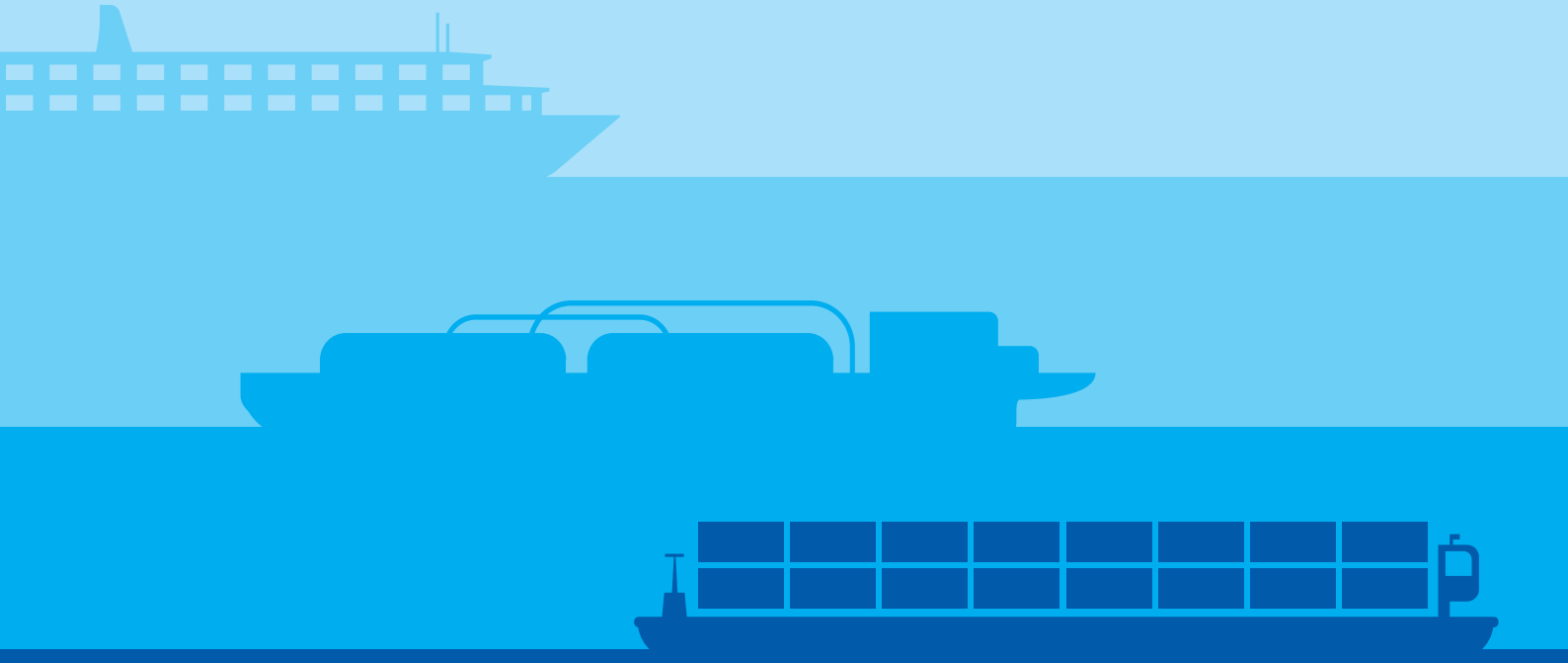
INLAND NAVIGATION IN EUROPE

MARKET OBSERVATION

QUARTERLY REPORT
2016 | Q1



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March 2016

FOREWORD

The Market Observation is intended to input to strategic decision-making for European inland navigation, at both profession and company level as well as at transport policy and national administration level. Continuous monitoring of economic performance and of structural and cyclical economic trends has proved to be important in light of the risks with which this transport sector is required to contend. To this extent the Market Observation is also to be construed as an instrument of European Union capacity policy, expressed in Council Regulation EC/718/1999. In the same fashion the European Commission's NAIADES II communication (COM (2013-623)) talks about a constant market observation intended to yield information on the various aspects of inland navigation transport. This information relates inter-alia to traffic and transport volumes, including possible modal shifts, the balance between supply and demand, the labour market, the integration of new technologies and innovations as well as the integration of inland navigation transport into multimodal logistics chains.

The Market Observation is also to be construed as a continuation of the ongoing monitoring of the Rhine navigation market by the Central Commission for the Navigation of the Rhine (CCNR). As the most important region the navigation of the Rhine plays a prominent role in Europe. Many new logistic concepts originated in this market.

This publication is based on collaboration between the EU Commission and the CCNR. A cooperation agreement to this effect was concluded in 2013 between DG Move (Directorate General for Mobility and Transport) and the Secretariat of the CCNR, for a project to continue the European Market Observation that has been pledged since 2005 for the period 2016-2018. This new project is based on a methodology that has been continuously refined. The publications will however deal with the topics to which they relate in greater breadth and depth in order in particular to take account of the latest figures and trends while at the same time enabling the reader to conduct more in-depth analysis for individual purposes. In this context the publication as such will also be modernised in that an electronic version will increasingly be provided.

Frequency of publication has also been aligned more closely with requirements and envisages quarterly publication. Each year therefore there will be three quarterly reports, the content of which will concentrate on the Western European market (Rhine navigation, Netherlands, Germany). This will enable regular updates of the most important European inland navigation regions by volume.

Midway through the year, there will be an overall report containing the trends and developments for Europe as a whole.This publication will also describe the trends in the Danube shipping market. As a more detailed publication, the overall report will offer a more detailed look back at the past year as well as a medium-term outlook.

The close collaboration with both of Europe's inland navigation trade organisations has also been continued and their competent persons involved at all times. Moreover, collaboration with the river commissions has also been consolidated. For example, the Secretariat of the Danube Commission will report regularly on structural developments and the information gathered by the Moselle Commission on traffic development in this traffic sector will also be incorporated. A similar approach to collaboration with the International Sava River Basin Commission (ISRBC) is awaited.

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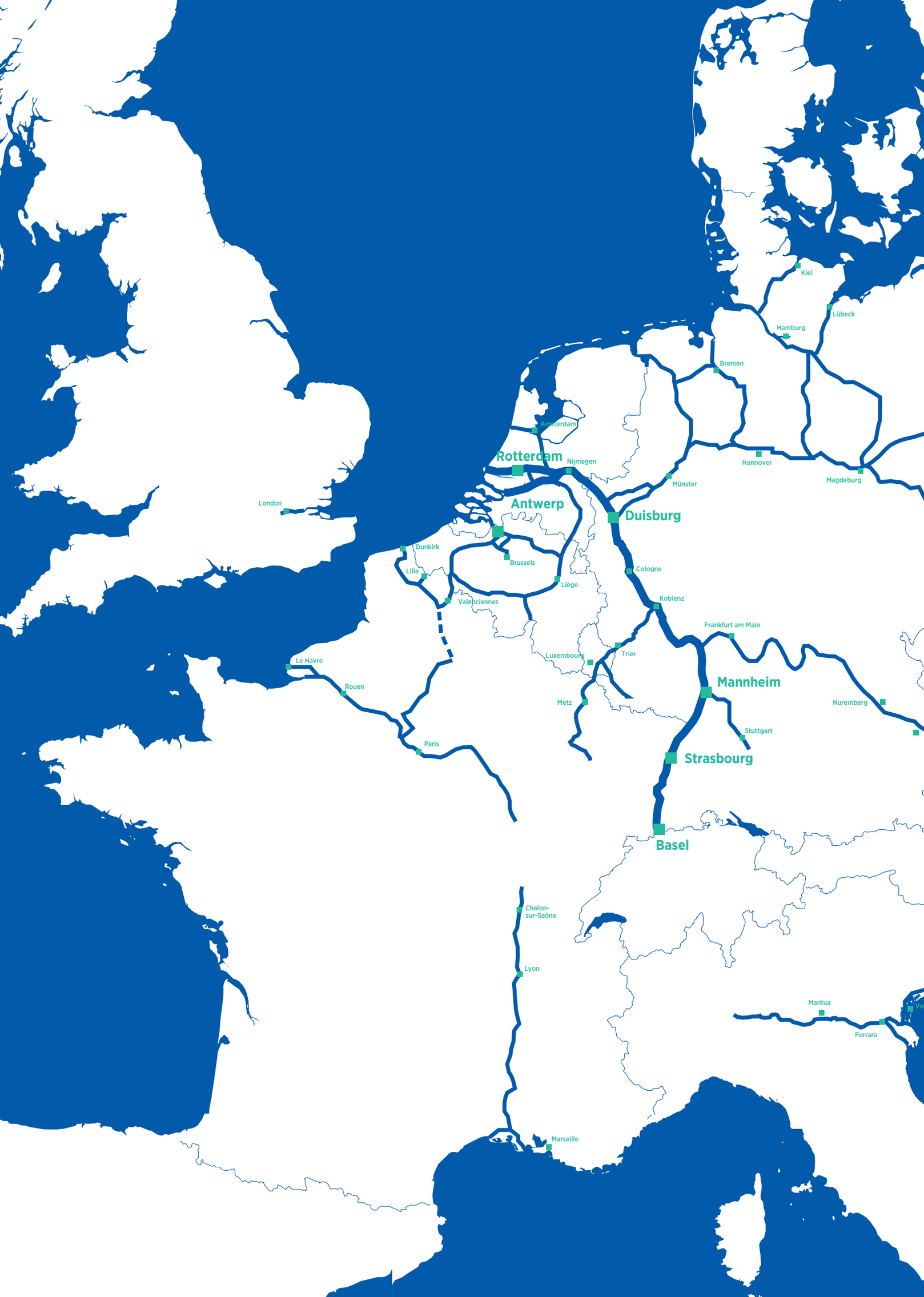
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TABLE OF CONTENTS

01

ECONOMIC ENVIRONMENT

ECONOMIC ENVIRONMENT

Europe's economic recovery is continuing, albeit not as quickly as expected. However, in its latest November 2015 forecast, the OECD expects GDP growth in the eurozone to accelerate, especially in Germany, France, Belgium and the Netherlands.

The economic "tailwind" resulting from lower oil prices and the devaluation of the Euro should boost real gross domestic product in the eurozone to around 1.8 % in 2016 compared with only 0.9% in 2014 and 1.5% in 2015. The OECD is then forecasting 1.9 % for 2017.

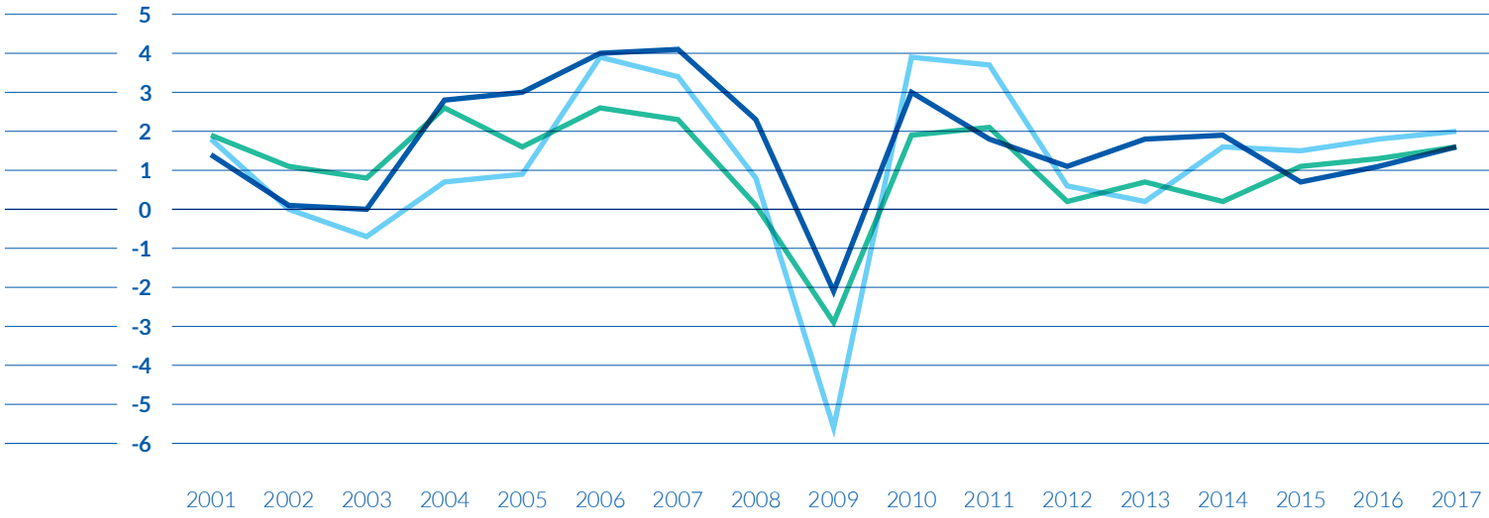
REAL GROSS DOMESTIC PRODUCT GROWTH RATE (%)
INCLUDING FORECAST FOR 2016 IN 2017

	2012	2013	2014	2015	2016	2017
Belgium	0,1	0,3	1,1	1,3	1,5	1,6
France	0,2	0,7	0,2	1,1	1,3	1,6
Germany	0,6	0,2	1,6	1,6	1,8	2,0
Netherlands	-1,6	-0,7	0,9	2,0	2,5	2,7
Switzerland	1,1	1,9	2,0	0,8	1,1	1,6
Eurozone	-0,8	-0,3	0,9	1,4	1,8	1,9

Source: OECD Economic Outlook (November 2015).
Figures for 2016 and 2017 are forecasts

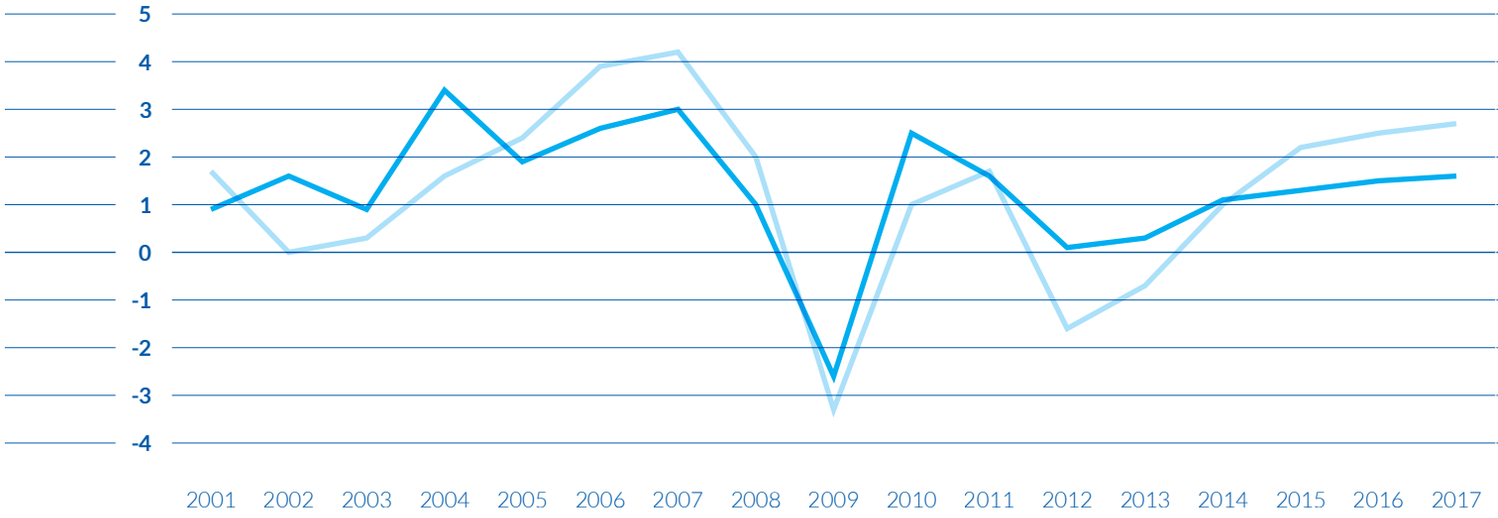
European recovery is however slower than in the USA, where growth of 2.6% is being predicted for 2016. The reason why Europe is lagging behind the USA is weak investment demand.

REAL GDP RATE OF CHANGE IN % YEAR-ON-YEAR
(GERMANY, FRANCE, SWITZERLAND) *



Source: OECD Economic Outlook (November 2015).
**Figures for 2016 and 2017 are forecasts*

REAL GDP RATE OF CHANGE IN % YEAR-ON-YEAR
(BELGIUM, NETHERLANDS) *



Source: OECD Economic Outlook (November 2015).
**Figures for 2016 and 2017 are forecasts*

02

TRANSPORT DEMAND ON THE RHINE

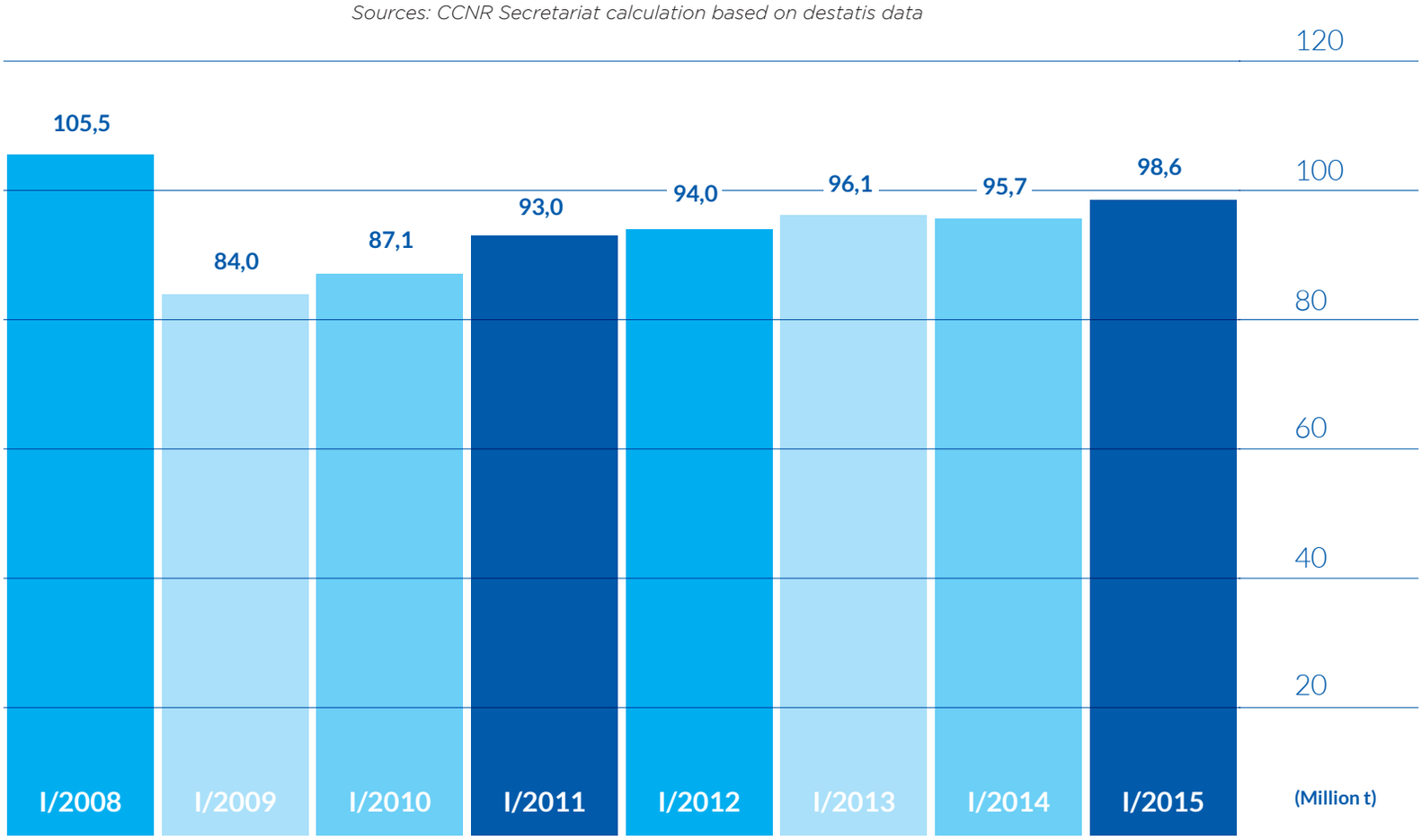
TRANSPORT DEMAND
ON THE RHINE

Transport demand was stimulated by the macroeconomic environment, resulting in growth in total transport volume on the Rhine in the first half of 2015. 19.6 million t were transported on the traditional Rhine, or 3% more than in the first half of 2014 (95.7 million t). By way of comparison: rail traffic fell by 3% in the first half of the year in Germany, attributable to the strikes in April and May. Rail container traffic declined by even more than the aggregate.[1] A general comparison between container traffic by rail and by ship on the Rhine axis can also be found in the section on goods categories on the Rhine.

