of Koper. Separately, we will analyse the connections of the core centres with Zagreb and the Croatian coast. In the Baltic region, we will also consider connections between the ports and the axis away from the coast.

The above is an ad hoc division of routes, not an attempt to establish their hierarchy. We assumed the direction of the description of the routes along a north-to-south vector.

Theoretical routes and transport corridors

Below, we will refer to the above theoretical series of links to the corridors formally designated in the European Union. We will first refer to the corridors of the TEN-T core network[3]. If they do not exist, we will refer to the RFC[4], rail freight corridors, or other core or complementary corridors in the TEN-T network[5]. We are not describing all the variants of the corridors here, but we are selecting those that best fit into the theoretical routes. In some cases, we will propose additions to the corridor network.

In addition, we will focus on the actual rail and road infrastructure along the lines. For the corridors of the core network, the assumed parameters are: a double-track railway line with speeds of 160 and 120 km/h for passenger and freight trains respectively, axle loads of 22.5 t, train lengths of 740 m; a road with limited access with two carriageways of two lanes each. The achievement of such standards is expected by 2030[6].

3 Regulation No 1316/2013 of the European Parliament and of the Council of 11 December 2013 establishing the Connecting Europe Facility

4 Regulation of the European Parliament and the EU Council No. 913/2010 of September 22, 2010 on the European rail network for competitive freight transport

5 Regulation of the European Parliament and the EU Council No. 1315/2013 of December 11, 2013 on EU guidelines for the development of the trans-European transport network

6 Regulation No 1316/2013 of the European Parliament and of the Council of 11 December 2013 establishing the Connecting Europe Facility

The Black Sea axis

The axis connects the western part and the core of the Three Seas with the Black Sea region. Its extension to the “old” Union runs in the direction of Berlin and the North Sea. In the south-east, the axis is connected with the Bulgarian link system. The axis converges with the core network corridors in the following sections: Orient/East Mediterranean and Czech Republic-Slovakia/Rhine-Danube.

The Orient corridor is the section from Germany through Prague to the core of the Three Seas. In the railway network, the main branch runs as follows: (Dresden-)Prague-Brno-Břeclav-Bratislava. In Břeclav there is a branch to Vienna, or part of the Baltic-Adriatic corridor. The road route of the Orient corridor from the German border to Bratislava is fully serviced by the D8-D1-D2 highways. The Prague-Brno section is shorter than the railway route. In Brno, the road route of the Orient Corridor connects with the Moravian branch of the Baltic-Adriatic corridor.

Starting from the Bratislava-Vienna core complex, the Black Sea axis is serviced by the Orient and Rhine-Danube corridors. In the railway network, two branches of the corridor run separately from Bratislava and Vienna to meet at the Hungarian Hegyeshalom rail station. The shorter Slovak branch is, in fact, a low-performance single-track link.[7] The Austrian branch runs along the main Vienna-Budapest line. In the same area, the Austrian A4 and Slovak D2 highways converge to run towards Budapest as the Hungarian M1.

In the following section, the railway connection is made by the route: Budapest-Solnok-Bekescaba-Arad. The Hungarian part of the route has a favourable geometry in relation to the route through the plains. The Budapest-Arad road corridor is of a similar length, but runs along a different route through Szeged. In Hungary, those are the M5 and M43 highways, followed by the A1 in Romania.

At the Arad junction, the Rhine-Danube railway corridor forks into two branches, which then meet in Bucharest. For our analysis, we have chosen the southern one. This one runs along the Orient corridor, and leads to Bulgaria. This section - Arad-Timișoara-Krajowa-Bucharest - is a bottleneck in the corridor. Although it has a fairly favourable geometry on most of the route, the condition of the infrastructure is unsatisfactory. Most of the route is single-track. The modernisation

[7] Rail Net Europe, https://cip.rne.eu/apex/f?p=212:24:3988580404656:::::

of the corridor is being carried out within the Rail-2-Sea project. For the entire Arad-Craiova section, the feasibility studies are to be ready in 2021.[8]

There are also two Romanian road branches in the Rhine-Danube Corridor, which head for Bucharest. At Timișoara, the A1 highway changes its course to run along geographical parallels. It is lacking the 150 km of the Sibiu-Pitesti Trans-Carpathian section. The completion of the whole route is planned for 2025.[9] The railway and road infrastructure on the last section of the Black Sea axis Bucharest-Constanța is completed.

Balkan branches

All connections considered here are the terminal branches of the Orient corridor. The railway route to Sofia leaves in Craiova, the Danube is crossed in Vidin. The Craiova-Vidin section is probably the weakest link in the whole corridor. It is a single-track, non-electrified line. The condition of the next part of the route to Sofia is also unsatisfactory. The whole section described is an extended route. Previously, the corridor headed towards the lowlands of southern Romania, along the Danube via the Iron Gate. From its departure, the Drobeta Turnu Severin-Craiova-Sofia railway route is 500 km long, while the shortest road connection within the Union is 320 km. The desired shortcut would be a new line Drobeta Turnu Severin-Vidin, about 80 km long, additionally bypassing the technically weakest section of the route. A correction of the geometry of the line would also be advisable. For the time being, a sectional modernisation is planned between 2022 and 2027. [10]

The proposed railway shortcut is a low-standard road route in the Orient corridor. The construction of the Romanian A6 highway to the border is still in the planning stage, as the southern branch of the Via Carpathia route. Completion of the Drobeta-Calafat section has been postponed until 2025[11]. On the Bulgarian side, the I-1 Vidin-Vratsa- expressway was to be designed in 2020.[12] In addition, a tunnel under the Petrohan Pass is planned on the national II-81 road, the shortest connection between Vidin and Sofia. Despite its lower parameters, this route will

[8] Three Seas, https://projects.3seas.eu/projects/rail-2-sea-modernization-and-development-of-railway-line-gdansk(pl)-constanta-(ro)
[9] Three Seas, https://projects.3seas.eu/projects/via-carpatia-submitted-by-poland
[10] Republic of Bulgaria, Ministry of Transport, Information Technology and Communications, https://www.mtitc.government.bg/sites/default/files/appendix_2_eng.pdf
[11] Three Seas, https://projects.3seas.eu/projects/via-carpatia-submitted-by-poland
[12] Republic of Bulgaria, Ministry of Transport, Information Technology and Communications, https://www.mtitc.government.bg/sites/default/files/appendix_2_eng.pdf

be about 100 km shorter than the expressway network, and also – which is unfavourable – than the railway network.[13]

In Sofia, the Orient corridor branches out in two directions: east to Plovdiv, then to Burgas or Istanbul; south to Thessaloniki. The Sofia-Plovdiv rail route is currently being upgraded to the TEN-T[14] network parameters. There will also be changes to the route to improve its geometry. The longest railway tunnel in the Balkans (7 km) is being built on the most difficult section near Sofia[15]. The project is expected to be completed before 2023[16]. Although the Plovdiv-Burgas railway line runs as a single-track for more than 100 km, the Bulgarian Ministry has announced a doubling of its capacity[17]. A significant section has already been thoroughly modernised, including a geometry adjustment[18]. The project is expected to be completed in 2023[19]. Concerning road transport: the A1 highway is available through the entire Sofia-Burgas corridor.

In the southern branch of the Orient corridor, the Sofia-Dupnica(-Thessaloniki) railway line is to be modernised in 2022-27[20]. Currently, it is a double-track railway route only along the Pernik-Radomir section. An additional disadvantage is its outdated geometry, especially in comparison with the parallel A2 Struma highway. The highway is ready along most of its route – only the section Blagoevgrad-Kresna, with the current road length of 35 km, is still not ready.[21] The ongoing construction works, including the excavation of Bulgaria's longest road tunnel, Železnica, are expected to be completed in 2022.[22]

[13] Three Seas, https://projects.3seas.eu/projects/tunnel-under-petrohan-pass
[14] National Railway Infrastructure Company (Bulgaria), https://www.rail-infra.bg/bg/249
[15] National Railway Infrastructure Company (Bulgaria), https://www.rail-infra.bg/bg/249
[16] Republic of Bulgaria, Ministry of Transport, Information Technology and Communications, https://www.mtitc.government.bg/sites/default/files/appendix_2_eng.pdf
[17] Republic of Bulgaria, Ministry of Transport, Information Technology and Communications, https://www.mtitc.government.bg/en/category/1/povishavame-dvoyno-kapaciteta-na-zhp-liniyata-ot-plovdiv-do-burgas-za-putnici-i-tovari-0
[18] Generale Construzioni Ferroviarie, https://www.generalecostruzioniferroviarie.com/en/gcf-news/news-2017/109-gcf-opens-the-plovdiv-burgas-line
[19] ДП Национална Компания Железопътна Инфраструктура, http://www.optransport.bg/en/page.php?c=67&d=1855
[20] Study on Orient/East-Med TEN-T Core Network Corridor 2nd Phase 1 December 2017, https://ec.europa.eu/transport/sites/transport/files/oemstudy2017_execsummary_en.pdf
[21] Republic of Bulgaria, Ministry of Transport, Information Technology and Communications, https://www.mtitc.government.bg/sites/default/files/appendix_2_eng.pdf
[22] Sofia News Agency, https://www.novinite.com/articles/200657/The+Drilling+of+the+Longest+Tunnel+in+Bulgaria+Has+Begun

The Baltic axis

The Baltic Three Seas axis from Tallinn to Warsaw runs along the North Sea-Baltic Sea corridor. Through the Baltic States, the railway corridor currently runs along the broad rail network along the extended Tallinn-Dorpat-Riga-Jelgava-Šiauliai -Kaunas(-Suwałki) route. There is a concept to connect the region to the European railway network by building the Rail Baltica – a standard gauge line that crosses the southern Baltic States along the route: Tallinn-Pärnu-Riga-Panevėžys-Kaunas(-Suwałki). The line is designed with an exceptionally simple route and excellent parameters. Speeds up to 250 km/h, axle loads up to 25 t, train length up to 1,050 m[23] – these values exceed the requirements of the TEN-T network. An SPV has been established to manage the project. The reconstruction of the Riga Central Station, which is to be the main node of Rail Baltica, has begun[24]. The entire station is to be completed in 2026.[25] The Rail Baltica project boasts a specific flavour by the concept that has been considered to extend it northwards through a tunnel under the Gulf of Finland, connecting Tallinn with Helsinki.

