

# KlarText



Taxpayers Association of Bavaria



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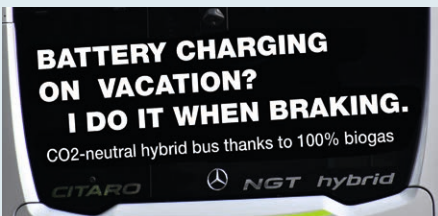
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Michael Jäger, Vice President

## EU directive wasting billions and degrading the environment

Dear members,

It all started with television journalist Christoph Arnowski's alarming answer to the question: "Is electric mobility the solution?" In this special edition of Klartext, contributors from the worlds of research, daily practice – especially at the city of Augsburg's municipal utilities – but also politics, business, media and the Taxpayers Association of Germany address the catastrophic consequences which the Clean Vehicles Directive (CVD) is having for cleaner and more energy-efficient vehicles. Before the directive was adopted by the EU Parliament, a unilateral decision in favor of electric mobility was reached in what is called the "trilogue," a kind of conciliation committee behind closed doors. The directive thus not only casts doubt on adherence to the mobility turnaround principle of unbiased promotion of technology, in Augsburg it is endangering the city's model project involving climate-neutral biomethane buses. Since 2011, Bavaria's third-largest public utilities company has been the only urban transportation provider in Germany with a bus fleet powered 100 percent by biogas. It is important to understand that the acquisition costs of just one of the electric buses favored by the EU and the German federal government currently ranges from €700,000 to €800,000 – twice as much as a gas-powered bus. Added to these costs is the highly complex and expensive infrastructure needed for charging the electric buses. Augsburg's buses run on biomethane because it powers the most sustainable and best-possible ecological drive type currently available. This technology has been proving itself a mature, field-tested choice in everyday service for many years. And most important is the fact that biomethane is CO<sub>2</sub>-neutral. The biomethane fuel used by Stadtwerke Augsburg is locally and sustainably produced – it doesn't require competition between the dinner plate and the fuel tank. With the incredibly high funding of over €300,000 for each electric bus, the EU and Germany's federal government are squandering billions upon billions of tax revenue – a devastating balance sheet for taxpayers and the environment. Meanwhile, Regine Günther, who the Greens appointed as Berlin's Senator for Transport, procured 30 electric buses for €18 million. The bus heating and air conditioning systems still run on diesel fuel. The EU's preference for electric buses, yet another scandal at the taxpayer's cost, gives the Taxpayers Association of Germany ample reason to commission experts to review the arrangements made in the trilogue, the information made available to the EU Parliament for its vote, and not least the scale of the resulting waste of taxpayers' money, including its possible illegality. There is flexibility in the process of transposing the directive into national law, and the Taxpayers Association of Germany is now calling for it to be used to also recognize as emission-free the climate-neutral biomethane buses like those on the road in Augsburg. Instead of forcing a drive type chosen on the basis of an ideology, the energy turnaround can succeed only if all available options are on the table.

Yours sincerely,

Michael Jäger, Vice President



Since 2011 the 90 buses operated by Stadtwerke Augsburg (Augsburg municipal utilities) have been running efficiently, free of malfunctions and climate-neutral with biomethane, while electric buses are not yet suitable for uninterrupted daily service. Today, one electric bus costs between €700,000 and €800,000, about twice the cost of a gas-powered bus. Other factors are the highly complex and costly infrastructure for charging electric buses, explained experts including representatives of Stadtwerke Augsburg in a talk with the Bund der Steuerzahler (Taxpayers Association of Germany). From left to right: Rolf Baron von Hohenhau, President of the Taxpayers Association of Germany of Bavaria, who is also President of the Taxpayers Association of Europe, who pledged full support through the association's policies; Klaus Röder, authorized representative of and fleet manager at Stadtwerke Augsburg, and Daniel Strohschneider, engineer in charge of the bus service workshop at Stadtwerke Augsburg Verkehrs-GmbH. *Photo: Maier*

## *EU Clean Vehicles Directive puts Augsburg's fleet of climate-neutral biogas buses at risk*

*“Now the task is to ensure coherent, environmentally effective transposition into national law.”*

*By Klaus Röder*

The EU Clean Vehicles Directive has been adopted. It endangers unbiased approaches to technology and threatens Stadtwerke Augsburg's successful project with climate-neutral biomethane buses. The one-sided decision in favor of electric buses is impeding and thwarting the ecologically optimized drive concept based on biomethane, a proven technology for many years.

Starting from the date on which the directive is transposed into German law (expected in mid-2021), “clean vehicles” will have to make up 45 percent of bus purchases by 2025. Beginning in 2025 and by the end of 2030, this quota will be increased to 65 percent. Half of these quotas will have to be fulfilled with emission-free

buses. Only electric buses or hydrogen fuel cell-powered buses are considered emission-free buses. Climate-neutral buses that run on biomethane are not assigned this designation. Stadtwerke Augsburg is thus being forced to gradually purchase electric buses and give up its successful and ecological program with biogas buses that has proven itself for many years.

Stadtwerke Augsburg uses biomethane fuel basically because it is the best, most ecological and most sustainable drive type available today. This technology was mature and proven years ago. Biomethane is CO<sub>2</sub>-neutral, produces minimal nitrogen oxides in operation, and particulates are also not a factor. Biomethane is not pro-

duced from food crops, but rather – as for Stadtwerke Augsburg – locally and sustainably from agricultural waste, such as straw, windfall wood and logging remains, or residual materials from farming. So there is no competition between the dinner plate and fuel tank, so to speak. Or biomethane is synthetically produced from surplus volatile renewable energies like solar and wind (power-to-gas). That also solves a problem posed by the energy turnaround, which calls for storing surplus solar and wind power to use as an energy source when the energy – also in the form of fuel for vehicles – is needed. Some of the biomethane used comes from the waste management and recycling company Abfallverwertung Augsburg (AVA). The 90 buses op-

erated by Stadtwerke Augsburg have been running on biomethane since 2011 – efficiently, free of malfunction and climate-neutral.

Electric buses aren't more ecological. Taking into consideration the overall ecological footprint – comprising production of the batteries and buses, supplying the energy needed, and the drive mode – biogas buses are significantly more sustainable in operation. Today electric buses are more than questionable in environmental terms, above all due to their batteries. The raw materials they require are extracted under alarming ecological and social conditions, for example lithium in South America with its long-term negative impacts on the environment, or cobalt mining in the Democratic Republic of the Congo under sheer inhumane conditions and using child labor.

And electric buses are not yet suitable for uninterrupted daily service. Due to their high battery weights and short range, they repeatedly need to be sidelined for charging or taken out of service to be charged and replaced by charged buses. This requires more vehicles and more drivers, which drives up costs. In winter and summer, when heating or air-conditioning systems have to run, the vehicle range drops dramatically. This is why some electric buses have diesel-powered auxiliary heating installed. Furthermore, if the power for the electric vehicles is not generated

exclusively from renewable sources, biomethane has the advantage anyway.

One electric bus currently costs twice as much as a gas bus, with a price tag between €700,000 and €800,000. With the incredibly high funding of over €300,000 for each electric bus, a big price increase is already evident, so a competitive advantage for electric buses in the medium term is nowhere in sight.

Finally, the infrastructure for charging the electric buses is highly complex and costly. If the Stadtwerke Augsburg bus fleet was switched to electric operation, a dedicated power plant would have to be built to prevent electricity blackouts nearby in the city. The total costs for the necessary charging infrastructure – with corresponding services for buses in the depot and the service workshops, but also decentralized at terminus points – are estimated at €30 million. This high investment cost and the complex parallel operation of two systems would exhaust funding for the urgently needed expansion of public transit. Lastly, this also would result in higher prices for bus fares.

Also ludicrous is the fact that an electric bus is funded with over €300,000 from tax revenue, but only €10,000 of funding is allocated for a biomethane-powered bus, even though the biomethane bus has a better overall environmental balance. This

is where one must ask if tax revenue is being used correctly.

At this point in time, electric buses are not the state of the art. With an entirely new battery technology (e.g. solid state batteries) that may change. But it will be quite some time before the weaknesses are eliminated. Also in the long term, we would be wise to not rely solely on the electric drive, but instead view technologies without bias and promote other proven and ecological drive types like biomethane. Public discussion of the issue is again gaining momentum, at least in Germany. A good number of people are critical of the directive, and Augsburg is cited as a prime example of an environmentally friendly bus fleet beyond e-power.

Stadtwerke Augsburg expects the transposition of the EU directive into German law to specify that the quotas will apply at the national level and not to each procurement department or each transit company, and that Stadtwerke Augsburg's proven and sustainable model project "100 percent biogas buses" will be considered the equal of electric buses. Initial indications from the Federal Ministry of Transport are pointing in this direction. Now the task is to ensure coherent, environmentally effective transposition of the Clean Vehicles Directive into national law.

Stadtwerke Augsburg uses biomethane fuel because it is the best, most ecological and most sustainable drive type available today. This technology was mature and proven years ago. Biomethane is CO<sub>2</sub>-neutral, produces minimal nitrogen oxides in operation, and particulates are also not a factor. Bus driver Olga Mayr drove up in this Mercedes-Benz model, a proven ecological performer, for a tour. She was amazed to learn that one electric bus is funded with over €300,000 from tax revenue, while only €10,000 is earmarked for a biomethane-powered bus, even though the biomethane bus has a better overall environmental balance. Belicon, the independent Institute for Applied Commercial Vehicle Research and Exhaust Gas Analytics at the Landshut University of Applied Sciences, confirmed in a 2018 study that buses running on natural gas or biomethane are currently the most eco-friendly alternative to diesel-powered vehicles. Pictured (from left to right) are Klaus Röder, engineer Daniel Strohschneider, Rolf Baron von Hohenhau and Olga Mayr sharing details about the vehicle and handing over the presentation: "Climate-neutral public transit in Augsburg – Hybrid biogas buses in service."

Photo: Maier





Christoph Arnowski (at left) gave a highly regarded presentation to the European Economic Senate (EES) and representatives of the Taxpayers Association of Europe. Arnowski, a television journalist with a degree in Business Administration, spoke at the invitation of Michael Jäger, Secretary General of the Taxpayers Association of Europe, who also holds a degree in Business Administration. The presentation addressed the question: "Is electric mobility the solution?" The ignorance of Svenja Schulze (SPD), Federal Minister for the Environment, whose one-sided, multi-billion euro funding policy favors electric mobility, also was critically discussed, as was this statement by Regine Günther, Senator for the Environment, Transport and Climate Protection in Berlin: "We want the people to give up their cars." Photo: Maier

*The unilateral promotion of electric mobility is impeding and thwarting other clean technologies.*

*"The Augsburg example shows quite vividly what is going wrong."*

Christoph Arnowski holds a degree in Business Administration and has been a television reporter for Bayerischer Rundfunk since 1988. In our Klartext interview, he tells us about the effects and background of the EU-wide limits that have been adopted and are supposed to reduce CO<sub>2</sub> emissions. Arnowski explains that German and EU public policy favors electric automobiles over competing clean technologies, which are being impeded and thwarted. He says Brussels has given the green light to electric mobility at every turn, with no concern for costs or impacts. "A majority of politicians and media organizations favor the supposedly simple and clean solution of electric mobility," Arnowski said. "I am convinced that is the

wrong path to take, because it is paved with billions of euros, which the taxpayer will have to fork over – without being asked." The interview focuses on the current legal situation in Europe, impacts on Augsburg's eco-friendly bus fleet, a comparative assessment of electric versus biomethane buses, the cluelessness of Federal Minister for the Environment Svenja Schulze (SPD), how technology neutrality became technology dictatorship, possibilities for storing electricity, why a change in personnel at the Ministry for the Environment in Berlin has consequences for taxpayers, and a different kind of compromise – the "informal dialogue," with which the Clean Vehicles Directive was "negotiated" behind closed

doors to the disadvantage of taxpayers and the environment. Rudolf G. Maier, Klartext Editor-in-Chief, asked the summary questions about the topics discussed.

