

EUKI Project on the EU Climate Action Regulation

Hungary Report on the Decarbonisation of Transport

National Policy Recommendations to Meet 2030 Climate Targets

by Clean Air Action Group



Budapest, November 2018

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Hungary Report on the Decarbonisation of Transport – National Policy Recommendations to Meet 2030 Climate Targets

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It is the overarching goal of the EUKI to foster climate cooperation within the European Union in order to mitigate greenhouse gas emissions. It does so through strengthening cross-border dialogue and cooperation as well as exchange of knowledge and experience.

The information and views set out in this report are those of the authors and do not necessarily reflect the official opinion of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety.



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EUKI Project on the EU Effort Sharing Regulation

Hungary Report on the Decarbonisation of Transport

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by Clean Air Action Group

Budapest, October 2018

A) Political context

1) Relevant policy reform and discussions on climate, energy, and clean mobility

The government is already working on Hungary's National Energy and Climate Plan (NECP) in accordance with the draft EU legislation². At the same time, the new version of the National Energy Strategy³, adopted in 2011, is being prepared; the first draft should be ready by September 2018.

The Second National Climate Change Strategy⁴ was submitted to the Hungarian Parliament in May 2017, and the Parliament adopted it on 30 October 2018. According to this strategy, the CO_{2e} emission must be decreased by 52 to 85% until 2050 in comparison with that of 1990 (see Fig. 1).

 $\label{eq:linear} 1 \\ \underline{https://www.transportenvironment.org/what-we-do/effort-sharing-regulation/implementation-euki-project}$



² See: <u>http://www.consilium.europa.eu/en/press/press-releases/2018/06/29/governance-of-the-energy-union-council-confirms-deal-reached-with-the-european-parliament/</u>

³ http://2010-2014.kormany.hu/download/7/d7/70000/Hungarian%20Energy%20Strategy%202030.pdf

⁴ <u>http://www.parlament.hu/irom41/00385/00385.pdf</u>



Fig 1: CO_{2e} emission in Hungary according to the National Climate Change Plan⁵

The National Energy Strategy⁶, adopted by the Hungarian Parliament in 2011, states the following: "Increasing the share of electric (road and railway transport) and hydrogen-based (road transport) transport to 9 percent and that of the share of biofuels to 14 percent by 2030 serves the purpose of reducing the oil dependency of transport. In order to achieve that goal, it is essential to roll out the required infrastructure, primarily in the major cities, which may put Hungary on the European map of electric and hydrogen-powered transport. The electrification of transport may primarily be based on nuclear-generated power. The energy efficiency of transport is increased by strengthening the role of railway passenger and goods transport and the employing of modern traction technologies. The transition of community transport to locally generated fuels, meeting the sustainability criteria (second-generation technologies, biogas, hydrogen and electricity) will also contribute to the achievement of the Energy Strategy objectives."

The National Energy Strategy projected three scenarios for the total primary energy consumption and the energy consumption of transport (Table 1).

Year	2005		2020		2030		
Scenario	Fact	BAU	Effort	Green	BAU	Effort	Green
			Sharing			Sharing	
Transport	192	262	224	200	285	212	190
Total	1126	1349	1113	1059	1476	1147	1034

Table 1: Pr	imary energy	consumption	in Hung	ary as p	projected
	by the Nationa	al Energy Stre	ategy (P.	J)	

⁵ Ibid.

⁶ http://2010-2014.kormany.hu/download/7/d7/70000/Hungarian%20Energy%20Strategy%202030.pdf

On 15 June 2018 the Hungarian government adopted a Decision on the updating of the forecasts of the National Energy Strategy.⁷ The Decision provided new figures (Table 2).

Table 2: Energy consumption in Hungary as projected by the 2018 Government Decision onthe updating of the forecasts of the National Energy Strategy (PJ)

Year	2015	2020		2030	
Scenario	Fact	BAU	Effort	BAU	Effort
			Sharing		Sharing
Transport, final consumption	182	222	210	277	247
Total primary energy consumption	1055	1187	1110	1411	1217

N.B. Final energy consumption is about 32% less than final energy consumption.

Furthermore, the Decision states the following concerning transport⁸:

"In the case of the BAU Scenario:

- There will be no policy measures to reduce energy consumption and to enhance the development of electromobility.
- Energy consumption will be determined by the growth of GDP and income of the population as well as the motor vehicle fuel prices.
- Energy consumption will increase extraordinarily both on short term and long term.

In the case of the "Effort Sharing" Scenario:

- There will be effective policy measures to reduce energy consumption of road transport and to enhance the development of electromobility.
- Energy consumption will be determined by the growth of GDP and income of the population, and motor vehicle fuel prices as well as the increased efficiency of internal combustion engine vehicles, more efficient transport and the increased use of electromobility and other environment-friendly transport modes.
- Energy consumption will increase substantially both on short term and long term."



⁷ 1274/2018. (VI. 15.) Korm. határozat a Nemzeti Energiastratégia energiafelhasználás-előrejelzéseinek frissítéséről, <u>http://njt.hu/cgi_bin/njt_doc.cgi?docid=208881.355578</u>

⁸ CAAG's translation.

• The Action Plan for Improving the Energy Efficiency of Transport, 2013-2020 (2050)⁹, adopted in 2013, is projecting the trends shown on Fig. 2 concerning the use of various fuels in transport.



Fig 2: The projected use of various fuels in transport in Hungary

The Action Plan lists several measures to decarbonise transport. However, it states that until 2025 the main instrument for this purpose is to increase fuel-efficiency. (It foresees that later road pricing, intelligent urban planning and transport planning will also play an important role.) As the most important measure to increase fuel efficiency, the Action Plan urges an increase of the share of diesel cars, and calls attention to the fact that in Hungary the share of diesel cars is (in 2010) only 20% which is much lower than in most Western European countries. Another measure could be the increase of the share of biofuels. The Action Plan also mentions that the number of hybrid and electric cars might also increase.

According to CAAG, the measures described in the Action Plan were doomed to failure from its inception. Namely, it was clear from the beginning that economic growth and the growing income of the population will result in more cars purchased and more car-kilometers travelled which would in themselves annul any fuel efficiency improvements. Furthermore, it was completely clear already in 2013 that many Hungarians will import second-hand cars from the West. There were also clear signs that increasing the number of diesel cars in Hungary is not a good idea.

By now, the fuel consumption statistics (Fig. 3) conspicuously show how unfounded were the projections of the Action Plan: just in 4 years, between 2013 and 2016, the consumption of petrol increased by 19%, and that of diesel oil by 31%!

One can come to another important conclusion by comparing the changes in fuel consumption with the changes in GDP (Fig. 4). The correlation is clear: in the absence of other measures, if GDP grows, fuel consumption grows, too; and if GDP decreases (as it was the case



⁹ Közlekedés Energiahatékonyság-javítási Cselekvési Terv 2013-2020 (2050) (KEHCsT), http://docplayer.hu/493509-Nemzeti-kozlekedesi-strategia-nks.html

during the financial crisis), fuel consumption decreases, too. From all this, it should be evident for the decision-makers that the easiest and quickest way to decrease fuel consumption is to raise the price of each kilometer driven.



Fig 3: The consumption of petrol and diesel oil in Hungary (million litres)¹⁰



Fig 4: Hungary's GDP (2004=100)¹¹

¹⁰ Source: <u>http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=ten00095&plugin=1</u>

¹¹ Source: https://www.ksh.hu/docs/hun/xstadat/xstadat eves/i qpt001.html

Another strange measure foreseen in the Action Plan is the elimination of bottlenecks by increasing road capacity – in spite of all the evidence (including evidence in Hungary) that increased road capacity induces more traffic, hence more fuel consumption.

Several cities and towns already prepared (or are in the process of preparing) their local climate change strategy and their sustainable urban mobility plan (SUMP). However, these strategies and SUMPs are generally lacking concrete plans of actions with deadlines, so they are barely implemented.

It is an enormous challenge that the Hungarian economy greatly depends on the automotive industry, and this fact strongly influences the thinking in the government. The short-term interests of the automobile-makers are strongly reflected in the Hungarian comitology work in Brussels. On environmental and climate issues, in the European Council the Hungarian ministers' position is generally among the least progressive ones. ITT TARTOK.

Another main challenge, as mentioned above, is the huge import of second-hand cars from Western Europe, which has been growing tremendously during recent years (Fig. 5). This means, among others, that old cars in the EU are not being scrapped, but they only continue to pollute in the East instead of the West. This phenomenon is largely responsible for the fact that the average age of cars in Hungary has been growing constantly and substantially since 2006 (Fig. 6). There is a common expert opinion about the necessity to stop this trend. Several business associations, especially the Hungarian Vehicle Import Association, with which CAAG also established good relations on the topic¹², as well as the press often raise this the problem, but the government and the national transport authority so far has avoided appropriate measures.



*Fig 5: The number of new cars sold and the number of used cars imported in Hungary between 2007 and 2017*¹³

¹² <u>https://levegomunkacsoport.blog.hu/2016/04/21/regi auto ritkan jo</u>

¹³ Sources: <u>https://www.napi.hu/magyar_vallalatok/valtozas_elott_all_a_magyar_hasznaltauto-piac.652691.html</u>



Fig 6: The average age of passenger cars in Hungary (2002–2017)¹⁴

On the other hand, Hungary has far less cars per 1000 inhabitants than the EU average (Fig. 7). The number of cars per capita is the second smallest in the EU (after Romania). CAAG considers this a very positive asset.

http://www.automotor.hu/hasznalt-auto/iden-akar-750-ezer-hasznalt-auto-is-gazdat-cserelhet/

¹⁴ Source: <u>http://www.ksh.hu/docs/eng/xstadat/xstadat_annual/i_ode002.html</u>



Fig 7: The number of cars per 1000 inhabitants in the EU and several other European countries¹⁵



¹⁵ Source: <u>http://ec.europa.eu/eurostat/statistics-explained/index.php/Passenger_cars_in_the_EU</u>

CAAG considers it very important to include into the decarbonisation of transport not only CO2 reduction but also the reduction of soot (black carbon, BC) emission.

The website of the European Commission states the following: "Short-lived climate pollutants (SLCPs) are agents that have relatively short lifetime in the atmosphere – a few days to a few decades – and a warming influence on climate. The main short-lived climate pollutants are black carbon, methane and tropospheric ozone, which are the most important contributors to the global greenhouse effect after CO2. They are also dangerous air pollutants, with various detrimental impacts on human health, agriculture and ecosystems."¹⁶ As transport is a major emitter of soot, we deal with this issue, too, in our report.