Since the downturn in 2009, the half yearly transport volume on the Rhine, viewed over a number of years, has exhibited a modest upward trend (see graph), which however, as with overall economic activity, is characterised by slower growth than had been expected and hoped for only a few years ago.

FREIGHT TRANSPORT ON THE TRADITIONAL RHINE BY HALF YEAR
(2008-2015)

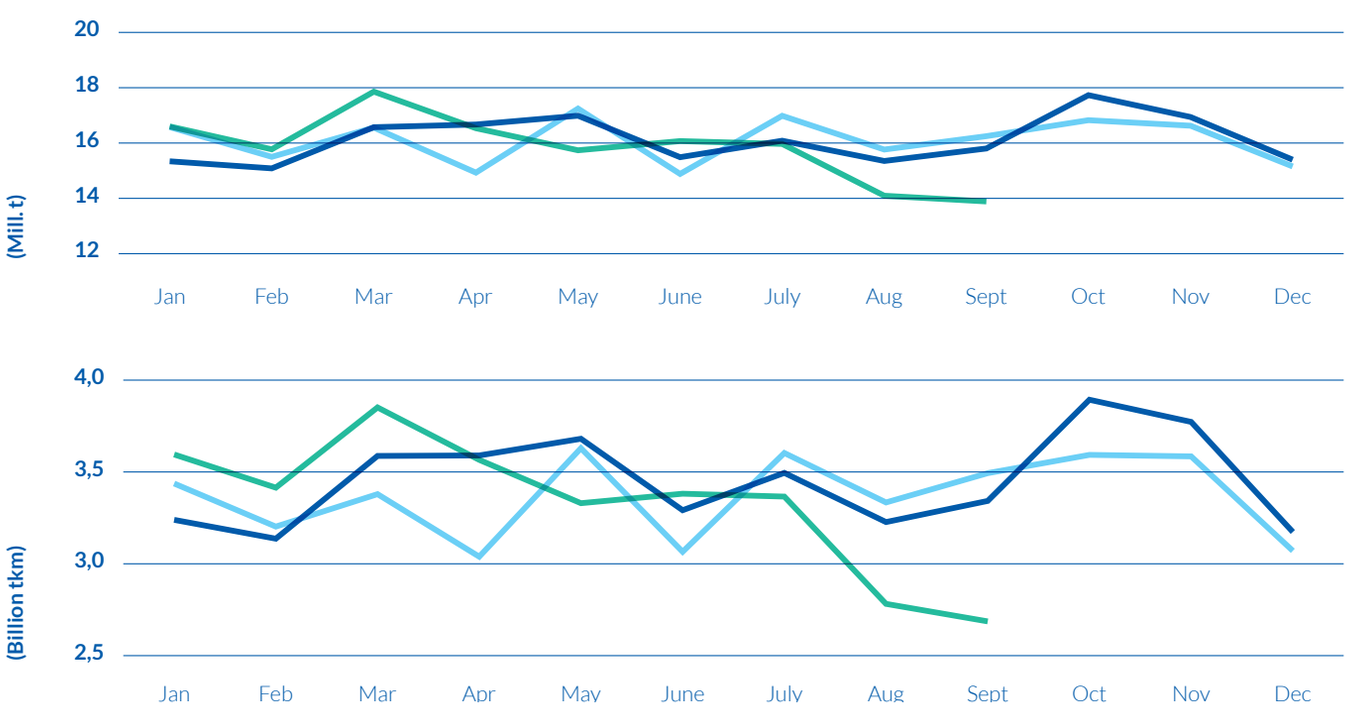
Sources: CCNR Secretariat calculation based on destatis data



The transport performance on the traditional Rhine has grown somewhat more than the transport volume. The product of transported volume and distance covered in the first half year amounted to 21.1 billion tonne-kilometres, which corresponds to plus 7% compared with the same period the year before. More than half of this transport performance (54%) was accounted for by the Lower Rhine, one third by the Middle Rhine and somewhat more than one eighth by the upper Rhine. The monthly figures show that both the transport volume and transport performance reached a provisional annual peak in March.

The low water situation beginning in August, and becoming increasingly acute until November, brought the positive development to an end. The transport volume in the third quarter of 2015 was 10% below that in the third quarter of 2014. Transport performance declined by fully 15%.

MONTHLY TRANSPORT VOLUME AND TRANSPORT PERFORMANCE
ON THE TRADITIONAL RHINE



Source: destatis

2013
2014
2015

As can be seen from the tables in the annex, total transport volume in the first three quarters of 2015 fell in a year-on-year comparison as a result of the low water situation, specifically by 1.5%. Transport performance in the first three quarters was 30 billion tkm, and was also slightly down on the period the year before (-1%). The segment most heavily impacted by the knock-on effects of the low water situation was the dry bulk goods segment (see the section on water conditions).

[1]*Source: Statistisches Bundesamt (destatis) (Federal Statistical Office), press release dated 1 September 2015 – 319/15. In the first half of the year, rail container traffic reached 2.8 million TEU (-13.7%) compared with 1.26 million TEU in inland navigation (+7%).*

03

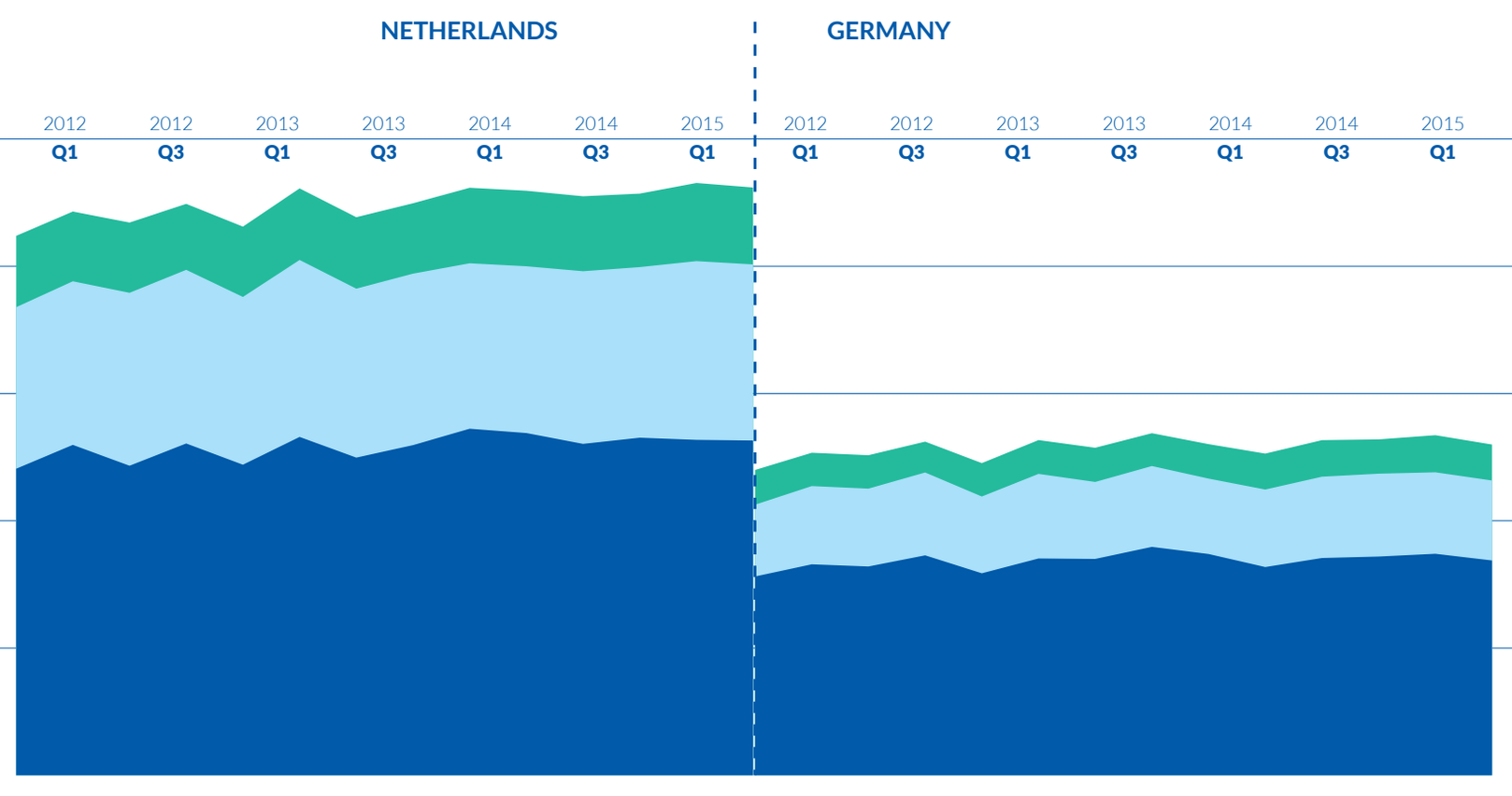
TRANSPORT DEMAND IN GERMANY AND THE NETHERLANDS

TRANSPORT DEMAND
IN GERMANY AND THE NETHERLANDS

First we will take a look at the general structure of German and Dutch inland navigation transport (see figures). This yields the following fundamental conclusions:

- At 366.6 million t (2014), the total volume in the Netherlands is significantly higher than in Germany (228.5 million t in 2014).
- Container traffic in the Netherlands is already more important than in Germany, both in absolute and relative terms (47 million t in the Netherlands = 12.8% of the total volume; 22.2 million t in Germany = 9.7% of total volume).
- The proportion of liquid bulk goods is greater in the Netherlands than in Germany (106 million t in the Netherlands = 29%; 50 million t = 22% in Germany).

QUARTERLY DEVELOPMENT IN TRANSPORT VOLUME
IN THE NETHERLANDS (LEFT) AND IN GERMANY (RIGHT)

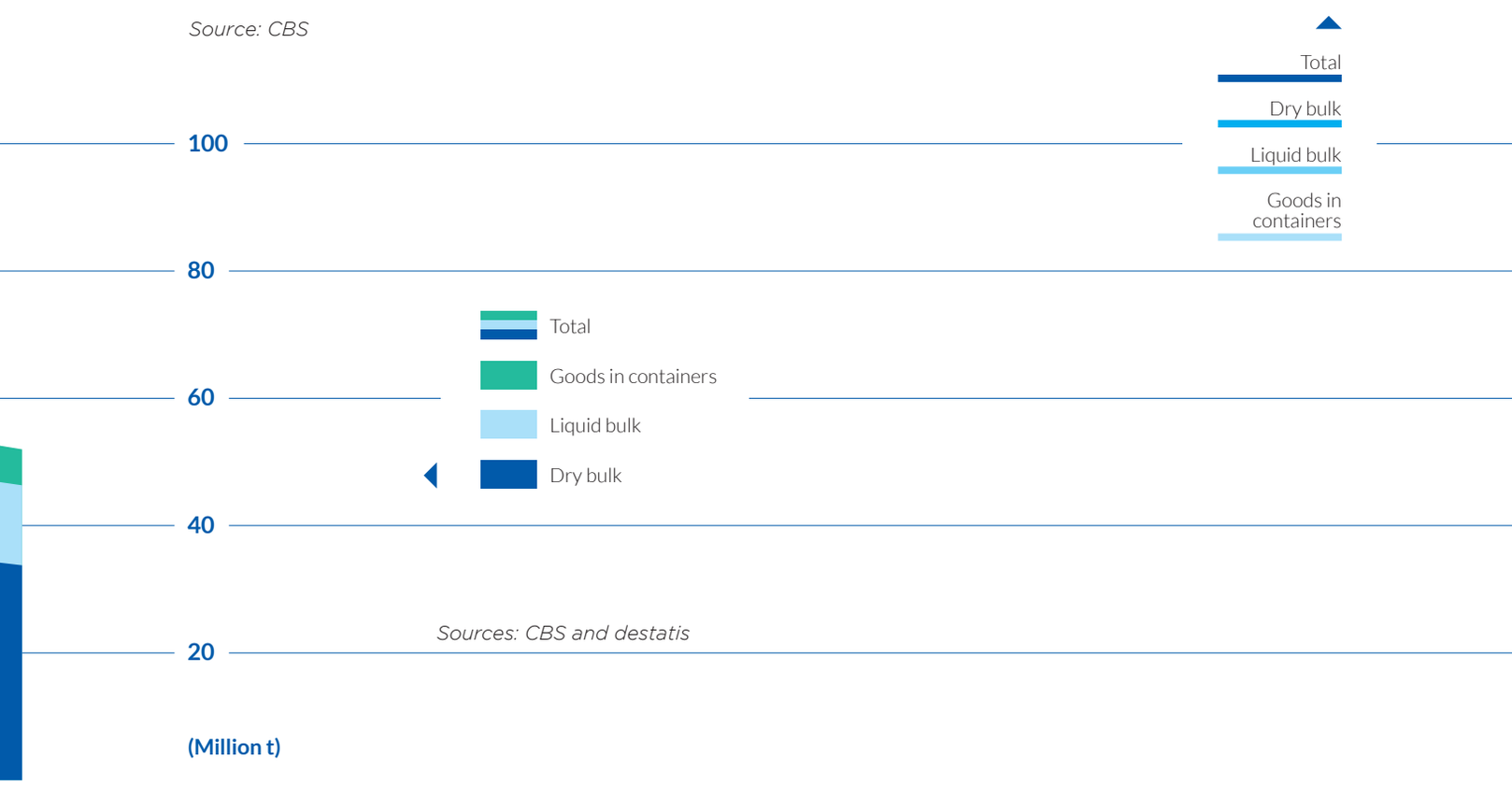


The following graphs show the transport development in the two countries, broken down by individual sectors. The third quarter of 2015, is characterised by decline, attributable to the restrictions imposed by the low water situation in autumn 2015.

In the Netherlands, total traffic in the third quarter, exhibited a 5% drop compared with the third quarter of 2014. The biggest drop was the fall in dry bulk goods (-7%), followed by the container segment (-5%), whereas the liquid bulk goods sector put up significant resistance in the face of a contraction (-1%).

TRANSPORT VOLUME PER QUARTER IN THE NETHERLANDS (MILLION T)

Source: CBS



Sources: CBS and destatis

TRANSPORT VOLUME PER QUARTER IN GERMANY (MILLION T)

Source: destatis

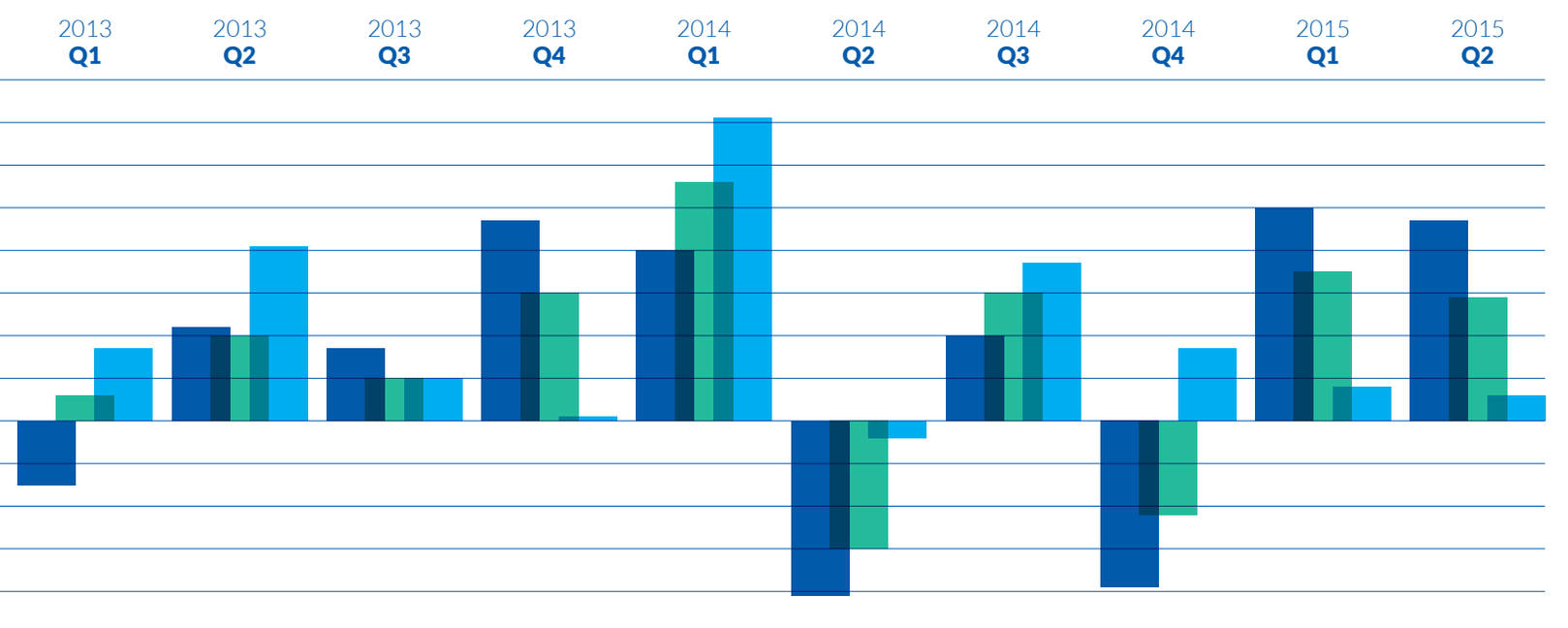
The development in absolute volumes reveals the prevailing development trends as well as the influence of the low water situation. However, it is less good when it comes to articulating the connection between developments in different countries.

A representation of the rates of change lends itself better to this purpose. The latter, on a quarterly basis, (change per quarter, compared with the same quarter the year before) are depicted in the following three graphs. Clear connections can be seen between the development in Rhine navigation and inland navigation in Germany and the Netherlands.

RATE OF CHANGE IN THE TRANSPORT VOLUME PER QUARTER IN %

COMPARED WITH THE SAME QUARTER THE YEAR BEFORE.

