

Katarina Trstenjak , IJS-CEU
Marko Đorić, IJS-CEU

Approaches to individual mobility in the national LTSs

Expert discussion

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CLIMATE RECON 2050

Dialogue on Pathways and Policies for climate-neutral EU

Project partners



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Long term climate strategies- LTS

- To limit increase of global average temperature below 2° C pre-industrial level and to try to limit the increase to 1,5°C – **Paris agreement**
- Regulation on the governance of the energy union and climate action (EU/2018/1999); member states to prepare LTS (by 1. January 2020); if necessary update every 5 years
- Time span 2050 (at least 30 years); EU to become first climate neutral continent by 2050 (November 2018)
- Consistent with the NECP (time span 2030)
- Sustainable and Smart Mobility Strategy (EU) – reduction of transport emission for 90 %

Scope of work

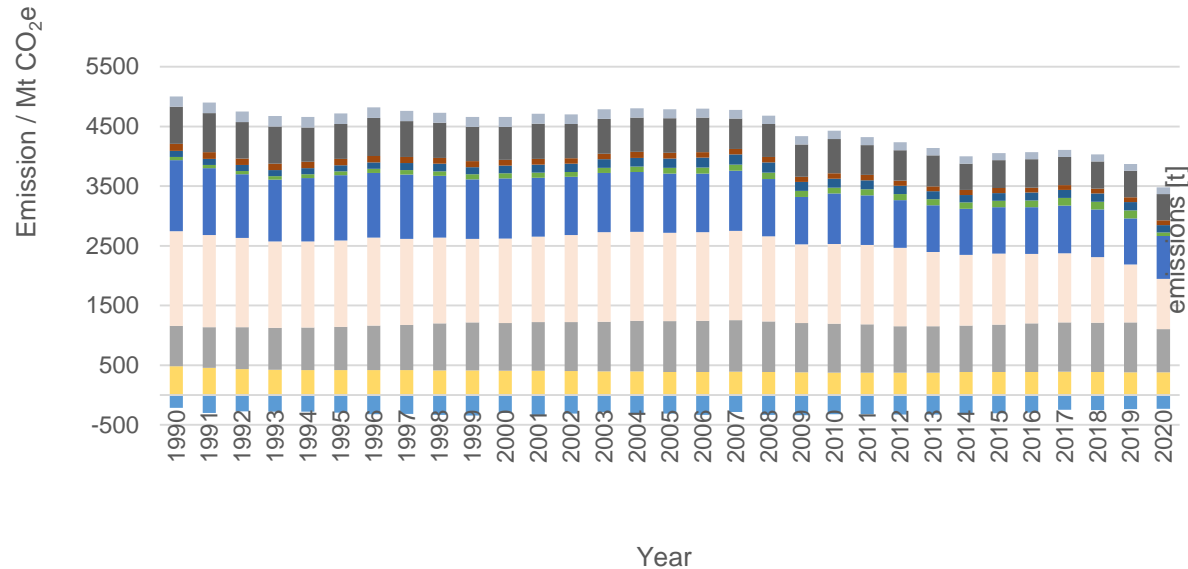
- Analyzing the submitted LTS (23; missing Ireland, Poland, Romania, Cyprus) in the EU with a scope of individual mobility (excluding aviation and navigation)
- Common statistical data (based on EEA data) in transport (looking into different categories)
- Qualitative assessment of topics/role of: electricity, hydrogen in individual mobility, public transport, decrease of transport demand, cycling and walking, spatial planning in submitted strategies.

- Out of 23 submitted strategies, 12 provide emission reduction expected in transport sector by 2050
- Finland, Malta, Portugal, Slovenia and Spain provide quantitative information about emission reduction goals for more than one year (2040 and 2050), Estonia from 2035 and Slovakia only for 2040 (Velten, et al., 2022)

Country	Emission reduction 1990-2050 (%)
BE	100
HR	28-55
FI	~68-97 *
FR	97
EL	88/99,5
HU	~78 *
IT	100
LT	90
PT	84-84/98
SI	99
ES	98
SE	25% (*) (1990 vs 2045)