2) Hungary's targets for 2020 and 2030 for renewable energy and transport decarbonisation

For 2020, Hungary is going beyond the ghg reduction targets imposed by the EU. However, this is due to the fact that these obligations are extremely weak, and practically do not oblige Hungary to reduce emissions any further than it has already done so. In fact, the European Climate Action Regulation (previously known as the Effort Sharing Regulation) adopted in May 2018¹⁷ sets a target for Hungary to reduce ghg emissions by 7% until 2030 compared to the 2005 levels. However, as Hungary has already reduced its ghg emission by much more than that, namely by 23% between 2005 and 2015¹⁸, it has the right to substantially increase its emissions compared to 2005 levels! Nevertheless, even taking into account these facts, it will be a challenge for Hungary to achieve the 7% reduction; namely, in the "business as usual" scenario, CO2 emission would increase by 31% reduction between 2005 and 2030.¹⁹

In 2014, the per capita CO_2 emission in Hungary was 4.3 tons, which is lower than the world average (5.0 tons), and much lower than the EU average (6.4 tons).²⁰

As far as transport is concerned, it is the only sector where CO_2 emission increased between 1995 and 2015; moreover, the increase was substantial: almost 5 million tonnes CO_2 equivalent which represented a growth of 65%, and it is projected to increase further. Although transport emission decreased in the aftermath of the financial crisis for some years, they quickly started to rebound: transport-related CO_2 emission increased by 12%, 9% and 2% in 2014, 2015 and 2016, respectively (in comparison with the previous year).²¹



¹⁶ <u>https://ec.europa.eu/clima/policies/international/paris_protocol/pollutants_en</u>

¹⁷ https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2018.156.01.0026.01.ENG

¹⁸ National Inventory Report for 1985-2016, Hungary. <u>https://unfccc.int/documents/65704</u>

¹⁹ See Table 1.

²⁰ <u>https://data.worldbank.org/indicator/EN.ATM.CO2E.PC</u>

²¹ National Inventory Report for 1985-2016, Hungary. <u>https://unfccc.int/documents/65704</u> <u>https://unfccc.int/sites/default/files/resource/hun-2017-crf-23oct17.zip</u>



Fig 8: Factual (until 2013) and projected trends of CO₂ emission in Hungary by sectors²²

As it can be seen on Fig. 8, transport is already the second biggest source of CO_2 emission, and it is rapidly becoming the biggest source; it's share is projected to greatly increase in the coming years. (The factual data on the figure end in 2013, so the curves do not reflect the increase after that year.) If one looks at a longer period, it can be seen that between 1985 and 2015, transport-related CO_2 emissions increased by 44%; however, the increase was not continuous – CO_2 emissions substantially decreased just after the political-economic changes of 1990 and also just after the financial-economic crisis of 2008. Overall, total CO_2 emissions have decreased rather continuously and very substantially during the last 40 years. With transport-related emissions increasing at the same time, the latter accounted already for 29% of all emissions (Fig. 9).

Within the transport sector, during the last 40 years the overwhelming majority of the CO_2 emission always originated from road transport, and this share has been rapidly growing: in 2015 it constituted already 98% of all transport-related CO_2 emissions (Fig. 10).

²² Source: <u>http://www.kti.hu/uploads/images/Trends-9/3--Environment/GT10_3-250.JPG</u>

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*Fig 9: Total CO*₂ *emission and transport-related CO*₂ *emission in Hungary between 1985 and 2015 (thousand tonnes)*²³



²³ Source: <u>https://unfccc.int/process/transparency-and-reporting/reporting-and-review-under-the-</u> convention/greenhouse-gas-inventories-annex-i-parties/submissions/national-inventory-submissions-2017



*Fig 10: Transport-related CO*₂ *emission in Hungary according to transport modes between 1985 and 2015 (thousand tonnes)*²⁴

²⁴ Ibid.



The Hungarian government is asserting that it has already surpassed its 2020 renewable energy target; however, in CAAG's opinion, the official data do not reflect the real situation.²⁵

CAAG could not get any concrete, numeric information from the government on its updated plans to decarbonise transport. CAAG was informed informally that such plans do not exist.

3) Hungary's bilateral climate/energy programs with other EU member states

We have information only about one bilateral transport program: the construction of a new railway line between Budapest and Belgrade. However, this new line, to be financed with a Chinese loan, would be extremely costly: according to some estimations the payback period would be 2400 years!²⁶ The European Commission launched an infringement proceeding concerning the project.²⁷

Several motorways leading to neighboring countries are under construction or being planned, but these will have a rather negative effect on the climate.

We have no information about any other climate/energy related bilateral transport programs. There are several bilateral programs for improving the electricity grid, which might contribute to better use of renewables, and thus contribute to the reduction of greenhouse gas emissions on the long-run by more reliance on electromobility.²⁸

²⁵ <u>https://www.levego.hu/en/related-documents/hungary-meets-its-renewable-obligations-by-burning-stolen-wood-and-waste-in-households/</u>

²⁶ <u>https://budapestbeacon.com/hungary-kicks-off-usd-3-6-billion-belgrade-budapest-rail-line-investment/</u>

²⁷ <u>https://budapestbeacon.com/ec-launches-infringement-proceeding-concerning-budapest-belgrade-railway-project/</u>

²⁸See, for example:

http://www.korkep.sk/cikkek/politika/2017/03/01/szijjarto-pozsonyban-2017-az-osszekottetesek-eve-2017-a-magyar-szlovak-kapcsolatokban

https://www.portfolio.hu/vallalatok/felujitjak-az-ukran-magyar-villamosenergia-tavvezeteket.276353.html https://www.portfolio.hu/vallalatok/magyar-vezetessel-egyesul-a-magyar-es-a-szerb-aramtozsde.275909.html

B) Measures to reduce emissions in transport

I. Modal Shift

1) Passengers modal shift

The current situation

Both the share and the volume of car transport has almost continuously increased during the past decades (Fig. 11). At the same time, the volume of public transport decreased only to a relatively slight extent. There was a setback during the years of the financial crisis, but since 2014, the share of car transport continued to increase at the detriment of public transport (Fig. 12). At the same time, the volume of public transport decreased only to a relatively small extent. The increase of car transport is projected to continue in the coming three decades (Fig. 13).

In 2016, cars accounted for nearly 70% of passenger land transport in Hungary (measured in passenger-kilometers); the share of buses was 22%, and that of trains 9.3%. The latest available figure for vehicle-kilometers is from the year 2009, according to which the cars performed 26732 million, and buses 663 million.²⁹ This proportion is certainly valid also for 2016, so we can conclude that while cars ride 40 times more than buses, cars perform only 3.2 times more passenger-kilometers than buses. Taking into account only these numbers, one can say that buses are on average 13 times more efficient than cars.



*Fig 11: Surface passenger transport performance by transport mode in Hungary between 1990 and 2013*³⁰



²⁹ Source: <u>http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=road_tf_vehmov&lang=en</u> (Motor vehicle movements on national territory, irrespective of registration country)

³⁰ Source: <u>http://www.kti.hu/uploads/images/Trends-9/4--Passenger/GT10_4-040.JPG</u>



Fig 12: Surface passenger transport performance by transport mode in Hungary between 2007 and 2016 (without tram and metro), % passenger-kilometers³¹



Fig 13: Trends of the passenger transport performance by transport mode in Hungary³²

CAAG's position

Even the current magnitude of car use is unsustainable both environmentally and economically in the long run; therefore, instead of the projected increase of car transport a wide range of measures should be taken to reduce car transport (see the following points). One of the most important tasks is to stop the import of second-hand cars. According to the EU legislation, this cannot be achieved by tax differention. (The Hungarian government already tried to address the problem by substantially raising the registration tax for imported second-hand cars, but the European Commission challenged this,³³ and the Hungarian government had to recede.) Therefore, according to CAAG, the only solution is to implement low emission zones and road



³¹ Source: <u>http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=tran_hv_psmod&lang=en</u>

³² Source: <u>http://www.kti.hu/uploads/images/Trends-9/4--Passenger/GT10_4-020.JPG</u>

³³ http://europa.eu/rapid/press-release IP-09-1643 en.htm

pricing. In a reply to CAAG's letter, the ministry responsible to transport agreed that this would be an appropriate measure.³⁴

2) Freight modal shift

The current situation

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During the last 25 years, road freight transport has been growing more or less constantly, while rail transport has practically stagnated (Fig. 14). The volume of waterway freight transport has remained relatively small, and it is not possible to increase it significantly due to geographical circumstances. The share of road transport in 2017 was 65%, and that of rail transport 19%, while pipeline transport was 12% and waterway transport was merely 3%.



Fig 14: Good transport performance by mode in Hungary (tkm)³⁵

Substantial further increase is projected for all modes until 2050, with road transport dominating by far (Fig. 15).



³⁴ https://www.levego.hu/hirek/2017/08/keritest-a-roncsautok-bevandorlasa-ellen/

³⁵ http://www.kti.hu/uploads/images/Trends-9/6--Freight/GT10 6-040.JPG



Fig 15: Hungarian freight transport by mode – projections to 2015³⁶

In recent years, interesting developments can be detected (Fig. 16 and Fig. 17): as measured in tonnes, between 2002 and 2017, national freight transport decreased by 26%, while international increased by 96%. During the same period, as measured in tonne-kilometers, national freight transport increased by 19%, and international by 153%! This means that the distance the products are transported increased to a much greater extent than the mass of the products transported.

³⁶ Source: <u>http://www.kti.hu/uploads/images/Trends-9/6--Freight/GT10_6-020.JPG</u>





Fig 16: The performance of freight transport in Hungary in tonnes³⁷



Fig 17: The performance of freight transport in Hungary in tonne-kilometers³⁸

National: http://www.ksh.hu/docs/eng/xstadat/xstadat_annual/i_odmv001.html International: http://www.ksh.hu/docs/eng/xstadat/xstadat_annual/i_odmv002.html Total: http://www.ksh.hu/docs/eng/xstadat/xstadat_annual/i_odmv003.html ³⁸ Ibid.

³⁷ Source:



Fig 18: Modal split of national freight transport in Hungary (thousand tonnes)³⁹



Fig 19: Modal split of national freight transport in Hungary (million tonne-kilometers)⁴⁰

³⁹ Ibid.

⁴⁰ Ibid.





Fig 20: Modal split of international freight transport in Hungary (thousand tonnes)⁴¹



Fig 21: Modal split of international freight transport in Hungary (million tonne-kilometers)⁴²

⁴² Ibid.



⁴¹ Ibid.



Fig 22: Modal split of total freight transport in Hungary (thousand tonnes)⁴³



Fig 23: Modal split of total freight transport in Hungary (million tonne-kilometers)⁴⁴

- ⁴³ Ibid.
- 44 Ibid.



More detailed characterisation of the modal split of freight transport can been seen on Fig. 18-23.

Hungary is characterised also by enormous traffic of trucks crossing the country. More than 50% of heavy trucks on Hungary's motorways are registered abroad.

Before the EU accession, Hungary had a well-functioning ROLA ("Rolling highway", i.e. the transport of trucks by train) system. The main reason for this was the fact that there were quotas for trucks registered outside the EU; if the number of trucks from a certain country surpassed the quota, a high fee had to be paid for the truck passing through Hungary. At the same time, the trucks carried by train were exempt from the quota. Thus, the introduction of the "transport without borders" system of the EU in 2014 resulted in a substantial decrease of the use of ROLA system, and the accession of Romania and Bulgaria in 2017 delivered a death blow to ROLA.

