



**close the
glass loop**

EXPORTS FOR RECYCLING OF GLASS PACKAGING

**An analysis of the Eurostat database on
packaging waste exported for recycling**



BACKGROUND AND CONCEPT

- Since 2018, EU Member States have been reporting exports for recycling figures for all packaging materials into Eurostat. This study looks at data taken from Eurostat on 17 October 2023.
- We understand exports for recycling as packaging materials collected in one country and sent for recycling in another country. Eurostat does not distinguish between waste materials collected and sent for sorting and treatment in another country and sorted materials getting recycled in another country in a final application.
- In the case of glass, this could therefore mean exports for recycling of both treated and untreated cullet.
- All exports for recycling contribute to the overall recycling rate of the exporting EU Member State.

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SHARE OF EXPORTS FOR RECYCLING IN TOTAL RECYCLING OF PACKAGING MATERIALS

GENERAL OVERVIEW 2021

21%



In 2021, exports for recycling accounted for 21% of what EU Member States reported as recycling of packaging waste materials.*



15,6%
inside EU



5,4%
outside EU

Glass Packaging Exports for Recycling

Exports for recycling accounted for 9,6% of what EU Member States reported as recycling of glass packaging.



9,6%

8,9%
inside
EU

0,7%
outside
EU

Metal Packaging Exports for Recycling

Exports for recycling accounted for 13,6% of what EU Member States reported as recycling of metal packaging.



13,6%

9,9%
inside
EU

3,7%
outside
EU

Plastic Packaging Exports for Recycling

Exports for recycling accounted for 23,4% of what EU Member States reported as recycling of plastic packaging.



23,4%

19,8%
inside
EU

3,6%
outside
EU

Paper and Cardboard Packaging Exports for Recycling

Exports for recycling accounted for 26% of what EU Member States reported as recycling of paper and cardboard packaging.



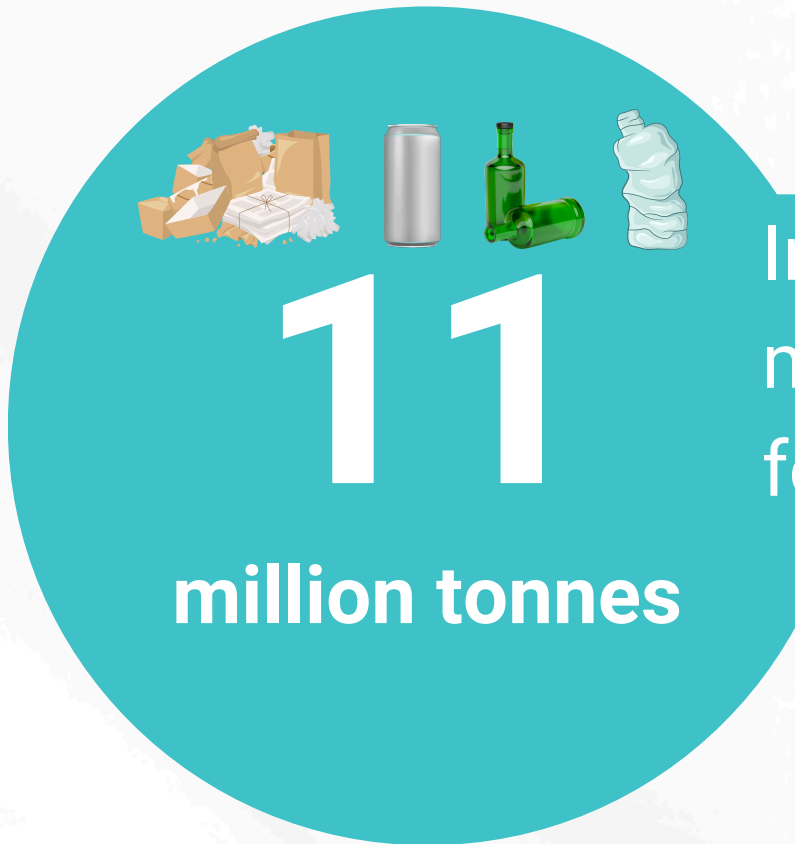
26%

18,1%
inside
EU

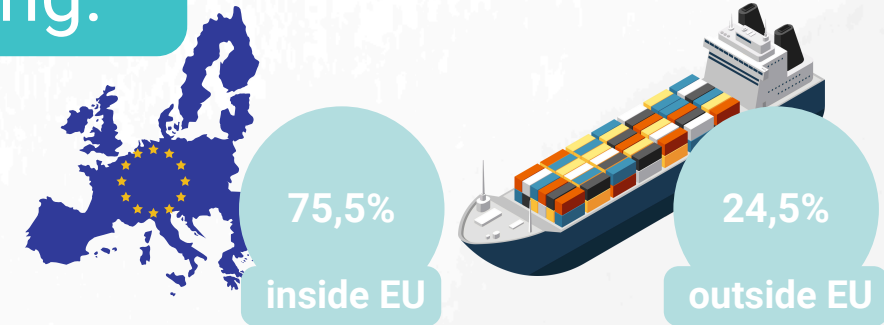
7,9%
outside
EU

*Our analysis relies on Eurostat data for 2021. Where there is data missing, Eurostat applies estimates.

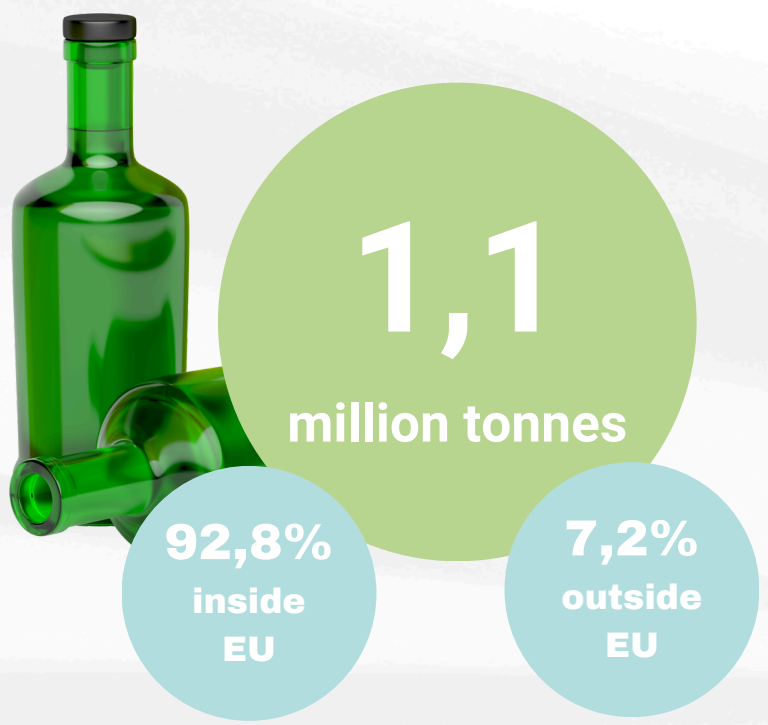
TOTAL TONNES OF PACKAGING WASTE MATERIALS EXPORTED FOR RECYCLING



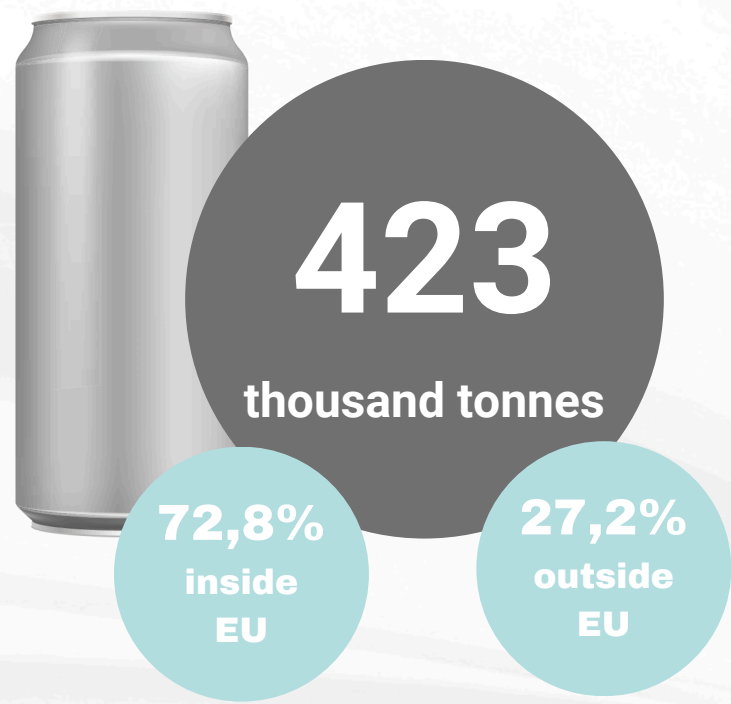
In 2021, EU Member States exported 11 million tonnes of packaging waste materials for recycling.*



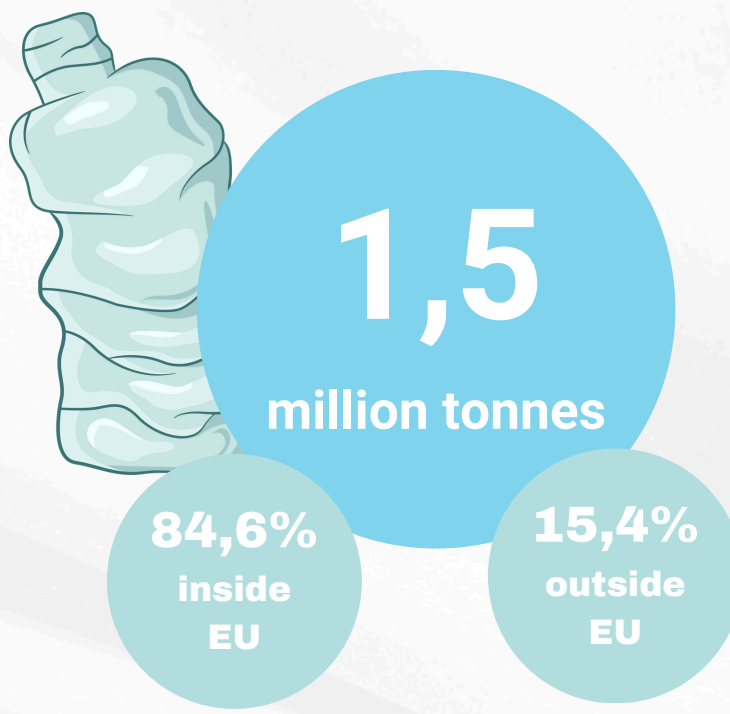
Total Tonnes of Glass Packaging Exported for Recycling



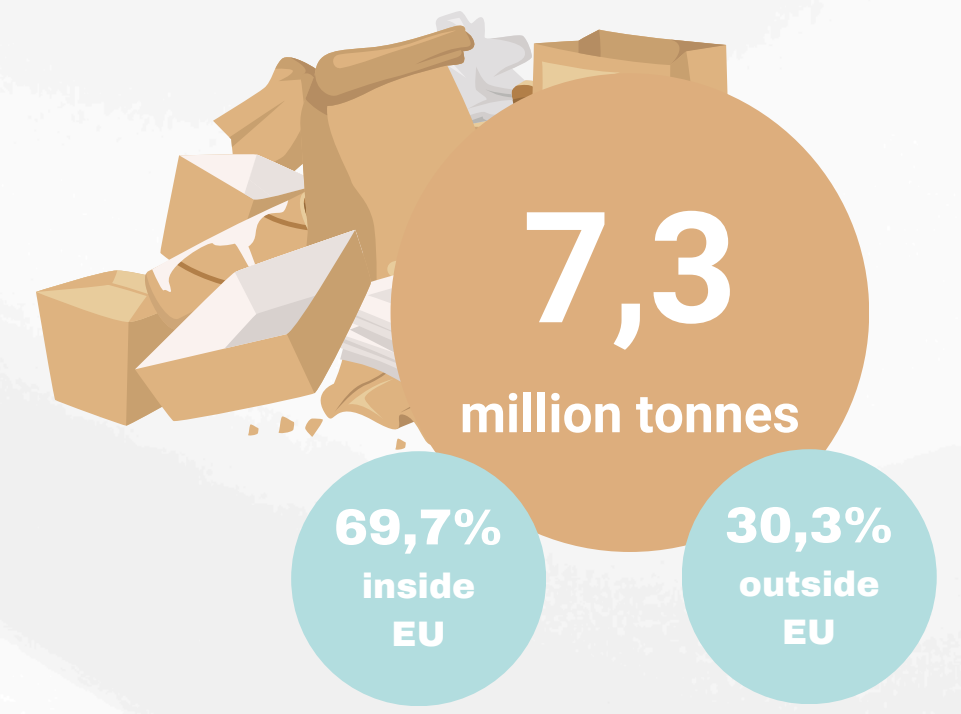
Total Tonnes of Metal Packaging Exported for Recycling



Total Tonnes of Plastic Packaging Exported for Recycling



Total Tonnes of Paper & Cardboard Packaging Exported for Recycling

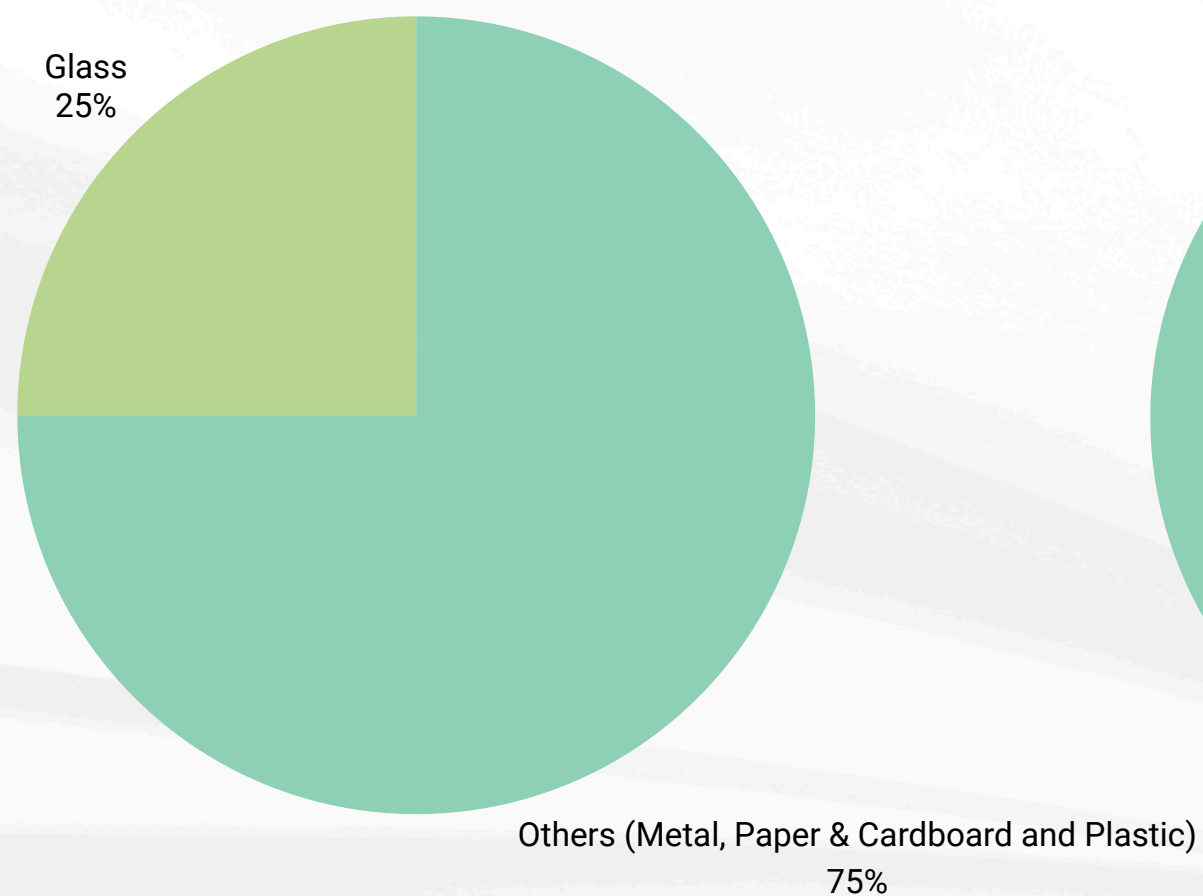


*Our analysis relies on Eurostat data for 2021. Where there is data missing, Eurostat applies estimates.

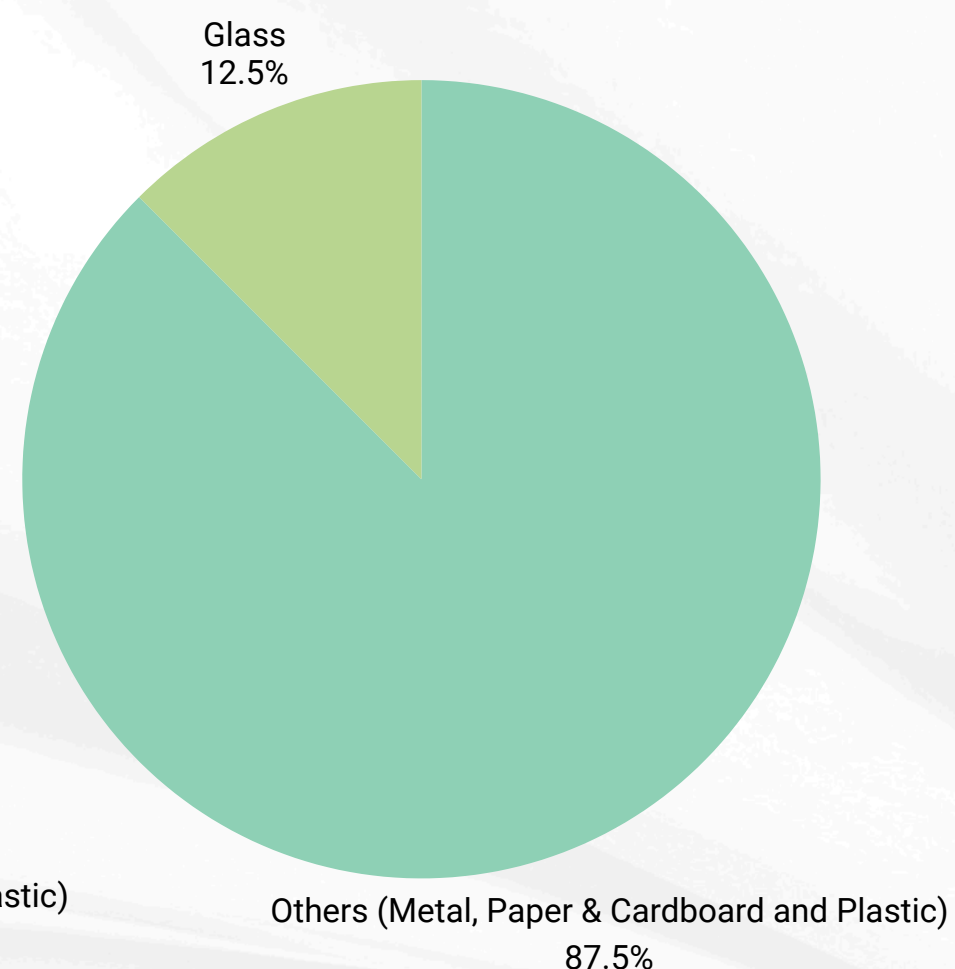
SHARE OF GLASS IN TOTAL PACKAGING RECYCLING BY DESTINATION

- In Eurostat countries report on 3 different destinations for recycling: Recycling in the Member State, Recycling in other Member States of the EU and Recycling outside the EU.

