Evaluation of implementation of the VASAB 2010 vision in the area of mobility network and energy supply

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The evaluation report has been prepared within the framework of the INTERREG IIIB project "East - West Window" on behalf of the Ministry of Regional Development and Local Government of the Republic of Latvia.

The project "East - West Window" aims at the promotion of the territorial integration of North-West Russia and Kaliningrad into the Baltic Sea Region through joint spatial planning and development actions.

SIA AC KONSULTĀCIJAS

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1. Background of the report

1.1. The scope of the project "East-West Window"

The evaluation of implementation of the VASAB 2010 vision in the area of mobility network and energy supply is made according to the project "East-West Window".

The overriding aim of the East West Window project is to stimulate the development of the Baltic Sea Region (BSR) by improving railway services within the Region. The project is supported by the European Union BSR INTERREG III Neighbourhood programme – TACIS strand.

The project targets are to promote the territorial integration of North West Russia and Kaliningrad into the Baltic Sea Region through joint spatial planning and the development of activities in priority fields such as business development, transport and ICT development; to this can be added the planned development of how to use the sea and Integrated Coastal Zone Management. The project attempts to improve the level of awareness within the region regarding the existing development potential, its synergies and complementarities, and on methods regarding how this potential can be effectively implemented. Finally, the project should serve the VASAB (Vision and Strategies around the Baltic Sea) as a useful tool for its main goal – to prepare a long term perspective for spatial development of the BSR until 2030 according to the outline set by the Council of the Baltic Sea States.

VASAB represents the co-operation of 11 ministers responsible for spatial planning and development in the countries of the Baltic Sea Region (BSR). German and Russian Regional authorities are participating in the VASAB co-operation.

Project partners are: Latvian Ministry of Regional Development and Local Government (responsible partner for the project); German Federal Ministry of Transport, Building and Housing; Swedish Ministry of Enterprise, Energy and Communications; Polish Ministry of Regional Development; Danish Forest and Nature Agency; Swedish research institute Nordregio; Polish Maritime Institute; St. Petersburg's Administration; Kaliningrad State University; and the Russian Economic Developers Association (ASSET).

This study refers to Working Package II. Within the package, three types of activities are carried out:

1) A study of the present situation, development trends and political objectives, their consequences for transport and business development.
2) A formulation of recommendations concerning improvement of the situation from an economical standpoint and the territorial integration of the BSR.
3) A specification of further activities and the implementation of particular measures.

1.2. Objectives of the evaluation

The objective of this report is to evaluate the progress of implementation of the vision document "Towards a Framework for spatial development in the Baltic Sea region. Vision 2010", which was approved on Tallinn conference of Baltic Sea region ministers responsible for spatial planning and development.

The particular task was to focus on the transport network and energy supply. These themes are presented in the section "The strings: mobility network and energy supply" of the Vision 2010.

According to the Technical specification this report should include the information and analysis, based essentially on cartographic publications from 1994 and vision 2010 about:

- implementation of railway transport and ferry railway transport development included in the VASAB 2010;
- implementation of road network and ferry line development included in the VASAB 2010;
- implementation of pipeline, electrical energy supply and nuclear power development included in the VASAB 2010;
- implementation of inland waterways development included in the VASAB 2010;

The Vision 2010 itself does not contain measurable indicators for measuring the implementation progress. However, there are a number of comprehensive reports, laying down the situation in 1994 and the actual one. The basis of the report constitutes on information contained in following documents:

[1] Vision and Strategies around the Baltic Sea 2010. Towards a Framework for Spatial Development in the Baltic Sea Region. Third conference of Ministers for Spatial Planning and Development. Tallinn, December 7-8, 1994;

[2] Vision and Strategies around the Baltic Sea 2010. From Vision to Action; Stockholm report, 1996.

[3] Vision and Strategies around the Baltic Sea 2010. Wismar declaration and VASAB 2010+, September 2001

[4] Vision and Strategies around the Baltic Sea 2010. Background documents for VASAB 2010+ Spatial Development Action programme, September 2001;

[5] Towards an integrated Baltic Sea Region. Reporting of the results of the WG2 work in the East West Window project. Draft report, July 2008;

[6] European Commission. Directorate – General for Energy and Transport. TEN-T Trans-European Transport Network. Implementation of the Priority Projects. Progress Report, May 2008;

The main focus in this evaluation was put on following questions:

- What is the current progress in the areas of mobility network and energy supply? The analysis is provided on the base of available development indicators.
- Are the priority projects of the Vision 2010 implemented? Which deviations occurred and why?
- What are the main constraints in implementation of the Vision 2010 in the areas of mobility network and energy supply?
- Was the planned vision adequate and realistic? What are main lessons learned?