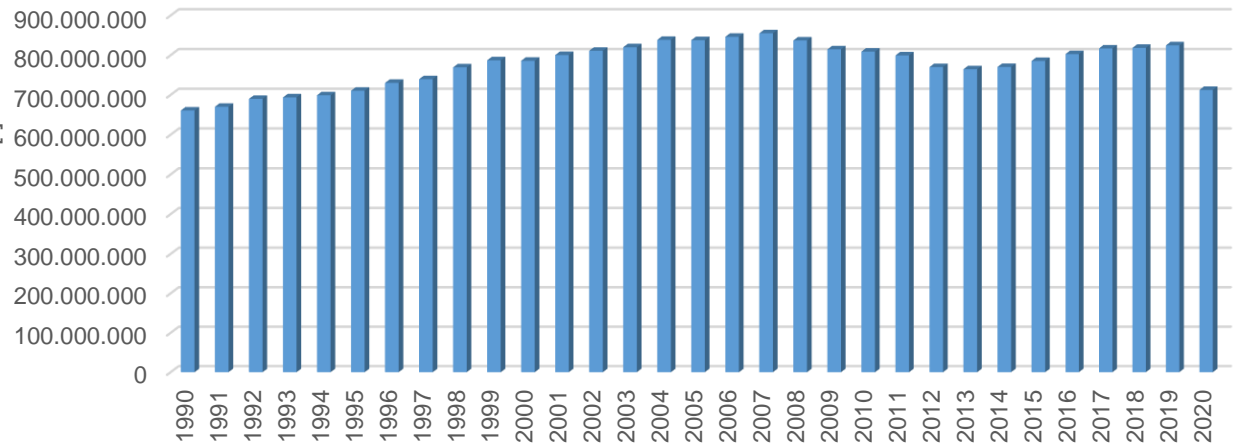
GHG emissions in TRANSPORT

Emissions by sector for the EU-27

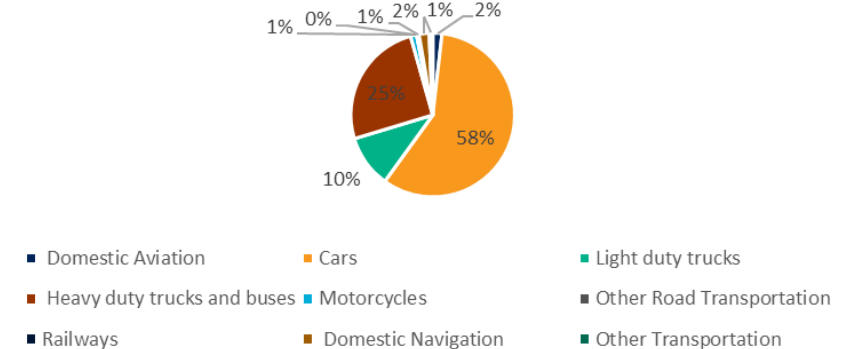


- LULUCF
- Energy Supply
- International Shipping
- Waste
- Agriculture
- Industry
- Other Combustion
- Domestic Transport
- International Aviation
- Residential and Commercial

GHG emissions in transport (EU 27)



Distribution of GHG emissions in transport sector - EU 27 by transport mode



Source of data on transport emissions and projections

EEA greenhouse gases - data viewer

Data viewer on greenhouse gas emissions and removals, sent by countries to UNFCCC and the EU Greenhouse Gas Monitoring Mechanism (EU Member States).

Prod-ID: DAS-270-enPublished 13 Apr 2021 — 1 min read

Totals Sectors Gases Countries Explore

Filters | Geographic entry (Multiple values) Sectors (IPCC) (Multiple values) Gas All greenhouse gases - (...) Year 2019

Table

Sector Name	Gas	Country	Year of Date	Emissions t CO2 equivalent	Emissions per capita t CO2 equivalent	Emissions per GDP t CO2 equivalent
1.A.3 - Transport	All greenhouse gases - (CO2 equivalent)	Austria	2019	24,507,723	2.76	65.61
		Belgium	2019	25,978,245	2.26	58.25
		Bulgaria	2019	9,918,663	1.42	191.40
		Croatia	2019	6,589,025	1.62	127.90
		Cyprus	2019	2,151,533	2.44	95.94
		Czechia	2019	19,065,557	1.79	98.07
		Denmark	2019	13,113,513	2.26	43.44
		Estonia	2019	2,401,817	1.81	98.41
		Finland	2019	11,249,396	2.04	49.00
		France	2019	131,725,490	1.95	55.85
Germany	2019	165,284,203	1.99	50.94		

DATA

Member States' greenhouse gas (GHG) emission projections

The Governance of the Energy Union and Climate Action ((EU) 2018/1999) requires Member States to report national projections of anthropogenic GHG emissions. Every two years, each EU Member State shall report GHG projections in a 'with existing measures' scenario for the years 2020, 2025, 2030, 2035 and 2040, by gas (or group of gases) and by sector. National projections shall take into consideration any policies and measures adopted at Union level. The reported data are quality checked by the EEA and its European Topic Centre for Climate Change Mitigation and Energy (ETC/CME).

Prod-ID: DAT-2-enCreated 25 Oct 2022 — Published 25 Oct 2022 — Last modified 26 Oct 2022 — 4 min read

