

# Economic Impact Study Belgian Shipping Cluster



Royal Belgian  
Shipowners'  
Association

2024 Update

# Economic Impact Study Belgian Shipping Cluster

**Commissioned by**  
**The Royal Belgian Shipowners' Association**  
**17 October 2024**

This summary, subject to copyright legislation, is intended for internal use by the addressee. Any use by third parties of this report, in full or in part, requires prior written consent from the Royal Belgian Shipowners' Association.

©Policy Research Corporation  
Copyright 2024

Designed by Hyperion Tree Digital BV

Royal Belgian Shipowners' Association (KBRV)  
Ernest Van Dijckkaai 8  
2000 Antwerpen, Belgium

kbrv.be  
+32 3 232 72 32  
info@brv.be



2024 Update

# Foreword



Belgium has top players in the Merchant Shipping, Hydraulic Engineering/Dredging and Towage sectors that are competitive both within Europe and globally. Where in 2001 only 2% of the Belgian controlled fleet was operated under the Belgian flag, this has fluctuated around 30% in recent years. The European and Belgian shipping policies have therefore proved successful.

Freight rates and fuel costs have been very volatile in recent years as a result of amongst others the COVID-19 pandemic and the war in Ukraine. Belgian companies have managed to further increase their turnover and value added. In 2023, the Merchant Shipping, Hydraulic Engineering/Dredging and Towage sectors together provide more than €4.5 billion of direct value added, almost 50% more than in 2020. Total employment has also increased significantly: almost 18,500 people will be directly and indirectly employed in 2023, more than 20% increase compared to 2020.

Sustainability remains an important theme within Maritime Shipping, a number of developments and realisations of Belgian companies are included in the annex.

# Content

|    |    |  |      |
|----|----|--|------|
| 01 | ~~ | Objective of the study                         | p.6  |
| 02 | ~~ | Policy framework and sector structure          | p.10 |
|    |    | Maritime Shipping Policy                       |      |
|    |    | Use of Employment Measures                     |      |
|    |    | Evolution of Belgian-Controlled Merchant Fleet |      |
|    |    | Evolution of Maritime Training                 |      |
| 03 | ~~ | Economic impact of Belgian Shipping            | p.30 |
|    |    | Total Economic Impact                          |      |
|    |    | Economic Impact by Subsector                   |      |
| 04 | ~~ | Conclusions                                    | p.60 |
|    |    | Annex: Sustainability and Belgian Shipping     | p.63 |

## 01 ~ Objective of the study



This study provides insights into the economic impact of Maritime Shipping in Belgium, in relation to the support measures for the sector (the Shipping Policy) under the framework of the European Community Guidelines on State Aid to Maritime Transport.

3 subsectors of Maritime Shipping are monitored:

- » Merchant Shipping
- » Towage Sector
- » Hydraulic Engineering/Dredging

This study is an update for the figures for the year 2023, following the three-yearly updates since the baseline study in 2001 (2004/ 2007/ 2010/ 2013/2017/2020).

## Key Players in the Belgian Maritime Sector

### Merchant Shipping Sector: shipping companies and operators

- » Group of major players in the tanker and dry bulk markets, including Euronav, Exmar, and CMB
- » Participants in short-sea (container) shipping, such as Boeckmans, Conti-Lines, and Fast-Lines

### Towage Sector: international towage, rescue and salvage

- » Most towage companies are part of two major European players: Boskalis and Boluda Towage

### Hydraulic Engineering/Dredging: global dredging and maritime infrastructure works

- » DEME (Zwijndrecht) and Jan de Nul (Aalst) are top players in the global market

### Other Sectors

Other sectors are also important within the maritime cluster (such as suppliers, ports, educational institutions, government, and industry organizations), but are not separately highlighted in this update (though partially included via indirect effects).



## Impact of Belgian Shipping Policy remains major

### Belgian Shipping Policy renewed around the turn of the century

- » Personnel costs reduced since 1997 (section 1 social contributions, section 2 withholding tax)
- » Corporate tax limited to flat-rate tonnage tax since 2004

### Impact continues to reflect a favourable maritime climate in Belgium

- » Fleet: Belgian-controlled fleet has grown stronger than the world fleet over the past 25 years, and the share of the Belgian flag has increased
- » Antwerp Maritime Academy: a fairly stable outflow of graduates
- » Direct Employment has increased to almost 10,000 FTE in 2023
- » Direct Value Added has grown to €3.6 billion in 2023



## 02 ~ Policy framework and sector structure

### Maritime Shipping Policy



#### Employment measures for seafarers consist of 2 parts:

1. Partial exemption from payment of social security contributions for EU seafarers (1997). This scheme applies to maritime transport and, if 50% of the operating time consists of transport activities, also to dredging work at sea and sea towing services, provided that maritime transport is concerned.
2. Exemption from the transfer to the Treasury of the withholding tax on wages, paid to all seafarers with a Belgian employment contract for ship service and employed by a Belgian employer (from 2000).

» *To benefit from these support measures, shipowners must ensure that the vessel is registered in a register of an EU Member State.*

The aim of the schemes is to provide Belgian shipowners with a sufficiently stimulating framework through reduced labour costs, encouraging them to register their vessels in the Belgian shipping register and ensuring that onshore activities are maintained or developed on Belgian territory.

#### Introduction of tonnage tax for maritime transport:

- » *For shipping companies:* flat rate tariffs in line with the tonnage tax system in other EU countries.
- » *For ship managers:* proposed tariffs 1/10th of shipping companies' tariffs, due to the substantial difference between these activities. However, this proposal was not implemented (see next sheet).

Shipowners can opt into the tonnage tax system at any time, with a minimum commitment of ten years.

“

Since 1997, initiatives have been taken to reduce the labour costs of seafarers in order to preserve activities in Belgium.”

The European Commission approved flat-rate (tonnage tax) tariffs for shipping companies and ship managers; the same rates apply to both shipowners and ship managers (contrary to the request mentioned in the previous sheet for a lower rate for ship managers).

The tonnage tax scheme for ship managers is limited to vessels for which full (crew and technical) management is carried out.

The EC committed in the 2004 Guidelines to re-evaluate the application of the scheme for ship management after three years.

Introduction of new and detailed guidelines ('New Rules on State Aid to Ship Management Companies') as a supplement to the 2004 Guidelines.

Relaxation of conditions: crew management and technical management are now separately eligible for the tonnage tax scheme.

“

The introduction of the tonnage tax system, combined with the already existing employment measures, has led to the (re)flagging of vessels under the Belgian flag since the second half of 2004.”

### Maritime Shipping Policy



In 2013, the European Commission stated that the EU state aid scheme would remain unchanged (with no end date).

Both employment measures were renotified to the Commission in 2015.

In 2020, the Flemish Government expanded the criteria for the use of support measures regarding the partial exemption from social security contributions for EU seafarers.

As a result, more activities within the Belgian maritime sector (including additional activities in Hydraulic Engineering/Dredging) can now benefit from these support measures.<sup>1</sup>

In October 2022, the European Commission decided to extend the social security support measures for the sector.

In January 2023, the employment measures were extended until 31 December 2032.<sup>2</sup>



1. Source: Belgian Official Gazette (15-01-2023)

2. Source: Belgian Official Gazette (15-01-2023)

## Use of Employment Measures

### Employment Measures for Seafarers

Employment measures consist of two sections:

**Section 1:**  
Partial exemption from social security contributions for EU seafarers

- » Applicable only if the activities involve maritime transport by sea.
- » The obligation to pay contributions arises when the seafarer is socially insured in Belgium, which is typically the case when sailing on a Belgian-flagged vessel.

**Section 2:**  
Exemption from withholding tax on wages paid to EU seafarers

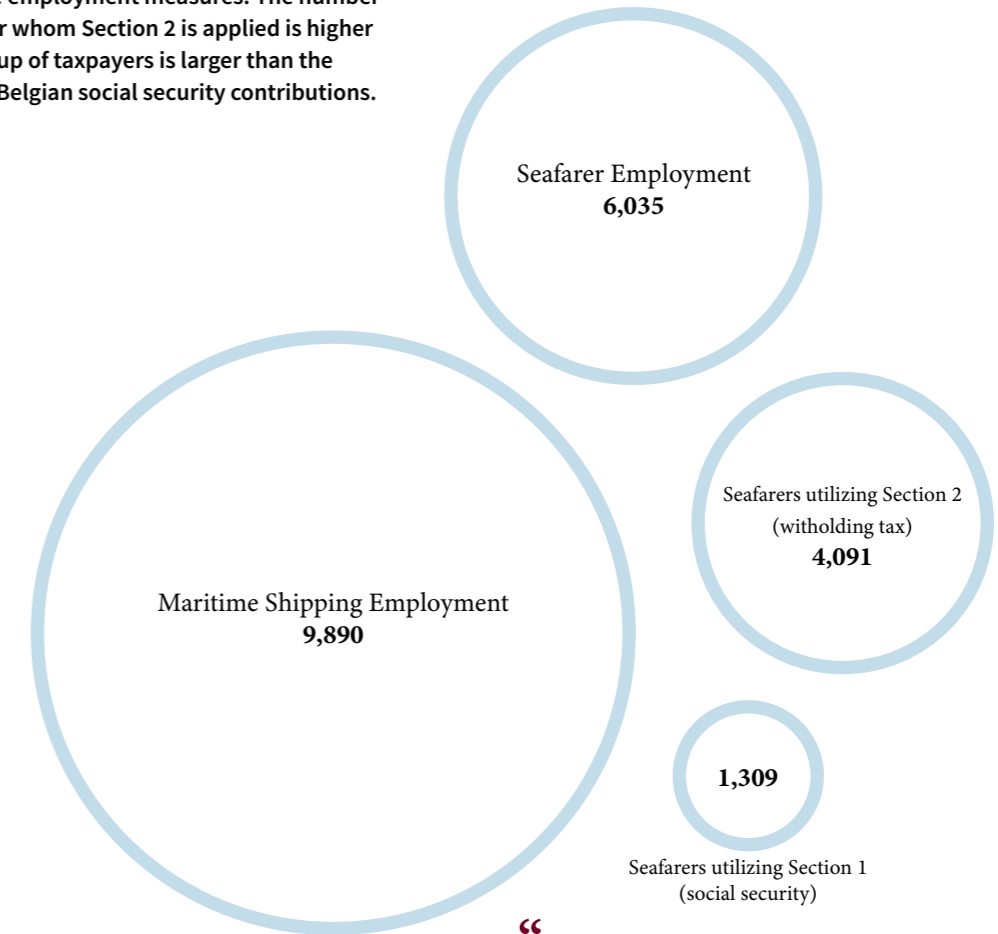
- » Applicable only if the activities involve maritime transport by sea.
- » The tax obligation arises when the seafarer has Belgian taxable income, meaning they are employed under a Belgian employment contract.

**Note:** “EU seafarers” are seafarers who are subject to taxation and/or social security contributions in an EU Member State (this is not linked to nationality but is also determined by double taxation treaties). However, in the case of regular passenger services between Member States, “EU seafarers” are defined as EU/EEA citizens.



Use of Employment Measures 2023.

The overview below presents the employment in Belgian Maritime Shipping for the year 2023 and the utilization of the employment measures. The number of individuals for whom Section 2 is applied is higher because the group of taxpayers is larger than the group liable for Belgian social security contributions.



“

The number of seafarers for whom the exemption from payment of social security contributions (Section 1) is applied varies between 20% and 25% of seafarer employment.”

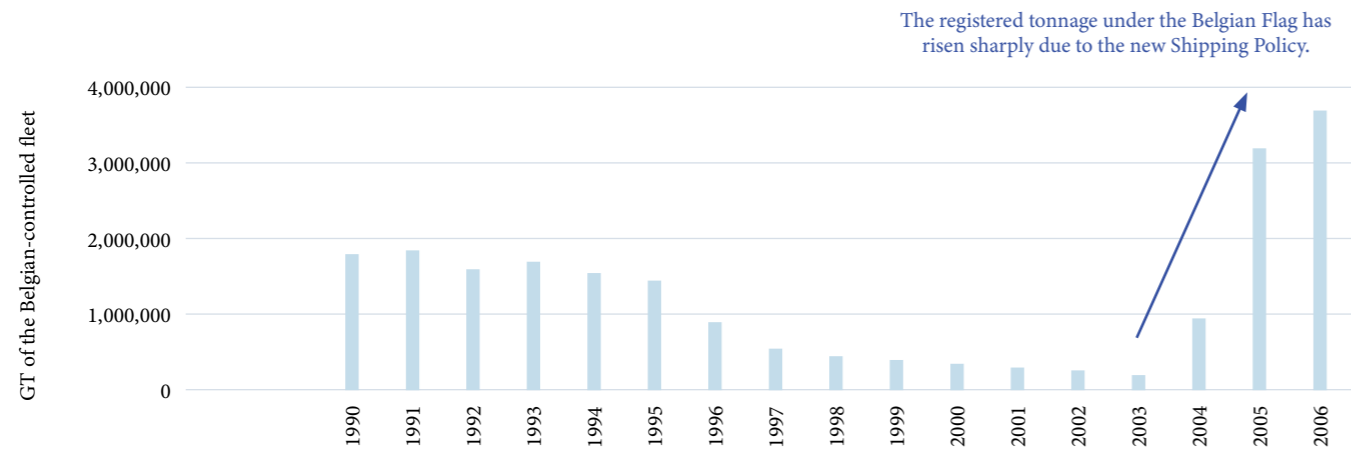
## Evolution of Belgian-Controlled Merchant Fleet

### Glossary of Fleet Terms

The **Belgian Merchant Fleet** refers to the “merchant fleet” as listed in the **Belgian Ship Register**, including vessels under the Belgian flag owned by both Belgian and foreign owners.

The **Belgian-Controlled Merchant Fleet** includes vessels owned by Belgian entities;

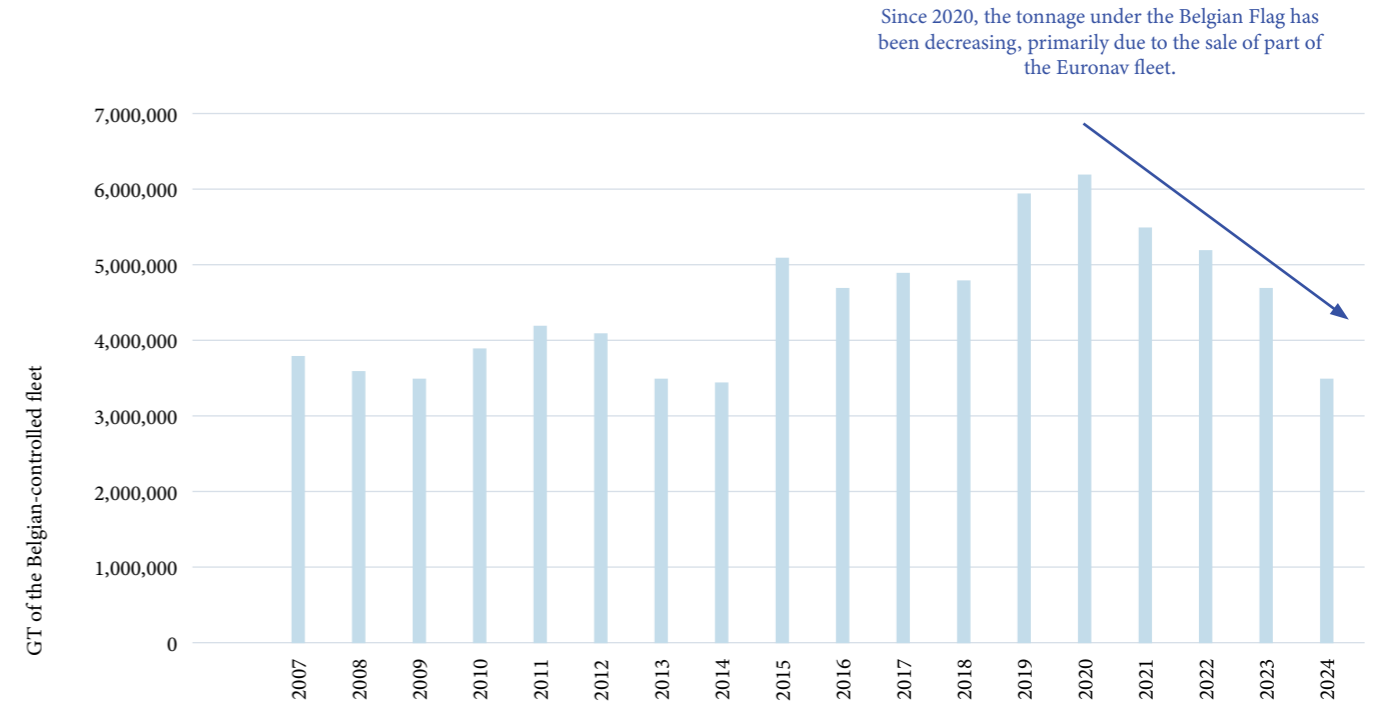
- » meaning ships with a Belgian owner or a Belgian beneficial owner.
- » These vessels may sail under either the Belgian flag (national flag) or a foreign flag.



