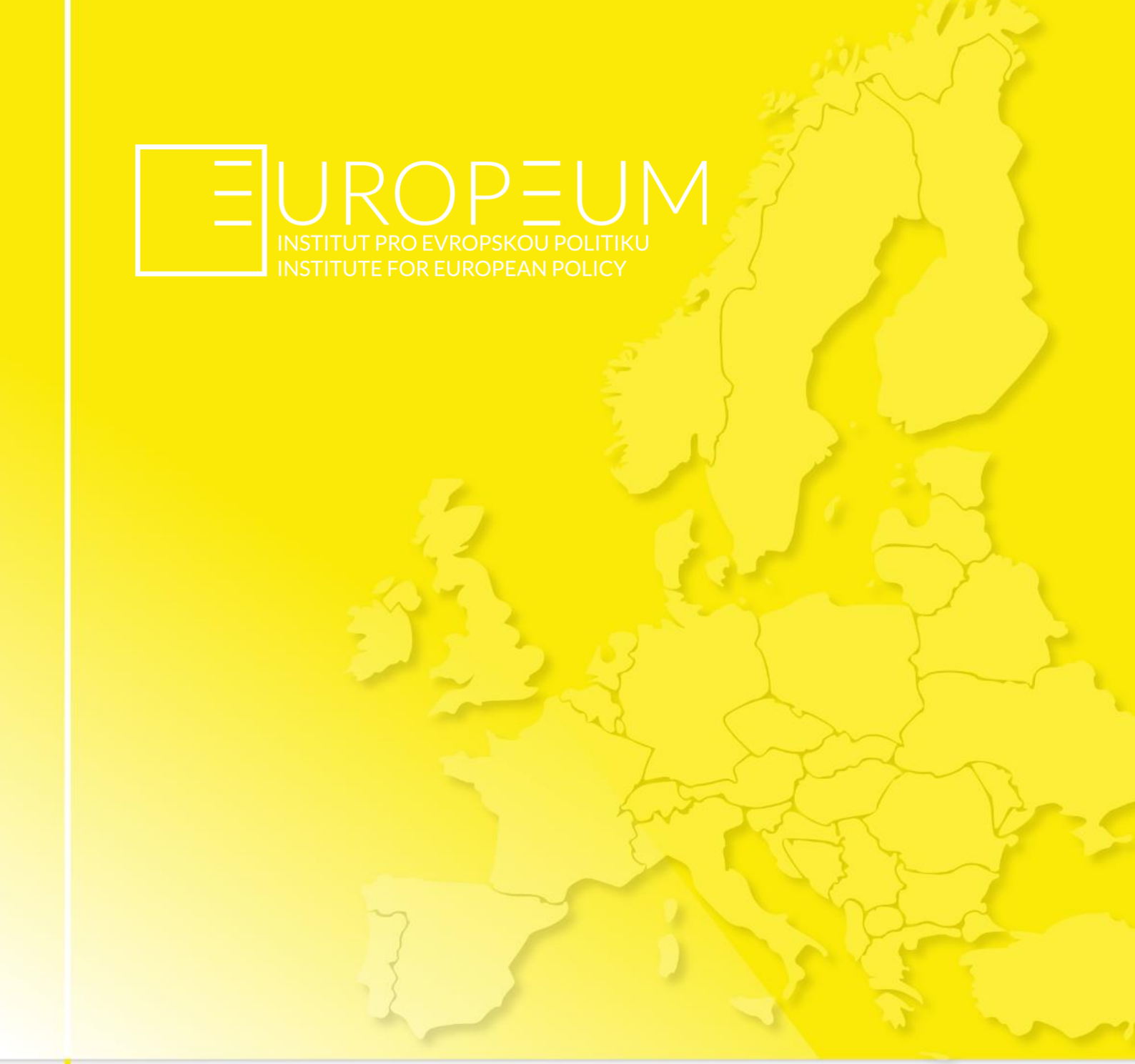

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EU MONITOR

Recharging the Czech EU Presidency

Michal Hrubý

June 2022

Contents

Executive Summary

Czechia will enter its second round of the EU Presidency on the 1st of July. Despite the ongoing major shift toward e-mobility across the EU, no strong commitments are coming from the Czech government. The widely accepted milestone of 2035 for phasing-out the sales of new non-zero-emission cars is still perceived by many local policy-makers as unrealistic. As their argument often goes, they foresee massive job losses and a decline in the value of the Czech automotive sector. However, we argue that:

- The global shifts in value chains have been transforming the automotive sector for two decades. The regulation toward low-carbon mobility has been influencing the decision-making of the European automotive sector since 2009. The EU has been competing with new rivals and the shift within the EU itself toward an increase in production in the integrated periphery[1] bore fruits in Czechia. However, Czechia relies mostly on the production itself, not the activities connected to higher value added, such as design, services or R&D[2].
- Czechia is strongly embedded in the value chains and must follow the shift toward e-mobility. Although politically it might seem as if this path is not yet decided, the private sector thinks the opposite. Regulation is in place and long-term investment and innovation cycles mean no more new generations of internal combustion engines will be produced in the future. The more batteries imported and not produced domestically, the worse the impact on future automotive value added and jobs.
- The up-to-date studies show that the outlook for the Czech automotive sector stays rather positive toward 2030 and 2040. The prospect of keeping the current jobs and protecting the domestic value added is, however, preconditioned by all the necessary steps being taken now. Attracting foreign direct investments into the battery value chains is the key ingredient to support this transition. Reskilling and upskilling of the workforce will strenghten the labour market to face the threat of "stranded people."

[1] Integrated periphery of the European automotive industry as defined by Pavlínek, P. This paper focuses mostly on the Central, Eastern and South-Eastern European countries such as Poland, Czechia, Slovakia, Hungary, Slovenia, Serbia and Romania.
[2] Research and development.