**Klartext:** Mr. Arnowski, you gave a presentation on the energy supply of the future to the European Economic Senate (EES) and representatives of the Taxpayers Association of Europe. Your talk was of great interest to those in attendance because you shared facts that many were unaware of. The question "Is electric mobility the solution?" was the theme of your talk. You have been researching this issue for a long time. What is your personal answer to this question?

**Christoph Arnowski:** Politicians and most of the media are acting as if there were no alternatives to the electric vehicle. My research has led me to a different conclusion. The CNG technology already in series production is proven, efficient and climate-neutral, when the fuel used is biomethane. But today almost no one is talking about that. They are all talking about the electric car. Nearly every major automaker is currently working on its development. The adopted EU-wide limits that are supposed to reduce CO2 emissions leave automakers with no other choice. Because as of 2021 in the CO2 balance at fleet level, only electric vehicles will have a zero-emission rating. However, I consider this policy highly debatable.

**Klartext:** Electric vehicles don't produce any exhaust emissions, what is there to criticize?

**Christoph Arnowski:** This view fails to recognize that battery-powered electric vehicles also cause lots of CO2 emissions. During production of the batteries, for one thing, and also when charging the batteries. In Germany, for instance, electricity from coal still makes up about 40 percent of the energy mix. But despite this fact, German and EU politicians favor electric vehicles over competing technologies. That is simply not appropriate and doesn't really contribute to climate protection. And it is particularly exasperating in this context. The unilateral promotion of electric mobility is even impeding and thwarting other clean technologies. Take for instance cars and buses that run on biomethane fuel, therefore produce hardly any exhaust emissions and are practically climate-neutral in operation.

**Klartext:** Let's get straight to the crux of this – one example that fits your response is Augsburg. No electric buses run on the streets there, only natural gas buses. Municipal utilities that purchase one electric bus can count on funding of up to €320,000 from the Federal Ministry for the Environment. A total of €300 million in funding has been earmarked for this purpose through 2022. Why is that wasted money in your opinion?

**Christoph Arnowski:** The Augsburg example shows quite vividly what's going wrong. The city's 100 public buses have been running on biomethane in climate-neutral operation since 2011. They produce no soot, no particulates, nearly no

nitrogen oxides and almost no CO2, the climate killer gas. That's why the Augsburg municipal utilities say their buses are the most eco-friendly fleet in Germany, because they run practically climate-neutral. Furthermore, they are highly efficient. Each vehicle costs only about €10,000 more than an otherwise comparable diesel bus. Electric buses, by contrast, are twice as costly as diesel buses, but have only half the range of the diesels. Without the generous subsidies from the Federal Ministry for the Environment of up to €320,000 per vehicle (equivalent to 80 percent of the added costs), it is unlikely that any municipal transportation company could afford to purchase even one electric bus. But the money for these subsidies could be saved, because the environmental balance sheet of biomethane buses is unsurpassed today.

**Klartext:** What else makes you oppose government funding for electric buses?

**Christoph Arnowski:** The German government is spending hundreds of millions to subsidize a technology that is far from able to meet all the requirements of everyday service. Electric buses currently have ranges up to 150 kilometers, maximum. In Berlin, for example, they have to return to the depot before mid-day to recharge for hours. But in Augsburg, the biomethane buses don't have to be refueled until the end of their shift. Filling the tank of one vehicle with the gas takes no longer than seven minutes. According to Stadtwerke Augsburg, if its fleet of almost 100 buses was electric-powered, the city would need a dedicated power plant just to prevent power outages in the vicinity of the bus depot. Biomethane buses are also more eco-friendly and more efficient than electric buses. There is no reason to subsidize these vehicles to the tune of over €300,000 per bus. That's money that really could be saved.

**Klartext:** What is biomethane, exactly?

**Christoph Arnowski:** In terms of its chemical composition, biomethane is the same as fossil natural gas. This conventional gas burns much more cleanly than gasoline or diesel. But biomethane has a far better environmental balance. It is even considered a climate-neutral fuel, because its combustion produces only about the same amount of CO2 that was previously removed from the environment for its production. And what is also important: The

biomethane that Stadtwerke Augsburg uses for fuel isn't derived from biomass that was grown solely for energy production, but rather from waste straw, which accumulates anyway during grain production. This straw is fermented into biomethane in large tanks. Critics argue that when the straw is no longer left on the fields to rot, the soil loses important nutrients as a result. But the biggest producer of biomethane in Germany, the company Verbio AG, replies that the straw doesn't vanish into thin air with gas production – no, a valuable fertilizer is created, which goes back to the farms. And the biomethane delivered to filling stations isn't made from renewable raw materials planted exclusively for gas. So we don't have the problem of corn monocultures in competition with the cultivation of food crops. As I said, biomethane's chemical composition is no different than that of fossil natural gas. And natural gas buses have been in use for over 70 years. It is a proven technology that also is highly efficient and economical.

**Klartext:** Prof. Ralph Pütz at the Landshut University of Applied Sciences, who is an engineer, also believes much more could be achieved much more quickly for a fraction of these sums if politicians would just stop following an "ideology of the irresponsible." He means especially Svenja Schulze (SPD), the Minister for the Environment, whose funding policy is biased in favor of electric buses. Anyone who heard her presentation is asking themselves if Ms. Schulze is acting for the good of the environment and taxpayers. Are you suggesting intent or ignorance?

**Christoph Arnowski:** I interviewed Minister Schulze for a television report by Bayerischer Rundfunk. This is a link to a video of the report: <https://youtu.be/bQWypxCd7ec>

That was no ambush interview, where a politician is confronted with a very challenging question. I had notified the press office in advance that I wanted to question Ms. Schulze about "eco-friendly mobility and drive concepts" on the sidelines at the German Conference of Environment Ministers in Bremen. But the Minister for the Environment knew absolutely nothing about the alternative fuel biomethane. During the press conference she spoke only about electric mobility. In the interview afterward, when I asked her why she isn't earmarking more funding for

biomethane, she explained it was not in her area of responsibility. When I then reminded her that it is Jochen Flasbarth, her State Secretary, who is issuing the regulations that have obstructed the biomethane sector, Ms. Schulze said she couldn't comment on that. She broke off the interview while the camera was running, claiming she had to get to the train station or miss her train. In over 30 years as a journalist, I really have never experienced such a clueless and helpless politician. And my colleagues from ZDF's *heute-show*, a satirical news program, must have seen it the same way, given that they recently played the clip in an episode. This ignorance also might be because there are still many top people at the Ministry for the Environment from the Jürgen Trittin days, who are members of the Greens party or closely aligned with it. And I have the impression they don't want any combustion engines at all, not even if there is nothing to criticize about the environmental balance.

**Klartext:** Particularly alarming is that in the meantime fixed quotas for electric buses are being dictated and thus putting models like the one in Augsburg at risk. Prof. Pütz, who we have mentioned, calls the actions being taken in the name of electric mobility an outrageous affair that is reducing the stipulated technology neutrality to the point of absurdity and replacing it with "technology dictatorship." Is he right in his assessment?

**Christoph Arnowski:** I think Prof. Pütz is correct to speak of a technology dictatorship. After all, the European Union's recently adopted Clean Vehicles Directive does not prescribe a percentage of CO<sub>2</sub> emission savings that buses must meet; instead it demands that in the future a certain percentage of the fleets will have to be vehicles with zero local emissions – in other words, electric buses or those with fuel cells. That puts the biomethane buses at a disadvantage, even though they now have a better climate balance than battery-powered buses.

**Klartext:** Mr. Arnowski, during your presentation you also gave a very illuminating answer to a question that was asked repeatedly. That is, what can be done with the surplus electricity that accumulates on sunny and windy days, instead of giving it away or even paying people to use it? Please explain in your answer what bio-

methane has to do with this. If I understood you correctly, biomethane could be produced from the surplus electricity generated with wind power and solar systems.

**Christoph Arnowski:** Strictly speaking, methane obtained with renewable energy is not biomethane; it is windgas or e-gas, because in Germany it is produced with surplus wind power, which is why people refer to "power-to-gas systems." The gas is

fed into the German natural gas network, which is the country's largest energy storage system and still has enormous capacities.

**Klartext:** Critics argue that the efficiency of the power-to-gas process is too poor ...

**Christoph Arnowski:** It's true that the process is energy-intensive. Both the electrolysis and the methanation process that fol-



"What is the drive system concept of tomorrow? Germany's environmental policies give a clear answer – electric mobility, despite the many unresolved problems it involves. Environmental organizations and politicians are nearly blind to an alternative whose environmental balance is at least as good, is mature and series-produced, and is much more economical. The government is hardly funding biomethane at all, compared to electric mobility." On the news program *report München*, television journalist Christoph Arnowski reported on a so far underrated alternative at Stadtwerke Augsburg, whose biomethane buses are more eco-friendly and more economical than electric buses. There is no reason to subsidize each electric bus with over €300,000 of the taxpayers' money. That money could be saved. In the lively discussion hosted by Michael Jäger, Secretary General of the Taxpayers Association of Europe, environmental policies of the German and EU governments at the cost of the taxpayers came under scathing criticism. *Photo: Maier*

produced by means of electrolysis. This is a technical process that breaks water down into its hydrogen and oxygen atoms. In a second step, hydrogen is made to react with CO<sub>2</sub>, which is supplied by a nearby industrial plant. The result is up to 94 percent CH<sub>4</sub>, which is methane. This windgas or e-gas also is a climate-neutral fuel, which vehicles also can run on without emitting any additional CO<sub>2</sub> into the atmosphere. And, this "green" gas is already being produced on an industrial scale. AUDI AG, for example, has a plant in Werlte, a town in the German state of Lower Saxony, where it produces "green windgas" for several thousand Audis that run on methane, the AUDI gtron models. With this technology, we don't have the problem so far unsolved with the e-car, i.e. the need to store the electric current, because windgas is easily

lows use large amounts of electric current. But still, isn't it better to process the irregularly accumulating, low-efficiency energy and store it as affordably as possible, instead of shutting it down or giving it away? Or even to pay consumers in other countries to use it, just so they will take the electricity off our hands? Moreover, critics fail to consider that in many parts of the world there are incredibly large supplies of unused solar energy that could be put to this purpose. Just think of North Africa or the longstanding oil-producing countries in the Middle East, where almost unlimited synthetic green fuels could be produced. A colleague at the Augsburg-based company MAN Energy Solutions told me this technology could replace about half of the world's oil consumption.

**Klartext:** Your numbers show electric-powered buses for public transit are a very costly proposition without subsidies, and even with them. How much higher would the price be compared to diesel or gas buses?

**Christoph Arnowski:** An electric bus costs twice as much as a diesel bus of comparable size. In terms of purchase price, gas buses

*“Electric buses are the most expensive by a wide margin, but have only half the range.*

*To replace one gas-powered bus would require two electric buses. The costs are up to four times higher.”*

cost about ten percent more than diesel vehicles. Electric buses are the most expensive by a wide margin, but currently have only half the range. Essentially, this means two electric buses would be needed to replace one bus with a diesel or gas engine, so the costs are up to four times higher.

**Klartext:** Do you have other insights into the absurdity of Minister Schulze’s “dictatorship”?

**Christoph Arnowski:** Even in the current discussion in Germany of how we can achieve the Paris Agreement climate targets, everything revolves around the electric-powered vehicle. People are acting as if it was absolutely clean. No one really seems to take note of studies like the one by Hans-Werner Sinn, former president of the Ifo Institute for Economic Research, even though he calculated that a Tesla Model 3 produces more CO<sub>2</sub> than a Mercedes C-Class 220 diesel. And the Deutscher Alpenverein (German Alpine Club), a nature conservation organization still recognized as having the largest membership, reported in depth in the most recent issue of its journal PANORAMA that the CNG drive with biomethane is far superior to the electric car. But this is being ignored in the public discussion.

**Klartext:** Another statement by Prof. Pütz: “For public transportation fleets, a switch to biogas would be faster and above all more cost-effective than procuring thousands upon thousands of electric buses. By

2030 these buses would cost about €30 billion, which would unavoidably lead to higher fares and cost-cutting in other areas.” Based on your own findings and research, can you confirm this calculation?