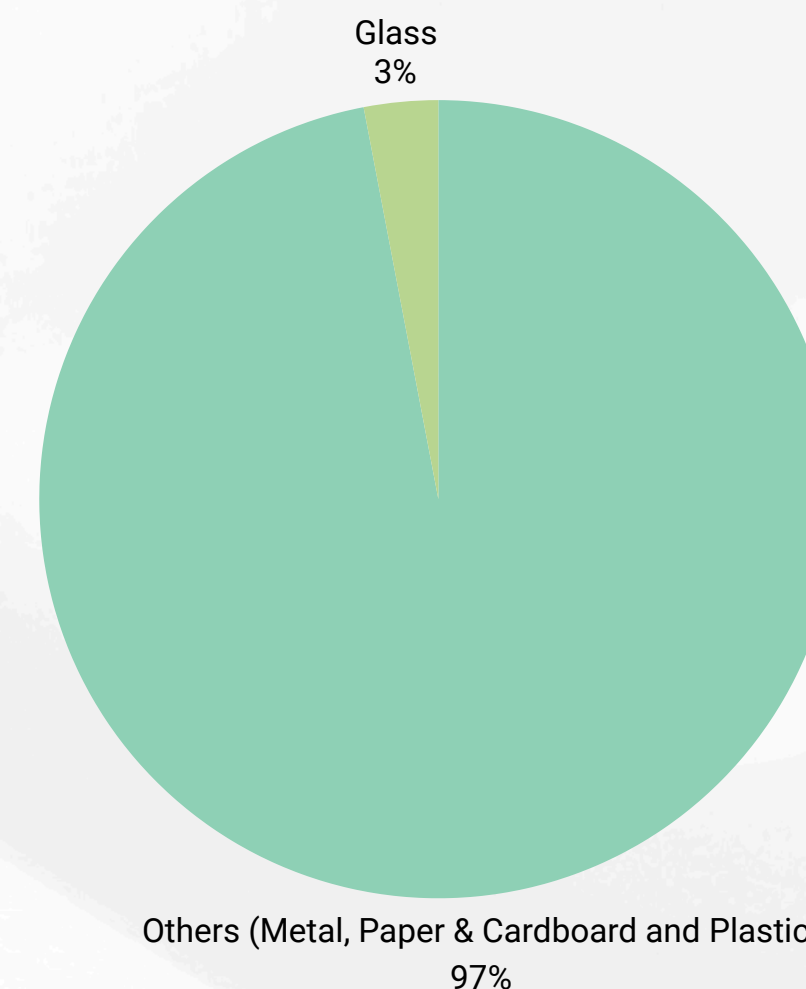
SHARE OF GLASS IN TOTAL PACKAGING RECYCLED DOMESTICALLY
(in tonnes)



SHARE OF GLASS IN TOTAL PACKAGING EXPORTED FOR RECYCLING INSIDE THE EU
(in tonnes)



SHARE OF GLASS IN TOTAL PACKAGING EXPORTED FOR RECYCLING OUTSIDE THE EU
(in tonnes)



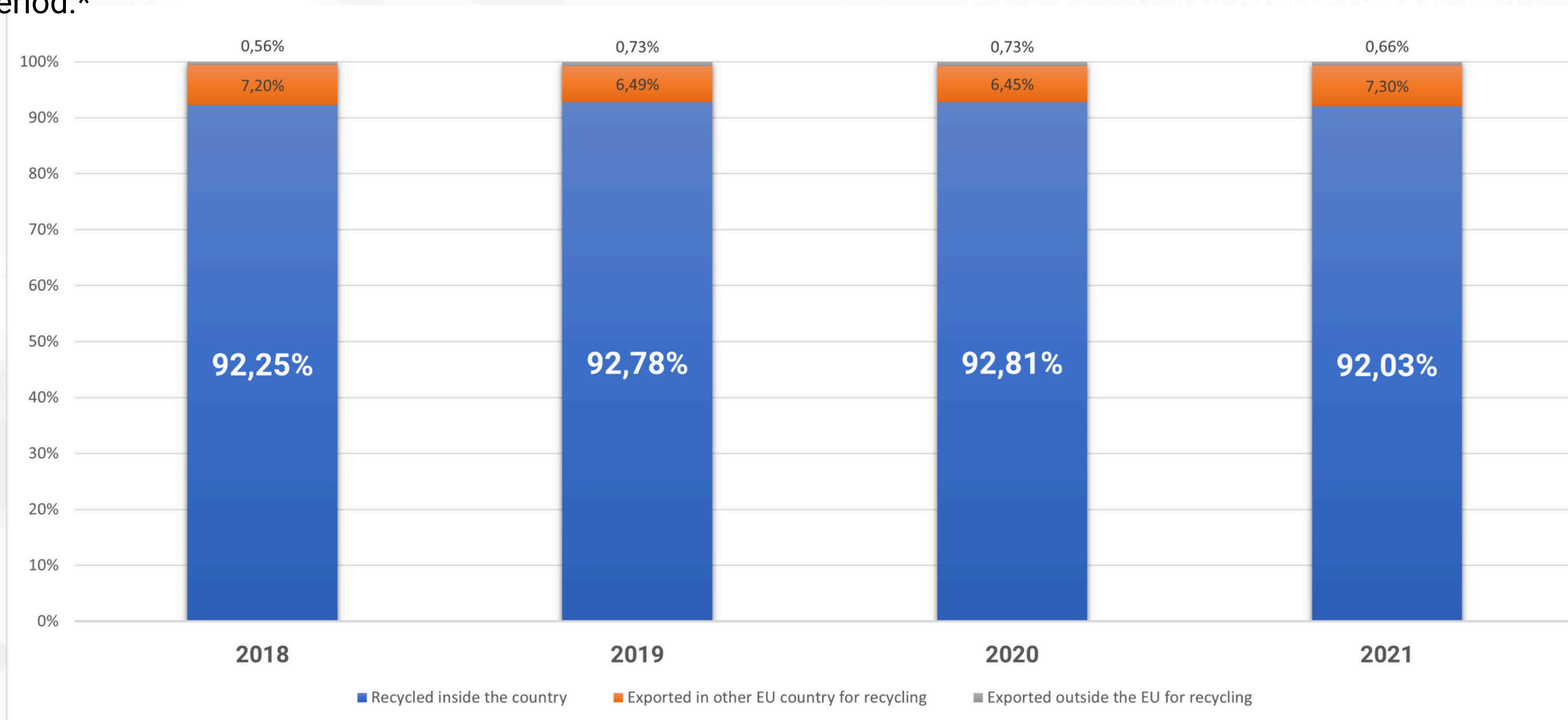
*sample: 19 EU Member States that have their data available for packaging materials for 2021 on Eurostat

OVERVIEW OF GLASS EXPORTS FOR RECYCLING



EVOLUTION OF GLASS RECYCLING BY DESTINATION

- From 2018 to 2021, approximately **92%** of glass was recycled in the country where it was collected, with the proportion of glass exported for recycling inside the EU fluctuating between **6% and 7.5%**. Notably, the proportion of glass exported outside the EU for recycling consistently remained **below 1%** throughout the entire period.*



*Sample: All EU Member States that have reported data for glass packaging in each year from 2018 to 2021 on Eurostat

DETAILED ANALYSIS OF GLASS EXPORTS FOR RECYCLING IN 2021

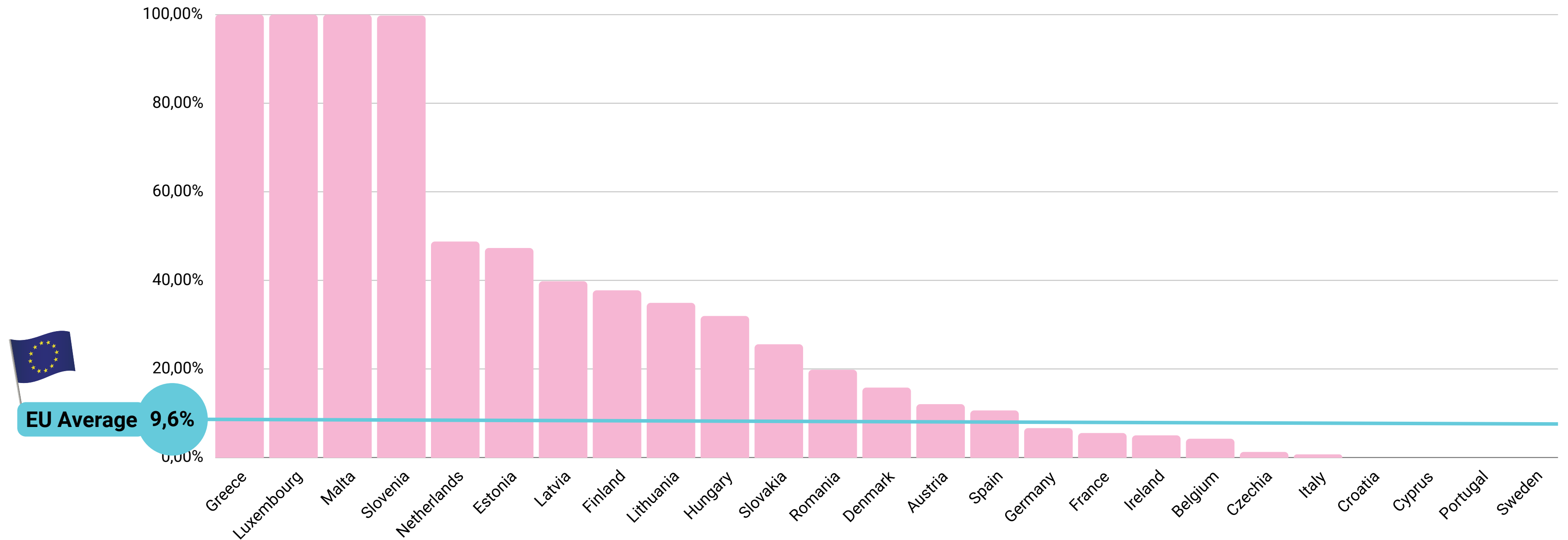
Methodology:

The analysis is based on Eurostat data for 2021 and includes 25 of the 27 EU Member States. Of these, 19 countries provided complete data for 2021, while the nearest available figures, from either 2020 or 2019, were used for the remaining six countries: Denmark, Greece, Hungary, Lithuania, Romania, and Slovakia. Poland and Bulgaria were excluded from the analysis because their most recent data was from before 2019.



WHICH COUNTRIES DEPEND THE MOST ON EXPORTS OF GLASS FOR RECYCLING TO ACHIEVE THEIR RECYCLING RATE?

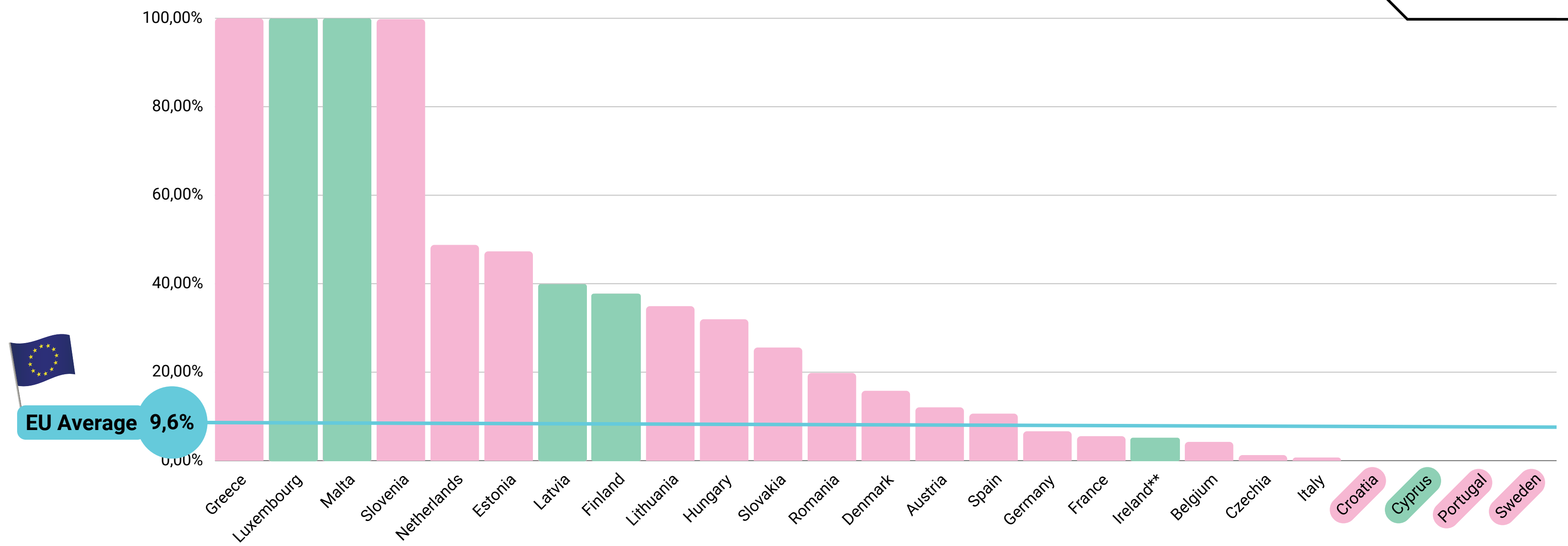
- The calculation is based on total tonnes exported for recycling inside and outside the EU compared to total tonnes reported as recycled.




DEPENDENCE ON EXPORTS FOR RECYCLING VS. NATIONAL CONTAINER GLASS MANUFACTURING CAPACITY

Countries with glass manufacturing capacity*

Countries without glass manufacturing capacity*



 EU Average 9,6%

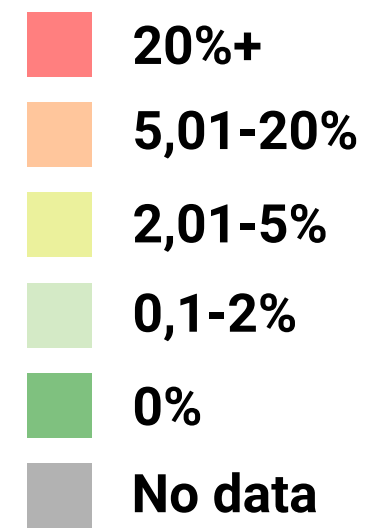
*Main source: <https://feve.org/feve-plants/>

**A significant majority of Ireland's glass packaging for recycling is exported to Northern Ireland

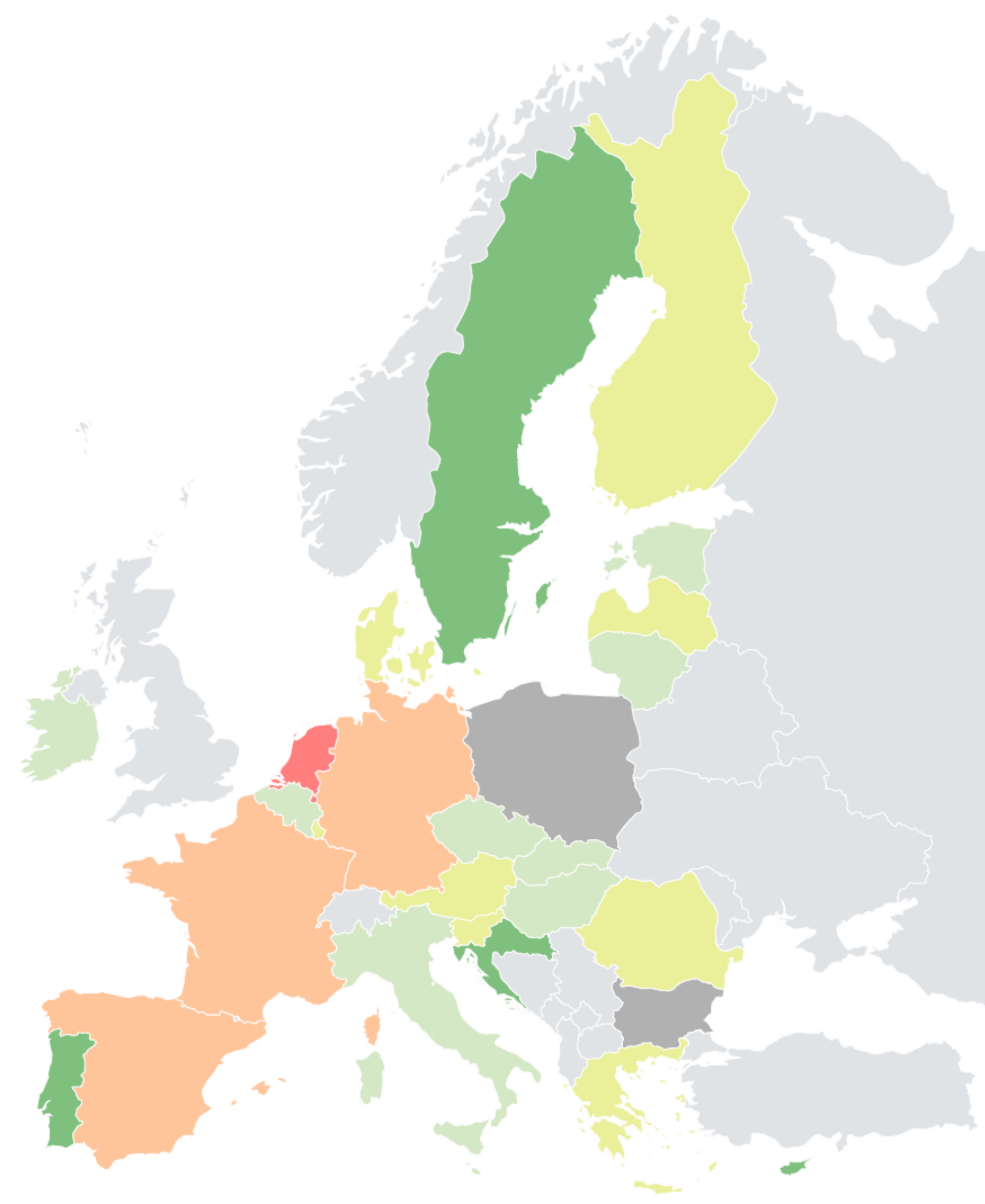
Who are the biggest exporters (inside and outside the EU) of glass for recycling based on the total tonnage?

Top 5 Exporters for recycling:

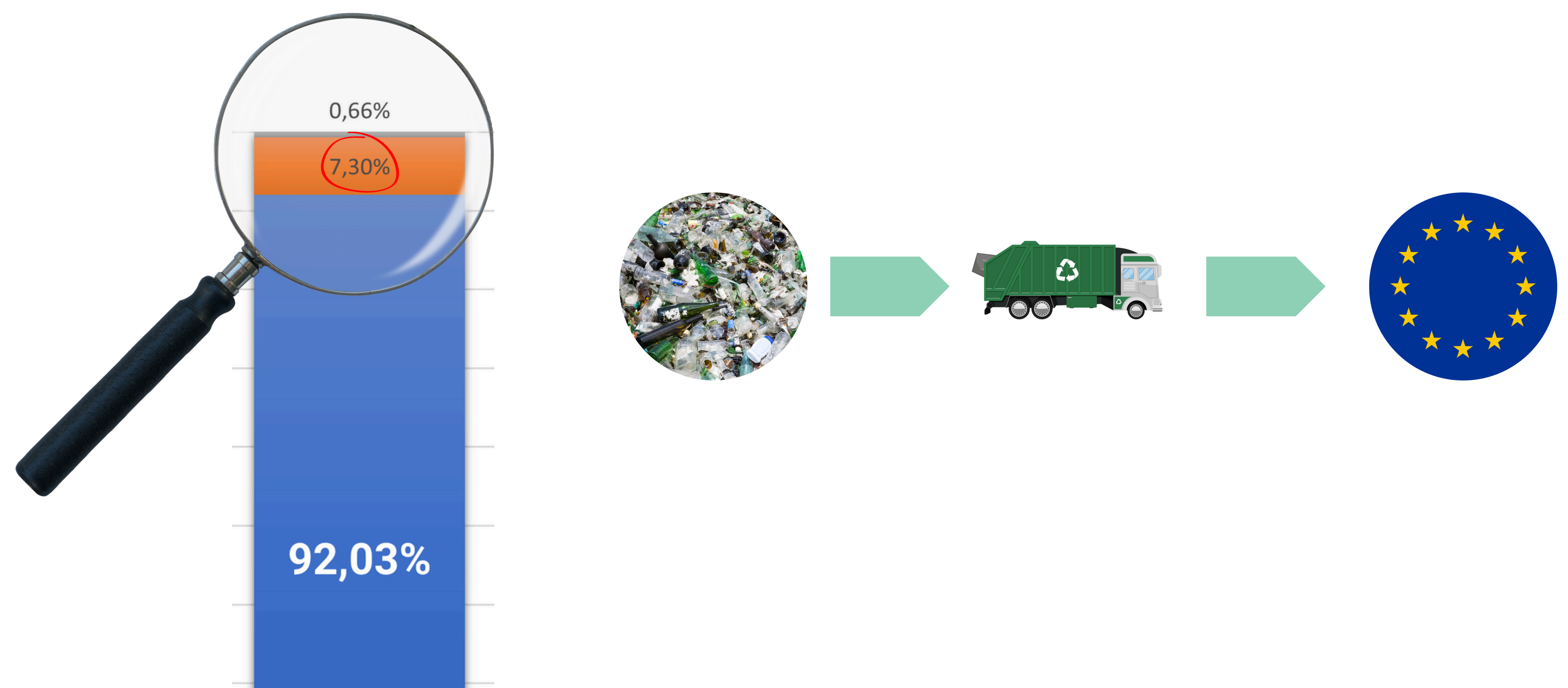
Country	Tonnage exported for recycling	Share of EU total (%)
Netherlands	197,146	20,79%
Germany	164,700	17,37%
France	127,687	13,47%
Spain	103,440	10,91%
Slovenia	35,017	3,69%



948,072 t
Total tonnage of glass exported for recycling



ZOOM IN: GLASS EXPORTS FOR RECYCLING INSIDE THE EU

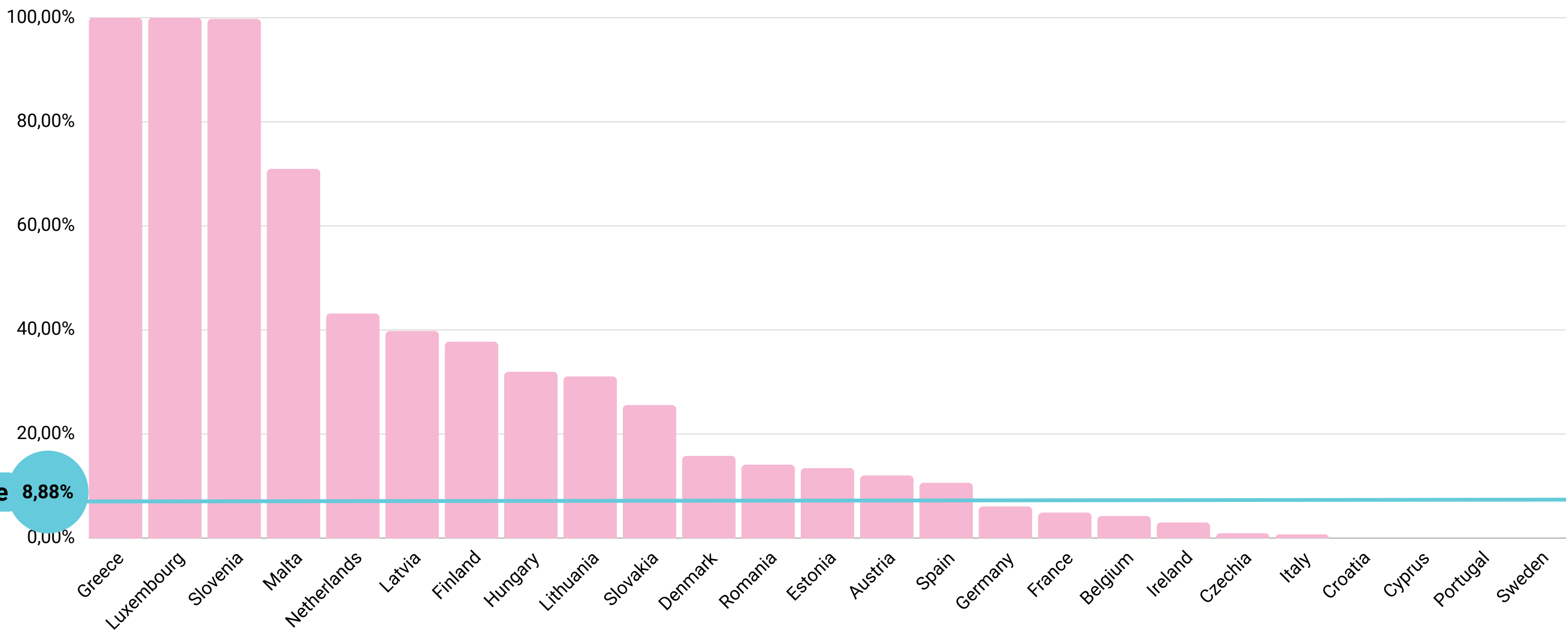


Which countries depend the most on exports of glass for recycling inside the EU to achieve their recycling rate?