Recommendations

- **Strategic e-mobility communication** – the Czech EU presidency provides a unique opportunity to show our support for the e-mobility transition. While we need to communicate both externally to the global stakeholders and internally to local producers and consumers, we cannot forget that the EU presidency means managing dialogue between the EU Member States. Not lobbying for our interests.
- **Strong governmental support toward battery production** – a precondition for successful automotive transformation. Investment incentivization is not the only key ingredient to success. We also need to conceptually change the way we prepare the current and future workforce and the way we promote the general idea of e-mobility transition. Supporting both private and public sector to adopt e-mobility and build the charging infrastructure means to show the good practice to the Czech general public.
- **Need to create a conceptual framework for skill transfer and use** – Czechia mostly relies on the sole production of passenger cars and is influenced by the decision-making of mother companies with foreign headquarters. We must prove that we are ready to acquire new tasks and jobs connected to higher value added while still keeping relatively lower labour costs compared to countries such as Germany.

Introduction

Almost one year after the European Commission introduced the Fit for 55 package of legislative proposals, the positions of the European Parliament (EP) and the Member States (MS) are being formulated and trialogues are expected to begin later this year. After the June plenary meeting, the EP adopted its position on the proposal of revision of CO_2 standards for passenger cars and vans (CO_2 standards). The Council also adopted its general approach to CO_2 standards. This is a clear signal for automotive stakeholders and the EU national governments.

Furthermore, the Council adopted a general approach to the draft regulation on the deployment of alternative fuel infrastructure (AFIR), with the EP plenary vote expected after the summer break. Although this signals a clear transition path, Czechia is still very sceptic about the automotive transformation. This policy brief aims to introduce the position of the Czech automotive industry in the European and global value chains with a view toward the Czech EU presidency, which will start on 1st July 2022.

First, it describes the current global context and the EU-specific legislative proposals aiming to reduce the emissions from transport. Second, it explains the position of the Czech automotive sector in the context of EU car manufacturing. Finally, it draws attention to the recent studies that forecast the development of the Czech automotive sector in the upcoming years and supporting mechanisms for a successful transition toward e-mobility. As this study shows, the automotive transformation is not only set in the already existing strategies of all major OEMs[3], but it is also becoming the only way to save the strongly embedded position of the Czech automotive industry in the global value chains.

[3] Original equipment manufacturer.

At the dawn of the new automotive order

The European automotive sector has gone through a major shift in the last two decades. From the global perspective, Europe has lost some of its global share in automotive production and has gained a major rising competitor in China[4]. In terms of annual growth, the production share of Europe has been decreasing by almost 1pp per year while the Chinese production has been increasing by 1.5pp per year. The US production has diminished. Figure 1 shows the shift of the passenger car production in 10 years long periods.

Although the EU itself is still a solid base for car production, it has become more heterogenous within the EU borders. Most profoundly, the integrated periphery gained momentum in terms of car production[5] (see Figure 2) and jobs gained in the manufacturing of cars and car equipment[6].

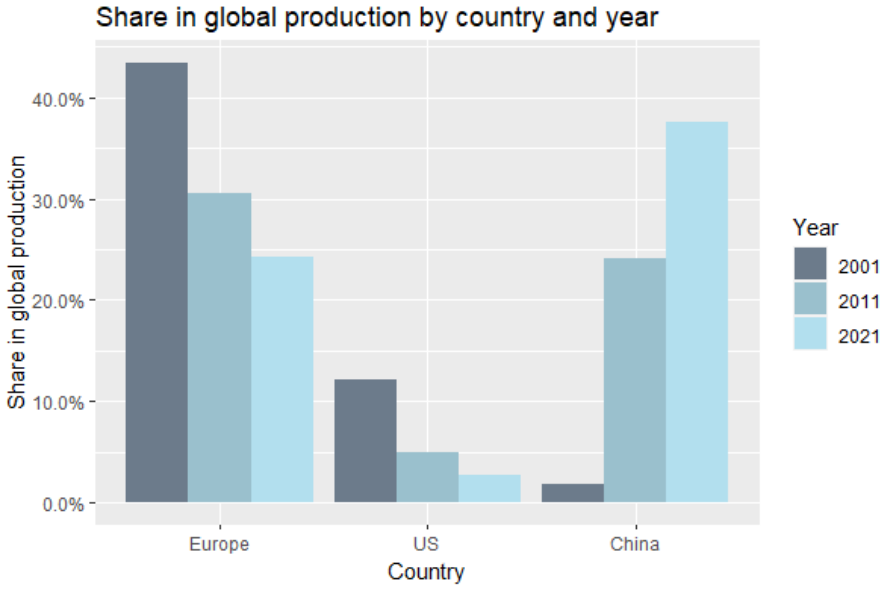

Figure 1: Shift of the share in the global passenger car production[7]

The years 2020 and 2021 have seen a dramatic disruption in terms of the daily life of all people around the world as well as the economies themselves, including the global value chains. These were hit hard and automotive was one of the most damaged sectors, with the 2019-2020 decrease in global production being almost 17%[8].

Today, we are facing yet another trade and supply challenge when Ukraine defends its sovereign territory from Russian aggression. Other parts of the automotive value chain have also been

[4] International Organization of Motor Vehicle Manufacturers (OICA). 2022. Production statistics. Available at: https://www.oica.net/production-statistics/.
[5] Ibid.
[6] Pavlínek, P. 2020. Restructuring and internationalization of the European automotive industry. Journal of Economic Geography, Volume 20, Issue 2, March 2020, Pages 509–541. Available at: https://doi.org/10.1093/jeg/lby070.
[7] International Organization of Motor Vehicle Manufacturers (OICA), 2022. Production statistics. Available at: https://www.oica.net/production-statistics/.
[8] Ibid.

damaged, and markets have become even more volatile, with prices of many raw materials, energy or other inputs into the manufacturing process skyrocketing[9].