Source: Policy Research Corp based on FOD Mobiliteit, Officiële Lijst Belgische Zeeschepen (Official List of Belgian Seagoing Vessels)

### Tonnage Measurements used:

- » *Gross Tonnage (GT)*: A volumetric measure of all enclosed spaces within a ship, indicating its overall internal volume.
- » *Deadweight Tonnage (DWT)*: Represents the carrying capacity of a ship, encompassing the total weight a vessel can safely carry, including cargo, fuel, fresh water, ballast water, provisions, passengers, and crew.



Source: Policy Research Corp based on FOD Mobiliteit, Officiële Lijst Belgische Zeeschepen (Official List of Belgian Seagoing Vessels)

## Evolution of Belgian-Controlled Merchant Fleet

### Mutations in the Belgian Ship Register

#### Delisted Vessels 2021-2024

| Gross Tonnage    | Number    |
|------------------|-----------|
| 0 – 5,000        | 3         |
| 5,000 – 50,000   | 23        |
| 50,000 – 100,000 | 8         |
| > 100,000        | 17        |
| <b>Total</b>     | <b>51</b> |

| Ship Type        | Number    |
|------------------|-----------|
| General cargo    | 3         |
| Oil tanker       | 21        |
| Bulk carrier     | 8         |
| LPG gas carrier  | 6         |
| Container ship   | 7         |
| RoRo cargo ship  | 4         |
| Roll on Roll off | 1         |
| Chemical tanker  | 1         |
| <b>Total</b>     | <b>51</b> |

All 21 reflagged oil tankers are from Euronav, with the majority now under Marshall Islands flag.

#### Registered Vessels 2021-2024

| Gross Tonnage    | Number    |
|------------------|-----------|
| 0 – 5,000        | 5         |
| 5,000 – 50,000   | 7         |
| 50,000 – 100,000 | 4         |
| > 100,000        | 13        |
| <b>Total</b>     | <b>29</b> |

| Ship Type        | Number    |
|------------------|-----------|
| General cargo    | 5         |
| Oil tanker       | 8         |
| Bulk carrier     | 9         |
| LPG gas carrier  | 3         |
| Container ship   | 1         |
| RoRo cargo ship  | 1         |
| Roll on Roll off | 1         |
| Chemical tanker  | 1         |
| <b>Total</b>     | <b>29</b> |

Ships > 100 000 GT:  
7 from Euronav  
6 from CMB Group SA

All 5 ships < 5000 GT are General Cargo vessels.

### Euronav Fleet Background

For Euronav, the sale of a large part of its fleet aligns with a broader strategy focused on:

- Fleet renewal:** the shipping company is steering towards a greener future by modernising its fleet. Euronav aims to stay ahead of new and stricter environmental regulations with its tanker fleet.
- Diversification:** following the acquisition of Euronav by CMB in October 2023, the company intends to expand its focus across various segments within the shipping industry to reduce its dependence on crude oil.
  - » In October 2024, Euronav was rebranded as CMB.Tech.
  - » CMB.Tech is a subsidiary of CMB specialising in hydrogen and ammonia as alternative fuels.



## Evolution of Belgian-Controlled Merchant Fleet

### CMB Fleet Background

The fleet of the CMB Group<sup>3</sup> has decreased by three vessels between 2021 and 2024 (11 sold, 8 acquired), but the total GT has increased by 167.430 tons due to the larger size of the new vessels.

#### CMB Group Delisted Vessels 2021-2024

| Gross Tonnage            |
|--------------------------|
| 19,910                   |
| 26,836                   |
| 41,358                   |
| 41,358                   |
| 41,358                   |
| 41,358                   |
| 41,358                   |
| 41,358                   |
| 42,609                   |
| 91,373                   |
| 92,079                   |
| 93,695                   |
| <b>Total: 573,292 GT</b> |

#### CMB Group Registered Vessels 2021-2024

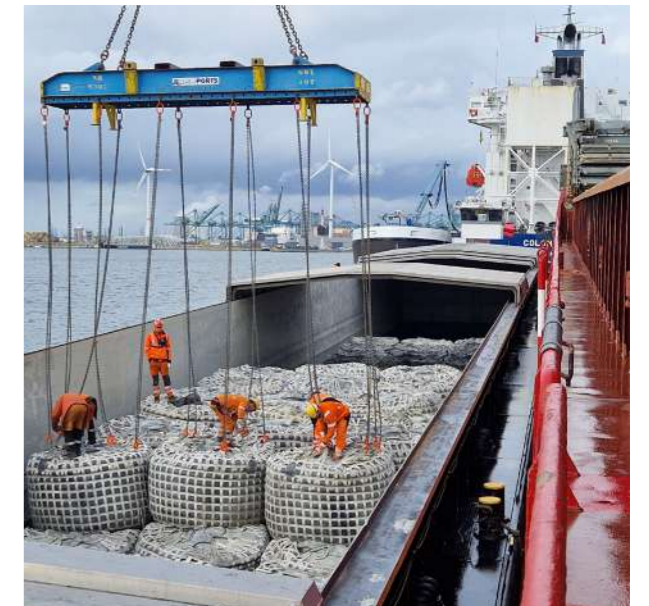
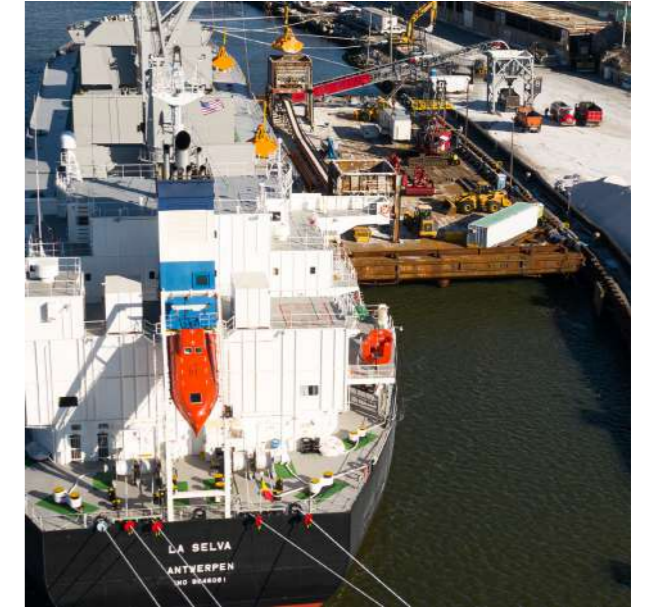
| Gross Tonnage            |
|--------------------------|
| 26,836                   |
| 60,284                   |
| 106,952                  |
| 108,985                  |
| 108,985                  |
| 108,985                  |
| 108,985                  |
| 110,710                  |
| <b>Total: 740,722 GT</b> |



3. The CMB Group includes Bocimar and CMB.Tech, among others; the Euronav ships are listed separately.  
Source: Policy Research Corporation based on FOD Mobiliteit, *Officiële Lijst Belgische Zeeschepen 2021 - 2024*

### Other Fleet Mutations

- » The fleet under Exmar’s management decreased by four vessels between 2021 and 2024 (6 sold, 2 acquired), resulting in a GT reduction of 73.517 tons.
- » Boeckmans fleet renewal (2 sold, 2 acquired / 4.313 GT out, 4.922 GT in).
- » EBE NV fleet reduction (2 sold, 1 acquired / 77.752 GT out, 34.835 GT in).
- » Fast Lines Belgium NV fleet renewal (1 sold, 1 acquired / 1.983 GT out, 2.281 GT in).
- » Cobelfret Ferries fleet shrank by five vessels (6 sold, 1 acquired), leading to a GT decrease of 198.414 tons.
- » Conti-Lines fleet expanded by two vessels (2 sold, 4 acquired), resulting in a GT increase of 8.573 tons.



Source : Policy Research Corporation based on FOD Mobiliteit, *Officiële Lijst Belgische Zeeschepen 2021 - 2024*

## Evolution of Belgian-Controlled Merchant Fleet

IN THOUSANDS OF DWT

National Flag

Foreign Flag

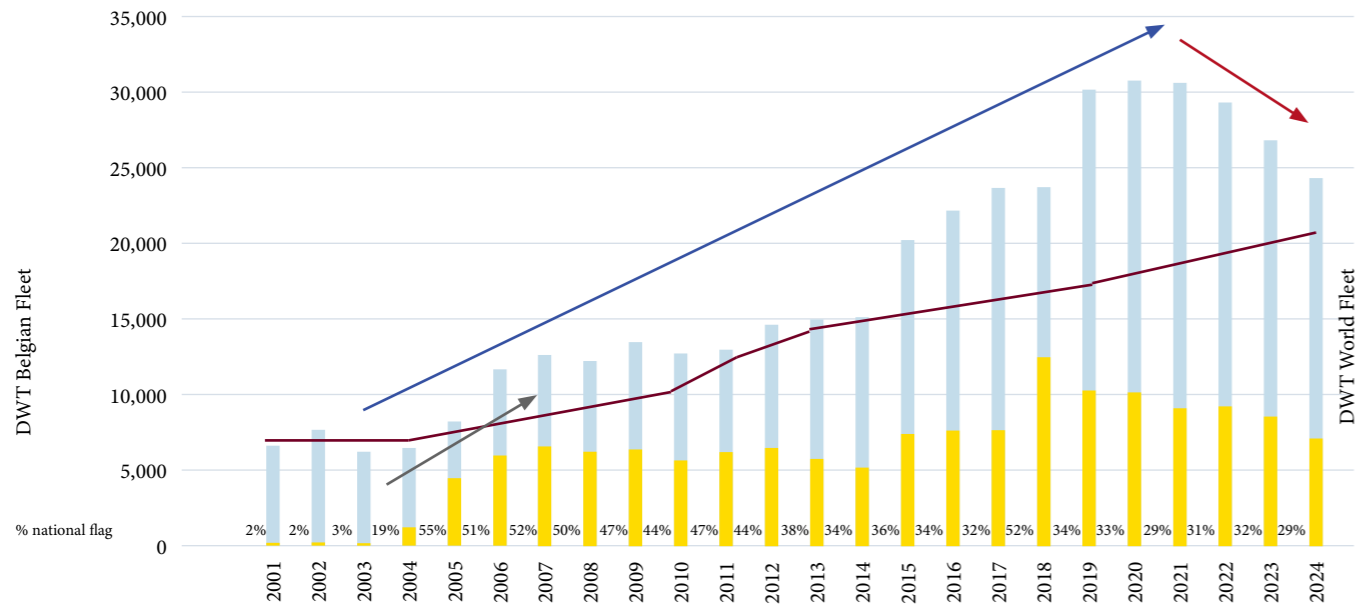
Evolution of the world fleet

Since 2004, the percentage of ships under Belgian flag grows, due to the influence of labor related cost reductions and tonnage tax.

Between 2001 and 2019, the Belgian controlled fleet grew from 6.5 million DWT to over 30 million DWT (almost x5), meanwhile the world fleet grew from 750 million to 2 047 million DWT (almost x3).

The Belgian controlled fleet has decreased after 2021, meanwhile the world fleet continued to grow.

“Percentage national flag remained around 30%.”



## Evolution of Belgian-Controlled Merchant Fleet

IN NUMBERS

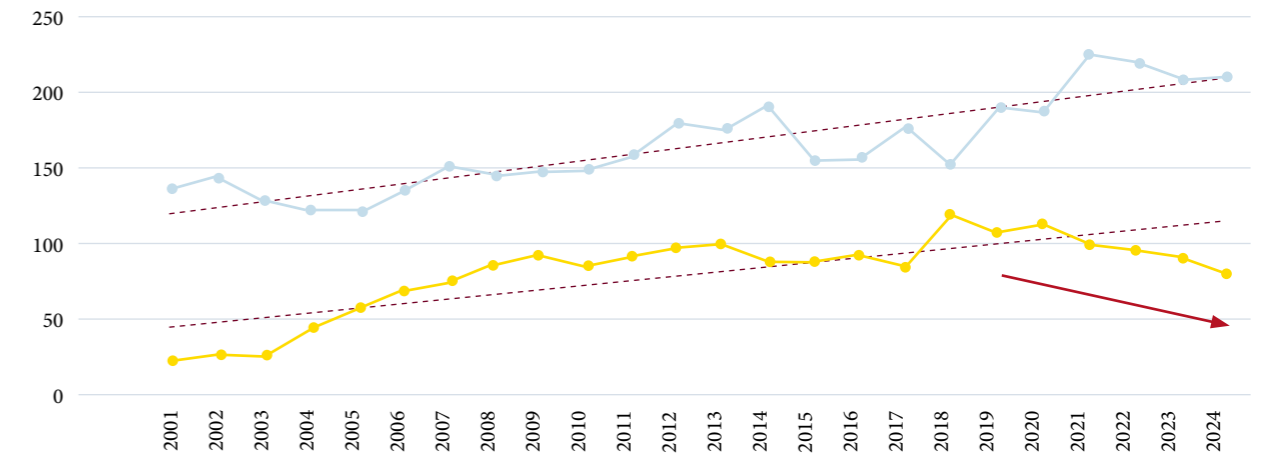
National Flag

Foreign Flag

Linear (National Flag)

Linear (Foreign Flag)

The number of Belgian ships under the national flag has been declining since 2019, mainly due to the sale of part of the Euronav fleet.

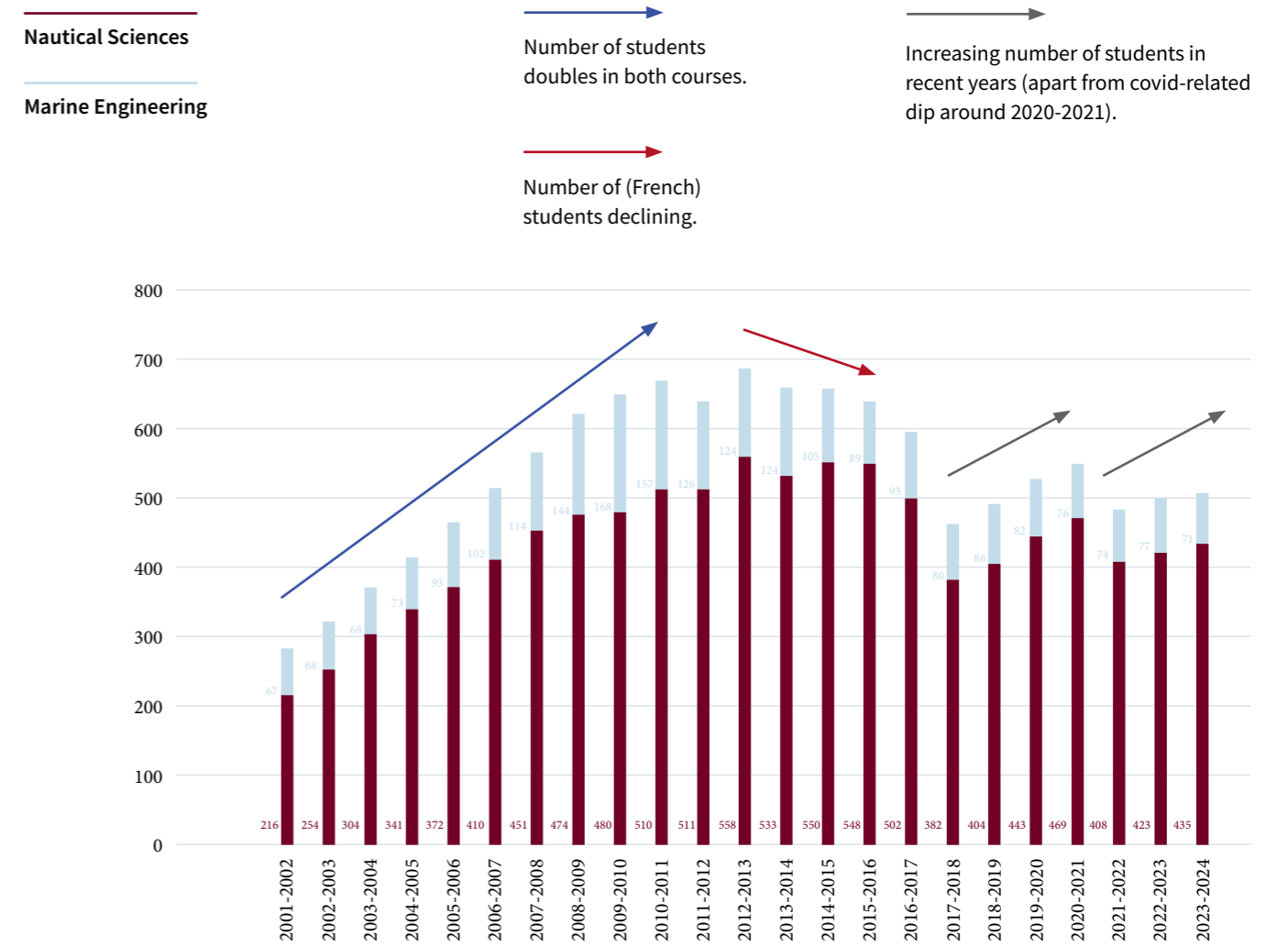


Source: Policy Research Corporation based on UNCTAD, *Review of Maritime Transport*