Meanwhile, a standard gauge track exists on the section from Kaunas to the Polish border.[26] This year, the electrification project will be ready.[27] A road project equivalent to Rail Baltica is the Via Baltica. Apart from the short section of the A1 highway to the north of Kaunas, the route is at the planning or design stage. [28]

In Poland, the railway route to Warsaw is extended by making two turns in Ełk and Białystok. Lines to the north of Białystok constitute a bottleneck in the corridor. They are single-track, and between Olecko and the Lithuanian border, not electrified, and with unfavourable geometry.[29] As part of the modernisation, this section will have a partially new, simpler route. The work is at its documentation stage. Modernisation of the Białystok-Warsaw line is progressing from Warsaw[30]. The above-mentioned measures will not change the fact that the relevant road corridor is shorter – by 60-70 km, over an approximately 300 km distance. This is a sequence of express roads: the existing S8 Warszawa-Ostrów Mazowiecka, and the S61 Ostrów Mazowiecka-Łomża-Ełk-Suwałki-Budzisko, currently under construction.

[23] Rail Baltica, https://www.railbaltica.org/about-rail-baltica/tehnical-parametrs
[24] Rail Baltica, https://www.railbaltica.org/the-start-of-construction-of-rail-baltica-central-hub-in-riga/
[25] Rail Baltica, https://www.railbaltica.org/about-rail-baltica/project-timeline
[26] Public Railway Infrastructure for 2020-2021 Network Statement, Vilnius 2020
[27] Rail Net Europe, https://cip.rne.eu/apex/f?p=212:24:5761446449626:::::
[28] Three Seas, https://projects.3seas.eu/projects/via-baltica-submitted-by-estonia, https://projects.3seas.eu/projects/via-baltica-submitted-by-lithuania
[29] Polskie Linie Kolejowe, Rail Baltica, http://www.rail-baltica.pl/
[30] Three Seas, https://projects.3seas.eu/projects/rail-baltica-submitted-by-poland

The North Sea-Baltic Sea corridor in the Warsaw area changes direction to the west, and heads towards Germany. The previously mentioned Baltic axis, on the other hand, continues its south-western course towards the Katowice-Krakow core complex. This direction is mostly consistent with the direction of the Baltic-Adriatic corridor. In this corridor, the shortest Warsaw-Katowice route, known as the Central Railway Thoroughfare, has been designated for passenger traffic. The parallel freight rail link in the Baltic-Adriatic Corridor runs for about 100 km further to the west.

The RFC Amber[31] corridor fits in better with the Baltic axis to the south of Warsaw, i.e. Warszawa–Radom–Kielce–Mysłowice. There, it is connected with the Baltic-Adriatic corridor. The Amber corridor also includes a bypass at the Warsaw junction of Tłuszcz–Dęblin–Radom. A feasibility study on the modernisation of the single-track section Tłuszcz-Pilawa is being prepared. [32]

Warsaw-Katowice road route – as a link between the North Sea-Baltic Sea and the Baltic-Adriatic corridors is a sequence of the A2-A1 highways: Warsaw-Łódź-Piotrków Trybunalski-Częstochowa-Gliwice. The completion of the last section of the Piotrków-Częstochowa highway is planned for 2022[33]. In addition, there is the S8 Warsaw-Piotrków express road in the comprehensive TEN-T network, which is a favourable shortcut route.

[31] Three Seas, https://projects.3seas.eu/projects/rail-baltica-submitted-by-poland
[32] EU Commission Implementing Decision 2017/177 of 31 January 2017 on the compatibility with Article 5 of Regulation (EU) No 913/2010 of the European Parliament and of the Council of the European Union of a joint proposal for the establishment of a rail freight corridor known as the "Amber" corridor
[33] Railway Market, https://www.rynek-kolejowy.pl/mobile/plk-przygotuje-plan-modernizacji-ciagu-pilawa--tluszcz--ostroleka-dla-elektrowni-i-cpk-95270.htm

Connections in the Baltic region

The North Sea-Baltic Sea Corridor includes lateral branches leading to ports in Lithuania and Latvia. The railway lines are part of a broad gauge network. The connection to Ventspils leads from Jelgava junction. The line runs along a straight line, but it is single-track and non-electrified.[34] The road connection runs from Riga; also, the road does not comply with the TEN-T standard. The railway line to Klaipeda starts at the Šiauliai junction. It is single-track and non-electrified. The connection from Kaunas to Vilnius is dual-track and electrified.[35] Similar road connections are provided by the A1 Klaipėda-Kaunas-Vilnius highway.

Polish port city complexes are starting points of the Baltic-Adriatic corridor branches. There are two branches that leave Gdańsk – to Warsaw, and to Katowice. The railway line to Warsaw is straightforward, and has been modernised. A parallel road connection is the S7 expressway - finished in the northern half of the section to Warsaw. Almost the entire remaining section is under construction.[36] The freight railway corridor towards Katowice also has a straightforward route; in the conurbation, it reaches Mysłowice. There is no passenger rail corridor on this route. A parallel road corridor is the A1 highway, which is already finished at Piotrków Trybunalski. The further route to Katowice converges with the Baltic axis.

The railway corridor from Szczecin runs through Poznań, Wrocław and Opole. There, it branches off towards Katowice and Ostrava. It continues along the Moravian core route. Modernisation works are underway on the Szczecin-Poznań route; the completion is planned for 2022[37]. There are long stretches of speed limits on the Poznań-Wrocław section[38]. The Baltic-Adriatic corridor of the RFC runs along a partially different route: following the Oder River line through Zielona Góra to Wrocław. However, its long stretches also have reduced speeds[39]. The route in the Baltic-Adriatic Corridor reminds of that on the Oder River railway. This is the former planned S3 expressway through Gorzów and Zielona Góra to Legnica, then the A4 highway through Wrocław to Gliwice. These roads are ready except for a short section near Polkowice. The construction is planned to be completed in 2021.[40]

[34] Latvijas Dzelzceļš, Network Statement 2021, https://www.ldz.lv/en/network-statement-2021-0
[35] LTG Infra, 2020-2021 Network Statement (updated version of 13/10/2020)
[36] General Directorate for National Roads and Highways (Poland), https://www.gddkia.gov.pl/mapa-stanu-budowy-drog_mazowieckie
[37] Polish Railways, http://poznan-szczecin.pl/o-inwestycji
[38] Polish Railways, List of maximum speeds, 2020
[39] Polish Railways, List of maximum speeds, 2020
[40] General Directorate for National Roads and Highways (Poland), https://www.gddkia.gov.pl/pl/a/40142/Od-Lubina-do-Polkowic-pojedziemy-nowa-jezdnia-S3

However, the competitiveness of the railway could be increased by increasing the importance of the branch of the RFC 5 Baltic-Adriatic corridor with its route: Wrocław-Kłodzko-Ústí nad Orlicí, where it is connected with the Orient corridor. This is a significant shortcut to the road from Szczecin to the Bratislava-Vienna core system. Modernisation of this single-track route should be considered for most of the route, especially since the S8 expressway is planned for the Wrocław-Kłodzko segment[41].

Core routes

The distinguished Katowice-Krakow and Bratislava-Vienna core systems are connected by parallel lines – Moravian and Slovak, which belong to the Baltic-Adriatic corridor. The Slovak route is also connected to Budapest by a shortcut. On the railway network, the lines branch off at the Czechowice-Dziedzice station. A passenger railway corridor begins in Katowice. The freight corridor runs from Mysłowice and due to its low parameters, it is a bottleneck for the corridor.[42]

The Moravian rail freight corridor runs as follows: Czechowice-Dziedzice-Ostrava-Přerov-Břeclav-Vienna. The course of the passenger corridor is different in the Přerov-Brno-Břeclav section. On the Přerov-Brno-Břeclav-Vienna section, work is underway to increase the speed to 200 km/h; test drives have already taken place.[43] The parallel road connection are the following highways: in Poland A1, in the Czech Republic D1 to Brno, then D52, but only to Pohořelice. From the Austrian side, the A5 highway almost reaches the border. The missing 40 km of the route is to be completed.

The railway corridor in Slovakia runs through Czechowice-Dziedzice-Bielsko-Biała-Žilina-Bratislava. The Polish section south of Bielsko-Biała is a bottleneck. The maximum line load is only 20 t/axle, speed limits are below 80 km/h, train length 360 m. Moreover, the border section of about 70 km is single-track. Modernisation on the Polish side is to be completed in 2023[44]. As part of the feasibility study commissioned this year, a correction of the geometry to achieve a speed of 160 km/h, and the construction of a tunnel on a difficult border section will be considered[45]. The parallel road corridor follows a similar path. The Katowice-Bielsko-Biała section is not classified as an expressway, but has a two-lane section. Further on to the Slovakian border, the S1 expressway is almost completed. On the Slovakian side, most of the D3-D1 highways is completed. The longest missing section is 60 km. The completion of infrastructure modernisation in the corridor is one of the priorities of Slovakia's transport policy.[46]

41 General Directorate for National Roads and Highways (Poland), https://www.gddkia.gov.pl/frontend/web/userfiles/articles/d/docelowy-uklad-autostrad_6329/nowe_rozp_ais_2019_popr.pdf
42 Polish Railways, List of maximum speeds, 2020, List of maximum axle loads, 2020
43 Railway Market, https://www.rynek-kolejowy.pl/wiadomosci/200-kmh-pociagiem-w-czechach-na-razie-na-testach-wideo-95090.html
44 Rail Net Europe, https://cip.rne.eu/apex/f?p=212:24:5761446449626:::::
45 Railway Market, https://www.rynek-kolejowy.pl/wiadomosci/plk-przygotuje-modernizacje-linii-nr-139-od-czechowic-do-granicy-nowy-tunel-na-slowacje--95342.html
46 Three Seas, https://projects.3seas.eu/projects/motorway-d3-cadca-bukov-svrcinovec

The analysis of the Three Seas area indicates the advisability of the Katowice/Krakow-Budapest link. However, such a direct corridor has not been formally established. The mountainous character of the country's interior is not conducive to passage through Slovakia. Therefore, the connection of Budapest with the northern directions is a branch of the said Slovakian route. The railway route is as follows: (Žilina-)Leopoldov-Galanta-Nové Zámky-Budapest. It is a branch of the RFC Amber corridor. There is no similar shortcut in this route to the highway.

The Adriatic axis

The Adriatic axis is a continuation of the Baltic-Adriatic corridor. The railway route is as follows: Vienna-Bruck an der Mur-Graz-Maribor-Ljubljana-Divača-Koper (/-Venice). In the Austrian section, the infrastructure is of good quality, but it is still to be upgraded. The largest project is a deep tunnel under the Semmering Pass, 27 km long, with a permissible speed of 230 km/h. Construction is to be completed in 2027. On the next section of Mürzzuschlag-Graz, plans are in place to modernise the station for 740 m long trains[47]. Further south, restrictions begin. The Leibnitz-Maribor border section, about 35 km long, is single-track. Additional tracks are to be added and the permissible axle load is to be increased to 22.5 t by 2022[48].