The evaluation deals with transport networks – railway, road and air transport. In the area of energy supply the evaluation deals with electricity supply and power plants.

There are several limitations met during the work on this report:

- The report is based on desk-review, no interviews have taken place;
- Lack of the common database on the priority projects realized in connection to VASAB 2010 made the evaluation outline very challenging;
- The project implementation reports either are not easy of access or are not updated;
- As the Vision 2010 itself does not contain measurable indicators, they were not created within this report. However, some data representing progress towards the goals has been collected and used to support evaluation findings and conclusions.

1.3. VASAB 2010 – Vision and Strategies around the Baltic 2010: initiative and document of this evaluation

In August, 1992, it was decided to jointly prepare a document on a spatial development concept "Vision and Strategies around the Baltic Sea 2010".

The purpose the document was:

- support the development of networks for cooperation in the BSR;
- provide a practical forum for the transfer of competence to the countries of transition to democratic market economies;
- improve the level of information in BSR countries on current trends and problems in other countries of the region;
- asses important infrastructure projects to receive international financial contributions;
- and promote spatial planning in the participating countries.

There were several considerations taken into account in preparing the vision:

The Baltic Sea Region (BSR) represents a total population of more than 100 million, producing a Gross Domestic Product (GDP) of approx. USD 1000 billion (1991). Historically, this powerful region was characterised by a high degree of spatial cohesion.

The Baltic Sea region must develop a strong identity. The Baltic Sea Region competes globally with other regions. It needs to develop its own profile and strengths. On this basis, its contribution to a common Europe will gain in value and strength.

Investors and other actors need a reliable planning framework. Spatial policies can contribute to provide investors and other actors with better information on future spatial development.

Short-term problems must not prevent from creating a longer-term perspective. The temptation to do "first things first" is overwhelming. But sustainable development will not be achieved unless as long-term planning perspective are provided.

Spatial structures in "Vision and Strategies around the Baltic Sea 2010", the so called Tallinn report of 1994 are described through three basic elements: the system of cities and urban settlements (called "pearls"), the interlinking infrastructure networks (called "strings"), and selected types of land uses (called "patches") in non-urban (rural) areas. They are promoted by "the system", i.e. planning institutions, rules and procedures.

The overall goal of the vision is to improve the quality of life built on: development, environmental sustainability, freedom and solidarity.

In general the vision consists of 14 goals.

The vision 2010 includes 3 goals for mobility network:

1) The BSR mobility network facilitates environment friendly transport.
2) The mobility network provides conditions for effective integration within the BSR and with the world.
3) Energy production relies increasingly on renewable and environment friendly sources of energy.

The overall strategy has three main issues: promote actions in line with the vision; promote the marketing of the BSR and continue the project of "Vision and Strategies around the Baltic Sea 2010" (VASAB 2010) in concentration with other institutions.

The Vision 2010 comprises the following 3 goals for the mobility network:

1. The BSR mobility network facilitates environment friendly transport
    - The development of the mobility network shall be linked with the planned urban network to promote environment friendly sea and railway transport.
    - Railway operation systems and the institutional set-up of the transport sector shall allow a maximum of market orientation in order to mobilise the potentials of environment friendly transport modes.
    - Combined transport and intermodal co-operation shall be enhanced with a view at promoting sea (and inland waterways) instead of land transport, railways instead of road transport, wherever feasible.
    - Care shall be taken that new major infrastructure projects minimise negative effects on the environment and maximise regional dynamisation.
2. The mobility network provides conditions for effective integration within the BSR and with the world
    - Effective border crossing shall provide conditions for the economic feasibility of physical infrastructure improvements.
    - Sea transport shall be supported through the promotion of the ring of “Baltic cities” with good links to their hinterlands. The potential for improvement of inland waterways seems to be limited, but should be studied in more detail (particularly in Poland).
    - Projected international transport corridors shall be planned in such a way that regional benefits will be taken into due account and environmental impacts be considered in time. Major missing links shall be eliminated (e.g.a. fixed link across the Oresund and across the Fehmarn Belt, links between Finland and Russian Karelia/Murmansk, a new bridge across the lower Elbe river).
    - Public commuter systems shall operate in and around major cities (particularly cities marked as European or Baltic city regions). Long-distance road transport shall be minimised through improved port, sea transport and railway services.
    - A functioning system of regional communication lines shall support regional development and minimise travel needs. “Information expressways” shall bind the BSR regions together and link them with western Europe and other continents.
    - Countries in northern, central and eastern Europe shall be linked to North Sea oil and gas sources via new sea port installations (e.g. Lithuanian Butinge and Latvian Liepaja, linked to the Lithuanian refinery Mazeikiai) and/or new gas pipelines (Norwegian gas via Sweden or British gas via Denmark). The Nordic, eastern and western electricity networks shall be linked together to form one common energy grid.
3. Energy production relies increasingly on renewable and environment friendly sources of energy
    - In view of the greenhouse effect efforts shall be made to biologically bind carbon dioxide. Spatial planning for areas suitable for bioenergy production and for local energy systems can support a sustainable energy supply.