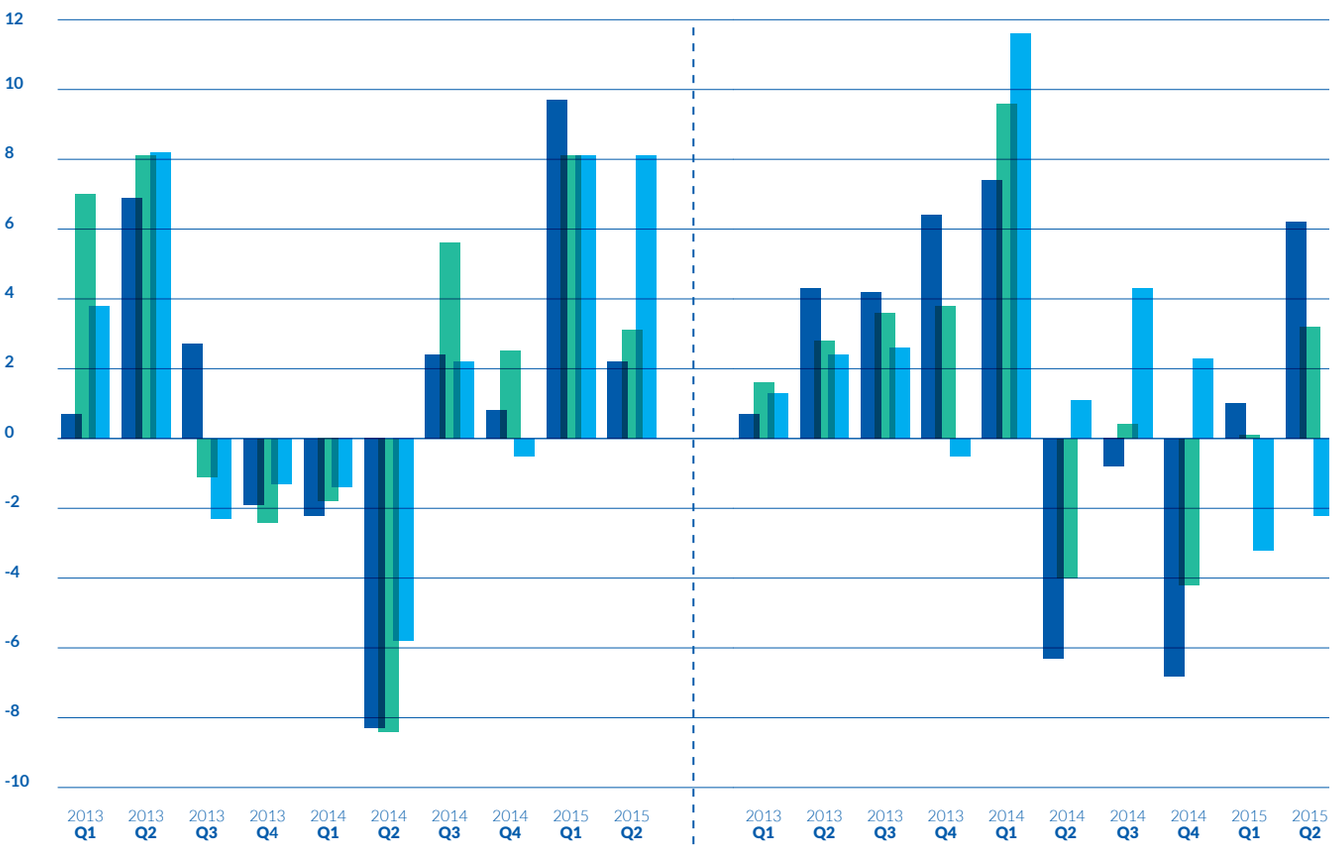
Source: CCNR calculation based on destatis and CBS data



Total
Dry bulk
Liquid bulk
Goods in containers

Correlations of varying strength are to be noted when differentiating between liquid and dry bulk goods. Statistical calculations show that there is a very strong connection between the development on the Rhine, in Germany and in the Netherlands in the transport of liquid bulk goods. However, when it comes to the transport of dry bulk goods, the connection between the Rhine, Germany and the Netherlands is less pronounced.

RATE OF CHANGE IN THE TRANSPORT VOLUME PER QUARTER IN %
COMPARED WITH THE SAME QUARTER A YEAR BEFORE FOR THE TRANSPORT OF LIQUID BULK GOODS (LEFT) AND DRY BULK GOODS (RIGHT)



Source: CCNR calculation based on destatis and CBS data

Rhine
Germany
Netherlands

Increase of transports
in the 2nd quarter of 2015

Germany
+2,9%

Netherlands
+0,6%

8 7 6 5 4 3 2 1 0 -1 -2 -3 -4 -5

04

TRANSPORT DEMAND BY GOODS CATEGORIES ON THE RHINE

TRANSPORT DEMAND
BY GOODS CATEGORIES ON THE RHINE

There follows a description of the development in transport demand on the Rhine in the first three quarters of 2015. This description deliberately does not deal explicitly with the effects of the low water situation in the third quarter, although these effects naturally put a damper on development. However, to avoid repetition, it will be noted at the outset that the low water situation had a negative effect on transport volumes across virtually all goods segments.

This is borne out by the two tables in the annex showing the exact figures for transport volume in the first half of the year as well as the corresponding figures for the total of the first three quarters.

2,6
2,4
2,2
2,0
1,8
1,6
1,4

30 % of all logistical activities in the German **steel industry** are inland waterway transports

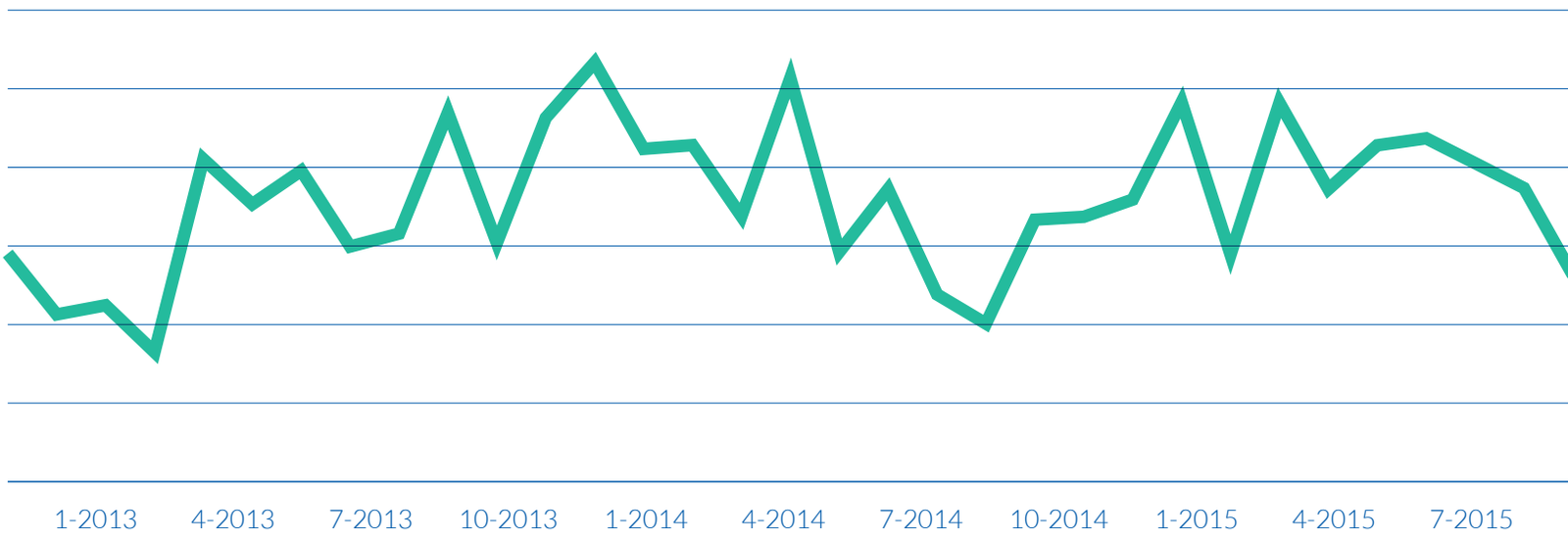
AGRICULTURAL PRODUCTS, FOODSTUFFS AND FODDER

Around 6.2 million t of agricultural and forestry products were transported in the first half of 2015, representing growth of 11% compared with 2014. In a multi-year comparison the greatest transport volumes are generated in October. So far this year the transportation of foodstuffs and fodder has not shown any variation compared with the year before. A total of 3.5 million t was transported between January and June, exactly the same volume as in the same period the year before. Taking both segments together, around 9.7 million t were transported compared with 9.1 million t the year before and 9.8 million t in 2013. The volume in the first half of 2015 is thus in the region of the multi-year average (for the period 2002 to 2013).

ORES AND METALS AND METAL PRODUCTS

At 13.4 million t, the volume of ore traffic on the Rhine was on a par with the same period the year before. A slight upward trend is to be observed in the first six months, giving way, however, to a decline in the second half of the year.

MONTHLY ORE TRAFFIC ON THE TRADITIONAL RHINE (MILLION T)



Source: CCNR Secretariat calculation based on destatis data

As it did in the first half of 2014 the transport of metals and metal products increased (this time by 7%), thus continuing its slight upward trend. 6.1 million t were transported. Here too there were marked falls, from August onward, of between 10-20% compared with previous months.

In terms of the modal split in the steel industry's logistic activities, inland navigation has somewhat increased its market share in recent years. According to information from the German steel industry federation (Wirtschaftsvereinigung Stahl), its modal split for German steel industry logistics as a whole (ores, coal, scrap, finished products) is approximately 30%. Its share has increased by around 5 percentage points since 2003. The bulk of German steel production is located in the west of the country and is linked to the waterway network.

Crude steel production in Germany remained stable in the period from January to October inclusive compared with the same period the year before. New order figures however indicate a slowdown in the year ahead. New orders are down 6% in the first three quarters of 2015 and deliveries of steel products by 3%. The German Steel Federation is not expecting any dramatic improvement for 2016.

COAL

Transport volumes of solid fuels in the first half of this year amounted to 15.6 million t, a slight dip of 2.6% compared with the same period the year before. This is the second successive decline, the first half of 2014 having already seen a decrease compared with the corresponding period in 2013.

This can be explained by a decline in German coal consumption of around 3% in the first half of 2015. According to the Working Group on Energy Balances (Arbeitsgemeinschaft Energiebilanzen) this is a consequence of the ongoing expansion of wind turbines and favourable wind conditions.[2] As a result there was a fall in the requirement for coal in the energy industry (power generation), which explains the decline in imports and transport movements on the Rhine. Additional reasons are to be seen in the maintenance of coal-fired power stations.

Approximately half of German coal imports (47%) arrive in the country from the ARA seaports by inland vessel on the Rhine. However, coal imports via rail between 2012 and 2014 increased from 9.7 million t to 15.9 million t, outperforming the increase in volumes imported on the Rhine (up from 24.4 million t to 26 million t).[3]

In the first half of 2015, 15.6 million t of coal were handled in the seaport of Rotterdam. Here too the outcome undershot that of the same period the year before (-2.2%). The full year result was 30.7 million t, a slight increase of 1%.

The outlook is very subdued. The Association of German Coal Importers (Verein der deutschen Kohleimporteure) expects coal imports to stagnate or even decline slightly. This would have a correspondingly negative knock-on effect on coal transportation on the Rhine.

The news from the steel industry is also somewhat negative (see above). This all points to a moderate decline in transport demand for coal for 2016. This will however be influenced by weather conditions, which cannot be forecast.

Half of all the imports of hard coal into Germany pass the border on the river Rhine.

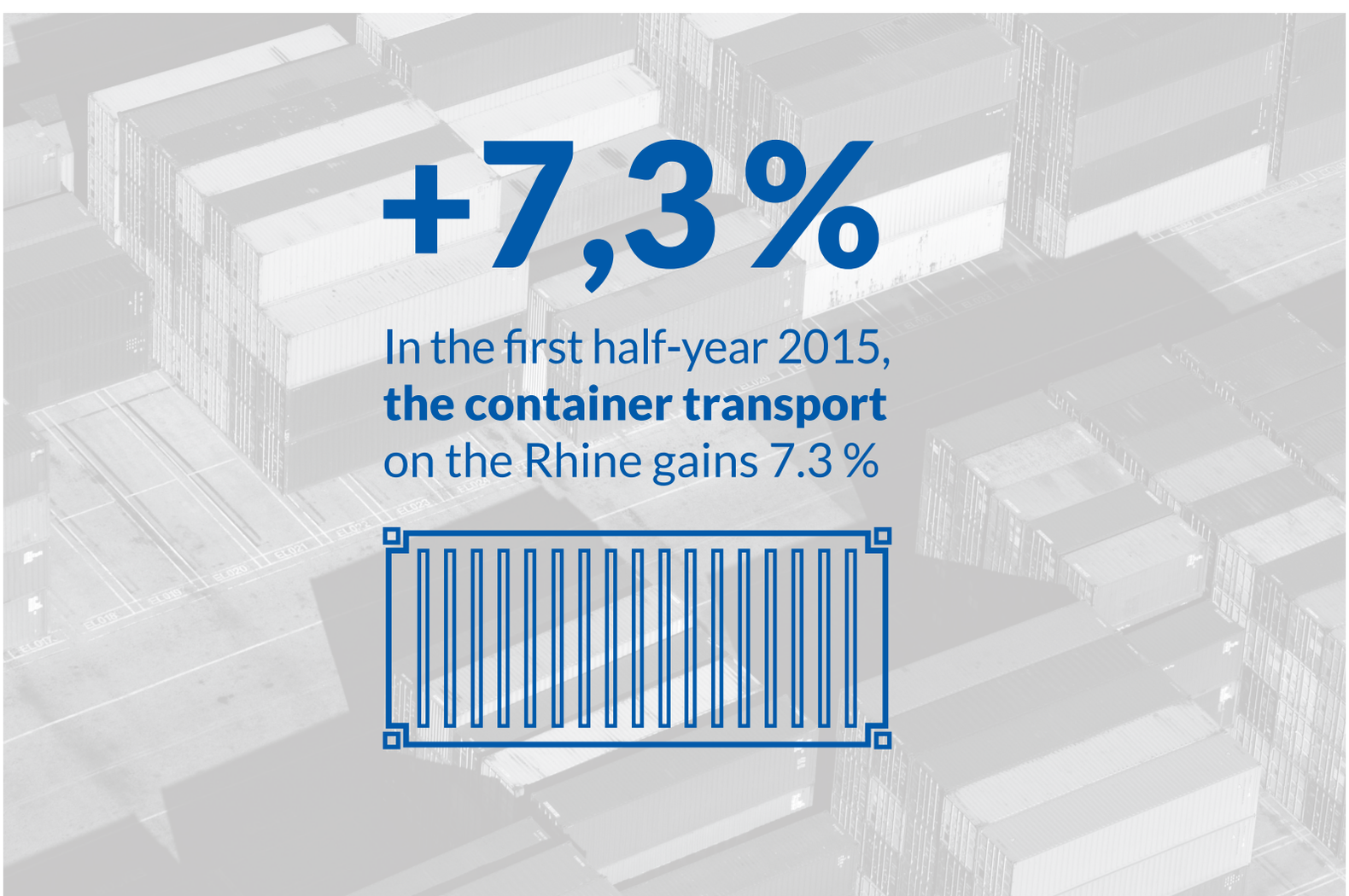
[2] See: energy balances AG (2015), increase in energy consumption / coal consumption down again / renewables and natural gas on the up. Press release dated 4 August 2015.
[3] Source: Verein deutscher Kohleimporteure (VDKI - Association of German Coal Importers)

The container transport on the Rhine reaches very high market shares between the Netherlands and the lower Rhine region.

CONTAINERS

For the third time in succession container traffic exceeded the 1,000,000 TEU mark within a half year period. As for the year before, the increases in terms of container numbers and TEU were greater than for transport volume. Nevertheless, there was also an acceleration in growth in terms of weight of goods transported, with the growth rate increasing from 2.5% in 2014 to 3.5% in 2015.

As regards container volumes handled in seaports, in the first half of the year Rotterdam experienced growth of 3.7% in TEU terms and of 2.3% in freight volume transported. Q3 2015 then saw a 6% fall year-on-year.



CONTAINER TRAFFIC ON THE RHINE
IN THE FIRST HALF YEAR 2013 - 2015

Number of containers	1,000 TEU	Weight of goods transported in containers (million t)	
665.213	1.019	7,7	1st half 2013
700.285	1.085	7,9	1st half 2014
745.169	1.165	8,2	1st half 2015
+5,3%	+6,5%	+2,5%	Rate of change 2014 / 2013 (%)
+6,4%	+7,3%	+3,5%	Rate of change 2015 / 2014 (%)

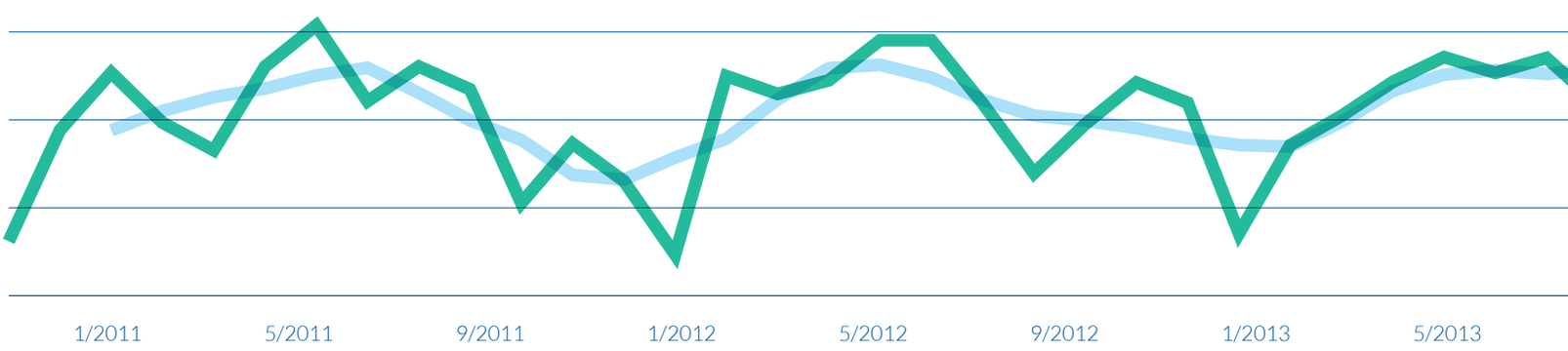
Source: CCNR calculation based on destatis data

According to a study by the Federal Office for Goods Transport (Bundesamt für Güterverkehr[4]) inland navigation throughout the entire Rhine-Alps corridor (including Italy) transports somewhat more TEU than the railways. Within these two modes of transport, their average market share is 52%. On certain routes not relating to Italy, however, the market share is significantly higher.

This relates to the highest volume routes of the entire multi-modal Rhine-Alps corridor, for example those between the Netherlands and Belgium on the one hand and the Düsseldorf region on the other. Another high-volume route on which Rhine navigation enjoys very high market shares, is the route between Belgium and the Netherlands on the one hand and the Rheinhessen-Pfalz region on the other. Inland navigation's market share for these routes exceeds 80% (see table below).

These high market shares reflect the hinterland traffic of the seaports of Rotterdam and Antwerp. The Düsseldorf and Rheinhessen-Pfalz regions are in the prime hinterland of these seaports, which are heavily skewed towards inland navigation.