**Evolution of Maritime Training**



**Evolution of the number of students at the Antwerp Maritime Academy**



Source: Policy Research Corporation based on Hogere Zeevaartschool Antwerpen (Antwerp Maritime Academy)

## Evolution of Maritime Training

### Evolution of enrolment (inflow) at the Antwerp Maritime Academy

Nautical Sciences

Marine Engineering

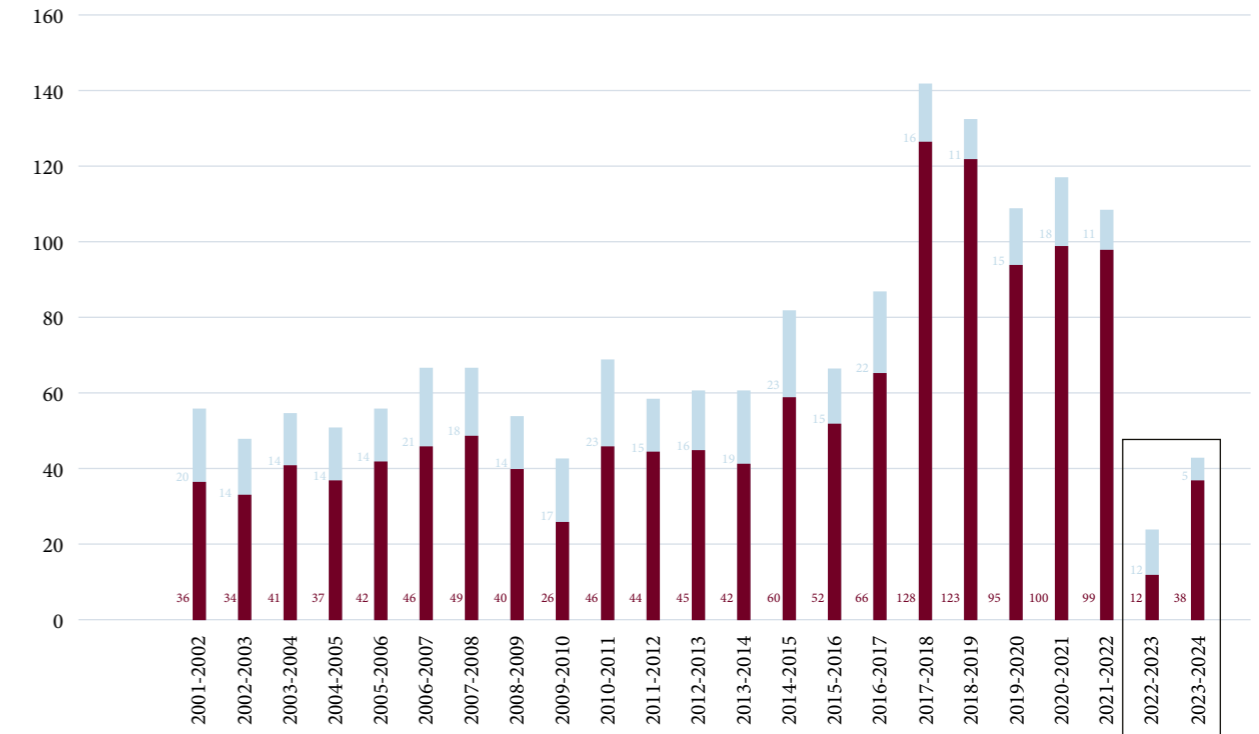


Source: Policy Research Corporation based on Hogere Zeevaartschool Antwerpen (Antwerp Maritime Academy)  
 \* Figures for the 2024-2025 academic year are still provisional.

### Evolution of the number of students at the Antwerp Maritime Academy

Nautical Sciences

Marine Engineering



Source: Policy Research Corporation based on Hogere Zeevaartschool Antwerpen (Antwerp Maritime Academy)

## Evolution of Maritime Training

### Outflow and career path of students in maritime education



In 2007, a survey was conducted among alumni of the Antwerp Maritime Academy who graduated after 1985 (68 respondents):

- » After completing their studies at the AMA, 94% of the respondents went to sea, staying at sea for an average of 7.5 years.
- » In 2007, 37% of respondents were still working as seafarers.
- » 80% of alumni were still employed within the maritime cluster.

A follow-up survey in 2021 confirmed these findings.

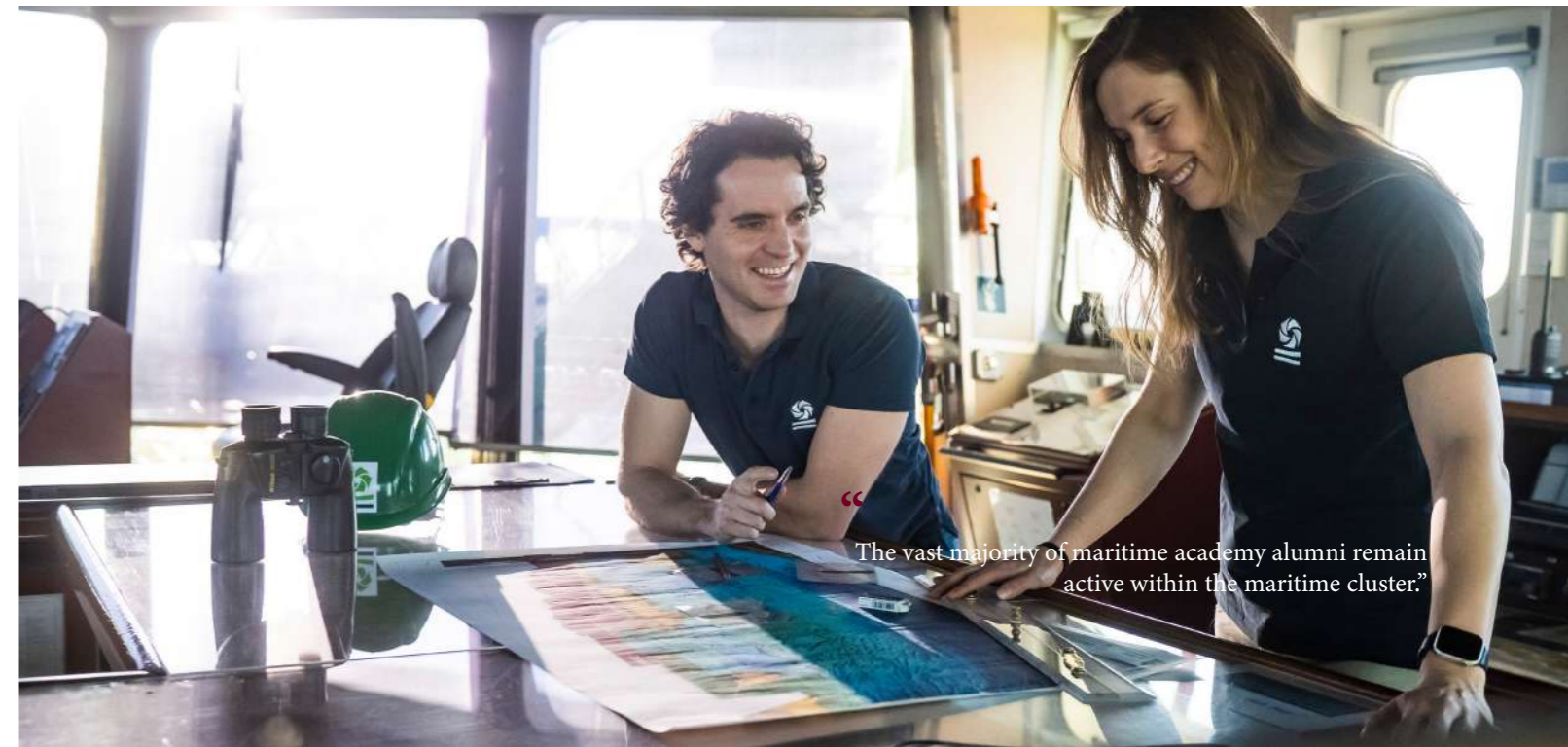
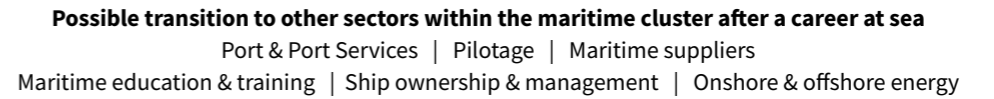
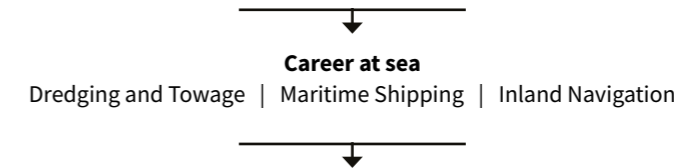
**Findings from the Dutch Maritime Cluster:**

- » When leaving the seafaring industry, the majority remain employed within the maritime cluster.
- » Workers leaving the seafaring industry primarily transition to the port sector.
- » Of the seafarers moving to shore-based roles, 65% take up technical positions.

Source : Maritime labour market monitor, Pilot report 2020

### Expected career path of the students at the Antwerp Maritime Academy

**Outflow of the Antwerp Maritime Academy**



“The vast majority of maritime academy alumni remain active within the maritime cluster.”

# 03 ~ Economic impact of Belgian Shipping

## Total Economic Impact

### Approach and methodology

Uniform determination of economic key figures for the update studies

#### A. Determining direct economic importance

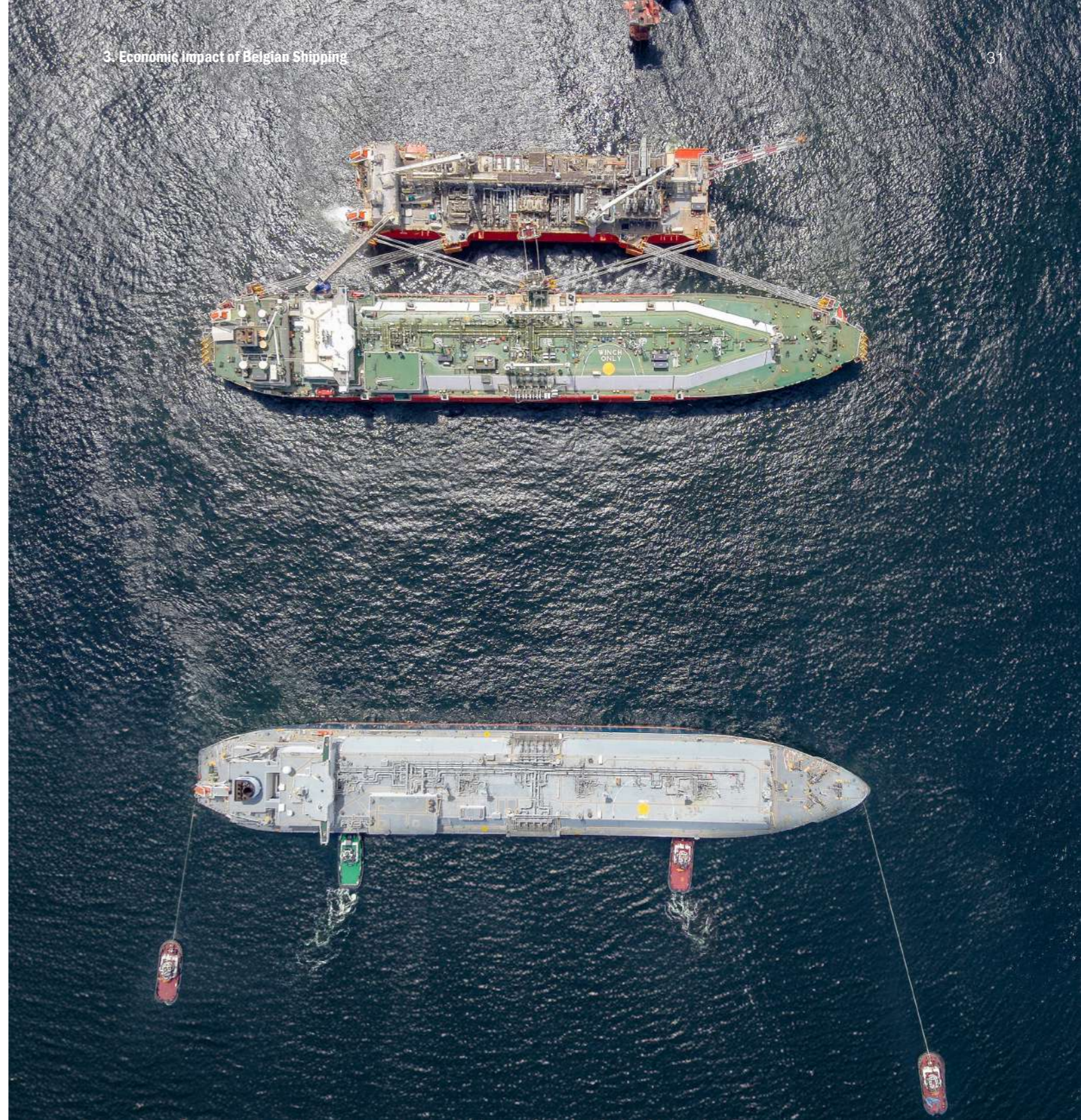
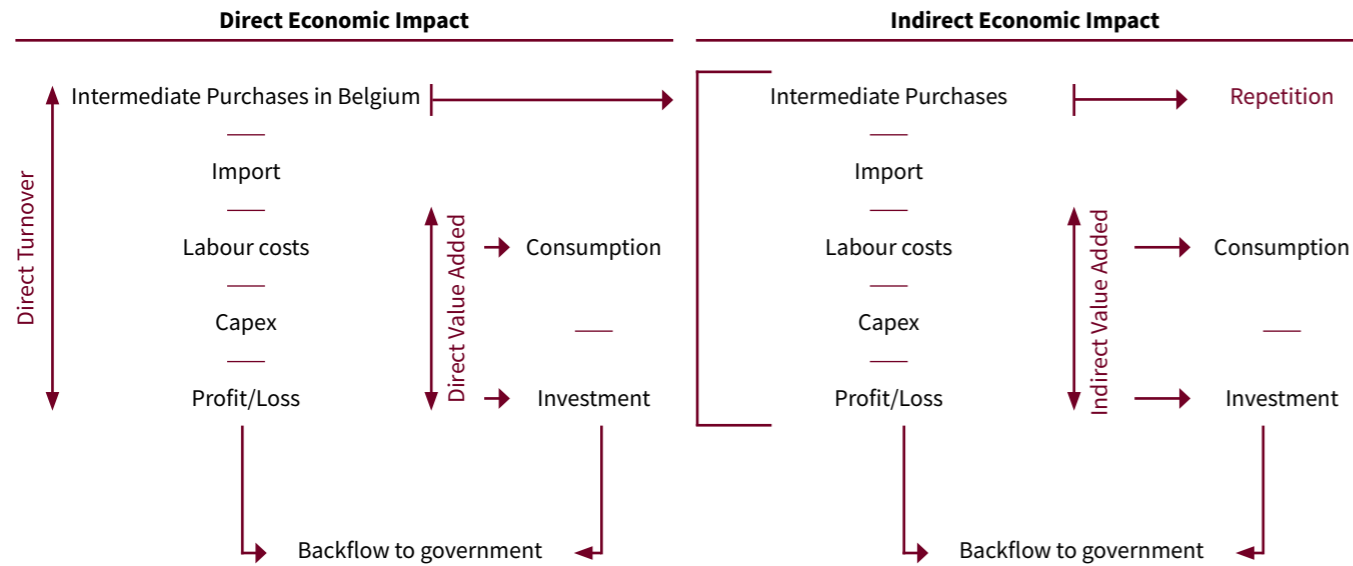
- » Updating bottom-up data files  
*Collection of individual annual accounts of companies within the sectors*
- » Updating key figures (including interim years up to 2020)