- For the location of new power plants, or the extension or rehabilitation of existing ones, international concertation shall be sought and Environment Impact Assessment be prepared according to the Espoo Convention.

2. Implementation progress of the VASAB vision and strategy laid down in the Tallinn report in the area of mobility networks

2.1. Overall progress towards the VASAB vision laid down in the Tallinn report

The VASAB vision and strategy laid down in the Tallinn report of 1994 have been based on the observed deficits related to the urban system and regional disparities at that time. The problematic issue addressed within the "Strings" – element of the VASAB vision is the need to upgrade the transport links in order to improve the connectivity within the Baltic Sea region and of the Baltic Sea region with other regions in Europe and to improve the accessibility in general.

The vision and strategy is more understood as a platform in facilitation of vision and strategies, generating project ideas and of cooperation with actors within the Baltic Sea region and with other actors. Therefore the vision itself has no real and tangible implementation mechanism. By this fact the progress of implementing the vision can be achieved if the countries of the BSR take actively part in implementing the visions and strategies.

VASAB vision and strategies do not define in particular the projects of priority, however a number of priorities have been stated in the Tallinn report and following documents related to the Vision 2010. Therefore the priorities and priority projects defined are not a closed but an open list in order to allow further idea generation.

Therefore this section deals with the main areas of the mobility network as defined in the Vision 2010: railways, roads, motorways of the sea and energy network. The progress in those areas has been described and illustrated with projects contributing towards the achievement of the goals.

As showed in the progress report on implementation of TEN-T priority projects [6] 7 out of all together 30 priority projects are related to the Baltic Sea region. These projects show different progress of implementation, however only one project has been completed by the date of drafting this report. Therefore one can conclude that despite of the fact that the Baltic Sea region is comparatively well represented in the list of TEN-T projects, the implementation lags behind other region in Europe. If compared the costs and investment progress the TEN-T priority projects in the Baltic Sea region contribute with an approximate value of 40 billions of € to only 10% of the total cost estimate of TEN-T priority projects.

To date comparatively more progress has been achieved in extension and improvement of the road infrastructure in the Baltic Sea region. However, the data on investment progress of TEN-T projects show that despite the fact that railway projects account for larger volumes, they are expected to be implemented at an later stage. Therefore one can observe that the priority is being shifted considerably from road to rail at least within the TEN-T budget for the Baltic Sea region.

Table 1. Overview of the share of the Baltic Sea region TEN-T priority projects

	Number of TEN-T projects	Total cost in million €	Total investment before 2007	Planned investment 2007-2013	Remaining investment
Total	29*	397 262,54	126 370,42	150 569,57	120 322,55
... out of them	6*	40 038,39	11 057,04	19 020,74	9 960,61

	Number of TEN-T projects	Total cost in million €	Total investment before 2007	Planned investment 2007-2013	Remaining investment
BSR					
Share of the BSR	20,7%	10,0%	8,7%	12,6%	8,3%

Source: [6], p.6

Note. * - excluding priority project Motorways of the sea.

2.2. Progress towards the goals in the area of railways

To date of elaboration of VASAB Vision 2010 a number of main deficiencies were defined:

- "required integration with high-speed passenger train systems being developed in Western Europe. Main existing eastern alignments run from Berlin via Warsaw, Vilnius, Daugavpils towards St. Petersburg and Berlin-Warsaw-Brest-Minsk-Moscow. Major cities along the coastline (Gdansk, Kaliningrad, Riga, Tallinn) are inadequately linked with cross-continental railway lines. Border crossing procedures increase travel time, and limit the benefits from physical improvement measures. Railway systems are not technically harmonised between the West and the East.
- few cross-border links exist between Finland and Russian Karelia.
- poor quality of regional railway services to inter-connect major urban centres like Vilnius/Kaunas, Gdansk, Kaliningrad, Riga, Tallinn, Minsk. These services do not offer a reasonable alternative to road transport".

The Tallinn declaration focused on following:

- improved railway transportation systems including high-speed long-distance passenger trains;
- main universal and ferryboat ports shall be integrated with the railway network to facilitate rail transport to the hinterlands;
- international high-speed railway lines shall be complemented by a system of regional trains where maximum speed is less important than improved reliability and comfort;
- Major missing links shall be eliminated.