[4] *Federal Office for Goods Transport (2014), Analysis of the modal split in the Rhine corridor, with particular reference to inland navigation; report dated December 2014*



ROUTES WITH THE GREATEST NUMBER OF CONTAINER TRANSPORT MOVEMENTS IN THE RHINE CORRIDOR
(ROUTES WITH FREIGHT VOLUMES > 100,000 TEU PER ANNUM) AND SHARE OF INLAND NAVIGATION COMPARED WITH RAIL TRAFFIC*

Region/country of origin	Region/country of receipt	Transport movements in 1,000 TEU	Inland navigation share
Netherlands	Düsseldorf	367	83%
Düsseldorf	Netherlands	287	81%
Belgium	Italy	193	0%
Italy	Belgium	177	0%
Rheinhessen-Pfalz	Belgium	158	84%
Düsseldorf	Belgium	150	84%
Netherlands	Italy	145	0%
Belgium	Rheinhessen-Pfalz	130	77%
Netherlands	Rheinhessen-Pfalz	121	91%
Netherlands	Switzerland	121	61%
Italy	Netherlands	113	0%
Belgium	Düsseldorf	112	73%
Rheinhessen-Pfalz	Netherlands	111	91%

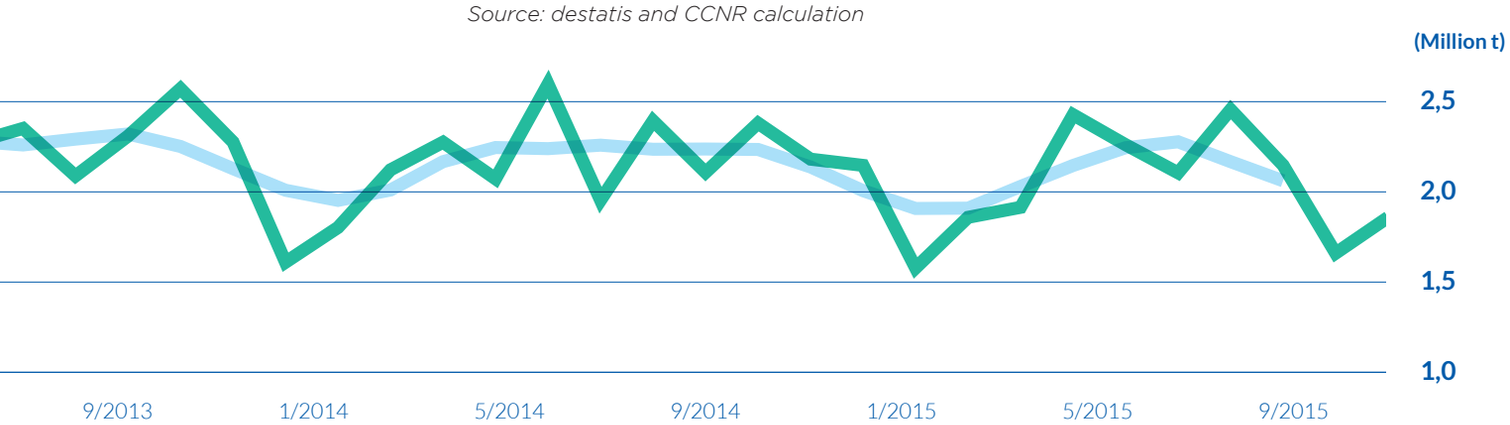
*Source: Federal Office for Goods Transport * 2013 figures*

SAND, GRAVEL, STONE, SOIL AND BUILDING MATERIALS

13 million t were carried in the first half of the year, representing a small increase of 1.5%. The following graph shows that the transportation of sand, soil and building materials is on a slight upward trend, notwithstanding marked seasonal fluctuations.

MONTHLY TRANSPORT MOVEMENTS OF STONE, SOIL AND BUILDING MATERIALS
ON THE TRADITIONAL RHINE

Source: destatis and CCNR calculation



CHEMICAL PRODUCTS

With a volume of 10.4 million t, the transport of chemical products on the traditional Rhine in the first 6 months of this year experienced a 2.8% fall compared with the same period the year before. This relatively weak performance is reflected in the equally weak economic situation in the chemical industry.

Nevertheless, the Rhine is an essential mode of transport for the chemical industry, without which it would be unable to carry on all of its economic activities in central and western Europe. This is evident from the example of the world's largest chemical park in Ludwigshafen, which handles 16 million t of freight each year, 40% of which by vessel. It is planned to expand the quantities handled, with the share accounted for by inland navigation being at least maintained.

The chemical industry is very interested in further enhancing the efficiency of transport by waterway. This also includes handling processes in the maritime ports where delays are often experienced by inland vessels owing to the shortage of terminal capacity and the consequent priority accorded to seagoing ships. The ensuing waiting times incur demurrage payments, involving financial losses for the shippers.

PETROLEUM PRODUCTS

Bolstered by falling oil prices, the transport of liquid petroleum products rose throughout 2014 and at the beginning of 2015. As with other goods segments, the third quarter was then characterised by a softening.

The transport volume in the first half of 2015 was 15.3 million t, or 12% higher than in the same period the year before. The obvious initial conclusion appears to be to attribute this to an increased consumption of petroleum products in response to lower prices. However, the sales data for petroleum products reveal no such demand effects. Petrol sales (premium grade) in Germany in the first half of 2015 even fell slightly (-1.7%), diesel sales increased by just 1%.[5] This demonstrates the low price elasticity of demand on the oil market, which for years has been characterised by the trend towards saturation in terms of consumption.

An increase in refinery output can be observed in Germany in the first half of this year (+5.7%), which is attributable to improved refinery margins as a result of low oil prices. But this only partially explains the increase in transport. The increase in transport demand is essentially attributable to special factors and to changes in oil futures markets.

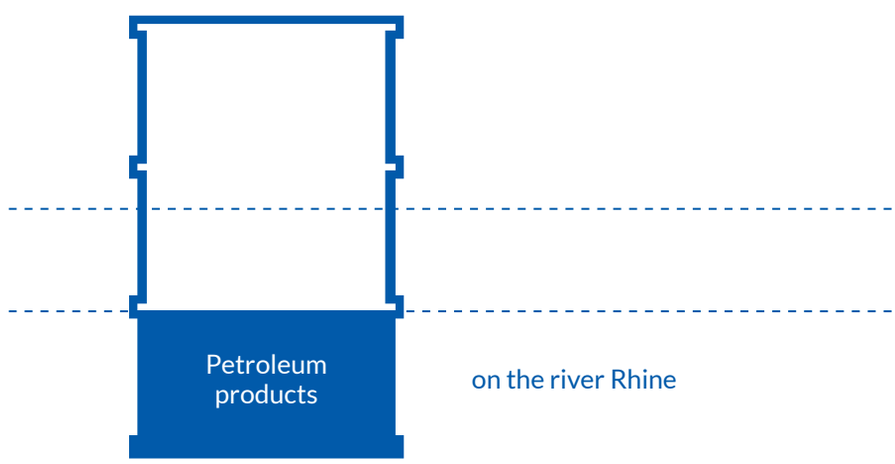
A modest contango situation arose on the futures market in the first half of 2015 owing to the precipitous price falls. This means that there is a long-term expectation of rising oil prices, making it profitable to stockpile oil products. Tankers are used to transport the products to the storage locations.

[5] *Source: energy balances (2015), energy consumption in Germany – data for the 1st half of 2015.*

Additional positive factors are to be seen in what is probably the permanent closure of one of the two Swiss refineries. This refinery (in Collombey / Canton of Valai / Wallis) ceased operation in March 2015 and is not expected to reopen. The second Swiss refinery (in Cressier / Canton of Neuchâtel) underwent maintenance for a six-week period in May and June, which also caused output to fall.

These falls in output caused a sharp increase in Swiss imports of petroleum products by inland navigation vessel. Transshipment operations in Switzerland's Rhine ports in both Basels were up 75%, totalling 1.6 million t in the first half of the year (compared with 0.9 million t in the same period of the year before).[6]

The share accounted for by the navigation of the Rhine within the modal split, as regards Switzerland's imports of crude oil and petroleum products, was 18.7% in 2014.[7] If one excludes crude oil imports and looks only at imports of petroleum products, the modal split share was approximately 32%. An increase in the modal split share accounted for by the navigation of the Rhine is now to be expected as a result of the closure of the Collombey refinery, for both modal split indicators.



1/3

Switzerland receives **one third of its imports of petroleum products** on the river Rhine

[6] *Source: SVS aktuell – Swiss Association for Shipping and Port Operations – No. 6 July/August 2015*
[7] *Source: Swiss Oil Association (2015); Oil in Switzerland – transport, refining and distribution.*

05

DEVELOPMENT IN FREIGHT RATES

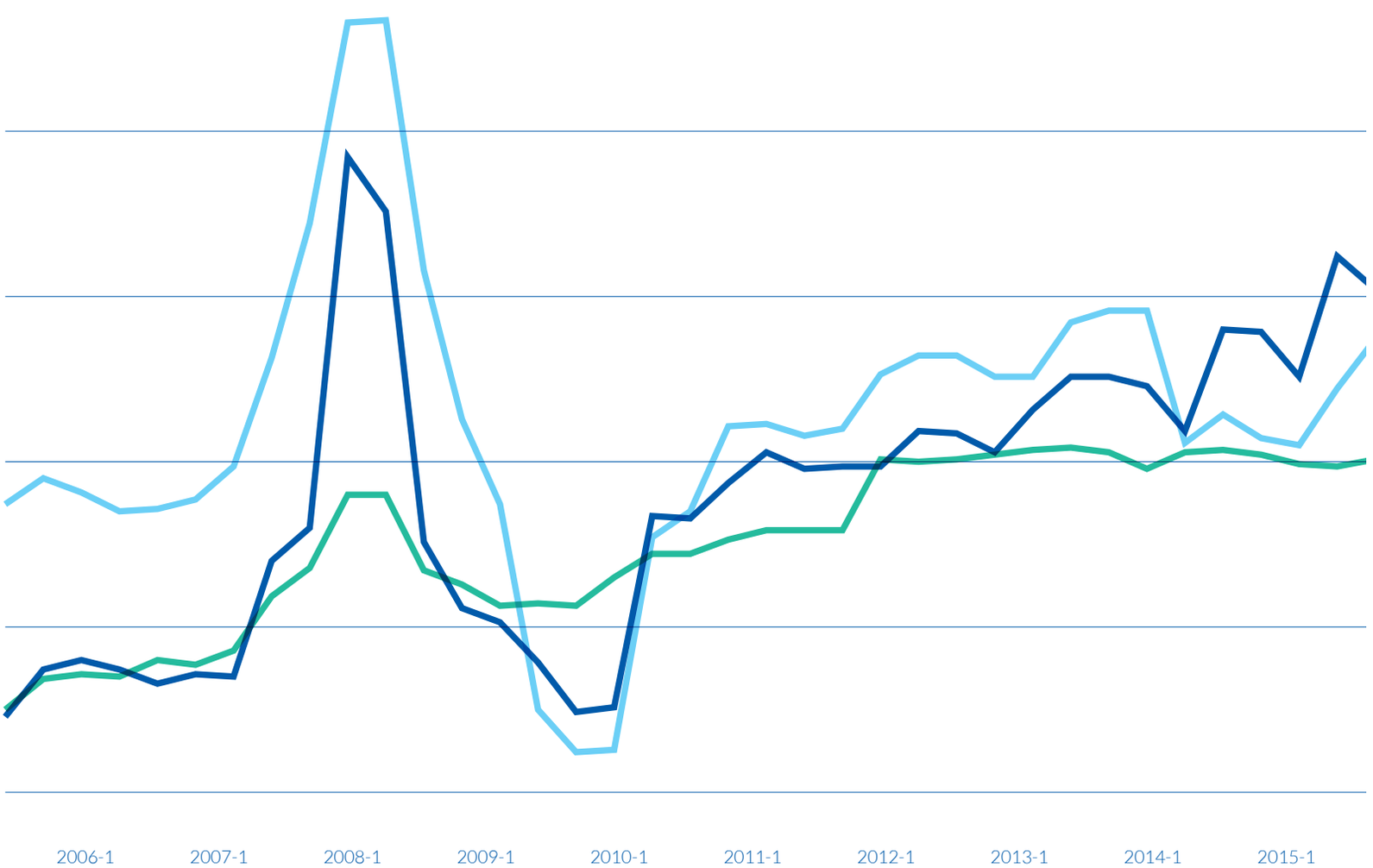
DEVELOPMENT IN FREIGHT RATES

DRY SHIPPING

Transport prices for international Rhine traffic and in Germany were relatively low in the first half of this year and exhibited little upward movement.[8] The second half of the year saw freight rates increase as a result of the low water. Inland navigation data in France shows an increase, specifically in the freight rates for the transport of agricultural produce. Prices for the transport of sand, soil and building materials on the other hand have continued to stagnate, as in recent years.

TRANSPORT PRICE INDEX IN FRENCH FREIGHT NAVIGATION

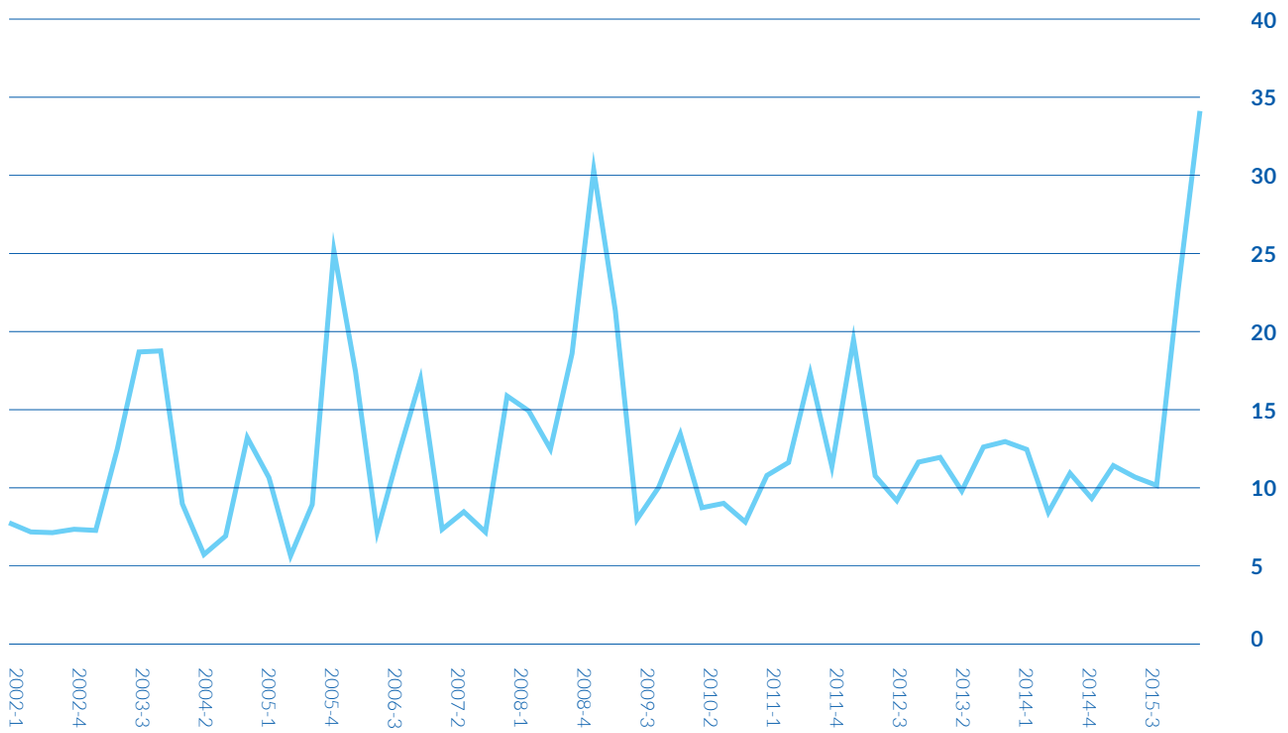
(2010 = 100) *Source: Ministère de l'Ecologie, du Développement durable et de l'Energie*



TANKER SHIPPING

The freight rate level in the tanker sector in the first two quarters of 2015 was relatively low. The third quarter, however, saw a steep rise starting in August and continuing in September (see graph below). This can be explained primarily by the period of low water on the Rhine, which began at the same time. Freight rates then peaked in the second week of November. From that point onward rates again slumped in response to the recovery in water levels.

FREIGHT RATES FOR GAS OIL TRANSPORTED BY TANKER FROM ROTTERDAM *(€ / METRIC TON)



Source: calculation by CCNR Secretariat based on PJK International data.
**average for freight bound for Duisburg, Dortmund, Cologne, Frankfurt a.M., Karlsruhe, Basel.*

125
118
111
104
97
90

Agricultural products / national transport

Agricultural products / international transport

Sand, earths & building material

As previously explained, the first half of 2015 saw a return to a contango situation on the oil futures market. Consequently there is an expectation of a return to rising oil prices. This contango situation stimulated the trade in oil products and thus also transport by tanker, as well as freight rate levels. It is estimated that the trade in petroleum products in the Netherlands accounts for almost a 30% share of total tanker transport demand.[9]

[8] *See "Schuttevaer" magazine, various issues in 2015*
[9] *Source: ING Economisch Bureau (2015), Binnentankvaart verliest koers.*