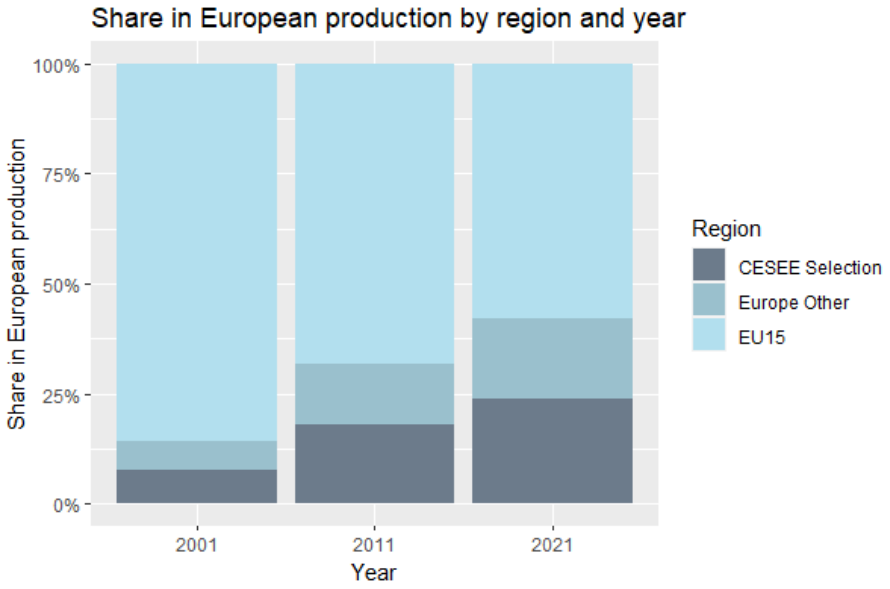

Figure 2: Shift of the share in the passenger car production within Europe[10]

The foreseen milestone of reaching a price parity between internal combustion engine vehicles (ICEVs) and battery electric vehicles (BEVs) might be at risk of a delay[11]. Economy of scale will definitely play its role with the progressive upscaling of BEVs production, and most of the major automotive producers (OEMs) have already pledged to shift toward e-mobility. Yet, the question remains whether it will be possible to successfully scale-up the car production and consumption in the aftermath of the global macroeconomic disruptions.

Although the presence of the EU-wide emission regulations has been playing a major role in shifting the production toward electric vehicles for more than 12 years, it needs to be highlighted that not all the regulation is targeted at the production and OEMs themselves.

[9] International Energy Agency (IEA). 2022. World Energy Investment 2022. Available at: https://iea.blob.core.windows.net/assets/db74ebb7-272f-4613-bdbd-a2e0922449e7/WorldEnergyInvestment2022.pdf.

[10] CESEE selection includes Poland, Czechia, Slovakia, Hungary, Slovenia, Serbia and Romania. International Organization of Motor Vehicle Manufacturers (OICA), 2022. Production statistics. Available at: https://www.oica.net/production-statistics/.

[11] In 2021, the European average prices of both BEVs and PHEVs were up 4% compared to 2020. BEVs in China were only 20% more expensive compared to ICEVs. The European difference between BEVs and ICEVs was still around 45%. See: International Energy Agency (IEA). 2022. Global EV Outlook 2022. Available at: https://www.iea.org/reports/global-ev-outlook-2022.

Charging-up the business case

While there is mostly focus on the CO_2 standards[12] of OEMs and their yearly sold fleet of new cars or the emission limits aiming to lower emissions and pollutants coming from the use of vehicles (EURO 0-6[13]), another perspective takes into account the bitter truth. The EU MS have not been able to lower the overall road transport emissions since 2013, of which the majority is coming from passenger mobility (around 60% of total road transport emissions)[14]. This is where the EffortSharing regulation enters[15]. It makes the EU MS responsible for lowering those emissions not yet covered in the Emissions Trading System (EU ETS), mostly comprised of emissions from transport and buildings, as well as agriculture and waste.

Yet another perspective is the one of the mobility consumers – people using the cars and other means of transport. And that is where the proposal of the new Emissions Trading System, the so-called EU ETS 2[16] covering emissions from road transport and buildings, might play a role in shaping consumer choices[17]. Furthermore, many other restrictions can take place in the forms of low- and zero-emission zones or carbon tax for the registration of a car. See Figure 3, which shows the main legislative proposals of the Fit for 55 package to address the issue of road transport emissions.

[12] Ibid.
[13] European Commission. Undated. CO_2 emission performance standards for cars and vans. Available at: https://ec.europa.eu/clima/eu-action/transport-emissions/road-transport-reducing-co2-emissions-vehicles/co2-emission-performance-standards-cars-and-vans_en.
[14] European Environment Agency (EEA). Undated. EEA greenhouse gases - data viewer. Available at: https://www.eea.europa.eu/data-and-maps/data/data-viewers/greenhouse-gases-viewer.
[15] European Commission. Undated. Effort sharing 2021-2030: targets and flexibilities. Available at: https://ec.europa.eu/clima/eu-action/effort-sharing-member-states-emission-targets/effort-sharing-2021-2030-targets-and-flexibilities_en.
[16] European Emission Trading System. Number 2 refers to the trading system that would newly cover the transport and building sectors.
[17] European Commission. 2021. Questions and Answers - Emissions Trading – Putting a Price on carbon. Available at: https://ec.europa.eu/commission/presscorner/detail/en/qanda_21_3542.