To date one can conclude that the railway networks are still not fully integrated and they serve very often for national traffic. The interoperability is still an issue. The speeds on the routes for passenger traffic are still too low thus making railways in the BSR less competitive in comparison to airline services and passenger car transport.

One can observe that to date major developments have been made in the western part of the region. For example, there have been heavy improvements / construction works to establish high-speed route between Berlin and Hamburg; the construction of Oresund bridge eliminated one missing fixed link between Denmark and Sweden. There are feasibility studies to construct high speed routes in Norway, Finland decided to invest in high speed route between Helsinki and St.Petersburg. There is a decision to fund the Fehmarn belt bridge under TEN-T. The Baltic Rail Baltica project (upgrade of existing lines) has been included under TEN-T financing as well.

During the last decades the total length of railway lines has decreased in the region. Despite of this fact the passenger and freight transportation increased in general. However there are very large differences between the countries in the BSR. One can observe that in the last decades Lithuania shifts from passenger transportation to cargo transport on the rail, the same can be observed in Germany as well. Denmark shows the contrary. The mayor problems experiences Poland where a total decrease in rail transportation can be observed.

If compared to Eurostat data, the total share of railways in passenger transportation of EU27 countries reaches 7,1%[1]. However, comparative long term data of the long-term trend is available for EU15 countries only. This indicates that the role of railways in passenger transportation increases steadily (6,5% in 1995 compared to 7,1% in 2006) in the West part of the region. The contrary can be observed on the East part of the region – the role of railways decreases. As example, in Lithuania the share of railways accounted 7,5% in 1995 and dropped to 1,0% in 1996. The same trend can be observed in Estonia. The countries with the largest share of railways in passenger transportation are Denmark, Sweden, Germany. The lowest share account Lithuania, Estonia, Norway and Finland. No comparative data have been made available for Russia and Belorussia.

The importance of railways in freight transport has decreased in the past decade in the BSR. The Eurostat data on EU25 shows a decrease of the market share of railways from 20,7% in 1996 to 17,4% in 2007[2]. The constant market share of railways remained in Finland, Sweden and Denmark, while in all other countries a decrease has been observed, especially in Poland, Latvia, Lithuania and Estonia.

The major missing links defined by VASAB still exist. There have been made a little progress with respect to the connectivity by rail between Poland and Baltic countries, the same still applies for Russia (Karelia) and Finland, etc.

Currently, under TEN-T projects five priority projects are related to investments in the railway infrastructure in the Baltic Sea region. They are:

- PP11 Oresund fixed link (completed in 2001);
- PP12 Nordic triangle railway – road axis (completion expected by 2016);
- PP20 Fehmarn Belt railway axis (completion expected by 2018);
- PP23 Railway axis Gdansk-Warsaw-Brno/Bratislava-Vienna (completion expected by 2017)
- PP27 Rail Baltica axis Warsaw-Kaunas-Riga-Tallinn-Helsinki (completion expected by 2020).

The progress report on implementation of TEN-T projects highlights that the deadlines of completing the investments will considerably fall behind target deadline by 2015. Except of the completed project – Oresund fixed link – all other TEN-T priority projects are expected to be completed by a later date. There is even a risk, that completion deadlines will be extended as some projects report difficulties in investment planning and construction.

Besides the Oresund fixed link the next priority project – Nordic triangle railway – road axis can be reported as the project with best performance ratios around the BSR. A number of construction projects are ongoing and on can expect that both fast railways and roads will connect the MEGAs in the region: St.Petersburg, Helsinki, Stockholm, Oslo and Copenhagen. Therefore the use of Oresund fixed link will increase . The improvements on the other side of the Oresund are in preparation as well. The Fehmarn belt railway axis will focus on railway connections between Copenhagen and Hamburg and further to Bremen and Hannover (both latter German cities are outside the region). As this project is still at an early implementation stage, only if completed as expected by

[1] The indicator accounts total passenger transportation using personal car, busses and railways.
[2] Tonne-km.

2018, one can expect that the accessibility between the North-East and Soth-West via western part of the region has been considerably improved.

Another two priority projects refer to the east part of the BSR. The first one – railway axis Gdansk – Warszawa – Brno / Bratislava – Wien is reported as project where a number of improvements are ongoing, however, the majority of investments are planned after 2013 only. The major benefit will be increased speeds by achieving average of 160 km/h for passenger transportation and 120 km/h for freight., thus improving the accessibility in the region. However a number of problematic issues have been reported with reference to allocation of EU funds and performing the works. Therefore the completion deadline may be extended.