06

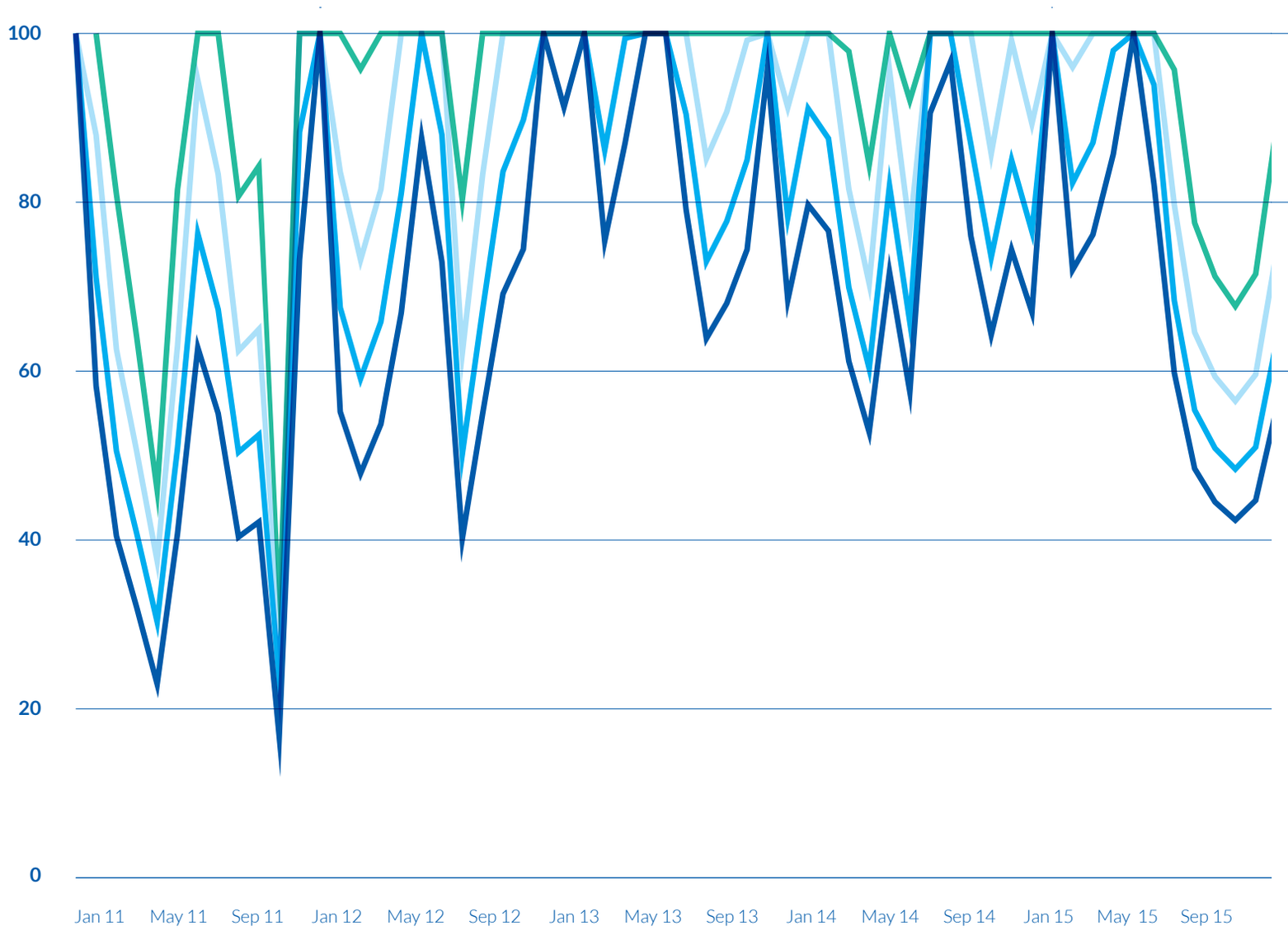
WATER CONDITIONS

WATER CONDITIONS

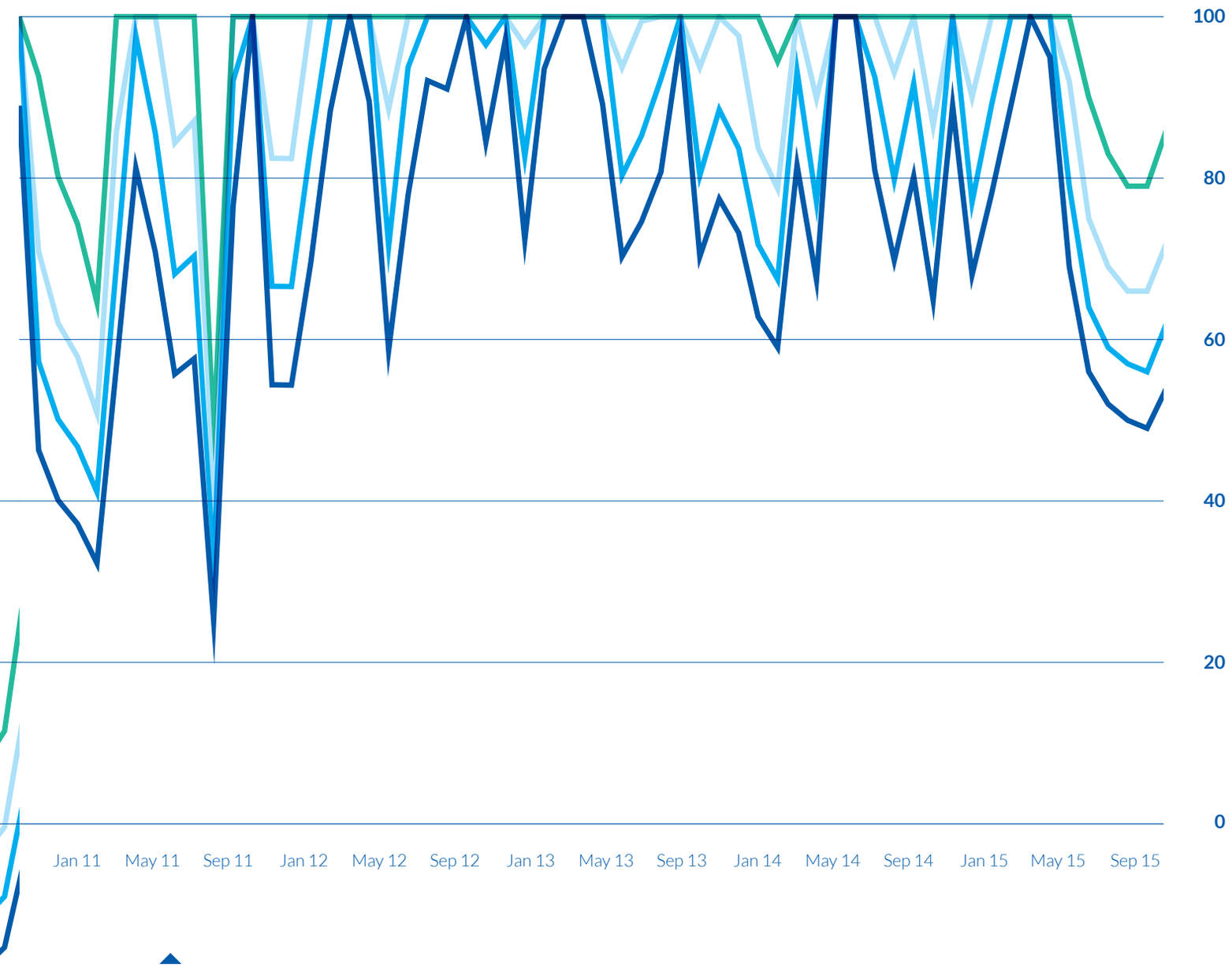
Water levels on the middle and upper Rhine in the early months of 2015 were initially within the typical multi-year range. Heavy rainfall then caused a brief but pronounced high water period around the beginning of May. For a time, water conditions on the Rhine were such that navigation of the upper Rhine had to be temporarily suspended.[10] However, once the rainfall ceased, water levels on the Rhine fell quickly.

The second half of 2015, was characterised by a very pronounced and persistent low-water phase.This resulted in a fall in vessel load factor.

POSSIBLE LOAD FACTOR AT KAUB ON THE MIDDLE RHINE
RHINE FOR VESSELS OF DIFFERENT DRAUGHTS (2.5 M – 4M) IN %



POSSIBLE LOAD FACTOR AT MAXAU ON THE UPPER RHINE
FOR VESSELS OF DIFFERENT DRAUGHTS (2.5 M – 4M) IN %



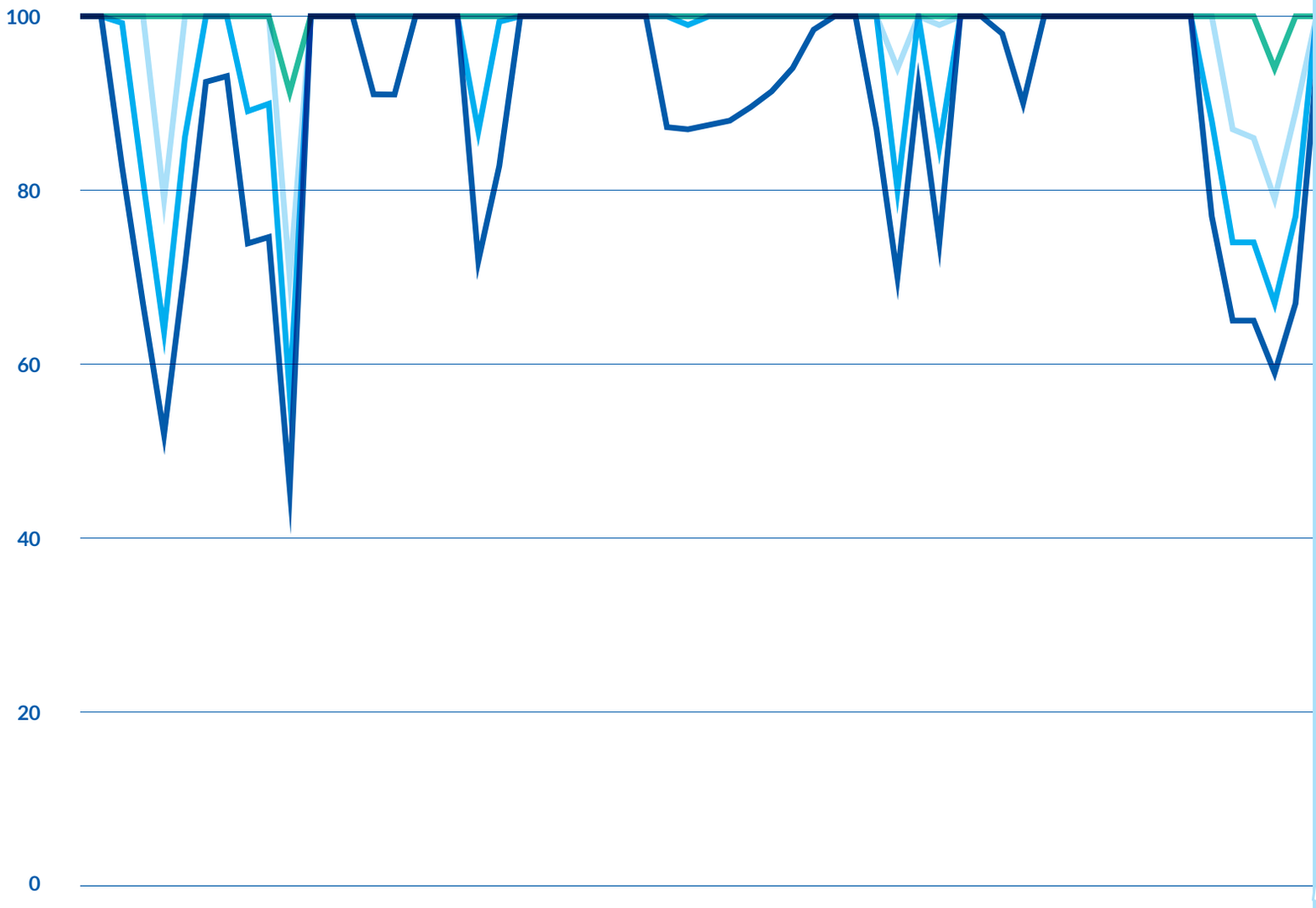
The decline in the load factor was admittedly less pronounced on the lower Rhine than on the middle and upper Rhine. Notwithstanding this, the fall was very relevant for Rhine traffic and for individual industrial sector logistics as more than half the transport performance of the traditional Rhine is accounted for by the stretch between the Dutch border and Cologne (lower Rhine).

Source: CCNR calculation based on Federal German Waterways and Shipping Administration (WSV) data, provided by the Federal Institute for Hydrology (BfG)

[10] *Source: Swiss Federal Office for the Environment (2015), Special hydrological report by the Federal Office for the Environment dated 26.5.2015.*

MAXIMUM POSSIBLE LOAD FACTOR AT RUHRORT ON THE LOWER RHINE

FOR VESSELS OF DIFFERENT DRAUGHTS (2.5 M – 4M) IN %



Source: CCNR calculation based on Federal German Waterways and Shipping Administration (WSV) data, provided by the Federal Institute for Hydrology (BfG)

2.5 Meter
3 Meter
3.5 Meter
4 Meter

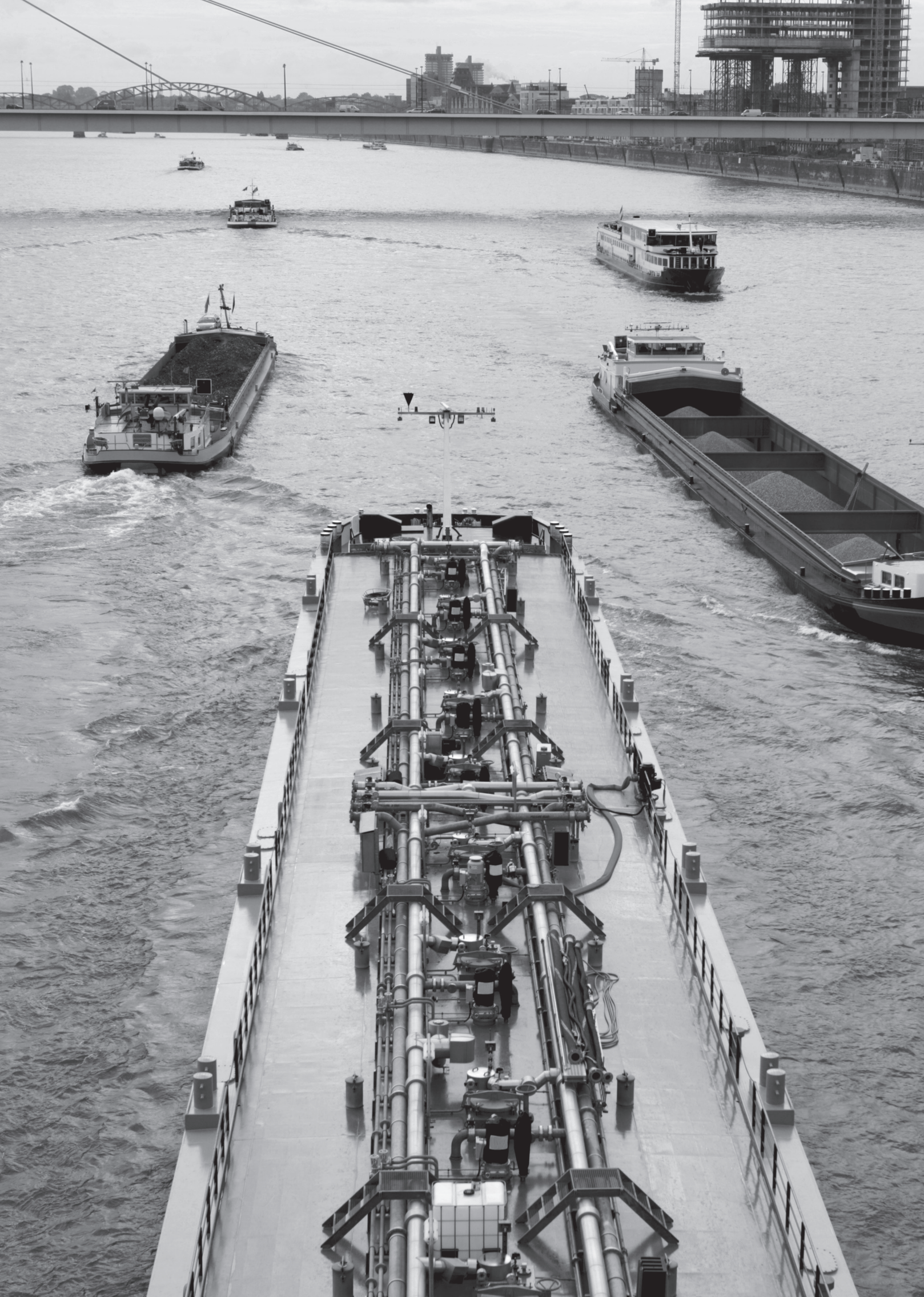
Extensive bulk cargo transport movements were effected on the lower Rhine, for example coal and ore movements between Rotterdam and Duisburg. According to the shippers' organisation EVO, the stockpiles at a number of German coal fired power stations have fallen considerably during the low water situation.

This points to a sharp fall in coal transport movements during the low water situation. This assessment is corroborated by data from the Dutch Centraal Bureau voor de Statistiek (CBS) after the transport of dry bulk goods had suffered the greatest impact as a result of the low water. In October, movements of dry bulk cargo – primarily in the case of exports to Germany – shrank by 12% and, thus by significantly more than for liquid bulk cargo (-6%) and for

containers (-7.6%). In October 2015 there was an overall 10% decline in total transport volume in the Netherlands.

The enforced reduction in vessel load factor required the use of greater shipping capacity, which translated into increased logistical effort and thus higher costs. As water levels fall, the costs increase exponentially.[11] In addition, during protracted low water periods, there is a shortage of shipping capacity available on the market, resulting in a further cost increase and a rise in freight rates (see chapter on operating conditions).

[11] *Refer to: Contargo(2015), "Kleinwasser" (shallow water) brochure*



07

DEVELOPMENT OF FREIGHT CAPACITY

DEVELOPMENT OF FREIGHT CAPACITY

DRY SHIPPING

Following the addition of approximately 48,000 t of cargo capacity to the market in 2013, the final figures for 2014 point to a further marked reduction of 75%. New construction in 2014 was only 12,000 t. We are talking about between around ten and fifteen new units, primarily lighters and motor cargo vessels brought into service in the Netherlands. A RoRo vessel, a pusher and a tug have also been brought into service.

The vessel database of the IVR registered ten new motor cargo vessels and push barges in 2015. These units have a total cargo capacity of around 36,800 t, namely an average cargo capacity of 3,680 t. These figures indicate a slight increase in the tonnage added to the market in 2015.

DRY GOODS SHIPPING CONSTRUCTION BY FLAG, TOTAL AND AVERAGE TONNAGE IN 2015

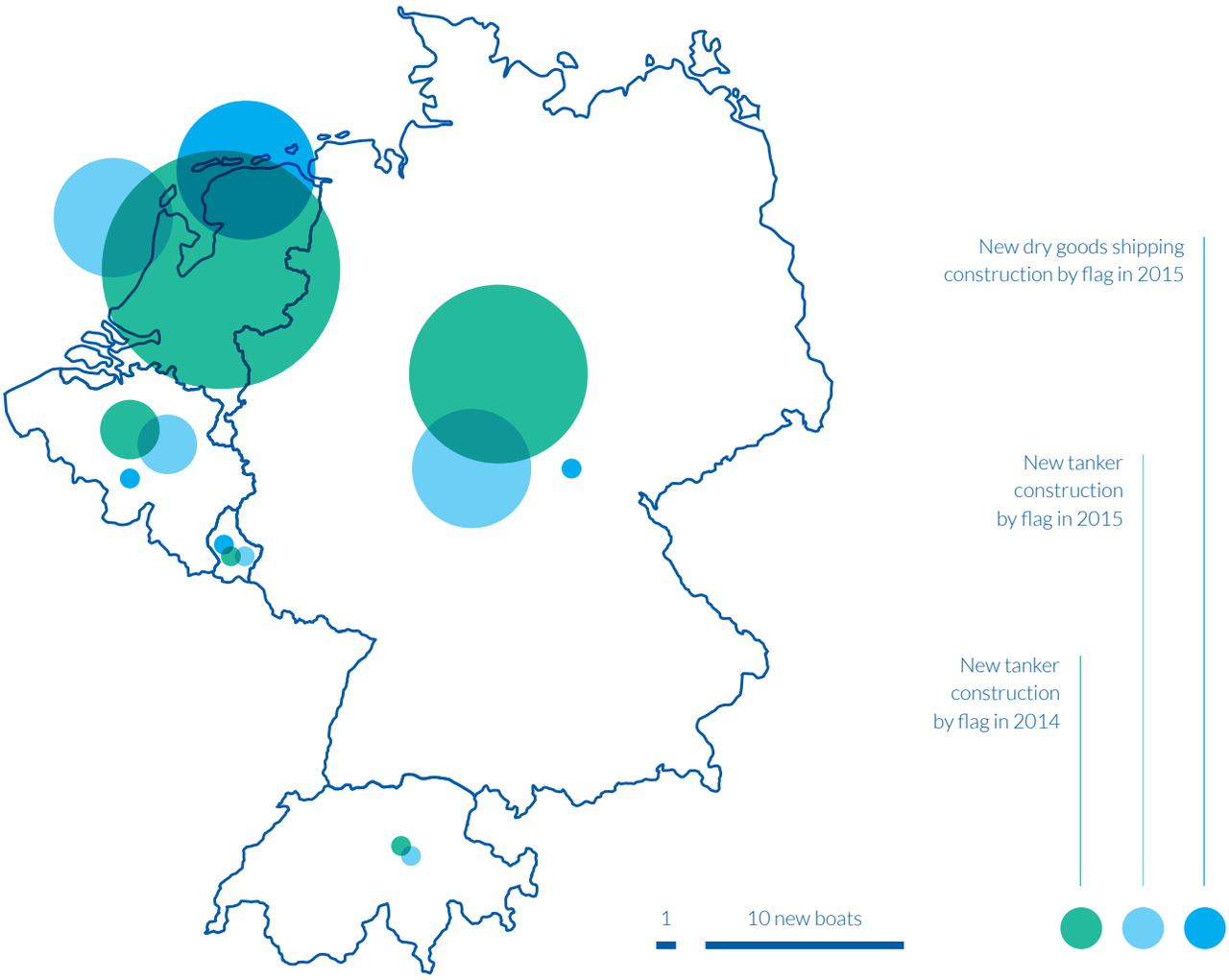
Source: IVR and www.vlootschouw.nl

	Number	Total tonnage	Average tonnage
Netherlands	7	27.822	3.974
Germany	1	2.858	2.858
Belgium	1	3.250	3.250
Switzerland	0	-	-
Luxembourg	1	2.865	2.865
Total	10	36.795	3.679

Nevertheless, the new construction rate in the past three years compared with previous years and in relation to fleet capacity is extremely low. The total tonnage (96,800 t) that has entered service in 2013, 2014 and 2015 represents barely one per cent of West European fleet capacity in the dry goods shipping sector (around 10.5 million t). This reflects the very limited investment opportunities in this sector, which is partly a consequence of the low freight revenue over a period of years and the more restrictive lending terms.

TANKER SHIPPING

A total of 17 new tankers and one new bunker boat were added to the database of the IVR in 2015. 26 new entries into service were registered the year before, in 2013 it was 33.



The upshot for 2015 is new tonnage of 70,439 t (= 2.5% of existing fleet capacity), compared with 84,400 t in 2014 (3% of fleet capacity) and 73,000 t in 2013.