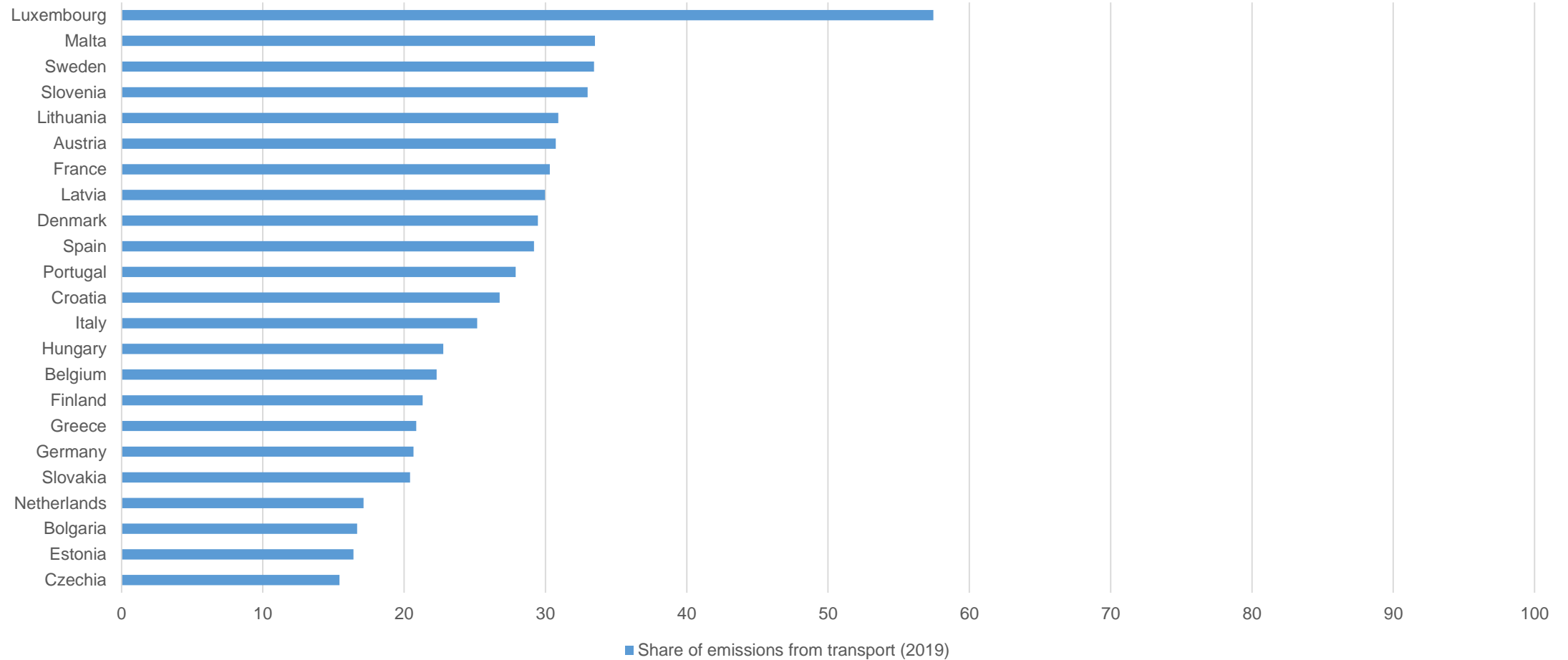
European data Metadata

2022 GHG projections, reported and quality checked in 2021 and 2022

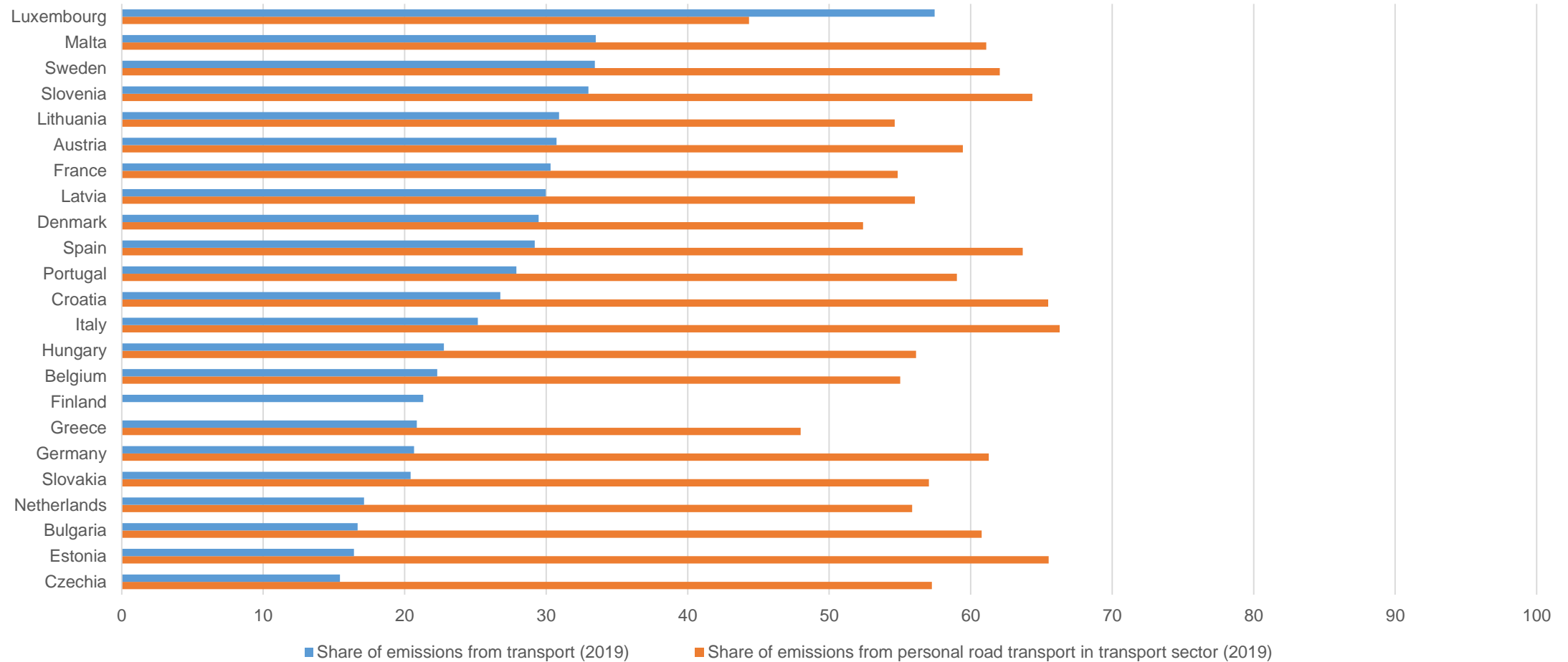
[+] Show table definition

- GHG_Projections_2022_csv (ZIP archive)
758.96 KB [Download file](#)
- GHG_Projections_2022_xlsx - including pivot chart (ZIP archive)
9.07 MB [Download file](#)