The priority project with less performance in the BSR is the Rail Baltica project. This project shall contribute considerably to the connectivity and accessibility of the Baltic countries to Warszawa and further to Berlin and the rest of Western Europe and to South by achieving synergy with the railway axis Gdansk – Warszawa – Brno / Bratislava – Wien. The majority of investments have been planned rather after 2013. This project has not been planned to link the cities in the eastern part of the BSR with a fast connection as the speed is targeted to only 120km/h for both passenger and freight service. Further, due to wish of the Polish side to change the alignment of the railway line via Elk, considerable improvements can be expected at a very late stage of the project implementation only. Next, the planned speeds will remain as not competitive to passenger car transport and busses as well, therefore the increase of railway transportation share in passenger transport in the Baltic countries can be only hardly expected. In fact, one can conclude, the launched project can be only partly understood as Rail Baltica project in the context of the VASAB long term vision.

Table 2. Overview of TEN-T priority projects in the area of railways in the BSR[3]

	Number of TEN-T projects	Total cost in million €	Total investment before 2007	Planned investment 2007-2013	Remaining investment
Total	29*	397 262,54	126 370,42	150 569,57	120 322,55
... out of them BSR	6*	40 038,39	11 057,04	19 020,74	9 960,61
... out of them railways**	5*	33 192,43	9 993,54	13 238,28	9 960,61
Investment progress	-	-	30,1%	39,9%	30,0%

Source: [6], p.6

Note. * - excluding priority project Motorways of the sea. **- some of projects are combined rail and road projects.

As revealed in the report "Towards an integrated Baltic Sea Region" the main technical issues hindering integration of railway networks in the BSR are:

- Different technical standards, i.e. gauge type;
- Different degree of modernism of the infrastructure, i.e. electrification, signalling system, etc.;
- Different capacity of sections of the railway lines.

3

2.3. Progress towards the goals in the area of roads

The Tallinn declaration defined that long-distance road network shall include a number of alignments: Regions not directly served by main transregional infrastructure lines, particularly in eastern Latvia, north-eastern Lithuania, northern Belarus, shall be connected to these long-distance links by regional ones of adequate quality, in order to support regional development.

To date a progress has been made with respect to several development projects:

- Via Baltica (Helsinki - Tallinn - Riga - Kaunas - Warsaw - Berlin) has been reconstructed during the last decade, so that considerable improvements can be noted.
- Via Hanseatica (St. Petersburg-Tartu-Riga-Siauliai-Kaliningrad-Gdansk-Szczecin-Lubeck). This route did not experience any notable improvements and remains as priority mainly on the paper. Exception is Germany, where a motorway for this route has been completed, thus improving connectivity between Lubeck and Szczezin.
- TEM (Trans-European Motorway: Oslo - Gothenburg - Karlskrona - Gdansk - Lodz - Katowice). On this route works are ongoing and further investments have been planned.
- Turku - Helsinki - St. Petersburg – Moscow. The route experiences improvements within the Nordic Triangle priority project as well.
- Berlin - Warsaw - Minsk – Moscow. Especially between Berlin and Warsaw considerable investments have been allocated or construction works are still on-going. Further to East less progress can be observed.
- Hamburg-Copenhagen-Malmo- (with a fixed link across the Oresund with extensions towards Oslo resp. Stockholm). This project has been widely completed in 2000 with construction of the Oresund bridge. Now high speed motorway is available from Hamburg to Malmo.
- Hamburg - Flensburg - Frederikshavn. The project is about to start the investments.

Therefore one can conclude, the improvements have been made in the road network, thus improving connectivity and accessibility in the BSR.

Table 3. Overview of TEN-T priority projects in the area of roads in the BSR

	Number of TEN-T projects	Total cost in million €	Total investment before 2007 in million €	Planned investment 2007-2013 in million €	Remaining investment in million €
Total	29*	397 262,54	126 370,42	150 569,57	120 322,55
... out of them BSR	6*	40 038,39	11 057,04	19 020,74	9 960,61
... out of them roads**	3*	22 750,33	9 585,90	11 487,83	1 676,60
Investment progress	-	-	42,1%	50,5%	7,4%

Source: [6], p.6

Note. * - excluding priority project Motorways of the sea. **- some of projects are combined rail and road projects.

The Eurostat data reports that passenger transportation by road (personal car, bus) accounts almost 85%[4] in 2006 of the total passenger transportation in EU27. In the Baltic Sea Region the countries with the largest share of road passenger transport Lithuania with the 91%, Norway with 88% and Germany with 86%. The trend of using road in passenger transportation remained rather stable in the Western part, while in the East the role of road passenger transportation increased heavily in the last decade.

The same trend as to Eurostat can be observed in the area of freight transportation. The share of freight transportation by road[5] remains stable in Denmark and Sweden, while increases in all other countries.