The track access charges for rail freight are quite high. This is one of the reasons why rail freight is little used for transport inside the country.

As mentioned above, there are projections by experts, but no concrete official targets concerning the growth of the different freight modes. The National Transport Infrastructure Development Strategy contains only very general hints about the necessity of creating an environmentally sustainable freight transport system, but there is no action plan for its implementation.

Some companies decided to go ahead with modal shift on their own. An outstanding example is one of the biggest companies in Hungary: thanks to the efforts of its logistics director, BorsodChem increased the share of rail transport of its products from zero to 70% within 3 years! Another example is Waberer's International, which recently bought 400 trailers, dedicated for transporting via railways.⁴⁵

CAAG's position

CAAG has been campaigning for the reduction of road freight transport on national level as well as for improving the conditions for rail freight transport (Fig. 24, Fig. 25).



Fig 24: András Lukács, President of CAAG hands over a special prize to István Papp, the logistics director of BorsodChem before the 240 participants of the Annual Conference of the Club of Logistics Directors of Big Companies in 2016



⁴⁵ http://www.waberers.com/en/press-room/latest-news/waberers-has-launched-new-intermodal-solution

CAAG has established good relations with the main organization of Hungarian hauliers, Hungarian Road Transport Association (MKFE), and with the organization of Hungarian logistics leaders of big companies, the Club of Logistics Directors (NLVKlub). Both MKFE and NLVKlub signed the two letters initiated by T&E on the CO2 emission reduction of trucks. We consider this a great victory, because Waberer's is the most important member of MKFE, and one of the biggest road transport companies in Europe, and also because NLVKlub has as its members logistics directors of many multinational companies operating also in Hungary.



Fig 25: Visit of CAAG and T&E to Waberer's International, the largest owned vehicle operator within the European international full truck load transportation segment

In 2012, CAAG was approached by András Horváth, an employee of the Hungarian Tax and Customs Authority (NAV) who told CAAG that the Hungarian government loses VAT revenue amounting to more than 3% of the GDP due to VAT fraud committed by big companies and related criminal chains. Moreover, he stated that this tax fraud was enabled by support from the highest government circles. He also said that a large part of the international truck traffic in Hungary has been due to heavy trucks which are moving with the sole or main purpose of covering up VAT fraud. (Later, this was confirmed by an official survey by NAV.) These heavy trucks have been causing enormous air pollution and noise, and have been ruining many roads. Several persons at CAAG spent several months (besides doing their everyday work) investigating the issue, studying documents, speaking with experts both in Hungary and other countries. (All this had to be done in a very confidential manner.) After a few months of work, CAAG became convinced that what András Horváth has been saying is true. Then followed months of preparation for disclosing the information to the public: documents were analyzed, press release and background materials were prepared and partly translated to English, potential allies were contacted. Finally, on 8th November 2013 CAAG organized a press conference where András Horváth who left NAV just one day earlier, disclosed his findings. This had an enormous press reaction, all the more so, because the government officials could not give proper explanation to journalists and Members of the Parliament. After the first press conference with András Horváth, CAAG organised and co-organised further events on the topic of VAT fraud and related corruption in the government. CAAG played an important role in getting two more whistle-blowers come public: István Vancsura, a former employee of the Hungarian Tax Authority (NAV), and Zsolt Hegedűs-Deme, a former director of NAV and then still its employee. Both of them confirmed what András Horváth said, and even provided more



evidence on the malfeasances in NAV and high government circles. Following these events, the government launched the Electronic Public Road Trade Control System (EKÁER)⁴⁶ on 1 January 2015 to combat the related tax evasion. CAAG created a special sub-website on the topic in English.⁴⁷

In order to make freight transport for railways more competitive, it is necessary, among others, to

- modernize the rolling stock,
- improve reliability,
- eliminate speed restrictions on railway lines,
- remove the unnecessary obstacles to creating side-tracks,
- make it easier to implement one-wagon transport.

II. Economic Instruments

3) Increasing fuel taxes

The current situation

Fuel prices in Hungary are lower than in most European countries.⁴⁸ Furthermore, fuel prices have become relatively much cheaper during the last four years, i.e. salaries increased much faster than fuel prices (Fig. 26, Fig. 27).



*Fig 26: The retail price of petrol 95 (orange; HUF/liter), and diesel oil (green; HUF/liter), and the net monthly salary (red; HUF)*⁴⁹



⁴⁶ <u>https://ekaer.nav.gov.hu/</u>

⁴⁷ <u>https://www.levego.hu/en/campaigns/vat-fraud-and-corruption-scandal</u>

⁴⁸ See: <u>http://www.europenroad.com/fuel/</u>

⁴⁹ Source: <u>https://www.portfolio.hu/vallalatok/tenyleg-olyan-draga-a-benzin-magyarorszagon-itt-az-igazsag.1.291714.html</u>



1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 Forrás: Portfolio-gyűjtés/KSH



Moreover, the real price of petrol was 9% less in 2017 than in 1996, and the real price of diesel oil was only 2.6% higher (Fig. 28, Fig. 29)



Fig 28: The real price of petrol in Hungary (1996=100)⁵¹



⁵⁰ Ibid.

⁵¹ Source: CAAG's calculations using the data from <u>http://www.ksh.hu/docs/eng/xstadat/xstadat_annual/i_qsf003a.html?down=1318.4000244140625</u> and <u>http://www.ksh.hu/docs/eng/xstadat/xstadat_annual/i_qsf001.html</u>



Fig 29: The real price of diesel oil in Hungary (1996=100)⁵²

However, increasing fuel taxes is quite difficult politically. Moreover, there is a danger of increased fuel tourism and even fuel smuggling, especially from outside the EU (mainly the Ukraine), which Hungary has been experiencing already for many years.

CAAG's position

CAAG has been in favour of increasing fuel taxes to some extent, but it would be much more efficient to implement a national road toll for all motor vehicles on all roads. CAAG prepared a proposal for the implementation of such a road toll in Budapest (see below).

4) Road charging on national level

The current situation

There is road charging on a large part of the 32,200-km national road network (Fig.). There is no road charging on the 169,000-km secondary road network.

There is a time-based (10-day, monthly and yearly) electronic vignette for cars on most of the motorway network.

For vehicles with a total permitted weight of over 3.5 tons, there is a distance-based electronic road toll on nearly 7000 kilometers of the road network (Fig. 30). This toll was introduced in 2013. The toll is differentiated according to the number of axles of the vehicle and to some extent according to the emission characteristics of the vehicle. (The price is the highest for Euro I or worse, it is lower for Euro II, and the lowest for all vehicles better than Euro II.)⁵³



⁵² Ibid.

⁵³ For further information, see: <u>http://www.toll-charge.hu/</u>



Fig 30: The Hungarian e-toll road network for vehicles with a total permitted weight more than 3.5 tons

CAAG's position

CAAG has been advocating the implementation of a road toll on all roads for more than 20 years, it has conducted several nation-wide campaigns on the topic⁵⁴ (Fig. 31). CAAG proposed that the toll should be levied on all motor vehicles, and it should depend on five factors:

- distance driven,
- environmental characteristics of the vehicle,
- maximum permitted total weight of the vehicle,
- time (e.g. different for peak hours and/or weekends),
- other special conditions (e.g. sensitive areas, congested roads).

As far as the road toll for trucks is concerned, CAAG presently advocates the extension of the electronic distance-based to all roads in Hungary, and a much stronger differentiation of the toll according to the emission characteristics of the vehicle.

⁵⁴ See, for example: <u>https://www.levego.hu/kamionstop/eng/indexe.html</u>



Fig 31: In 2006, CAAG had 300 billboards all over Hungary as part of its campaign for road toll for trucks

5) Urban road pricing

The current situation

Distance-based urban road pricing does not exist in Hungary. There is only an entrance fee at several zones for trucks in Budapest.

There is a resolution of the European Commission (DG Regio) the construction of the 4th metro line in Budapest will be supported from the European Structural Funds but as a part of the project, congestion charging must be implemented. The charging should have been implemented in 2014 (at the same time when the metro was put into operation), but so far this did not happen, the Budapest Mayor opposes it, and the government is reluctant to make the necessary legislative changes.⁵⁵

CAAG's position

CAAG has been advocating the implementation of an urban road pricing system in Budapest since many years. CAAG also made a concrete proposal for urban road pricing in Budapest,⁵⁶ and has discussed it with many experts. Practically all of them agreed with the proposal,

⁵⁶ <u>https://www.levego.hu/site/assets/files/5752/time to implement congestion charging in budapest 2015szept-2016dec12.pdf</u>

⁵⁵ <u>https://www.levego.hu/en/news/2018/07/unios-tamogatast-kell-visszafizetni-a-dugodij-elmaradasa-miatt/</u>

including the chief advisor of the Budapest Mayor and the CEO of Budapest Transport Centre (the Municipality company responsible for transport in Budapest).

6) Parking fees, parking restrictions

The current situation

The areas in Hungarian cities covered by parking fees and parking restrictions have been constantly growing during the last 25 years, but the fees are not high enough yet to eliminate the problem which consists of the fact that in many places more cars wish to park than there are available parking places. The national legislation on parking also limits the possibilities of local governments to raise parking fees.

CAAG's position

For many years, CAAG has been promoting stricter parking regulations (Fig. 32) CAAG has been proposing that the size of parking fees should ensure that at least 15% of the parking places are free at all times in the given area. CAAG has also demanded that no parking should be allowed on sidewalks, green surfaces, and several prominent areas (Fig. 33). CAAG also made detailed proposals for off-street parking.

Fig 32: CAAG's demonstration for a better parking system

*Fig 33: Picture from CAAG's video proposing to transform one of the most beautiful squares of Budapest from a parking lot into a park*⁵⁷

7) Company car tax reform

The current situation and CAAG's position

In 2006 and 2007, CAAG published a study on tax evasion and tax avoidance related to the purchase and use of cars.⁵⁸ The study was based on a financial audit of companies and used four methods to show how much tax is evaded by accounting the private use of cars as company use (both in the case of privately owned cars and company cars). This was not a new phenomena in Hungary, it has been widely known and acknowledged but this was first time that it has been fully reported. This form of tax evasion in Hungary accounts for a loss of state revenue equivalent to 3% of GDP, with some estimates putting this figure even 50% higher. There have been some changes in car taxation since 2007, but the tax revenue lost probably did not change substantially, it might have even increased. (Due to the lack of financing, CAAG could not update the study, however, in 2017 we made calculations on some concrete examples⁵⁹ by which it could be confirmed that the situation did not improve.)