- The calculation is based on total tonnes exported for recycling inside the EU compared to total tonnes reported as recycled.



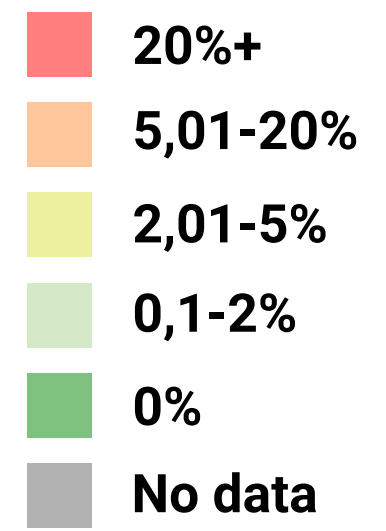
EU Average 8,88%



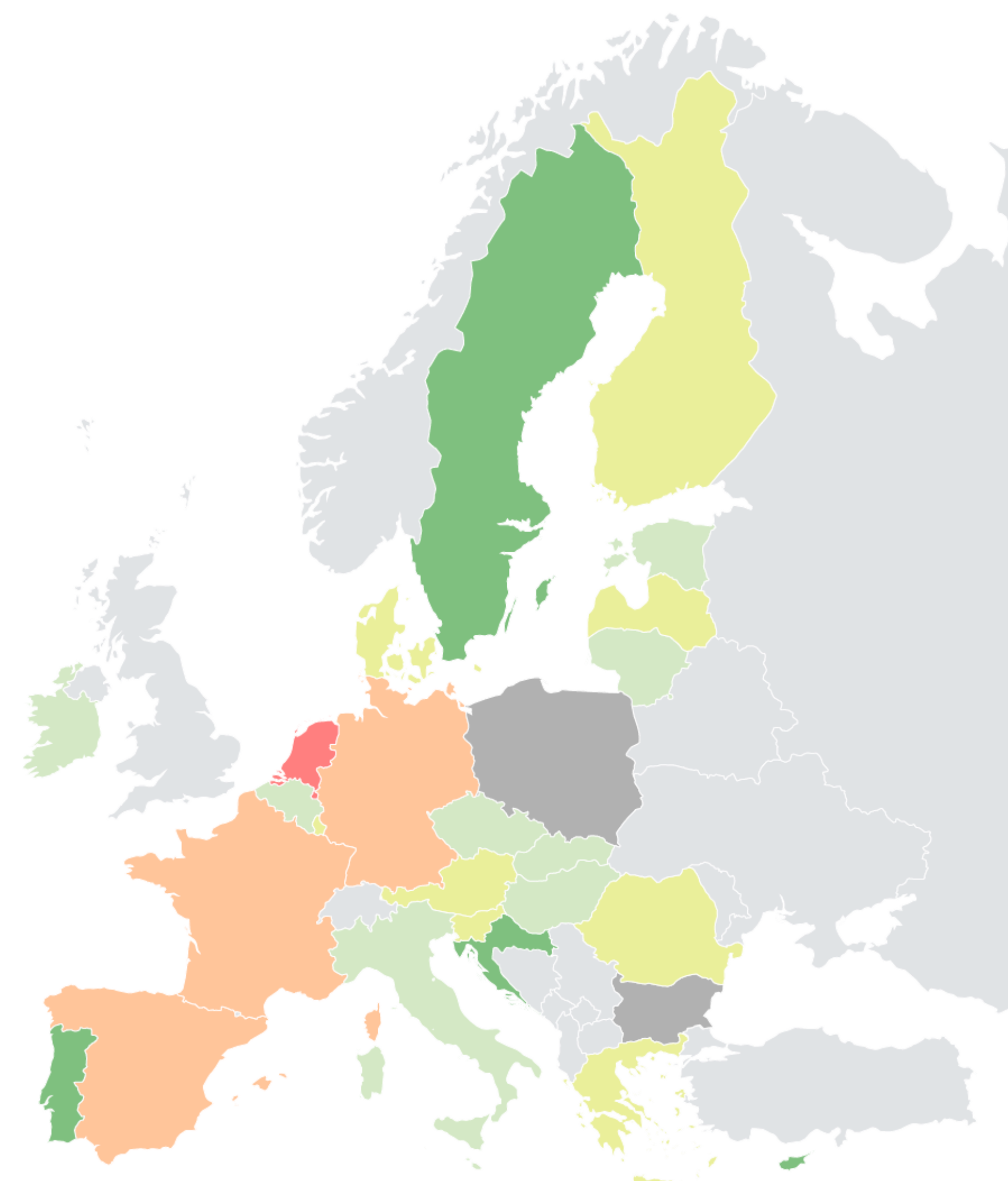
Who are the biggest exporters of glass for recycling to other EU Member States based on tonnage?

Top 5 Exporters inside the EU:

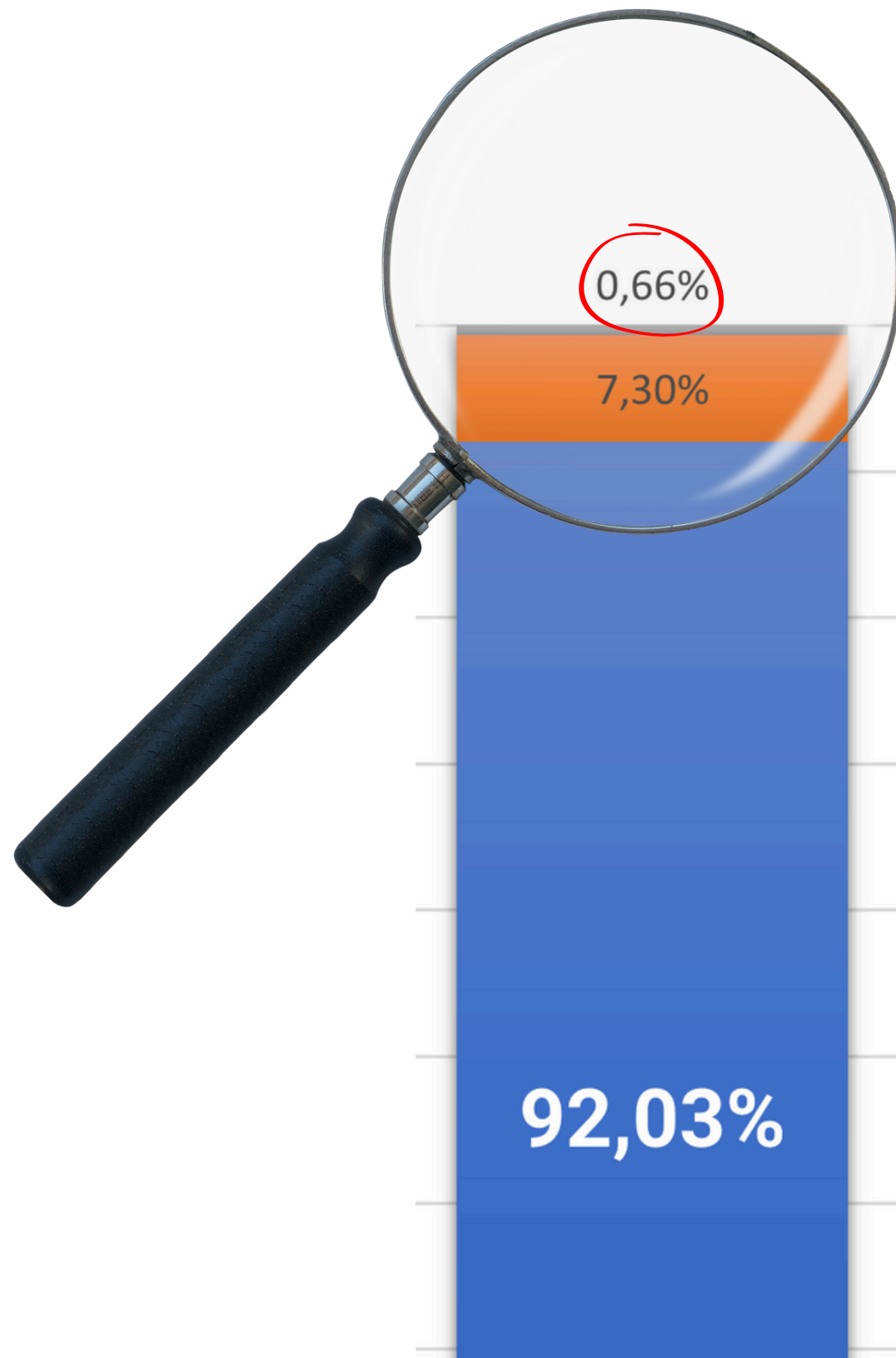
Country	Tonnage exported inside the EU	Share of EU total (%)
Netherlands	174,475	20,02%
Germany	150,900	17,32%
France	112,938	12,96%
Spain	103,440	11,87%
Slovenia	35,017	4,02%



871,379 t
 Total tonnage of glass exported for recycling to other EU Member States

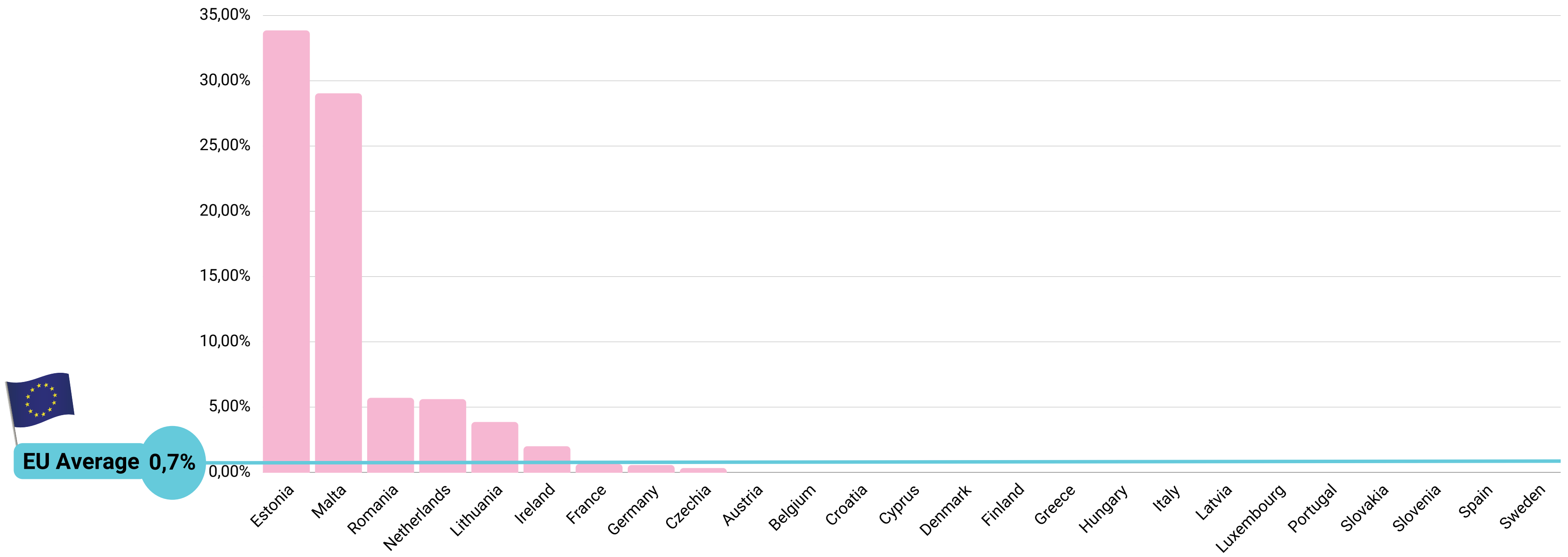


ZOOM IN: GLASS EXPORTS FOR RECYCLING OUTSIDE THE EU



Which countries depend the most on exports of glass for recycling outside the EU to achieve their recycling rate?

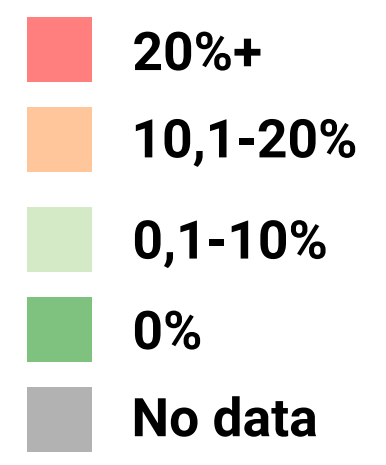
- The calculation is based on total tonnes exported for recycling outside the EU compared to total tonnes reported as recycled.



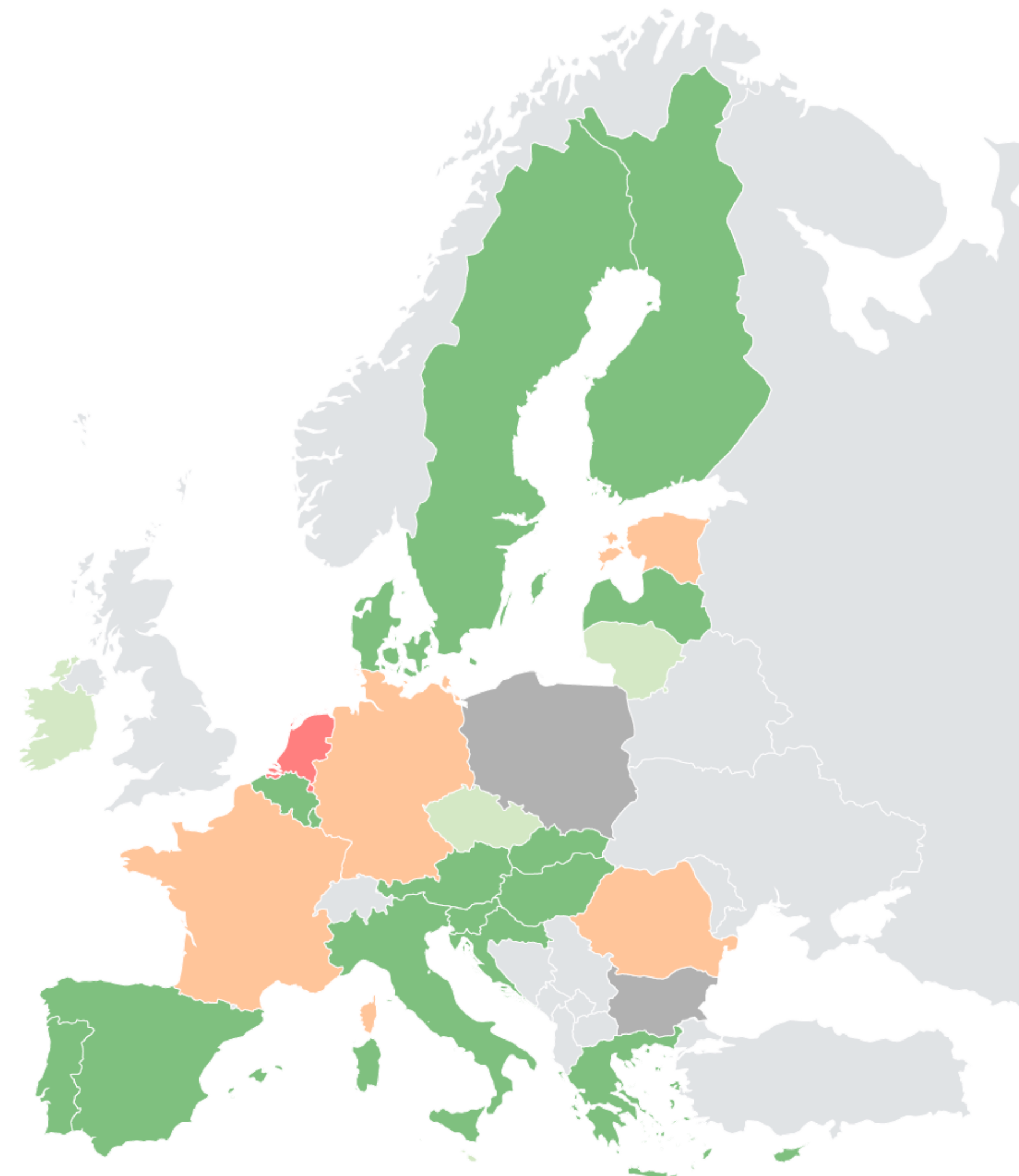
Who are the biggest exporters of glass for recycling outside the EU based on tonnage?

Top 5 Exporters outside the EU:

Country	Tonnage exported outside the EU	Share of EU total (%)
Netherlands	22,671	28,84%
France	14,749	18,76%
Germany	13,800	17,55%
Romania	9,940	12,64%
Estonia	9,520	12,11%



78,617 t
 Total tonnage of glass exported for recycling outside of the EU

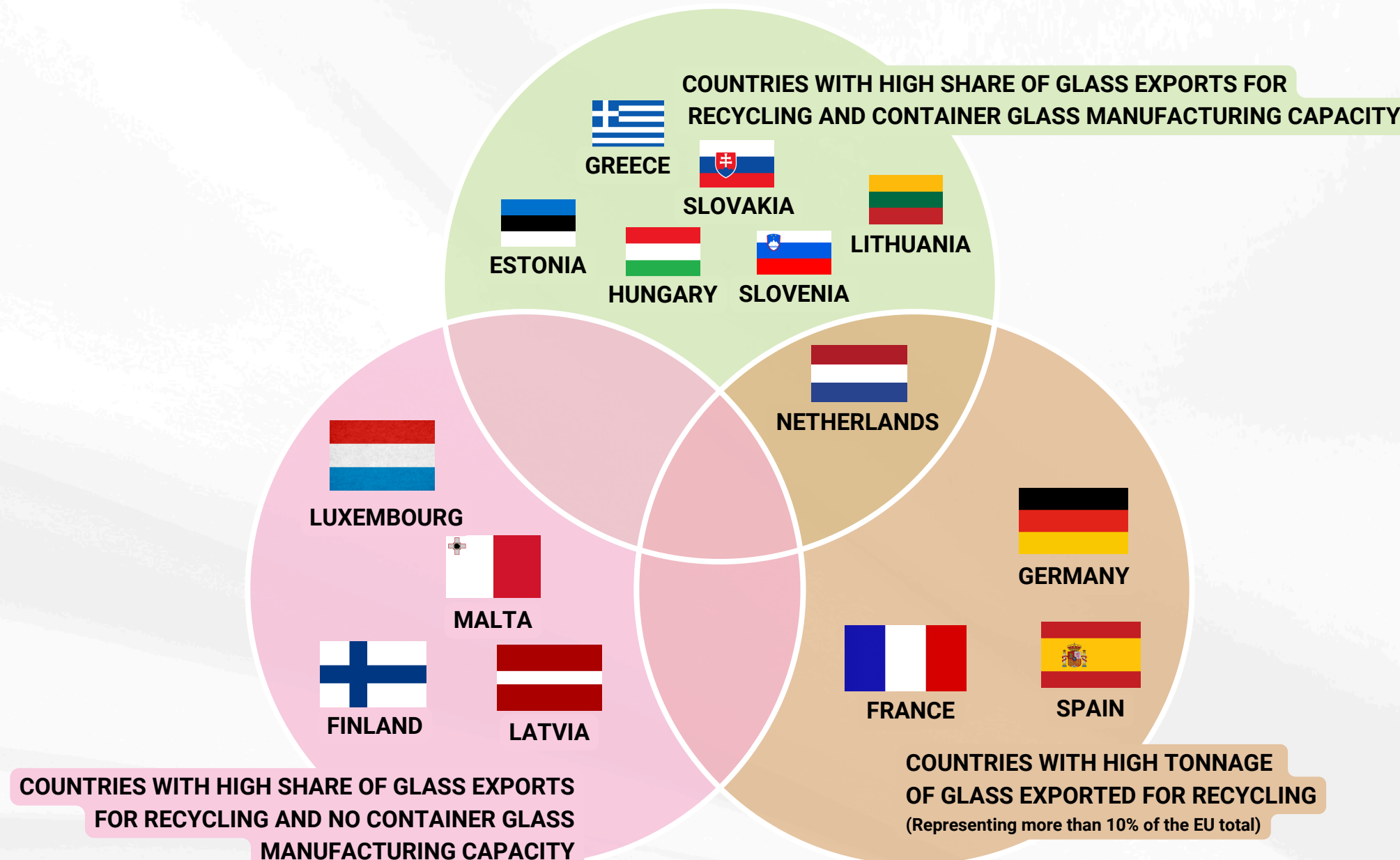


DESTINATIONS OF GLASS EXPORTS FOR RECYCLING



WHERE ARE THEIR GLASS EXPORTS FOR RECYCLING GOING?