Therefore one can observe a dominance of road both in terms of passenger and cargo transportation. The long-term trend of the past decade remains stable with a rather increasing share of road in cargo transport and a significant increase of the share of road transport in passenger transportation, especially in the Eastern part.

As revealed in the report "Towards an integrated Baltic Sea Region" the primary road network is still very fragmented. In most countries motorways exist for connecting metropolitan regions to their close hinterland but, in fact, do not connect the different metropolitan areas in the BSR. Further, bottlenecks remain at local and cross-border level preventing integration of regional economies and local labour markets.

2.4. Progress towards the goals in the area of air transport

The air transport has increased considerably in the BSR in the last five years. This is a clear signal of further integration of the BSR. Air transport serves not only for international traffic purposes but for regional traffic as well. Due to specific geographic location of the BSR, the air transport will remain as important transport mode especially for connecting the West and East parts of the BSR, and connecting Nordic parts to main cities in the BSR. It has to be noted that in the BSR air transport is more competitive than railway transport even in the routes where railway services are traditionally more competitive.

The Eurostat reflects a considerable increase of passenger transportation by air in the last years. As example Latvia reports a triplication of passengers by air if compared 2007 to 2004. One can observe that in the Western part the average increase of number of passengers by air has been double or even more in the last decade and some average 30% increase in the past three years. Therefore one can conclude that in terms of air transportation the Eastern countries of the BSR are catching-up very fast.

Therefore air transport developments mirror in one hand the integration process in the BSR. From other hand the dynamic development of air transport indicates that the investments in railway infrastructure have been made to a lesser extent it would be needed. One can conclude that air transportation serves to a large extent as substitute of non-existent or poor railway connections.

2.5. Progress towards the goals in the area of inland waterways

The inland waterways are playing a role for cargo transport in the BSR. The following table shows the share of inland waterways cargo transport share of total cargo transportation in the respective country.

Table 4. The share of inland waterways in cargo transportation, in % of total freight tonne-km.

[4] Passenger-km
[5] Tonne-km

Country	Share 1996	Share 2000	Share 2007
EU27	-	6,6%	5,6%
EU25	6,7%	6,6%	5,4%
Germany	16,7%	15,7%	12,4%
Poland	0,7%	0,9%	0,1%
Finland	0,3%	0,3%	0,3%

Source: Eurostat

It appears that the importance of inland waterways decreases despite of investments on-going.

As revealed in the report "Towards an integrated Baltic Sea Region" inland waterways Finland, Poland and Lithuania play a significant role for connecting the inland to the coastal areas

2.6. Implementation progress in the area of mobility networks: sea transport

Maritime routes are essential for connecting cities and regions along each side of the Baltic Sea. Not only East-West but North-South connections are important for both – passengers and freights. However, one can observe that the main seaports are experiencing rather negative numbers of passenger increase, most probably due to rapid developments of the air transportation linking the cities with fast and affordable connections. The contrary can be observed in cargo transport. Out of top-25 seaports in the BSR only Ventspils and Bergen are accounting negative cargo turnover between 2000 and 2006. The highest development rates in cargo turnover experienced Gdynia, Gdansk and Kaliningrad, thus showing the up-coming potentials in the South-East of the Baltic Sea.

In general, it appears that the sea transport in the BSR is becoming more important while maritime passenger transport loses his market share due tu rapid development of (low fare) air transport between the cities in the BSR.

2.7. Implementation progress in the area of energy supply

In the area of energy supply network a notable progress has been made. However, linking nordic, eastern and western networks in one common grid is still missing. The bottleneck remains link between Poland and Lithuania, however it can be expected that this will be eliminated by 2010. Further, linking networks via the underwater line between Sweden, Poland and Baltic states still remains a bottleneck. The report "Towards an integrated Baltic Sea Region" revealed that the countries of the BSR have adopted different standards when it comes to electricity transmission grids, which is still a hindering factor to a common electricity network around the Baltic sea. There are still a low number of trans-BSR connections, therefore the system of the electricity network is still vulnerable.

There is still a need for new power plants in the BSR, especially due to closing of Ignalina nuclear power plant in Lithuania by 2009. If compared to situation in 1994, the energy production was mainly based on non-renewable resources, with exception Norway, Sweden and Latvia, where a considerable share of electricity production was accounted to hydropower. The electricity production was based on hydropower, nuclear power, oil shale, brown coal, oil and gas. Today, in terms of production of energy from renewable sources the leading countries are Latvia and Finland followed by Sweden and Belarus. The countries lagging back are Poland (predominantly coal as energy source), Russia, Norway and Denmark (oil and gas) and Estonia (oil shield).