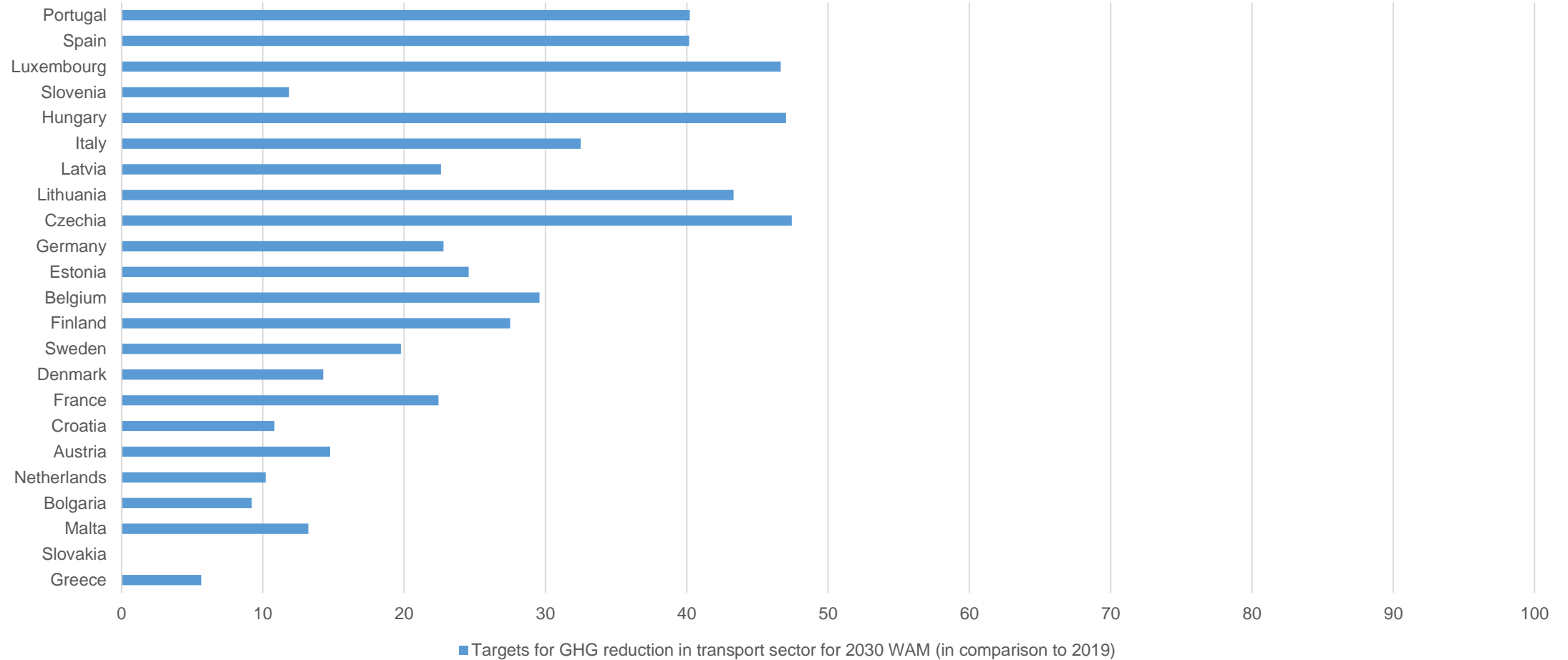
Share of emissions from transport sector in 2019