**Christoph Arnowski:** In principle, yes. Because the Clean Vehicles Directive is putting municipalities and their transit companies under pressure to make a move. To continue using diesel buses is no longer an option. The transport companies now have to invest. And because 22.5 percent of the fleets will have to be battery-powered electric buses by 2022 at the latest, municipalities are facing enormous investment costs. And the €300 million in subsidies from the Ministry for the Environment will not cover it. It’s also important to bear in mind that the municipal utilities not only have to invest in new vehicles, but also in the battery charging infrastructure. This is why the Association of German Cities warned early on that one result would be higher fares, and that the money will no longer be available for expanding public transportation, something that actually is urgently needed to reduce the CO<sub>2</sub> emissions from transportation.

**Klartext:** On the situation in Bavaria: The Free State of Bavaria funds low-emission drive systems as in natural gas buses with about €10,000 – in contrast to €320,000 of funding for one electric bus. Hans Reichhart (CSU - Christian Social Union), the Bavarian transport minister, doesn’t see any possibility of influencing Ms. Schulze’s funding concept, which is unilaterally focused on e-mobility. Reichhart claims to be committed to technology neutrality. Has this “commitment” so far had any effects on the gigantic waste of tax revenue due to prioritizing electric buses?

**Christoph Arnowski:** Overtly, no. Brussels has given the green light to electric mobility at every turn, with no thought to who is actually going to pay for the costs, which total in the billions. Even a Bavarian state minister can’t do anything about that. But at least he is pleading for an unbiased view of technology and not blindly following the “electric hysteria” many other politicians and most journalists and media are indiscriminately inciting daily.

**Klartext:** The Bavarian state government, and particularly Hubert Aiwanger, Bavarian State Minister of Economic Affairs, seem very aware of the shattering effects of these actions. Why do you think it was

impossible for the coalition partner from the CSU to educate Minister Schulze about the deliberate waste of tax revenue and damage to the environment?

**Christoph Arnowski:** Minister Aiwanger actually is one of the few politicians who has been calling the unilateral focus on the electric vehicle a mistake for a long time now, a blunder that, in his words, threatens to impair mobility in Bavaria and in Germany as a whole. Aiwanger is not categorically opposed to electric-powered vehicles. He is convinced German industry needs it for export, especially to the Chinese market, and furthermore he sees possibilities for its use in inner cities, for example in the carsharing sector. Nevertheless, Aiwanger is primarily counting on gas. He says this fuel can help free Germany from dependence on petroleum imports and enable the country to produce its own climate-neutral fuel by applying the power-to-gas process. Meanwhile, Bavaria’s Minister President Söder has also been emphasizing the importance of alternative fuels. But Bavaria stands alone with this point of view, for the most part. A majority of politicians and media channels favor the supposedly simple and clean solution of electric mobility, as do many players in the automobile industry. Just look at Volkswagen. Maybe also because VW’s CEO Herbert Diess feels he can use it to divert attention from the diesel scandal and finally once again deliver positive headlines for the public’s perception. In such a complex and conflicted situation it is hard for any politician to go against the mainstream.

**Klartext:** While in more and more German cities the plan is to rescue air quality with driving bans, the city buses in Augsburg are running emission-free. An environmental and economic zero-sum game in the best sense, which is attracting interest worldwide. The waste products needed to run the city buses can be fully covered by biowaste from Augsburg and from pruned tree limbs and brush clippings, and waste straw for biomethane. Environmentalists and taxpayers see “Mobil mit dem eigenen Biomüll” (Mobility with local biowaste) as a model project, which is being ruined by the EU. Why was there no media coverage of this before the European elections?

**Christoph Arnowski:** Some media organizations did report on it. Bayerischer Rundfunk’s political TV show KONTROVERS did twice, and the Augsburg Allgemeine



newspaper also ran an article. As did the newspapers *Abendzeitung* in Munich and the *Nürnberger Nachrichten*. But that simply isn't enough coverage of an issue about which public opinion seems to be set in stone. Added to that is the message: "Electric buses run absolutely clean with zero exhaust gas." That's very easy to disseminate. Informing people about the benefits of biomethane power, on the other hand, is much more complicated. And – this is my personal view – politicians, media organizations and the public prefer the seemingly easy solutions. It's extremely hard to open their minds to alternatives.

**Klartext:** Augsburg has been a model city for natural gas since the mid-1990s. Our current chancellor, Angela Merkel, launched the project back when she was Minister for the Environment. But she seems to have long since forgotten that. When Merkel speaks about eco-friendly mobility, she only mentions electric vehicles, exactly what almost all German politicians are doing, whether they belong to the CDU/CSU, the SPD or the Greens. Why is it, do you think, that the most important political decision-makers seem to be unaware of the genuine Augsburg alternative for greater climate protection and far less pollutant emissions?

**Christoph Arnowski:** I'm sure some of them are informed. This much is certain – they are doing nothing about it. Why? I don't know. Maybe because they are calculating that they can't score any points in the public discourse if they do act. The chancellor, by the way, understands the Augsburg model perfectly. During a recent visit to the city she supposedly said: "If all of Germany was as progressive as Augsburg, we would have fewer problems." Why does she leave it at that without taking a stand for less bias in the choice of technologies? That remains her secret.

**Klartext:** Berlin also is getting electric buses, even though a delegation learned the truth on a visit to Stadtwerke Augsburg, returning to Berlin with the understanding that "biomethane beats electric mobility." What has happened meanwhile in Berlin, that the true alternative for greater climate protection and far less pollutant emissions hasn't prevailed?

**Christoph Arnowski:** New faces arrived in the ministry responsible for this issue. In the red-red-green coalition, Regine



Christoph Arnowski has worked as a television reporter for Bayerischer Rundfunk (BR) since 1988. He has created thousands of reports since then, holds a Business Administration degree, and is a Deutsche Journalistenschule graduate. He primarily contributes to news programs broadcast by BR and ARD, but also regularly to magazines including *report München* and *KONTROVERS*. He actually became interested in CNG by chance. About 18 months ago his old diesel needed to be replaced. He took a colleague's advice and bought a car that runs on natural gas. This was when he found out that even the sales staff at the car dealership knew next to nothing about the fuel – particularly the climate-neutral fuel biomethane. The Munich native began to systematically research the topic, and determined there is very little public awareness of this eco-friendly alternative. And the same applies to most politicians. When it became known that the German government and the EU are even actively impeding the climate-friendly fuel biomethane, a consumer topic became a political issue, which Arnowski has since explored in many reports, most thoroughly in the BR political program *KONTROVERS* (<https://youtu.be/bQWypxCd7ec>).

Günther became Senator for the Environment and Transport. Before becoming a senator she worked at the environmental organization WWF. Ms. Günther doesn't belong to any party, but it was the Greens who posted her to the Berlin Senate. And

she doesn't stray one bit from the Greens' party line. And they advocate electric mobility more than any other party.

**Klartext:** Actually the Greens should be against electric mobility – the heavy baggage in terms of CO2 that comes with the batteries should be ample reason ...

**Christoph Arnowski:** At first glance it would seem so. I also can't understand how someone can identify as a Green and entirely ignore this problem with e-vehicles. Furthermore, extraction of lithium, one of the crucial raw materials for the batteries, has a disastrous environmental footprint. A recent documentary broadcast by ARD clearly showed once again what all interested parties have known for a long time: (<http://mediathek.daserste.de/Reportage-Dokumentation/Kann-das-Elektro-Auto-die-Umwelt-retten/Video?bcastId=799280&documentId=63541548>). The mining companies extracting lithium in South America, for example, are destroying vast areas of land. The water use is exorbitant, which has a very negative impact on the local population in the arid desert regions. And people and animals are exposed to toxic particulates. In the film, renowned physicist Prof. Harald Lesch draws a very clear conclusion: "Considering the harm that is being done to the natural environment, to animal life and to these sites, and also to many people there, it is foolhardy to believe we can save the climate with battery-powered mobility. And we must ask ourselves why is it really that politicians, and particularly German politicians, nevertheless support this and are constantly cheering that we all must be electrically mobile."

**Klartext:** Despite all this, Günther, a senator for the environment, is all for electric mobility, like many other leading green politicians ...

**Christoph Arnowski:** Ostensibly for climate protection reasons. But I am convinced it is primarily because the Greens want to achieve a goal with this policy, one they've always pursued – they want to radically displace private transportation. And to fully understand this, you must bear one thing in mind: Electric cars, at least in the medium term, will not be able to replace gasoline and diesel vehicles on a one-to-one basis. They are much too expensive for that; they don't have sufficient range for many drivers; and they can't be easily charged every night by people with

average incomes who live in apartments in cities and don't have their own private parking spaces. If forced to buy an e-car that costs far more than the car they have, but doesn't serve their personal mobility needs anywhere near as well, many Germans are going to decide to do without their own car, whether gladly or grudgingly. And that is exactly what the Greens are counting on: "We want the people to give up their cars," said Ms. Günther in March of this year. To some extent the Greens are employing the tactic of using the electric car to displace individual, private transportation and as a way around having to speak the inconvenient truth up front. In order to consistently and logically hold that position, they naturally also have to campaign for e-vehicles when it comes to buses, even if there are many good arguments against that. What's more, Ms. Günther seems to be just as clueless as Ms. Schulze. In the interview for my Bayerischer Rundfunk video, she claimed that natural gas mobility for buses is "much more in its infancy than electric mobility." With that she is completely reversing the truth of the matter. As I said, MAN has been building natural gas buses for 70 years, for example, but the first German electric buses are only now coming on the market.

**Klartext:** By August 2019 the Berliner Verkehrsbetriebe are to accept delivery of 30 electric buses. The entire fleet of 1,500 buses is to be transitioned to electric mobility by 2030. The sum of €18 million is being spent for the 30 e-buses in Berlin. That works out to a price per bus of €600,000. The additional costs are being paid by the Ministry of Transport and the Ministry for the Environment. Does that mean the more eco-friendly variant is unknown even in the Federal Ministry of Transport?

**Christoph Arnowski:** I really cannot imagine that. Especially because Andreas Scheuer, the Federal Minister of Transport, for instance, is all for gas drives for trucks. But my impression is that, like almost all politicians, he is looking very closely at what the media and the public like. And right now that is electric mobility. The minister of transport also surely doesn't want to be on the sidelines for that.

**Klartext:** At first it sounds like a joke when you hear that the heating systems in Berlin's new e-buses run on diesel fuel. How

does that impact the buses' environmental balance?

**Christoph Arnowski:** It does seem like a bad joke, as you say, but it's for real. Unimaginable, really – the old diesel buses are weeded out, and new, obscenely expensive electric buses with far inferior efficiency are purchased. And in winter they have diesel-fueled heating on board, because an electric heating system would run down the bus battery charge after a few kilometers. And those are diesel burners with no exhaust treatment. I have often heard that these buses with diesel heating essentially pollute the environment just as much as the old diesel bus engines. The first electric buses in Berlin, in my opinion, are symptoms of economic and environmental madness.

**Klartext:** Regine Günther, the environment senator for the Greens in Berlin, toured four Chinese cities with e-bus service and was impressed by the "incredible determination" she witnessed. Can conditions in China be transferred to Berlin?

**Christoph Arnowski:** I've never been to China, but I have read several reports claiming the electric bus fleets there actually are working very well. But I think you have to remember that China is not a western democracy. It is a totalitarian state. When its leaders set an objective, everything is subordinated to their plans, whatever the cost. From the start, efficiency or environmental protection don't play any role. If you wanted to be polemical, you might say that's very fitting for the Greens. But the fact that the party is specifically taking Chinese conditions as a model, I find that very disconcerting.

**Klartext:** Mr. Arnowski, your answers provide us with an almost unfathomable account of electric buses that harm the environment and of the waste of tax revenue on a tremendous scale, and all this is now continuing at the EU level. Even though an independent study from early 2018 confirms that buses running on natural gas or biomethane are the most eco-friendly alternative to diesel vehicles, the EU wants to use relevant legislation to ensure that at least 22.5 percent of the public bus fleets in Europe will be electric-powered starting in 2022. Were you able to determine from your findings how this incomprehensible decision came about?