NEW TANKER CONSTRUCTION BY FLAG, TOTAL AND AVERAGE TONNAGE IN 2014

	2014			2015		
	Number	Total tonnage	Average tonnage	Number	Total tonnage	Average tonnage
Netherlands	12	48.984	4.082	6	29.816	4.969
Germany	9	18.136	2.015	6	11.681	1.947
Belgium	3	11.377	3.792	3	17.491	5.830
Switzerland	1	4.193	4.193	1	2.861	2.861
Luxembourg	1	1.693	1.693	1	8.590	8.590
Total	26	84.383	3.245	17	70.439	4.143

Source: IVR and CCNR calculation

There is a continuing trend towards larger tankers. The average tonnage of units entering service in 2014 is 3245 t. The indications for 2015 point to a continuing increase (average new tanker tonnage in 2015: 4,143 t).

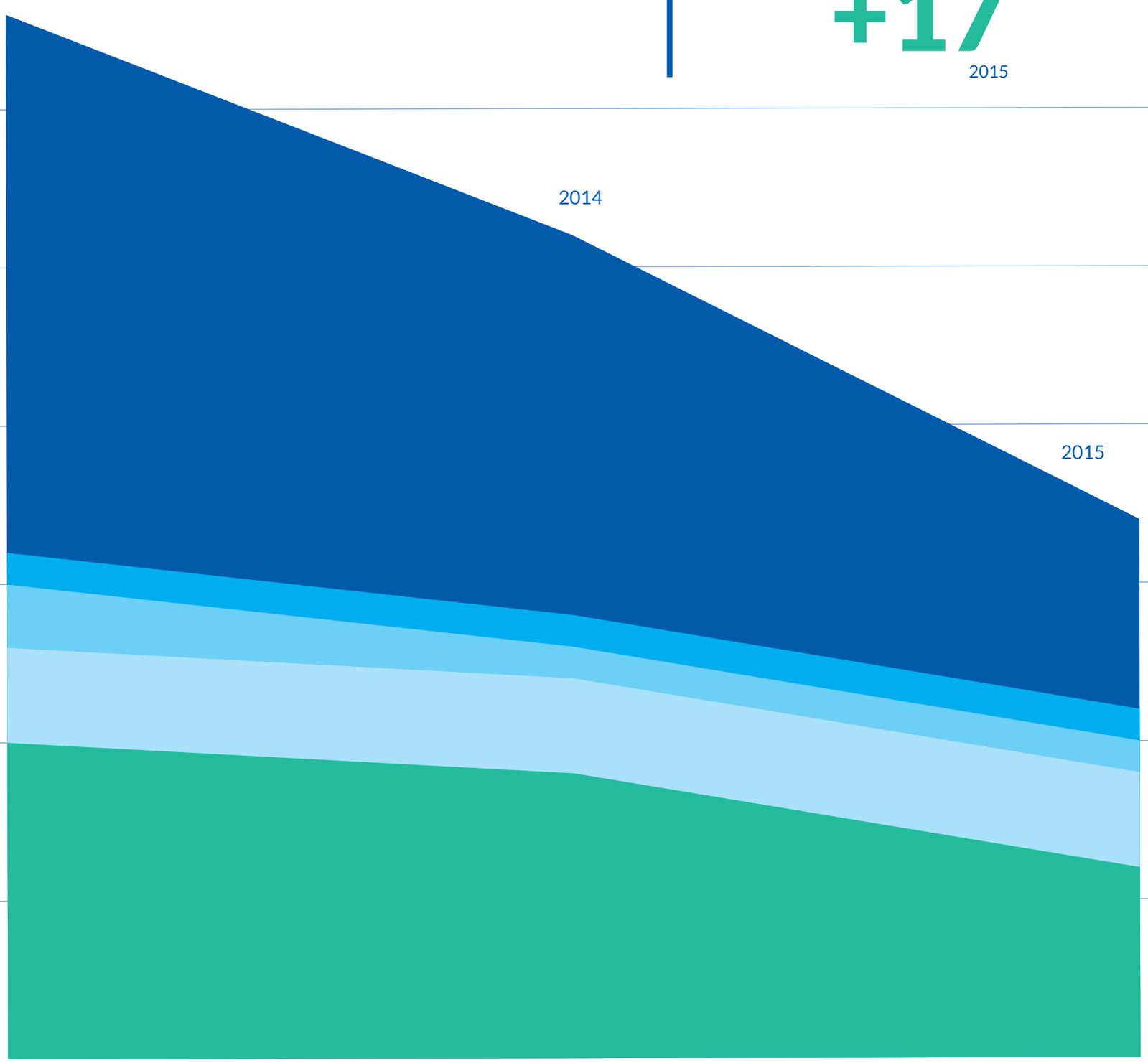
NEW TANKER CONSTRUCTION IN EUROPE

BY TONNAGE CATEGORIES

+31
2013

+26
2014

+17
2015



NEW TANKER CONSTRUCTION IN EUROPE
BY TONNAGE CATEGORIES

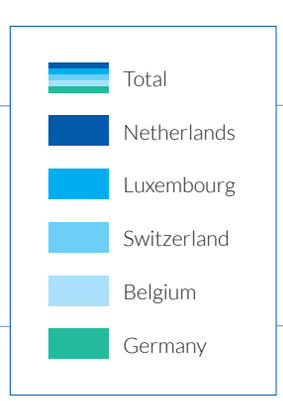
Tonnage (t)	2013	2014	2015
1000 - 2000	13	10	4
2000 - 3000	15	7	6
3000 - 4000	2	1	2
4000 - 6000	1	3	0
> 6000	0	5	5
Total	31	26	17

Source: IVR and www.vlootschouw.nl

It will be noticed that the cargo capacity of tankers newly entering service in the Netherlands and Belgium is significantly higher than that of German tankers. This is also reflected in the vessels' dimensions. Tankers with a length of 135 metres typically fly the Dutch flag and operate in the ARA area, where they are also used as "floating storage", for bunkering seagoing vessels and for transport between the major transshipment locations.[12]

In addition to these larger tankers, new construction in 2014 and 2015 also includes a number of 110 metre and 86 metre vessels (under the German, but also Dutch flag), which can also be operated on German canals.

The information mentioned above, which is taken from the vessel database of the IVR, are a very close match with data from the EBIS organisation. According to the IVR, 26 new tankers came into service in 2014, compared with 27 according to EBIS. Both data sources point to a significant decline in the new build rate since 2011.



NEW TANKER CONSTRUCTION IN EUROPE
BY FLAG (2013-2015)
(LEFT) *Source: IVR and www.vlootschouw.nl*

[12] *See also: ING Economisch Bureau (2015), Binnentankvaart verliest koers.*

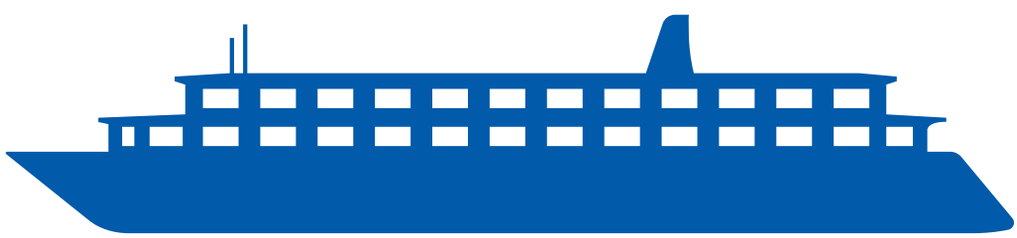
PASSENGER NAVIGATION

2014 saw around 30 new cruise vessels enter service on Europe's rivers. According to one important source[13] 2015 is expected to see a slowdown. Based on the latest IVR figures, however, this estimate is no longer tenable.

The IVR figures for 2015 point instead to a similarly high rate of new construction. In fact, 28 new cruise vessels were added to the vessel database.

The split of these vessels between individual flag States reveals that Switzerland accounts for the lion's share (around 70 to 75%). Other flag States in 2014 and 2015 were the Netherlands, Germany, France, Malta and Cyprus.

Most of the new vessels entering service in 2014 in 2015 are 135 metres in length with a beam of between 11 and 11.5 metres. This type of vessel, also referred to as a "long ship", has a passenger capacity of approximately 190. But in addition to these "long ships" a few 110 metre-long vessels are also to be found among the new build units.



135 m

"Long Ships"

2/3

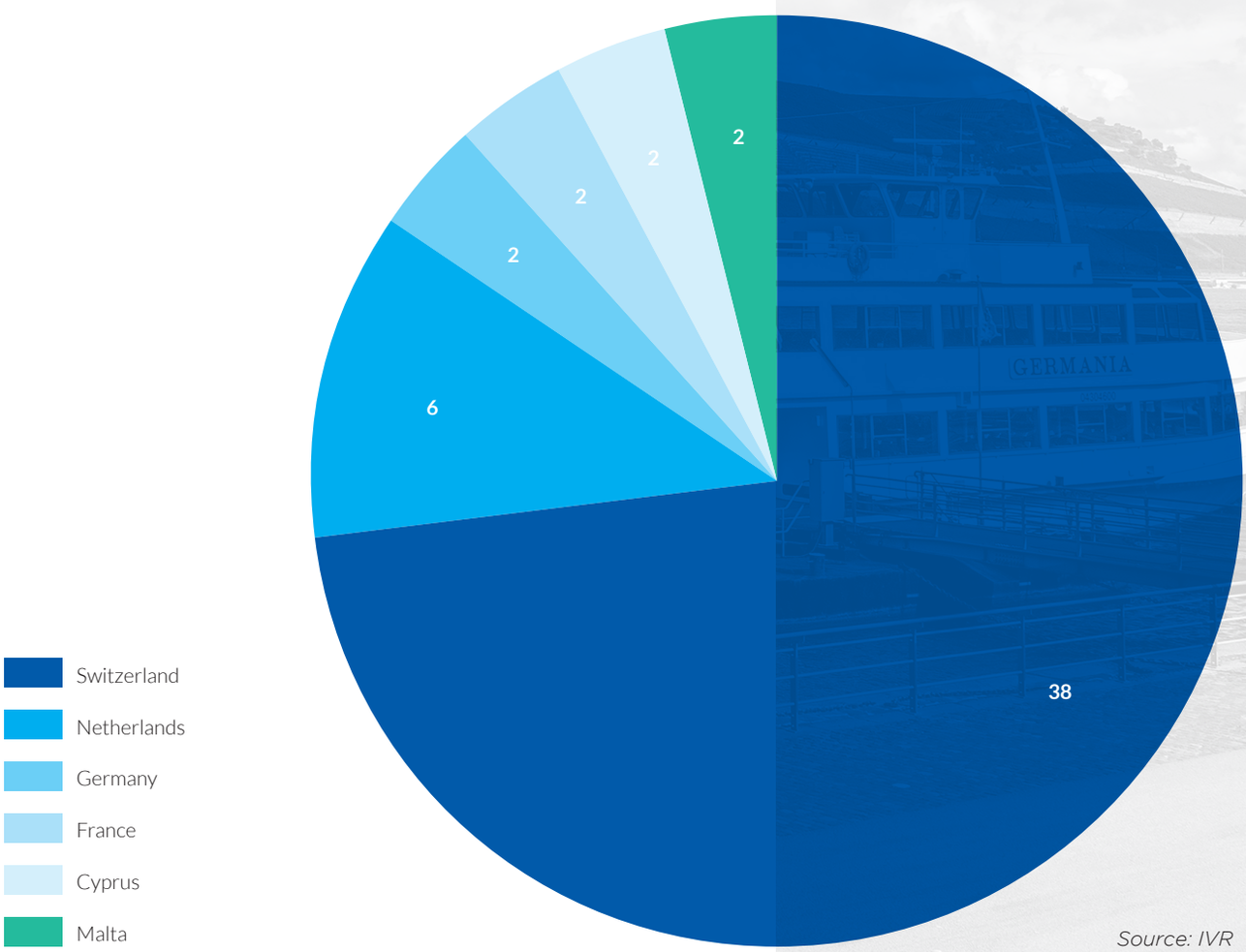
Two thirds of the 320 river cruise vessels active in Europe were built **after the year 2000**

[13] *Hader & Hader (2014), The River Cruise Fleet Handbook 2014/15*

Both the French flagged vessels that came into service in 2015 are significantly smaller (length 80 and 89 metres respectively) and have a smaller passenger capacity (96 and 132 passengers respectively) reflecting the context and traditions of the French market. One of these vessels will operate on the Loire, France's longest river, opening up yet another European waterway for this dynamic sector. These ships' smaller dimensions are the consequence of the more confined navigational conditions on the Loire.

Compared with cruise ships, the rate of new construction for day excursion vessels is very modest. Only the tour boat fleet in Amsterdam has gained one excursion ship (according to IVR information).

RIVER CRUISE VESSELS ENTERING SERVICE IN 2014 AND 2015
NUMBER OF VESSELS BY FLAG



Source: IVR


ÖVENPICK HOTEL
Sea Tel

08

DEMAND IN PASSENGER NAVIGATION

DEMAND
IN PASSENGER NAVIGATION

1.13 million people went on a European river cruise in 2014.[14] River cruises on the Rhine and Danube continue to be the most heavily booked trips. Just over two thirds of river cruises take place on these rivers, with 30.4 % and 40.9% respectively.

Broken down by nationality, German passengers are (still) the largest group with a share of around 36%. In second place are the USA and Canada (totalling 32%), with an upward trend. In all likelihood these two countries should overtake Germany as a source market in 2016 or 2017. River trips have been and continue to be heavily advertised in the USA in various mass media. This explains the rapid growth of this form of travel in the US market. A further English-speaking source market, the United Kingdom, is in third place (13%) in Europe as regards passenger volumes, followed by France in the fourth place (11%).

Among English-speaking tourists both the classic journeys - along the romantic central Rhine Valley - as well as the longer journeys, for example from Amsterdam via the Rhine, Main and Danube to Budapest, are very popular. A new successful trend is to be seen in the combination of cruises and city tours, for example to Prague.

Passenger volumes in Europe have grown by around 30% since 2003. Having said that, the number of German passengers has increased disproportionately (+51%). Turnover in the German market has, however, increased by less than in the English-speaking market, which supports higher margins. Overall therefore, the German market is characterised by tough price competition.

Future passenger volumes should be skewed even more strongly towards the USA and Canada. This is also reflected in new construction as particular companies, and their intensive construction activity with it, are now only concentrating on the English-speaking market.

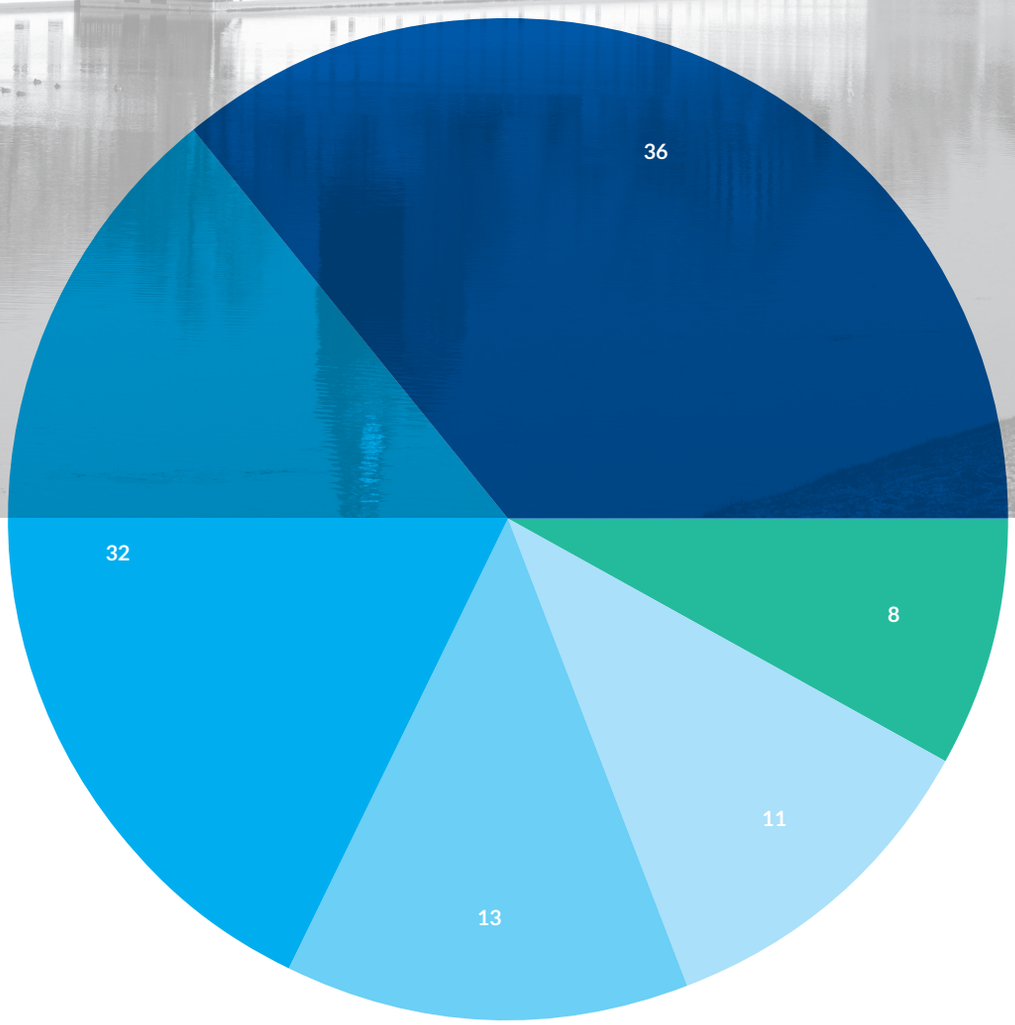
+30 %

The number of passengers in the European river cruise sector has mounted by 30 % since 2003

[14] *The 2015 figures were not yet available at the time this report was written.*

1,130,000

people went on a European river cruise in 2014



PASSENGERS NATIONALITY (IN %)

- Germany
- USA & Canada
- United Kingdom
- France
- Other

09

OPERATING CONDITIONS

OPERATING CONDITIONS

TURNOVER DEVELOPMENT

Turnover development in the transport sector is characterised by seasonal fluctuations that can assume different manifestations depending on mode of transport. A correct interpretation of turnover development presupposes knowledge of seasonal fluctuations and of the seasonal structure.

The seasonal fluctuations in inland navigation are caused by numerous influencing factors. Foremost among them, in the context of freight navigation, are the seasonal fluctuations in water level, affecting freight rates and thus turnover.

Moreover, transport volumes are not equally distributed throughout the year. For example, the greatest transport volumes are typically seen in the autumn (see figures 4 and 5). This is attributable to the fact that high volume goods segments (primarily petroleum products and agricultural produce) reach a seasonal peak in the autumn.

Seasonal fluctuations are even more pronounced in passenger navigation than in freight navigation; moreover, they are also structured differently compared with freight navigation.