In Slovenia, starting from the Pragersko junction, the allowable speeds do not exceed 80 km/h and the length of trains is 600 m. The modernisation of the Pragersko-Zidani Most and Ljubljana-Divača sections is to be completed in 2022[49]. The final Divača-Koper section is problematic: single-track and very elongated due to the descent from the Karst mountains to the sea level. The construction of the second track is planned along a new course. The line will be shortened from 45 to 27 km, of which 20 km run in tunnels. The speeds will increase to 160 km/h. Construction is planned to be completed in 2025.[50]

The entire Vienna-Koper corridor is operated simultaneously on the Austrian A2-A9 and Slovenian A1 highways. Their much shorter length increases branch imbalances to the detriment of railways.

[47] ÖBB Infra, https://infrastruktur.oebb.at/en/projects-for-austria/railway-lines/southern-line-vienna-villach/semmering-base-tunnel
[48] Rail Net Europe, https://cip.rne.eu/apex/f?p=212:24:3988580404656:::::
[49] HŻ Infrastruktura, https://www.hzinfra.hr/1787, https://www.hzinfra.hr/rekonstrukcija-postojeceg-i-izgradnja-drugog-kolosijeka-na-dionici-krizevci-koprivnica-drzavna-granica
[50] Three Seas, https://projects.3seas.eu/projects/construction-of-the-2nd-railway-track-between-koper-and-divaca

Croatian routes

Zagreb and Croatian ports should be considered as a separate target for traffic from the core of the Three Seas. The connection from the Bratislava-Vienna complex is a continuation of the Baltic directions. On top of that, there is the Budapest connection, which will have an extension to the north-east, towards Ukraine.

The Budapest-Zagreb-Lubljana/Rijeka route forms part of the Mediterranean core network corridor. The Budapest-Zagreb railway connection is the Budapest-Kaposvar-Gyékényes-Zagreb route. Most of it is single-track. In Croatia, a second track is being built along the whole section. The expected speed is 160 km/h, the axle load 25 t and the train length 750 m. The works are to be completed in 2021[51]. A corresponding road corridor runs along a different, shorter route, along Lake Balaton. It includes the Hungarian M7 and Croatian A4 highways.

The meridian-based connection from Bratislava and Vienna is less obvious. The simplest railway route, which is an extension of the Moravian and Slovakian routes, is: (Bratislava-) Hegyeshalom-Csorna-Szombathely-Zalaszentiván -Gyékényes (-Zagreb). The section to Zalaszentiván belongs to the RFC Amber corridor, another one to the RFC Mediterranean corridor. The infrastructure is mostly single-track, available for trains no longer than 600 m[52]. As far as the parallel road route is concerned, the M86 highway runs only along the Csorna-Szombathely section.

The Zagreb-Rijeka railway route is single-track. The second track on the section to Karlovac is to be built by 2023[53]. Moreover, due to the mountainous geometry, the corridor only allows low speeds. The final section of the line, opened in 1873, was considered a technical masterpiece due to the very large height difference at the descent to the coastal town. The uphill section of Rijeka-Lokve requires locomotives with increased power or two in each train to drive trains; the train length can only be up to 360 m. Therefore, a new line is planned to be built by Novi Vinodolski, with access to Rijeka along the coast[54]. In contrast to the railway infrastructure, the Zagreb-Rijeka link is being completed on the A1-A6 highways.

51 HŻ Infrastruktura, https://www.hzinfra.hr/1787, https://www.hzinfra.hr/rekonstrukcija-postojeceg-i-izgradnja-drugog-kolosijeka-na-dionici-krizevci-koprivnica-drzavna-granica
52 Transport Market Study 2018, Amber Rail Freight Corridor
53 HŻ Infrastruktura, https://www.hzinfra.hr/rekonstrukcija-postojeceg
-i-izgradnja-drugog-kolosijeka-na-dionici-hrvatski-leskovac-karlovac-na-zeljeznickoj-pruzi-m202-zagreb-gk-rijeka/
54 HŻ Infrastruktura, https://www.hzinfra.hr/naslovna/odrzavanje-i-modernizacija

Rijeka – southern end of the Croatian branch of the Baltic-Adriatic Corridor. Photo by Łukasz Zaborowski

The Carpathian axis

The proposed new axis – Warsaw-Košice-Debrecen-Arad – links the Baltic and the Black Sea regions. There is no designated TEN-T core network corridor there. The individual sections are part of the RFC Amber corridor or other elements of the TEN-T network. In the north, the Carpathian axis is connected with the North Sea-Baltic Sea corridor in Warsaw, or upstream on the Białystok-Warsaw section. In the south, the Orient and Rhine-Danube corridors share the same route.

In view of the deficiencies of the railway network in eastern Poland, the RFC Amber corridor should be proposed as the initial course of the axis. Similarly, the section Tłuszcz-Dęblin-Radom-Kielce-Tunel-Mysłowice has been included in the Baltic axis of the Three Seas. The Carpathian axis branches off via another section of the Amber corridor, i.e. Tunel-Krakow-Tarnów-Nowy Sącz-Prešov-Košice. The section from Tarnów to the Slovakian border is narrow: elongated, mostly single-track, with tortuous geometry and speeds usually below 80 km/h. Moreover, the unfavourable lengthening of the route is caused by a parallel course of the Krakow-Tarnów section; in both junctions the route turns at a right angle.

The network development plans provide for two alternative shortcuts. The first one is the new line (Krakow-) Podłęże-Piekiełko together with modernisation of the existing line to Nowy Sącz.

The construction is to be completed in 2027[55]. The second, larger shortcut will be the new Busko-Zdrój-Tarnów-Nowy Sącz line, together with the modernisation of the Kielce-Busko-Zdrój line, planned as part of the Central Communication/Transport Port. The construction should be completed in 2032[56].

In Slovakia, most of the route – up to the Kysak junction – is also single-track, but with better properties. The Amber corridor behind Košice turns south-west, towards Budapest. The potential route in the Carpathian axis is determined as Nyíregyháza, followed by Debrecen, the second largest city in Hungary. The section of the missing line can be laid in two ways: from the Hungarian line Hidasnémeti-Miskolc to the line Mezözombor-Nyíregyháza, or from the Slovak line Košice-Czop directly to Nyíregyháza. The latter line is part of the northern branch of the Rhine-Danube corridor. The proposed section would be 30-50 km long. Further on, the Nyíregyháza-Debrecen line, part of the Mediterranean corridor, joins the axis.

The second missing section is Debrecen-Oradea. It is about 60 km long, and some existing lines can partially be utilised there. The further course of the route includes the rail corridor in the complementary network - TEN-T - Oradea-Arad. The line is one of the main lines in Romania, but it is not electrified. It has also been excluded from the Rail-2-Sea project, which, after all, envisages connecting the Baltic and Black Sea[57], just like the Carpathian axis proposed herein. It would be beneficial to consider an expansion of this project, especially in view of how much of the Romanian railway network has been included. The Oradea-Arad line, with a favourable straight line, is just over 100 km long.

For the road network, routes in the TEN-T core network (not to be confused with the core network corridors) are included in the Warsaw-Arad route, i.e. Warsaw-Lublin-Rzeszów and Prešov-Košice, and in the complex network of Rzeszów-Prešov and Debrecen-Oradea-Arad. There is no corridor in the Košice-Debrecen section.

However, unlike the railway route, the road connection of the eastern Baltic and Black Sea regions is provided for by the Via Carpathia concept, bypassing Warsaw on the eastern side. In the north, the conceptual route starts in Klaipeda, to join the Lithuanian route of the Via Baltica, and thus the North Sea-Baltic Sea corridor. From this corridor, the Via Carpathia turns southwards in Ełk, Poland, as the planned S16 express road, which leads to Knyszyn.

55 Polish Railways, https://www.plk-sa.pl/biuro-prasowe/informacje-prasowe/istotny-krok-do-budowy-linii-podleze-piekielko-4093/
56 Central Communication/Transport Port (Poland), https://www.cpk.pl/pl/inwestycja/kolej
57 Three Seas, https://projects.3seas.eu/projects/rail-2-sea-modernization-and-development-of-railway-line-gdansk(pl)-constanta-(ro)

Next, Via Carpathia is the planned S19 expressway of Knyszyn-Białystok-Lublin-Rzeszów-Barwinek[58]. Only the Sędziszów Małopolski-Rzeszów section is completed. The Lublin-Sędziszów section is under construction, and the Rzeszów-Barwinek section is under design. The sections north of Lublin are at the bidding stage. The entire route is expected to be completed in 2026.[59]

In Slovakia, the Via Carpathia is the planned R4 expressway. On the Prešov-Košice section it converges with the existing D1 highway. From the R4, the section from Košice to the Hungarian border is completed, although there is no connection with the D1 highway. The missing section from the Polish border to Prešov is to be built by 2030. In Hungary, the Via Carpathia runs through Miskolc and Debrecen via the M30-M3-M35-M4 highways or expressways. Only the M30 section from the Slovakian border to Miskolc is under construction; it is to be completed in 2021. In Romania, the said Carpathian axis ends at the Arad junction. The planned Via Carpathia, on the other hand, goes on to Timișoara, where it splits into two branches towards Bucharest and Sofia. These passages converge with the already mentioned Rhine-Danube and Orient corridors. However, the Oradea-Arad section, which is key here, is not due to be completed until 2025.[60]

58 General Directorate for National Roads and Motorways (Poland), https://www.gddkia.gov.pl/pl/926/autostrady
59 General Directorate for National Roads and Motorways (Poland), https://www.gddkia.gov.pl/pl/a/40071/Budujemy-i-planujemy-Na-jakim-etapie-sa-planowane-drogi-w-woj-lubelskim, https://www.gddkia.gov.pl/pl/a/39994/Drogi-ekspresowe-i-obwodnica-w-woj-podlaskim-Sprawdzamy-stan-realizacji
60 Three Seas, https://projects.3seas.eu/projects/via-Carpathia-submitted-by-poland

Conclusions

The following conclusions can be drawn from the comparison of theoretical runs of connections within the Three Seas area, and the transport corridors formally designated in the European Union. Firstly, establishing a new corridor along the Carpathian axis should be considered. This would include a railway connection, which is one of the branches of the RFC Amber corridor within the section from Warsaw to Košice. However, this route should be shortened because of the planned expansion of the railway network. The first will be the planned Krakow-Nowy Sącz route. The second one – Kielce-Tarnów-Nowy Sącz – currently at the planning stage, could be given higher priority in the design of the Polish CPK system. In the further course of the railway connection, it is necessary to supplement the infrastructure on the Košice-Nyíregyháza and Debrecen-Oradea sections, and to modernise the Oradea-Arad line. As a road connection, the proposed Via Carpathia on the Knyszyn-Białystok-Lublin-Rzeszów-Košice-Debrecen-Arad section is located in the proposed corridor. The extension of the Carpathian axis to the south is the existing Orient corridor.