**Christoph Arnowski:** I'll say it again. There is electric hype, in politics, in the media, among the public and in Europe too. It's hard to counter that with rational arguments. I spoke with two European Parliament members. Markus Ferber of the CSU told me that German members of parliament from the CDU/CSU tried and failed to have biomethane-powered buses treated as at least equals of electric buses. Ismail Ertug from the SPD, on the other hand, told me it is important and right to send a signal for environmental policy. And besides, his colleagues argue, biomethane buses also emit small amounts of nitrogen oxides, so you cannot designate them as zero-emission vehicles – unlike the electric buses. And strictly speaking, Ertug is right in that regard. But I still somehow doubt this minimal advantage outweighs the high costs that the transportation companies will soon have to bear. And the proponents simply close their eyes to the CO2 emissions produced by battery manufacturing and by traction current.

**Klartext:** So will Stadtwerke Augsburg have no choice but to comply with Brussels and purchase electric buses? Wouldn't that amount to the end of the exemplary biogas fleet? After all, operating both technologies at the same time wouldn't be economically feasible over the long term.

**Christoph Arnowski:** That's what is feared in Augsburg. If the directive is implemented one-to-one in Germany, just as the EU has adopted it, then Augsburg will surely soon have to procure e-buses. That wouldn't make economic sense. According to Klaus Röder, the fleet manager in Augsburg, two technologies cannot be operated in parallel on a permanent basis. Well then, in the worst-case scenario, Stadtwerke Augsburg would have to put Germany's most eco-friendly bus fleet out of service.

**Klartext:** Dr. Walter Casazza, General Manager of Stadtwerke Augsburg, found a ray of hope in a talk he had with Andreas Scheuer, Minister of Transport. If the EU quota of 22.5 percent does become a national value, Augsburg could be exempted from the requirement to buy electric buses, Casazza said. Can you answer the legitimate question from City Council Peter Schwab (CSU), who wonders if further development of biogas buses would then even be possible?

**Christoph Arnowski:** In Augsburg people are indeed hoping the national implementation of the EU directive will be designed to allow that not every transport company will have to fulfill the electric bus quota, but that the quota will have to be met only by the country as a whole. If that comes to pass, the Augsburgers would be out of the woods for now. Nevertheless, I understand City Council Schwab's concern. When public policy is so unilaterally supporting electric drives, the industry is left with no choice but to concentrate all of its capacities on developing electric buses and cars. And resources are finite, so there would be nothing left for alternative technologies. And if there are no longer any good prospects of winning over new customers for gas drive systems, why should the automakers continue to intensify their efforts and further develop this technology?

**Klartext:** What really enabled the EU resolutions? Dr. Casazza said: "What is playing out on the EU level with regard to our buses is really aggravating." How would you reply to him?

**Christoph Arnowski:** The decision in favor of electric buses must be viewed in its larger context. Prof. Sinn suspects that the French joined forces with the Greens in order to gain political approval for the electric car. The French have an automobile industry which produces mostly compact and medium-size cars. That is to say, vehicles that can be electrified with relative ease compared to the cars built by German premium automakers. I have already shown what the Greens' motives are. Sinn suspects that both players wanted to exploit the weaknesses of the German industry in the wake of the diesel scandal, to achieve their aims. The Greens want fewer cars, and the French want bigger market shares for their automobile industry.

**Klartext:** And how is that linked to the senseless EU resolutions for the electric bus at the cost of taxpayers? How did European Parliament voting on this issue take shape?

**Christoph Arnowski:** As always in the EU, there were several different positions. In order to reach a compromise, there is the trilogue. One could compare this process with the conciliation committee in Germany for when the federal government and the states disagree. In Europe it

is more complicated, of course. Only very few individuals from Parliament, the Council and the Commission take part in the informal trilogue. This small group "negotiated" the Clean Vehicles Directive behind closed doors, essentially. After this process, the EU Parliament can no longer have any influence on the design of the directive. And at least a majority of the parliament members did not want to entirely reject the directive, very possibly out of fear, in this case of media criticism that nothing was accomplished in such an important area of climate protection policy.

**Klartext:** Are there indications that successful lobbying took place behind the scenes at the EU or in the EU bodies for the Polish bus manufacturer SOLARIS, which has emerged as the biggest winner from the EU decisions?

**Christoph Arnowski:** There are at least speculations and rumors that it might have went that way. Remember, the European Parliament member who led the informal trilogue is Polish. Under his aegis

*"It is incomprehensible how the Greens can totally ignore the problems with e-vehicles, which include extraction of lithium for the batteries, leaving a disastrous environmental footprint."*

the biomethane buses were put at a disadvantage in the final leg of the process. When I was working on my research, several persons told me they suspected this may have been no coincidence. Of course you can't prove it. But the one-sided decision in favor of electric buses is benefiting all manufacturers that already have them in their product line-ups. Right now those are primarily Chinese companies and the Polish company SOLARIS. Daimler and MAN, the two big German suppliers, haven't gotten that far yet. It's true they are catching up, but the many orders that now will have to be quickly filled are probably not yet enabling the two German companies to profit like the foreign competition.

**Klartext:** Even if your speculations only give a rough outline of the facts, the EU bias toward electric buses would be another scandal at the cost of taxpayers and the environment. A study by Belicon – the independent Institute for Applied Commercial Vehicle Research and Exhaust Gas Analytics at the Landshut University of Applied Sciences – classified electric-powered drive systems as insufficiently mature and the environmental benefits of their overall share of electricity consumption as doubtful. In light of the study findings, Rolf Baron von Hohenhausen, who serves as President of the Taxpayers Association of Germany of Bavaria and of the Taxpayers Association of Europe, is looking into having these non-transparent actions and their possible illegality reviewed. What outcomes are you personally expecting to see, based on your findings and research? Could political decision-makers have made themselves subject to prosecution?

**Christoph Arnowski:** It certainly can't hurt anything to investigate these untransparent actions, as you say. However, I do not expect that criminal offenses can be proved. But maybe politicians and the public will finally wake up as a result of the scrutiny and recognize that it is not only about electric mobility, but also CNG mobility. That includes cars and buses that run on natural gas, biomethane or "green windgas." Natural gas mobility is a technology with proven efficiency that has been in full-scale production for a long time. And recently it became at least as eco-friendly as the electric vehicle – thanks to biomethane and green windgas. This is why I am confident the politicians will have to treat CNG automobiles as the equals of electric vehicles. Equal treatment in terms of the fleet CO2 balance, for example, and offering buyer's incentive programs, exemption from the motor vehicle tax, and granting other benefits like parking spaces in inner cities at no charge. I firmly believe that unilaterally supporting electric and handicapping all other competitors is the wrong path to take, one that can only be followed at all because it is paved with billions of euros, which the taxpayer will have to fork over – without even being asked.

**Klartext:** Mr. Arnowski, thank you for taking part in this interview – and for your commitment to journalism in the interest of taxpayers.

# Informal EU trilogue: EU politics behind closed doors

## Call for a renaissance in decision-making!

By Michael Jäger

The Bund der Steuerzahler (Taxpayers Association of Germany) is calling for a renaissance in decision-making at the EU level for the new legislative period. It must become possible once again to exhaustively discuss legislative proposals and debate controversial issues.

### Too many EU legislative proposals (some 80 percent) are pushed through too quickly.

Not everyone who voices a different opinion is against something. In many cases, people have legitimate concerns and want to see improvements. When, for example, issues related to the climate and environment are discussed today, critical voices are immediately sidelined or pushed into a negative corner. This issue of Klartext addresses the question of e-mobility and shows very clearly that we are – in good faith – at risk of impeding innovations and developments that could solve existing problems, or in the worst case even prohibiting them.

In Augsburg, the city buses have been running on biomethane in climate-neutral operation since 2011. EU and German bureaucracy is threatening to outlaw this solution. Apparently an ideology motivates them to favor e-mobility so one-sidedly, even for public transportation, which becomes not only dramatically more costly for the taxpayers as a result, but also verifiably less ecological.

The blame lies in the transformation of the democratic decision-making process at the EU level – the trilogue.

When agreement cannot be reached, the discussion of proposals by equal partners doesn't present many options: They negotiate, wrangle over a position, sometimes even quarrel, experts and affected parties are heard, opinions expressed, someone gives ground to avoid deadlock and animosity, or both parties stick adamantly to their positions and there is no progress. In the ideal scenario, a compromise is found in the end to reconcile everyone's interests.

The process works in similar fashion at the EU level. Here the equal parties are the

Council of Ministers of the European Union and the European Parliament. Initiatives and proposals come from the EU Commission, which also serves as mediator of the different interests. To enable decision-making at the EU level when there are disagreements, a formal negotiation procedure was institutionalized: the "EU trilogue" between the Council, the European Parliament and the EU Commission.

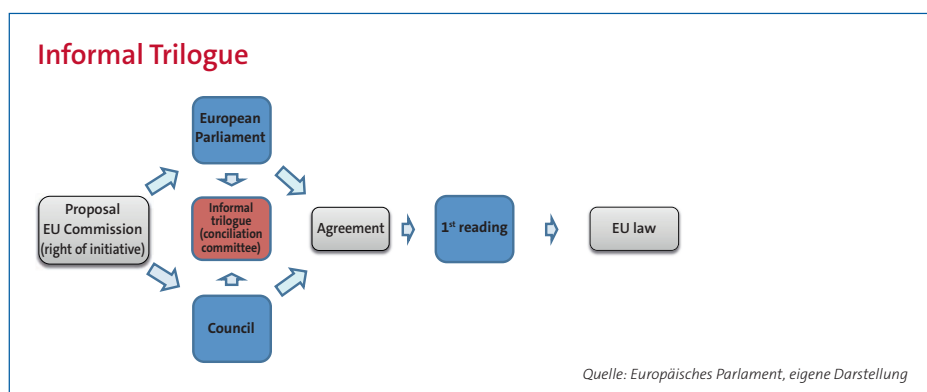
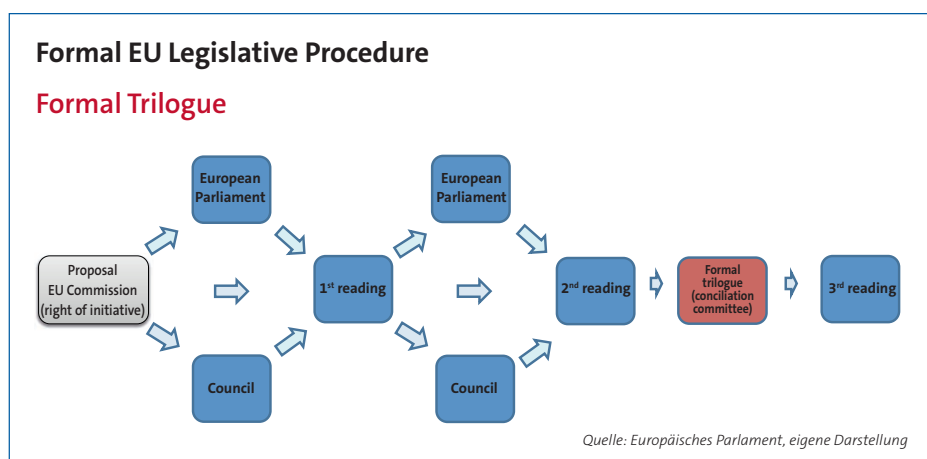
### How does this negotiation procedure work?

The EU Commission makes a legislative proposal (right of initiative), which then goes to the EU Parliament and the Council. In short, it goes to the first reading in parliament, and if an agreement is reached, the negotiations are over, the procedure is concluded, and the law is passed. Or, if agreement is not reached, it goes to the second reading. Then, if there is still no agreement, it moves on to the trilogue. The trilogue

previously came at the end of the negotiation procedure.