Turnover development in goods transport as well as in passenger transport is marked by intense **seasonal fluctuations**

Seasonally adjusted

Original series

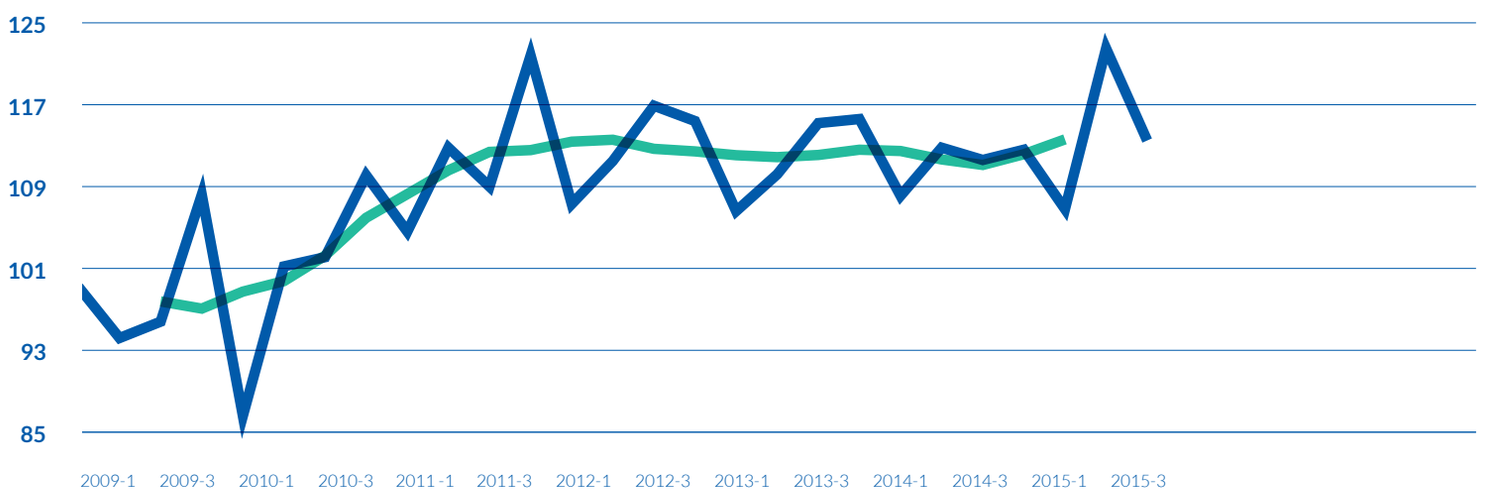
[15] *This emerges from an analysis of quarterly turnover data (Source: CBS, destatis) over several years.*

Analysis of quarterly data of turnover for the Netherlands and Germany reveals the following empirical regularities, consistent with the aforementioned general observations:

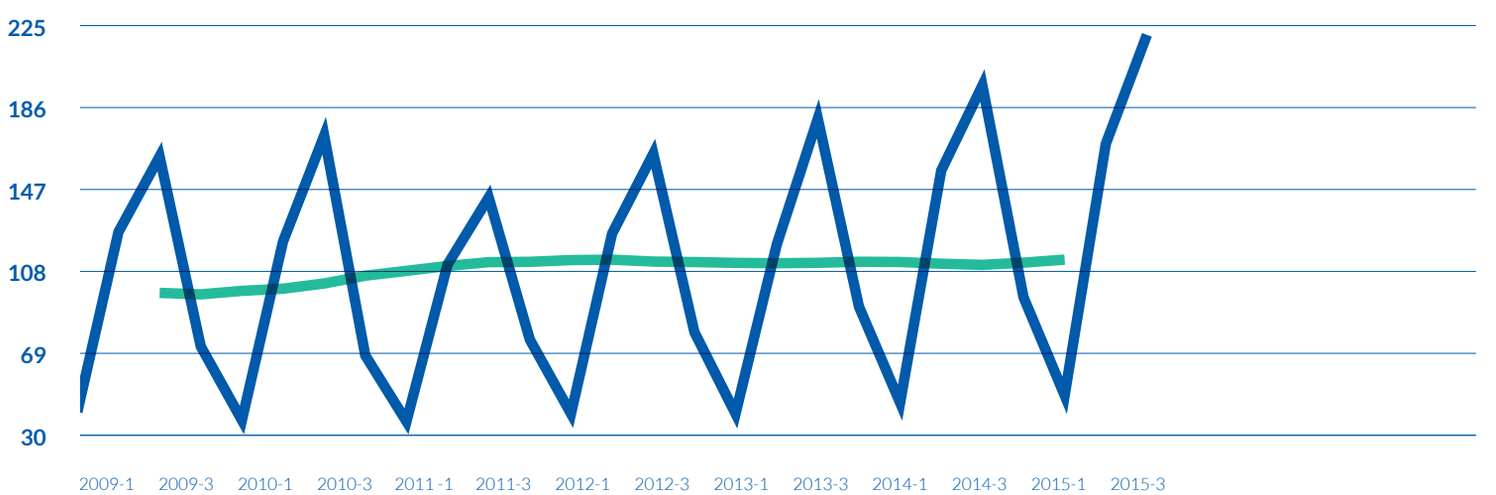
- in both countries the turnover in the first quarter of the year is always the seasonal trough with the seasonal peak being reached in the third and fourth quarters.[15]
- The seasonal cycles in passenger navigation are orders of magnitude greater than in freight navigation. This is a function of the characteristics of passenger transport which, despite every effort to extend the season into the winter, are still characterised by a summer peak activity.

The following two figures illustrate turnover development for Germany, by quarter, for both freight and passenger navigation. What emerges is the aforementioned seasonal structure, with far more pronounced cycles in passenger navigation.

TURNOVER DEVELOPMENT IN GERMAN FREIGHT NAVIGATION
(INDEX 2010 = 100) *Source: destatis and CCNR calculation*



TURNOVER DEVELOPMENT IN GERMAN PASSENGER NAVIGATION
(INDEX 2010 = 100) *Source: destatis and CCNR calculation*



It will be seen for German freight transport that the seasonally adjusted[16] turnover development in 2012, 2013 and 2014 follows a relatively flat trend. That means that, ignoring seasonal fluctuations, there has been little increase in turnover. In the second and third quarter of 2015, on the other hand, there was an unexpectedly strong increase. This uplift averaged around 5% year-on-year for the two quarters Q2/2015 and Q3/2015.

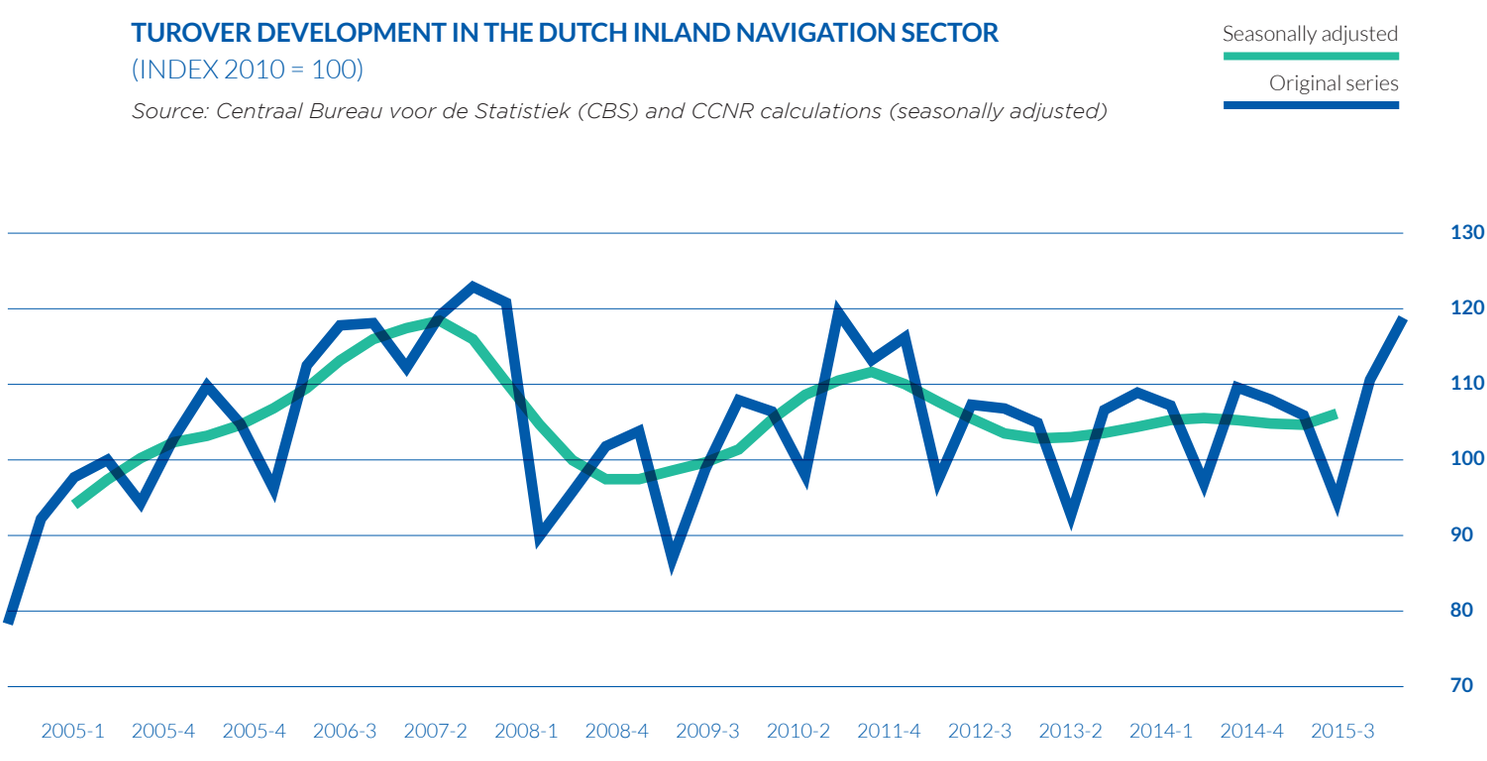
An upward trend in seasonally adjusted turnover can be discerned in German passenger navigation. This upward trend continued in 2015. The scale of the increased turnover is very large, especially in comparison between 2015 and previous years, such as 2011 or 2012. These increases are primarily attributable to the boom in river cruising.

Turnover data for Dutch inland navigation are only available for the industry as a whole. The index is based on turnover in the sector as a whole, with no distinction between freight and passenger navigation. The following graph shows turnover development as an index (2010 = 100) over the period from 2005 to the third quarter of 2015. A significant increase is discernible in the aforementioned quarter, which has to do with the effect of the low water situation on freight rates. The year-on-year turnover growth is 10%.

[16] *The seasonally adjusted series is arrived at by adjusting the figures for the seasonal cycles. It includes the long-term trend and current state of the economy and is also referred to as the "smoothed component".*

TUROVER DEVELOPMENT IN THE DUTCH INLAND NAVIGATION SECTOR
(INDEX 2010 = 100)

Source: Centraal Bureau voor de Statistiek (CBS) and CCNR calculations (seasonally adjusted)



The following table shows the rate of change in turnover by quarter.

TURNOVER DEVELOPMENT IN DUTCH INLAND NAVIGATION
(IN % YEAR-ON-YEAR)

Period	Q1/2013	Q2/2013	Q3/2013	Q4/2013	Q1/2014	Q2/2014	Q3/2014
Rate of change (%)	-4,7	-0,7	+2,0	+2,2	+4,6	+2,8	-0,9

Period	Q4/2014	Q1/2015	Q2/2015	Q3/2015
Rate of change (%)	-1,2	-2,6	-0,1	+10,0

Source: CBS

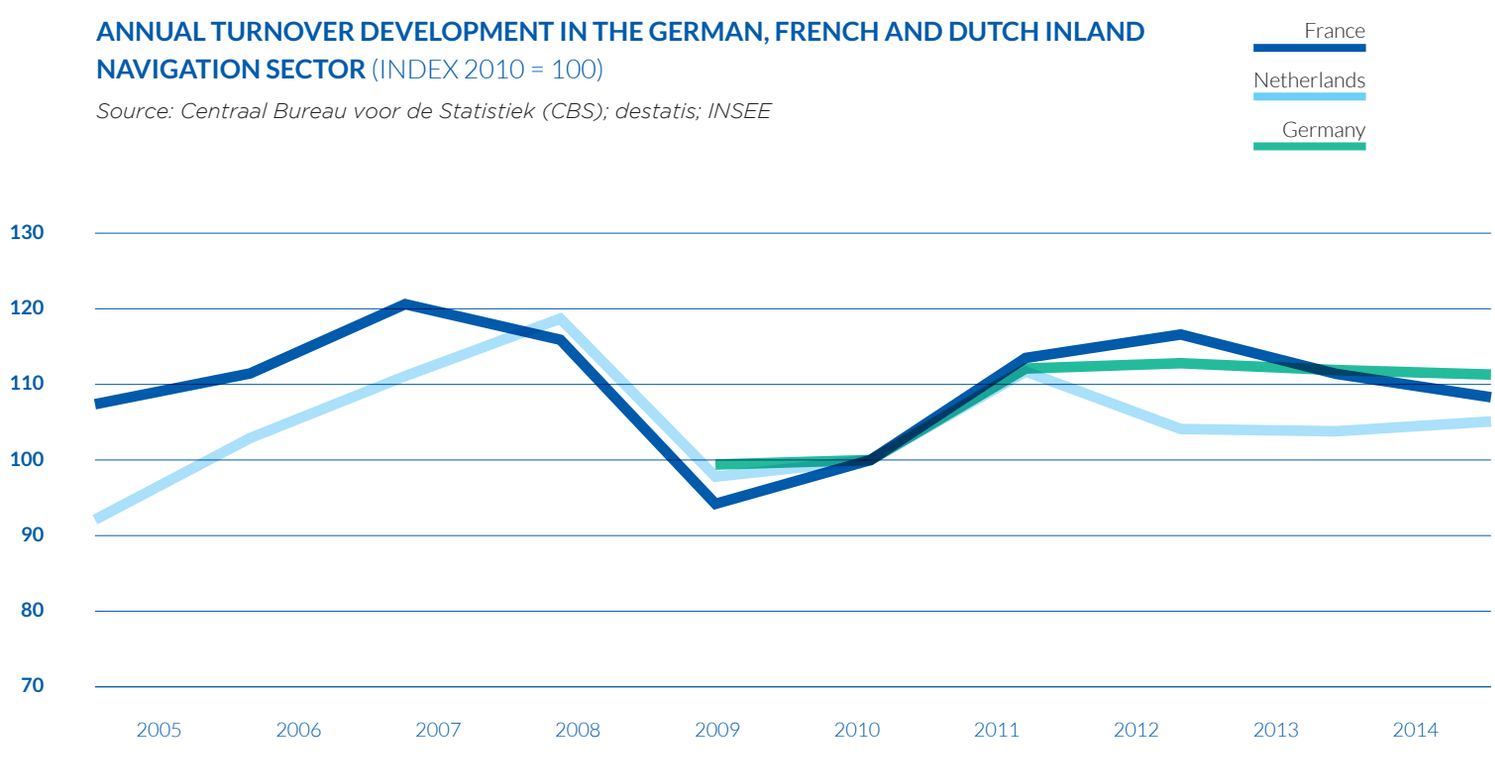
What this reveals is that the low-water-related increase in turnover in the third quarter of 2015 was the first increase following a series of falls in previous quarters. This period of declining turnover (Q3/2014 to Q2/2015) follows a period of rising turnover (Q3/2013-Q2/2014).

Turnover data for French inland navigation are only available on an annual basis and are shown below, together with the Dutch and German annual data.

The index is based on turnover in the sector as a whole, with no distinction between freight and passenger navigation. The annual data, which goes up to 2014, shows a relatively parallel developments for the three countries with a tendency to stagnation in 2012, 2013 and 2014.

ANNUAL TURNOVER DEVELOPMENT IN THE GERMAN, FRENCH AND DUTCH INLAND NAVIGATION SECTOR (INDEX 2010 = 100)

Source: Centraal Bureau voor de Statistiek (CBS); destatis; INSEE



COST DEVELOPMENT AND STRUCTURE

COST STRUCTURE

The cost structure in inland navigation differs from that in other transport sectors. As far as personnel costs are concerned, this is attributable to the fact that in Western Europe most inland navigation companies are sole proprietors. These sole proprietors or self-employed people typically employ almost no staff. This explains why personnel costs as a percentage of the cost base, are significantly lower for inland navigation than for road freight transport.[17]

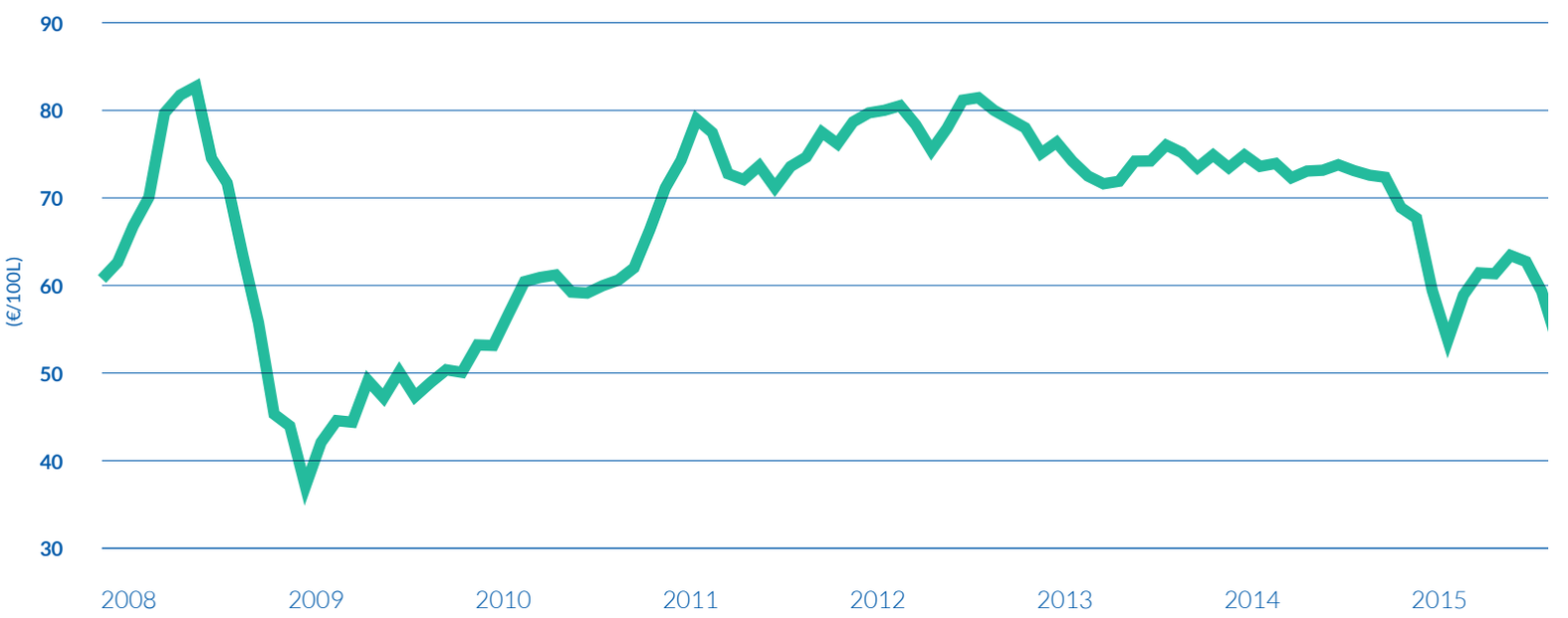
A further peculiarity of inland navigation is companies' very high capital intensity. It arises from the high value of the vessels and the small size of the companies. Capital costs therefore account for a higher proportion than for other modes of transport.

Fuel costs represent around 16% of the total. Repair, maintenance and upkeep costs are a relatively small proportion (around 4%, according to CBS data).

FUEL COSTS

Falling oil prices in the second half of 2014 caused, with a time lag, a steep decline in gas oil prices. According to the CBRB gas oil index, gas oil prices in the first half of 2015 were between 15 and 20% lower than in the corresponding period the year before.

DEVELOPMENT IN GAS OIL PRICES IN THE NETHERLANDS*



Source: CBRB in Euro per 100 litres, excluding value added tax and CDNI fee.*

[17] *For the Netherlands, the statistical bureau CBS has calculated a figure of 20%, compared with 30% in road freight transport. Source: CBS (2015), Transport enmobiliteit 2015.*

This somewhat lightened the load on inland navigation, including by comparison with the railways, which were not affected by this cost reduction as they scarcely use any fossil fuel these days.