With respect to renewable energies a huge progress has been made. One can conclude that hydropower and biomass is the most important renewable energy sources in the region. However there are notable differences from country to country as to the source of renewable energies. So hydropower dominates as renewable energy source in Norway, Russia, Sweden and Latvia. Finland, Germany and Poland have notable share of hydropower of the total of renewable energy production. Primary solid biomass dominates in Belarus, Estonia and Finland and accounts a significant share in Sweden, Denmark, Poland, Latvia as well. Wind energy and municipal waste are significant renewable energy sources in germany and Denmark.

Therefore a good progress towards integration of the BSR energy network can be observed.

3. Evaluation of the progress towards the goals defined in the Tallinn report

The evaluation of the progress towards goals has been made on a base of desk review by using information sources as indicated in this report. The findings have been extended by analysing some of Eurostat data available in order to "measure" the progress towards the goals defined in the Tallinn report.

The goals evaluated are:

- BSR mobility network facilitates environment friendly transport;
- The mobility network provides conditions for effective integration within the BSR and with the world;
- Energy production relies increasingly on renewable and environment friendly sources of energy.

In this section, the goals are explained by statements of the Tallinn report. Further, some indicators to measure the progress have been mentioned and the current progress towards the achievement of the goal is summarized. Finally, recommendations for further development of long-term vision in the BSR are provided. The evaluation has been compiled in a table format to allow an easy overview of the main findings.

Goal 1 BSR mobility network facilitates environment friendly transport	
What VASAB attempts to achieve?	1. The development of the mobility network shall be linked with the planned urban network to promote environment friendly sea and railway transport. 2. Railway operation systems and the institutional set-up of the transport sector shall allow a maximum of market orientation in order to mobilise the potentials of environment friendly transport modes. 3. Combined transport and intermodal co-operation shall be enhanced with a view at promoting sea (and inland waterways) instead of land transport, railways instead of road transport, wherever feasible. 4. Care shall be taken that new major infrastructure projects minimise negative effects on the environment and maximise regional dynamisation.
What indicators can be applied?	Data representing structural change in the use of different transport modes in passenger and cargo transportation (Eurostat data) Data on investments in large scale infrastructure projects
What is the progress towards the achievement of the goal?	Comparatively little progress has been made in terms of shifting to more environmentally friendly transport modes. However, the policy decisions made in the BSR countries allow to conclude that the shift has been initiated and can be expected in the long term perspective. This is supported by allocations of TEN-T funds on priority projects. However, in the same time the developments in the past decades show that globally the share of road increased both for passenger transportation and freight. The air transport showed a considerable increase in recent years, thus indicating integration of the BSR. However, the fact, that air transportation is more competitive on the routes where traditionally railways should be, urges attention to policies shifting the transport system to more environmentally friendly one in the future.

Is it likely that the goal will be achieved by 2010?	It is not likely that the goal will be achieved by 2010, since one can observe from one hand still increasing use of the road transport instead of railways and land transport instead of sea transport. From another hand the investments of the TEN-T budget contributes to are mainly encouraging railways, especially in the long term perspective.
Recommendations for further development of the vision	The goal and the priorities remain valid. We recommend to include them in the Vision 2030 after by revising and adapting them. Further, we would advise to agree on target values to be achieved in long-term run like share of railways, share of motorways of the sea in transportation. Finally we would advise to agree on a comprehensive strategy to reach such target values within the Vision 2030.

Goal 2

The mobility network provides conditions for effective integration within the BSR and with the world

What VASAB attempts to achieve?	1. Effective border crossing shall provide conditions for the economic feasibility of physical infrastructure improvements. 2. Sea transport shall be supported through the promotion of the ring of "Baltic cities" with good links to their hinterlands. The potential for improvement of inland waterways seems to be limited, but should be studied in more detail (particularly in Poland). 3. Projected international transport corridors shall be planned in such a way that regional benefits will be taken into due account and environmental impacts be considered in time. Major missing links shall be eliminated (e.g.a. fixed link across the Oresund and across the Fehmarn Belt, links between Finland and Russian Karelia/Murmansk, a new bridge across the lower Elbe river). 4. Public commuter systems shall operate in and around major cities (particularly cities marked as European or Baltic city regions). Long-distance road transport shall be minimised through improved port, sea transport and railway services. 5. A functioning system of regional communication lines shall support regional development and minimise travel needs. "Information expressways" shall bind the BSR regions together and link them with Western Europe and other continents. 6. Countries in northern, central and eastern Europe shall be linked to North Sea oil and gas sources via new sea port installations (e.g. Lithuanian Butinge and Latvian Liepaja, linked to the Lithuanian refinery Mazeikiai) and/or new gas pipelines (Norwegian gas via Sweden or British gas via Denmark). The Nordic, eastern and western electricity networks shall be linked together to form one common energy grid.
What indicators can be applied?	Decisions and agreements on border crossing. Number of development projects implemented and planned. Number of projects implemented in order to reduce missing links.