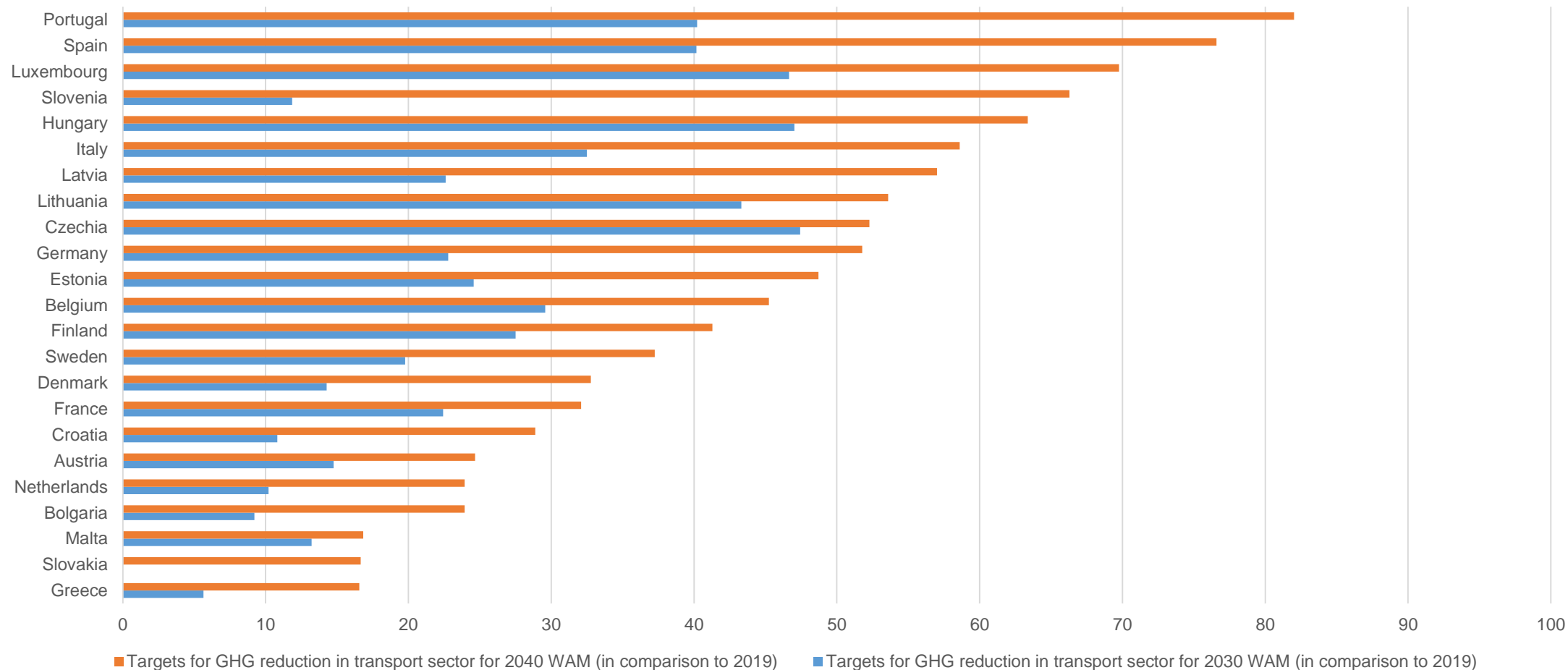
Share of emissions from transport sector in 2019



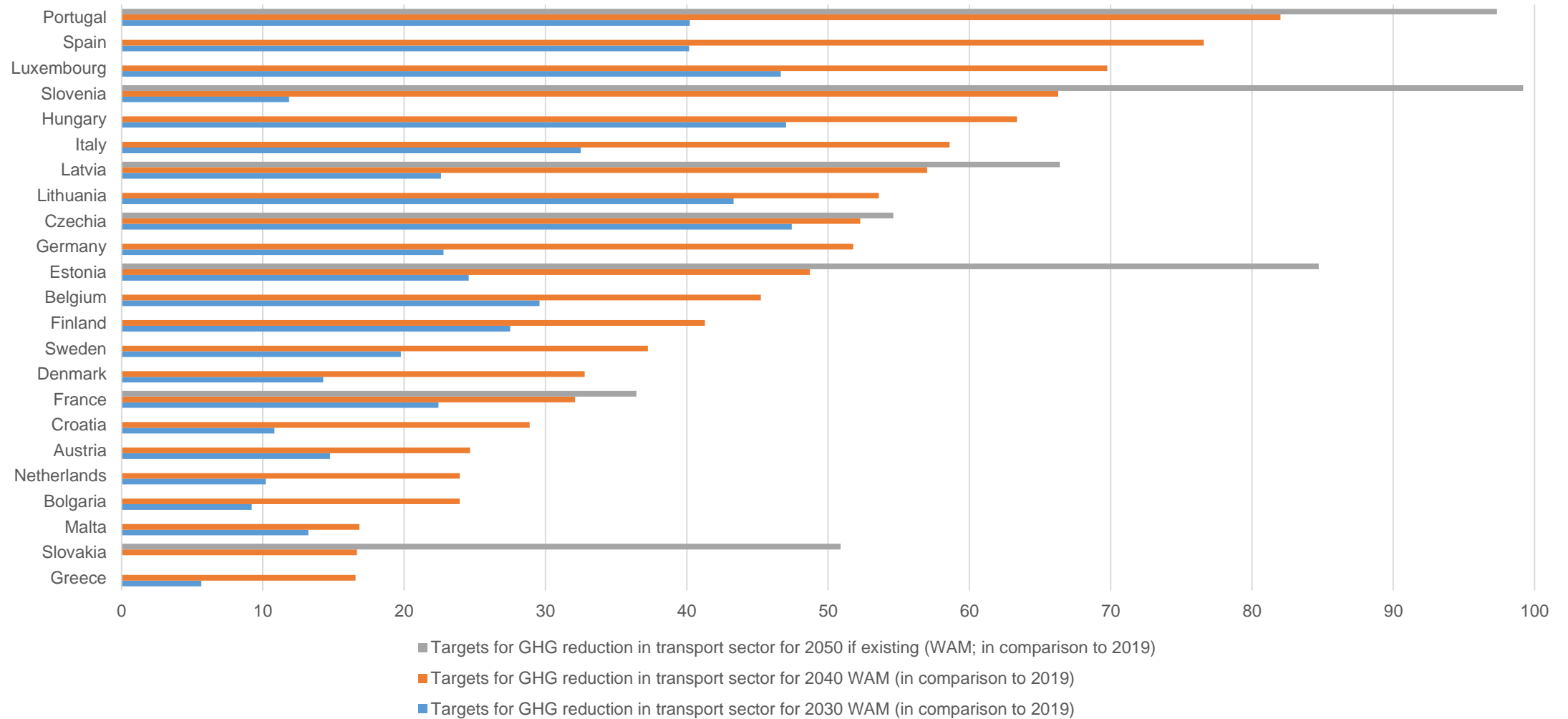
Targets for GHG reduction in transport sector