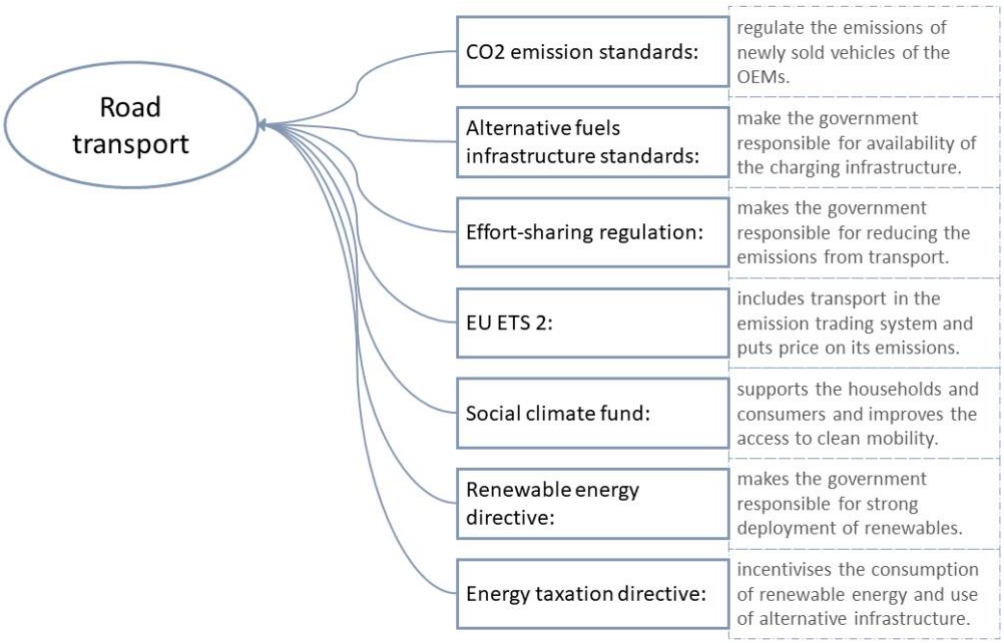

Figure 3: Regulations and directives targeted at road transport emissions[18]

All the existing or proposed regulations address the complexity of passenger car transport. Even if we were looking optimistically into the future, a business-as-usual scenario (extrapolation of past emission reduction pathway) would not be able to achieve the standards for 2030 and 2035 proposed by the European Commission and currently supported by the Parliament and Council (see Figure 4). E-mobility is currently the only economically and technologically viable solution for the decarbonization of passenger transport.

Once there exists a general consensus on the need to tackle climate change and an agreement on the unsustainability of the current mobility ecosystem, there is no reason not to back the idea of upscaling e-mobility. Furthermore, there is a strong business and economic case to be made, too. Would countries such as China have their complex strategies for e-mobility transition fuelled solely by the idea of green transition? The automotive sector and the current development in battery production clearly show that it also brings a possibility for higher value-added production and job creation, while it also represents a clear transition in the global value chains[19]. This is described in more detail in the example of Czechia.

[18] The author, based on European Parliamentary Research Service (EPRS). 2022. Fit for 55 package. Available at: https://epthinktank.eu/2022/06/05/fit-for-55-package/.

[19] European Investment Bank. 2022. Recharging the batteries – How the electric vehicle revolution is affecting Central, Eastern and South-Eastern Europe. ISBN 978-92-861-5097-5.

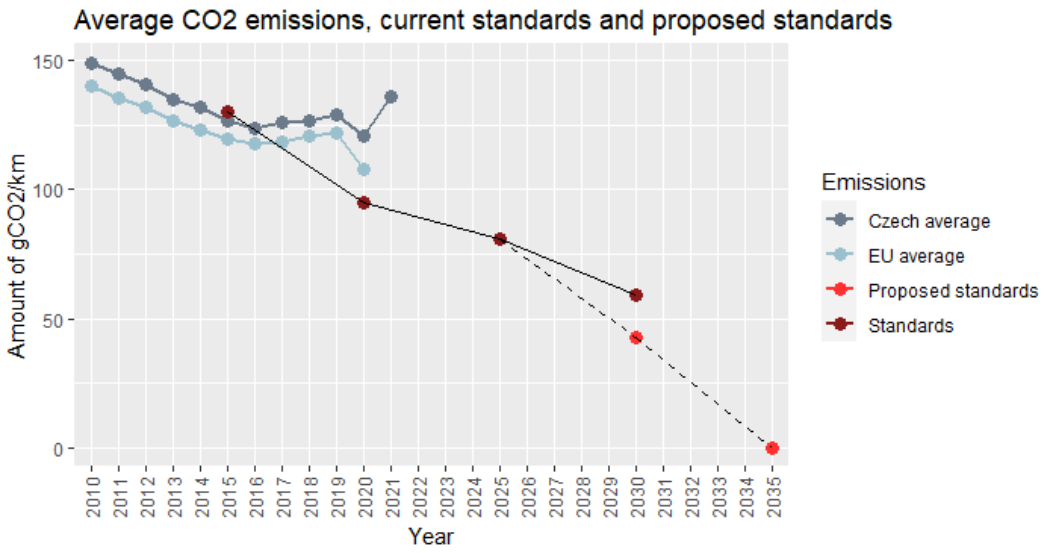

Figure 4: CO_2 emissions from new passenger cars, current and proposed CO_2 standards[20]

Czechia and the global e-value chain

The shift in car production within the EU has been significant mostly in the first decade, and slightly less in the second decade of the 21st century[21]. The same is applicable to the growth in the integrated periphery, too. The relocation of car production and jobs into these countries has been fuelled by relatively cheaper labour costs and lower tax rates[22]. See Figure 6, where countries are divided into two almost separate groups given their GVA[23] and labour cost per employee.

The production value grew, and so did the Czech interconnectedness to the global value chains[24]. Still, the last decade saw slower growth in production until the very last pre-covid year of 2019. In the last decade, Czechia had a significantly lower unemployment rate compared to the EU average while the job vacancy rate kept rising[25] (see Figure 5). This means that for most automotive producers (and many others) it became relatively difficult to find new employees.