Until the legislative period of 1999 – 2004, most legislative procedures – more than 70 percent – were decided after the second or third reading (see the diagram below), but in the subsequent legislative periods from 2004 this was completely reversed. Close to 80 percent of the legislative procedures are already being decided in the first reading.

Quietly, secretly and almost completely without public knowledge, the so-called "informal trilogue" – the formation of a standpoint shared by the European Parliament, the Council and the Commission even before the first reading – established a new standard of decision-making at the EU level. This "upstream" EU trilogue was made possible in 1997 with the Treaty of Amsterdam. Since then, the Council, the European Parliament and the EU Commis-



sion are permitted to reach agreement in any phase of an EU legislative procedure – a departure from the formal EU legislative procedure. Since the 2004 legislative period, about 80 percent of the formal legislative procedures have been decided in under 15 months, instead of more than two years previously. So the legislative procedure has been substantially shortened since the treaty went into effect, but the quality of lawmaking has suffered greatly as a result.

The informal trilogue takes place with very few participants and behind closed doors. It leaves hardly any time to seek opinions, listen to affected parties and perform a regulatory impact assessment. This was shown by, for example, the recent decisions on the Plastic Products Directive, the second Tobacco Products Directive, the Renewable Energy Directive and the Copyright Directive, in addition to the revision of Directive 2009/33/EC on the promotion of clean and energy-efficient road transport vehicles.

#### Who are the privileged participants in the negotiations?

The Council of the European Union, represented by the representative of the Member State that holds the council presidency, along with the chairperson of the responsible committee of permanent representatives, and the chairperson of the responsible working group. The European Parliament delegates the chairperson of the respective affected committees and a rapporteur and shadow rapporteur of the represented parliamentary groups. The EU Commission plays a mediating role and is represented in the negotiations by a director or the responsible head of the respective units. No more than ten people take part in these meetings, the content of which is not made public. In other words, a very small circle of individuals decides policy in Europe – in record time.

And although around 80 percent of the formal legislative procedures have been shortened as a result of the informal trilogue, this time-saving comes at the expense of the transparency of participatory democracy, democratic control and the quality of regulatory impact assessment. Only established insiders have a chance to take part and present their positions. A lobbyist who knows the score and wants to exert influence has fewer decision-makers to deal with. Whoever leads the committee and represents parliament holds the key to power.

## Clean Vehicles Directive (CVD) promotes vehicles with alternative drive types

On April 18, 2019, the Clean Vehicles Directive also was adopted by the EU Parliament. Prior to adoption, it was agreed upon with the Council and Commission in a “trilogue,” a kind of conciliation committee. At the EU level, the trilogue concluded the legislative procedure for this directive. Now the Member States have 24 months after the directive enters into force to implement it. Because it is a directive, they have a degree of flexibility in transposing it into national law, according to Michael Jäger, Secretary General of the Taxpayers Association of Europe, who holds a graduate degree in Business Administration. Jäger described as exemplary the strategy of Stadtwerke Augsburg (Augsburg municipal utilities) to proactively monitor the transposition into German law and urge the Federal Ministry of Transport and Digital Infrastructure to ensure procurement quotas are overridingly set for each Member State, instead of directly for every procurement department. This approach appropriately takes into account the climate strategies of the individual transport companies. The intention is to ensure a continuation of the climate-neutral Augsburg model, with 100 percent biogas buses, said Jäger. Stadtwerke Augsburg has first mover advantage over an e-bus technology that is not mature, especially because development of a more advanced battery technology may take quite some time, and operating gas and electric buses in parallel must be avoided due to the very complex and very costly technical systems this would require. The Taxpayers Association of Germany is calling for a suspension of the directive, which encourages an enormous waste of tax revenue.

Don't miss the Bayerischer Rundfunk reporting in the broadcasts of the program *Kontrovers* from February 13, 2019 and May 8, 2019:

<https://www.br.de/mediathek/video/kontrovers-13022019-profil-in-der-groko-elektronische-patientenakte-gruene-kraftstoffe-av:5c1b9674c4bb6600184230b0>

<https://www.br.de/mediathek/video/kontrovers-08052019-live-aus-bruessel-mit-dem-br-bayerntrend-zur-europawahl-av:5c94bfa91d1d5d001a597846>



Companies and citizens who will feel the impacts are left out, often because they simply don't even know decisions are being made about their interests.

Also interesting, and not really democratic, is that parliament members who do not belong to a parliamentary group are excluded from negotiations in the informal trilogue.

There is another problem: When the informal trilogue is concluded, i.e., the EU negotiation partners have reached agreement, there are hardly any means remaining to still change a law in parliament, because the law would then have to be rejected in the first reading in the EU Parliament – after prior agreement in the trilogue – which happens only very rarely.

The informal trilogue may have a certain charm for the circles taking part in it – everyone is acquainted and can speak candidly, and agreement by fewer participants is easier to achieve than in a large group. But what must also apply to this abbreviated EU legal process is this: quality before speed!

Better regulation requires thoroughness, transparency and above all the devotion of sufficient time to listening to affected parties, thus enabling more democratic participation.

The Taxpayers Association of Germany is not alone in criticizing the informal trilogue. The *dbb beamtenbund und tarifunion* (German Civil Service Federation) and the *Europäische Bewegung Deutschland* (European Movement Germany) see an urgent need for action on the issue.

One reason for hope is an ECJ judgment (T540/15) of March 22, 2018, which addresses the lack of transparency in the trilogue negotiations and explicitly points out the obligation that the European Parliament has to ensure greater transparency.

The Taxpayers Association of Europe (TAE) urges the Members of the European Parliament: **“Create more transparency and more democratic participation once again. Return to the formal legislative procedure! Use of the informal trilogue should then be permitted only in urgent cases.”**

# “Betting it all on E” – A risky game of roulette with Germany’s future

By Claus Sauter

**Germany needs affordable, climate-neutral mobility and electric mobility is one relevant component. But the German government’s “bet it all on E” strategy is ignoring economy and efficiency while endangering our most important industry.**

The German automobile industry is facing its greatest challenge in 100 years. To blame are the politicians, who have given rise to a disaster with their decisions and measures that lack consistency and planning. Time and again, at countless conferences, new climate targets were defined and international agreements reached. But effective national frameworks for their implementation were nowhere to be found. On the contrary! Germany’s Federal Ministry for the Environment repeatedly put roadblocks in the path of innovative and efficient technologies. “All electric” is their big coup – at any price!

And now politicians are discussing a new climate protection law and the introduction of a CO2 tax, instead of consequently applying the existing instruments for decarbonizing transportation, which would finally take advantage of the already existing potential for emissions reduction and offer industry incentives for new investments.

**The greenhouse gas emissions from transportation could have been immediately reduced!**

There is an easy way to reduce emissions without just sacrificing the combustion engine, and with it an entire industrial sector with tens of thousands of jobs! The magic word in the transport sector is “greenhouse gas reduction quota” (GHG quota), and it is one of the responsibilities of the Federal Ministry for the Environment. Unlike a compulsory CO2 tax for everyone, this existing regulation follows the “polluter pays principle,” by which anyone who absolutely wants to drive a big “fuel guzzler” automatically pays more for CO2 with every liter of gasoline or diesel consumed. That is fair and transparent. Without added administrative expenses.

It requires only an increase of the GHG quota or of the GHG savings target for the oil industry. Until now the German government has required the oil industry to reduce emissions from diesel and gasoline



Bioenergy expert Claus Sauter, founder and CEO of VERBIO AG: “The German automobile industry is facing its greatest challenge in 100 years. To blame are the politicians, who have created a disaster with their decisions and measures that lack consistency and planning. The German automobile industry is trapped. It has been cut off from all sensible alternative drive systems based on the combustion engine.” Photo: VERBIO

use by only four percent, which conversely implies that 96 percent of CO2 emissions are still allowed!

The currently valid four percent is anything but ambitious. Since 2015 the SPD-led Federal Ministry for the Environment has done practically nothing to significantly increase the GHG quota. Year after year, we give away tremendous potential for climate protection in this way.

And new climate-neutral fuels, such as biomethane from straw, power-to-gas or hydrogen, will not be economical to use until the GHG quota increases. Next year it will rise to six percent. But appearances are deceiving, because in 2018 the Federal Ministry for the Environment issued the UER regulation (Upstream Emission Reduction).

It enables petroleum companies to credit emission reductions in crude oil production (e.g. in Venezuela and Nigeria) to the German GHG quota. Fake environmental protection at its finest! The people and the renewables industry are once again being taken for fools.

**Free the automobile industry from the electric trap!**

Volkswagen CEO Herbert Diess was very clear in calling for support from politicians in the form of a “national plan of action for electric mobility” to realize faster creation of an extensive charging infrastructure and sufficient supplies of electricity from renewables. The Volkswagen CEO is thus in step with the political will and is now pursuing a radical e-vehicle strategy – to safeguard the VW Group’s financial health and the future economic viability of an entire region. Because if VW dies, the state of Lower Saxony dies with it!

Essentially, Diess is taking the right course, because the German automobile industry is caught in the electric trap. It has been cut off from all sensible alternative drive systems based on the combustion engine.

The vehicle emissions caused by vehicle technologies are specified in EU Regulation 443/2009 and were set at 95 grams of CO2/km for 2021. This high limit at the fleet level forces manufacturers to launch electric cars on the market, because only electric car emissions are calculated with a starting value of ZERO, based on the “tank-to-wheel” analysis. But electric cars are by no means cleaner than combustion engine cars, when the fact that the electricity is still being generated with fossil fuel sources is taken into account.

If the CO2 emissions produced in the process of supplying electricity are taken into account, the value for the e-cars would be 65 to 75 g/km in today’s German energy mix. A CNG vehicle powered by biomethane produced entirely from straw, by contrast, has total emissions of less than 8 g/km.

In simply ignoring fuel quality, the EU regulation was fatally flawed from the start. Compared to diesel and gasoline, biofuels reduce greenhouse gas emissions by up to 90 percent. But since 2006, when Angela Merkel became the “climate chancellor,” the share of greenhouse gas-reducing biofuels in the mix has been steadily declining. Readily available, clean and efficient drive concepts “Made in Germany” have therefore been pushed out of the market.

solution, and in fact for almost every relevant area of municipal mobility – from buses to waste collection vehicles to cars for the mayor’s office. CNG technology involves much lower procurement costs than for electric vehicles, and it has been in series production for many years.

CNG vehicles run reliably – a decisive factor for municipal bus service, which must operate without breakdowns and on schedule.

## Bet it all on E!

No way!  
My VW  
runs cleaner  
with bio CNG!



The responsible people at the EU level recognized the problem. When it set the emissions limits for trucks, the EU Commission left open until 2022 the question of whether fuel quality should be taken into account when determining the emission values – the “well-to-wheel” approach. The combustion engine is the only sensible alternative for trucks, because electric mobility will be unable to offer this sector a solution in the foreseeable future.

### There are also affordable solutions for public transport!

And I would like to say a few words to local representatives, mayors, senators and municipal utilities companies: Don’t get caught up in the electric hype! If you are wise and rely on CNG vehicles, you will find it is an immediately available, environmentally friendly and economically efficient

And with straw in the tank it’s even more efficient! When CNG vehicles run on biomethane from residual materials such as straw (verbiogas), for example, even in public transit service they deliver CO<sub>2</sub> savings as high as 90 percent in the environmental balance. A value that can be achieved with e-drive systems only if 100 percent renewable electricity is used. But the German government is still far from that stage with its energy turnaround.

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FDP Chairman Lindner warns

## Costly climate protection

Christian Lindner, Chairman of the FDP, warns against focusing too strongly on e-mobility in climate and transportation policy. By prioritizing one drive technology, he said, Germany is repeating the mistake made in the energy transition of applying planned-economy principles to environmental and climate policies. Lindner said this



policy has made climate protection more costly in Germany than anywhere else in the world. As a result of Germany’s focus on e-mobility, here at home “value chains in automobile manufacturing would be harmed, without yielding significant ecological benefits,” Lindner said in criticism. He added that this course of action is leading to dependency on the world’s lithium producers. Moreover, battery charging in Europe would still be powered by nuclear energy or electricity from coal for many years. It would be more ecologically sound and more economically efficient to develop and use different types of drives. In addition to electric mobility, these also include fuel ethanol and biomethane. Other alternatives are synthetic fuels, which are produced using renewable energy from CO<sub>2</sub>, like synthetically produced methane. The Greens wanted to ban the combustion engine, a policy the EU is supporting with its emphasis on electric mobility, Lindner said. He said the FDP, by contrast, wants to prove “climate protection is more likely be achieved through technology and rational, market-based thinking, than by preaching permanent austerity and abstinence, and wanting to train people to become a different kind of human being.”