*Information sourced from the NBB Balanscentrale (Central Balance Sheet Office of the National Bank of Belgium) and annual reports*

#### B. Calculation of indirect economic impact

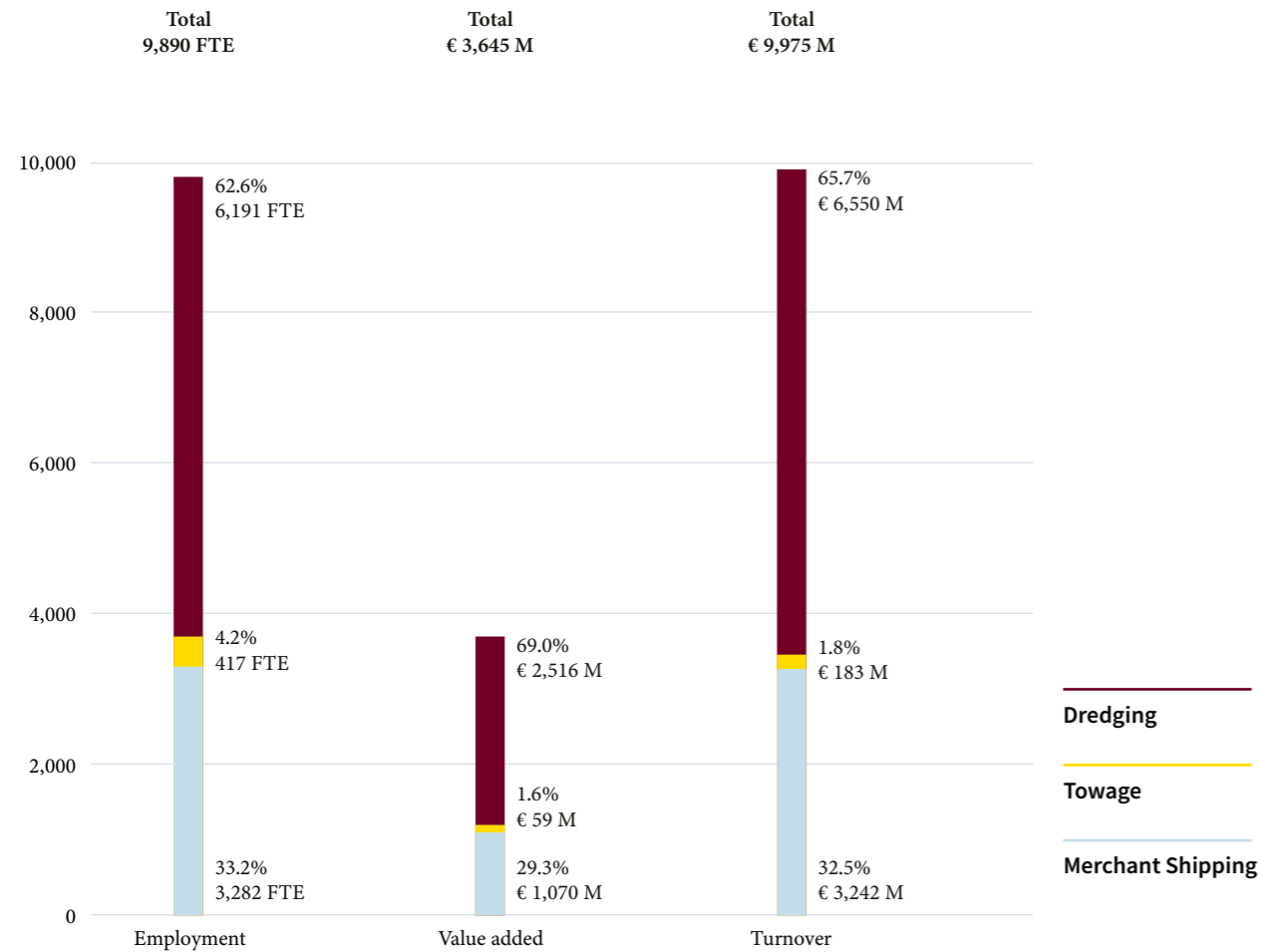
- » EIS methodology
- » Baseline parameters from previous bottom-up study
- » Verification of structural changes in purchasing/sales patterns

### Glossary - Value Added



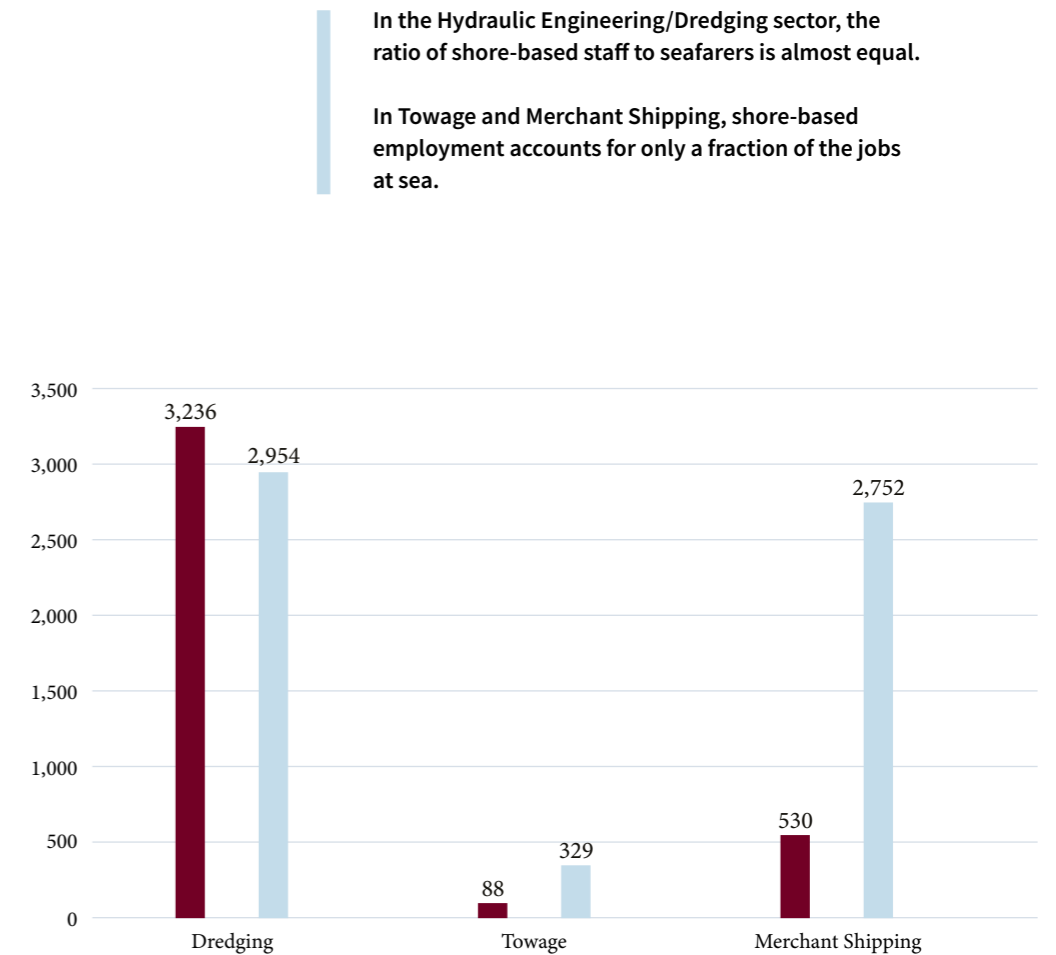
## Total Economic Impact

### Direct economic impact – Maritime shipping in 2023



Source: Policy Research Corporation based on annual accounts

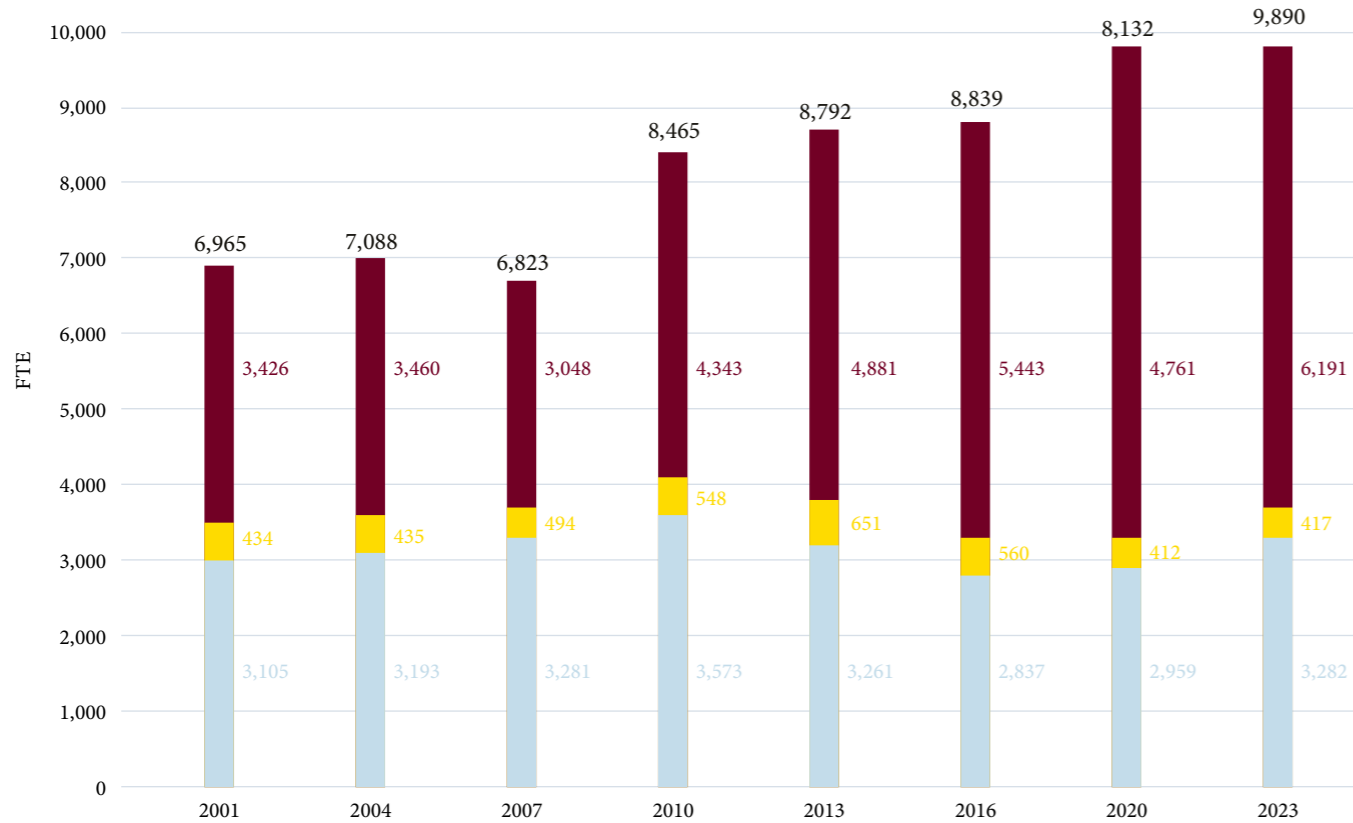
### Direct economic impact – Direct employment onshore and at sea in 2023



Source : Policy Research Corporation based on annual accounts

## Total Economic Impact

### Direct economic impact – Maritime shipping in 2023



Source: Policy Research Corporation based on annual accounts

Direct employment has grown substantially in the period 2021 - 2023, reaching nearly 10,000 FTE. This is mainly driven by hydraulic engineering/dredging, but also by merchant shipping.

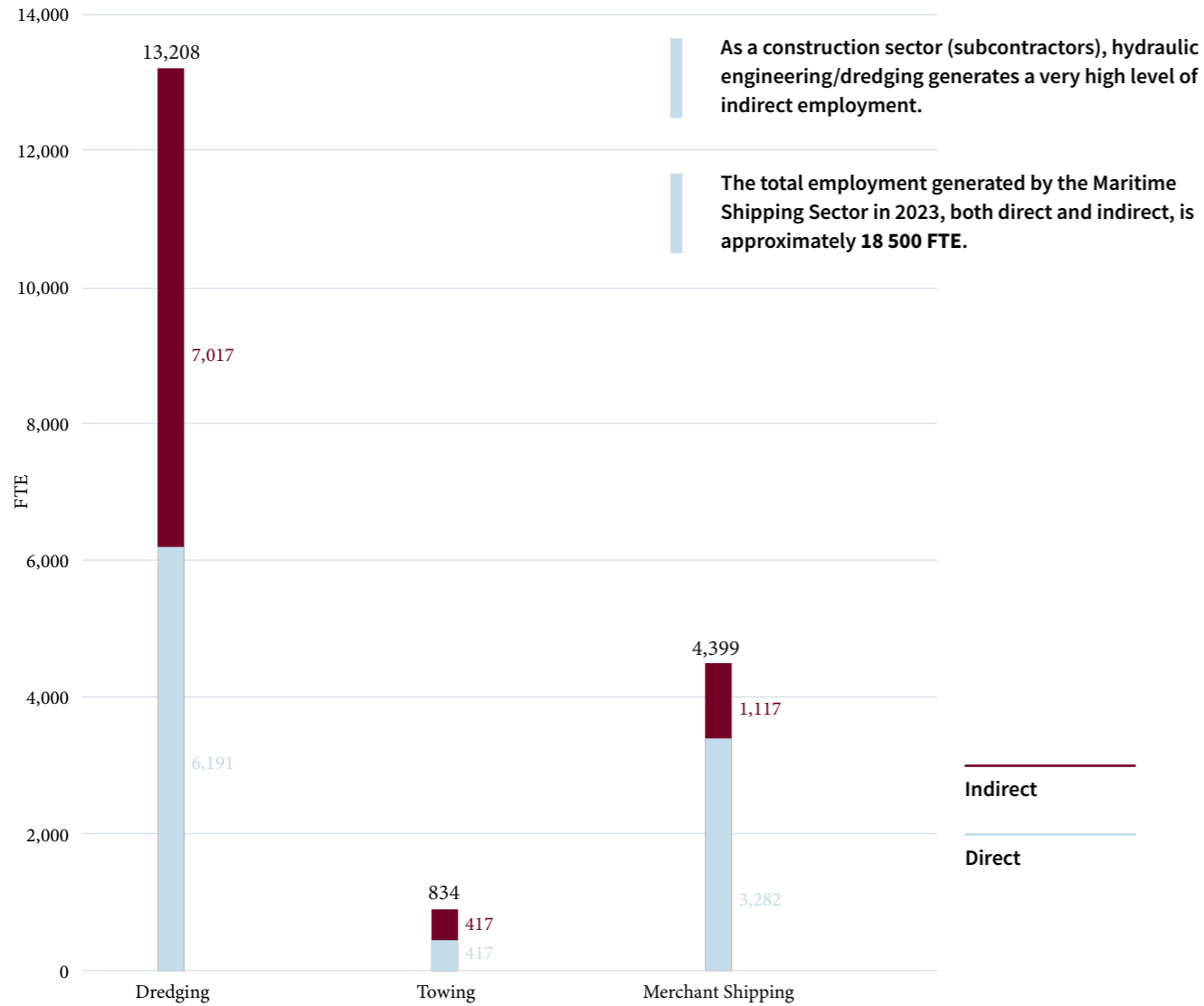
- Dredging\*
- Towing
- Merchant Shipping

\*Employment in the hydraulic engineering/dredging sector during the period 2001 - 2016 has been retrospectively adjusted, as a party was added to the figures. Therefore, hydraulic engineering/dredging figures do not exactly match those of previous reports.