[20] Car Importers Association (SDA). Undated. Registration of new cars. Available at: https://portal.sda-cia.cz/. European Environment Agency (EEA). 2021. CO2 performance of new passenger cars in Europe. Available at: https://www.eea.europa.eu/ims/co2-performance-of-new-passenger.
[21] International Organization of Motor Vehicle Manufacturers (OICA). 2022. Production statistics. Available at: https://www.oica.net/production-statistics/.
[22] Pavlínek, P. 2020. Restructuring and internationalization of the European automotive industry. Journal of Economic Geography, Volume 20, Issue 2, March 2020, Pages 509–541. Available at: https://doi.org/10.1093/jeg/lby070.
[23] Gross value added.
[24] Gáspár, S. et al. 2022. Automotive GVCs in Czechia and Hungary – a comparative analysis. Proceedings of the 2nd International Conference on Automotive Industry 2022. ŠKODA AUTO Vysoká škola o.p.s. ISBN 978-80-7654-046-0.
[25] Eurostat. Undated. Labour market statistics. Available at: https://ec.europa.eu/eurostat/web/main/data/database.

During the above-mentioned period, Czechia has built a very strong position as a car producer and its per capita production is just behind the number one, Slovakia[26]. Thousands of jobs were gained and the value added rose. However, this has also been driven by the relative increase in the imported value added in Czechia's exported products[27]. In other words, the share of domestic value added in Czech exports has been decreasing. Moreover, the structure of automotive jobs is inverted compared to Germany. While Czechia mostly has jobs connected to production, the higher value added jobs such as in the pre-production and post-production are in the home countries of the mother companies[28].

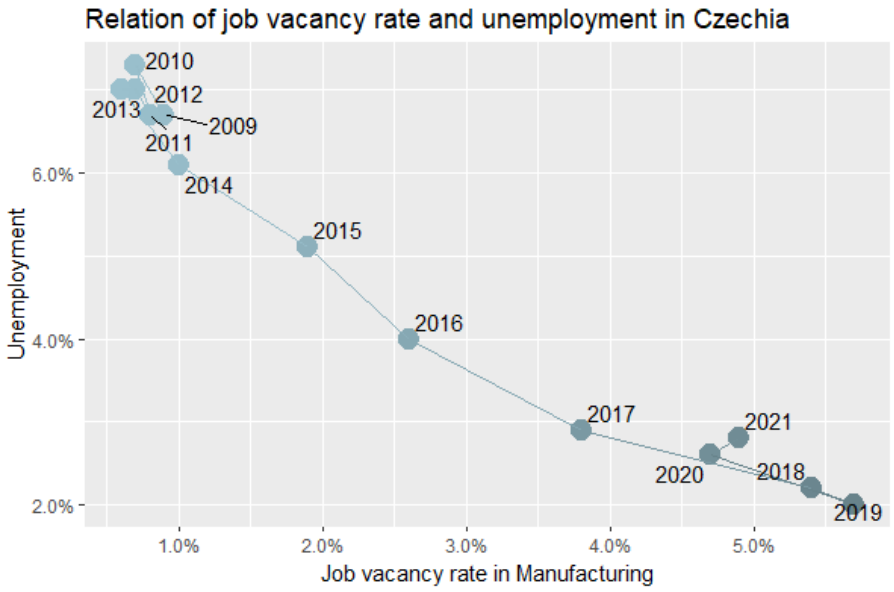

Figure 5: Unemployment rate compared to job vacancy rate in manufacturing[29]

Employment and value added aspects lead us to the notion of the battery industry and current circumstances in the global value chain. As the current ICEV-oriented production is foreseen to phase-out, new production must be phased-in to keep the jobs. Furthermore, if the new production, i.e. the battery production, with a potential of high value added is not phased-in within the domestic market, it could further decrease the content of domestic value added in products that are eventually exported. In other words, Czechia would end up importing high value-added batteries to assembly lines and exporting BEVs without adding much value domestically.

With the view of possible domestic battery production in the near future, job restructuring will play a crucial role in order to successfully complete the transition toward e-mobility production.

[26] Šaroch, S. (ed.). 2021. Automobilový průmysl v soudobé ekonomice – pozice, trendy a udržitelnost. ŠKODA AUTO Vysoká škola o.p.s. ISBN 978-80-7654-041-5.
[27] European Investment Bank. 2022. Recharging the batteries – How the electric vehicle revolution is affecting Central, Eastern and South-Eastern Europe. ISBN 978-92-861-5097-5.
[28] Stöllinger, R. 2021. Testing the Smile Curve: Functional Specialisation and Value Creation in GVCs. Structural Change and Economic Dynamics, 56, 93-116. Available at: https://www.sciencedirect.com/science/article/pii/S0954349X20304033.
[29] Eurostat. Undated. Labour market statistics. Available at: https://ec.europa.eu/eurostat/web/main/data/database.

Currently, the most recent study[30] with the view to 2030 shows a slightly positive impact (an increase of 2% from 330,000 to 335,000 jobs) on the total number of jobs in the automotive sector, including adjacent jobs. However, there will be a need for reskilling around 87,000 employees. 68,000 jobs will be shifted across different industry clusters. To be successful, this is preconditioned by many actions being taken right now with no further delays. Otherwise, Czechia will face a threat of "stranded people."