Prof. Hans-Werner Sinn (at left), former President of the ifo Institute, is greeted by President Rolf Baron von Hohenhau. Prof. Sinn is always a welcome guest in Munich at the nerve center of the Taxpayers Association of Germany. The latest sharing of viewpoints focused on key messages from a study of the climate balance of e-vehicles. Prof. Sinn and his co-authors proved that one e-car is 11 to 28 percent more harmful to the environment than a diesel. The EU's CO2 Directive specifies a starting value of zero CO2 emissions when calculating manufacturer fleet consumption for electric vehicles. There is reason to suspect that behind this policy is a covert industrial policy on the part of manufacturers and countries that see electric vehicles and nuclear energy as means to gain competitive advantage over German companies. The discussion focused on the EU Public Procurement Directive and its devastating consequences for taxpayers and the environment. *Photo: Maier*

# *Climate-neutral public transit in Augsburg*

## *Exemplary model project for Germany*

*By Rolf von Hohenhau*

In this issue, observations by Prof. Ralph Pütz concerning the Clean Vehicles Directive, include this: "The deliberate and purely ideologically motivated exclusion of ultra-clean combustion engine technology is not justified from any ecological standpoint and certainly not from an economic perspective! The most ecological option is natural gas technology with biogas, today and in the medium term." For his article, bioenergy expert Claus Sauter chose the headline: "Bet it all on E: A risky game of roulette with Germany's future." No less alarming is the opinion shared by Dr. Timm Kehler, who is convinced this directive is a path leading to a climate policy impasse. Dr. Kehler explains that cost-effective climate protection can be achieved if politicians step back and design a multi-lane mobility turnaround. Hubert Aiwanger, Deputy Bavarian Prime Minister and Bavarian State Minister of Economic Affairs,

Regional Development and Energy, issues a plea for unbiased promotion of technology and sees need for improvement at the EU and national levels.

Klaus Röder, authorized representative of and fleet manager at Stadtwerke Augsburg (Augsburg municipal utilities), also is sure the EU Clean Vehicles Directive puts the city of Augsburg's fleet of climate-neutral biogas-powered buses at risk. In this issue of Klartext, this expert describes the risks which the mobility turnaround poses for unbiased treatment of technologies. The presentation given to the Taxpayers Association of Germany examines an exemplary climate-neutral public transport system in Augsburg. The city's municipal utilities company, the third-largest in Bavaria and the employer of 1,870 men and women, set the foundation for natural gas drives way back in 1995. In 1996, Augsburg became the model city in Germany in this regard. And in

2006, the mayor issued a directive as part of the Clean Air Plan to prioritize procurement of natural gas vehicles. By 2010 the buses were 100 percent natural gas, and then exclusively bio natural gas by 2011.

Today, Stadtwerke Augsburg is the only metropolitan public transit company with a bus fleet that runs entirely on biogas – allowing it to use the advertising slogan "Deutschlands umweltfreundlichste Busflotte" (Germany's most environmentally friendly bus fleet). The Augsburg buses are CO2-neutral thanks to biomethane. The fuel is produced only from agricultural residual materials, straw, windfall wood, brush clippings and waste. No food crops are used. Unlike e-buses, the biogas buses have been demonstrating their impressive efficiency for many years in everyday service. The concept has earned environmental awards, including the 2017 International Sustainability Prize presented by the Ger-



man-language magazine busplaner, the Mobility Prize of the German automobile association ADAC, and the Berlin-based Renewable Energies Agency's recognition of the city of Augsburg as an energy community.

As the awards for biomethane's everyday performance show, it is environmental protection for Germany that is available now. Stadtwerke Augsburg relies on biomethane as a reliable technology whose excellence has been proven for decades. Biomethane-powered buses produce minimal nitrogen oxide, are CO<sub>2</sub>-neutral, run economically and efficiently, and offer the best cost-benefit ratio. In this issue of our magazine, Klaus Röder covers everything there is to say about this ideal situation in Augsburg. There are good reasons to stop the EU Clean Vehicles Directive immediately – one is the solution that has been working in such exemplary fashion since 2011 in Augsburg, saving taxpayers money and keeping our air clean. This is where our interview with television journalist Christoph Arnowski sheds light on key points. German and EU public policy favors electric cars and buses over competing clean technologies, which are being impeded and thwarted, Arnowski pointed out. He also finds it particularly alarming that fixed quotas for electric buses are being dictated and therefore putting

*“There are good reasons to stop the EU Clean Vehicles Directive immediately – one is the solution that has been working in such exemplary fashion since 2011 in Augsburg, saving taxpayers money and keeping our air clean.”*

models like the one in Augsburg at risk. Prof. Pütz calls the actions being taken in the name of electric mobility, triggered by the Clean Vehicles Directive, an outrageous affair that is reducing the stipulated technology neutrality to the point of absurdity and replacing it with “technology dictatorship.” Indeed, the European Union's recently adopted directive does not prescribe a percentage of CO<sub>2</sub> emission savings that buses must meet; instead it demands that in the future a certain percentage of the bus fleets will have to be vehicles with zero local emissions – and that means electric buses in the opinion of EU decision-makers. This puts the biomethane buses at a disadvantage, although they now have a better



In this historic photo from the Stadtwerke Augsburg archive, Angela Merkel, then minister for the environment, is marking the launch of the project “Augsburg wird zur Modellstadt in Deutschland” (Augsburg becomes a model city in Germany) along with the project managers. But she seems to have long since forgotten that and proved a total failure as “Climate Chancellor.” Whenever Merkel speaks on the issue of environmentally friendly mobility, she talks about electric vehicles. Instead of promulgating climate-neutral public transport in Augsburg as a model for Germany, by supporting the EU procurement directive she is pushing for climate policy at the expense of taxpayers and the environment. *Photo: The Stadtwerke Augsburg archive*

climate balance than battery-powered buses. Articles in this special issue of Klartext also address suspicions that the adoption of the Clean Vehicles Directive involved activities that were not above board. For example, there is at least speculation that successful lobbying on behalf of the Polish bus manufacturer SOLARIS shaped the outcome to some extent. Also scrutinized is the fact that the informal trilogue, a kind of conciliation committee that together with the directive resulted in devastating impacts for taxpayers and German industry, was led by a Polish member of the European Parliament (who also belongs to the European People's Party). Under his aegis, Arnowski reports, the biomethane buses were put at a disadvantage in the final leg of the process. The unilateral decision in favor of electric buses is benefiting all manufacturers that already offer these vehicles in their product line-ups. At this point in time, those are primarily Chinese companies and above all the Polish company SOLARIS. The Taxpayers Association of Germany will arrange to have experts review these non-transparent actions, their negative consequences for taxpayers and the environment, and their possible illegality. Politicians and the public need to finally wake up and recognize that there is not only electric mobility, but also cars and buses that are climate friendly and run on natural gas, biomethane or “green windgas.” Natural gas-powered mobility is a technology whose efficiency has been proven, and it has been in series production for decades. And recently the emergence of methane fuel made it at least as environmentally friendly as the electric vehicle. The

Taxpayers Association of Germany urges the European Parliament to revise the blindly pushed through directive and ensure biomethane cars and buses are treated exactly the same as battery-powered vehicles. Equal treatment in terms of the fleet CO<sub>2</sub> balance, for example, offering buyer's incen-

**“For public transportation fleets, a switch to biogas would be faster and above all more cost-effective than procuring thousands upon thousands of electric buses. In the next 20 years that would cost about €30 billion. The German government is completely ignoring that not only emissions from running vehicles must be factored in, but also those from vehicle production and from burning fuel to generate electricity. If these factors are included, electric mobility in Germany today is at a clear ecological disadvantage.”**

**Prof. Dr.-Ing. Ralph Pütz**

tive programs, exemption from the motor vehicle tax, and granting other benefits like parking spaces in inner cities at no charge. “Unilaterally supporting electric and handicapping all other competitors, mostly German, is the wrong path to take, one that can only be followed because it is paved with billions of euros, which the taxpayer will have to fork over – without even being asked,” stated Arnowski in this issue's interview with the Taxpayers Association of Germany. Data on vehicles in service proves him right: Electric buses are the most expensive by a

wide margin but have only half the range of gas buses. To replace one gas-powered bus would require two electric buses. The costs are up to four times higher. For public transportation fleets, a switch to biogas would be faster and above all more cost-effective to realize than procuring thousands upon thousands of electric buses.

Realistic calculations show that these battery-powered buses would cost around €30 billion over the next 20 years. The Clean Vehicles Directive is putting the municipalities and their transit companies under pressure to make a move. Without the generous subsidies from the Federal Ministry for the Environment of €320,000 per vehicle, hardly any municipal transportation company could afford an electric bus. A look at the example set by Augsburg shows that the funding earmarked for these subsidies could be saved. Svenja Schulze (SPD), Federal Minister for the Environment, whose funding policy favors electric buses at the taxpayer's expense, showed total ignorance of the alternative fuel biomethane in a television interview. When reminded that it is Jochen Flasbarth, her State Secretary, who is issuing the regulations that have obstructed the biomethane sector, Ms. Schulze said she couldn't comment on that. Arnowski had this to say: "In over 30 years as a journalist, I really have never experienced such a clueless and helpless politician. This ignorance also might be because there are still many top people at the Ministry for the Environment from the Jürgen Trittin days, who are members of the Greens party or closely aligned with it. And I have the impression they don't want any combustion engines at all, not even if there is nothing to criticize about the environmental balance." Berlin also is already getting electric buses, even though a delegation learned the truth on a visit to Stadtwerke Augsburg, returning to Berlin with the understanding that "biomethane beats electric mobility." Since then there has been a change of personnel, however. In the red-red-green coalition, Regine Günther was posted by the Greens to the office of Senator for the Environment and Transport. Her previous job before the senate was at the environmental organization WWF. She seems to be just as clueless as Ms. Schulze. In an interview for a Bayerischer Rundfunk video, she claimed that natural gas mobility for buses is "much more in its infancy than electric mobility." With that statement she is completely reversing the truth of the situation. The company MAN, for example, has been produc-

ing natural gas buses for over 70 years. The first German electric buses are only now coming on the market. In Berlin, 30 electric buses are to be procured for €18 million by August 2019. The plan is to replace all 1,500 buses of Berliner Verkehrsbetriebe (Berlin public transit company) with electric mobility by 2030.

The Taxpayers Association of Germany considers that a gargantuan waste of tax revenue, and a cause of environmental degradation in Chile resulting from extraction of

*"Germany needs affordable, climate-neutral mobility. Electric mobility is one relevant component. But the German government's 'bet it all on E' strategy is ignoring economy and efficiency while endangering our most important industry."*

*Claus Sauter*

lithium, the fuel for electric mobility, and from cobalt mining in the Democratic Republic of the Congo. What may also prove quite interesting is the calculation to determine what share of the procurement costs of the expensive electric buses in Berlin will be paid by taxpayers in Bavaria, due to the system of revenue redistribution among the German states.

This oddity is worthy of mention: The heating and air-conditioning in the new Berlin electric buses run on diesel fuel, in order to conserve the batteries. To summarize: The climate-neutral public transport system in Augsburg is leading the way forward. For public transportation fleets, a switch to biogas would be faster and above all more cost-effective than procuring thousands upon thousands of electric buses at the expense of taxpayers and the environment. Readers will find more on this in articles by leading authors in this issue.