We should also focus on areas where the paths, which are important for the cohesion of the Three Seas, are polylinear, connecting TEN-T corridors established to serve other directions. The Baltic-Adriatic axis, so important for the Three Seas, is a combination of the North Sea-Baltic and Baltic-Adriatic corridors. Their current intersection does not take into account the optimal course of rail, freight and road routes along this axis. Consideration should therefore be given to supplementing the network with appropriate connections between Warsaw and Katowice. The same consideration should also be given to the north-oriented connection from Budapest, as in the layout of European corridors.

Further conclusions come out from the assessment of the infrastructure equipment of the existing TEN-T core network corridors. In the Baltic axis, the main missing part in the railway network is still, of course, the planned Rail Baltica route. In the Baltic States, the rail corridors are equipped with broad-gauge infrastructure, which is inconsistent with the European network. The northern part of the Polish section of the route is also a bottleneck. A similar Via Baltica highway connection in the Baltic States and in the north-east of Poland does not yet exist except for short sections. However, works are under way to build this infrastructure. The railway lines in Poland on the border with Slovakia are a bottleneck in the further part of this axis. Road infrastructure is missing on both sides of the border as well.

The railway infrastructure in the Adriatic region is a bottleneck. The modernisation of selected sections is underway, but there is still a long way to go before the railways regain competitiveness,

given that a network of highways with much more favourable distances already exists in the whole region. In the Black Sea axis, there are infrastructure constraints in Romania. This is particularly true for the railways. In the road corridor, the trans-Carpathian section is the only major missing piece. High-standard rail and road connections are available only from Bucharest to Constanţa.

A very weak point of connections in the Three Seas area is the section of the Orient corridor from south-western Romania to Sofia. It is a single-track, very long railway route with outdated geometry. Hence the demand to shorten it, at least in the section Drobeta-Turnu Severin-Vidin. There is also no highway connection in this area; however, this is planned as the southern section of the Via Carpathia. The situation in the branch of the corridor from Sofia to the port of Burgas is much better.

The above comparisons lead to the conclusion that the problem of the Three Seas comprises not only the shortcomings of the transport infrastructure, but also the inter-branch imbalances. There are modern highways on many of the routes, while railway lines may remain as their former, as-built standard from one and a half centuries ago. "The railway must come out of the shadows" - reads one of the slogans of the Three Seas Initiative. In order for it not to remain an empty declaration, the change must take place at the planning stage. And yet, road network development plans are continuing, despite the perceived disproportion, detrimental to railways.

In this view, inland waterway transport, which was beyond the scope of this study, should not be ignored. While rail is several times more energy-efficient than road transport, water transport is unrivalled in relation to land transport. The opening of the channel connecting the Danube and Oder basins, and thus the Black Sea catchment area, will be a worthy crowning achievement for the transport cohesion.

Photo: property of the Three Seas Initiative

Robert ZAJDLER[61]

Cooperation in the energy sector in the framework of the Three Seas Initiative. Current state and challenges.

Introduction

Building regional forms of cooperation has been one of the pillars of development of the European Union's internal market. Historical conditions for operation of electricity and natural gas sectors of Central and Eastern European countries have created the need to establish a political and organisational framework for the creation of common mechanisms for development of infrastructure, and market mechanisms to increase the level of energy security in the region. The Three Seas Initiative[62] aims at modernising the energy sector. Change in market conditions makes it necessary to increase the scope of this cooperation, which seems to have already been noticed by the countries concerned. The aim of this article is to analyse activities associated with the Three Seas Initiative in the electricity and natural gas sector, and to propose directions for further development.

Photo by Łukasz Zaborowski

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[62] Member States of the Three Seas Initiative (in alphabetical order): Austria, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovenia and Slovakia.

1. Political context

The origins of the Three Seas Initiative date back to 2014, when the political need to deepen regional cooperation in order to gradually eliminate differences in economic development, security (including energy security), and the quality of infrastructure (energy, transport and telecommunications) between the countries of Central and Eastern Europe and the other Member States of the European Union was noted.

The Three Seas initiative draws on the geopolitical idea of "intermarium", as well as on the mechanisms of cooperation developed within the existing regional models in the European Union, especially the so-called Visegrad Group (Łapaj-Kucharska, 2019; Kurečić, 2018; Gniazdowski, 2017; Przygoda, 2017). The above-mentioned experiences build a model of cooperation based on multidimensional expectations.

The 70th Session of the United Nations General Assembly in 2015, where representatives of 12 countries announced its creation, was key to giving the Three Seas Initiative a political dimension. Successive bilateral and multilateral political meetings shaped the current model of cooperation, based on significant political support, enhanced bilateral and multilateral economic cooperation. A secretariat was established, integrating organizational and financial activities (Łapaj-Kucharska, 2019; Wiśniewski, 2017; Gniazdowski, 2017).

An important role in political support of such a form of regional cooperation was played by the long-standing US policy, in particular the role played by the successive Presidents of the United States, who pointed to the need to build "Europe whole and free and at peace" (Zbińkowski, 2019; Kurečić, 2018, Wiśniewski, 2017; Pouliot, 2010). It is precisely this holistic approach to Europe's development model that has been highlighted in this US policy, taking into account the economically diverse European Union, especially in terms of infrastructure, standard of living and directions of development, that has provided an important stimulus for the development of cooperation within the framework of the Three Seas Initiative.

The goals of the Three Seas Initiative were defined in a joint declaration, adopted during the summit in Warsaw (2017). According to this document, the initiative aims to improve communication/transportation among European Union countries located between the Adriatic, Baltic and Black Seas. It is aimed at development of cooperation with businesses through the implementation of joint development projects and at the strengthening of the participation of the business sector from the Three Seas region in the European Union's single market. The Three Seas Initiative is designed to complement activities carried out under other initiatives, and thus - building synergy.

These actions are to reduce the differences in potential and in economic and social development between the region and other European Union countries, facilitating the achievement of real convergence, and ultimately cohesion within the European Union (Łapaj-Kucharska, 2019; Gniazdowski, 2017). The Three Seas Initiative is therefore primarily a modernization initiative for this part of Europe (Przygoda [Adventure], 2017). Within its framework, the development of cooperation in three strategic sectors (energy, transport and telecommunications) is crucial.

From the point of view of the energy sector, the key aspect of initiating cooperation was to increase the energy security of countries in the region. The market conditions indicated below gave rise to the need to strengthen regional cooperation in order to rapidly develop electricity and natural gas markets. Actions taken so far, primarily based on NATO activities, have gradually strengthened the security of the countries of the region (Hamilton, 2013; Rachwald, 2011; Pouliot, 2010). This was also supported by actions within the European Union, where energy security and security of supply regulations took into account, to an increasing extent, the diversified position of individual states and regions in Europe, thus generating a differentiated approach to the development of energy markets (Zajdler, 2019; Gałczyński et al., 2017; Zajdler et Gałczyński, 2014).

This aspect of cooperation required an infrastructural reinforcement from the very beginning. Efficient infrastructure in energy sectors has always been important for a well-connected and integrated European Union. Strengthening intra-regional energy corridors reduces dependence on external fuel and energy suppliers, strengthening the diversification of sources and directions of supply, and thus the flexibility of the internal energy market. In this context, the Trans-European Energy Networks (TEN-E) have been of strategic importance from the outset. The political and economic emphasis placed on their development by the European Union has provided significant support for the strengthening of security and cooperation within the region of Central and Eastern Europe. The financing of the development of trans-European energy networks also provided significant support for the integration of the state of the Three Seas Initiative.

Progressive development of infrastructure makes other areas of cooperation particularly important under the Three Seas Initiative. The first one is to cope with the evolving energy model, migrating towards a hybrid system, based on synergy of natural gas and electricity markets and progressive digitization and decarburization. The second one is the need to increase private investment in regional projects in the energy sector. However, in order to better understand these directions of change, it is necessary to first look at the key parameters of the energy markets in the countries of the Three Seas Initiative.

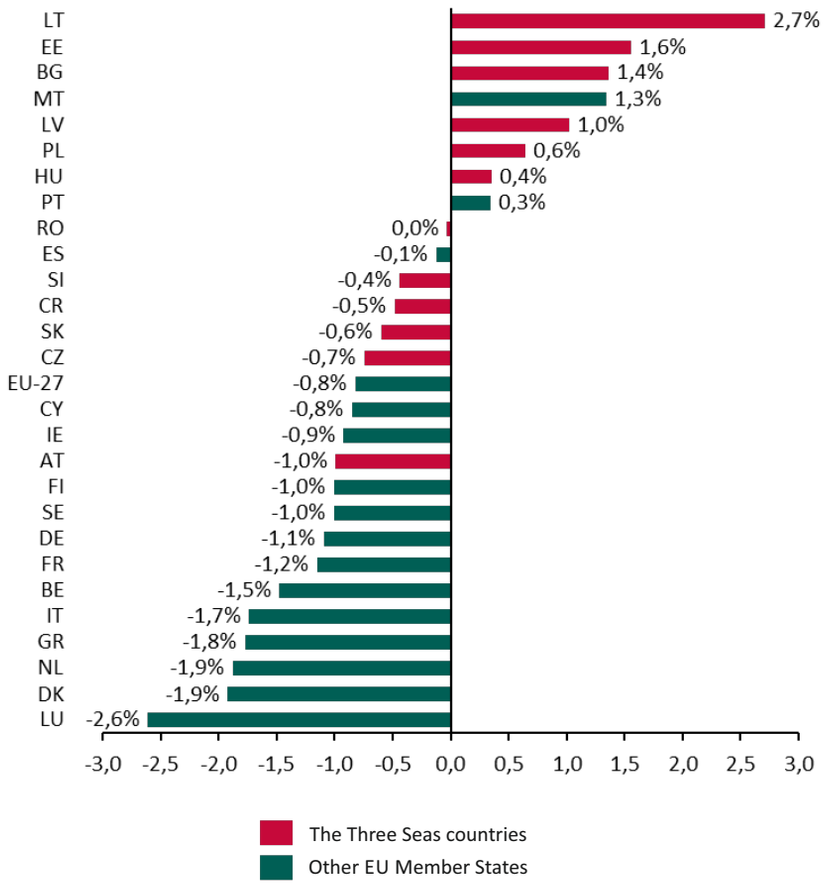
2. Energy market conditions

The countries of the Three Seas Initiative are extremely diverse in terms of their size, population and economic structure. These significant discrepancies can also be seen in terms of the key parameters for assessing energy markets. Analyzing the period 2010-2018/2019, we can additionally observe increasing convergence of energy markets in the countries of the Three Seas Initiative with the rest of the European Union. Despite these conditions, the following differences are notable, which seem to have given rise to the initiation of this form of cooperation, and may be important in the context of the directions of its future development.