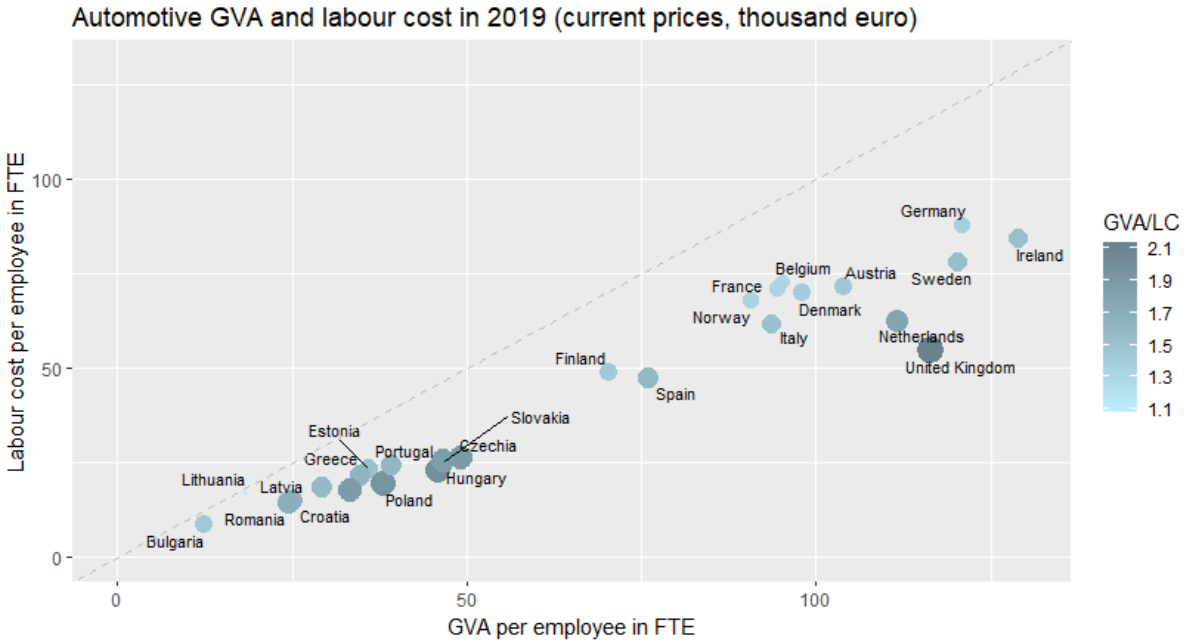

Figure 6: Division of European countries by automotive gross value added and labour cost[31]

As the first step, the „gigafactory" project must be successfully negotiated by the private sector and the Czech government. Then, requalification (reskilling) of current and upskilling of future employees must be carefully and conceptually supported by the Czech government, private sector and education sector. Last but not least, adjacent jobs and spill-over effect between the automotive industry and energy sector must be navigated conjointly[32].

A slightly positive impact on jobs can be found in a study focusing only on the supply value chain[33] (a slight increase from 40,000 to 40,100 jobs) with a view to 2040. Moreover, looking at the study estimating the impact of e-mobility transition in Slovakia[34], we can similarly find quite positive

[30] Boston Consulting Group (BCG). 2022. Czech Automotive Industry in Transition. Available at: https://www.europeum.org/data/articles/20220523-e-mobility-report-czech-rep-full-results-vupdated.pdf.

[31] FTE stands for full-time equivalent of employee. LC stands for labour cost. Eurostat. Undated. Structural business statistics. Available at: https://ec.europa.eu/eurostat/web/main/data/database.

[32] Boston Consulting Group (BCG). 2022. Czech Automotive Industry in Transition. Available at: https://www.europeum.org/data/articles/20220523-e-mobility-report-czech-rep-full-results-vupdated.pdf.

[33] CLEPA and PwC Strategy&. 2021. Electric Vehicle Transition Impact Assessment Report 2020 – 2040. Available at: https://clepa.eu/wp-content/uploads/2021/12/Electric-Vehicle-Transition-Impact-Report-2020-2040.pdf.

[34] GLOBSEC and Cambridge Econometrics. 2022. Slovakia Automotive Industry 2.0: The time is now to retool for the e-mobility era. Available at: https://www.camecon.com/wp-content/uploads/2022/03/AutoFocus-report-new-v2.pdf.

results on total employment with a successful transition preconditioned by domestic battery production.

Overall, these studies give strong evidence of the country's ability to keep both jobs and value added on the domestic market. Yet, negative scenarios in these studies exist, too. Therefore, the Czech government should assess critically the most necessary steps that are needed for local automotive transformation. Path-dependency of all the modelling studies is a crucial aspect to consider.

Creating the right environment

One of the most significant domestic factors for e-mobility transition is both the actual consumption of BEVs and the deployment of charging infrastructure. One has to keep in mind that although only 10% of produced cars are sold domestically and 90% are exported[35], the domestic market can still nudge the producers to focus on the production development in that specific region. Yet, from the perspective of OEMs, it will be crucial to always produce and export such vehicles that will be sold in their largest markets.