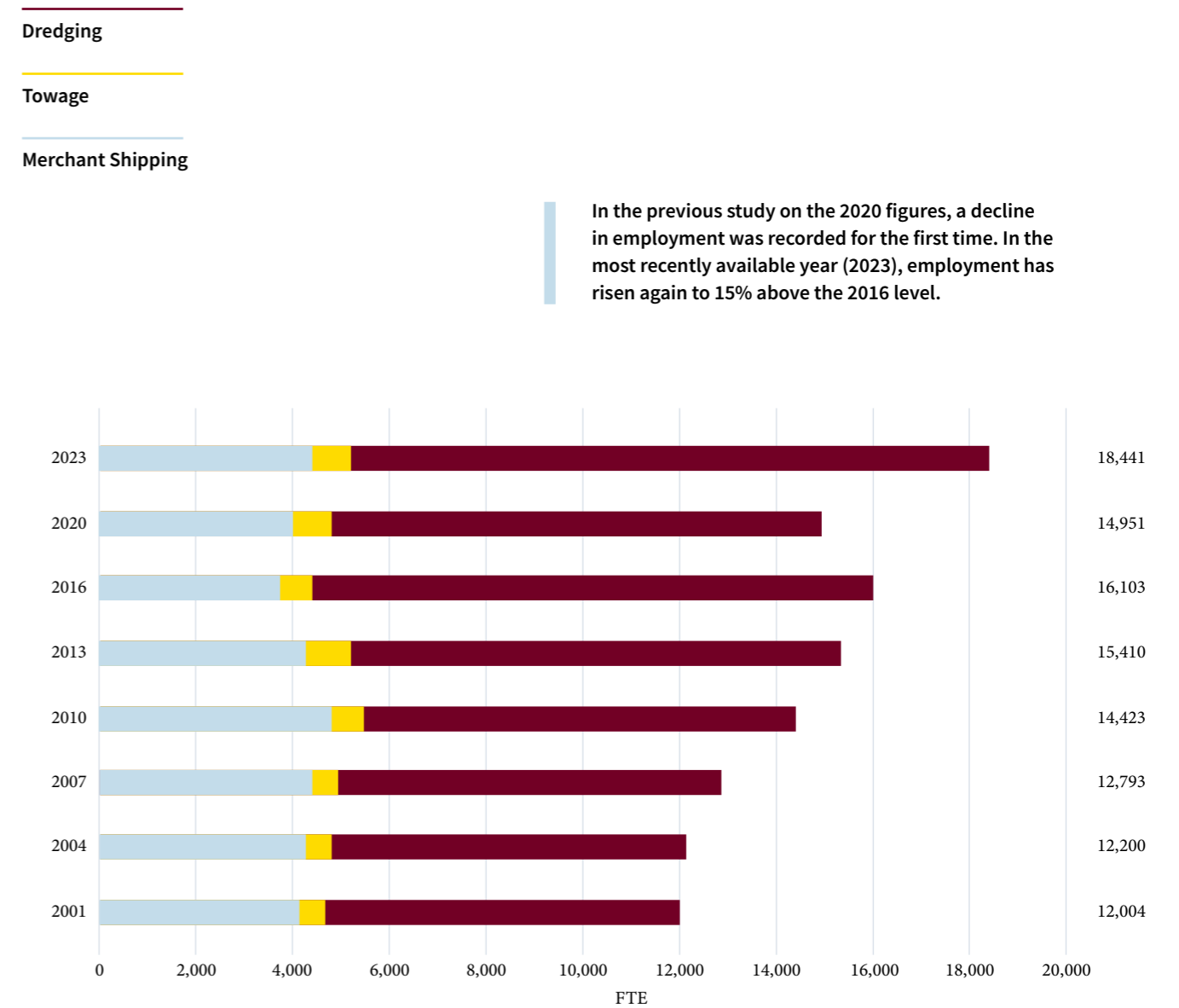


## Total Economic Impact

### Total employment in the Belgian maritime shipping sector in 2023



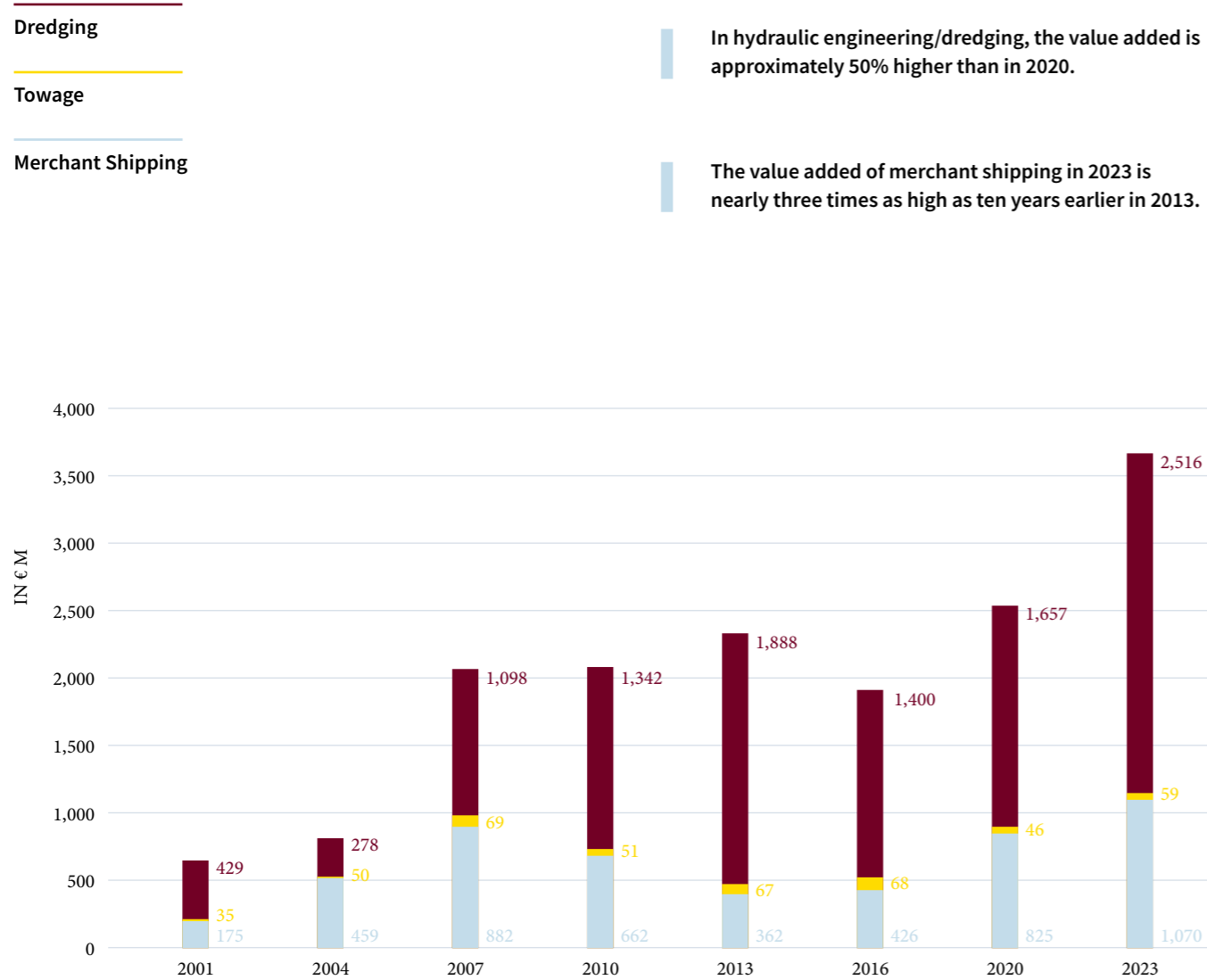
### Evolution total employment - Belgian maritime shipping



Source : Policy Research Corporation based on annual accounts

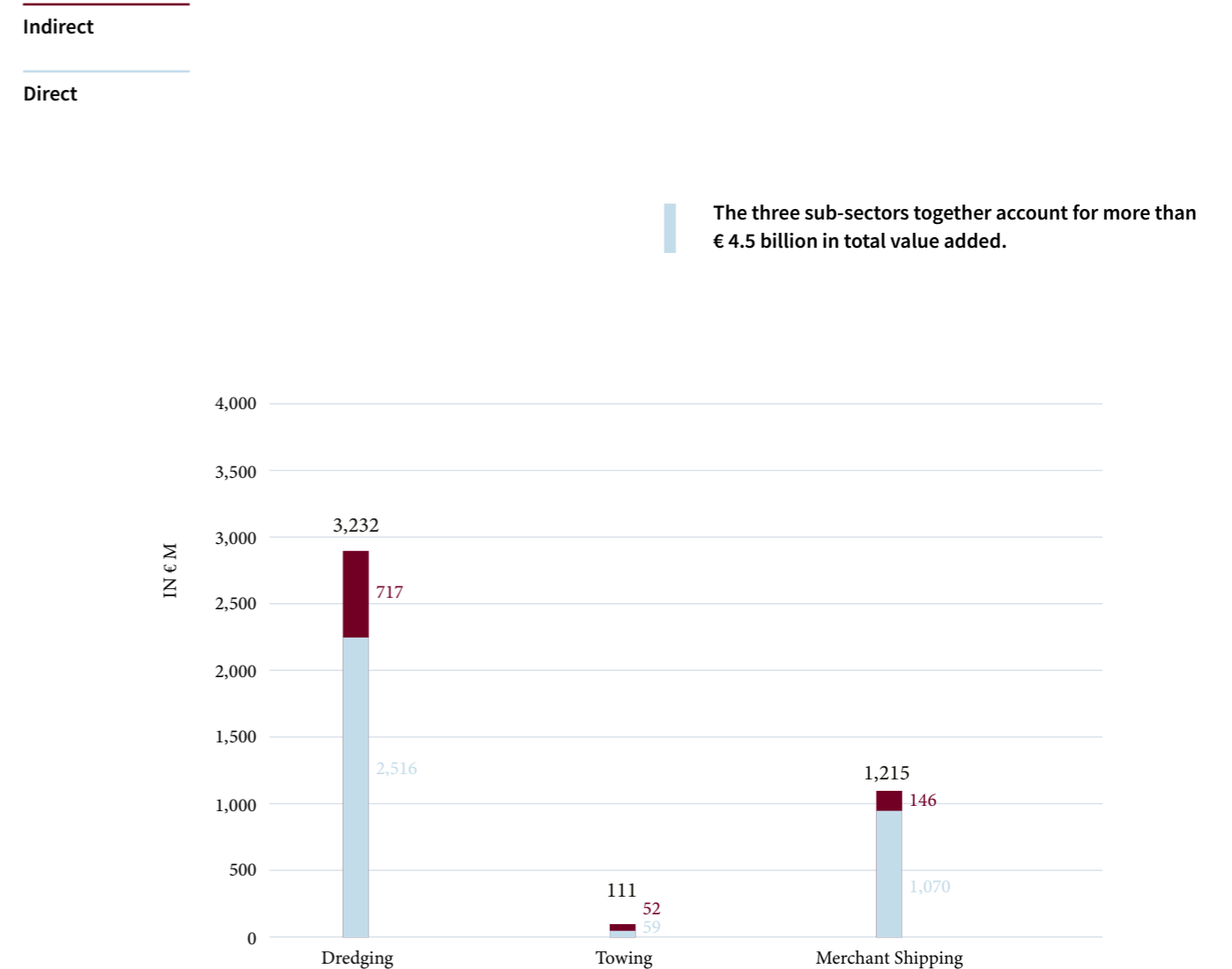
## Total Economic Impact

### Evolution of direct value added



Source: Policy Research Corporation based on annual accounts

### Total value added of the Belgian maritime shipping sector in 2023

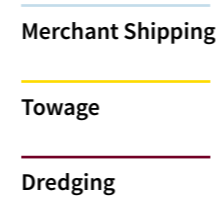


Source : Policy Research Corporation based on annual accounts

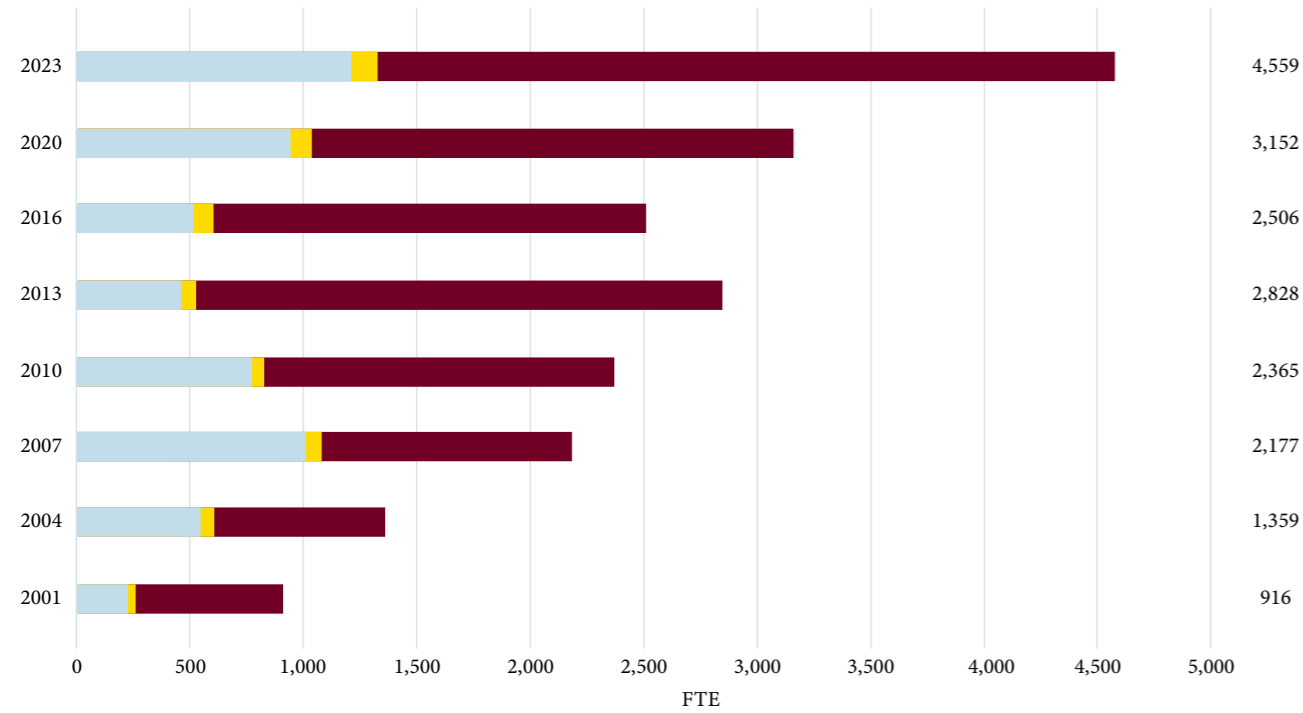
## Total Economic Impact

### Evolution of the total value added of the Belgian maritime shipping

AMOUNTS X € 1,000,000



The total value added in 2023 is nearly 50% higher than in 2020. All three sub-sectors have contributed to this increase.



Source: Policy Research Corporation based on annual accounts



## 03 ~ Economic impact of Belgian Shipping

### Economic Impact by Subsector



### Merchant shipping

- » Belgian merchant shipping has a strong presence in the market for petroleum products (Euronav) and gas (Exmar), as well as in general cargo/dry bulk (CMB/Bocimar).
- » Additionally, Belgian shipowners are also active in breakbulk (Boeckmans, Conti-Lines, Fast Lines) and container shipping (Delphis).

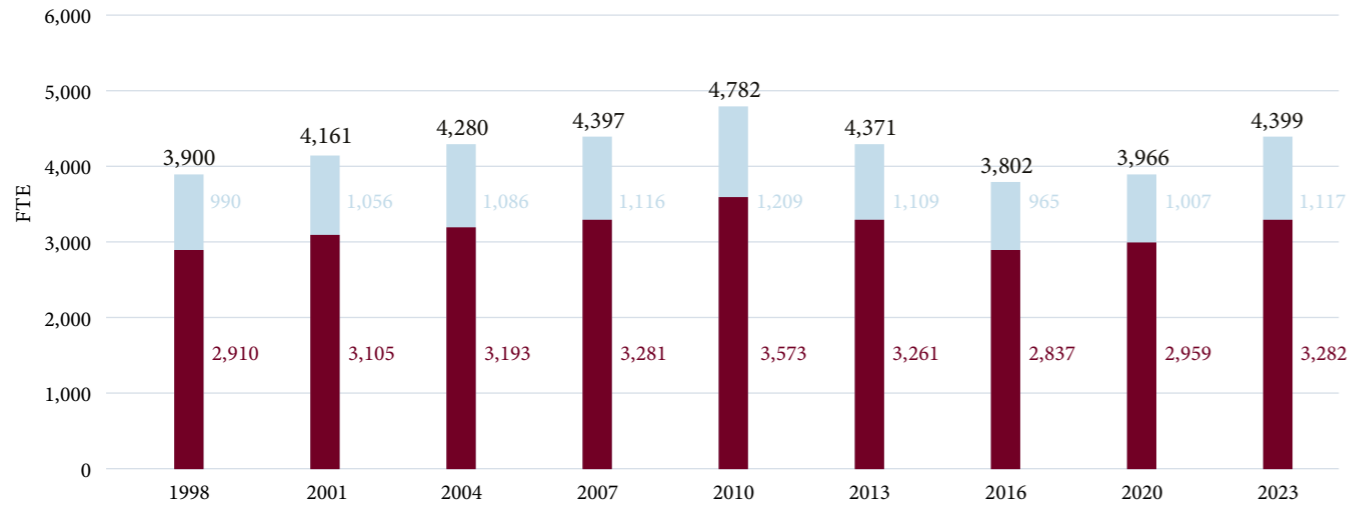
## Economic Impact by Subsector

### Trend of total employment in merchant shipping

Indirect

Direct

Total employment in 2023 is more than 10% higher than in 2020, approximately the same as the level in 2013.