A few days ago in the offices of the Taxpayers Association of Germany, I had an opportunity to engage in an in-depth discussion of this topic with Prof. Hans-Werner Sinn, former president of the ifo Institute. In a study of the climate balance of e-cars, the researcher and his co-authors proved that compared to the CO2 emission values for the Mercedes-Benz C 220 d, the values for the electric motor in the new Tesla Model 3 were at best ten percent higher than the emissions of the diesel engine, but

in the worst case over 25 percent higher. There can be no question that electric-powered cars can be driven without CO2 emissions, as the EU lawmakers claim, when they assign a start value of zero in their calculation of the CO2 emissions of these cars. Such a value couldn't be true even for Norway, where electricity is generated nearly emission-free with hydropower, because the CO2 emissions produced during production of the vehicle and battery are ignored. Furthermore, in all other European countries, high CO2 emissions result from battery charging with electricity from the respective national production mixes of green energy and nuclear energy on the one hand, and fossil fuels on the other. Of course the comprehensive and well-founded study met with an outcry from green "experts." The criticisms were convincingly refuted by Prof. Sinn. The question raised in the study is legitimate: Where would the electricity come from to power the many millions of electric vehicles being forced on the public by the EU's CO2 Directive? According to advocates of the German energy turnaround, naturally it will come from renewable energy, i.e. green electricity. The question of when this wish will come true remains open. The study's concluding remarks summarize that even the latest electric vehicles in the coming years will not be able to make a contribution to reductions of German CO2 emissions. Just the opposite is true. With Germany's energy mix as it stands today, and taking into account the energy consumption for battery production, the CO2 emissions value for battery-powered electric vehicles will only in the most optimistic scenario compare with the value for a diesel engine. The full version of Prof. Sinn's study, which I recommend everyone read, is available to download in PDF file format. [http://www.hanswernersinn.de/dcs/sd-2019-08-sinn-karl-buchal-motoren-2019-04-25\\_0.pdf](http://www.hanswernersinn.de/dcs/sd-2019-08-sinn-karl-buchal-motoren-2019-04-25_0.pdf)

Finally, Klaus Röder, authorized representative of Stadtwerke Augsburg, has this to say: "It is ludicrous that an electric bus is funded with over €300,000 from tax revenue, but only €10,000 of funding is allocated for a biomethane-powered bus, even though the biogas bus has a better overall environmental balance. This is where one must ask if tax revenue is being used correctly." The Taxpayers Association of Germany's answer to this question is a resounding "No." If necessary, we will take legal action to fight the dictates of the EU.

*Prof. Ralph Pütz: “The deliberate and purely ideologically motivated exclusion of ultra-clean combustion engine technology is not justified from any ecological standpoint and certainly not from an economic perspective!”*

*The most ecological option is natural gas technology with biogas, today and in the medium term*

The politically propagated paradigm shift to electric mobility in road transport encompasses all areas, from passenger cars to light trucks to heavy commercial vehicles. The latter category also includes public transport buses, which have fixed, repetitive routes, and the fleets are bound to their depots. This gives them the potential to reduce the costs and work needed for the required energy supply infrastructure, so they seem almost predestined for the introduction of electric mobility. But in regional service with correspondingly long routes, electric mobility reaches its limitations due to its reduced range and/or high infrastructure costs.

*“Not until the medium term – in 2030 – would alternative electric mobility options be able to beat the ecological standards of the established combustion engine drives.”*

For new acquisitions of “cleaner” vehicles by public authorities and transport companies in line with Resolution 1370/2007, the purchasing, leasing, lease-purchasing, and renting of buses, coaches and taxis are subject to EU Directive 2009/33/EC, also known as the Clean Vehicles Directive or EU Procurement Directive. At the end of April 2019, the European Parliament and the Council of the European Union adopted an amendment to this directive. After the directive enters into force, it will be required that “cleaner vehicles” make up 45 percent of acquisitions by 2026, and half of them must be “emission-free vehicles.” Then, such “cleaner vehicles” will have to even make up 65 percent of the acquisitions by 2030. The directive defines “emis-

sion-free vehicles” as only vehicles without local emissions and without direct emissions of CO<sub>2</sub>. So the explicit aim of this directive is to consequently require all providers of public bus service to switch to battery-powered buses (opportunity



Prof. Ralph Pütz of the Institute for Applied Commercial Vehicle Research and Exhaust Gas Analytics, with research areas in commercial vehicle technology, combustion engines and drive systems: “The political question really should be: How can we get the renewable energies – solar, wind, hydroelectric and biomass – into the final drive system? And contrary to what the EU is propagating with its ideological policy, that drive can be not only an electric motor, but absolutely continue to be an ultra-clean combustion engine!”  
Photo: [www.puetz.bayern](http://www.puetz.bayern)

chargers and overnight chargers) or fuel-cell (hybrid) buses, because only these are “emission-free,” which is measured by the “exhaust pipe emissions,” the directive specifies. This restrictive, isolating focus on the drive mode, while obviously quite consciously ignoring the other phases of the life cycle, including vehicle production and fuel supply issues, can lead to completely false conclusions, because energy is

used and emissions are produced in all of these subsystems. For instance, electric mobility is said to have “zero emissions” on the road, but can quite possibly result in higher emissions from the fuel supply process for its energy and from e-vehicle production – causing significant ecological disadvantages! Therefore, the EU is applying completely wrong benchmarks to buses, and these in no way credibly reflect the decarbonization being pursued as a political objective, but obviously serve only as a fig leaf or – as detractors claim – even to enable individuals to achieve national industrial policy goals.

Often also ignored is the general rule that for each individual transportation company and its typical conditions, electric mobility is seen as an individual system that requires the vehicle and drive system technologies, battery type, type of energy supply/charging technology and operational pattern to be precisely attuned to the respective line topologies. This applies particularly to transport companies that provide mostly regional service. It is crucial not to neglect the related analyses for suitable positioning of charging infrastructure in the respective areas served and possible additional requirements arising from, for example, a lack of local medium-voltage power networks. However the amendment to the EU Procurement Directive considers only the vehicles, not the infrastructure and its implications.

A study by the renowned BELICON institute under the direction of Prof. Ralph Pütz, examined how public transportation in Germany, with the German energy mix, would be impacted if the EU Procurement Directive amendment’s entry into force caused today’s dominant, local and ultra-clean Euro VI diesel drive to be entirely replaced

by electric buses. This ecological and economic analysis of all alternative drive technologies (either now in use or being tested) for public transport buses, and of their expected development over time, showed that conventional near-zero emission drive systems with diesel combustion engines (increasingly hybridized) will remain a viable option for public buses under the conditions of typical German urban traffic for the foreseeable future, i.e. the medium-term observation period (until 2030), which the EU Procurement Directive also follows, because these systems enable us to act in a manner that is environmentally responsible as well as economical. The deliberate and purely ideologically motivated exclusion of ultra-clean combustion engine technology is not justified from any ecological standpoint and certainly not from an economic perspective! Compared to the established, ultra-clean diesel combustion engine option today (2019), alternative drive types in the electric mobility spectrum would not improve eco-balance at the drive system level. Not until the medium term (2030) will alternative electric mobility options be able to equal or slightly improve on the ecological standards of established combustion engine drives under conditions typical of urban traffic in Germany.

The most ecological option today (and linked to the lowest added costs compared to ultra-clean diesel technology) is natural gas technology with biogas (preferably from waste materials) – and it will remain so in the medium term. However this option is disparaged in the EU directive as an obsolete model when compared to the electric mobility option, a position clearly in contradiction to the required technology neutrality. This could mean the end for today's most environmentally compatible German public transportation companies, in the cities of Augsburg, Giessen and Oldenburg. Today, in 2019, the most affordable electric mobility option on the vehicle side – opportunity chargers – requires roughly 30 percent higher vehicle-related added costs than a fleet of Euro VI diesel buses. An overnight-charger fleet would require an increase in costs of about 85 percent. The fuel cell-hybrid bus, which comes with nearly triple the vehicle costs, is lagging far behind today in terms of economy. Quite clearly, these “true” market costs are resulting in the need for huge amounts of

funding for electric buses, which the German government then has to provide, because even in the medium term (2030), the economy of the established, ultra-clean concepts with combustion engines will not be equaled by the electric mobility options, even if the capital costs of the alternative options fall significantly over time. In the period from 2020 up to and including 2030, bearing in mind all foreseeable

*“In addition to electric mobility, there are many other very promising paths. These include e-fuels that are very efficient and proven in everyday service – for example, gas fuel in the form of power-to-gas, and liquid fuels in the forms of power-to-liquid and biomass-to-liquid. Today’s existing energy supply and fueling infrastructures for liquid and gas fuels could be used without modifications.”*

developments in an ensuing transition to electric mobility with fuel cell-hybrids, total added costs of more than €16 billion would accrue. For a subsequent transition to battery-powered buses (opportunity charger variants) in this period, total added costs of around €7.5 billion would accrue, and for overnight charger variants approximately €8.6 billion would have to be compensated for. That takes into account only the vehicle costs in line with the EU Procurement Directive – if you factor in the charging and fueling infrastructures, these costs will more than double! This would mean a de facto perpetuation throughout the coming decade of today’s one-time start-up financing of about €1 billion by the Federal Ministry of Transport/Federal Ministry for the Environment. In contrast, compensation for the total added costs of the most ecologically sound option “EURO VI natural gas technology with biogas” – as in Augsburg, Giessen and Oldenburg – would require only slightly

less than €1.8 billion. So over a questionable time period until 2030, the draft of the amendment to the EU procurement directive requires from the Member States – and particularly from Germany – very high financial outlays, which obscure the actual ecological relationships during this timeframe.

Today, the fact is that local emissions make this no longer necessary, because the latest combustion engines with exhaust gas treatment (Euro VI or retrofitted) are locally ultra-clean! Action is needed only with regard to conservation of fossil resources and to CO<sub>2</sub> reduction, which are closely linked. The political question really should be: How can we get the renewable energies – solar, wind, hydroelectric and biomass – into the final drive system? And contrary to what the EU is propagating with its ideological policy, that drive can be not only an electric motor, but absolutely continue to be an ultra-clean combustion engine! A technology-neutral approach would include evaluating first the renewable primary energy sources, the various conversion, storage, energy distribution and fueling concepts, particularly with regard to their availability and/or the investments they would require. As already mentioned, it is indispensable to think in terms of systems, so that the efficiency, ecology and costs of each energy path can be reliably determined. Therefore, in addition to electric mobility, there are many other very promising paths! Especially promising are the e-fuels – for example, gas fuel in the form of power-to-gas, and liquid fuels in the forms of power-to-liquid and biomass-to-liquid – because today’s existing energy distribution and fueling infrastructures for liquid and gas fuels can be used in their current state with no need for modification. A central element in this, though, is the necessary hydrolysis infrastructure, but it requires a political commitment. Admittedly, the energy efficiency of the electric path is much higher than that of liquid or gas e-fuels. However, energy efficiency clearly plays a lesser role in light of the virtually inexhaustible supply of energy sources in other regions of the world. Therefore, if we take into account existing infrastructure, e-fuel concepts also should be seen as promising, as long as one remembers that Germany will continue to be an importer of energy – i.e. in the future but also increasingly of energy from renewable sources.

# A plea for unbiased promotion of technology

“Need for improvement at the EU level and the national level”

By Hubert Aiwanger

At the EU level, shortly before the end of the current legislative period, a series of far-reaching decisions were made concerning the design of eco-friendly and low-emission mobility in the future. These include the two regulations for the CO<sub>2</sub> emissions of newly registered motor vehicles by 2030 and the so-called Clean Vehicles Directive, which specifies mandatory targets for emission-free and low-emission vehicles that must be met in order for public supply contracts to be awarded and which is to be transposed into national law within two years' time.