Company car tax is levied at a relatively low rate, and having paid the tax, the car can be used for private purposes, too, without any limit. If a car owned by a private person is used for

⁵⁷ https://www.levego.hu/videok/parkolobol-park/

⁵⁸ <u>https://www.levego.hu/sites/default/files/kiadvany/allamhaz/szgk_adocsalas_osszefoglalo0605.pdf</u> https://www.levego.hu/site/assets/files/2079/adocsalas_0.pdf

Summary in English: <u>https://www.levego.hu/sites/default/files/szgk_adocsalas.pdf</u> More detailed description in English:

https://www.levego.hu/sites/default/files/social_balance_transport_hungary_20110131.pdf

⁵⁹ https://levegomunkacsoport.blog.hu/2017/04/20/tulzottan auto s barat adojogszabalyok

company purposes, the fuel costs plus an additional €0.05 can be paid per kilometre as a company cost (no personal taxes to be paid). It is not possible for the tax office to determine whether the car was used for company or private purpose. Therefore it is often the case that private use is reported as company use and kilometers driven declared as company use even when they haven't been made. This acts effectively as a tax free wage for the employee. All of this is a huge incentive for car purchase and car use but politicians are not willing not tackle the issue as it would prove to be very unpopular. Interestingly, the media have also failed to raise the issue probably due to the revenue they receive from car advertising.

Prices which do not reflect costs cause extremely expensive damage, undermine economic competitiveness, and greatly contribute to the deterioration of our health and environment. It is impossible to finance such a system in the long term – and so, sooner or later, it will collapse. Moreover, such a system is socially very unjust (Fig. 34). For these reasons, CAAG has been urging a thorough reform of car taxation.

In 2017, the Hungarian government was judged the "Dirty Tax Gift Award 2017" by CAN Europe for its car taxation system.⁶⁰

*Fig 34: The distribution of tax evasion by accounting private use of cars as company use in household income deciles in 2005*⁶¹

⁶⁰ http://www.caneurope.org/fossil-fuel-subsidies-awards/532-site-redesign/event/1302-ffsa-olov-2

⁶¹ Calculations by CAAG's experts on the basis of data of the Hungarian Statistical Office

8) Reform of the registration tax

The current situation

Registration tax must be paid on every private motor vehicle or motor cycle which is intended to be released into Hungarian circulation. The tax payment is due when a motor vehicle is installed into service. The tax is levied by the customs authorities and is determined as a lump-sum amount, depending on the size and the fuel of the engine, the environmental classification and the age of the vehicle.⁶²

The present environmental differentiation between environmental classes in itself would be sufficient to efficiently promote the purchase of more fuel efficient and less polluting cars. However, this effect is practically nullified by the fact that, the older the car, the lower the registration tax, which is an significant incentive to import older, more polluting cars.

CAAG's position

The registration tax is not differentiated sufficiently in order to better promote the purchase of more fuel efficient and less polluting cars. The problem is exacerbated by the fact that the older the car, the less is the tax. On the other hand, the possibilities of raising the registration tax are rather limited due to EU rules. CAAG has proposed to reform the registration tax as much as possible so that it better reflects the environmental characteristics of the vehicle.

9) Reform of the annual vehicle tax

The current situation

For passenger cars, the annual vehicle tax rate depends on the year of manufacture and the power of the car; for trucks and buses it depends on the weight of the vehicle. The tax varies between HUF 140 and 345 per kilowatt for passenger cars, and there is no vehicle tax on "environmentally friendly vehicles" (i.e. electric and hybrid cars). For buses and caravans, the tax is assessed on the basis of the kerb weight in the registry; for semi-trailers, twice the kerb weight plus a specific part of the maximum towable mass; and for goods vehicles, the kerb weight plus 50 percent of the payload for each 100 kilogram unit or part thereof and is levied at a rate of either HUF 850 or HUF 1 380.

CAAG's position

The annual vehicle tax constitutes a very small part of the taxes paid for motor vehicles. Therefore, and also for the sake of simplification, CAAG proposes to eliminate the annual tax if the nation-wide distance- and pollution-based toll will be implemented.

10) Environment-friendly infrastructure investments

The current situation

Since the EU accession in 2004, almost all transport infrastructure investments have been financed with EU money (with some co-financing from the Hungarian government).

⁶² https://www.acea.be/uploads/news_documents/ACEA_Tax_Guide_2018.pd

During the programming period 2007-2013, European Structural Funds financed the Transport Operational Programme (TOP) with HUF 2,542,448,345,409. From this sum HUF 1,255,848,083,681, i.e. nearly 50% was spent on road construction (from the latter, HUF 500,496,870,934 was allocated for the TEN-T network). From the Regional Operational Programmes, HUF 138,861,922,271 was spent on secondary roads and urban roads.

During the same period, the development of environment-friendly transport modes (railways, ports, bicycle paths) received HUF 1,346,309,888,306 from the Transport Operational Programme. From this sum HUF 670,898,656,193 was spent on the TEN-T railway network. From the Regional Operational Programmes (ROPs), HUF 29,771,870,799 was allocated for the development of public transport and bicycle paths.

There are no final data for the current (2014-2020) programming period. There are preliminary data about the Integrated Transport Operational Programme (ITOP) and the Connecting Europe Facility (CEF). Within ITOP, until 31 July 2018, the following sums were paid:

- First Priority ("Improve international road accessibility"): HUF 438,257,768,805

- Second Priority ("Improve international railway accessibility"): HUF 255,636,244,361
- Third Priority ("Developing sustainable urban and suburban transport"): HUF 180,421,477,748
- Fourth Priority ("Improving access to the TEN-T road network"): HUF 164,691,924,054

This means that out of the total sum of HUF 1,039,007,414,968, HUF 602,949,692,859, i.e. 58% was used so far for road construction.

From CEF Transport funding, until 31 July 2018, Hungarian beneficiaries received EUR 1.1 billion for 38 projects (the total investment for these projects is projected to be EUR 1.3 billion):

-Rail: 860 EUR million, 11 projects

-Road: EUR 132 million, 9 projects

-Inland waterways: EUR 84.8 million, 11 projects

-Air: EUR 4.6 million, 7 projects

In this case, as it can be seen, the overwhelming majority (80%) of the funding is allocated for railways. 63

CAAG's position

For many years CAAG has been urging that no EU money be allocated for road construction.⁶⁴ According to a common study⁶⁵ by the Institute for Transport Sciences in Budapest and CAAG, road transport receives a public subsidy (including environmental and health costs) equalling to up to 10 % of GDP (Fig. 35). Further subsidizing road transport

https://www.levego.hu/site/assets/files/5513/ec-op-ep-petition0710.pdf

⁶³ Sources:

TOP: <u>https://emir.palyazat.gov.hu/nd/kozvel/?link=umft_1_1</u>

ITOP: : <u>https://emir.palyazat.gov.hu/nd/kozvel/?link=eupr_eljarasrendi</u>

ROPs 2007-2014: https://emir.palyazat.gov.hu/nd/kozvel/?link=umft 1 1

 $CEF: \underline{https://ec.europa.eu/inea/connecting-europe-facility/cef-transport/projects-by-country}$

https://ec.europa.eu/inea/sites/inea/files/cefpub/eu investment in transport in hungary-ten-t days 2018.pdf ⁶⁴ See, for example: <u>https://www.levego.hu/sites/default/files/op-comments-caag-2014aug28v.pdf</u>

⁶⁵ The social balance of road and rail transport in Hungary. Institute for Transport Sciences, Budapest, 2010, <u>http://www.levego.hu/sites/default/files/social_balance_transport_hungary_20110131.pdf</u>

therefore is economically unsound and socially unjust: it leads to a waste of resources, and in fact punishes those most who benefit the least from such investments. Naturally, CAAG has not been asserting that there should be no further road construction. CAAG has asserted only that the user/polluter should pay for such investment, and not the EU taxpayer. In fact, in CAAG's opinion, funding road construction with taxpayers' money distorts competition and it is therefore incompatible with the internal market (Article 107 of the Treaty on the Functioning of the European Union⁶⁶); furthermore, it contradicts the polluter pays principle (Article 191 of TFEU).

Fig 35: Joint conference of the Hungarian Scientific Association for Transport and CAAG in 2011 presenting the study "The social balance of road and rail transport in Hungary"

11) Better use of EU funding

The current situation

It is a general opinion of many Hungarians that EU funding to Hungary has been used very inefficiently. A number experts even assert that EU funding has caused much more harm than good to Hungary.⁶⁷

CAAG's position

CAAG made concrete proposals in order to substantially increase the added value of EU funding. 68

⁶⁶ <u>https://eur-lex.europa.eu/resource.html?uri=cellar:2bf140bf-a3f8-4ab2-b506-</u>

fd71826e6da6.0023.02/DOC_2&format=PDF

⁶⁷ http://hungarianspectrum.org/2018/05/06/andras-lukacs-hungarian-experts-on-eu-funding-for-hungary/

⁶⁸ <u>https://www.levego.hu/sites/default/files/eu-budget_democracy_hungary_2015sept15-honlapra.pdf</u>

12) Green public procurement

The current situation

In 2011, the government issued a decree on the procurement of environment-friendly and energy efficient vehicles.⁶⁹ This decree, on the one hand, contains very progressive rules, but on the other hand, it is obligatory to take into account these rules only to a very small extent.

CAAG's position

Public bodies should set a good example, therefore the government decree should be modified so that its rules concerning the procurement of environment-friendly and energy efficient vehicles should be completely obligatory for all public procurements.

13) Incentivising local production and consumption

The current situation

There have been several initiatives on national and local level by various actors (civil society organisations, business groups, national government and local governments) to incentivise people to buy local products. However, these initiatives have been sporadic and quite limited, and thus with moderate results. In some cases such initiatives have not been climate-friendly (e.g. the government's campaign promoting the eating of more Hungarian pork).

CAAG's position

Consuming local products can reduce freight transport, so this should be promoted. At the same time, special attention should be paid to the environmental effects of such initiatives.

III. Sharing Economy

14) Car-sharing

The current situation

Car-sharing is already operating in Budapest, with three companies: GreenGo⁷⁰ (Fig. 36) and MOL Limo⁷¹ are free-flow with the VW UP cars (mostly electric), and Avalon⁷² is with fixed stations and a wide range of various cars and vans. All together, there are more than 500 car-sharing cars.

⁶⁹ 48/2011. (III. 30.) Korm. rendelet a környezetkímélő és energiahatékony közúti járművek beszerzésének előmozdításáról, <u>http://njt.hu/cgi_bin/njt_doc.cgi?docid=138364.313441</u>

⁷⁰ https://greengo.hu/

⁷¹ https://www.mollimo.hu/en/

⁷² https://www.avalon-rent.hu/

The position of the government and the Budapest Municipality on the promotion of carsharing is not clear: in some official documents, it is mentioned as good initiative to be supported, but in the practice not much is happening.

Fig 36: An electric car of one of the car-sharing systems in Budapest

CAAG's position

CAAG has been promoting car-sharing, and it has established good relations already with two of the three car-sharing companies in Budapest. CAAG is trying to make the government and the Budapest Municipality clarify their position on car-sharing.

15) Carpooling

The current situation

The number of carpooling users in Hungary has doubled each year during the last 10 years. More than 400,000 persons are registered on the most popular carpooling website, oszkar.com. However, it is used mostly in interurban traffic, and only to a very small extent in commuting. Besides oszkar.com, there are several other websites which offer car-pooling services.