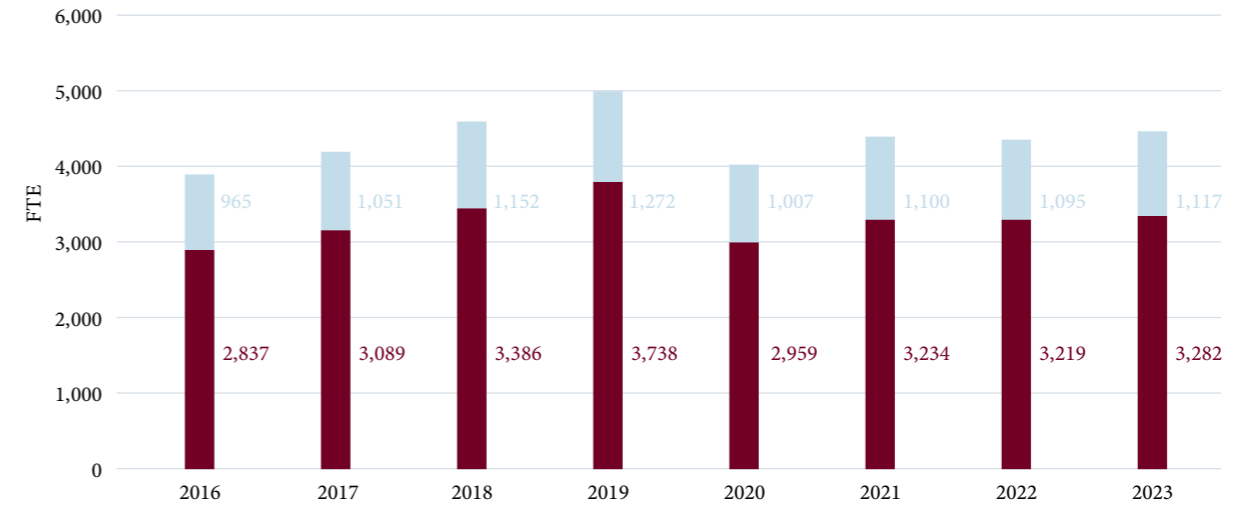
Source: Policy Research Corporation based on annual accounts

### Total employment in merchant shipping 2016 - 2023

Indirect

Direct

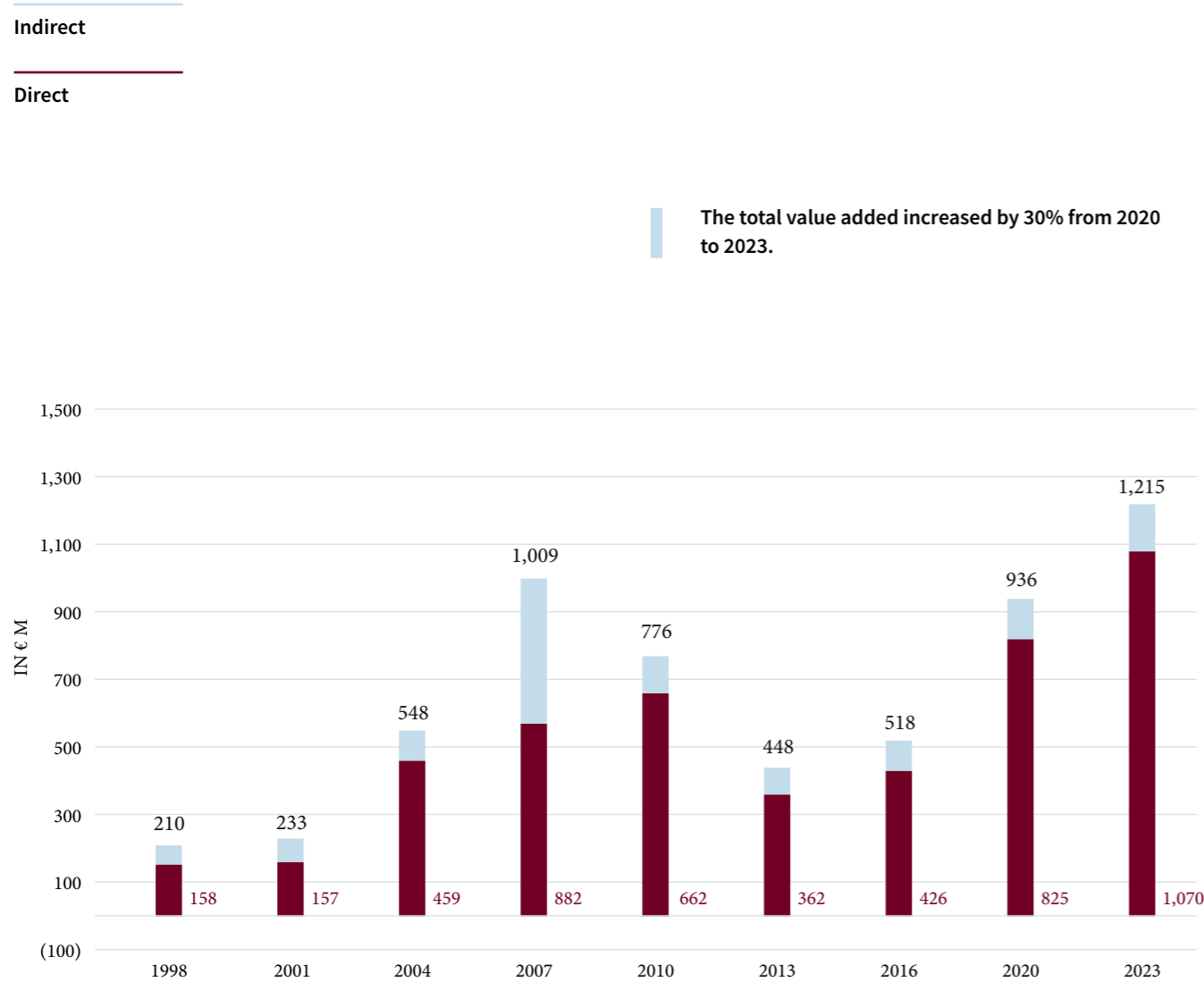
In 2020, employment experienced a dip during the COVID period. Since then, it has been on an upward trend again.



Source: Policy Research Corporation based on annual accounts

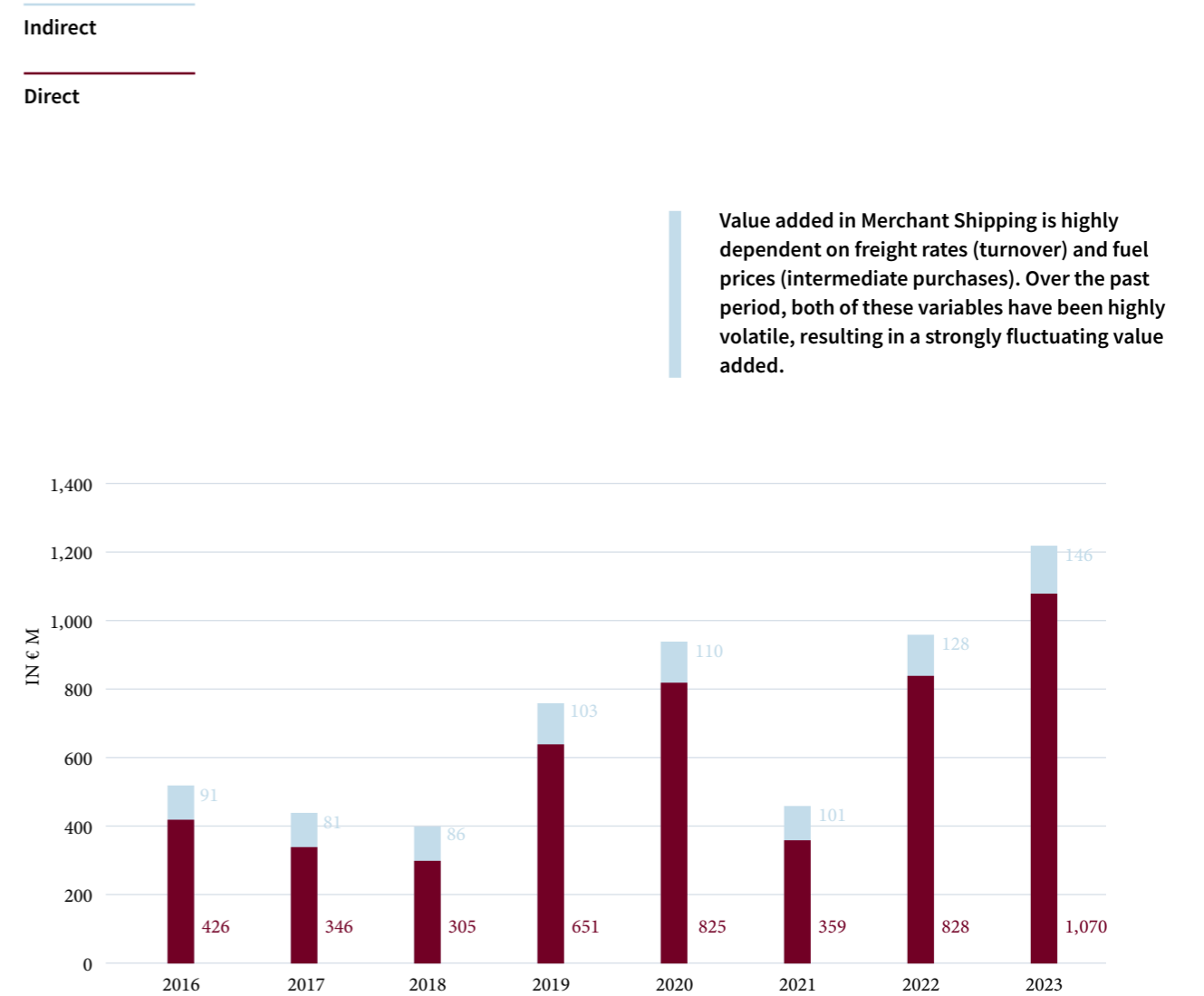
## Economic Impact by Subsector

### Total value added trend in merchant shipping



Source: Policy Research Corporation based on annual accounts

### Total value added in merchant shipping 2016 - 2023



Source: Policy Research Corporation based on annual accounts

## 03 ~ Economic impact of Belgian Shipping

### Economic Impact by Subsector

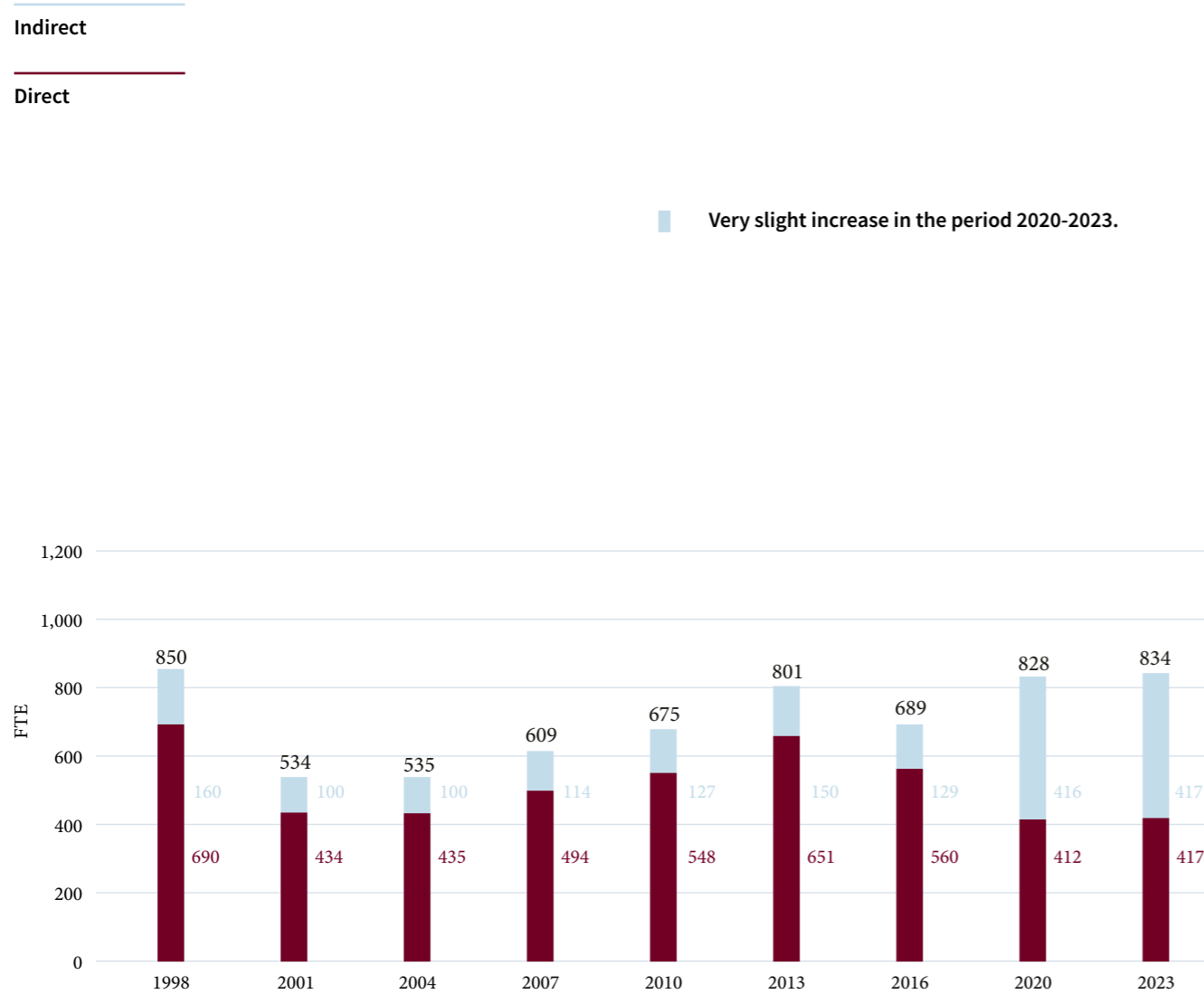


### Towage

- » For navigation on the Scheldt in Antwerp, tugboats from Boluda Towage and Antwerp Towage are used.
- » Behind the locks, tugboats operated by the Port Authority provide services.
- » In Zeebrugge, Boluda Towage handles all towing services, both before and behind the locks.