2.1. Consumption of energy productsa

The consumption of energy products in the countries of the Three Seas Initiative (with the exception of Austria) is lower than in the countries of the so-called old European Union (see Fig. 1). This is largely due to historical conditions. A different model of development of these countries after WWII resulted in a lower level of economic and social development. An indicator emphasizing this difference is the consumption of energy products. A significant reduction in the consumption of energy products in the last decade took place in the countries of the so-called old European Union, while the countries of the Three Seas Initiative (with the exception of Austria) were catching up by increasing per capita consumption of energy products or reducing it only slightly.

Fig. 1. Average annual change in consumption of energy products between 2010 and 2018.



Source: Eurostat

Recent years, however, have seen a levelling of consumption, which indicates progressive economic development, and a gradual reduction of economic backwardness. The evolution of consumption of energy products over the period 2010-2018 (see Fig. 1) emphasizes this division. All countries of the Three Seas Initiative experienced either an increase in consumption or a slight decrease, while the average indicator was consistently above the average for the European Union (EU-27), as well as generally more than in the Member States of the so-called old European Union. The only exception here is Austria. This can mean both faster economic development, which requires greater consumption of energy products by industry, bridging the gap in social development, and energy inefficient industry, which requires investment.

Regardless of the circumstances, however, this variable indicates the need for further modernization investments, to change the structure of the economy and its energy efficiency. In as much as it can be said that the countries of Western Europe have already reached their peak in the consumption of energy products, in the countries of the Three Seas Initiative this peak has not yet been reached. Energy systems, manufacturing and transport infrastructure must be constantly developed in order to meet the growing demand. Their integration at an international level is also

crucial, making it possible to supplement the supply of energy products in the event of a lack of supply in a given country. Furthermore, interconnected systems make it possible to develop competition in the markets, leading to greater efficiency.

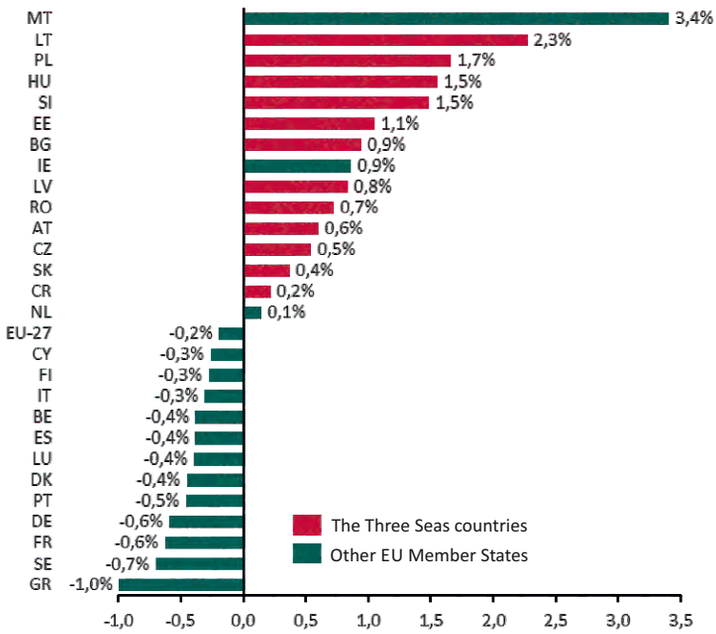
Photo by Łukasz Zaborowski

2.2. Consumption of electricity

Another important indicator is the change in electricity consumption. It is the main energy product, and the progressive electrification of industry, transport or heat (cold) systems makes it increasingly important.

The last decade has seen a decline in energy consumption in the European Union (see Fig. 2). In the countries of the so-called old European Union, only Ireland, Austria and the Netherlands experienced growth, while the largest countries (Germany and France) experienced average annual decreases of around 0.6% between 2010 and 2019. At the same time, in each of the countries of the Three Seas Initiative, increases ranging from 0.2% on average per year in Croatia to 2.3% in Lithuania were recorded.

Fig. 2. Cumulative average annual growth of energy consumption in European Union countries in 2010-2019.[63]



Source: Eurostat

The increase in demand for energy must be explained by economic development and modernization of the economy, which is also confirmed by the trends observed in these countries. However, it also means that investment in new electricity generation capacity is needed. At present, power generation based on hybrid solutions, including renewable energy, energy storage facilities, aggregating the demand side of the market, with the participation of digitalization (ICT) solutions, is not a solution to this problem, due to problems that remain unresolved, such as those related to security or stability of supplies. Taking into account the direction of development proposed by the European Commission in the regulations, which model the electricity and natural gas markets, as well as in the Green Deal horizontal program, decarbonized hybrid energy is the current direction of development. However, it is necessary to take action during a transitional period, which may take several years. Therefore, investments in the integration of the infrastructure of the electricity and natural gas markets, as well as models for linking these markets, can provide the required level of resource adequacy in the short and long term (resource adequacy or risk preparedness). As can be seen from the joint investment projects proposed for implementation under the Three Seas Initiative, it seems that this direction of development will dominate in the future.

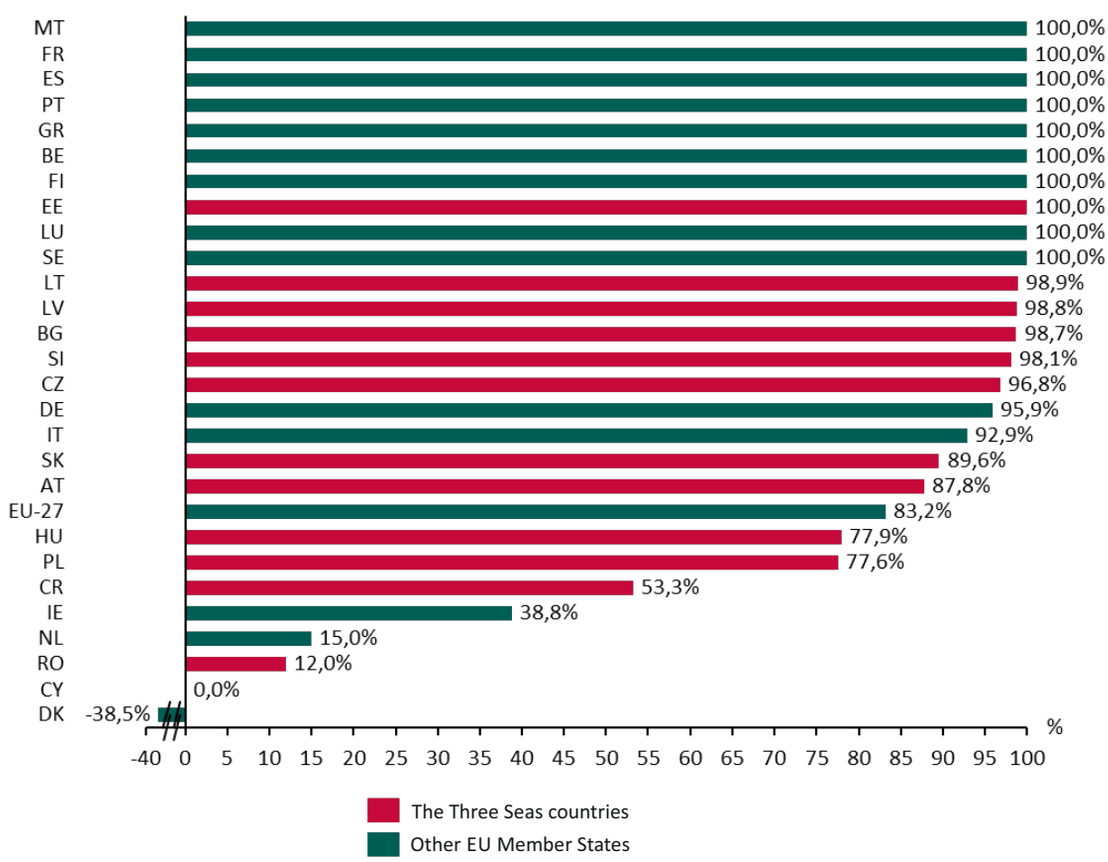
61 The analysis presents data for the European Union excluding the United Kingdom.

2.3. Dependence on imports of energy

Given the diversified oil and liquid fuel supply infrastructure, and the existence of a global market in this area, dependence on imports has not been a major economic or political problem. Similarly, as far as electricity is concerned, the demand is usually based on domestic generation capacity. The key problem for the countries of the Three Seas Initiative was their dependence on natural gas imports.

The demand for natural gas not only in the countries of the Three Seas Initiative, but in almost the entire European Union, is covered primarily by imports. In 2018, the only net exporter of natural gas in the European Union was Denmark. It is notable, however, that out of the 6 Member States whose dependence on imports was less than 80%, as many as 4 are among the Member States of the Three Seas Initiative. Figure 3 shows the level of dependence of European Union countries on natural gas imports.

Fig. 3. Import dependence on the natural gas market in the European Union in 2018.



Source: Eurostat

Although, based on Figure 3, one can get the impression that dependence on natural gas imports of the countries of the Three Seas Initiative is lower than in other European Union Member States, if the above data is related to the possibility of providing imports from more than one source, it turns out that a large proportion of the countries of the Three Seas Initiative is particularly dependent on a single source of supply. According to Eurostat's information, in 2018, dependence on a single supplier was 95% and more in Estonia, Latvia, Slovakia, Bulgaria, the Czech Republic and Hungary[64]. The countries that have invested in LNG infrastructure - Lithuania and Poland - could already benefit from diversification, as their dependence on a single supplier was 57% and 62% respectively.

The interconnection of European gas systems leads, on the one hand, to the convergence of natural gas prices and equal conditions of competition and, on the other hand, it ensures security in the event of a disruption of supplies. The lack of a sufficiently developed north-south infrastructure in the countries of Central and Eastern Europe meant that the opportunities to benefit from the European Union's single natural gas market were significantly limited for the countries of the Three Seas Initiative. Therefore, in the initial period, the development of this type of infrastructure was a priority. The gas security system also includes import terminals for liquefied natural gas (LNG). They represent an important alternative to the supply of natural gas, both through pipelines and in the form of the so-called small distribution of LNG. Today, LNG terminals are in operation in Lithuania and Poland, and the Three Seas Initiative countries are planning to expand their terminal networks in Croatia or Slovenia.