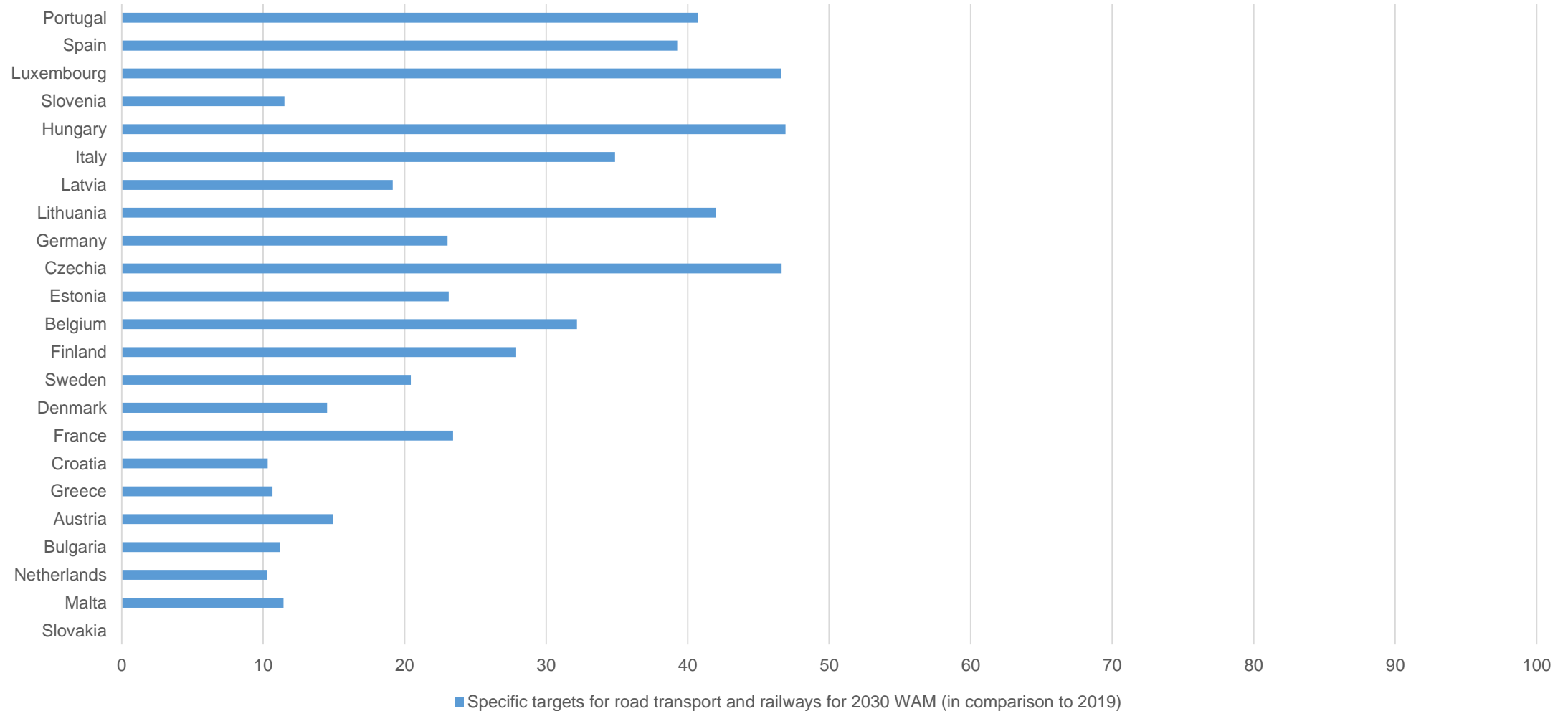
Targets for GHG reduction in transport sector