- We have selected the primary export destinations of **14** prioritized countries based on 3 key indicators (Countries with high share of glass exports for recycling and container glass manufacturing capacity; countries with high share of glass exports for recycling and no container glass manufacturing capacity and countries with high tonnage of glass exported for recycling (representing more than 10% of the EU total). Countries where glass exports for recycling account for more than 25% of the total amount of the glass recycled are classified as high-share countries.
- As Eurostat is not providing data on destinations, we have used World Bank data for the year 2021 (Product Code 700100 -- Glass; cullet and other waste and scrap of glass, glass in the mass) to identify destinations. Although World Bank data represents a broader category than glass packaging recycling, we consider it is a good proxy for glass packaging recycling.





Estonia

47,3%

Share of glass exports
for recycling

13.301
tonnes exported

Eurostat Figure

Top Exports Destinations

Trading Partner	Share (%)*
Finland	34,77
Russia	34,44
Denmark	15,13
Poland	12,77

*Based on tonnage reported by World Bank:

<https://wits.worldbank.org/trade/comtrade/en/country/ALL/year/2021/tradeflow/Exports/partner/WLD/product/700100>



Finland

37,7%
Share of glass exports
for recycling

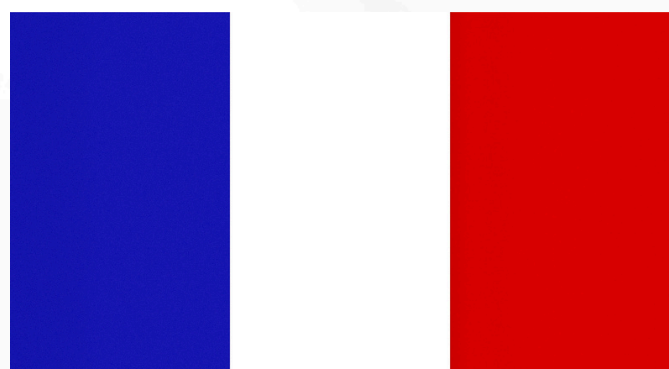
28.908
tonnes exported

Eurostat Figure

Top Exports Destinations

Trading Partner	Share (%)*
United Kingdom	34,07
Spain	24,49
Italy	22,9
Estonia	18,54

*Based on tonnage reported by World Bank:
<https://wits.worldbank.org/trade/comtrade/en/country/ALL/year/2021/tradeflow/Exports/partner/WLD/product/700100>



France

5,5%

Share of glass exports
for recycling

127.687
tonnes exported

Eurostat Figure

Top Exports Destinations

Trading Partner	Share (%)*
Belgium	25,93
Italy	25,25
Spain	22,48
Switzerland	5,81
Turkey	5,42

*Based on tonnage reported by World Bank:

<https://wits.worldbank.org/trade/comtrade/en/country/ALL/year/2021/tradeflow/Exports/partner/WLD/product/700100>



Germany

6,6%

Share of glass exports
for recycling

164.700
tonnes exported

Eurostat Figure

Top Exports Destinations

Trading Partner	Share (%)*
Netherlands	54,12
Czech Republic	12,3
Switzerland	9,63
Italy	6,48
Belgium	5,06

*Based on tonnage reported by World Bank:

<https://wits.worldbank.org/trade/comtrade/en/country/ALL/year/2021/tradeflow/Exports/partner/WLD/product/700100>



Greece

100%
Share of glass exports
for recycling

33.030
tonnes exported

Eurostat Figure

Top Exports Destinations

Trading Partner	Share (%)*
Bulgaria	93,17
Romania	6,79

*Based on tonnage reported by World Bank:

<https://wits.worldbank.org/trade/comtrade/en/country/ALL/year/2021/tradeflow/Exports/partner/WLD/product/700100>



Hungary

32%

Share of glass exports
for recycling

18.158
tonnes exported

Eurostat Figure

Top Exports Destinations

Trading Partner	Share (%)*
Czech Republic	37,66
Croatia	21,15
Romania	14,74
Austria	11,78
Slovakia	5,62

*Based on tonnage reported by World Bank:

<https://wits.worldbank.org/trade/comtrade/en/country/ALL/year/2021/tradeflow/Exports/partner/WLD/product/700100>



Latvia

39,8%

Share of glass exports
for recycling

19.448
tonnes exported

Eurostat Figure

Top Exports Destinations

Trading Partner	Share (%)*
Lithuania	95,93
Estonia	4,05

*Based on tonnage reported by World Bank:

<https://wits.worldbank.org/trade/comtrade/en/country/ALL/year/2021/tradeflow/Exports/partner/WLD/product/700100>



Lithuania

34,9%

Share of glass exports
for recycling

17.393
tonnes exported

Eurostat Figure

Top Exports Destinations

Trading Partner	Share (%)*
Poland	49,25
Ukraine	25,52
Belarus	18,72
Russia	6,43

*Based on tonnage reported by World Bank:

<https://wits.worldbank.org/trade/comtrade/en/country/ALL/year/2021/tradeflow/Exports/partner/WLD/product/700100>



Luxembourg

100%

Share of glass exports
for recycling

29.581
tonnes exported

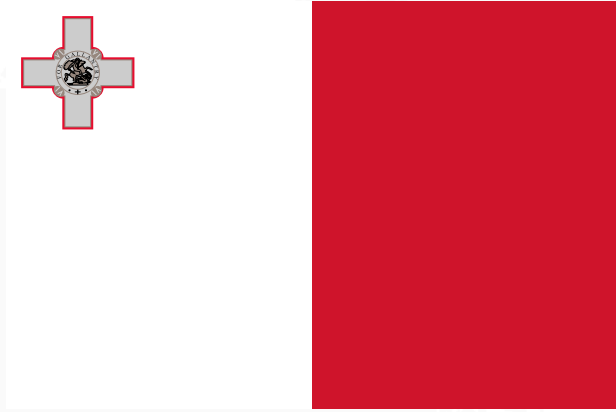
Eurostat Figure

Top Exports Destinations

Trading Partner	Share (%)*
France	92,96
Belgium	3,75
Germany	3,28

*Based on tonnage reported by World Bank:

<https://wits.worldbank.org/trade/comtrade/en/country/ALL/year/2021/tradeflow/Exports/partner/WLD/product/700100>



Malta

8.542
tonnes exported

Eurostat Figure

100%
Share of glass exports
for recycling

Top Exports Destination

Trading Partner	Share (%)*
Turkey	100

*Based on tonnage reported by World Bank:
<https://wits.worldbank.org/trade/comtrade/en/country/ALL/year/2021/tradeflow/Exports/partner/WLD/product/700100>



Netherlands

48,8%

Share of glass exports
for recycling

197.146
tonnes exported

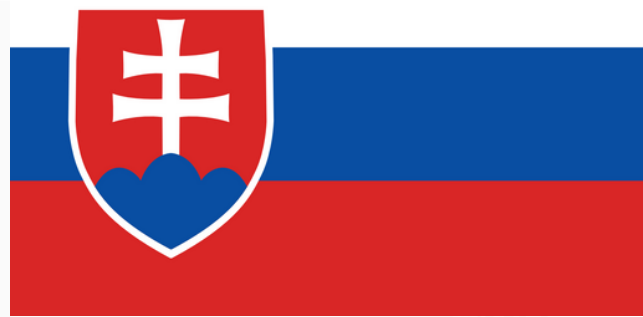
Eurostat Figure

Top Exports Destinations

Trading Partner	Share (%)*
Belgium	34,72
Germany	27,67
Portugal	12,97
United Kingdom	12,48
France	7,89

*Based on tonnage reported by World Bank:

<https://wits.worldbank.org/trade/comtrade/en/country/ALL/year/2021/tradeflow/Exports/partner/WLD/product/700100>



Slovakia

25,6%

Share of glass exports
for recycling

18.469
tonnes exported

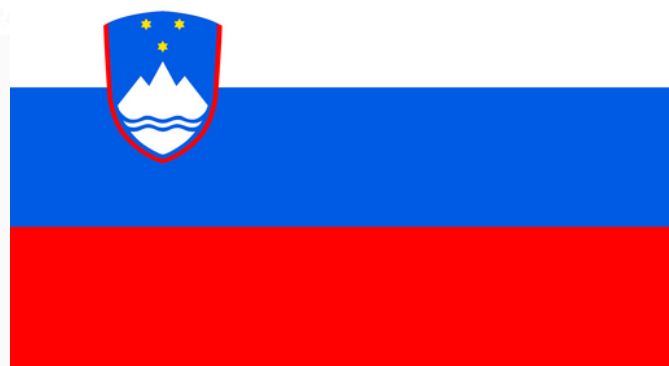
Eurostat Figure

Top Exports Destinations

Trading Partner	Share (%)*
Belgium	66,56
Germany	20,41
Portugal	12,44

*Based on tonnage reported by World Bank:

<https://wits.worldbank.org/trade/comtrade/en/country/ALL/year/2021/tradeflow/Exports/partner/WLD/product/700100>



Slovenia

99,8%

Share of glass exports
for recycling

35.017
tonnes exported

Eurostat Figure

Top Exports Destinations

Trading Partner	Share (%)*
Austria	92,29
Italy	7,34

*Based on tonnage reported by World Bank:

<https://wits.worldbank.org/trade/comtrade/en/country/ALL/year/2021/tradeflow/Exports/partner/WLD/product/700100>



Spain

10,6%

Share of glass exports
for recycling

103.440
tonnes exported

Eurostat Figure

Top Exports Destinations

Trading Partner	Share (%)*
Portugal	96,29

*Based on tonnage reported by World Bank:

<https://wits.worldbank.org/trade/comtrade/en/country/ALL/year/2021/tradeflow/Exports/partner/WLD/product/700100>

CONCLUDING REMARKS

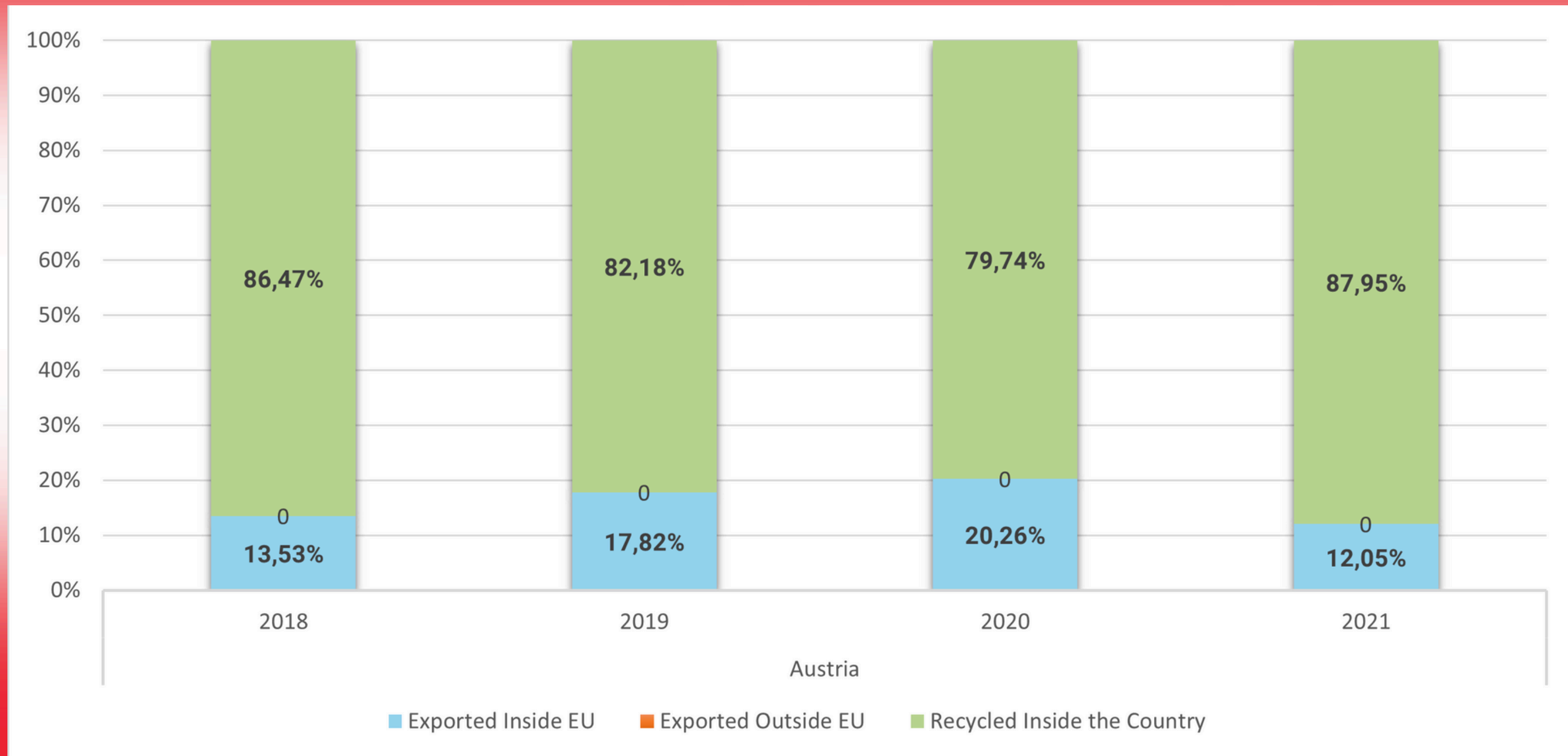
- Over 92% of glass is recycled in the country where it was collected, highlighting the prevalent domestic nature of glass packaging recycling.
- Over 99% of glass is recycled in the EU, showcasing the EU's success in keeping glass packaging for recycling within its borders.
- These results appear to be consistent over time. However, it will be interesting to observe how changes to the calculation methodology affect the reporting on exports for recycling. We therefore suggest to continue monitoring year by year this data.
- We expect countries with little or no glass manufacturing capacity to export their glass for recycling. However, Close the Glass Loop may want to consider those countries with a high share of glass exports for recycling and local glass manufacturing capacity to promote local closed-loop glass recycling initiatives or the establishment of a national platform, for instance, in Greece, Slovenia, Netherlands, Estonia, Lithuania, Slovakia and Hungary.