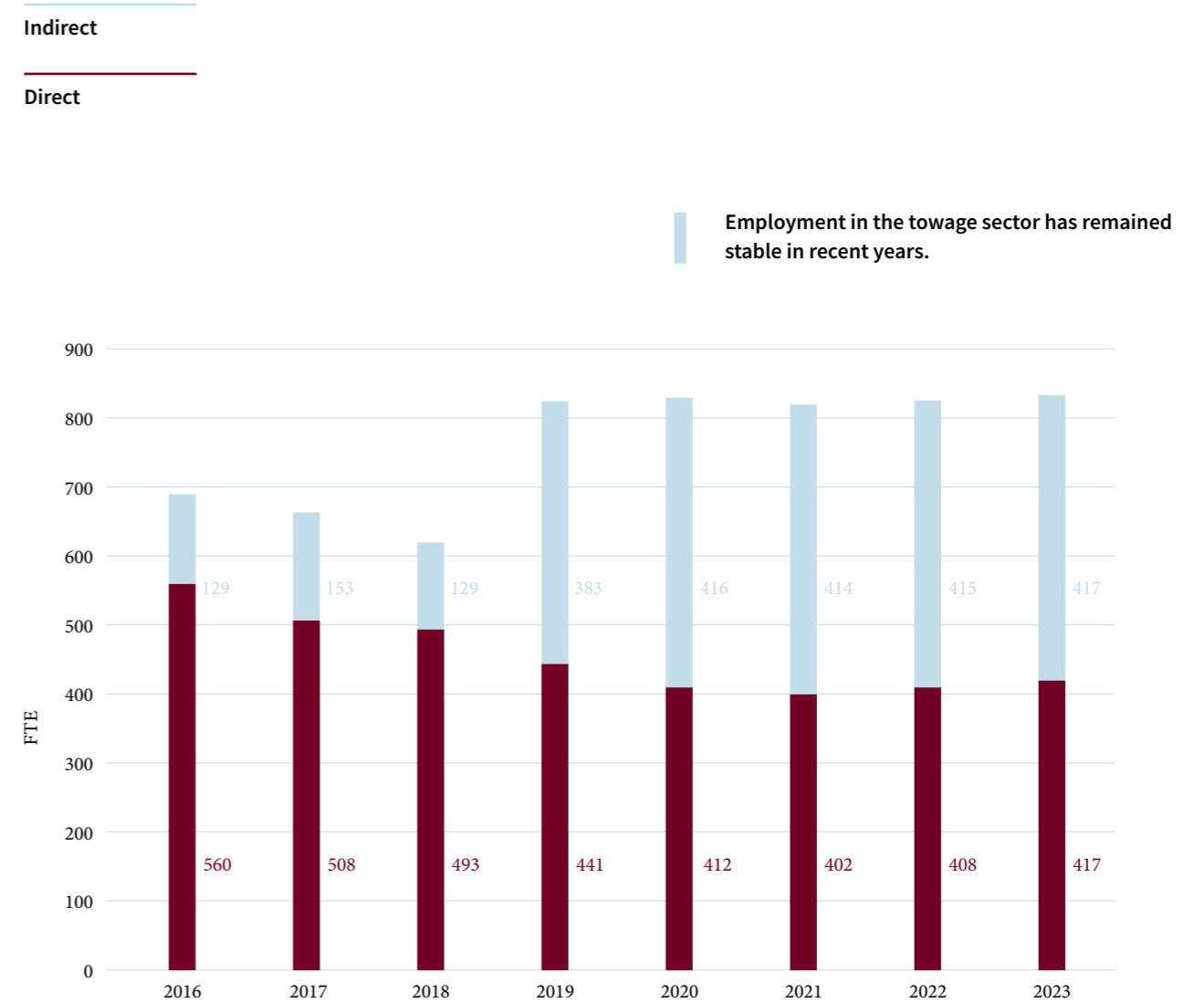
## Economic Impact by Subsector

### Trend of total employment in the towage sector



Source: Policy Research Corporation based on annual accounts

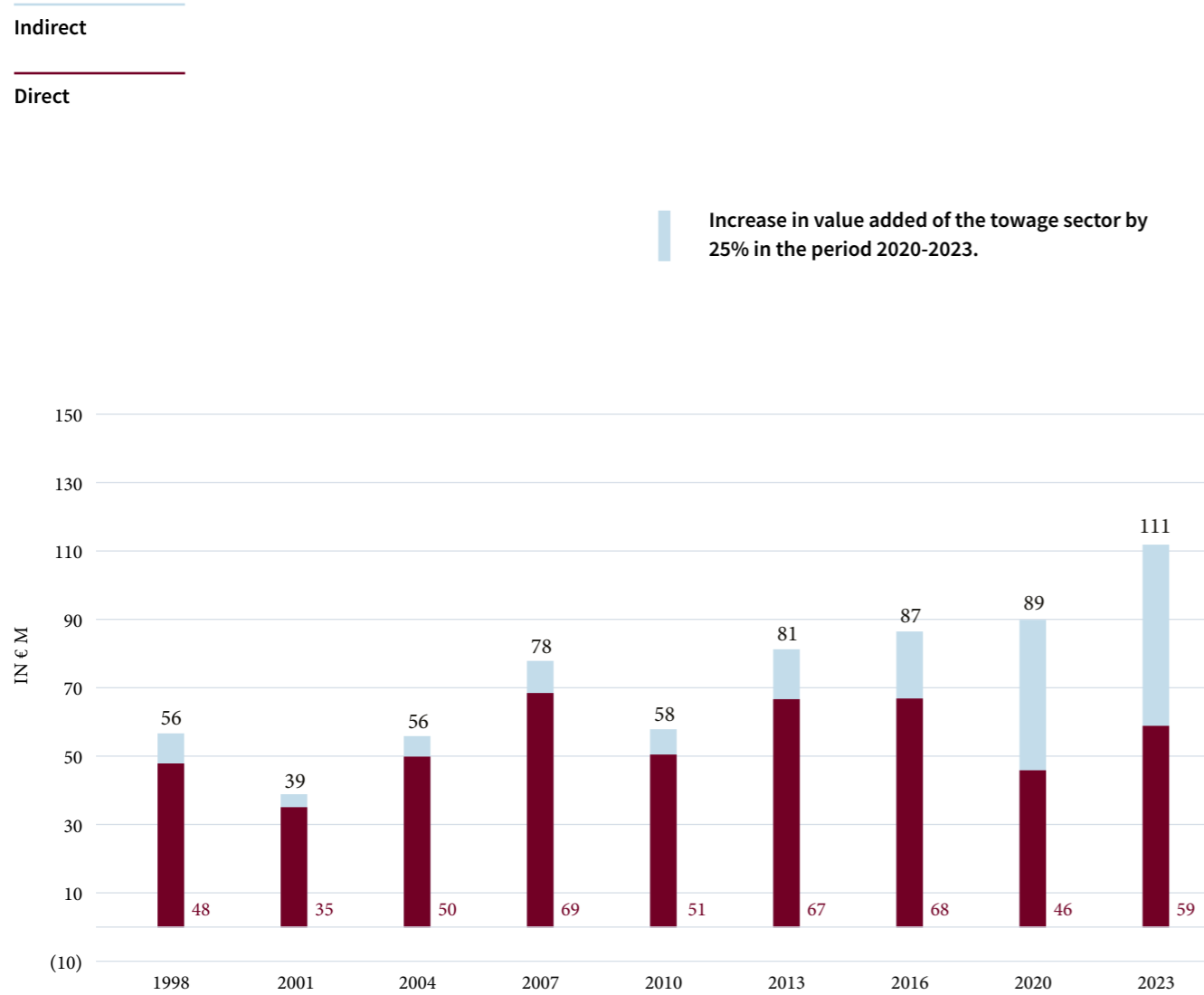
### Total employment in the towage sector 2016 - 2023



Source: Policy Research Corporation based on annual accounts

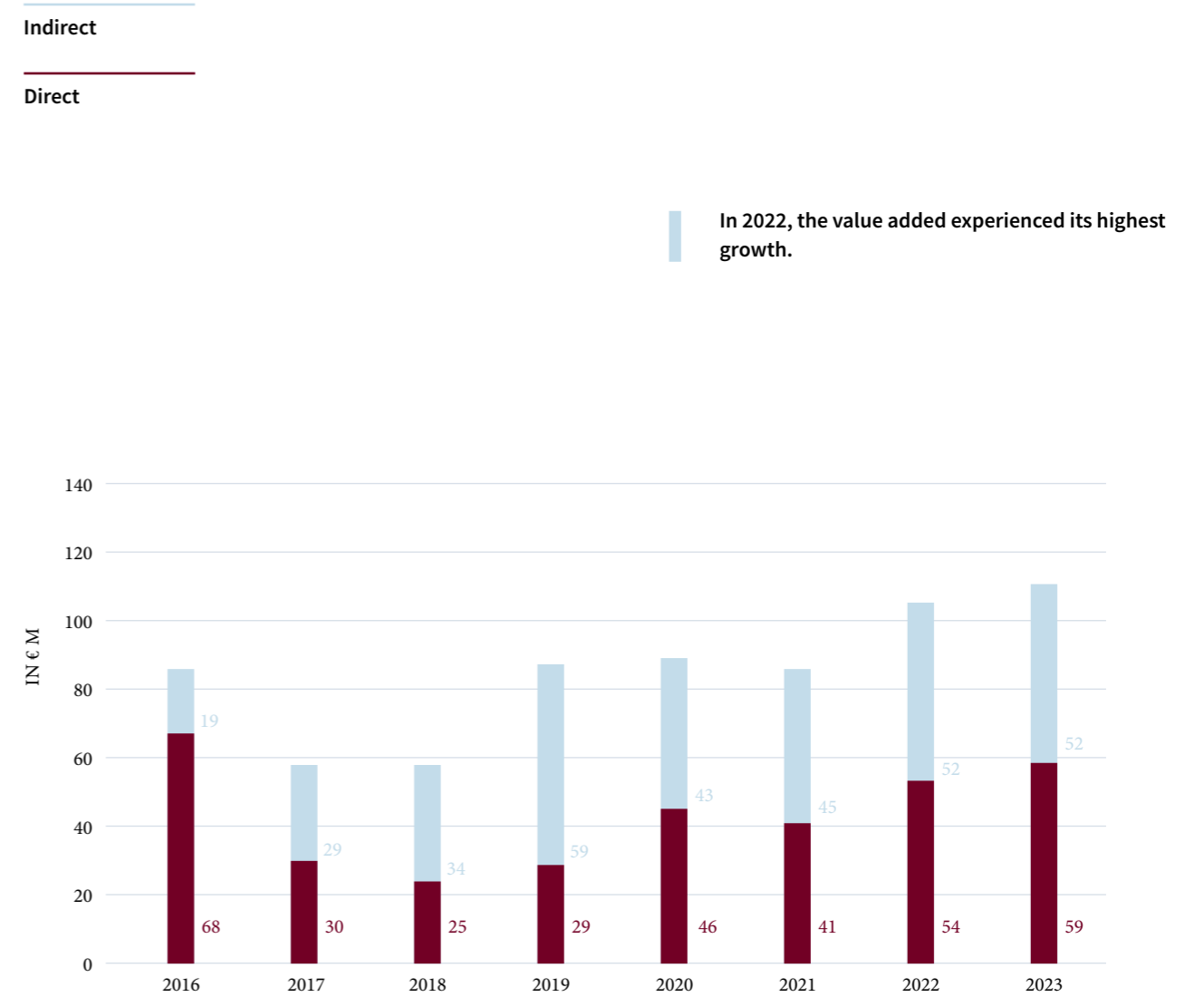
## Economic Impact by Subsector

### Total value added trend in the towage sector



Source: Policy Research Corporation based on annual accounts

### Total value added in the towage sector 2016 - 2023



Source: Policy Research Corporation based on annual accounts

## 03 ~ Economic impact of Belgian Shipping

### Economic Impact by Subsector

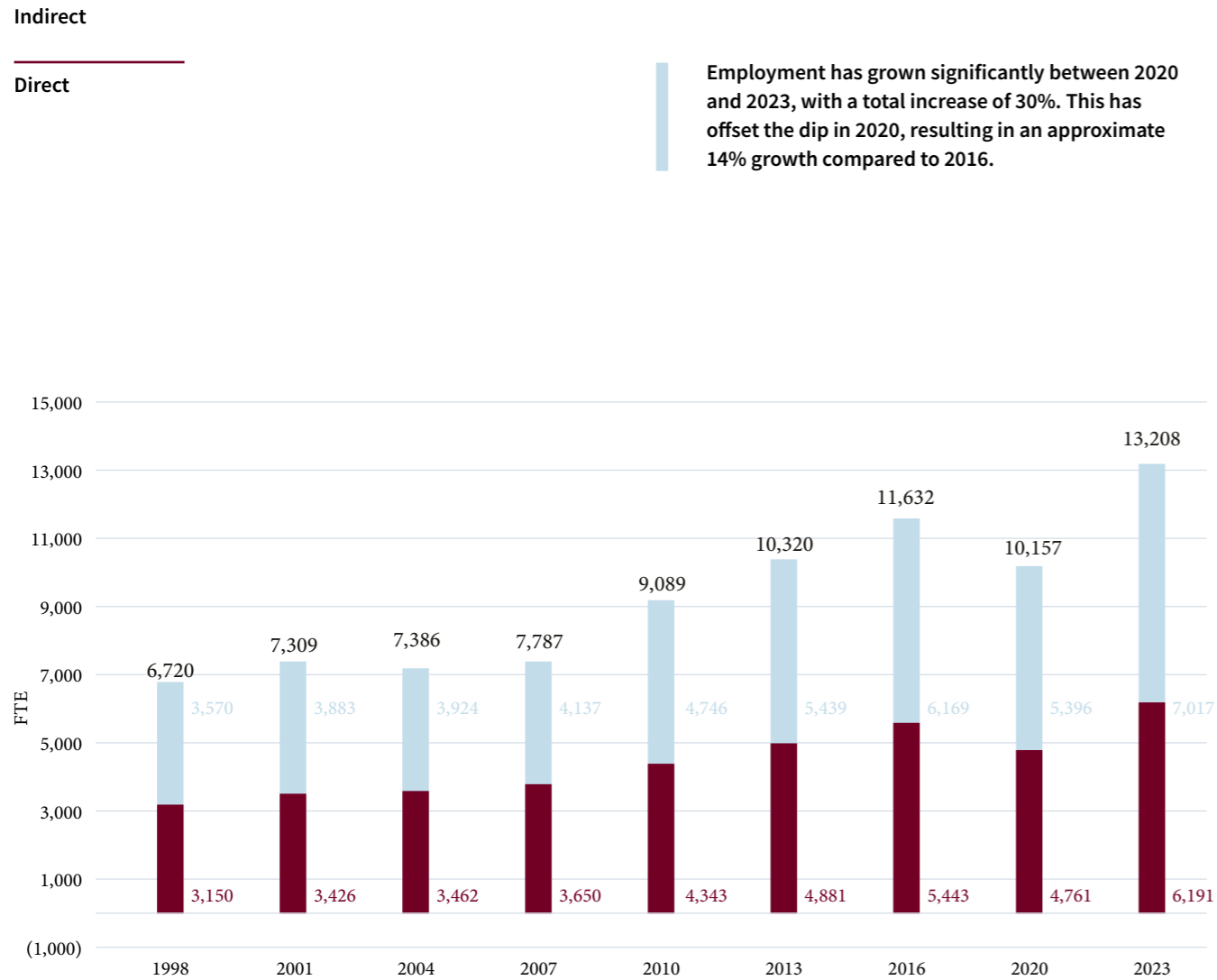


### Hydraulic engineering/Dredging

- » Belgium's hydraulic engineering/dredging sector boasts two global leaders: Jan De Nul and DEME.
- » The sector has more than recovered since the COVID-19 period.
- » As a construction sector, the indirect effects are particularly significant; with extensive subcontracting, indirect employment is as substantial as direct employment.