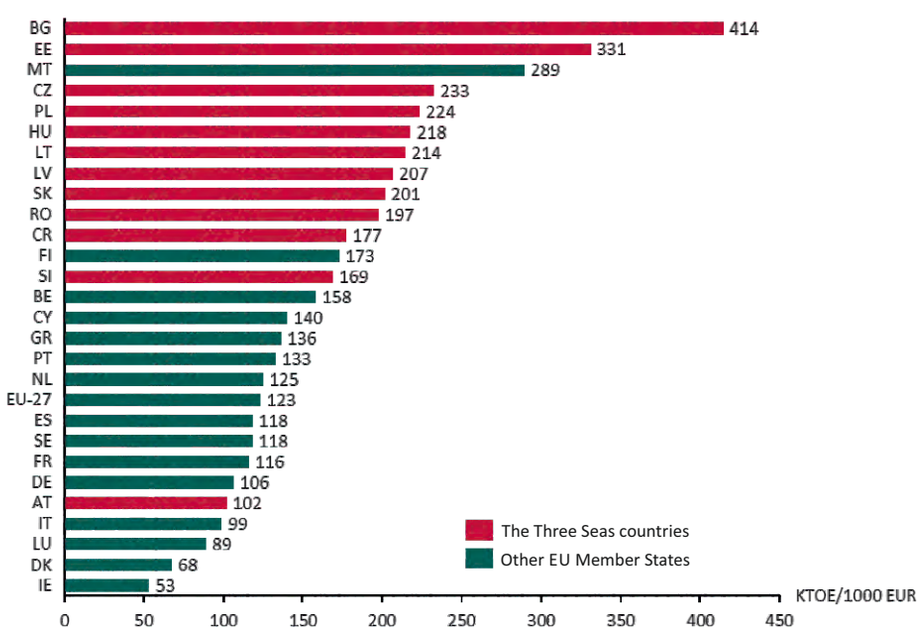
64 No data available for Austria

2.4. Energy intensity of the economy

The final important element identifying the conditions of energy markets in the countries of the Three Seas Initiative is energy intensity of the economy. Energy intensity is related to the structure of industry, but also to its modernity. In the most developed countries of the world, economic growth is not always accompanied by an increase in consumption of electricity or other energy products. This is mainly due to the structure of their economies, and the branches in which the greatest added value is produced.

The countries of the Three Seas Initiative are characterized by high energy intensity of industry. Of these countries, only Austria had a low energy intensity rate. The high energy intensity of the economy is due to the lack of modernization of production assets as well as other non-industrial energy intensive industries. Furthermore, developed countries are experiencing a shift in value creation from energy-intensive industries to less energy-intensive services. This process has already started in the countries of the Three Seas Initiative, but it is in a less mature phase than in Western European countries. In the industrial sector, the added value is currently produced in the countries of the Three Seas Initiative at an earlier stage of the value chain, while less energy-intensive links with higher added value are often located in more developed countries. All these relationships show that the countries of the Three Seas Initiative still have many goals to set, and a number projects to finalize. For them, it is important to develop their own experience and industrial property.

Fig. 4. Energy intensity of the economies of the European Union in 2018.



Source: Eurostat

3. Infrastructure development

Taking into account the aforementioned conditions for the functioning of energy markets in the countries of the Three Seas Initiative, it is evident that infrastructure is of key importance for the functioning of competitive energy markets, especially electricity and natural gas. Typically, energy infrastructure has been developed within the borders of each country. The development of today's European Union ensured gradual integration of the infrastructure and its use in cross-border trade in electricity and natural gas. However, despite the existence of cross-border flows of electricity and natural gas in the early days of the European Union, its role was largely technical, i.e. related to ensuring the security of the transmission systems of neighboring Member States, rather than to strictly commercial bartering.

The integration of the internal electricity and natural gas market, which began in the 1990s, required particular emphasis to be placed on infrastructure development. The Treaty of Maastricht (1992) played a special role in this area, as it sanctioned regulatory activity of the European Union in the field of energy, adding to Article 3 of the Treaty on European Communities (TEC), as one of the areas of activity of the then European Union, the policy for the development of trans-European networks (i.e. electricity and gas networks), and measures in the field of energy, in addition to the existing issues related to: building the internal market, ensuring competition on the internal market, approximation of legislation in the field of the internal market, environmental protection policy (Nowacki and Przyborowska-Klimczak, 2012; Schubert et al., 2016). It also introduced a new chapter in the European Union's primary law on trans-European networks (Articles 129b-129d TEC), according to which the European Union was to contribute to the establishment and development of trans-European networks, also in the energy sector. This direction of development was to provide a more efficient interconnection of national electricity and gas systems into a single European Union framework, and to ensure the interoperability of interconnected networks (Zajdler, 2019). Further changes in primary law (e.g. the Treaty of Lisbon), and secondary law of the European Union (successive liberalization packages) resulted in an increasingly effective integration of national markets. However, insufficient development of cross-border infrastructure was still seen as one of the barriers to the effective development of the internal market for electricity and natural gas. This issue was also important for building common mechanisms for energy security and security of supplies.

Insufficient development of cross-border energy infrastructure, especially in the region of Central and Eastern Europe, originated from historical conditions. The infrastructure of Western European countries was built, to a greater extent, on the model of mutual cooperation than the infrastructure of Central and Eastern European countries, which was based solely on relations with

the Soviet Union, with marginal emphasis on cooperation within the bloc of Central and Eastern European countries. The above-mentioned direction of development of cross-border infrastructure did not encourage North-South exchanges. Moreover, its less technologically developed model hindered cooperation between the countries of Central and Eastern Europe. The Three Seas Initiative was supposed to be one of the elements eliminating this historical past, ensuring mutual cooperation, and better concentration of funds from private investors and the European Union. In 2014-2020, EU funding (European Regional Development Fund, Cohesion Fund) for projects implemented under the Three Seas Initiative (transport, energy, digitization) exceeded 155 billion EUR, of which the largest beneficiary was Poland (63 billion EUR), the Czech Republic (18 billion EUR), Romania (17 billion EUR) and Hungary (16 billion EUR) (European Commission, 2018).

3.1. Characteristics of early infrastructure projects

The analysis of early investment projects of an infrastructural nature affiliated to the Three Seas Initiative[65] shows that particular emphasis is placed on the development and mutual integration of natural gas transmission systems: the interconnection of Poland's natural gas transmission systems with those of the Baltic States and Finland (GIPL project), the strengthening of the transmission infrastructure in Romania, and thus the transmission capacity with Bulgaria and Hungary (BRUA project), the construction of a bidirectional gas pipeline connecting Slovakia with Bulgaria via Hungary and Romania (Eastring project), the interconnection of Croatia's transmission system via Montenegro and Albania with the TAP (Trans Adriatic Pipeline) natural gas transmission system (Ionic Adriatic Pipeline - IAP project), or the creation of a new bidirectional gas connection, allowing better integration of the region's markets and integration with the Italian market (HU-SI gas interconnector project). These projects confirm that the key element of development was the strengthening and expansion of the existing natural gas transmission infrastructure, and thus the integration of the markets of the neighboring countries. Regardless of whether the investment was carried out in one or more Member States, its economic and geopolitical importance affected the whole or a significant part of the Three Seas Initiative region. Examples include the construction of a new bidirectional gas connection from Norway via Denmark to Poland, the expansion of the LNG terminal in Świnoujście (Poland) with a second terminal (FSRU in Poland), the expansion of Poland-Slovakia and Poland-Ukraine connections (Baltic Pipe project), or the construction of the "Compressor Station 1" in the Croatian natural gas transmission system with the construction of a convection pipeline to ensure gas transport towards Hungary (Compressor Station 1 project, Croatia). The above means that until 2018, the Three Seas Initiative involved primarily projects providing for the expansion

[65] See more on https://projects.3seas.eu [edition: 30/10/2020].

of north-south transmission systems in order to ensure better cross-border exchange of natural gas, and diversification of directions and sources of its supply. These interconnections were aimed at strengthening the possibilities of cross-border trade in gaseous fuels or ensuring bidirectionality of these connections.

The second important group of projects affiliated with the Three Seas Initiative[66] were LNG terminals. International trade in natural gas was inaugurated in the middle of the 20th Century, while globalization of the gas market began in the 1960s. At that time, investments were initiated on a wider scale in the two parallel existing distribution channels, i.e. gas pipelines and LNG terminals for both exports and imports. The discovery of new sources of natural gas, often in regions distant from the main supply routes of natural gas by pipeline, combined with the development of LNG maritime transport, led to a dynamic development of this market. In the first period, it operated largely on the basis of regional links. Over time, however, the development of international dependence led to the construction of a global LNG market, based on increasingly unified mechanisms of its functioning (Gałczyński et al., 2017; Zajdler, 2013). LNG will continue to play an important role in providing the European Union's energy security, but also changing the importance and model of gaseous fuel use. It is crucial to further develop the infrastructure that will improve the LNG supply and distribution chain, and will enable European Union Member States to have direct or indirect access to the global LNG market. This is important in the context of the regional development of the Central and Eastern European countries' market. This direction of development includes projects that are affiliated with the Three Seas Initiative, and which are financed from European Union funds under TEN-E, i.e. the construction of an LNG terminal on the island of Krk (Croatia), the construction of an LNG terminal in Paldiska (Estonia) or the purchase of an LNG terminal (FSRU) in Klaipėda (Lithuania).

The third group of projects are those related to the electricity market. Their goal is to integrate transmission systems, synchronize them in terms of voltage and frequency, thereby minimizing congestion and better integrating renewable energy sources. (SINCRO.GRID), synchronization of the power systems of the Baltic States with the model of the European Union (Harmony Link project), or construction of a pumped-storage power plant enabling increased flexibility of the power system, development of the balancing market and better integration of RES (PHES project).[67]

66 See more on https://projects.3seas.eu [edition: 30/10/2020].
67 See more on https://projects.3seas.eu [edition: 30/10/2020].

3.2. Directions of changes in demand for infrastructure investments

A much wider range of planned activities in infrastructure development is visible in subsequent projects submitted under the Three Seas Initiative.

Decarburization of energy systems is an important direction for the development of the energy sector in the next three decades. Achieving the climate goals for 2030 and 2050, which have been set at the European Union level, makes it necessary to make significant investments in infrastructure, and the model of functioning of energy markets. Energy production and use in all sectors of the economy account for more than 75% of greenhouse gas emissions in the European Union. Decarburization will require an increase in energy efficiency, and the development of the energy sector towards renewable energy sources, with a fast phase-out of coal, and the decarburization of natural gas. However, this objective must be achieved while also ensuring energy security and affordability of energy to consumers. It is therefore necessary to ensure the full integration, interconnection and digitization of the European energy market, while respecting technological neutrality. The transition to climate neutrality requires an intelligent infrastructure. Increased cross-border and regional cooperation will help achieve these objectives. Cooperation should focus on implementing innovative technologies and infrastructure, such as smart grids, hydrogen networks or carbon capture, storage and use, energy storage.

Therefore, adapting existing infrastructure and modernizing it is necessary. The funding rules for TEN-E investments will probably change in this direction, but other support mechanisms will also have to be adapted.