ANNEX: COUNTRY PROFILES

*The data presented in country profiles annex is sourced from Eurostat

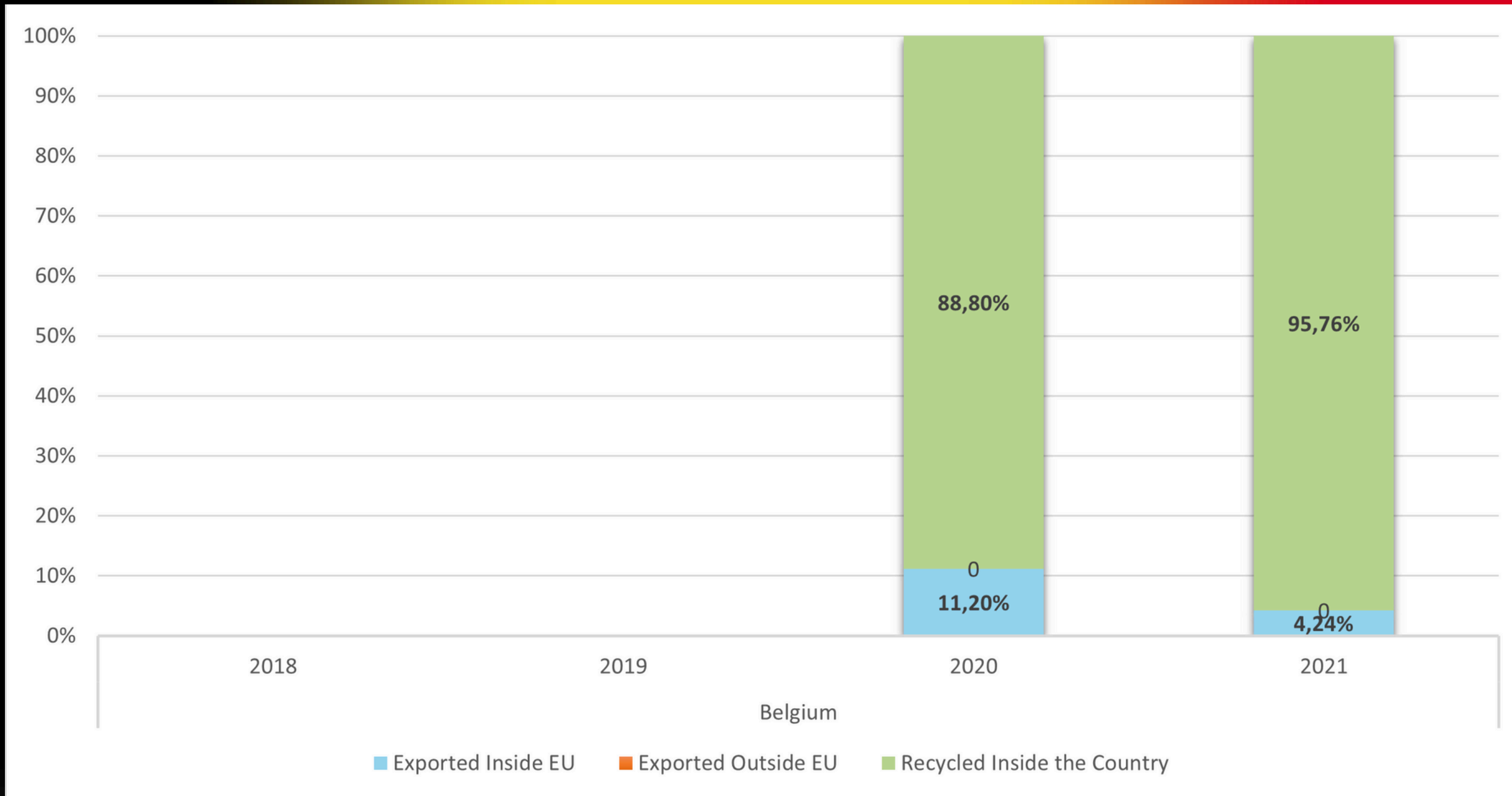
AUSTRIA

Exports for recycling vs Domestic recycling



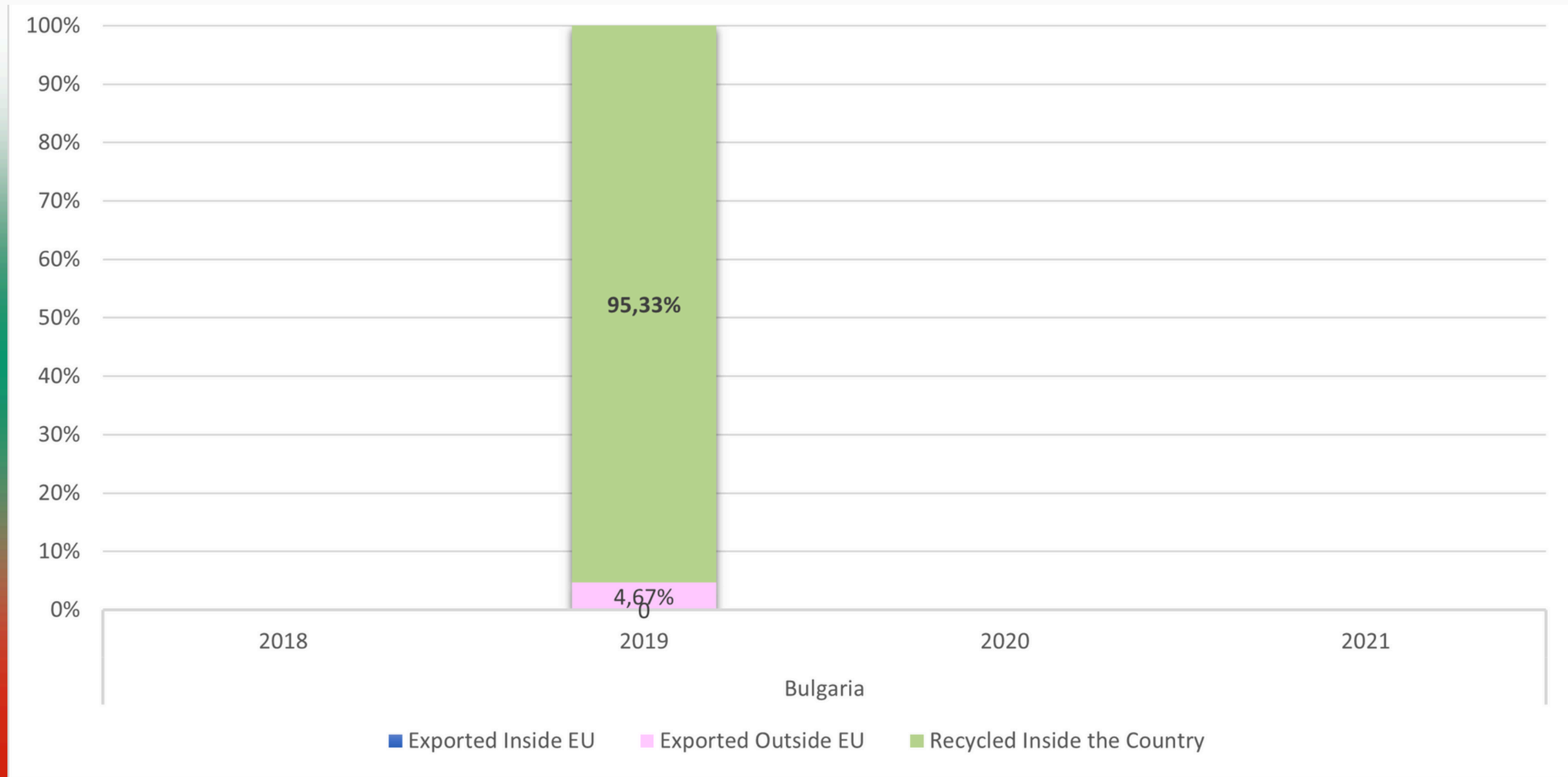
BELGIUM

Exports for recycling vs Domestic recycling



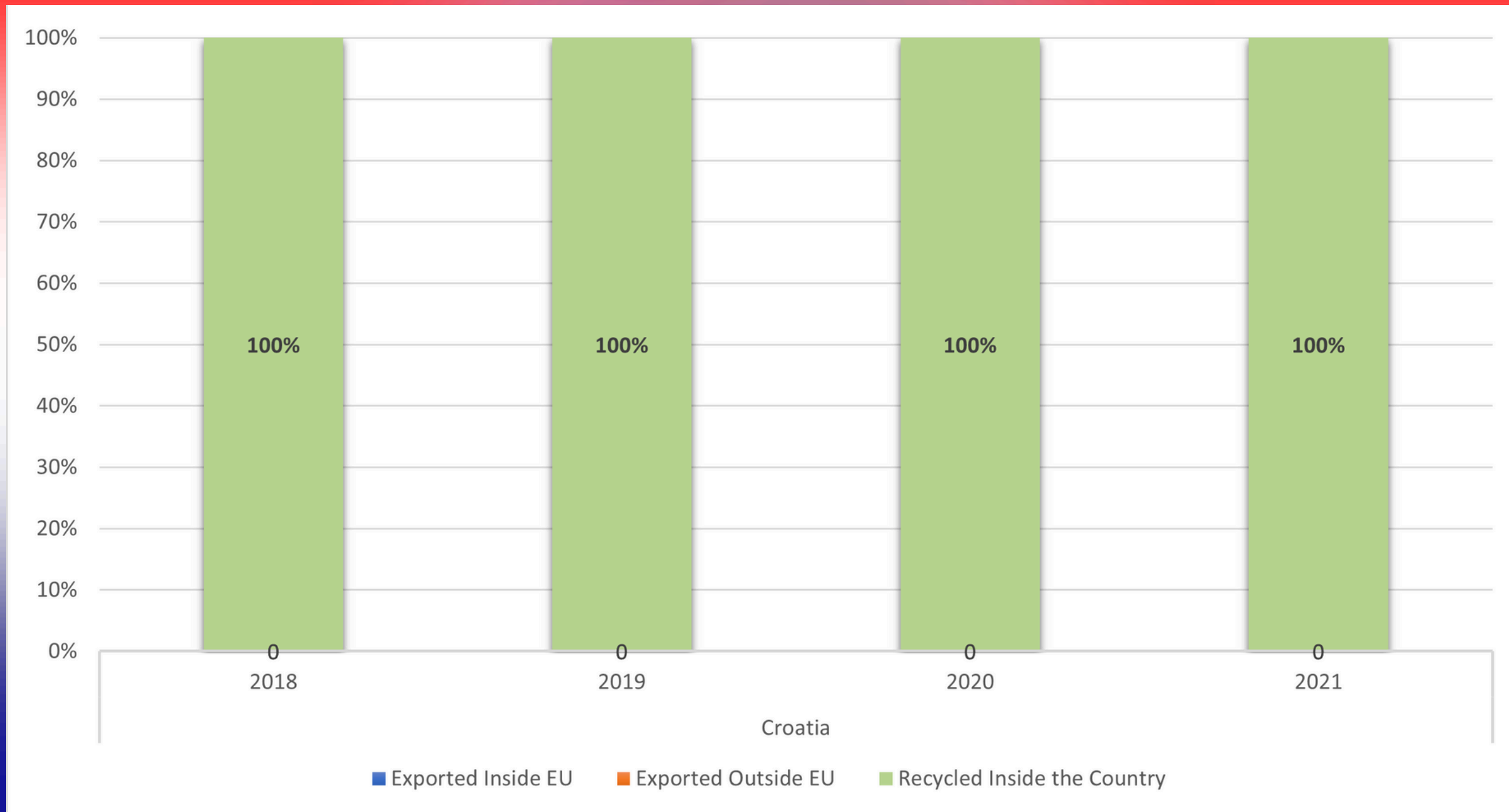
BULGARIA

Exports for recycling vs Domestic recycling



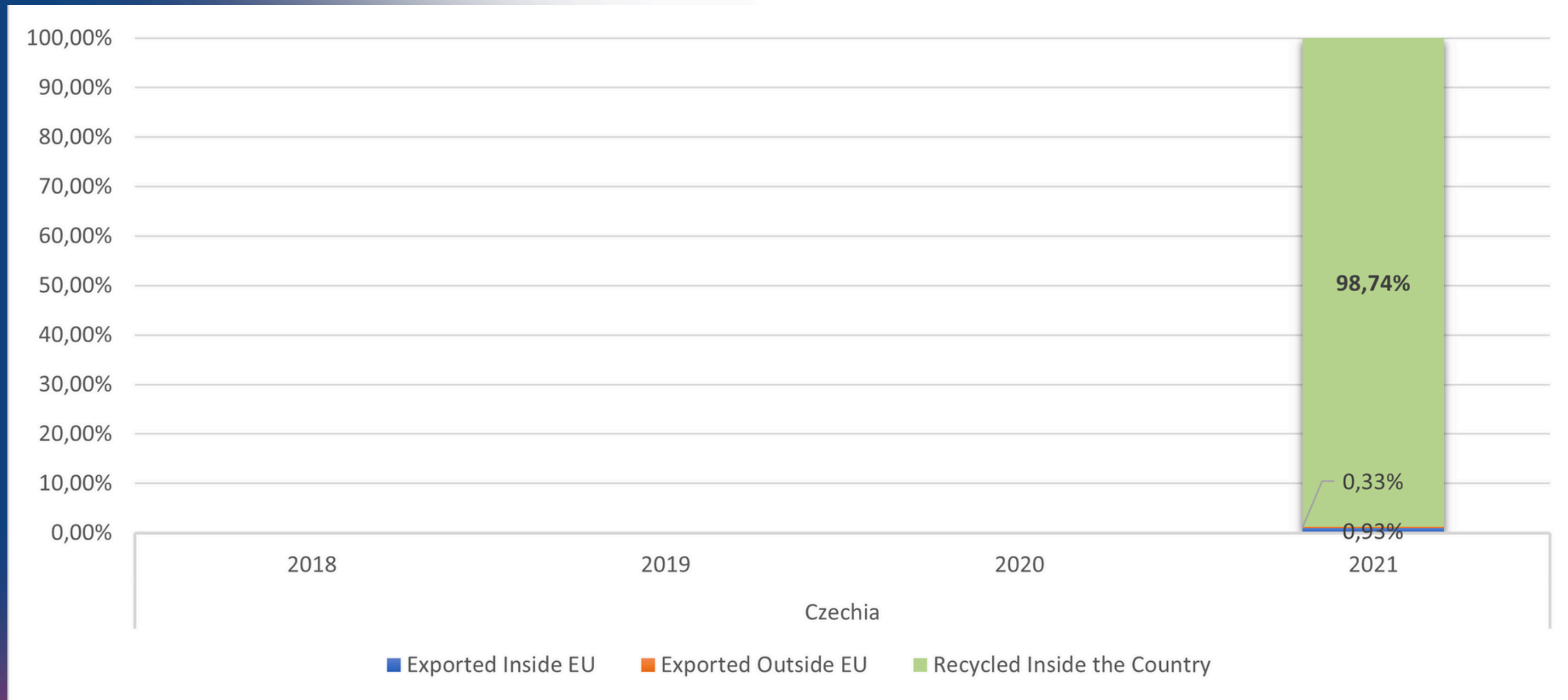
CROATIA

Exports for recycling vs Domestic recycling



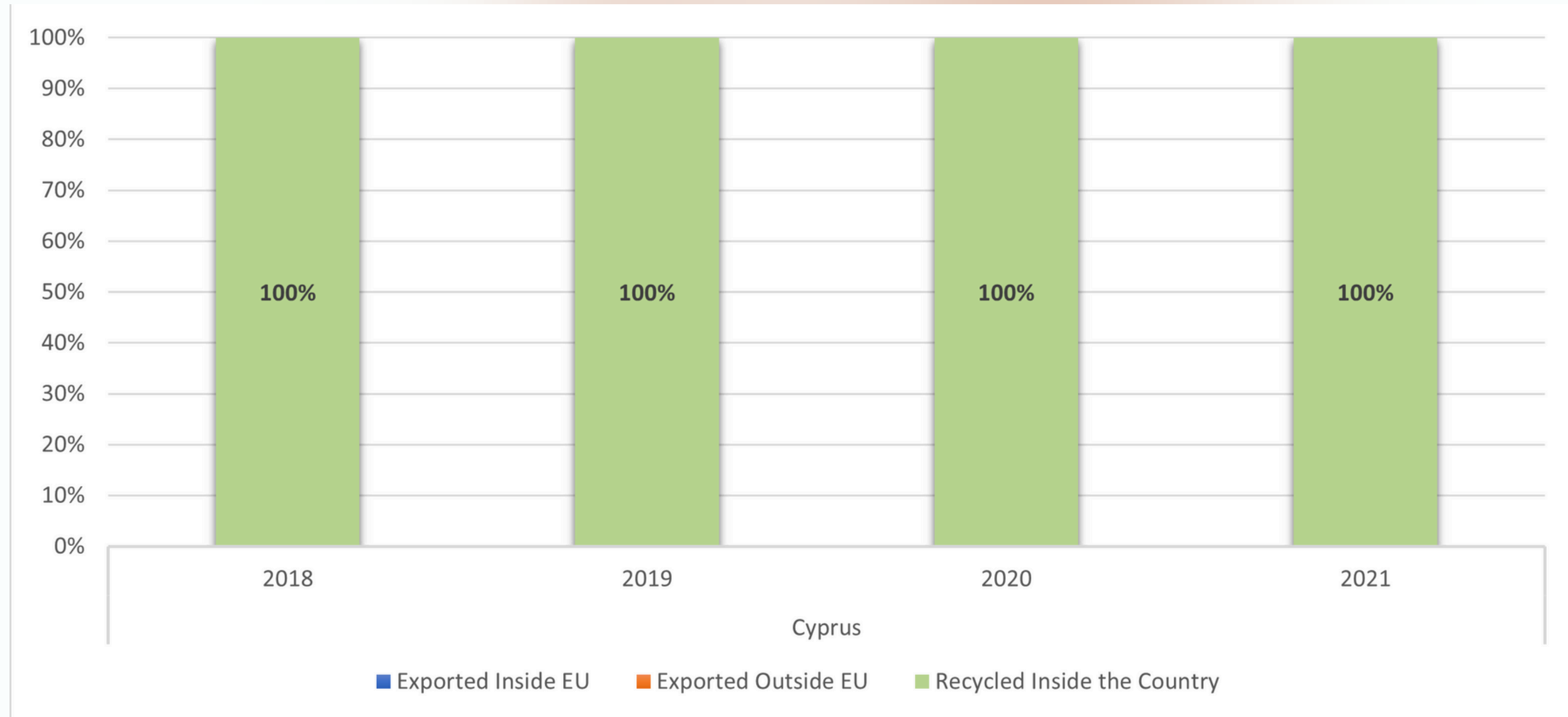
CZECHIA

Exports for recycling vs Domestic recycling



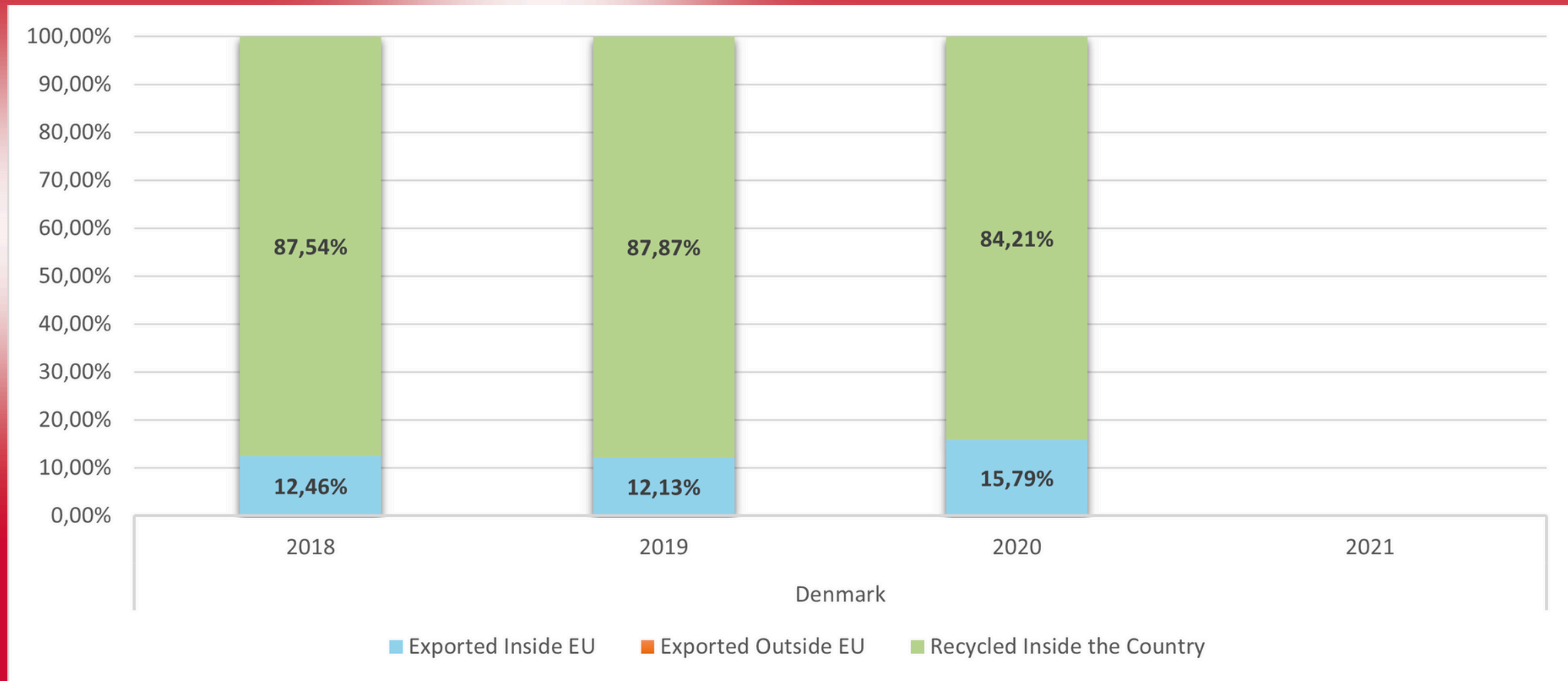
CYPRUS

Exports for recycling vs Domestic recycling