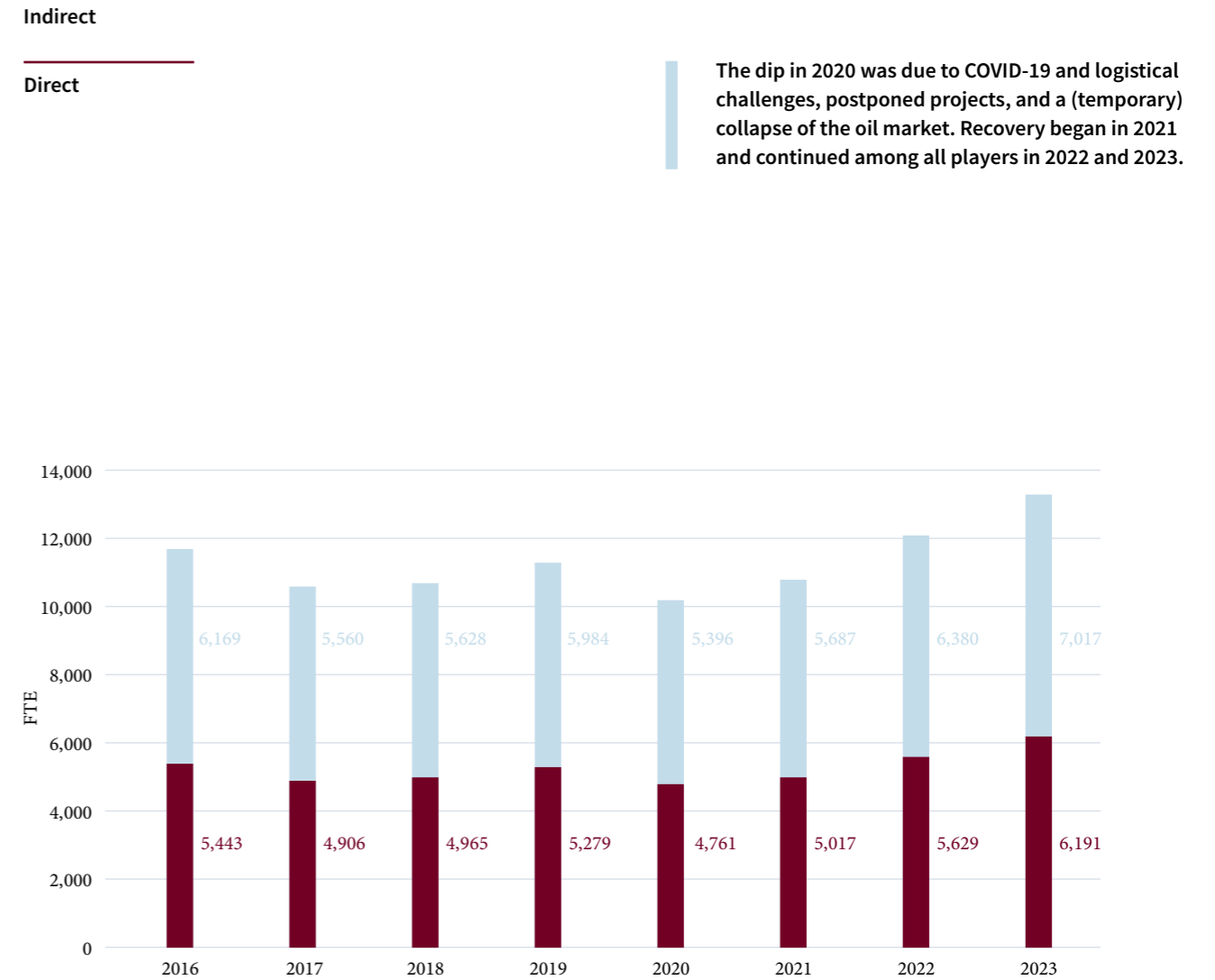
## Economic Impact by Subsector

### Trend of total employment in hydraulic engineering/dredging



Source: Policy Research Corporation based on annual accounts

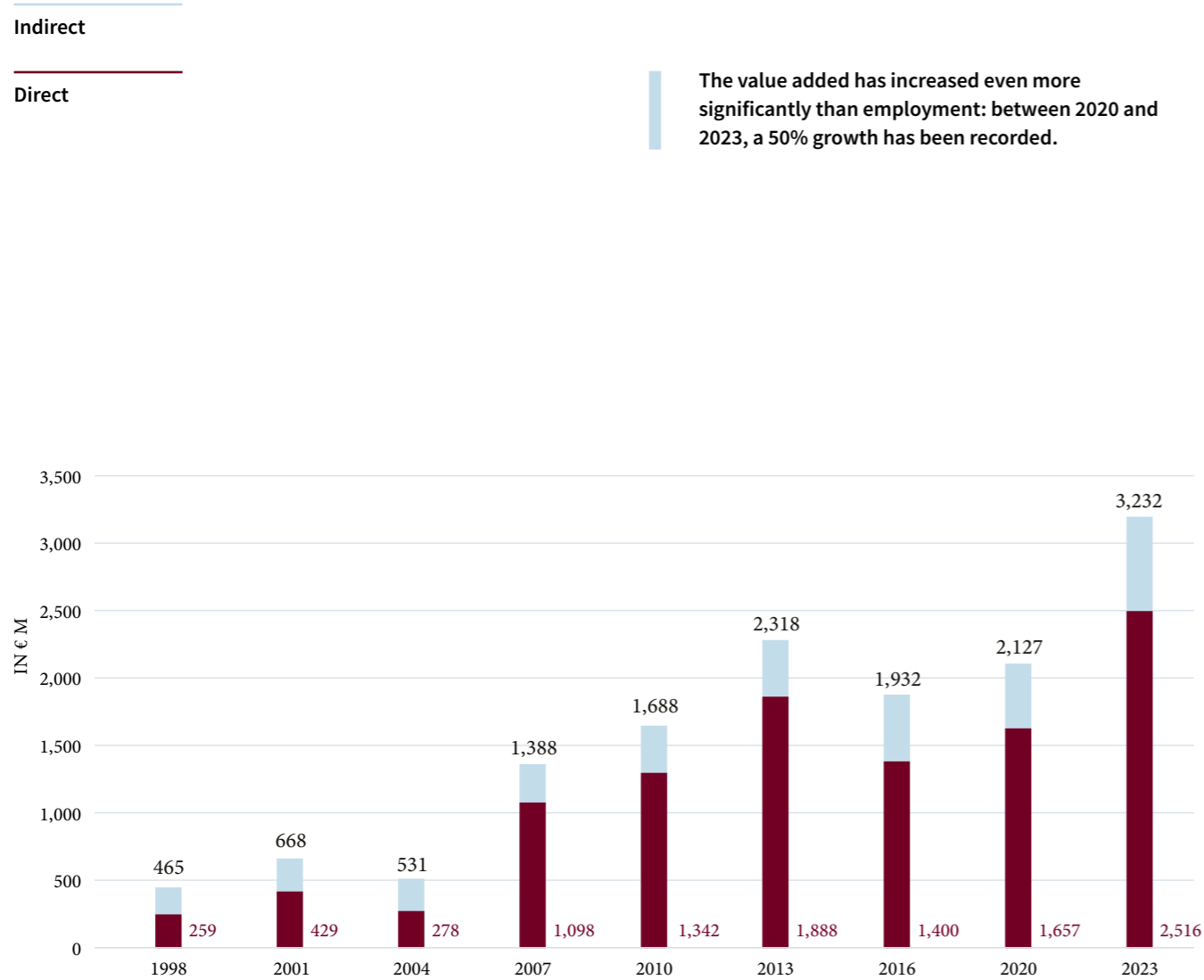
### Total employment in hydraulic engineering/dredging 2016 - 2023



Source: Policy Research Corporation based on annual accounts

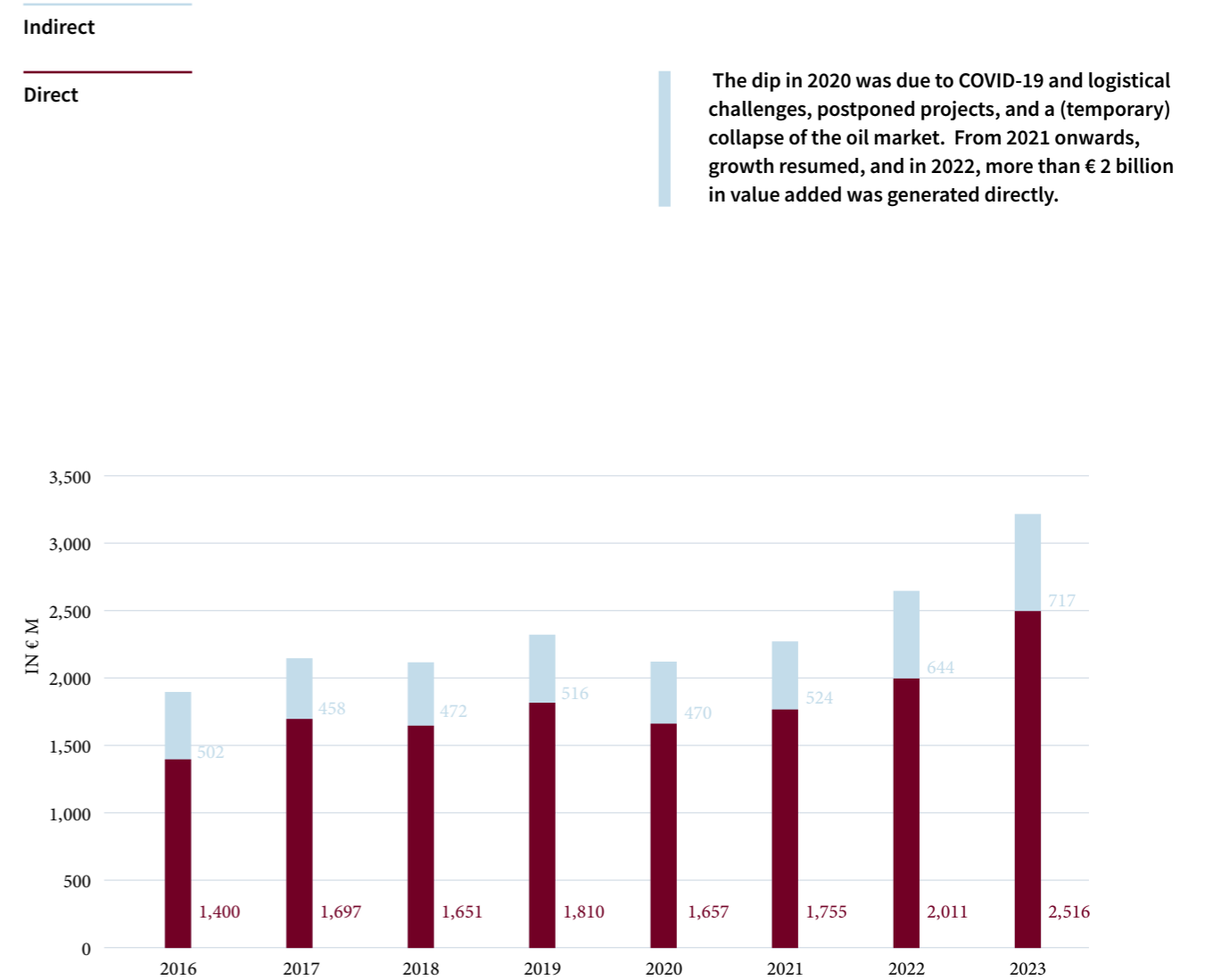
## Economic Impact by Subsector

### Total value added trend in hydraulic engineering/dredging



Source: Policy Research Corporation based on annual accounts

### Total value added in hydraulic engineering/dredging 2016 - 2023



Source: Policy Research Corporation based on annual accounts

## 04 ~ Conclusions



## 4. Conclusions

### Total

In 2023, the Belgian maritime shipping sector generated nearly **€10 billion in direct turnover**. The total value added (direct and indirect) increased by 50% to **€4.5 billion** (€3.1 billion in 2016). Total employment (direct and indirect) reached nearly **18,500 FTEs**. The fleet of Belgian shipowners grew almost fivefold between 2001 and 2019, whereas the global fleet nearly tripled over the same period. Since 2021, however, the Belgian-controlled merchant fleet has contracted, while the global fleet has continued to grow. The share of ships sailing under the Belgian flag has remained around 30% of DWT, fluctuating slightly. This indicates that both European and Belgian shipping policies have been successful.

### Towage

The towage sector is the smallest within Belgian maritime shipping, contributing 1.8% of direct turnover, 4.2% of direct employment, and 1.6% of direct value added. Employment and value added have remained relatively stable over the period 2020-2023.

### Hydraulic engineering/Dredging

Hydraulic engineering/drilling accounts for **66%** of the direct turnover in Belgian maritime shipping, 63% of direct employment, and **69%** of direct value added. The sector has performed exceptionally well between 2020 and 2023, with employment increasing by 30% and value added growing by 50%.

### Merchant shipping

The merchant shipping sector represents **32.5%** of direct turnover, **33%** of direct employment, and **29%** of direct value added within Belgian maritime shipping. Over the past years, the sector has successfully managed fluctuations in freight rates and bunker prices, leading to a 10% increase in employment and a 30% rise in value added.

# Annex: Sustainability & Belgian Shipping

|            |     |                            |      |
|------------|-----|----------------------------|------|
| <b>i</b>   | ~ ~ | Sustainability Challenge   | p.64 |
| <b>ii</b>  | ~ ~ | Sustainability Initiatives | p.66 |
| <b>iii</b> | ~ ~ | Role of the KBRV           | p.68 |



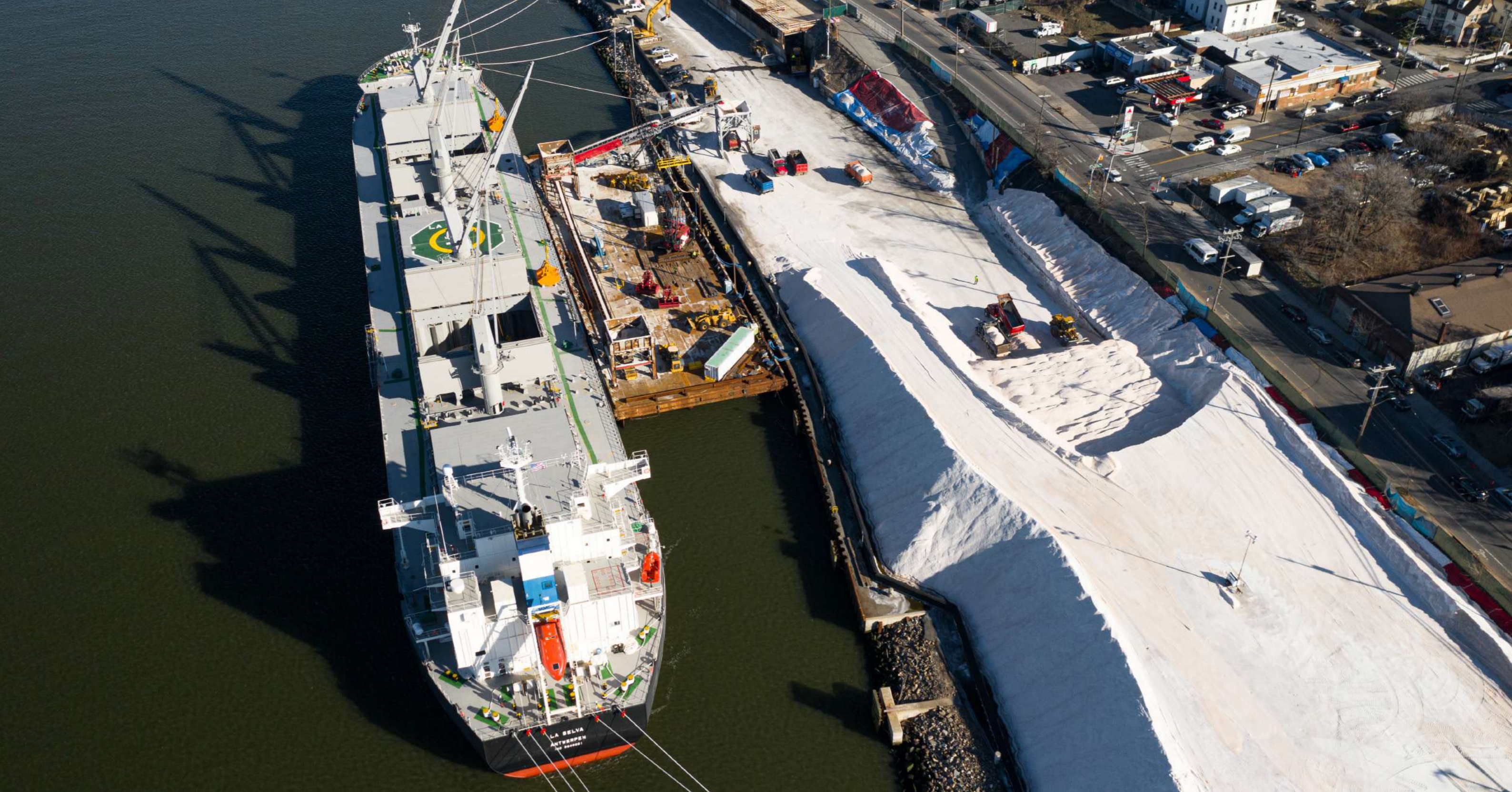


### iii. ~ Role of the KBRV



The **Royal Belgian Shipowners' Association (KBRV)** endorses Belgium's objectives for climate-neutral and digital shipping by 2050. To achieve this, the KBRV seeks collaboration with maritime partners:

- » **European Sustainable Shipping Forum (ESSF)**  
A platform for structural dialogue, exchange of technical knowledge, cooperation and coordination between the European Commission, Member States' authorities and maritime transport stakeholders on issues pertaining to the sustainability and the competitiveness of EU maritime transport.
- » **Maritime Autonomous Surface Ships (MASS)**  
The MASS think tank brings together more than 100 stakeholders to share technical and legal expertise on autonomous shipping. The deployment of increasingly automated maritime systems, such as collision avoidance systems, remote monitoring tools, and workload management software, is expected to have a positive impact on productivity, safety, and emission reduction. For more information: [mass.kbrv.be](http://mass.kbrv.be)
- » **Maritime Industry Decarbonization Council (MIDC)**  
For more information: [www.midc.be](http://www.midc.be)



LA SELVA  
ANTWERPEN

Photo credits:

Cover: CMB.TECH  
p2-3: Exmar  
p6: Fast Lines  
p8: Boeckmans, Boluda Towage  
p9: DEME  
p12-13: Boluda Towage  
p14: DEME  
p19: Euronav  
p20: CMB.TECH  
p21: EBE, Fast Lines  
p24: Antwerp Maritime Academy  
p28: Fast Lines  
p29: DEME  
p31: Exmar  
p35: CMB.TECH  
p41: Exmar  
p42-43: CMB.TECH  
p48-49: Boluda Towage  
p54-55: Exmar  
p60: CMB.TECH  
p64-65: CMB.TECH-Boeckmans  
p66: Exmar  
p67: DEME  
p68-69: CMB.TECH  
p70-71: EBE