This direction of development can already be seen in new projects, both national and international, submitted for implementation under the Three Seas Initiative. They concern such initiatives as the construction of a CCGT generation source to ensure the flexibility of the power system, and thus the integration of RES (500 MW CCGT Power Plant project, Hungary), construction of 130-260 MW photovoltaic sources (Development of 130-260 MW PV solar power plant, Hungary), construction of a wind farm with a model of flexible use in the system, including green hydrogen production (Development of a Wind Farm Project, Latvia), creation of a storage facilities to ensure the flexibility of the power system (Installation of electricity storage facilities (200 MW), Lithuania). Some projects are focused on better digitization of the energy sector, e.g. creating solutions using ICT to optimize and increase the efficiency of system solutions (Interoperability solutions for a digitized and sustainable energy sector in the 3SI area in the field of energy storage, Austria, Czech Republic, Bulgaria, Poland, Croatia, Hungary, Slovakia), or the development of a distribution network in order to cope with hybrid energy (Development of intelligent electricity networks project, Hungary). Also,

there are smaller-scale projects that increase energy efficiency in the use of electricity (Development of Wood Fiber Pulp Production Facility, Latvia, or Introduction of Smart Outdoor Lighting Technologies, Latvia). There are also early initiatives related to the use of hydrogen in the economy (Launching a Hungarian-American pilot project in Hungary). These projects largely concern the change of the power system model towards a hybrid model that integrates distributed sources of electricity generation, in particular renewable energy sources, with energy storage systems and management of the demand side of the market. The hybrid model has been widely analyzed in the scientific literature (see e.g: Tina and Gagliano, 2011; Suchitra et al., 2016; Mohammad Rozali et al., 2013). However, it is crucial to secure the reliability of electrical systems, especially during the transition period (see e.g. Billinton and Allan, 1984; Mehrtash et al., 2012). These projects, if implemented, may provide a source of knowledge and experience for replication in other jurisdictions.

Among the new projects, there is less interest in natural gas projects. Submitted projects concern the expansion of gas connections (North-South Gas Corridor – Expansion of existing capacity between Hungary and Slovakia, ROHU – Second Phase project, or HUSIIT (Hungary-Slovenia-Italy natural gas corridor). They also concern the construction of an LNG terminal (Construction of a coastal LNG terminal Skulte Latvia), or the search for new gas sources (Extraction of unconventional gas). The above projects complement the main direction of development indicated above. They can also be considered as components allowing more efficient interconnection of the electricity and natural gas markets.

4. Directions for development of the energy market in the countries of the Three Seas Initiative

The above directions of infrastructure development of electricity and natural gas markets offer potential for integration within the regional market, and development of new goods and services. With the progressive process of liberalization of the EU electricity and natural gas markets, regional cooperation has become an essential element for the construction of a competitive and efficient internal market. On the one hand, providing solutions at the level of the entire European Union, and on the other hand, building cooperation mechanisms between neighboring Member States, is an element serving the integration of Member States' energy markets better.

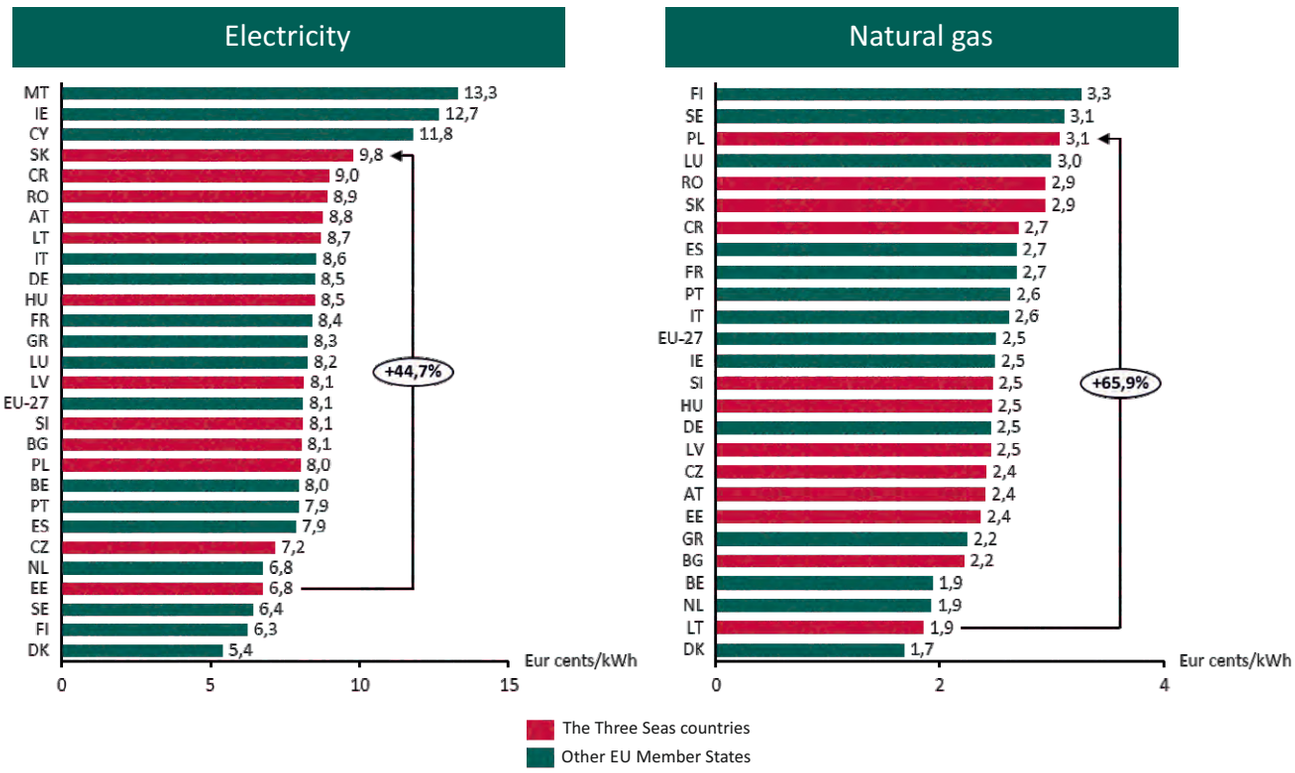
European Union legal regulations support this direction of development by creating cooperation mechanisms for various participants in the electricity and natural gas markets through the existing organizational frameworks (European Union Agency for the Cooperation of Energy Regulators, ACER; European Network of Transmission System Operators in electricity and natural gas, ENTSO-E/ENTSO-G), but also new ones for the electricity market (Association for the European Distribution System Operators, EU-DSO; Regional Coordination Centre, RCC), which does not exclude other initiatives in this area.

4.1. Differentiated electricity and natural gas prices for businesses

The still differing prices of electricity and natural gas for businesses in the region can be regarded as barriers. Energy integration is not only about energy security and security of supplies, but also about stimulating economic development. The diversity of electricity systems, the various sources of obtaining energy products, as well as the varying degrees of progress in creating competitive energy markets, influence the diversity of energy product prices. As shown in Fig. 5 below, the disproportions among the countries of the Three Seas Initiative reach almost 45% for electricity and almost 66% for natural gas. Such large differences lead to competitive imbalances in the region.

The goal of the European Union is to converge prices of energy products, which is made possible by the existence of cross-border connections. These interconnections among the elements of creating fluid energy product markets, and contribute to the development of competitive markets. Imbalance in the prices of energy products in the European Union's economy leads to the preference of one country over another.

Fig. 5. Electricity and natural gas prices for businesses in 1H2020 [68]



Source: Eurostat

As shown in Fig. 5 above, price convergence within the countries of the Three Seas Initiative has still not happened. Neighboring countries have significant differences in electricity and natural gas prices.

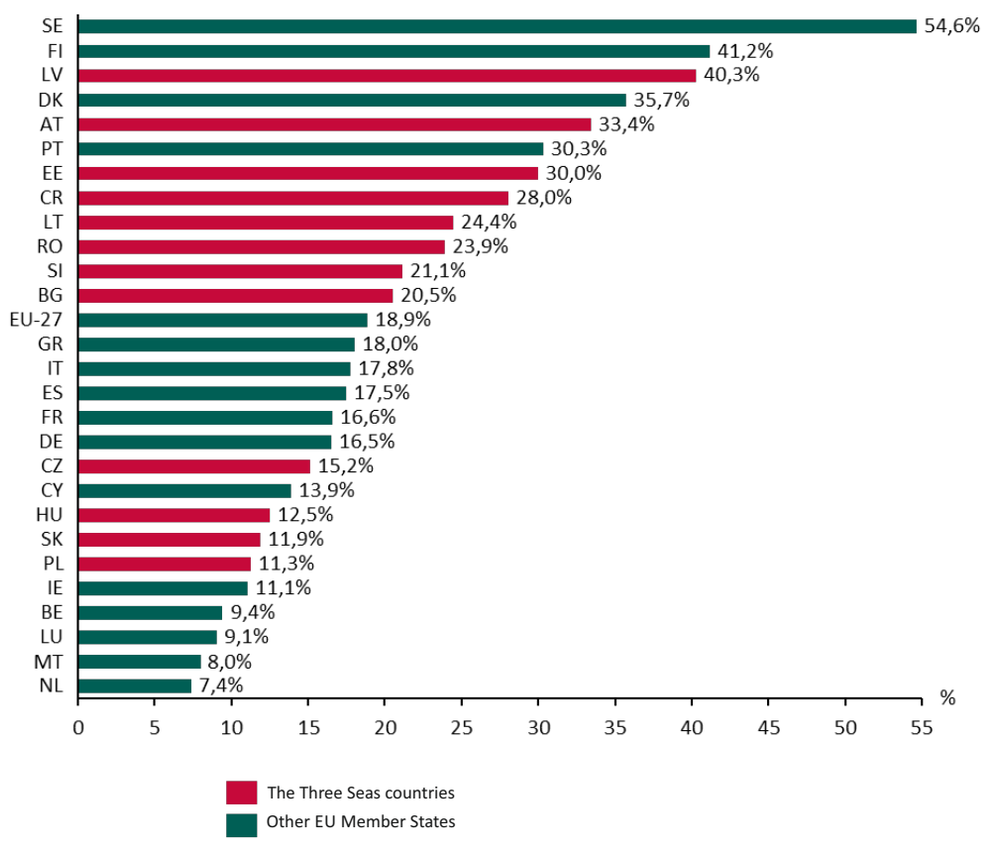
This may be due both to differences in national policies, and to the still insufficient level of available wholesale capacity of cross-border electricity and gas connections. Strengthening the infrastructure in this area, and especially increasing the effectiveness of mechanisms for using it for commercial purposes can build the synergy needed for industrial development, including in new areas such as the hydrogen economy and electro mobility.

[68] The price of electricity for businesses consuming 500-2 000MWh annually. Natural gas prices for businesses consuming 10,000-100,000 GJ per year.