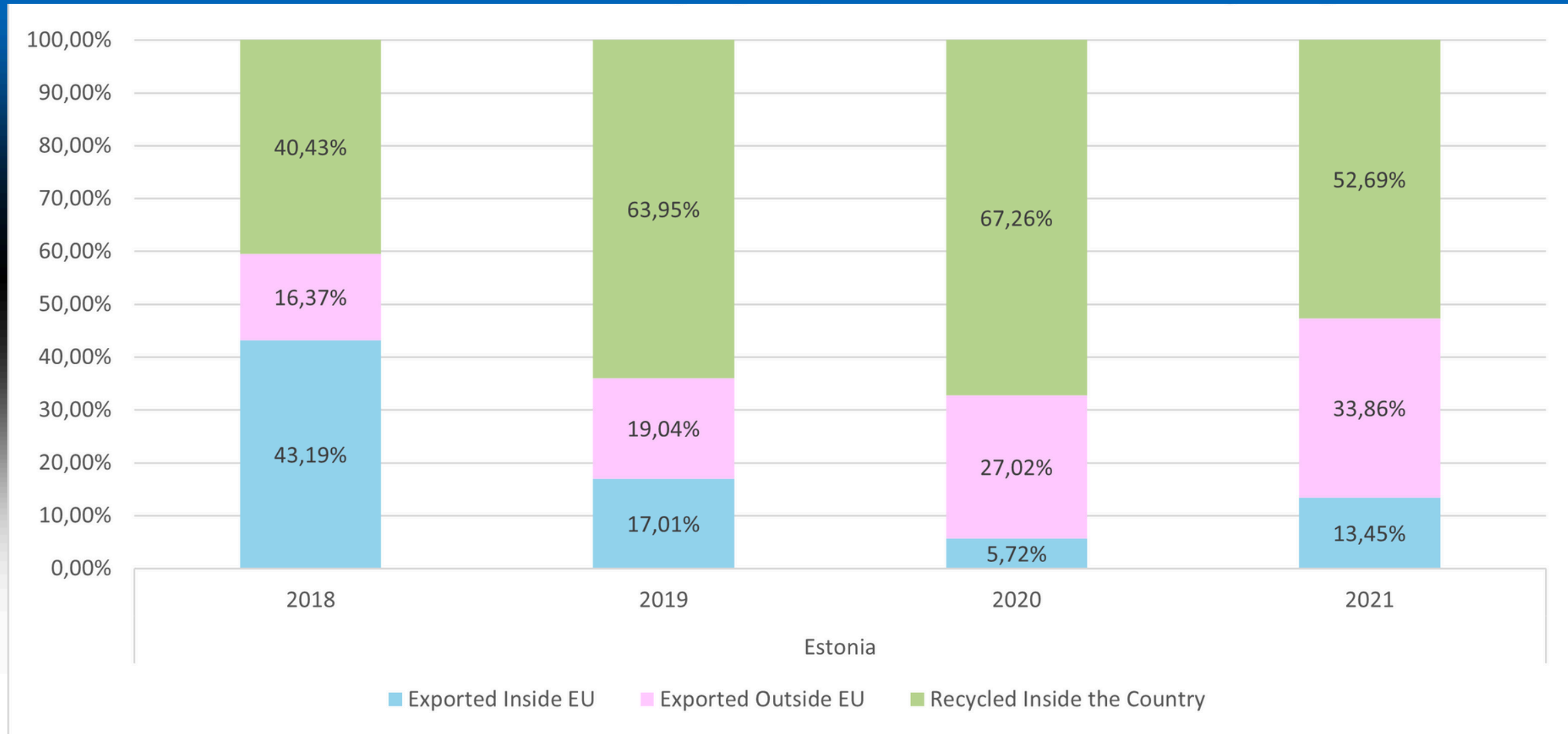
DENMARK

Exports for recycling vs Domestic recycling



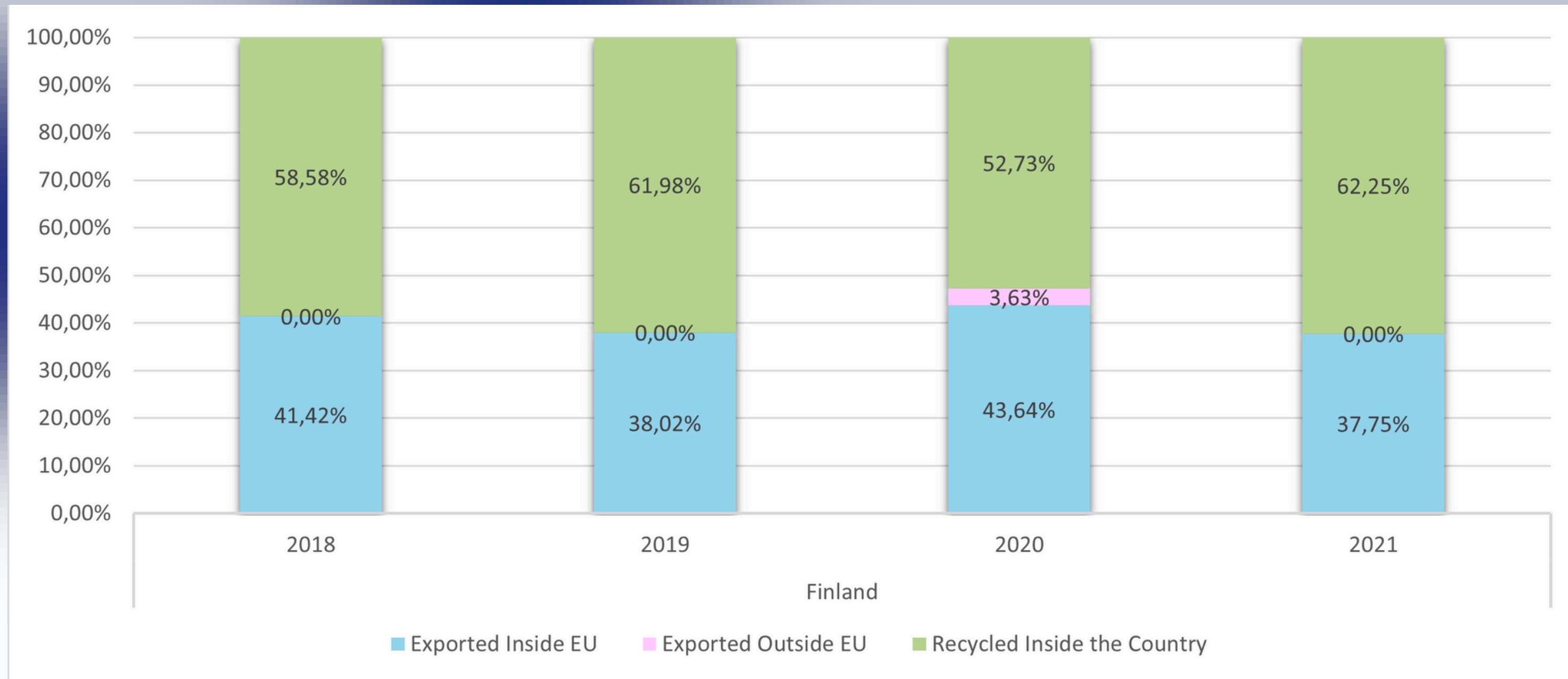
ESTONIA

Exports for recycling vs Domestic recycling



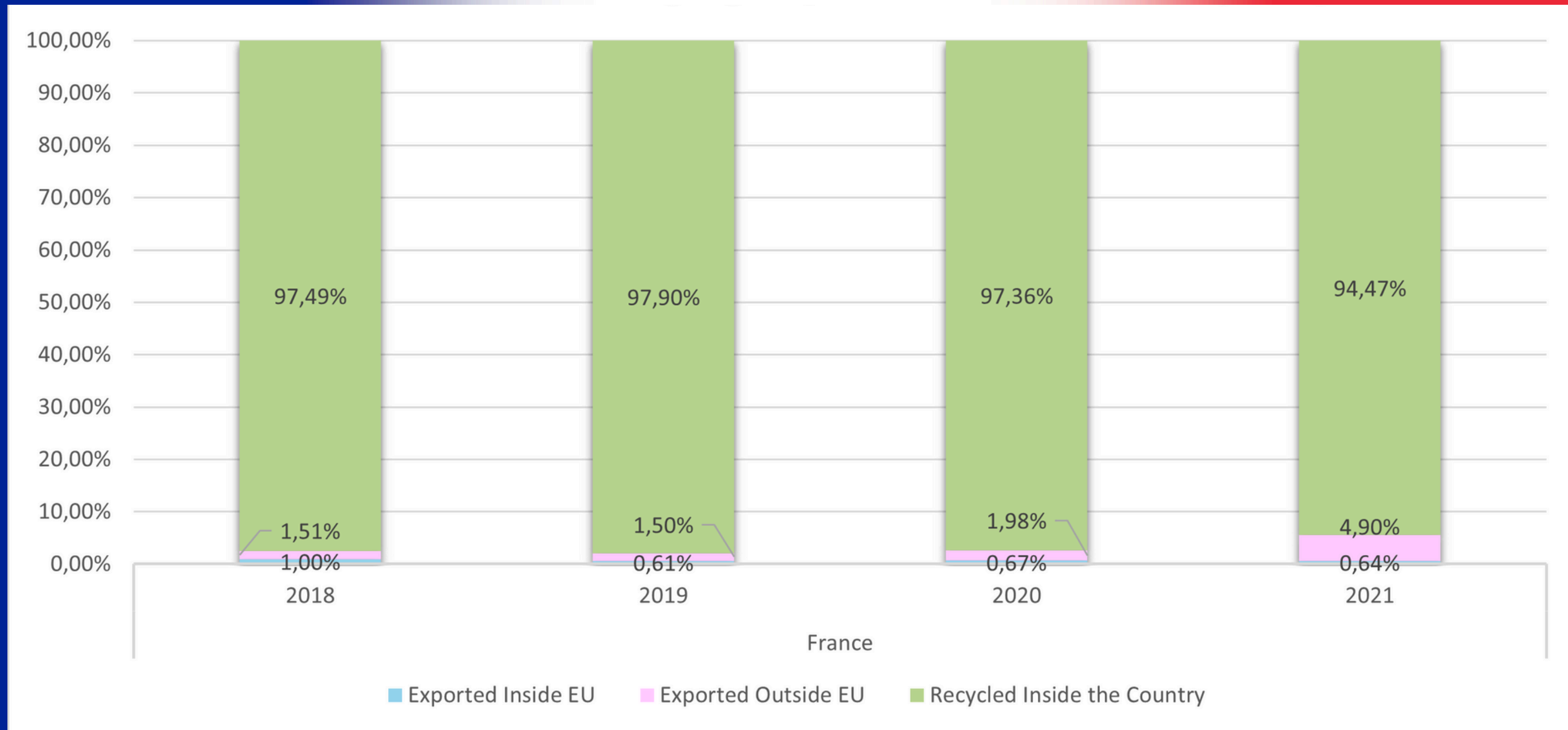
FINLAND

Exports for recycling vs Domestic recycling



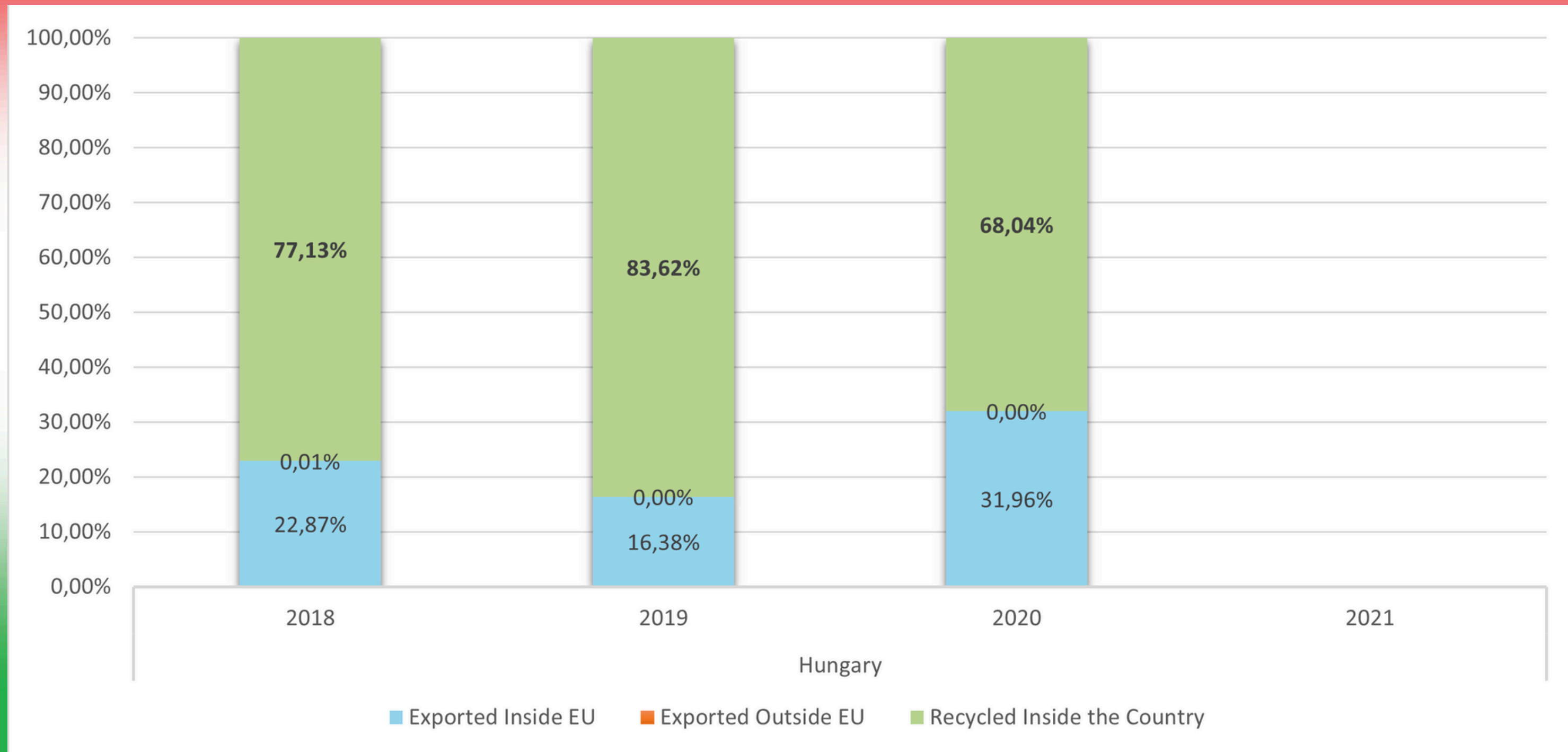
FRANCE

Exports for recycling vs Domestic recycling



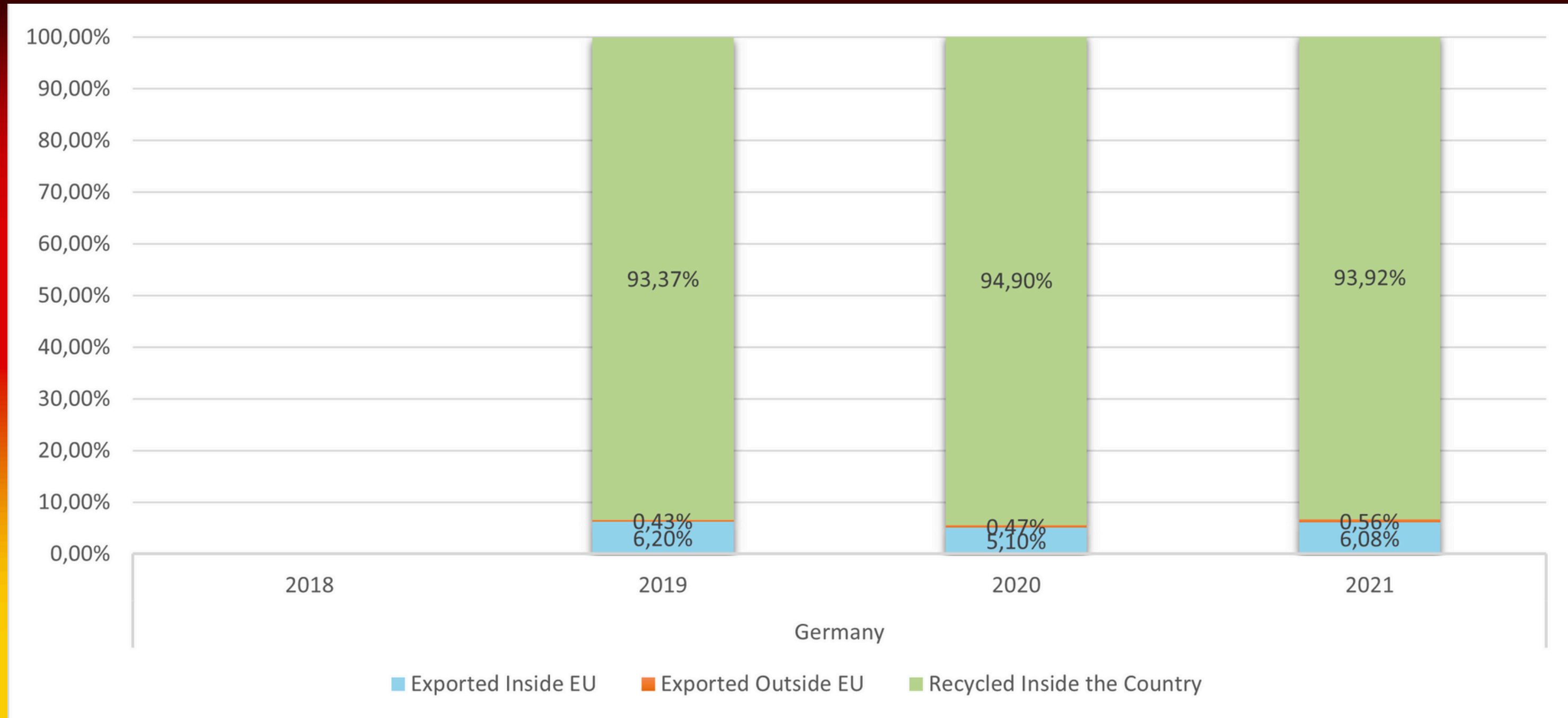
HUNGARY

Exports for recycling vs Domestic recycling



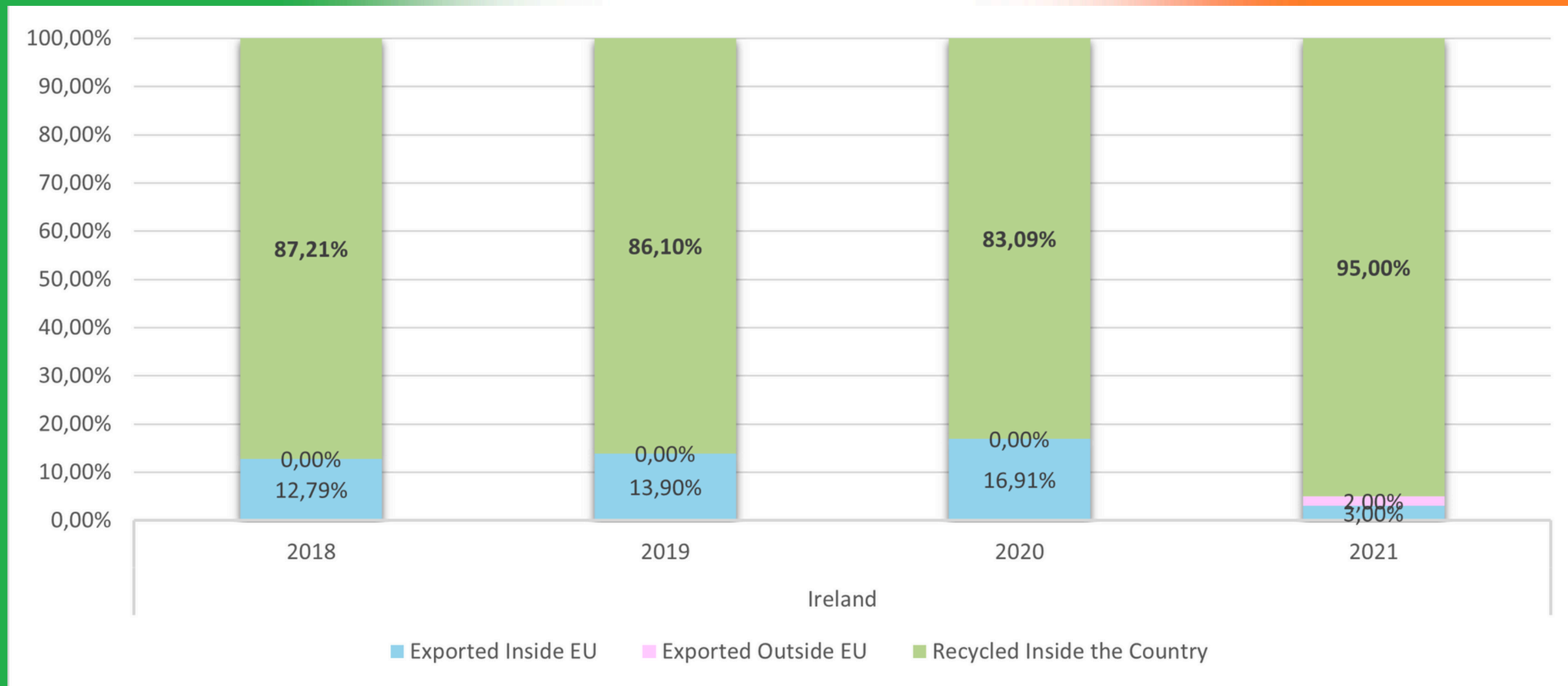
GERMANY

Exports for recycling vs Domestic recycling



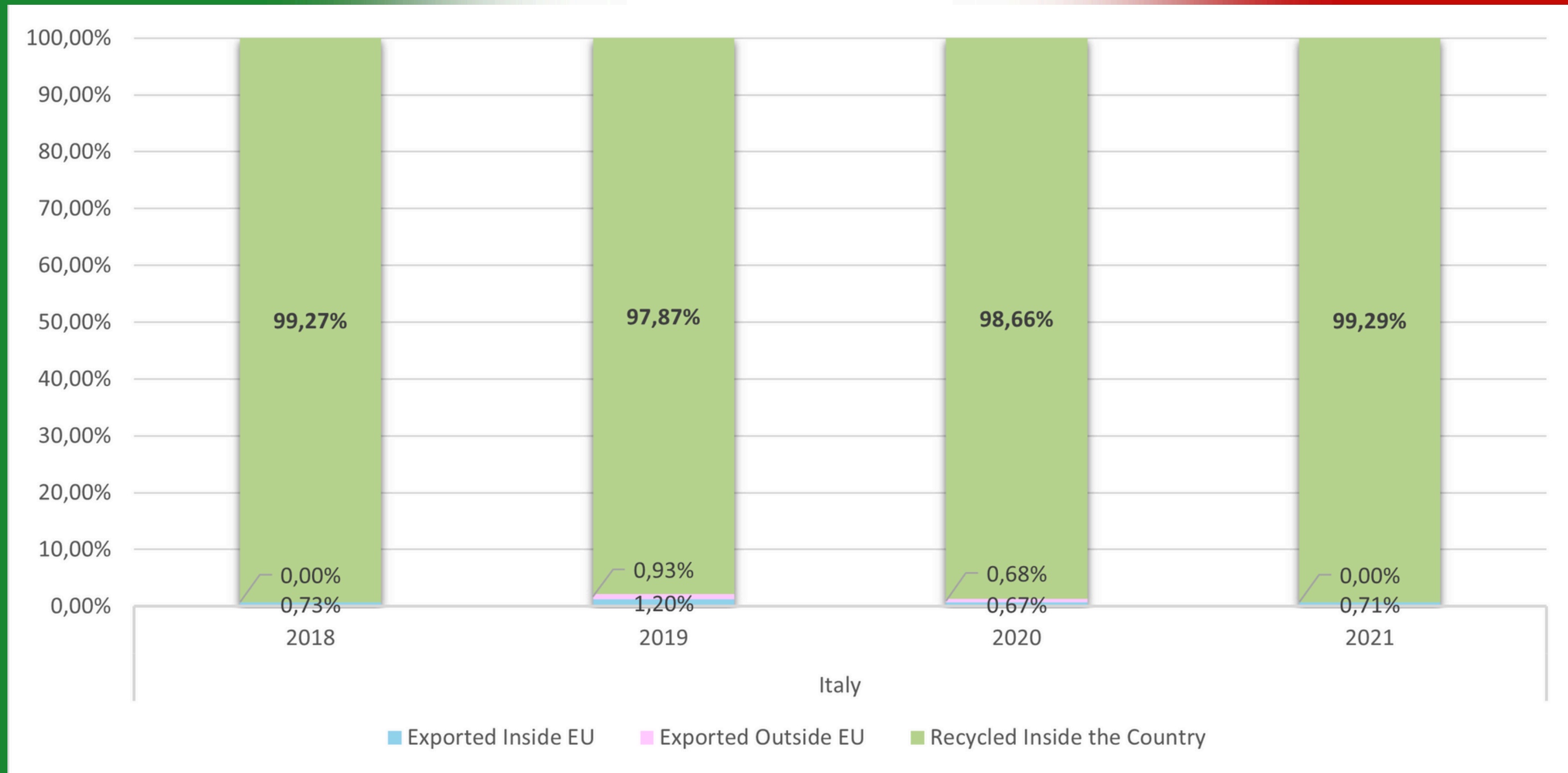
IRELAND