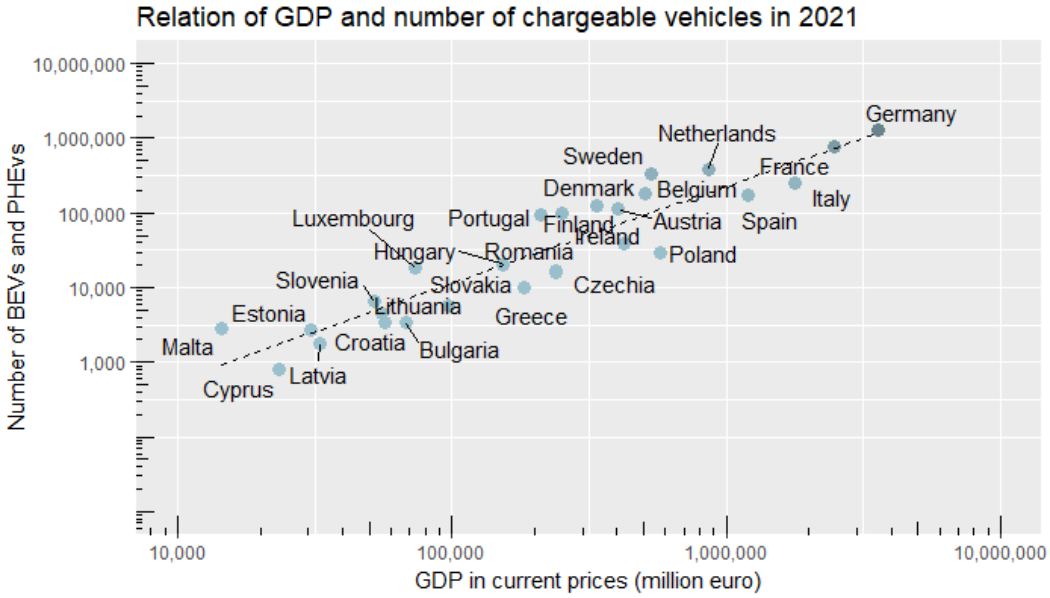

Figure 7: Relation of GDP and number of chargeable vehicles[36]

In the integrated periphery, including the V4[37] countries, e-mobility adoption is slower than in some northern or western European countries and this can be explained by two main factors. First, the adoption of e-mobility is influenced by the purchasing power of consumers, or, in general, by the wealth of the national economies (see Figure 7). Second, the same can be approximated for the

[35] Automotive Industry Association (AutoSAP). 2022. Výroba elektrických vozidel v České republice. Available at: https://autosap.cz/wp-content/uploads/2021/02/vyroba-a-odbyt-vozidel-1-12-2021.pdf.
[36] PHEVs stand for plug-in hybrid electric vehicles. European Alternative Fuels Observatory (EAFO). Undated. Road statistics. Available at: https://alternative-fuels-observatory.ec.europa.eu/transport-mode/road. Eurostat. Undated. National accounts statistics. Available at: https://ec.europa.eu/eurostat/web/main/data/database.
[37] Czechia, Slovakia, Hungary, Poland.

charging infrastructure; wealthier countries have denser networks of charging stations (see Figure 8). This leads us to the notion of the chicken & egg problem; what to support first, the adoption of BEVs across the country or the construction of charging infrastructure?

From the perspective of Czechia, as a strong transit country in close proximity to the western European countries, one might think that building the infrastructure is a precondition for a successful e-mobility transition. This can also be supported by the recent study on job restructuring[38], which takes into account the adjacent jobs connected to the new scope of automotive. As the study concludes, infrastructure connected to e-mobility will bring a net gain of around 6,000 jobs. Part of these jobs would be directly connected to the manufacturing of the charging stations.

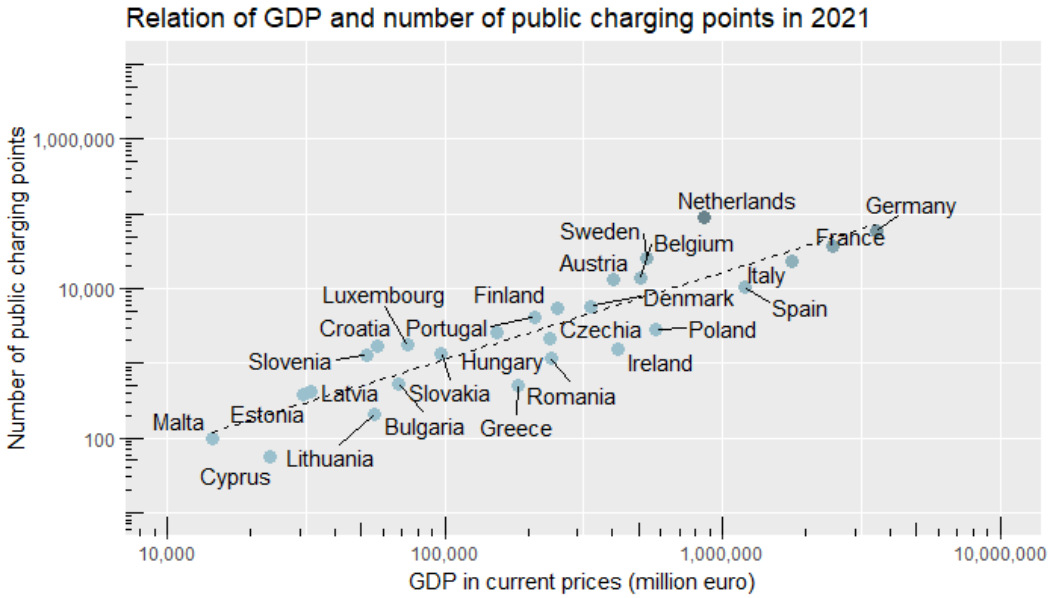

Figure 8: Relation of GDP and number of public charging points[39]

The government and the public sector should definitely strive for faster deployment of charging infrastructure. Yet, the private sector will also need to deploy its own private charging infrastructure, as it will need to comply with the foreseen ESG ratings[40]. As these ratings and non-financial reporting are becoming obligatory for most companies, the car fleet will be one of the aspects to monitor. Therefore, companies will need to shift toward e-mobility in a faster pace compared to households. This shift is already happening.

[38] Boston Consulting Group (BCG). 2022. Czech Automotive Industry in Transition. Available at: https://www.europeum.org/data/articles/20220523-e-mobility-report-czech-rep-full-results-vupdated.pdf.

[39] European Alternative Fuels Observatory (EAFO). Undated. Road statistics. Available at: https://alternative-fuels-observatory.ec.europa.eu/transport-mode/road.

[40] Environmental, Social, Governance; European Commission. Undated. Corporate sustainability reporting. Available at: https://ec.europa.eu/info/business-economy-euro/company-reporting-and-auditing/company-reporting/corporate-sustainability-reporting_en.