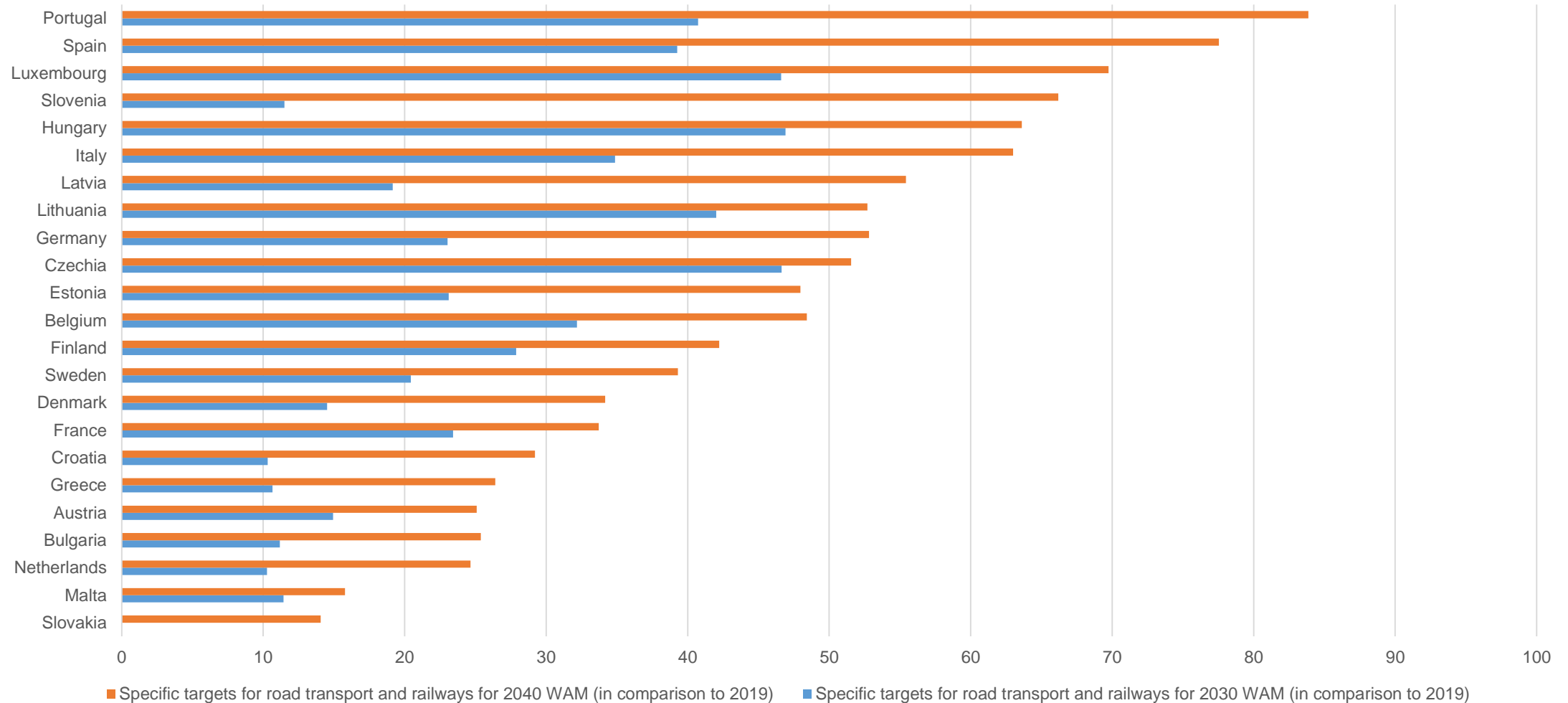
Targets for GHG reduction in transport sector



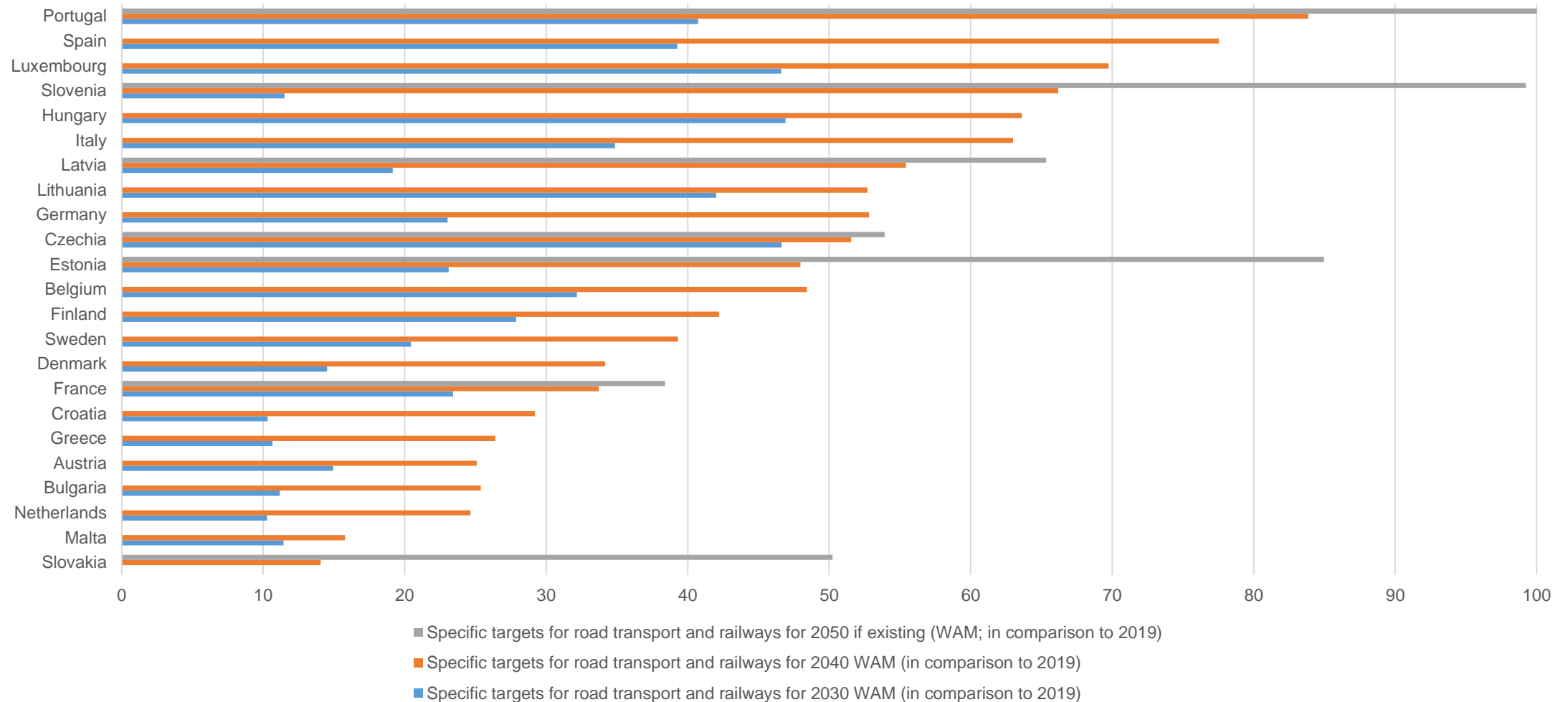
Specific targets for road transport and railways (exc. domestic aviation and navigation)