There are also a number of cases, when people informally join to ride together, especially to and from the workplace, but there is no data on this type of carpooling.

CAAG's position

CAAG has been promoting carpooling (Fig. 37) CAAG has urged the Budapest Municipality to help the wider use of car-pooling by public awareness raising and by providing free places for short-time parking of car-pooling vehicles, but to no avail so far.

Fig 37: A picture from CAAG's film promoting carpooling⁷³

16) Bike-sharing

The current situation (bike-sharing)

Bike sharing systems have been implemented in several Hungarian cities. In one of them, Kaposvár, there is even an electric bike-sharing system.⁷⁴ In Budapest, the system called MOL Bubi (Fig. 38, 39) consists of 126 docking stations and 1,526 bicycles.⁷⁵ The Budapest Municipality plans to extend the system, and introduce also electric bike-sharing. There are also several companies operating dockless bike systems.

There is also a free-floating scooter-sharing system in Budapest operated by a private company, blinkee.city (Fig. 40).⁷⁶

⁷³ https://www.youtube.com/watch?v=wHQqQD1m

⁷⁴ https://cityebike.hu/kaposvar/

⁷⁵ https://molbubi.bkk.hu/a-molbubi.php

⁷⁶ https://blinkee.city/

Fig 38: Since its start in 2014, the BUBI bike sharing system became very popular.

Fig 39: Each day up to 150 persons use the bikes of this bike station which occupies the space of only two parking cars

Fig 40: A scooter-sharing vehicle in Budapest

CAAG's position

CAAG has been promoting bike-sharing and e-bike-sharing systems.

IV. Renewable Energy Use

17) Increasing the share of renewable energy

The current situation

The electric vehicle (EV) sector can reach its full potential only if its energy is supplied by renewable energy systems (RES). We can identify three categories:

- A. The EVs get power from the grid. In this case the renewable share is identical to the share of renewable power in the national electricity mix.
- B. The EVs get power from the grid, however, they buy green electricity at a premium price, originating from producers, who issue green certificates.
- C. The EVs get power from self-generation.

Case A is the typical case, and it will become decisive in the future when EVs grow in number and energy demand.

Case B is very rare. The owners of EVs regard themselves green without spending extra money on buying green certificates. They suppose that electric transportation is green in itself, even if the majority of energy comes from fossil fuel or nuclear power generation.

Case C occurs with the most climate-aware people. They think that electricity from their rooftops is good for sustainability and gives them some level of independence. These are typically better-off people, who do not stick to short payback times.

According to the official statistics, the share of renewable energy in gross final consumption was 14.2% in Hungary in 2016⁷⁷. However, the correctness of these statistics can be seriously questioned.⁷⁸ The share of various generation technologies in 2016 is shown in Fig. 41.⁷⁹:The share of RES in the gross final electricity consumption of 37.5 GWh was 7.2%⁸⁰. This is the lowest figure within 35 European countries, after Malta and Luxembourg.

Fig 41: The share of various generation technologies in renewable energy in Hungary in 2016

The share of renewable energy use in transport in 2016 was 7.2% (Fig. 42).81

77

http://ec.europa.eu/eurostat/tgm/refreshTableAction.do?tab=table&plugin=1&pcode=t2020_rd330&language=en http://mekh.hu/megujulo-energiaforrasok-felhasznalasanak-reszaranya-a-brutto-vegso-energiafogyasztason-belul ⁷⁸ https://www.levego.hu/en/related-documents/hungary-meets-its-renewable-obligations-by-burning-stolen-woodand-waste-in-households/

⁷⁹ Source: Hungarian Energy and Public Utility Regulatory Office, <u>http://mekh.hu/brutto-villamosenergia-termeles-megujulo-kategoriajanak-a-reszletezese</u>

⁸⁰ http://ec.europa.eu/eurostat/tgm/refreshTableAction.do?tab=table&plugin=1&pcode=sdg_07_40&language=en

⁸¹ <u>http://mekh.hu/megujulo-energiaforrasok-felhasznalasanak-reszaranya-a-brutto-vegso-energiafogyasztason-belul</u>

Fig 42: The share of consumption of renewable energy by sectors

The climate awareness of people in Hungary is rather low. Only a small fraction of the population knows the scientific basis. A large part of the population is poor (Hungary belongs to the poorest countries of the EU⁸²), and from people facing daily survival stresses, we cannot expect responsibility for the problems of the world. Among the better-off Hungarians, some care for the environment, but their high material consumption outbalances their green attitudes.

Concerning climate protection, the Hungarian Government does only what is unavoidably obligatory in the EU, and (together with some other Eastern European member states, especially Poland) has been regularly trying to water down the EU's climate and clean air plans and legislation. The scope of strategies applied by the Government includes voting in the Council against any ambitious climate regulation, provision of "smart" statistical data, and creating a discouraging environment for the investment and operation of RES. (More about that in the following.)

The most important producer of electric energy is the Paks Nuclear Power Plant⁸³, which produces more than 40% of the electricity in Hungary. The Government has already concluded a contract with the Russian government for the construction of new nuclear reactors in Paks⁸⁴ (in fact, the contract was concluded by Viktor Orbán in secret; even the majority of the members of the government had not been informed about it beforehand). The European Commission did not stop the project, although several controversial issues (selection of the

⁸² <u>https://dailynewshungary.com/hungary-almost-poorest-country-eu/</u>

⁸³ Official site: <u>http://www.atomeromu.hu/en/Lapok/default.aspx</u>

⁸⁴ https://www.power-technology.com/projects/paks-ii-nuclear-power-plant/

Russian supplier without competitive bidding, provision of state aid, etc.) have been raised. According to a study by the Corruption Research Center Budapest, the corruption risks of the investment are extremely high.⁸⁵

The second biggest producer of electricity is the Mátra Power Plant,⁸⁶ based on lignite, which produces about 20% of the electricity in Hungary. The Mátra Power Plant was purchased recently by Lőrinc Mészáros.⁸⁷ . (Lőrinc Mészáros is a gas-fitter and mayor of the small village of Felcsút where Viktor Orbán grew up. After Orbán came to power in 2010, the minor company of Mészáros and his wife suddenly started to get enormous orders from the government, almost exclusively funded by EU money. By now Mészáros is one of the richest persons in Hungary. In 2016, the most-read political daily newspaper in Hungary was bought and closed by Lőrinc Mészáros. This move came just after the newspaper published investigative articles about the corruption affairs of close associates of Prime Minister Viktor Orbán. Lőrinc Mészáros also bought the overwhelming majority of the regional newspapers and many other media which now echo only government propaganda.)

The overwhelming majority of the other power plants are gas-fired. The gas import from Russia has been under the control of businessmen close to Fidesz under quite suspicious circumstances.⁸⁸

All of the above might explain why the Government does not show any eagerness to help investments in RES. What might bring about a change, is the new climate regulation of the EU. According to the latest known versions, the member states will not have obligatory RES targets, however, their performance may not fall below the 2020 target figure. At the present the Hungarian renewable performance is based mostly on residential biomass use. The Government counts the combustion of illegal biomass, lignite, plastics, and various wastes as 'renewable heat production'. Probably it will not be possible to maintain this practice after 2020, and if the Government wants to replace it (under properly heavy pressure from the EU), it will have to develop renewable power generation, too, as the possibilities in renewable heat generation are limited.

At the moment biomass-to-power generation has the largest share (see the diagram above). The generators operate in the framework of the old feed-in tariff (FIT) system. The licenses will expire within 5-8 years, and the so called brown tariff offered by the new support system called METÁR, will be, in most of the cases, hardly attractive enough for continuing the operation. There are no new projects. The support that could be theoretically achieved by METÁR is too low. Furthermore, no competitive bidding (according to the state aid rules⁸⁹) has been organized by the Government yet.

A special tax ("environmental product fee") has been introduced on PV panels. A solar tax on PV electricity production has already been introduced, albeit its value is zero for the time being. There are some support schemes for PV, but they change so rapidly and unpredictably that this makes it impossible for businesses to do any proper planning.

Wind energy has been practically banned by the Government. Wind generation plants can only be implemented on a special license of the Government, and it is impossible to comply

⁸⁵ http://www.crcb.eu/?p=738

⁸⁶ Official site: <u>http://www.mert.hu/en/power-station</u>

⁸⁷ https://af.reuters.com/article/energyOilNews/idAFL8N1R9263

⁸⁸ http://hungarianspectrum.org/2015/06/22/the-great-fidesz-gas-theft/

⁸⁹ See <u>https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52014XC0628(01)&from=EN</u>

with the conditions of getting a license. In fact, no such licenses have been issued for more than 10 years.

Hydro and geothermal power production have only a negligible share today. Hydro generation could be theoretically increased by a new dam on the River Danube, however, this is apolitically and economically extremely sensitive issue. It is not on the agenda today. Moreover, such a plan would be protested by many, as a dam on the Danube would be very detrimental for the environment and the electricity produced by it would cost more than electricity from wind or solar power.

Solar power generation is developing and has good potential. There are, however, economic and technical limits. The economic limit is the limited amount of money the Government is willing to provide as operational support for the producers. The technical limit is the poor capability of the Hungarian grid to integrate weather-dependent generators. The necessary technical (network development, storage, etc.) and institutional (demand response, time-dependent tariffs, etc.) measures have not been initiated, yet.

The share of renewables in the Hungarian electricity mix is low and will not rapidly grow in the foreseeable future. The Government treats renewable energy as a burden and limits its action to the minimum required by the EU. More intensive growth could only happen, if the EU would introduce more ambitious requirements.

CAAG's position

According to several studies⁹⁰, there is a much greater potential for renewable energy in Hungary than its present use.

An informal coalition of NGOs and business groups involved in renewable energy has made concrete proposals to the government in order to enhance the use of renewable energy. CAAG is a member of this coalition and agrees with its proposals.

18) Electrification of transport

Although in 2015 the government has announced a national plan for the promotion of electromobility, progress has been slow. The deployment of charging stations and the creation of a unified market for the electricity used for e-cars has been progressing at a snail's pace. There are tax incentives for the purchase and use of e-cars and hybrid cars: no registration tax, annual vehicle tax and company car tax has to be paid for them. In Budapest, e-cars can park free of charge in public places.