STAFF COSTS

Inland navigation labour costs are not the same throughout the countries of Western Europe. According to a recent study total labour costs may differ by between 40 and 60%. Labour costs are highest in Belgium and France and lowest in Switzerland and Luxembourg.[18]

The high labour costs in Belgium are also to be seen in the economy as a whole and are the consequence of the very high non-wage labour costs. According to Eurostat France and Belgium, together with Sweden, have the highest non-wage labour costs (relative to gross earnings) in the EU.[19] Non-wage labour costs include the employer's social insurance contributions, the continued payment of wages and salaries in the event of sickness and occupational pensions. For an internationally orientated industry such as inland navigation, high labour costs entail particularly severe competitive disadvantages for labour-intensive businesses.

According to information provided by the German and Dutch associations (BDB and CBRB), the first half of 2015 saw only moderate increases in wages and salaries. In Germany pay in the freight and passenger navigation sector increased by 1.1% as at 1st July 2015. The year before there was an increase of 2.3% as at 1st July. The current collective wage agreement between the "Bundesverband der deutschenBinnenschifffahrt " - BDB (Federal German Inland Navigation Association) and the "Verdi" trade union will remain in force until the end of the year.

According to the CBRB wage scales, wages and salaries in the Netherlands as at 1st July 2015 had increased by an average of 0.5% (compared with the year before).

On 1st January 2015 a statutory gross minimum wage of €8.50 per hour was introduced in Germany. The application of the minimum wage to transit traffic has been suspended by the European Commission following objections. However, it remains valid for inland transport movements.

Between countries in Western Europe, the level of non-wage **labor costs** can differ by 60 %

[18] *See: Study "Concurrentiepositiebinnenvaart" - Eindrapport ; on behalf of the ITB; authors: RebelGroup / BMT surveys / Eric Van HooydonkAdvocaten; published in October 2015.*
[19] *See: Federal Statistical Office (destastis), EU comparison of labour costs 2014, announcement 4 May, 2015*

CAPITAL COSTS

Although interest rates in general have been very low for some time, the cost of capital remains high for many companies. This is down to the long-term nature of ship finance loans (at least 10 years). Especially for tankers 15 to 17 years is the norm.[20] This is why the numerous new tankers built between 2006 and 2012 are still subject to a high interest rate (6-7%). The cost of capital in the tanker sector is higher when compared with the dry goods shipping sector because of a young, capital intensive fleet.

In the years since the economic and financial crisis, there has been a deterioration in the ability to access credit. The problem exists even for small loans up to €250,000. These loans are often required by the self-employed for urgent investments. The difficulty in accessing such loans can also jeopardise company succession.[21] Moreover there is now virtually no new build market for small vessels.

This is making it very difficult for young entrepreneurs to enter the inland navigation market. A further negative consequence is the blockage in the economic development and development prospects of the small vessel segment. This segment is of great benefit to inland navigation as it enables inland navigation to be present in geographically remote areas.

These obstacles have led to the emergence of not-for-profit, cooperative partnerships,[22] opening the way for self-financing by companies for entrepreneurs. Credit applications undergo a risk assessment by an experienced group of entrepreneurs; the borrowing company is also provided with a "coach" to give him business advice on how to implement his project.

[20] *See: Study "Concurrentiepositie binnenvaart"*
[21] *See: Navigation, Ports & Intermodalité (2015), Les bateliers néerlandais veulent s'autofinancer, 27.01.2015*
[22] *Two examples from the Netherlands and France: "BinnenvaartKreditunie Nederland" (http://www.binnenvaartkredietunie.nl/over-bkn), and French company "Entreprendre pour le fluvial" (http://www.entreprendre-fluvial.com/)*

MAINTENANCE AND REPAIR COSTS

Steel and energy prices fell throughout 2015. Consequently inland navigation repair costs have also been on a downward trajectory.

INSURANCE COSTS

The number of inland navigation accidents has been falling for a number of years. This is confirmed by official figures for Germany and the Netherlands.[23] This decline in the frequency of accidents is one explanation for the stagnant trend to be observed in insurance premiums. Additional reasons are to be seen in the declining development in ship values.

CONCLUSION: OPERATING CONDITIONS

By and large, freight navigation turnover has stagnated in the past three years.[24] There is a clearly discernible upward trend in passenger navigation, also evident in terms of a growing workforce.[25]

Cost developments both in 2015 and in 2016 are on a downward trajectory, primarily as a result of lower fuel costs. Repair costs as well have fallen thanks to lower energy prices.

The cost of capital for existing assets is determined by earlier relatively high interest rates and is therefore largely unaffected by the currently very low interest rate. Especially for small businesses, access to investment for replacement or new construction is very restricted, notwithstanding the currently very low interest rates, owing to limited financial reserves and a reluctance to lend. This imposes severe constraints on urgently needed investment, which includes environmental modernisation of the fleet. Investments such as these are only to be seen in isolated cases.[26]

Business profitability remains significantly lower than before the crisis. This can be seen from figures on the ratio between EBIT[27] and turnover. In the Dutch industry this ratio was only half as high in 2012 as it had been in 2008 (when it was around 25%) and has recovered only slowly since.

Overall operating conditions in 2015 have not significantly improved but there is a slight uplift in volume terms. Should growth continue, this should also have a positive medium to long-term effect on freight rates, turnover and the propensity to invest.

[23] *See: CCNR (2014), Incidence of accidents in inland navigation, ECO document by the Economic Committee.*
[24] *very recent (2nd Quarter 2015) increase in Germany requires confirmation.*
[25] *See ECO document ECO (15) 14 "Labour market indicators in European inland navigation – Presentation of recent results", April 2015*
[26] *See ECO document ECO (15) 14 "Labour market indicators in European inland navigation – Presentation of recent results", April 2015*
[27] *Source: Centraal Bureau voor de Statistiek (2015). EBIT, also referred to as operating profit, refers to the earnings from ordinary business activity expressing a company's success in its core business in the course of an accounting period (month, quarter, year).*

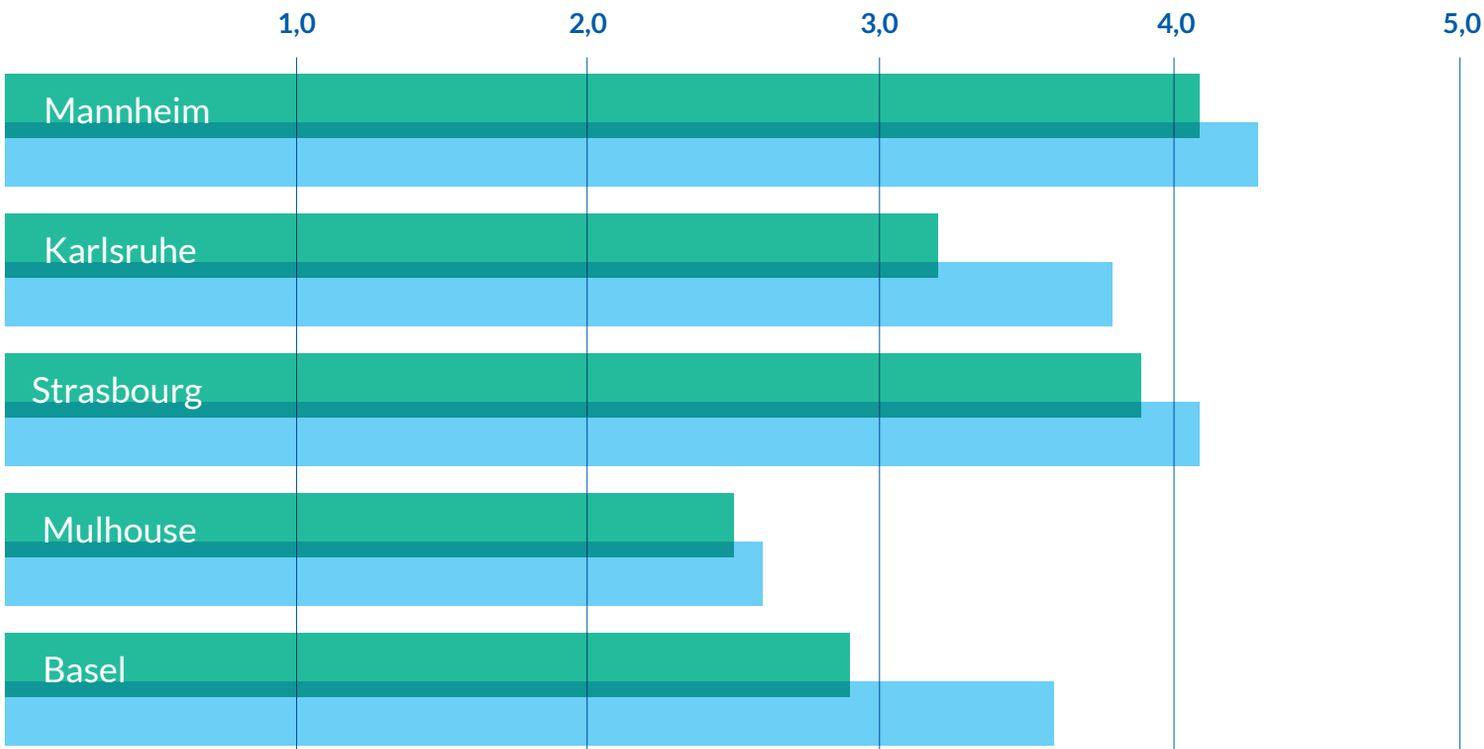
10

DEVELOPMENT IN PORT TRANSSHIPMENTS

DEVELOPMENT IN PORT TRANSSHIPMENTS

The ports of Mannheim, Karlsruhe, Strasbourg, Mulhouse-Ottmarsheim and Basel achieved significant growth in port transshipments in the first half of 2015. The average year-on-year growth of these ports was 12%, with individual ports, such as Basel, posting even higher gains.

RIVERSIDE PORT TRANSSHIPMENTS IN THE FIRST HALF YEAR
OF 2015 AND 2014 (MILLION T)

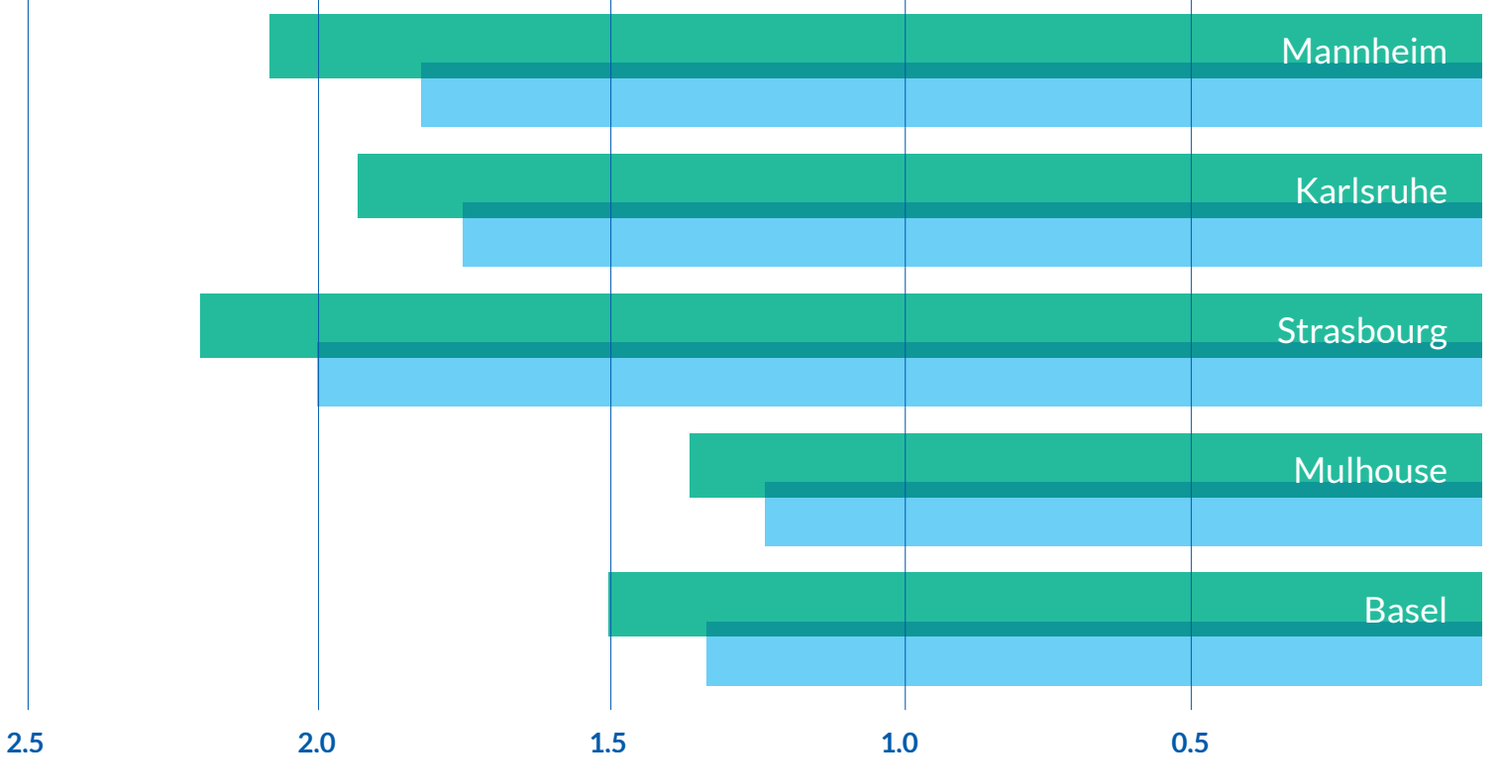


Source: named ports.

The trend reversed in the third quarter of 2015. As a consequence of the incipient low-water situation, monthly transshipments suffered a marked fall. This was accompanied by an increase in the number of ship units handled. Because of the reduction in the possible loaded draught, more ships had to be used, each of them carrying a reduced load.

The following graph shows that in the period July to September freight transport declined in all five selected ports. The average reduction for the five ports was 10%.

THIRD-QUARTER RIVERSIDE PORT TRANSSHIPMENTS
OF 2015 AND 2014 (MILLION T)



Source: named ports.

The number of ships arriving in the ports increased markedly in August, September, October and November. This effect became more pronounced, as can be seen from the example of the Port of Karlsruhe: 15% more ships were registered here in September than in September 2014. In October it was then up by 18%. In November, when the low-water situation was at its worst, 28% more ships were counted than a year before. Similar effects are to be seen in the ports of Mannheim, Mulhouse-Ottmarsheim, Strasbourg and Basel. Here however it should be pointed out that the increase in the number of ships in Mannheim, of almost 30%, was greater than in the other four ports.

Due to the **low water levels** in the autumn of 2015, the number of vessel movements rose by 20-30 %

11

PROSPECTS FOR 2016

PROSPECTS FOR 2016

TRANSPORT DEMAND IN THE DRY GOODS SHIPPING SECTOR

The overall outlook for the transport economy this year is positive. Although this does not apply to all dry goods shipping subsegments, most of them will experience an upward trend. One example is the sand, soil and building materials segment, which has been posting small increases for years. This also applies for agricultural and forestry products. The overall positive picture is rounded off by growth in metals and other goods.

The subsegments experiencing negative growth are solid fuels (coal) and - to some extent - iron ores as well. Both raw materials depend on the state of the steel industry, which is in the doldrums. This is further exacerbated by a decline in orders, in particular from outside Europe. The energy policy focus on renewable energies, which is set to continue, is also having an adverse effect on coal and will curtail the long-term prospects for coal transport movements.

It is therefore probable that 2016 will see increases in sand, soil and building materials, agricultural produce, foodstuffs and fodder, and declines in ores and especially coal. An analysis of developments by subsegment, and taking account of the proportion of the total volume accounted for by these sub segments, suggests moderate overall growth for this year, broadly in line with growth in the first half of 2015 (namely around 3%).

Transport demand volumes are expected to continue their **upward trend** in the course of the year 2016

TRANSPORT DEMAND IN THE TANKER SECTOR

The trends in the transport of petroleum products should persist for some time yet. The continuing low price of oil is having a positive impact on storage and thus on transport demand. Structural changes are continuing, such as refinery closures in Switzerland. Given that these refineries' output was carried by pipeline and that the missing quantities are now being offset by increased imports via the Rhine, we can say that there has been a positive structural effect on transport demand on the Rhine.

The transport of chemical products can be expected to recover from the currently stagnant situation, all the more so as the trend both in the chemical industry as well as the transport of chemical products on the Rhine has been positive for a number of years. Tanker navigation as a whole can be expected to grow by around 3 to 5%.

FORECASTS FOR 2016

Sector	Production / imports
Agriculture and feedstuffs and fodder	Mildly positive trend of recent years should continue
Coal	Anticipated stagnation or decline of imported coal volumes
Steel industry: Ores	Economic indicators for the steel industry characterised by stagnation or contraction
Steel industry: Metals	Positive trend of recent years should continue
Sand, soil, building material	Mildly positive trend of recent years should continue
Other goods (including containers)	Container sector growth is robust and relatively high (3-4%)
Overall forecast of the development in demand in the dry shipping sector	
Crude oil products	Price of oil should remain low, which should stimulate the petroleum products market
Chemicals	Long-term upward trend in production and transport in the chemical sector
Overall forecast of the development in demand in the tanker sector	

Development

0%		**0**
1% to 5%	-	**+**
6% to 10%	- -	**++**
11% to 15%	- - -	**+++**
16% to 20%	- - - -	**++++**
more than 20%	- - - - -	**+++++**

Proportion of total transport	Foreseeable impact on transport demand (compared with year before)
13%	+
22%	-
18%	0
8%	+
18%	+
20%	+
	+
60%	+
40%	0
	+

Sources: Wirtschaftsvereinigung Stahl (German Steel Industry Federation) Vereindeutscher Kohleimporteure (Association of German Coal Importers) Verband der chemischen Industrie (Chemical Industry Association) CCNR forecasts

ANNEX

TRANSPORT VOLUME ON THE TRADITIONAL RHINE
IN THE FIRST HALF OF 2014 AND 2015 (IN MILLION T AND %)

Goods segment	Transport I/2014	Transport I/2015	Rate of change 2014/2013	Rate of change 2015/2014
Agricultural and forestry products	5,5	6,2	-11,5%	+11,5 %
Foodstuffs and fodder	3,5	3,5	+5%	+/- 0 %
Ores	16,7	13,4	+16,8%	+/- 0 %
Metals	5,7	6,1	+6%	+7 %
Sand, soil & building material	12,8	13,0	+6%	+1,5 %
Coal	16	15,6	-7%	-2,6 %
Petroleum products	13,7	15,3	-13%	+11,7 %
Chemical products	10,7	10,7	+2,6%	-2,8 %
Containers	7,9	8,2	+2,5%	+3,5 %
Other goods	3,2	6,6		
TOTAL	95,7	98,6	-0,5 %	+3,0 %

Source: CCNR calculations based on destatis data

TRANSPORT VOLUME ON THE TRADITIONAL RHINE
IN THE FIRST THREE QUARTERS OF 2014 AND 2015 (IN MILLION T AND %)

Goods segment	Transport Q1-Q3/ 2014	Transport Q1-Q3/2015	Rate of change 2014/2013	Rate of change 2015/2014
Agricultural and forestry products	8,6	9,0	-8,7%	+5,4%
Foodstuffs and fodder	5,6	5,3	+11,7%	-6,1%
Ores	19,3	19,7	+1,0%	+2,0%
Metals	8,5	8,8	+7,9%	+3,2%
Sand, soil & building material	19,7	18,7	+4,7%	-5,1%
Coal	23,6	22,2	-4,0%	-6,0%
Petroleum products	21,4	22,1	-7,0%	+3,3%
Chemical products	16,1	15,4	+3,5%	-4,4%
Containers	12,0	12,0	+3,7%	+/- 0%
Other goods				
TOTAL	144,7	142,7	+0,9%	-1,5%

Source: CCNR calculations based on destatis data

The Market Observation of European inland navigation is a common project of the CCNR and the European Commission

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