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Specific targets for road transport and railways (exc. domestic aviation and navigation)



Role of electricity

- All documents, that we analysed are emphasizing the role of electricity in future mobility
- Extensive electrification is foreseen, countries are counting on high level of electrification of the transport sector, especially car fleets
- Only few countries are specific/providing details about the infrastructure that needs to be developed within the e-mobility
- More attention should be given on how to lower the number of cars, since just changing the fuels (from fossil to electricity) is not a solution

Role of hydrogen

- Hydrogen is not widely seen as a fuel for personal cars (countries are more relying on electrification)
- Hydrogen is seen as a fuel in freight transport as well as busses, trams, rail
- Some countries are skeptical about the use of hydrogen in cars (Malta)

Role of public transport

- All countries (except Estonia, Greece and Finland) specifically address public transport in their strategies
- Emphasis on rail transport
- Only three countries provide quantification (share of public transport) in their LTS (Belgium, France and Slovenia)
- Modernisation of public transport; interconnectivity, synchronised schedules, digitalisation
- Has to become more attractive (Lithuania, Sweden, Luxemburg)

Decrease of transport demand

- 12 countries directly mentioned decrease of mobility needs or transport demand
- Decrease of transport demand is closely connected with spatial planning as well as digitalisation and new technologies that are enabling people to perform their service from home.
- Digitalisation (remote work, teleworking, online shopping, e-administration) are most popular measures to reduce the need for mobility
- None of the country quantified the goal in LTS (for transport demand)

Role of cycling and walking

- Both part of active mobility, specially cycling in cities (densely populated areas) cycling can be seen as a mode of transport
- 16 countries included cycling in LTS
- Cycling is seen as way of movement in urban areas/cities
- There is a need for interconnected travels
- Safe bike infrastructure is one of the most important measures (improved infrastructure, safe pathways, bike parking facilities...)
- 12 countries recognised walking in their strategies
- Walking: improved infrastructure needed to increase walking, campaigns to promote walking (ex. Spain, Germany)

Role of spatial planning

- 8 countries explicitly mentioned the role of spatial planning
- Efficient spatial planning can help reduce mobility needs and should be included to a greater extent in the LTS, although changes in spatial planning might need longer time span
- Giving more space to different types of mobility than cars improves health as well as quality of life in the cities, resulting in more space that could be used by citizens

Conclusions

- Compared to other sectors emissions in EU-27 from transport have **increased** (compared to 1990)
- According to EU Reference scenario 2020 the number passenger kilometres by road/rail is forecasted **to increase** to around 13% by 2030 and to more than 27% by 2050
- Transport sector as a whole as well as individual mobility can be seen as a “threat” to reach 2050 climate neutral goal
- Majority of countries see electrification as the main driving force to lower the GHG emissions by 2050 (e-vehicles are seen as a solution)
- Some countries addressed the fuelling infrastructure within e-mobility as a possible bottleneck
- None of the countries addressed possible bottlenecks in e-vehicle manufacturing, specially material needed for the production (like batteries)

Conclusions

- Currently e-vehicles are still expensive, significant amount of finance will be needed to substitute personal vehicles with internal combustion with e-vehicles
- Several countries are relying on the rail transport in the future (in public transport), cross-national rail routes are necessary, improvement also needs to be done in the field of interconnectivity of different modes of transport and establishing efficient transport hubs
- 12 countries mentioned decrease in transport demand, higher shares of teleworking, remote work...are expected. Although it can be seen as solution, it can also result in increase of transport demand for other purposes (e.g. tourism), so it is necessary to also include other measures (such as efficient public transport)
- Cycling and walking not only reduce GHG emission, but also have other benefits (e.g. health benefits)
- Primary focus in LTS in individual mobility was electrification of the vehicle fleet. But to achieve net zero goal, all other options and measures need to take place and be included

Jamova 39
1000 Ljubljana, Slovenija
Tel: +386 1 5885 210
www.ijs.si

Thank you for your attention!
Hvala za pozornost!

Katarina Trstenjak, JSI, EEC
Marko Đorić, JSI, EEC