2014.kormany.hu/download/9/87/70000/ESTRAT%20Gazdas%C3%A1gi%20Megval%C3%B3s%C3%ADthat% C3%B3s%C3%A1gi%20Tanulm%C3%A1ny.pdf

2014.kormany.hu/download/2/b9/30000/Meg%C3%BAjul%C3%B3%20Energia Magyarorsz%C3%A1g%20Meg %C3%BAjul%C3%B3%20Energia%20Hasznos%C3%ADt%C3%A1si%20Cselekv%C3%A9si%20terve%202010 _2020%20kiadv%C3%A1ny.pdf

⁹⁰ A Nemzeti Energiastratégia 2030 gazdasági hatáselemzése, <u>http://2010-</u>

Magyarország Megújuló Energiahasznosítási Cselekvési Terve, http://2010-

Erre van előre! Egy fenntartható energiarendszer keretei Magyarországon. Vision 2040 Hungary 1.2, http://munkacsy.web.elte.hu/ERRE%20VAN%20ELORE%201.2x.pdf

A fenntartható energiagazdálkodás felé vezető út, Erre van előre! Vision 2040 Hungary 2.0, http://munkacsy.web.elte.hu/ERRE%20VAN%20ELORE%202.1.pdf

The government supports the purchase of an electric car by 21% of the price (up to 1.5 million HUF), however, the total sum allocated for this purpose is enough for only about 1500 cars (it seems, that even this sum is too much, as there have been very few applicants for this support).

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There are two national organisations promoting electromobility: Jedlik Ányos Klaszter⁹¹ and Magyar Elektromobilitás Szövetség⁹².

The government is creating a very modern test track for vehicles in Zalaegerszeg where electric and self-driving cars can be tested and developed. ⁹³

CAAG's position

CAAG is an influential partner of Jedlik Ányos Klaszter. CAAG has been promoting so far mainly e-car-sharing, e-buses, electric light vehicles, and the purchase of electric vehicles by public instances (Fig. 43). In CAAG's opinion these should be the priorities of the Hungarian government, and it should not spend money on subsidising the purchase of e-cars for private persons as this subsidy is just a gift to a very few rich people without having any meaningful impact on the environmental and climate effect of transport.

Fig 43: Press conference in 2016 on the government's plans for promoting electromobility, organised by Evopro, a Hungarian company producing electric buses. On the picture from left to right: a foreign expert, István Lepsényi, State Secretary of the Ministry of National Economy, Csaba Mészáros, CEO of Evopro, János Ungár, President of Hungarian Electromobility Association, András Lukács, President of CAAG

⁹¹ http://jedlikanyosklaszter.hu/jedlik-anyos-cluster/

⁹² https://www.elektromobilitas.hu/

⁹³ https://zalazone.hu/en/

19) E-car-sharing

The current situation

In Budapest, GreenGo has 170 VW E-UP electric cars, MOL Limo (Fig. 44) has 100 VW E-UP cars. The Budapest Municipality provides free of charge parking for electric cars (all electric cars, not only car-sharing ones) which is an enormous advantage for e-car-sharing. (Although finding a free parking space is often a difficult task.)

Fig 44: Advertisement about e-car-sharing car in Budapest

CAAG's position

CAAG has been promoting electric car-sharing. In CAAG's opinion, one of the most important reasons for making e-car-sharing popular is to remove one of the main obstacles to using e-cars, i.e. the lack of information and lack of own experience. It is very important to provide dedicated free parking spaces with charging possibility for car-sharing e-cars, as lack of such parking spaces is one of the main obstacles to wider use of electric car-sharing.

20) Light electric vehicles

The current situation

Light electric vehicles are slowly gaining ground in Hungary both in passenger and freight transport, but their number is still relatively small.

CAAG's position

One of CAAG's main activities was the promotion of light electric vehicles (Fig. 45) for passenger and freight transport, and CAAG attained that Jedlik Ányos Klaszter included this

among its important topics. CAAG, together with Hungarian Cyclists' Club wrote detailed proposals⁹⁴ for the government for the promotion of light electric vehicles, and these proposals were subsequently sent to the Ministry responsible for transport by Jedlik Ányos Klaszter. The main proposals were the following:

- a. Introduce restrictions for the traffic of polluting motorcycles and scooters.⁹⁵
- b. Make it possible for the employers to pay a tax-free, kilometre-based contribution to those employees who travel to work by bicycle, including e-bikes.
- c. Make it possible for the employers to provide a bicycle (including e-bikes) tax-free for any use.
- d. Modify the legislation on land use and construction in a way that it stimulates the setting up of proper parking installations for bicycles, including electric ones.
- e. Implement a public awareness raising program for the use of electric bikes.
- f. Create a national system for the voluntary registration of bicycles, including electric ones.
- g. Modify the technical and traffic regulations related to electric bicycles.
- h. Eliminate those provisions of the legislation which unnecessarily prohibit electric cargo bicycles to enter certain places.
- i. Create the necessary conditions for the inclusion of electric bicycles into intelligent transport systems.
- j. Promote e-bike-sharing.
- k. Incentivise the use of electric bicycles among public employees.
- 1. Introduce urban road pricing in Budapest, and exempt from it electric two- and three-wheelers.
- m. Make cycling more pleasant and healthy by regular and strict control of the emission of motor vehicles.

 $\underline{https://www.levego.hu/sites/default/files/e-ketkerekuek_kormanyhatarozathoz_javaslat_2016jun22.pdf$

⁹⁵ Although scooters and motorbikes account for less than 1 percent of the traffic, they emit about 4 percent of PM. CAAG already proposed several times to the government and the Budapest Municipality to restrict the use of very polluting scooters and motorbikes. As a result, the Budapest Municipality prohibited the use of very polluting two-wheelers during episodes of extreme air pollution (smog alarms). However, CAAG considers this inadequate and continues to advocate the full prohibition of the use of such vehicles in Budapest.

⁹⁴ https://www.levego.hu/en/news/will-there-be-a-government-decree-on-electric-bicycles/

Fig 45: Picture from CAAG's film promoting the use of pedelecs⁹⁶

21) Electric buses

The current situation

A Hungarian company, Evopro, started to produce e-buses.⁹⁷ The Budapest Municipality purchased 20 of these buses. The passengers are satisfied with them, but, according to press reports, there are many technical problems with operating the buses, especially during cold winter days.

In 2017, the Chinese company BYD opened a factory in Komárom, Hungary for producing electric buses.⁹⁸

Mercedes-Benz is just starting to produce diesel buses in Debrecen⁹⁹, and according to press reports, it is planning to produce there also electric buses.

CAAG's position

CAAG has also done a lot of work for the promotion of electric buses (Fig. 46).¹⁰⁰ CAAG has greatly contributed to the above-mentioned fact that the Budapest Municipality purchased and put into operation 20 electric buses in public transport.

⁹⁶ <u>https://www.youtube.com/watch?v=DeGfDmyQkS8</u>

⁹⁷ http://www.modulo.hu

⁹⁸ https://cleantechnica.com/2017/04/05/byd-opens-bus-factory-in-hungary/

⁹⁹ <u>https://bbj.hu/business/itk-holding-to-start-production-of-mercedes-buses-in-spring_146080</u>

¹⁰⁰ See, for example: <u>https://www.levego.hu/en/news/first-step-to-a-hungarian-electric-bus-driven-future/</u>

Fig 46: CAAG calling for clean air on a BYD electric bus before the Parliament building in 2013

V. Administrative/technical measures

22) Ensuring priority of public transport vehicles in traffic

The current situation

During the last few decades important measures have been taken in several Hungarian cities to provide priority for public transport vehicles in traffic. For example, many bus lanes have been created in Budapest, and some traffic lights have been adjusted to provide priority for trams.

CAAG's position

CAAG has been urging to accelarate the measures for ensuring priority of public transport vehicles in traffic (bus lanes protected from other vehicles, adjusting traffic light to prefer public transport vehicles, etc.), and it had quite a number of success in this regard (Fig. 47).

Fig 47: CAAG's demonstration in 2003 for creation of a bus lane on the main bridge across the Danube in Central Budapest. The Municipality implemented the bus lane after the demonstration.

23) Modernisation of the public transport vehicles and tracks

The current situation

Quite a number of measures have been implemented, but they are still insufficient. Part of the bus fleet was modernised, but there are still many obsolete buses. Part of the railway rolling stock and the tracks have been replaced, but still a large part of the rolling stock is long due for replacement, and there are many "temporary" speed restrictions on various sections of the railway line.

There have been significant improvements on several suburban railway lines leading to the centre of Budapest, and as result, the number of passengers has increased significantly.

CAAG's position

For many years, CAAG has been promoting the modernisation of the public transport vehicles and tracks.

As far as railways are concerned, it is necessary to eliminate speed restrictions (i.e. speed limits lower than permitted when the line was constructed/reconstructed) must be eliminated as soon as possible, train delays must be substantially reduced, pricing should be fair and competitive with other modes, the old rolling stock must be replace with modern vehicles, their cleanliness and proper maintenance should be constantly ensured, and up-to-date services (e.g. wifi and tables suitable for working) should be provided.

24) Better maintenance of vehicles

The current situation

The maintenance of motor vehicles in Hungary is, in many cases, inadequate which often results in higher emissions.

Among others, many public transport buses operating in Hungary are obsolete, and emit a huge amount of harmful substances. Moreover, the lack of proper maintenance of the buses is making pollution even worse. In a number of cases, diesel fumes can be smelt even inside the bus.

CAAG's position

CAAG has been urging the government to take serious measures to improve the control and maintenance of motor vehicles. The government agreed that this is a serious problem, and announced that it will take the necessary steps, but in practice there has been no improvement.

In CAAG's opinion, public services should lead by example, so it initiated the stricter maintenance of Budapest public transport buses. CAAG made many measurements of the particle number (PN) concentration around and inside buses (these measurements were partly ordered from CAAG by the Budapest Transport Centre, BKK, a company of the Municipality).

According CAAG's measurements, within a distance of a few meters from the exhaust pipe of the bus, the PN concentration was, in many cases, up to 100 times higher than the background urban concentration. Inside some buses the PN concentration was up to 20 times higher than the background urban pollution. CAAG campaigned for the renewal of the bus fleet, for the use of particle filters on medium aged buses, and for better maintenance of the buses.

In 2015, CAAG agreed with BKV, the Budapest public transport company that it will forward them complaints from citizens, and BKV will then try to fix the buses concerned. Then CAAG made a call on Facebook (Fig. 48)and in the media to citizens asking them to report, if they smell exhaust fumes inside a bus. Until April 2017 CAAG received nearly 250 such complaints, and forwarded them to BKV. In almost all cases, within a few days after BKV received the complaint, they reported back to CAAG about the concrete repairs they made on the bus. In one case, BKV removed the bus from service for good.

ig 48: "What should you do, if you smell diesel fume in a bus?" CAAG's campaign on Facebook

25) Speed limitation

The current situation

The speed limits are similar to that of most European countries.¹⁰¹ In many residential and recreation areas speed limits of 30 km/h and even 20 km/h have been implemented in the last few decades.

CAAG's position

CAAG has proposed to the government several times that speed limits should be reduced outside inhabited areas, but this was refused by the government in spite of the fact that CAAG provided evidence that such a measure would substantially reduce the emission of CO2 and other harmful substances.¹⁰²

CAAG has been advocating introducing 30 km/h and 20 km/h zones on secondary roads in densely populated areas and recreation areas, because (as practice has proven) such a measure substantially decreases the emissions due to frequent acceleration and breaking which is characteristic in such areas. This idea has become quite popular and such zones have been implemented in many places all over Hungary, and their number is continuing (albeit slowly) to increase. CAAG has been proposing to speed up this process.