Current specifications for the CO<sub>2</sub> emissions of newly registered passenger cars and light commercial vehicles are already an enormous challenge for the industry. If by 2030 the CO<sub>2</sub> emissions of newly registered vehicles must be further reduced by at least 37.5 percent from the 2020 level, then this will also dramatically change the mix of drive types. The share made up of fully electric or hybrid electric vehicles will then have to increase substantially. Estimates are pointing to 50 percent of all newly registered passenger cars in Germany. Unfortunately, the EU failed to account for not only all-electric or fuel cell-powered vehicles, but also combustion engine vehicles that run on alternative fuels. This is where the EU clearly deviates from the technology neutrality required. If suppliers begin to lay off employees at sites geared to combustion engines, the consequences for traditional



Hubert Aiwanger, Deputy Bavarian Prime Minister and Bavarian State Minister of Economic Affairs, Regional Development and Energy: “What we really need is truly unbiased treatment of technologies. Electric mobility is going to be a pillar of environmentally friendly mobility. But not all transport sectors will be suited to full electrification. This is why we need a fair, technology-neutral accounting of combustion engine vehicles that run on alternative fuels. Here there is work to be done at the EU level and the national level.”

*Photo: Bavarian Ministry of Economic Affairs, Regional Development and Energy*

automobile industry locations are already obvious now.

Manufacturers and logistics companies have been made even more insecure by the first-time CO<sub>2</sub> specifications for heavy commercial vehicles. It is right to require freight transport to also make its contri-

bution to CO<sub>2</sub> reduction, but targets of 30-percent lower CO<sub>2</sub> emissions by 2030 are dubious indeed if – as with freight transport – there are neither suitable technologies available for heavy trucks nor are appropriate Europe-wide infrastructures even under construction, let alone available. Hydrogen and fuel cells are nearly the only way out. These problems are exacerbated because the regulation specifies short preparatory periods and heavy fines that the manufacturers will be subject to if they fail to meet the CO<sub>2</sub> reduction targets. It is important here to bear in mind that the EU is not only defining specifications – it also is actively promoting technological developments and the construction of Europe-wide infrastructures.

It is undisputed that when awarding public contracts, the public authorities must set a good example in the interest of eco-friendly mobility. It is questionable, however, when new requirements for low-emission or emission-free vehicles are created, but buses powered by alternative fuels are not fully taken into account in the mandatory quota of emission-free vehicles that applies to the procurement of new vehicles. Those transportation companies that were early adopters of eco-friendly drive systems with biogas will now be the ones to suffer.

What we really need is truly unbiased treatment of technologies. Electric mobility is going to be a pillar of eco-friendly mobility. But not all transport sectors will be suited to full electrification. That is why we need a fair and technology-neutral accounting of vehicles with combustion engines that run on alternative fuels. Here there is work to be done at the EU level and the national level to ensure that politicians are not able to unilaterally favor technologies that aren't suitable for all areas of application.

## Biomethane beats electric mobility

Bio natural gas – which is produced from materials including biowaste – is currently the only fuel with which vehicles are running nearly CO<sub>2</sub>-neutral and for which there are sufficient capacities. Right now, all 35,000 public transit buses could be running only on bio natural gas. That means today they could already be meeting the climate target for 2050, while also creating regional added value. This potential is at risk of being thrown away because the gas buses are not recognized as emission-free by the Clean Vehicles Directive.

Dr. Timm Kehler

# Clean Vehicles Directive – En route to a climate policy impasse

By Dr. Timm Kehler

Just a few days ago, the Council of the European Union made it official: Its so-called Clean Vehicles Directive sets mandatory targets for the procurement of emission-free and low-emission vehicles by public authorities. Paradoxically, thanks to the directive, the path to greater climate protection on the road is at risk of becoming a one-way street.

For Germany, it means that by 2025, half of all newly purchased vehicles operated by public authorities and publicly owned companies must have electric drive systems. Now it comes down to the national transposition of the directive, but it is unclear if the new regulation will apply to companies, German federal states or the entire country. What is certain, however, is that not only the chance to achieve fast climate protection has been lost, but also a chance to ensure fair competition.

A glance at today's energy mix shows that complete electrification is not a panacea for the environment. In Germany alone, electricity from coal still accounts for a considerable share of that mix. So it is no more than window dressing to measure emissions only by a vehicle's exhaust pipe emissions. It brings the EU only marginally closer to its long-term goal of CO<sub>2</sub>-neutrality. Now, Germany's lawmakers are being reminded they would be well-advised to approach the issue of climate protection without bias in their treatment of technologies. Should they fail to do so, cities that in fact converted their bus fleets to nearly climate-neutral operation early on would fall by the wayside.

We cannot allow the cities of Augsburg, Giessen and Oldenburg to be punished for deciding in favor of the alternative fuel bio natural gas, since municipalities that switched to bio natural gas are already today benefiting from all the advantages. Svenja Schulze, Federal Minister for the Environment, attributes primarily to electric buses. The gas buses not only lower emissions of particulates and nitrogen oxide to

a minimum – noise emissions are also significantly reduced. In fact, bio natural gas – produced from biowaste among other materials – is currently the only fuel that allows vehicles to run nearly CO<sub>2</sub>-neutral. And there are already ample capacities – all 35,000 public transit buses could be



Dr. Timm Kehler, Chairman of the sector initiative Zukunft ERDGAS: "Obviously we will achieve effective and cost-efficient climate protection only if our politicians face facts and give the mobility turnaround a multi-lane layout. Berlin must now shift its stance and recognize vehicles powered by bio natural gas as emission-free."

Photo: ERDGAS

running on bio natural gas right now. That means they could already be meeting the climate target for 2050 today, while also creating regional added value. This potential is at risk of being thrown away, however, because the gas buses are not recognized as emission-free by the Clean Vehicles Directive.

Cities like Stuttgart, Hamburg and Düsseldorf – which regularly struggle not to exceed pollutant limits – could contribute significantly to environmental protection while also demonstrating cost-consciousness by transitioning their fleets to bio natural gas. The initiative Zukunft ERDGAS commissioned a study by the Landshut University of Applied Sciences and Pricewater-

house Coopers that showed the costs of a gas-powered bus are only slightly higher than the costs of diesel buses, which makes it the most ecological and most economical alternative to conventional diesel vehicles. The costs for e-buses, by comparison, are currently four times as much. Without generous government subsidies, the municipalities could hardly cover those expenditures.

There is another risk: In the end, taxpayers could be called on to pay twice when all is said and done. Why? Because to match the range of diesel buses, a significantly greater number of e-buses will have to be purchased. This means more outlay for maintenance and service, bigger bus depots and more bus drivers – needless additional costs that ultimately will be covered by higher ticket prices. A high price for a technology that also has not proven itself viable in everyday service. Berliner Verkehrsbetriebe (Berlin public transit company), for example, recently made headlines with "half-day buses" that must spend more time charging at the depot than on the city streets. That's not what efficient public transportation looks like. Gas-powered buses, by contrast, are out on the road for most of their service life.

Obviously we will achieve effective and cost-efficient climate protection only if our politicians face facts and give the mobility turnaround a multi-lane layout. Berlin must now shift its stance and recognize vehicles powered by bio natural gas as emission-free. Instead of pushing for a single, politically endorsed drive type, all available options should be considered. This would allow cities and communities to independently carry out a technologically unbiased cost-benefit comparison and choose the most promising mobility concept for their needs. Being forced to build up parallel infrastructures for different types of drive systems would be an enormous financial burden for municipalities. As a result, the Clean Vehicles Directive would in the end paradoxically even slam the brakes on the mobility turnaround.

# Taken leave of their senses ...

Commentary by Dr. Ralf Schneider,  
President of the Association of European Journalists

In ancient times, people believed in benevolent spirits. These good spirits were “guardian angels” that protected humans from danger. In today’s complex world, we feel more endangered than ever before. We fear illnesses, crime, war – and now above all climate change. It’s difficult to say how understandable these fears are. But the media is constantly bombarding us with reports on these dangers, so we believe they will soon arrive.

In conjuring up these dangers, the media has embraced the mainstream narrative and entirely abandoned all of its stature, dignity and reputation for journalistic professionalism. Everything that is preached is a doctrine of salvation. Facts are of no interest, and critical voices are unwelcome. Science provides us with many “good spirits” for solving problems, a fact that is completely ignored. The preaching we hear calls for abstinence, restrictions, bans and – above all – high taxes and burdens for the citizens to bear.

By abandoning nuclear energy, we in Germany have ushered in the downfall of our energy sector and power plant construction industry, and this is culminating in the elimination of coal for generating electricity. And with electric mobility, the demise of the automobile industry in Germany is a fait accompli. Next we can expect long-distance travel, tourism and the aerospace industry to come under attack. And remember, Ger-

many produces only 2.1 percent of global CO2 emissions. Regardless of which policies are pursued here at home, the growth in China and India alone will exceed our total CO2 emissions. So why are we doing all this? Ideologies and religions enable people to exert power over others. It is not about reason and knowledge – it is about belief and the acceptance of individuals of higher social status over the so-called “common people.” Politicians and media professionals are such privileged persons, who often are not the least bit affected by the impacts of their decisions. Treating their own people with condescension and subjugating other peoples have been a hallmark of authoritarian structures for centuries.

The electric mobility we have chosen here in our country is wreaking environmental destruction on a grand scale in the countries where the raw materials for batteries are found. The extraction of lithium is causing the water table to fall, eroding large areas and leaving behind what looks like nothing other than lunar landscapes. Cobalt mining is leaving barren plains in its wake and ruthlessly exploiting people in Africa. But all that is being publicized very little if at all.

So it is no wonder that two-thirds of Germans believe the news media in our country is controlled by the government, the political parties and lobbyists. Sixty percent of Germans say they have very little trust left

in the press, radio and TV. Sadly, we have become accustomed to the fact that not only truths, but even laws can be scoffed at or bent if desired, regardless of whether this involves entering countries illegally or compulsory schooling.

This is about more than biomethane versus windmills. It is about our personal freedom. The goal of replacing personal mobility for individuals with yet another bit of dependency on government is a clear indication of a paternalistic state that is running rampant. Despite all the failed attempts to curb undesired behavior by levying penalty taxes, the triumphant advance of the ideology of abstinence continues. Sugar, salt, fat and tobacco send their regards. A new wrinkle in this is only that these days, even conservatives are obviously no longer immune and are taking part in the new crusade by the guardians of virtue.

This march into the nanny state – in which the government is like a governess educating its underage citizens – begins with a technique of gentle prodding, proceeds further with pinpricks from politicians, and ends with drastic driving bans.

Our benevolent spirits have not been lost, but the politicians no longer want to know about them. Maybe this is why it is said that when people do something incomprehensible to everyone else, they have taken leave of their senses.

## Imprint

### Editor/Publisher

Taxpayers Association of Europe (TAE)  
Authorized translation of Klartext 07/08/2019,  
Bund der Steuerzahler in Bayern e.V.

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### Title Design:

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sarah.brunner@passavia.de



Germany's most environmentally friendly bus fleet. Stadtwerke Augsburg (swa) is the only metropolitan transport company in Germany with 100% biogas buses, CO2-neutral thanks to biomethane. Production exclusively from agricultural residues, organic waste or kitchen waste. No use of food. The Clean Vehicles Directive (CVR) endangers the biogas buses in Augsburg. *Photo: swa*



# Taxpayers Association of Europe

## Profile

The European Taxpayers Association was founded in Luxembourg in May of 1969. The name was changed to Taxpayers Association of Europe (TAE) in 1996. In the year 2017 the seat of TAE was changed to Brussels. The European taxpayers' organization has offices in Brussels and Munich.

Taxpayers Association of Europe is a federation of 29 national taxpayers associations throughout Europe with more than one million members.

The neutral and independent TAE formulated and presented their conception of tax politics in the European Taxpayers Magna Charta in Brussels in 1985:

- ▶ The TAE advocates a society with lower taxes and more individual freedom.
- ▶ TAE fights against the waste of public funds and advocates greater efficiency and profitability in the public sector.
- ▶ The TAE is committed to limiting public debt and transparency of expenditure.

The board of directors of TAE are presently Rolf von Hohenhau from Germany (president), John O'Connell from United Kingdom (deputy president) and the vice presidents, Reiner Holznagel (Germany), Dr Teemu Lehtinen (Finland), Christian Ekström (Sweden) and Eudes Baufretton (France).

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