Exports for recycling vs Domestic recycling



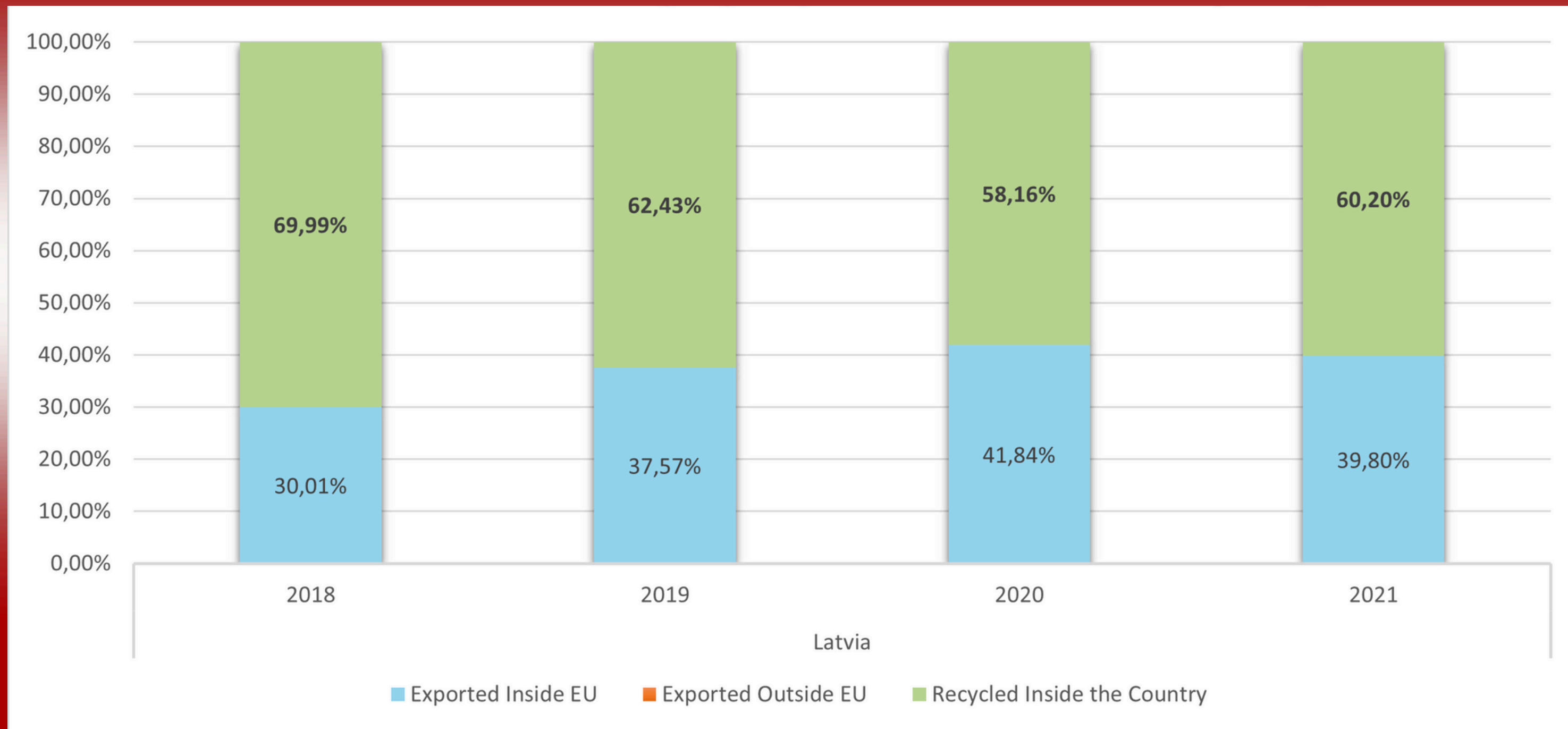
ITALY

Exports for recycling vs Domestic recycling



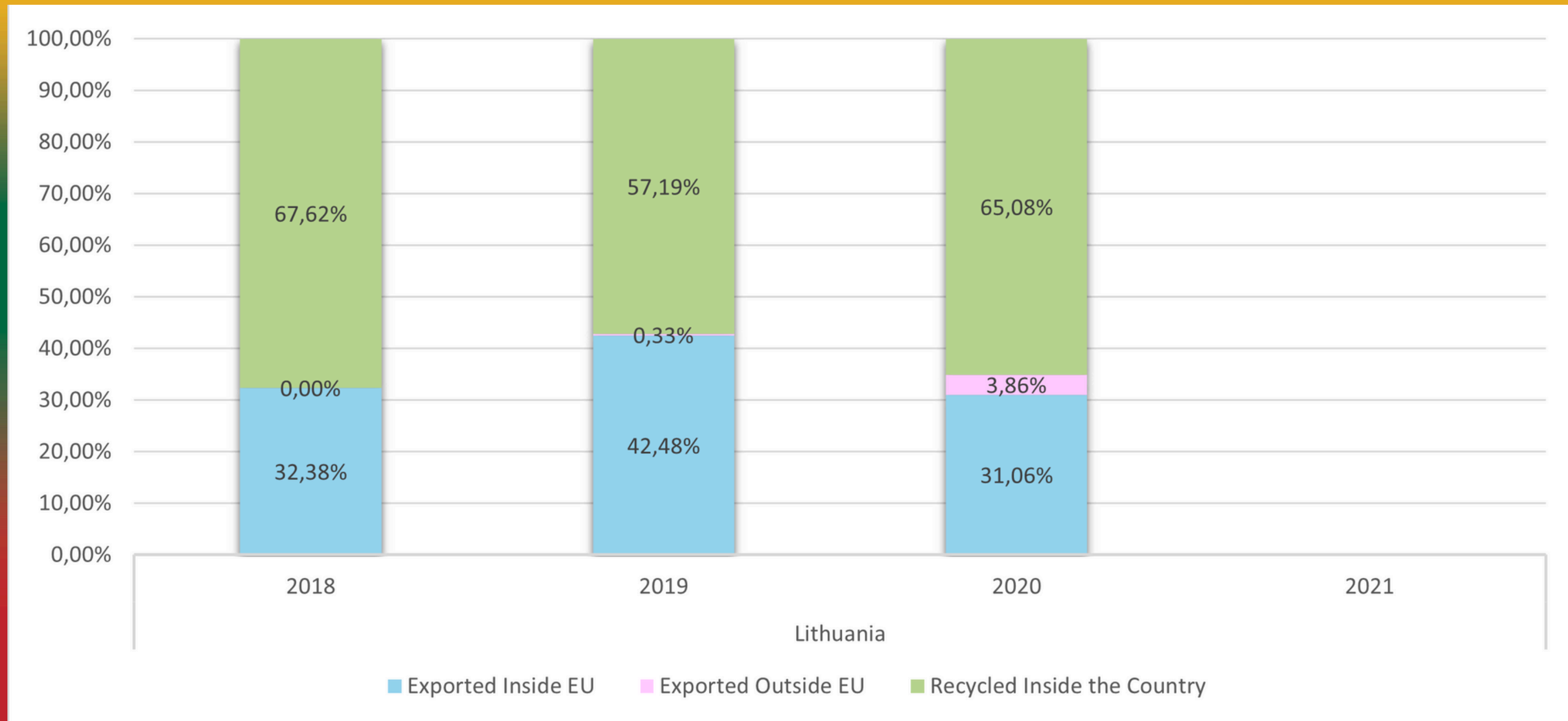
LATVIA

Exports for recycling vs Domestic recycling



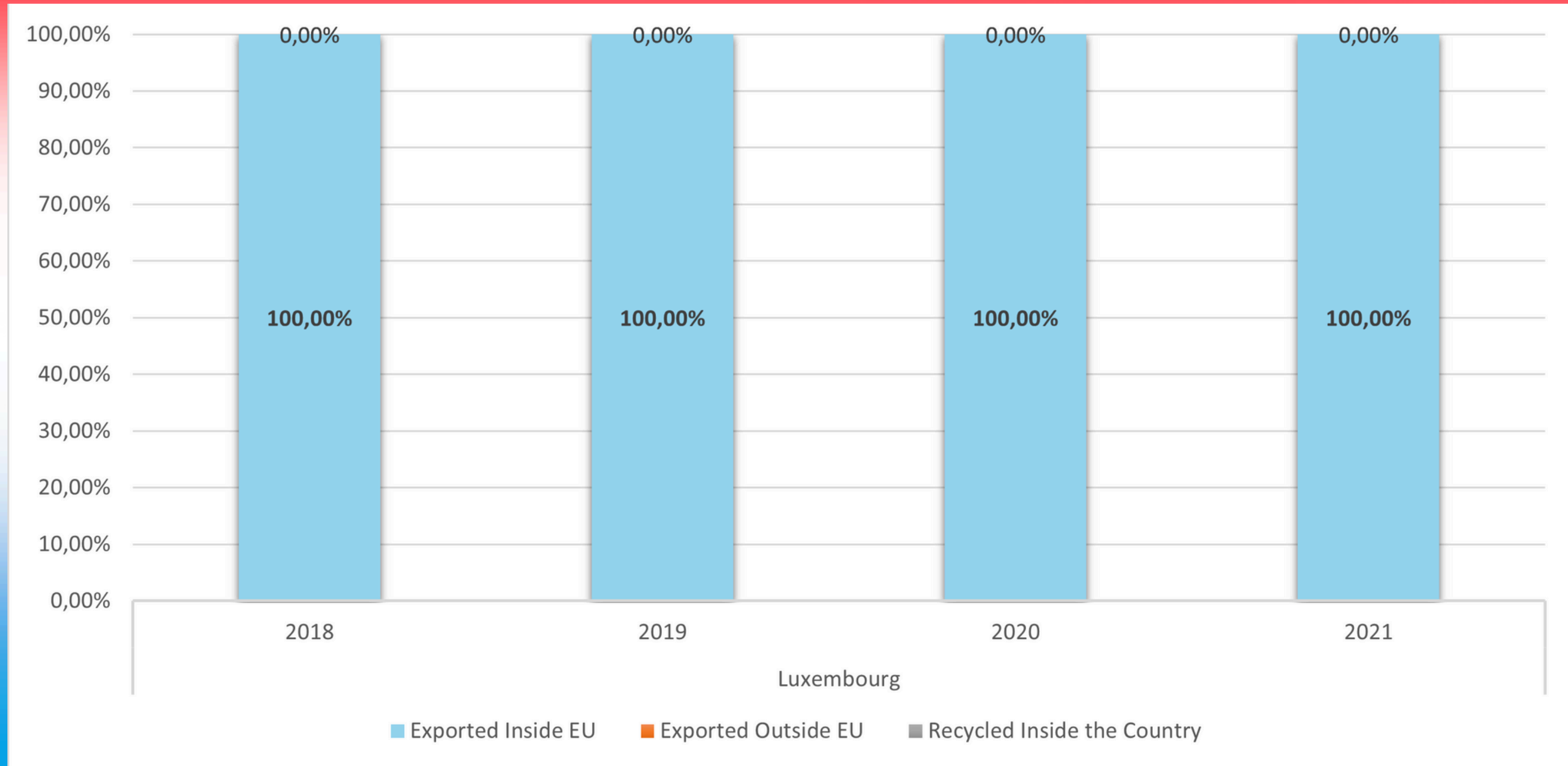
LITHUANIA

Exports for recycling vs Domestic recycling



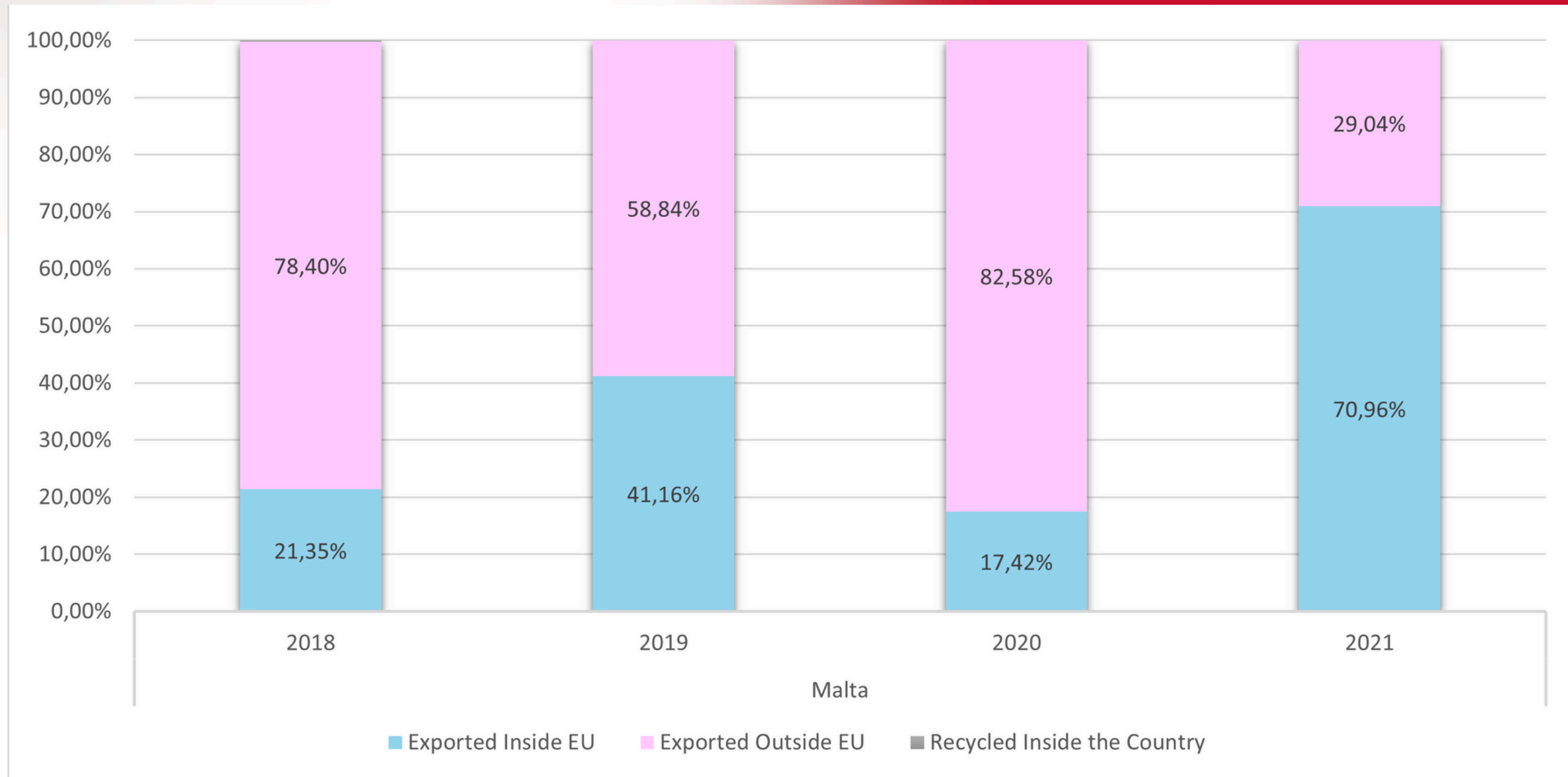
LUXEMBOURG

Exports for recycling vs Domestic recycling



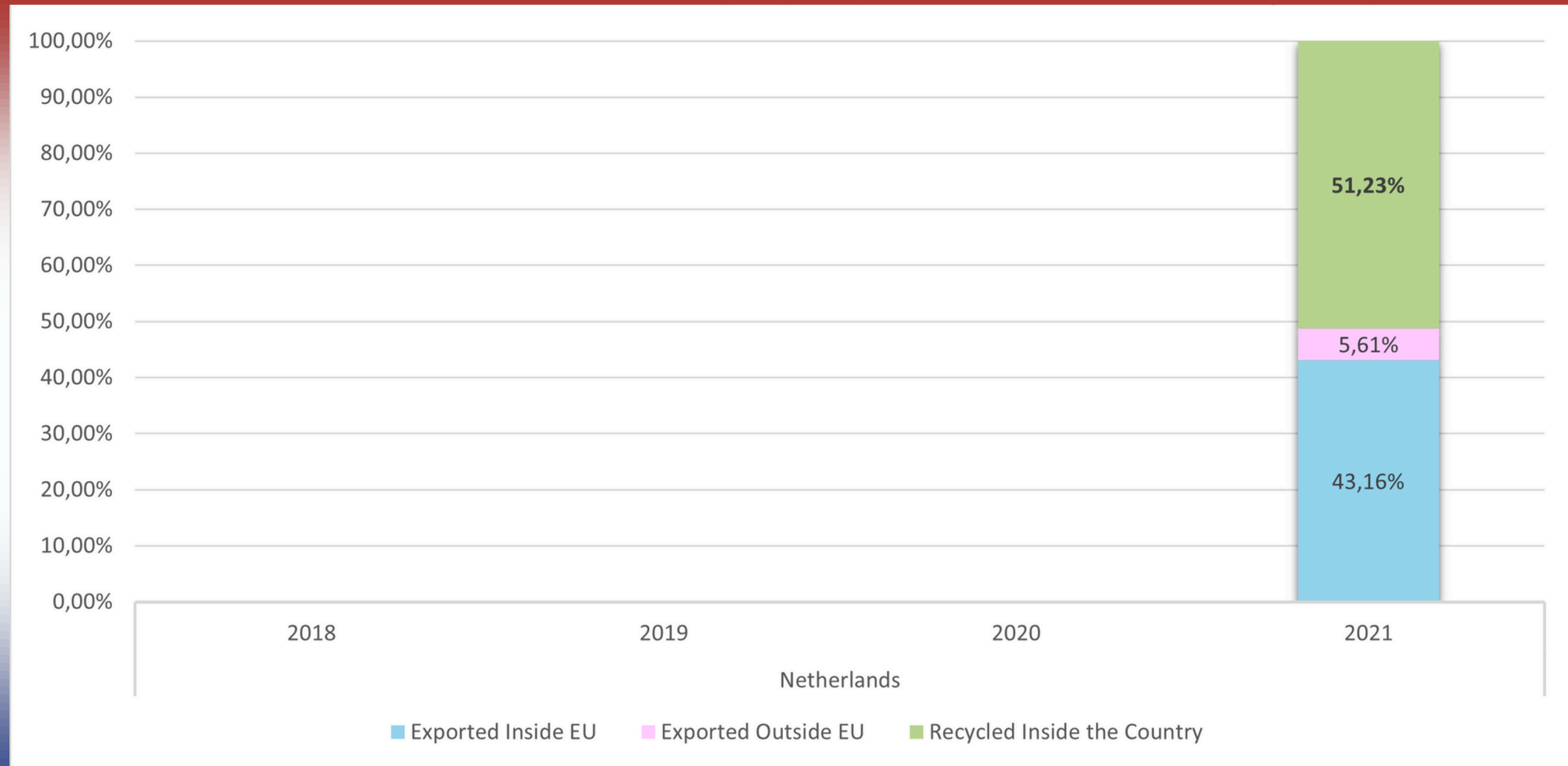
MALTA

Exports for recycling vs Domestic recycling



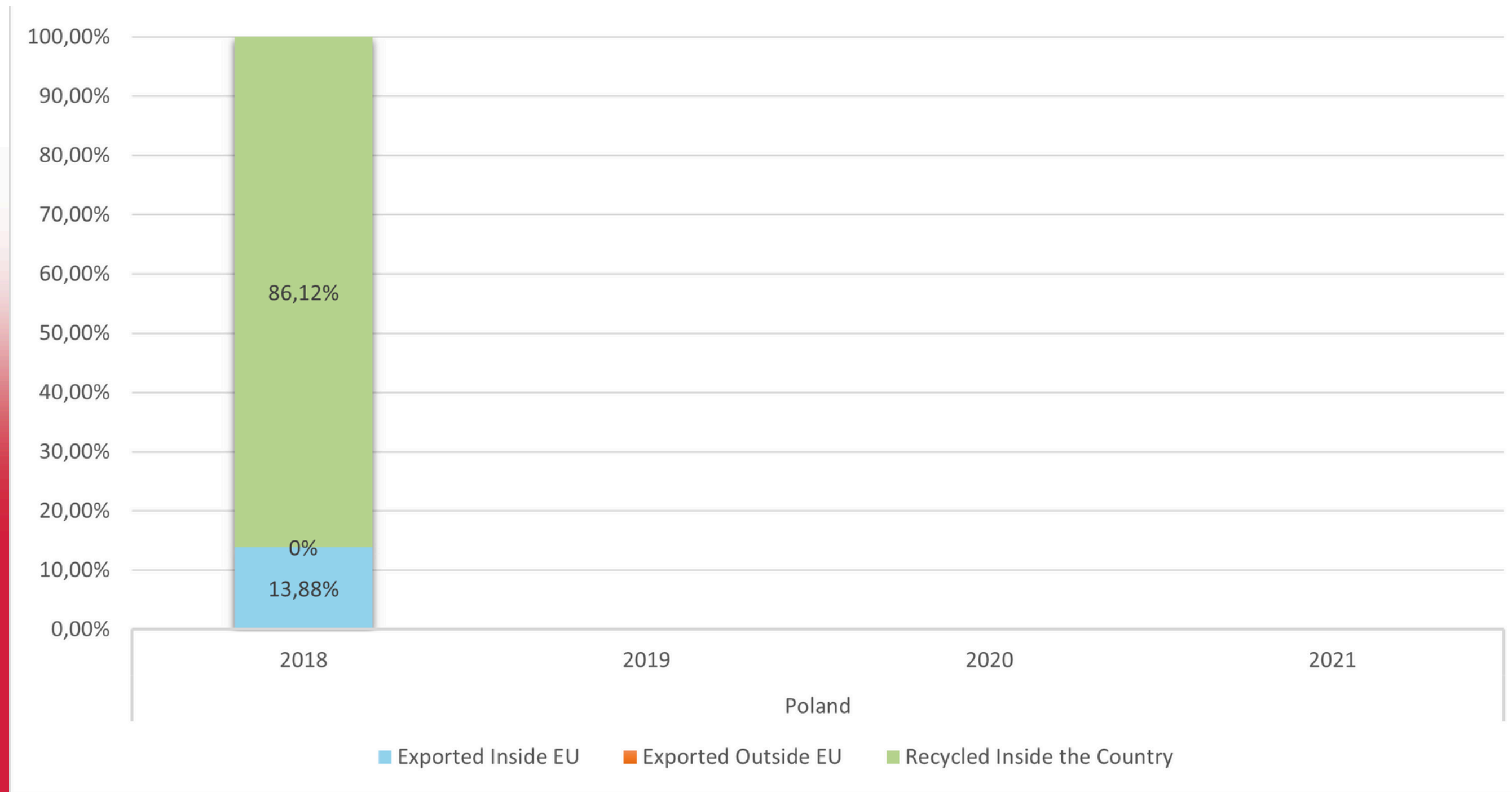
NETHERLANDS

Exports for recycling vs Domestic recycling



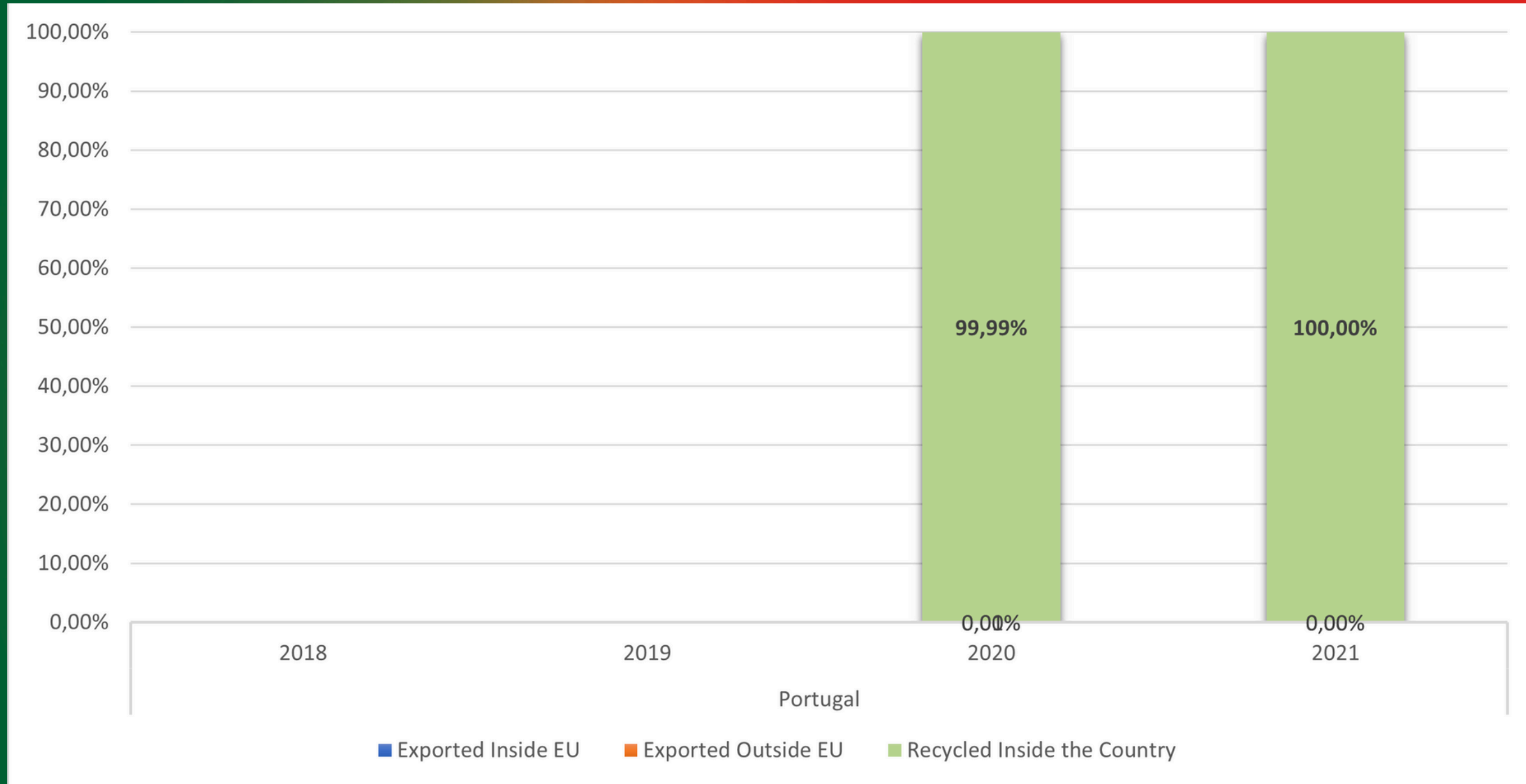