¹⁰¹ See: <u>http://ec.europa.eu/transport/road_safety/going_abroad/hungary/speed_limits_en.htm</u> ¹⁰² See, for example:

https://www.levego.hu/sites/default/files/kapcsolodo/energia-lassitas0807.pdf https://www.levego.hu/kapcsolodo-anyagok/vedd-az-eghajlatot-kozlekedj-lassabban/ https://www.levego.hu/sites/default/files/kiadvany/kozl_alt/iea_olaj.pdf

26) Low emission zones in cities

The current situation

The government declared that it supports the implementation of low emission zones (LEZs) in Hungarian cities. At the initiative of CAAG, it already published a guide for cities about the implementation of LEZs, furthermore the Ministry for National Development (the ministry responsible for transport) confirmed in a letter to CAAG that it supports the implementation of LEZs.¹⁰³ The implementation of LEZs is supported also by the fact that all Hungarian cities must prepare a sustainable urban mobility plan in order to receive EU funding. Several professional organisations, e.g. the Hungarian Association of Motor Vehicle Importers also support the idea, because this way the import of second-hand cars can be limited. Nevertheless, no low emission zone has been implemented so far in any Hungarian city.

CAAG's position

For many years, CAAG has been promoting the implementation of LEZs in Hungarian cities. CAAG is now preparing some innovative proposals which might make LEZs more attractive also for politicians.

27) Traffic calming

The current situation

In the last few decades traffic calming has been implemented on many urban and recreational areas all over Hungary (Fig. 49).

CAAG's position

For many years, CAAG has been promoting traffic calming both on main roads and secondary roads in populated areas and recreational areas. It has proposed for example that all roads except the main roads in Budapest should have a speed limit of 30 km/h.

Fig 49: Ráday street in central Budapest today. On one section of the street traffic calming was implemented a few years ago, the rest of the street remained without traffic calming

¹⁰³ https://www.levego.hu/en/news/fence-needed-against-the-immigration-of-old-cars/

28) Improving conditions for cycling

The current situation

Bicycles are quite widely used in Hungary, especially in the countryside. In Budapest, the number of cyclists greatly increased in the last few years mostly due to the activities of Hungarian Cyclists' Club.

Fig 50: Cyclist demonstration in Budapest with CAAG's sign in the background calling for clean air

CAAG's position

CAAG has been closely cooperating with Hungarian Cyclists' Club to improve the conditions for cycling (Fig. 50).

29) Improving conditions for walking

The current situation

During the past few decades, the conditions for walking in Hungary have improved in many locations. Quite a number of streets have been completely of partially pedestrianised, and car drivers pay much more attention to pedestrians than 30 years ago. At the same time, cars still dominate most of the streets, often even the sidewalks, causing an unpleasant environment for walking.

CAAG's position

For many years, CAAG has been promoting better conditions for walking.

30) Sustainable urban mobility plan (SUMP)

The current situation

Many cities, including Budapest¹⁰⁴, have a sustainable urban mobility plan (SUMP) as this is a pre-condition for receiving EU funds for transport developments. However, these SUMP are mostly too general, and they do not contain deadlines for implementation, nor concrete targets. Moreover, in a number of cases, investments are carried out in total disregard of the SUMP.

CAAG's position

The municipality of each city should prepare its SUMP in full accordance with the Eltis SUMP Guidelines¹⁰⁵, including concrete deadlines and targets. All transport developments should be in full accordance with the SUMP of the city in question.

31) Workplace mobility plan

The current situation

At CAAG's initiative, the government prepared a guidance for workplace mobility plans. Unfortunately, very few companies and institutions got interested in the topic, so there is still a lot to do in this regard.

CAAG's position

CAAG created a sub-website¹⁰⁶ on the topic, and has tried to convince several enterprises to implement workplace mobility plans – with little success. CAAG has also demanded that the national government and the Budapest Municipality promote workplace mobility plans.

32) Better organisation of urban freight transport, city logistics

The current situation

As far as urban freight transport is concerned, there are some exemplary initiatives, but there is still a long way to go. For example, according to some experts, CO2 emission of freight transport in Budapest could be reduced by as much as 50% just by better organization of transport and more use of cargo bikes.

In Budapest, an entrance fee for trucks has been introduced already in 1991, and it has been updated several times since then. The system regulates truck access differently to various parts

¹⁰⁴ <u>http://www.sump-challenges.eu/sites/www.sump-challenges.eu/files/bmt2016_eng_v3.pdf</u>

¹⁰⁵ <u>http://www.eltis.org/mobility-plans/sump-concept</u>

¹⁰⁶ <u>https://www.levego.hu/munkahelyi-kozlekedes</u>

of the city. However, the fee is relatively low, and the differentiation of the fee according to the type and emission characteristics of the vehicle is not sufficient. ¹⁰⁷

A Budapest freight transport strategy has been in preparation already for several years, but it is still not adopted by the Municipality.

CAAG's position

CAAG has been urging the adoption of an urban freight transport strategy, implementation of a distance- and pollution-based fee for trucks as well as promotion of the use of cargo bikes (Fig. 51).

Fig 51: An electric freight bicycle in front of the building where the 2016 Annual Meeting of the Hungarian Economic Association, probably the most prestigious professional organisation in Hungary, took place. The organisers of the event accepted CAAG's proposal for a presentation by an expert of the Hungarian Cyclists' Club about the use of e-bikes for freight transport.

33) Better land use planning

The current situation

During the last decades, land use planning barely met the requirements of a sustainable transport system. The investments attracting huge passenger and/or freight traffic were determined in practice mostly by the developers, the local governments and the national government only gave their approval. This resulted, among others, in urban sprawl which could not be efficiently served by public transport and led to hardly manageable car traffic flows. It also resulted in so-called logistic centres placed at locations which were far from optimal as far as freight transport is concerned.

¹⁰⁷ http://urbanaccessregulations.eu/countries-mainmenu-147/hungary/budapest

CAAG's position

During the past three decades, CAAG published several studies and many statements pointing out at the unsustainable land use in Hungary, and made concrete proposals for changing this situation.¹⁰⁸

34) Stricter smog alarms

The current situation

There is a general national legislation about smog alarm (measures to be taken at extreme air pollution), but it is obligatory only for cities with a population bigger that 200,000. Although only Budapest and Debrecen fall under this category, not only these two cities, but several others also also have their own local smog alarm legislation.

CAAG's position

Both the national and local legislation on smog alarm is rather weak. The concentration thresholds are too high, and the measures foreseen are insufficient to reduce air pollution quickly and substantially. CAAG completed a study comparing the smog alarm systems in several European countries¹⁰⁹, and proposes to reduce the thresholds and to introduce more effective measures during smog alarms. Besides reducing air pollution and protecting citizens' health, such a measure would also be very useful for raising public awareness.

VI. Intelligent Transport Systems

35) Communicating Intelligent Transport Systems (C-ITS)

The current situation

In words, the government has been promoting digitalisation, but in practice, progress is often unreasonably slow.

The traffic control centers have been modernised, and they generally function well (especially on the motorways), but there are still serious deficiencies in passenger information.

Public transport in Budapest is controlled by the semi-automatic system "FUTÁR", in which the dispatchers can intervene at amny time. The passengers are informed about the timetables and movements of the public transport vehicle through a mobile app and displays at many of the public transport stops and stations. Unfortunately, there are still deficiencies with the organisational background of the system, mostly due to the lack of necessary personnel and to some old habits.

¹⁰⁸ Almost all of them are in Hungarian, among them several ground-breaking studies. This study is in English: <u>https://www.levego.hu/sites/default/files/kiadvanyok/urban_reg_in_budapest.pdf</u>

¹⁰⁹ https://www.levego.hu/sites/default/files/smog_emergency_schemes_in_europe_201703.pdf

The attitude of the Hungarian transport policy can be characterised by the fact that during the planning of receiving the EU Structural and Investment Funds for the period 2013-2020, the programme concerned was named Intelligent Transport Operational Programme, but when it was finally approved the name was changed to Transport Operational Programme; accordingly, the investments were directed mostly to large infrastructure developments.

CAAG's position

For many years, CAAG has been urging the wide-spread use of ITS (also instead of increasing road capacity). CAAG has proposed the implementation of a "Position, Time and Distance" system in Budapest, i.e. an integrated public space use charging system, which would treat the use of roads (both moving and parking) in a unified, flexible system. CAAG has made concrete proposals for an integrated ITS for urban freight transport in order to eliminate unnecessary truck movements (for example, searching parking sites) and empty (or half-empty) runs.

36) National public transport system (unified, compatible timetables and tarifs)

The current situation

Hungary will be probably the last country in the EU to introduce an electronic ticket system for public transport, despite the fact that the passengers are prepared for it. (The biggest obstacle to the implementation of such a system is the lack of unified timetable and tariffs of the various public transport companies. For example, you have to buy a completely different ticket for a regional bus than for a train, i.e. you cannot transfer from the bus to the train with one ticket.) No website exists where a passenger could find all the necessary public transport connections he/she needs for a trip in which the services of two or more different public transport companies should be used. (In fact Google Maps provides such a service, but it is not complete.) The preparation of an electronic ticket system started in Budapest several times, but the tenders were always cancelled. Hungarian Railways is also planning to implement a system. So it is to be feared that even these two systems will not be compatible with each other.

CAAG's position

In cooperation with other NGOs, CAAG has urged the implementation of clock-face scheduling of public transport. CAAG has proposed the establishment of efficient regional contracting entities, which would order the services from the public transport companies in a way which would ensure efficient services in accordance with the unified national transport schedules. In contrast to the decision-makers, CAAG considers that the unified electronic ticketing system should not be owned by the state, but the state should commission a reliable company to implement it and receive a certain percent of the revenue. It is important to strictly ensure the privacy within the electronic ticketing system, including the possibility of anonyomous purchasing of the tickets. CAAG recommends to introduce an attractive, regressive tariff system for public transport. CAAG considers it necessary to reform the railway track charging tariff system.

37) Better traffic management

The current situation

Traffic management in cities has been relatively advanced already for many years (see, for example, Fig. 52). Recently, the use of GPS and related developments have influenced this to a great extent, among others by making it easier for drivers to plan their routes. However, there is still room for improvement also from climate aspect.

CAAG's position

The environmental effects of modern traffic management systems should be studied carefully, and modified in order to achieve the best results. For example, the present systems help drivers to avoid congested roads, but this often results in more traffic on other roads, and thus more emissions.

Fig 52: Kossuth Lajos utca – the street with the densest car traffic in the centre of Budapest. In the 1970's this street was characterised by enormous congestion during peak hours. Today, serious congestion does not exist on this street. The reason: traffic lights were adjusted in a way that they allow only as many cars that can pass without causing serious congestion. (In 1978 there were 820,000 cars in Hungary; in 2017 there were 3,470,000.)

38) On-road remote control of emissions

The current situation

The Ministry for National Development (the ministry responsible for transport) confirmed in reply to letters initiated by CAAG that it intends to implement on-road remote control of vehicle emissions. However, so far this has not been implemented.