	Statistics on modal shift with respect to minimisation of long-distance road transport. International trade and travel flows in the region.
What is the progress towards the achievement of the goal?	In general, considerable progress has been made in respect to integration of the BSR. This is supported by improved connectivity in the region and especially between the MEGAs. However, road and air transport are the main drivers of this integration. Therefore it is to question how sustainable is the integration, if it is challenged by increasing fuel prices. To date two major events radically changed the situation in the Baltic Sea region. First, the accession to European Union of the BSR countries contributed substantially to easy border crossing, since physical borders have been eliminated for goods transport, capital and service movements. Second, the Shengen treaty facilitated that the movement of persons can proceed without passport controls in the whole Shengen area. By End 2007 / Beginning 2008 the countries of BSR eastern part joined the treaty, thus considerably facilitating integration of the BSR. The only countries with physical border and passport controls in the BSR remain Russia and Belarus. Therefore we conclude that in terms of easy border crossing the Vision 2010 has been nearly achieved by 2008.
Is it likely that the goal will be achieved by 2010?	One can expect that goal will be nearly achieved, the integration of the region can be observed by improving intra-regional trade and travel flows. However it appears that road and air transport are main facilitators of this integration in the area of mobility networks.
Recommendations for further development of the vision	We recommend to focus on sustainable manner of further integration in the region, thus fostering investments of sustainable nature in the long-term run, i.e. railways instead of road. Further, we advise to set target values as to accessibility in the region between MEGAs in order to achieve a real cooperation in long-term run. Therefore time

Goal 3 Energy production relies increasingly on renewable and environment friendly sources of energy	
What VASAB attempts to achieve?	1. In view of the greenhouse effect efforts shall be made to biologically bind carbon dioxide. Spatial planning for areas suitable for bioenergy production and for local energy systems can support a sustainable energy supply. 2. For the location of new power plants, or the extension or rehabilitation of existing ones, international concertati on shall be sought and Environment Impact Assessment be prepared according to the Espoo Convention.
What indicators can be applied?	Statistics on energy consumption in the region, the energy production structure and share of environmentally friendly energy sources.

What is the progress towards the achievement of the goal?	One can observe, the energy production is increasingly relying on renewable energy sources. However, no common “Baltic Sea region” approach can be observed. The countries are applying different strategies. This is partly related to natural resources each country possesses to produce the energy / electricity.
Is it likely that the goal will be achieved by 2010?	It is not likely that the goal will be achieved ito a full extent by 2010, however the use of renewable energy is increasing heavily if compared to 1994.
Recommendations for further development of the vision	The Vision 2030 could consider extension of the goal towards environmentally friendly use of energy both in industry and by households. Therefore more sustainable approach can be reached on both production and consumption of energy. There is still a great potential as to energy saving and environmentally friendly using by industry and by households. It would be a challenge to support this approach instead of creating new production capacities only.

4. Conclusions and Recommendations

It can be concluded that the Tallinn vision in the area of mobility networks will be not reached by 2010 to full extent. The main bottlenecks will remain in the area of railways. Other areas of mobility and energy supply have showed more progress to date. Therefore the implementation of the Vision in the areas of mobility and energy supply was in general terms satisfactory.

In general one can conclude that the VASAB 2010 – Vision and Startegies around the Baltic Sea was well targeted, however in many cases too optimistic, especially when considering large scale infrastructure projects in the BSR, which need a large planning process. Despite of the fact that objectives are not achieved to date, these objectives of the Vision 2010 in the area of mobility networks still remain valid and can be considered for further long-term spatial planning in the Baltic Sea region.

The question – was Tallinn vision too optimistic at the planning time – can be answered that from one hand changes in the region influenced the developments. The most important factors were accession to EU, visa-free travel in Shengen countries, introduction of low fare airline services on many routes, and most recently - fuel price increase.

Further, no real spatial cohesion can be observed between western and eastern (northern and southern) part of the BSR. There are still major gaps in the eastern part with respect to connectivity and accessibility.

With respect to the Vision 2030 we recommend to discuss and to assess main factors, which can influence the realization of the vision considerably, like climate change, fuel price increase, population development, etc.

Further we recommend including in the vision for 2030 already projects with importance in 2050 or later, therefore allowing a really long-term planning of large scale infrastructure projects. These projects would need an extensive planning / preparatory work during the next decades, in order to succeed by 2050.

Finally, we would advise to develop a set of indicator or values as targets in order to promote more target – oriented implementation of the long term vision in the Baltic Sea region in the area of mobility networks. Such agreement would help to achieve more coordinated approach in implementing visions and strategies by each country.