POLAND

Exports for recycling vs Domestic recycling



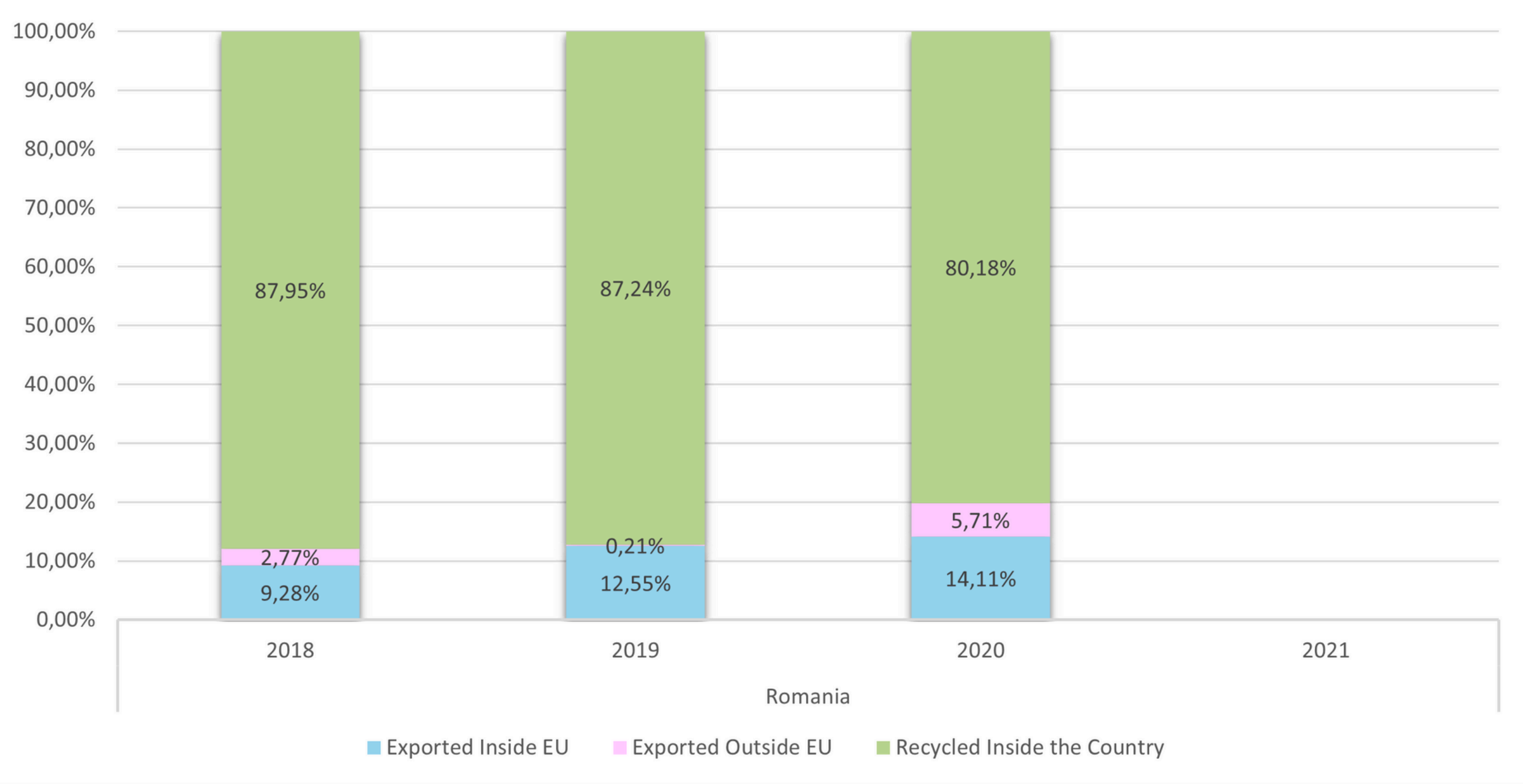
PORTUGAL

Exports for recycling vs Domestic recycling



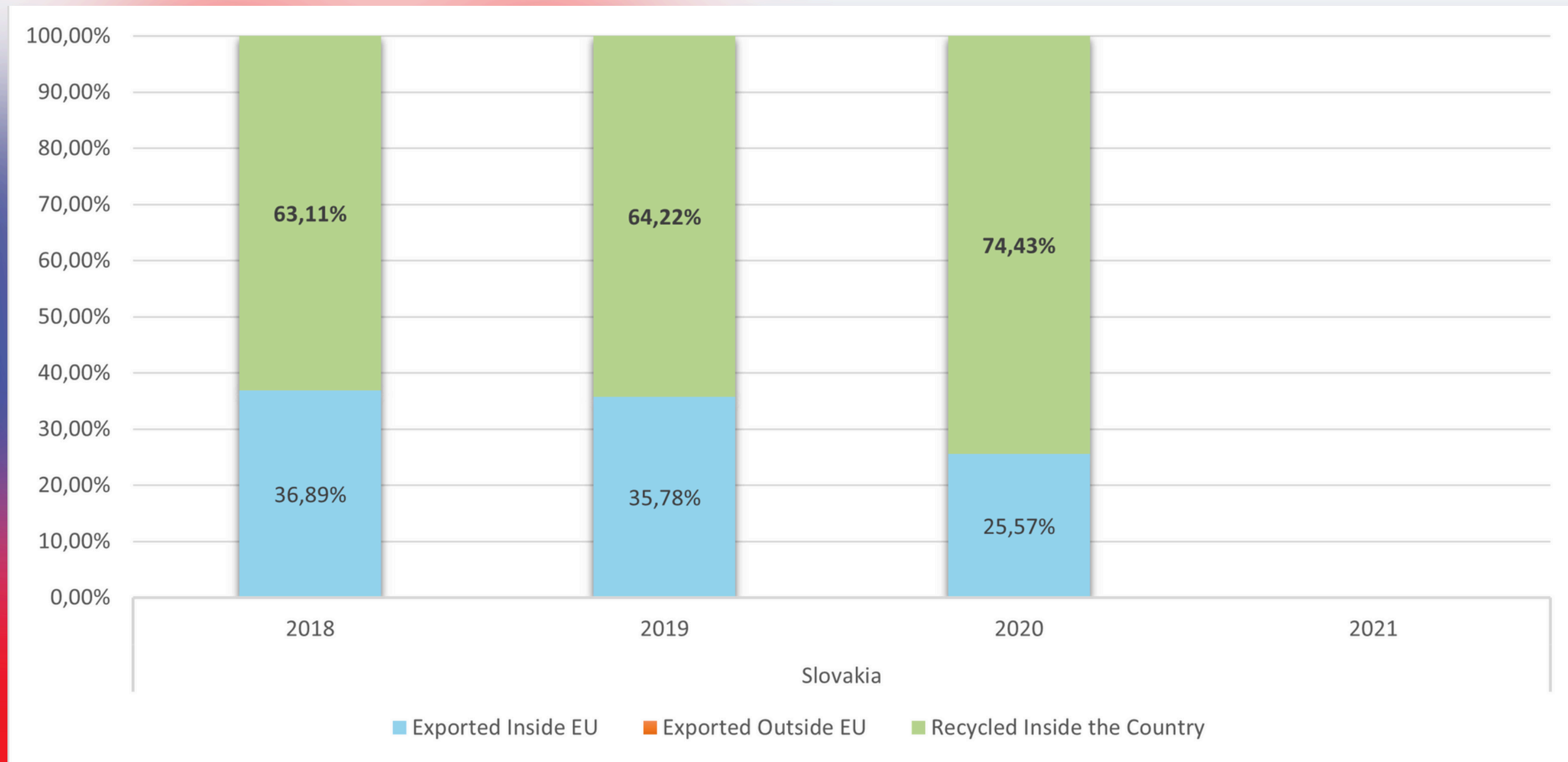
ROMANIA

Exports for recycling vs Domestic recycling



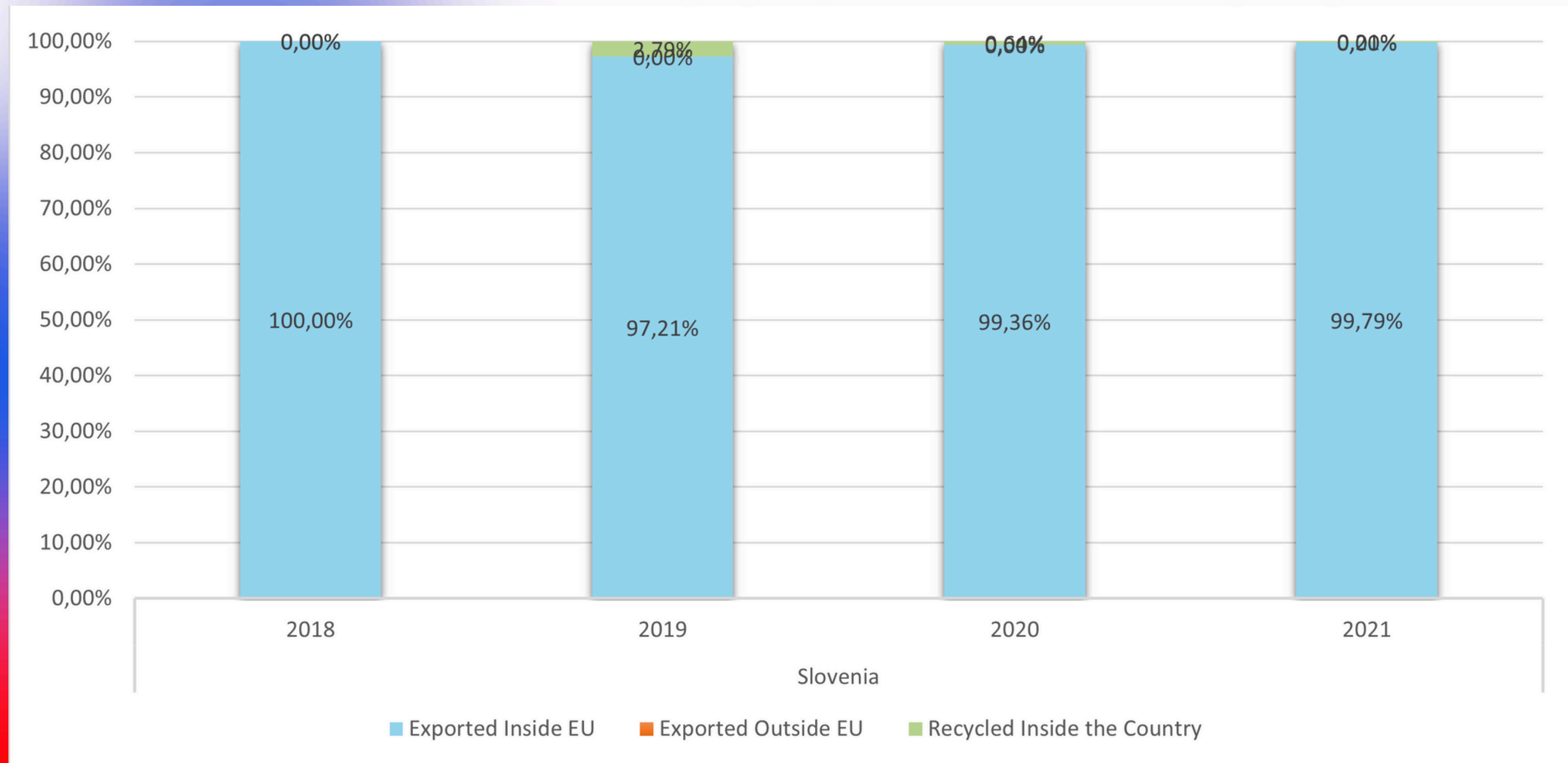
SLOVAKIA

Exports for recycling vs Domestic recycling



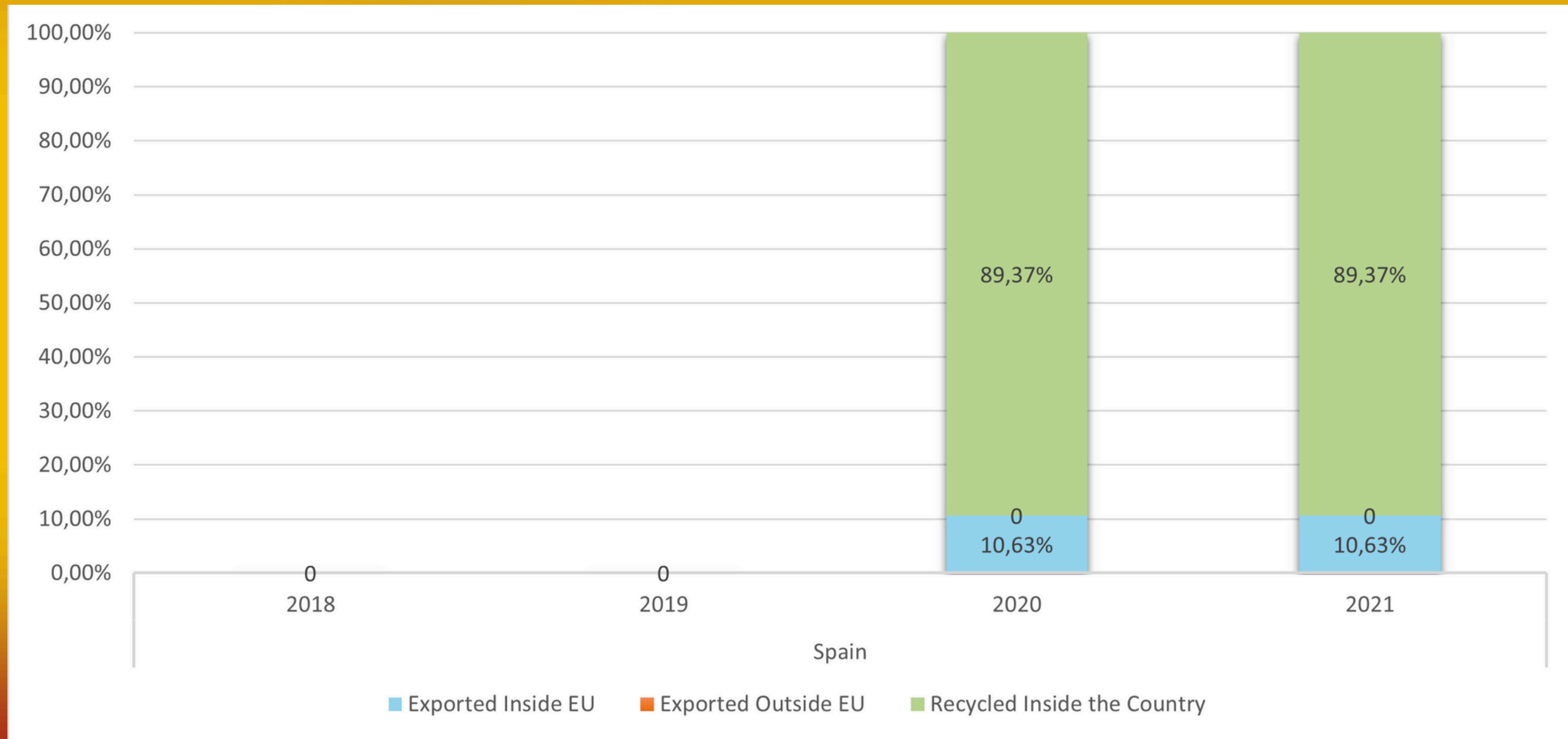
SLOVENIA

Exports for recycling vs Domestic recycling



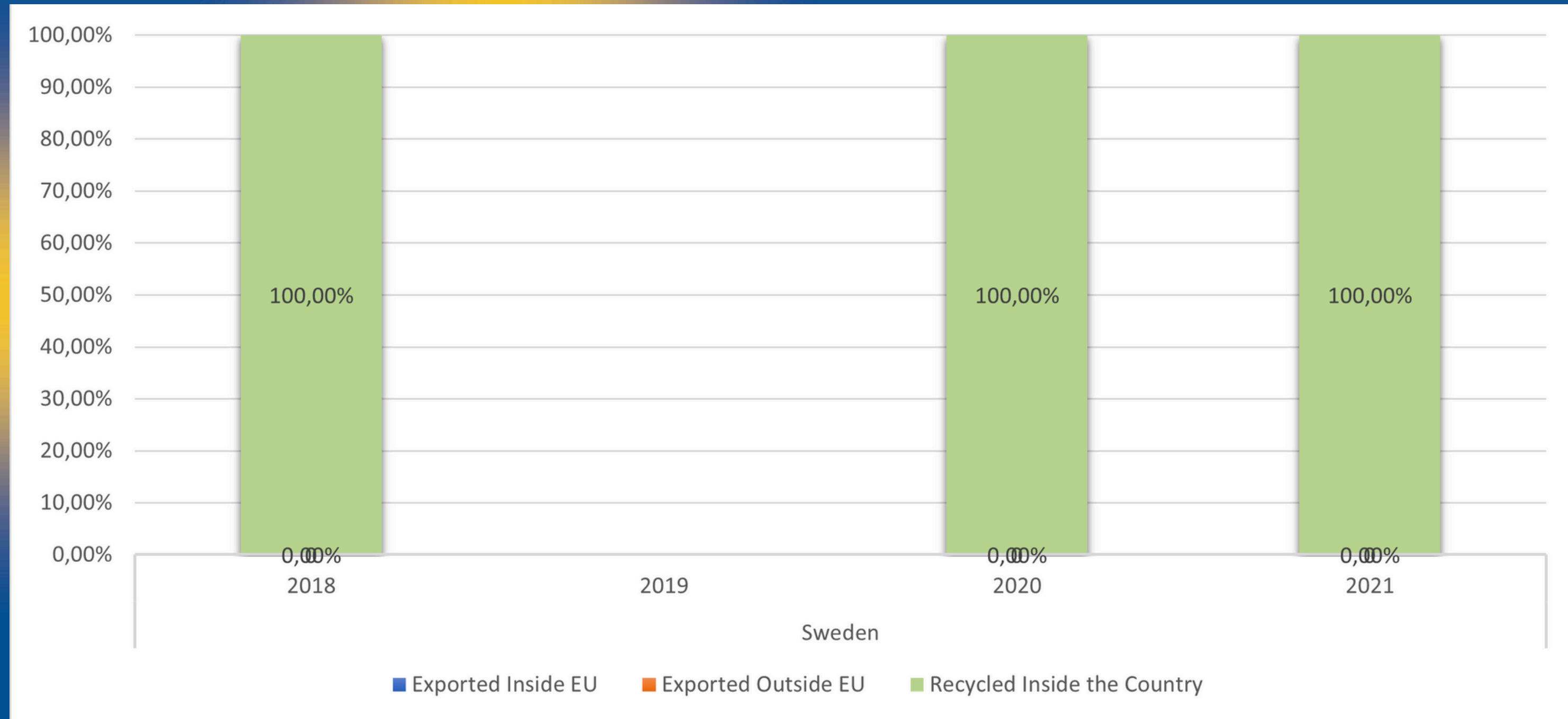
SPAIN

Exports for recycling vs Domestic recycling



SWEDEN

Exports for recycling vs Domestic recycling



UNITED KINGDOM

Exports for recycling vs Domestic recycling