CAAG's position

CAAG has been urging the government to implement on on-road remote control of vehicle emissions, because the regular and compulsory technical tests of the cars are not reliable and not frequent enough, and because cheating is quite widespread, including the removal or neutralisation of particle filters.

39) Eco-driving

The current situation

The government prepared a guidance on eco-driving and has done some promotion and experimentation. The teaching of eco-driving is also included in some drivers' courses.

CAAG's position

Much stronger promotion of eco-driving by the government is necessary. The application of electronic eco-driving assistance systems should also be promoted, especially for professional drivers.

VII. Horizontal measures

40) Strengthening the institutional background of sustainable transport

The current situation

The Action Plan for Improving the Energy Efficiency of Transport, 2013-2020¹¹⁰, adopted in 2013, states the following: "Another precondition is the creation of an organisation for the implementation of the energy efficiency programs. This is an area which is often neglected in Hungary, as it is considered a superfluous bureaucracy. However, the detailed elaboration of the development and support of transport energy issues needs a very serious technical, scientific work. For the elaboration of alternative methods, the cooperation of several professions is necessary, therefore already for this a well functioning coordinating organisation with highly qualified professionals is indispensible. After elaborating the detailed programs, there will be the serious tasks of acquiring the necessary EU and other financial sources as well as preparing the calls for applications and arranging the applications. A further task is to establish contact with business groups, energy providers, and to organise and coordinate their involvement. All these tasks cannot be implemented within the framework of the present state administration. The ministries and the authorities are not capable to fulfil these tasks, because they are not specialised on such work, and they do not even have the capacity for it."¹¹¹ Unfortunately, the situation did not change since the adoption of the Action Plan.

¹¹⁰ http://docplayer.hu/493509-Nemzeti-kozlekedesi-strategia-nks.html

¹¹¹ CAAG's translation

CAAG's position

The institution capacity of state organs dealing with sustainable transport should be enhanced substantially.

41) Better implementation of existing rules

The current situation

There are many laws in force which, if enforced, would greatly help in the decarbonisation of transport. However, too often, enforcement is lacking.

CAAG's position

CAAG has already written a number of position papers and studies with proposal to improve the enforcement of existing legislation.

42) Increasing transparency

The current situation

"Corruption remains a major concern. The perception of corruption in Hungary is higher than in the EU overall (11). The World Economic Forum ... identifies corruption as one of the most problematic factors for doing business in Hungary. As measured by Transparency International's Corruption Perception Index, Hungary's exposure to corruption appears to have increased over the past years... Risks of corruption could negatively affect the country's growth potential by distorting allocative efficiency in the economy. ... 56% of business representatives consider that corruption negatively affects the business climate in the country (EU average 37%), while 46% considered favouritism and nepotism a significant problem (EU average 38%)."¹¹²

CAAG's position

A substantial reduction of corruption is indispensible for achieving sustainable transport. Among others, due to corruption an enormous amount of money is wasted which could be used for environmental purposes, and even if the money is used for environmental purposes, it is often used in a wasteful manner.

A recent study of Transparency International Hungary, *Javaslatok a korrupció visszaszorítására Magyarországon*¹¹³ (Proposals for the Reduction of Corruption in Hungary)

¹¹² COMMISSION STAFF WORKING DOCUMENT, Country Report Hungary 2018, Accompanying the document COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN CENTRAL BANK AND THE EUROGROUP, 2018 European Semester: Assessment of progress on structural reforms, prevention and correction of macroeconomic imbalances, and results of in-depth reviews under Regulation (EU) No 1176/2011, {COM(2018) 120 final}, Brussels, 7.3.2018 SWD(2018) 215 final, <u>https://ec.europa.eu/info/sites/info/files/2018-european-semester-country-report-hungary-en.pdf</u>

¹¹³ <u>https://transparency.hu/wp-content/uploads/2018/01/Javaslatok-a-korrupci%C3%B3-visszaszor%C3%ADt%C3%A1s%C3%A1ra-Magyarorsz%C3%A1gon.pdf</u>

describes the measures which, if implemented, would eliminate most of the big corruption in Hungary. CAAG fully supports these proposals.

43) Raising public awareness

The current situation

It has been proven many times that raising public awareness is the most cost-efficient method to help reduce CO2 and other harmful emissions. Despite this fact, very limited resources have been spent on raising public awareness concerning transport and the climate, especially if compared with the resources spent on promoting road and air transport both with public and private money. For example, the total sum for raising awareness concerning air pollution in the budget of the ministry responsible for environment equals to about 150,000 EUR yearly. Even the sum spent for advertisements by a major car dealer is a hundred times more. Moreover, such car advertisements have an enormous further effect, because this way the car dealers often have a decisive influence on the media.

CAAG's position

One of CAAG's main activities is raising awareness about the effect of transport on air quality and climate (Fig. 53). For many years, CAAG has been urging that the government spend at least EUR 10,000,000 a year for raising public awareness concerning climate and air pollution.

Fig 53: CAAG's tent on Andrássy út, one of Budapest's main avenues, which was closed for motorized traffic for two days during the European Mobility Week 2017

44) Improving the conditions for environmental NGOs dealing with transport

The current situation

After the national elections in 2010, the conditions for environmental NGOs (as for many other civil society organisations, too) in Hungary have deteriorated substantially.¹¹⁴

Government funding to many NGOs has been substantially reduced, first of all to national NGOs which were capable of seriously commenting government documents. At the same time, there has been ample funding for "NGOs", which fully support the government (in many cases these "NGOs" were established by persons close to Fidesz).¹¹⁵

There have been many cases of harassment of NGOs by the government. This also frightens of possible private donators.¹¹⁶

Civil society representatives were excluded from a number of bodies where they had a seat earlier. The present government either directly denied their representation or substituted it with false representatives.¹¹⁷

It has become much more difficult for NGOs to make their voice heard. Their opinion appears in the press (especially in the television and radio) much less than before 2010. This is partly due to the reduced capacity of the NGOs, but mainly to the fact that the overwhelming majority of the media is dominated by the government or persons close to the government, and these do not tolerate voice critical of any measures by the government.¹¹⁸

The government's replies to the NGOS' questions and comments are generally vague and lacking substantive information. Quite often no reply is given at all.

CAAG's position

As environmental NGOs can play a serious role in promoting the decarbonisation of transport, their situation should improved so that it reaches at least the 2009 level.

45) Enhancing R&D for sustainable transport

The current situation

Among the 28 Member States, Hungary ranks 16th as far as gross domestic expenditure on R&D (%, relative to GDP) is concerned. However, according to the European Innovation Scoreboard, Hungary ranks only 21st.¹¹⁹ The difference is partly due to the fact that Hungary's GDP is much lower than the EU average. The other reasons are the low efficiency of the money

 ¹¹⁴See, for example: <u>https://www.usaid.gov/sites/default/files/documents/1866/CSOSI_Report_7-28-17.pdf</u>
¹¹⁵See, for example: <u>https://english.atlatszo.hu/2017/06/21/huge-donation-from-state-coffers-for-the-governments-favorite-ngo/</u>

¹¹⁶ See, for example:

https://www.policysolutions.hu/userfiles/elemzes/265/political_discrimination_in_hungary.pdf ¹¹⁷ See, for example: <u>https://www.levego.hu/en/key-themes/legal-affairs/</u>

¹¹⁸ See, for example: <u>https://freedomhouse.org/report/freedom-press/freedom-press-2017</u>

¹¹⁹ https://ec.europa.eu/docsroom/documents/30281/attachments/1/translations/en/renditions/native

spent on innovation and the especially high level of corruption in innovation activities¹²⁰ in Hungary. All this affects also R&D related to transport.

Often there is even a lack of necessary data for climate and energy plans. There are practically no studies on the climate/energy impact of any of the measures proposed in the points above.

CAAG's position

The government should take the necessary measures so that Hungary scores higher on all indicators of the European Innovation Scoreboard. Research on sustainable transport should be strengthened. The necessary databases for climate/energy planning and indicators should be created.

VIII. Activity in the European Council

46) Alliance with progressive governments

The current situation

The Hungarian government could greatly help the progress towards an environmentally sustainable transport system by joining the most progressive governments in the EU in this regard. However, so far just the opposite has occurred: on environmental and climate issues, in the European Council the Hungarian ministers' position is generally among the least progressive ones.

CAAG's position

CAAG has written letters to the government on many occasions, when air pollution and/or climate issues were to be discussed in the European Council, asking that the Hungarian government support the most stringent regulations. For details see the T&E study "Emission reduction strategies for the transport sector in Hungary – A report produced under the framework of the EUKI Project" (especially the Chapter "Policy Recommendations").¹²¹

¹²⁰ See, for example: <u>https://index.hu/gazdasag/2018/03/29/olaf koltsegvetasi csalas gop projekt innovacio k f/</u>

¹²¹ <u>https://www.transportenvironment.org/what-we-do/transport-climate-targets/publications</u>

C) Political acceptability of the proposed measures

The political acceptability of the proposed measures greatly varies. In Table 2 we ranked these measures from 10 to 1, with 1 being the most likely to be accepted by the present political leaders.

No.	Measure	Political acceptability
1)	Passengers modal shift	4
2)	Freight modal shift	4
3)	Increasing fuel taxes	9
4)	Road charging	7
5)	Urban road pricing	5
6)	Parking fees, parking restrictions	5
7)	Company car tax reform	4
8)	Reform of the registration tax	8
9)	Reform of the annual vehicle tax	8
10)	Infrastructure investments	5
11)	Better use of EU funds	10
12)	Green public procurement	7
13)	Incentivising local production and consumption	8
14)	Car-sharing	3
15)	Carpooling	3
16)	Bike-sharing	2
17)	Increasing the share of renewable energy	7
18)	Electrification of transport	4
19)	E-car-sharing	4
20)	Light electric vehicles	4
21)	Electric buses	4
22)	Priority of public transport vehicles in traffic	2
23)	Modernisation of the public transport vehicles and tracks	5
24)	Better maintenance of vehicles	5
25)	Speed limitation	7
26)	Low emission zones in cities	4
27)	Traffic calming	3
28)	Improving conditions for cycling	3
29)	Improving conditions for walking	6
30)	Sustainable urban mobility plan	8
31)	Workplace mobility plan	2
32)	Better organisation of urban freight transport	5
33)	Better land use planning	9
34)	Stricter smog alarms	5
35)	Communicating Intelligent Transport Systems (C-ITS)	3
	National public transport system	3
37)	Better traffic management	4
38)	On-road remote control of emissions	3
39)	Eco-driving	2

Table 3: Political acceptability of the proposed measures in CAAG's opinion

40)	Strengthening the institutional background	9
41)	Better implementation of existing rules	7
42)	Improving transparency	10
43)	Raising public awareness	7
44)	Improving the conditions for environmental NGOs	10
45)	Enhancing R&D for sustainable transport	5
46)	Alliance with progressive governments	9