4.2. Specialization in renewable energy technologies

The countries of the Three Seas Initiative show a huge diversity of power systems. They range from countries based primarily on coal fuels, through countries using nuclear energy, to countries where renewable energy sources dominate, or countries based largely on electricity imports. The use of renewable energy sources may become a specialty of the countries of the Three Seas Initiative. Today, 6 out of 10 countries with the largest share of renewable energy in electricity consumption are among the members of the Three Seas Initiative. The multiplicity of systems, and the experience of the countries allow for the use of their experience not only in the direction of selecting the most effective systems, but also in the direction of the development of energy industry branches according to the new trends. The obvious aspect is the need to invest in cross-border capacity, while the potential of the countries of the Three Seas Initiative goes further than just an exchange of energy goods.

Fig. 6. Share of renewable energy in consumption in 2018.



Source: Eurostat

Different experiences of these countries make it possible to utilize them, and build modern solutions based thereon, which integrate various systems into a hybrid model, based on digital solutions, but which respond to the need to ensure energy security (resource adequacy or risk preparedness), especially during the transition to a decarbonized economy.

4.3. The potential of human capital vs energy digitization

One of the directions of economic development of the European Union is the construction of modern energy systems which will use renewable energy sources, and modern digital technological solutions resulting in the construction of hybrid solutions. This is to be provided by creating a competitive economy without net greenhouse gas emissions in 2050, and ensuring considerate management of resources, as well as raising the level of energy security not only at the scale of the entire European Union, but also at regional and local level. The goal is to have no net greenhouse gas emissions in 2050.

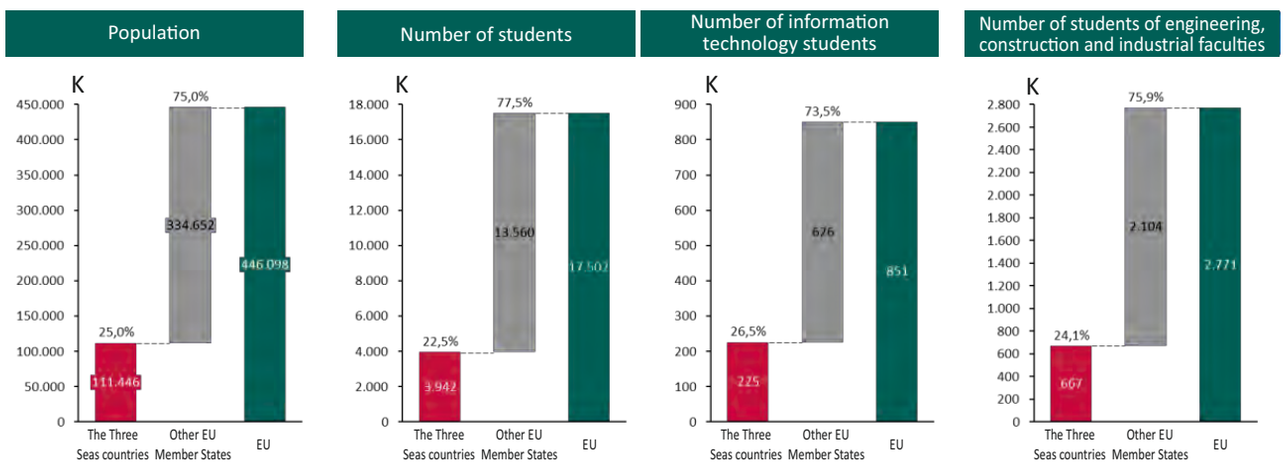
A greater degree of digitization of current industries in Central and Eastern Europe, including in the countries of the Three Seas Initiative, can support their development. The progressive digitization of a number of economic sectors triggered by new industries based on the Internet of Things (Internet of Things, IoT), the use of large amounts of data (Big Data) or artificial intelligence (Artificial Intelligence, AI) may change the structure of the countries in the region's economy towards a more technologically advanced one, bringing more added value with lower energy consumption. These innovative areas represent an important economic opportunity, which currently goes beyond the well-known models of energy sector use in the countries of the Three Seas Initiative. In the vast majority of cases, the added value generated by these solutions results from the use of data to streamline and automate decision making, product and service innovation and information exchange, leading to increased energy efficiency. Digitization can trigger greater integration within international value chains, for example, by creating incentives for investment in industry 4.0, which will also increase the possibilities for funding projects under the Three Seas Initiative.

Qualified personnel in the region of the Three Seas Initiative can be seen as a potential in this area. Development based on new technologies requires not only funds, but also qualified human capital. In many cases, the sectors of innovative technologies used in the energy sector are at a fairly early stage of development, still allowing new entities to join in. Building specialized niches in sectors of the future based on regional cooperation under the Three Seas Initiative seems to be one of the desired directions of development. Today it is already easy to identify the competitive advantages of the countries of this region.

Despite the economic backwardness compared with the countries of Western Europe, the share of college students in society is only slightly lower than that of the countries of the Three Seas Initiative in the population of the entire European Union. This means there are no negative conditions in this area, which would create the need to catch up.

In addition, the fields of study related to the information and communication technology (ICT) sector in the world aiming at digitization are more popular in the countries of the Three Seas Initiative than in the remaining countries of the European Union (see: Fig. 7). Therefore, capital for the development of digital energy is already being built today, based on own human resources. Apart from ICT students, engineers are educated in almost the same numbers as in other European Union countries, compared to the total population. The analysis of the number of college students allows us to say that the countries of the Three Seas Initiative are prepared to undertake their own innovative based on the development of knowledge and experience gained in 12 different markets of the countries of the Three Seas Initiative.

Fig. 7. The share of college students in the society compared to the share of the population of the Three Seas countries in 2018.

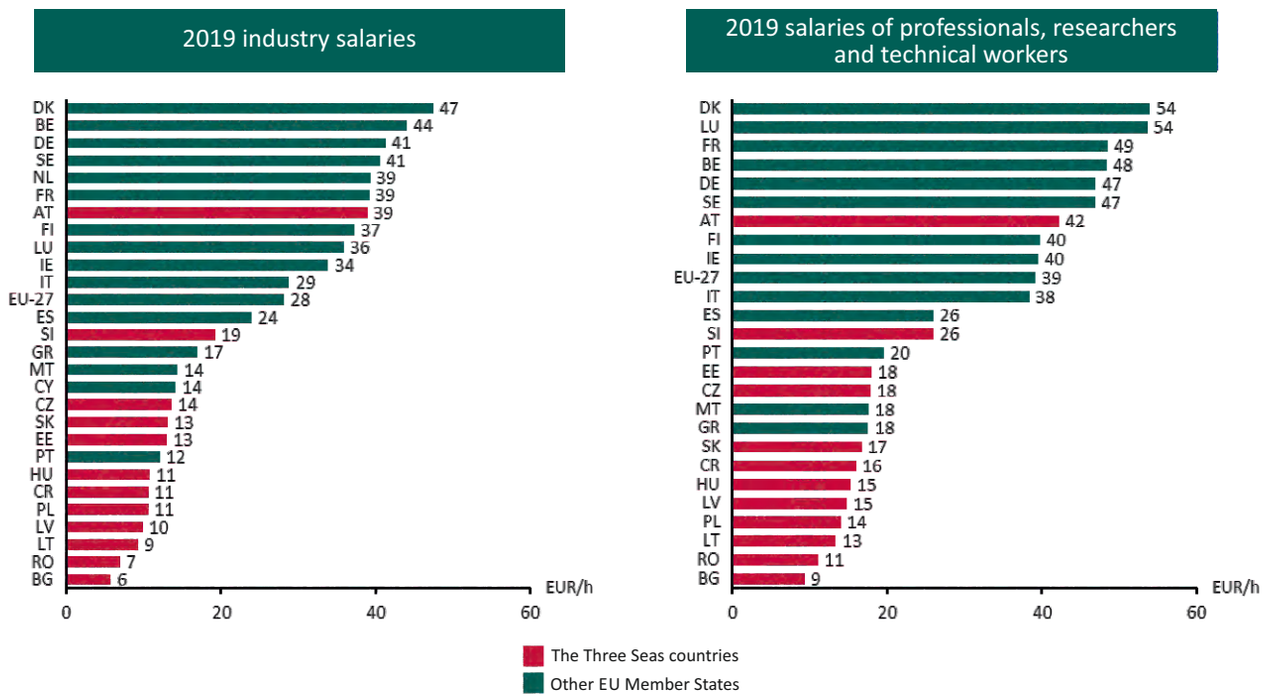


Source: Own study based on Eurostat data.

Qualified staff in the region, whose knowledge and experience are built in the markets of the countries of the Three Seas Initiative with different profiles in terms of the model of functioning of the energy sector can be seen as a competitive advantage, provided it is properly identified and addressed.

The advantage of the countries of the Three Seas Initiative can be seen as significantly lower wages both in industry and among qualified workers (see: Fig. 8). Employees in the countries of the Three Seas Initiative often cost two, three or even four times less than employees from the countries of the so-called old European Union. While "expenditures" for specialists with narrow specializations are similar in the entire European Union, the supporting staff will be much cheaper, so the implementation of the project requires lower financial outlays from the investor or financing institutions.

Fig. 8. Comparison of salaries in the Member States of the European Union in 2019. [69]



This can be particularly important for those employees whose knowledge can be used remotely or who are more mobile. Therefore, it applies to those specialties that are important for the development of energy digitization technologies. The task of the governments of the countries of the Three Seas Initiative should be to create a business environment which will hinder the intellectual drain, allow the development of qualified staff in the country or region, and thus create a high added value based on innovation in the economy; in this case, in the energy sector. The changes that are taking place in the model of functioning of the economy as a result of COVID-19, create an opportunity in this respect.

[69] Remuneration with taxes minus subsidies.

Summary

The Three Seas Initiative is an example of how the need to modernize and develop the national economy in its key sectors (energy, transport, telecommunications) establishes regional links, despite the different characteristics of these countries.

The need to modernize the North-South energy infrastructure in the region of Central and Eastern Europe in order to ensure energy security, and develop market mechanisms has led to investments in key elements of electricity and gas infrastructure. The combined national markets of the Three Seas Initiative countries provide an opportunity to better address the adequacy of energy resources, providing the basis for the development of trading mechanisms within the wholesale markets for electricity and natural gas, to the benefit of consumers.

The European Union's policy aimed at building a decarbonized hybrid model of electricity systems with close links to decarbonized natural gas is a new challenge for the countries of Central and Eastern Europe, including the countries of the Three Seas Initiative. It is a challenge for efficient use of the existing infrastructure, as well as for pointing out directions for the development of new ones. The existing human potential and the possibility of obtaining private funding for investment may result in the development of initiatives aimed at digitization of energy using information and communication technology (ICT) solutions, including artificial intelligence (AI). However, building economies of scale requires cooperation beyond the borders of one European Union Member States. This may be the direction of energy development within the framework of the Three Seas Initiative.

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Power engineering 1. High-voltage line from the Kozienice Power Plant, Photo: Łukasz Zaborowski

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