Need for (transition) speed

Looking at the current level of financial support, several sources of funding, including operational programmes, are targeting both infrastructure development and e-mobility adoption by the private and public sector[41]. However, one of the main financing opportunities, the Czech Recovery and Resilience Facility (RRF) plan, allocates relatively little finance to the automotive sector, compared to some other automotive-oriented economies. This is, however, the case for all V4 countries, where RRF-dedicated spending on automotive transition is rather low[42] (see Figure 9).

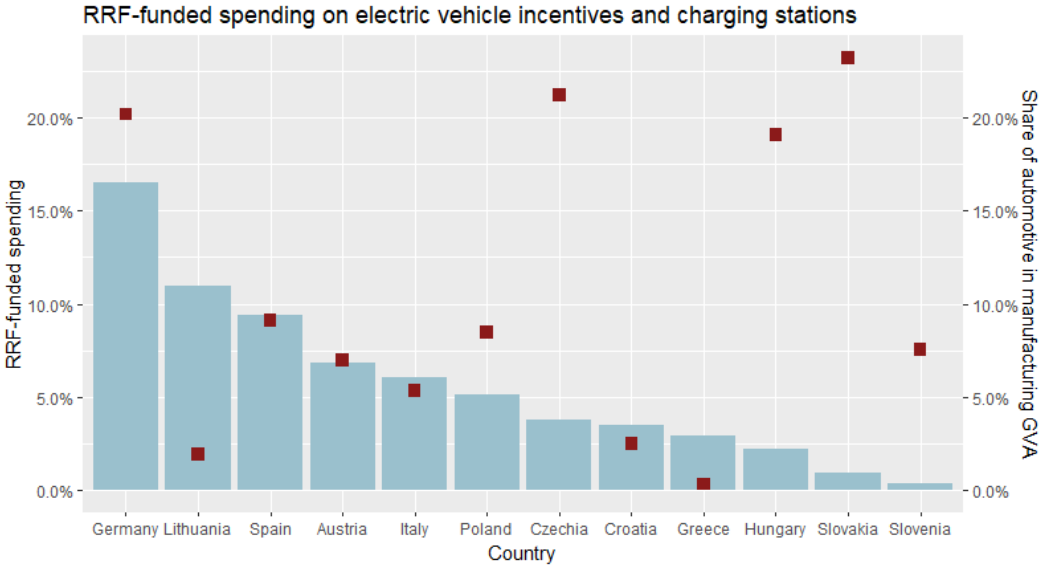

Figure 9: RRF-funded spending on e-mobility and share of automotive GVA[43]

Furthermore, Czechia is running a risk of delays in the planned implementation of many projects. There are not only delays in the actual opening of the respective funding calls, but also in the delivery times of many key imported components. Thus, when the whole EU looks for ways to deploy e-mobility, any further complication caused by COVID-19 or the ongoing war in Ukraine might halt the ambitions. For countries that are lagging behind the automotive transition, this could be especially damaging.

[41] Hrubý, M. 2022. The perspectives of the Czech automotive industry's decarbonization – an updated review. Available at: https://europeum.org/data/articles/2-policy-report-en.pdf.

[42] European Investment Bank. 2022. Recharging the batteries – How the electric vehicle revolution is affecting Central, Eastern and South-Eastern Europe. ISBN 978-92-861-5097-5.

[43] Share of automotive in manufacturing GVA in 2019 plotted by dots. RRF-funded spending excludes investments in road infrastructure, plotted by bars. European Investment Bank. 2022. Recharging the batteries – How the electric vehicle revolution is affecting Central, Eastern and South-Eastern Europe. ISBN 978-92-861-5097-5. Eurostat. Undated. National accounts statistics. Available at: https://ec.europa.eu/eurostat/web/main/data/database.

Conclusion

As the evidence shows, the Czech automotive sector stands on the edge of a vast transformation toward e-mobility and battery production. This transformation is led by the car manufacturers and not the national government. The general overview of the European automotive sector shows a diminishing share in global production, with structural shifts within the EU itself. The integrated periphery enjoyed the fruits of this transition so far, yet a slower rate of growth could be witnessed already before the spread of COVID-19. Now, the new emission standards are in place, and a proposal for even stricter emission standards is heading toward the trialogue discussion, with the endorsement from all the three main European institutions – the Commission, Council and Parliament.

Evidence shows that car and component manufacturers are ready for this transition, yet the support of the Czech government is a prerequisite for a successful shift toward e-mobility. The up-to-date studies on the job market and battery production send a clear message to the government to agree on the need for e-mobility transition. This could be achieved through tight cooperation of the public and private sector, as well as other relevant stakeholders, including the non-governmental sector. Furthermore, the upcoming Czech EU Presidency brings a unique opportunity for Czechia to back this transition, to navigate and finish the trialogue on the proposal for the revision of fleet CO_2 standards, as well as to work on the proposal for alternative fuel infrastructure.

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About Author

Michal Hrubý has a Master's degree in Economics from Škoda Auto University and is currently pursuing a Master's degree in Mineral Raw Materials at the VSB Technical University of Ostrava. His research focuses on green economics, decarbonisation of heavy industries and transport. He regularly contributes to renowned Czech media outlets. As part of EUROPEUM's climate team, Michal contributes to our efforts to base the public debate on relevant facts and information and to connect with and inform various stakeholders about the developments in the EU legislation.

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More about us

Contact

Web: europeum.org

Prague Office address: Staroměstské náměstí 4/1, 110 00, Praha 1

Tel.: +420 212 246 552

E-mail: europeum@europeum.org

Brussels Office address: 77, Avenue de la Toison d'Or. B-1060 Brusel, Belgie

Tel: +32 484 14 06 97

E-mail: brussels@europeum.org

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